

# INFORMATION HANDOUT

For Contract No. 01-0B4504  
At 01-Hum-299-R10.5/R10.7, R25.8/26.1

Identified by  
Project ID 0112000130

## PERMITS

United States Army Corps of Engineers

Non-Reporting Nationwide Permit No. 3  
Nationwide Permit Pre-Construction Certification (PCN) Form

## WATER QUALITY

California Regional Water Quality Control Board

North Coast Region, Board Order No. WDID No. 1B15034WNHU

## AGREEMENTS

California Department of Fish and Wildlife

Notification No. 1600-2015-0123-R1

## MATERIALS INFORMATION

Water Source Information

Dated January-2015

Geotechnical Reports

Postmile 10.8 Dated January 22,-2014

Postmile 26.0 Dated January 24,-2014

Addendum to Geotechnical Report PM 10.8 Dated June 10, 2015

# **PERMITS**

United States Army Corps of Engineers

Non-Reporting Nationwide Permit No. 3  
Nationwide Permit Pre-Construction Certification (PCN) Form

### Nationwide Permit Information

#### I. Project Location and Contact Information

District No: 1 Project Title: Slide removal, construct rock buttress, and replace culvert

County: Humboldt Route: 299 Post Mile: 26.0 Project EA: 0B450

Project Manager: Talitha Hodgson Phone No.: 707-441-2097

Project Biologist: Lisa Embree Phone No.: 707-441-5722

Quad Name: **Lord Ellis Summit Quad, T 06N, R 03E, Section 11** Waterway/Watershed: Un-named stream that dissipates

#### II. Project Description: Please attach a complete project description.

The information below is a summary of work proposed at Post Mile 26.0, which is the only location for which a permit is required. More detailed information about this location, as well as the remainder of the project, is provided in the attached Project Description and Environmental Review report.

Construction activities at Post Mile 26.0 will include:

- Removal of approximately 6,200 yds<sup>3</sup> of slide debris on the downhill slope.
- Construction of a 230-foot long, 1-ton rock buttress on the downhill slope, extending between 20 and 50 feet down the slope.
- Replacement of a drainage structure at PM 26.0. The current structure includes a 65.4 foot x 18 inch cross culvert (under the highway), and a 14.7 foot x 24 inch downdrain (on the slope) that transitions into an approximate 70 foot long flume. The new structure, which will be placed at a slightly shallower angle than the existing one, will consist of a 61.9 foot x 24 inch cross culvert, a 68.6 foot x 24 inch downdrain, and a 26 foot x 13 foot rock channel. The last two feet of the downdrain will be incorporated into the rock channel which will outlet at the toe of the slope, similar to where the existing flume discharges. An existing rock energy dissipater at the toe of the slope will remain in place.
- Repaving and striping the roadway.

#### III. Name of Lead Federal Agency CA Dept of Transportation

#### IV. Endangered Species Act Section 7 Consultation Please attach a determination and/or result of informal/formal consultation.

List all federally-listed species potentially occurring within the project area.

**Northern Spotted Owl, Marbled Murrelet**

Has Section 7 Consultation concluded with USFWS? Yes X No Date March 19, 2014

Has Section 7 Consultation concluded with NMFS? Yes \_\_\_\_\_ No X, NA Date \_\_\_\_\_

Lead Federal agency (i.e. agency responsible for Section 7 Consultation with USFWS or NMFS) CA Dept of Transportation

Determination (List species under the appropriate category below)

No effect Marbled Murrelet

Not likely to adversely affect Northern Spotted Owl

May affect \_\_\_\_\_

Appended to a programmatic \_\_\_\_\_

#### V. Essential Fish Habitat Consultation (EFH) Please attach a copy of determination and/or NMFS' EFH recommendations.

Select affected EFH Fishery Management Plan: \_\_\_\_\_ Pacific Ground Fish \_\_\_\_\_ Coastal Pelagic \_\_\_\_\_ Pacific Salmon \_\_\_\_\_ X None

Lead Federal agency EFH (i.e. agency responsible for section 7 consultation) CA Dept of Transportation determined that the project would not result in any adverse effect to EFH

Has EFH Consultation concluded with NMFS? Yes \_\_\_\_\_ No X, NA Date \_\_\_\_\_

#### VI. Permit Being Requested (check one that applies)

\_\_\_\_\_ Reporting Nationwide Permit X Non-Reporting Nationwide Permit

3 Indicate which NWP(s) would appropriately authorize the proposed project.

**Documentation for use of non-reporting permit**

The project will not adversely affect any federal listed threatened or endangered species or their designated critical habitat. There are no properties listed, or eligible for listing, in the *National Register of Historic Places* that might be affected. The project will not take place within the San Francisco diked baylands, Santa Rosa Plain, Essential Fish Habitat, or eel grass beds.

NW 3: Construction activities include the replacement of a previously authorized structure. The new structure will not be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification. The project will not result in new stream channelization or stream relocation. Construction equipment will not be placed in waters of the US.

**VII. Corps' Authority Information**

Section 10 (Attach Justification and Maps): Yes \_\_\_\_ No X

Section 404 (Attach Justification and Maps): Yes X No \_\_\_\_

Has a preliminary jurisdictional determination report been verified by the Corps? Yes \_\_\_\_ No X Date \_\_\_\_\_

There are no wetlands within the project area. The stream is considered waters of the US (other waters).

**VIII. Minimal Impact Criteria**

Explain whether or not the proposed project would result in minimum impact to the aquatic environment (attach additional information if necessary):

The proposed project will result in minimum impact to the aquatic environment because 1) no jurisdictional wetlands will be affected; 2) the natural stream itself will not be affected; construction work is only associated with the culvert, downdrain, and flume; and 3) the culvert replacement will occur when there is no flow.

**IX. Nationwide Permit General Conditions Checklist:**

#	General Condition	Rationale for compliance with General Condition
1	Navigation	The project will not result in any changes to Navigation.
2	Aquatic Life Movements	The work will occur when there is no flow, minimizing the chance of affecting aquatic life movement.
3	Spawning Areas	The project will not affect spawning areas.
4	Migratory Bird Breeding Areas	The project will not affect any breeding habitat for migratory birds.
5	Shellfish Beds	The project will not affect shellfish beds.
6	Suitable Material	Suitable material will be used to construct the project.
7	Water Supply Intakes	The project will not affect water supply intakes.
8	Adverse Effects from Impoundments	The project will not result in adverse effects to impoundments.
9	Management of Water Flows	The project will not permanently affect water flow management.
10	Fills Within 100-Year Floodplains	The project site is not within a 100-year floodplain.
	Does Does the activity comply with applicable FEMA-approved state or local floodplain management requirements?	Yes.
11	Equipment	Cleaning and refueling of construction vehicles will not occur near or in the waterway.
12	Soil Erosion and Sediment Controls	Replacement of the culvert will occur during the low-flow season (June 15-Oct 15). If flow is present, it will be diverted around the work area.
13	Removal of Temporary Fills	It is not anticipated that temporary fill will need to be used for the project.
14	Proper Maintenance	Replacement of the drainage structure will minimize the need for maintenance.
15	Single and Complete Project	The activity is a single and complete project.

16	Wild and Scenic Rivers	The project site is not located on a Wild and Scenic River..
	Does the activity occur in a component of a National Wild and Scenic River System?	No
	Does the activity occur in a river officially designated by Congress as a study river?	No..
17	Tribal Rights	The project will not affect Tribal Rights.
18	Endangered Species	The project will not adversely affect any listed or proposed for listing species, or critical habitat.
19	Migratory Bird and Bald and Golden Eagle Permits	The project will not result in effects to bald eagles or golden eagles, or suitable habitat for either species.
20	Historic Properties	Historic properties are not present within the study area.
	Is it possible that the activity may affect properties listed, or eligible for listing in the National Register of Historic Places?	No.
	Lead Federal agency (i.e. agency responsible for Section 106 Compliance)	CA Dept. of Transportation.
21	Discovery of Previously Unknown Remains and Artifacts	If during construction of the project, any unknown historic, cultural or archeological remains and artifacts are discovered, work will cease on the project. The Corps District Engineer will be notified.
22	Designated Critical Resource Waters	The project will not affect any designated critical resource water.
23	Mitigation	The project does not warrant mitigation.
	Has the activity been designed and constructed to avoid and minimize adverse effects to Waters of the U.S.?	Yes.
	Has compensatory mitigation been proposed? If yes, please attach detailed mitigation and monitoring plan.	Not applicable.
	Does mitigation meet required minimum 1:1 ratio?	Not applicable.
	If streams are affected by the project, are vegetated buffers with native plant species near streams maintained and / or restored?	Not applicable. The natural stream channel and adjacent habitat will not be affected.
24	Safety of Impoundment Structures	
	Does the project comply with established state dam safety criteria	Not applicable.
25	Water Quality	
	RWQCB 401 Certification	Yes.
	Point of Contact at RWQCB	Brendan Thompson (707) 576-2699.
	Date 401 Certification issued	Pending.
26	Coastal Zone Management	The project is located outside of the Coastal Zone.
	Consistency Determination	
	Point of Contact at Costal Commission	
	Date of Consistency Determination issued	
27	Regional and Case-by-Case Conditions	
	<b>General Regional Conditions that apply to all NWP's in the Sacramento, San Francisco,</b>	<b>and Los Angeles Districts:</b>
	PCN Required	No.
	Is the project proposed to occur within EFH?	No.
	Federal lead agency	CA Dept of Transportation.
	Are there any other Federal agencies involved?	No.
	Is the project located within a waterbody supporting any federally-listed threatened or endangered fish species?	No.
	Does the project ensure suitable passage for federally –listed fish species?	Not applicable.
	Will mitigation occur before or concurrently with project construction?	Not applicable.
	Will the activity result in the loss of greater than 300 linear feet of intermittent and/or ephemeral streams for NWP's 29, 39, 40, 42, 43, 44, 51, and 52 or result in the loss of greater than 500 linear feet along the bank for NWP 13?	No.
	<b>General Regional Conditions that apply to all NWP's in the San Francisco District:</b>	
	Does the proposed project occur in Diked Baylands?	No.
	Does the propose project occur within the Santa Rosa Plain?	No.

	Is the project proposed to occur within eelgrass beds?	No.
	<b>Regional Conditions that apply to specific NWP in the San Francisco District:</b>	
	Nationwide #: 3	
	To the extent practicable, excavation equipment shall work from an upland site	Equipment will not be placed within the natural stream channel.
	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.	The project will not occur within a special aquatic site.
28	Use of Multiple Nationwide Permits	Not applicable. The project will be processed under one Nationwide Permit.
29	Transfer of Nationwide Permit Verifications	The project is being proposed and will be constructed by the State of CA. The project occurs within the State right-of-way.
30	Compliance Certification	The project is being processed with a non-reporting Nationwide Permit.
31	Pre-Construction Notification	Not applicable because the project qualifies for a non-reporting Nationwide Permit.

### X. Multiple Nationwide Permit Requested

If multiple Nationwide Permits are requested, list No. and Title, and explain how each activity complies with the NWP terms. (Attach additional sheets if necessary): Not applicable.

1. \_\_\_\_\_
2. \_\_\_\_\_

### XII. Project Impact Information [Area Affected (acres) and (cubic yards)]

Wetlands (permanent): None Wetlands (temporary): None  
 Waters of the US (permanent): None Waters of the US (temporary): 0.006 acre / 1 cu yd of culverted waters  
 Linear extent of impact within Corps' jurisdiction: 150 feet

### XIII. Project Mitigation Information

Special Conditions (List conditions specified by specialist Division personnel): Not Applicable

Best Management Practices (attach additional information if necessary):

Impacts to waters of the US and State will be avoided and minimized because:

- The natural stream itself will not be impacted, it is only the drainage structure that will be affected;
- The replacement of the drainage structure will occur when there is no flow;
- Where appropriate, Best Management Practices (such as silt fence, fiber rolls, and straw bale barriers) will be implemented to minimize soil/rock from falling down the slope and entering the stream bed below the construction footprint.
- Mortar used to grout the drop inlet of the new drainage structure will be installed prior to the rainy season.
- Construction equipment will not be driven either upstream or downstream of the culvert inlet or outlet.
- Cleaning and refueling of construction vehicles will occur at designated staging areas.
- Staging areas, storage areas, and equipment parking will occur at nearby pullouts, away from the stream bed.

Site Restoration Plan (attach additional information if necessary): Not Applicable - The project will not affect the streambed banks or vegetation.

Proposed Mitigation (attach additional information if necessary): Not Applicable - The project will not affect wetlands, or the streambed banks.

#### Attachments

Project Description and Environmental Review

FOR CALTRANS USE ONLY:

**IX. Signatures**

Based on the information provided above, I hereby certify that this project qualifies for a nationwide permit pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344) and/or Section 10 of the U.S. Rivers and Harbors Act (33 U.S.C. 406).

Prepared by: Lisa Embree *Lisa Embree*

Date: 3/24/15

Peer Review: Katie Thoreson *Katie Thoreson*

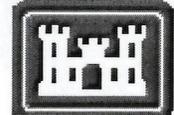
Date: 3/24/15

Supervisory Concurrence: Dana York *Lisa Embree for*

Date: 3/24/15

cc: Resident Engineer Pending File

# U. S. Army Corps of Engineers South Pacific Division



## Nationwide Permit Pre-Construction Notification (PCN) Form

This form integrates requirements of the U. S. Army Corps of Engineers Nationwide Permit Program within the South Pacific Division (SPD), including General and Regional Conditions. You MUST fill out all boxes related to the work being done. Fillable boxes in this form expand if additional space is needed.

<b>Box 1 Project Name</b> Slide removal, construction of rock buttress, and replace culvert			
<b>Applicant Name</b> Talitha Hodgson		<b>Applicant Title</b> Project Manager	
<b>Applicant Company, Agency, etc.</b> California Department of Transportation		<b>Applicant's internal tracking number</b> (if any) 0B450 / 0112000130	
<b>Mailing Address</b> 1656 Union Street, Eureka CA 95501			
Work Phone with area code 707-441-2097	Mobile Phone with area code	Home Phone with area code	Fax # with area code 707-441-7810
E-mail Address Talitha_hodgson@dot.ca.gov	Relationship of applicant to property: <input type="checkbox"/> Owner <input type="checkbox"/> Purchaser <input type="checkbox"/> Lessee <input checked="" type="checkbox"/> X Other:		
Application is hereby made for verification that subject regulated activities associated with subject project qualify for authorization under a U.S. Army Corps of Engineers Nationwide Permit or Permits as described herein. I certify that I am familiar with the information contained in this application and, that to the best of my knowledge and belief, such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities. I hereby grant to the agency to which this application is made the right to enter the above-described location to inspect the proposed, in-progress, or completed work. I agree to start work <u>only</u> after all necessary permits have been received and to comply with all terms and conditions of the authorization.			
<b>Signature of applicant</b> 			<b>Date (m/d/yyyy)</b> 3/25/2015
If anyone other than the person named as the Applicant will be in contact with the U. S. Army Corps of Engineers representing the Applicant regarding this project during the permit process, Box 2 MUST be filled out.			
<b>Box 2 Authorized Agent/Operator Name</b>		<b>Agent/Operator Title</b>	
<b>Agent/Operator Company, Agency, etc.</b> California Department of Transportation		E-mail Address	
Mailing Address			
Work Phone with area code	Mobile Phone with area code	Home Phone with area code	Fax # with area code
I hereby authorize the above named authorized agent to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application. I understand that I am bound by the actions of my agent and I understand that if a federal or state permit is issued, I, or my agent, must sign the permit.			
<b>Signature of applicant</b>			<b>Date (m/d/yyyy)</b>
I certify that I am familiar with the information contained in this application, and that to the best of my knowledge and belief, such information is true, complete, and accurate.			
<b>Signature of authorized agent</b>			<b>Date (m/d/yyyy)</b>

<b>Box 3 Name of property owners(s), if other than applicant:</b>		
<b>Owner Title</b>	<b>Owner Company, Agency etc.</b>	
Mailing Address		
Work Phone with area code	Mobile Phone with area code	Home Phone with area code

<b>Box 4 Name of contractor(s) (if known):</b>		
<b>Contractor Title</b>	<b>Contractor Company, Agency, etc.</b>	
Mailing Address		
Work Phone with area code	Mobile Phone with area code	Home Phone with area code

<b>Box 5 Site Number __ of __. Project location(s), including street address, city, county, state, zip code where proposed activity will occur:</b> Humboldt County, Route 299, Post Mile 26.0		
<b>Waterbody</b> (if known, otherwise enter "an unnamed tributary to"):		
Tributary to what known, downstream waterbody: Stream dissipates on the slope		
Latitude & Longitude (D/M/S, DD, or UTM with Zone): -123.801 / 40.926	Section, Township, Range: 11, 06N, 03E	
County Assessor parcel number (include county name):	USGS Quadrangle map name: Lord Ellis Summit	
Watershed (HUC and watershed name <sup>1</sup> ): 180101020102 <sup>1</sup> <a href="http://water.usgs.gov/GIS/regions.html">http://water.usgs.gov/GIS/regions.html</a>	Size of permit area or project boundary: Acres 0.006                      linear feet 150 ft	
Directions to the project location and other location descriptions, if known: From Eureka CA, take Route 101 north, take Rout 299 east, to Post Mile 26.0		
<b>Nature of Activity</b> (Description of project, include all features): See attached Project Description and Environmental Review		
<b>Project Purpose</b> (Description of the reason or purpose of the project): See attached Project Description and Environmental Review		

**Box 6 Reason(s) for discharge into Waters of the United States** (Description of why dredged and/or fill material needs to be placed in Waters of the United States):

See attached Project Description and Environmental Review

**Proposed discharge of dredge and/or fill material.** Indicate total surface area in **acres** and **linear feet** (where appropriate) of the proposed impacts to Waters of the United States, indicate water body type (tidal wetland, non-tidal wetland, riparian wetland, ephemeral stream/river, intermittent stream/river, perennial stream/river, pond/lake, vegetated shallows, bay/harbor, lagoon, ocean, etc.), and identify the impact(s) as permanent and/or temporary for each requested Nationwide Permit<sup>1</sup>:

<sup>1</sup>Enter the intended permit number(s). See Nationwide Permit regulations for permit numbers and qualification information: <http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/NationwidePermits.aspx>

Water Body Type	Requested NWP Number:				Requested NWP Number:				Requested NWP Number:			
	Permanent		Temporary		Permanent		Temporary		Permanent		Temporary	
	Area	Length	Area	Length	Area	Length	Area	Length	Area	Length	Area	Length
Ephemeral stream			0.006ac	150 ft								
<b>Total:</b>			0.006ac	150 ft								

Total volume (in cubic yards) and type(s) of material proposed to be dredged from or discharged into Waters of the United States:

Material Type	Total Volume Dredged	Total Volume Discharged
Rock Slope Protection (RSP)		
Clean spawning gravel		
River rock		
Soil/Dirt/Silt/Sand/Mud		
Concrete		
Structure		
Stumps/Root wads		
Other: steel pipe	1 cu yd	
<b>Total:</b>	1 cu yd	

Activity requires a written waiver to exceed specified limits of the Nationwide Permit?  YES  X NO  
If yes, provide Nationwide Permit number and name, limit to be exceeded, and rationale for each requested waiver:

Activity will result in the loss of greater than 1/2-acre of Waters of the United States?  YES  X NO  
If yes, provide an electronic copy (compact disc) or multiple hard copies (7) of the complete PCN for appropriate Federal and State Pre-discharge Notification (See General Condition #31, Pre-construction Notification, Agency Coordination, Section 2 and 4):

Describe direct and indirect effects caused by the activity and how the activity has been designed (or modified) to have minimal adverse effects on the aquatic environment (See General Condition #31, Pre-construction Notification, District Engineer's Decision, Section 1): Direct effects to culverted waters only. The natural stream channel will not be affected. The work will occur when the channel is dry minimizing the opportunity for indirect effects.

Potential cumulative impacts of proposed activity (if any): See Attachment A

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

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

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

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

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

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

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

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

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

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

<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 Not applicable

Is any portion of the work already complete?  YES  X NO

If yes, describe the work:

### Box 7 Authority

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

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

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

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

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

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

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

Is the project located on Tribal Lands?:  YES  X 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  X NO

If discharge of fill or dredged material is part of development, name and proposed schedule for that larger development (start-up, duration, and completion dates): Not applicable

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): Not applicable

**Box 9 Measures taken to avoid and minimize impacts to waters of the United States:**  
See Chapter 6 in the attached Project Description and Environmental Review

**Box 10 Proposed Compensatory Mitigation** related to fill/excavation and dredge activities. Indicate in **acres** and **linear feet** (where appropriate) the total quantity of Waters of the United States proposed to be created, restored, enhanced and/or preserved for purposes of providing compensatory mitigation. Indicate water body type (tidal wetland, non-tidal wetland, riparian wetland, ephemeral stream/river, intermittent stream/river, perennial stream/river, pond/lake, vegetated shallows, bay/harbor, lagoon, ocean, etc.) or non-jurisdictional (uplands<sup>1</sup>). Indicate mitigation type (permittee-responsible on-site/off-site, mitigation bank, or in-lieu fee program). If the mitigation is purchase of credits from a mitigation bank, indicate the bank to be used, if known:

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

Site Number	Water Body Type	Created		Restored		Enhanced		Preserved		Mitigation Type
		Area	Length	Area	Length	Area	Length	Area	Length	
<b>Not applicable</b>										
<b>Total:</b>										

If no mitigation is proposed, provide detailed explanation of why no mitigation would be necessary:  
No wetlands will be affected. Only the culverted drainage structure will be replaced.

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

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

<sup>2</sup>[http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/mitig\\_info.aspx](http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/mitig_info.aspx)

<sup>3</sup>**Sacramento and San Francisco Districts**-[http://www.spk.usace.army.mil/organizations/cespk-co/regulatory/pdf/Mitigation\\_Monitoring\\_Guidelines.pdf](http://www.spk.usace.army.mil/organizations/cespk-co/regulatory/pdf/Mitigation_Monitoring_Guidelines.pdf)

<sup>4</sup>**Los Angeles District**-[http://www.spl.usace.army.mil/regulatory/mmg\\_2004.pdf](http://www.spl.usace.army.mil/regulatory/mmg_2004.pdf)

<sup>5</sup>**Albuquerque District**-[http://www.spa.usace.army.mil/reg/mitigation/SPA%20Final%20Mitigation%20Guidelines\\_OLD.pdf](http://www.spa.usace.army.mil/reg/mitigation/SPA%20Final%20Mitigation%20Guidelines_OLD.pdf)

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

If no, a mitigation plan must be prepared and submitted, if applicable.

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

USGS Quadrangle map name(s):

Assessor Parcel Number(s):

Section(s), Township(s), Range(s):

Other location descriptions, if known:



**Box 13 Section 401 Water Quality Certification:**

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

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

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

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

Exempted Activity?  Yes  No

Agency concurrence?  Yes, Attached  No

If exempt, state why:

**Box 14 Coastal Zone Management Act**

Is the project located within the Coastal Zone?  Yes  X No

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

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

If no, applying for separate CZMA-consistency certification?

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

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

Exempt?  Yes  No

Agency concurrence?  Yes, Attached  No

If exempt, state why:

**Box 15** List of other certification or approval/denials received from other federal, state, or local agencies for work described in this application:

Agency	Type Approval <sup>4</sup>	Identification Number	Date Applied	Dated Approved	Date Denied
CDFW	1600	unknown			
RWOCB	401	unknown			

<sup>4</sup>Would include but is not restricted to zoning, building, and flood plain permits

## Nationwide Permit General Conditions (GC) checklist:

(<http://www.gpo.gov/fdsys/pkg/FR-2012-02-21/pdf/2012-3687.pdf>)

Check	General Condition	Rationale for compliance with General Condition
<input checked="" type="checkbox"/>	1. Navigation	The project will not result in any changes to Navigation
<input checked="" type="checkbox"/>	2. Aquatic Life Movements	The work will occur when there is no flow, minimizing the chance of affected aquatic life movements.
<input checked="" type="checkbox"/>	3. Spawning Areas	The project will not affect spawning areas.
<input checked="" type="checkbox"/>	4. Migratory Bird Breeding Areas	The project will not affect any breeding habitat for migratory birds.
<input checked="" type="checkbox"/>	5. Shellfish Beds	The project will not affect shellfish beds.
<input checked="" type="checkbox"/>	6. Suitable Material	Only suitable material will be used for the project.
<input checked="" type="checkbox"/>	7. Water Supply Intakes	The project will not affect water supply intakes.
<input checked="" type="checkbox"/>	8. Adverse Effects from Impoundments	The project will not result in adverse impoundments.
<input checked="" type="checkbox"/>	9. Management of Water Flows	The project will not affect management of water flows.
<input checked="" type="checkbox"/>	10. Fills Within 100-Year Floodplains	The project site is not within a 100-year floodplain.
<input checked="" type="checkbox"/>	11. Equipment	Staging, Cleaning, and refueling of equipment will be occur near or in a waterway.
<input checked="" type="checkbox"/>	12. Soil Erosion and Sediment Controls	Construction of the rock buttress, and replacement of the culvert will occur when there is no flow, minimizing the chance of soil erosion.
<input checked="" type="checkbox"/>	13. Removal of Temporary Fills	Temporary fill will not be required for this project.
<input checked="" type="checkbox"/>	14. Proper Maintenance	Replacement of the drainage structure will minimize the need for maintenance.
<input checked="" type="checkbox"/>	15. Single and Complete Project	The activity is a single and complete project.
<input checked="" type="checkbox"/>	16. Wild and Scenic Rivers	The project site is not located on a Wild and Scenic River.
<input checked="" type="checkbox"/>	17. Tribal Rights	The project will not affect
<input checked="" type="checkbox"/>	18. Endangered Species	See Box 11 above
<input checked="" type="checkbox"/>	19. Migratory Bird and Bald and Golden Eagle Permits	The project will not result in effects to bald eagles or golden eagles.
<input checked="" type="checkbox"/>	20. Historic Properties	See Box 12 above
<input checked="" type="checkbox"/>	21. Discovery of Previously Unknown Remains and Artifacts	If remains or artifacts are discovered, the project will be suspended until the proper authorities can be contacted.
<input checked="" type="checkbox"/>	22. Designated Critical Resource Waters	The project will not affect designated critical resource waters.
<input checked="" type="checkbox"/>	23. Mitigation	See Box 10 above
<input checked="" type="checkbox"/>	24. Safety of Impoundment Structures	The project will not affect impoundment structures.
<input checked="" type="checkbox"/>	25. Water Quality	See Box 13 above
<input checked="" type="checkbox"/>	26. Coastal Zone Management	See Box 14 above
<input checked="" type="checkbox"/>	27. Regional and Case-by-Case Conditions	All regional and case-by-case conditions have been met.
<input checked="" type="checkbox"/>	28. Use of Multiple Nationwide Permits	The project will be authorized by one nationwide permit.
<input checked="" type="checkbox"/>	29. Transfer of Nationwide Permit Verifications	The permit will not be transferred.
<input checked="" type="checkbox"/>	30. Compliance Certification	The project is being processed with a non-reporting nationwide permit.
<input checked="" type="checkbox"/>	31. Pre-Construction Notification	Not applicable since the project qualifies for a non-reporting permit.

## **San Francisco District (SPN) in California:**

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

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

If yes, then in accordance with General Condition 31, the appropriate U.S. Army Corps of Engineers (Corps) District shall be notified using either the South Pacific Division 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. The PCN Checklist and application form are available at: <http://www.spn.usace.army.mil/regulatory/index.html>. 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; and
- 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 projects located within the boundaries of the Los Angeles District shall comply with the most current version of the 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 project site, and all waters proposed to be avoided on and immediately adjacent to the project site. The compass angle and position of each photograph shall be documented on the plan-view drawing required in subpart b of this regional condition.

If yes, is the PCN attached?  Yes  No  Not Applicable

2. Is the activity located in an area designated as Essential Fish Habitat (EFH) by the Pacific Fishery Management Council (i.e., all tidally influenced areas - Federal Register dated March 12, 2007 (72 FR 11092)).  Yes  X No

If yes, notification pursuant to General Condition 31 is required. 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. Are any other Federal agencies involved?  X Yes  No

If yes, 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 (50 CFR Part 402.07), Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act (EFH) (50 CFR 600.920(b)) and/or Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended (36 CFR 800.2(a)(2)), 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. Is the project located within a waterbody supporting any federally-listed threatened or endangered fish species? Yes  No

If yes, unless determined to be impracticable by the Corps, 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 streambed.

5. Will the permittee 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? Yes  No

If no, then the proposed activity may not be in compliance with Regional Condition 10, unless construction of compensatory mitigation prior to or concurrent with commencement of construction of the authorized activity is specifically determined impracticable by the Corps.

Will the mitigation involve use of a mitigation bank or in-lieu fee program? Yes  No

If yes, then the permittee shall submit proof to the Corps of payment prior to commencement of construction of the authorized activity.

6. Will the activity result in the loss of greater than 300 linear feet of intermittent and/or ephemeral streams for NWPs 29, 39, 40, 42, 43, 44, 51, and 52 or result in the loss of greater than 500 linear feet along the bank for NWP 13? Yes  No

If yes, is the applicant requesting a waiver of the linear foot limit?  
Yes  No  Not Applicable

If yes, then the request shall 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 water body and characters 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 associated vegetation community (i.e. wetland, non-wetland); surrounding land use; water quality; issues related to cumulative impacts in the watershed, and; any other relevant information; and
- b. An analysis of the proposed impacts to the waterbody in accordance with General Condition 31 and Regional Condition 3; and
- c. Measures taken to avoid and minimize losses, including other methods of constructing the proposed project; and
- d. A compensatory mitigation plan describing how the unavoidable losses are proposed to be compensated, in accordance with 33 CFR Part 332.

**B. SPN Regional Conditions to be applied across the entire San Francisco District:**

1. Is the project located 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 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, Figure 1 on the Public Notice for Federal Register Notice Announcing the Reissuance of the Nationwide Permits and the San Francisco District Regional Conditions:

<http://www.spn.usace.army.mil/regulatory/nwp/2012/final%20NWPs.pdf>? Yes  No

If yes, notification pursuant to General Condition 31 is required. The PCN must include an explanation of how avoidance and minimization of losses of waters or wetlands are taken into consideration to the maximum extent practicable (see General Condition 23(a)).

2. Is the project located within the **Santa Rosa Plain** (<http://www.spn.usace.army.mil/regulatory/srp/srpmap.pdf>)? Yes  No

If yes, notification pursuant to General Condition 31 is required. The PCN must include an explanation of how avoidance and minimization of losses of waters or wetlands are taken into consideration to the maximum extent practicable (see General Condition 23(a)).

3. Will the proposed project impact **Eelgrass Beds**? Yes  No

If yes, notification pursuant to General Condition 31 is required. The PCN must include a compensatory mitigation plan, habitat assessment, and extent of proposed-project impacts to Eelgrass Beds.

**C. SPN Regional Conditions to be applied to specific Nationwide Permits (NWP):**

NWP 3:

Will excavation equipment operate from an upland site? Yes  No

If no, an explanation as to need to place equipment in waters of the U.S. must be included in the PCN.

Will work occur within a special aquatic site? Yes  No

If yes, an explanation why the special aquatic site cannot be avoided, as well as impact minimization measures, must be included in the PCN.

Attachment A

Humboldt County, Route 299, Post Miles 10.8 and 26.0  
EA 0B450

U. S. Army Corps of Engineers Regional General Permit (Non-reporting) # 3, Maintenance  
Nationwide Permit Pre-construction Notification Form  
Box 6, Reason(s) for discharge into Waters of the United States (Potential cumulative impacts of  
proposed activity)

<b>CUMULATIVE IMPACTS</b> (List and describe other projects implemented within the past 5 years or planned within the next five years that are related to the proposed project, or that may impact the same watershed. Attach additional pages as necessary.)		
<b>PROJECT NAME</b>	<b>DESCRIPTION</b>	<b>DATE IMPLEMENTED/PLANNED</b>
Rumble strips, PM 5.7-38.6	Install rumble strips	Within next 5 years 
Shoulder Widening, PM 15.3	Widening to increase shoulder width	
Acorn Curve, PM 19.8	Widening to provide 8-foot shoulders	
Cedar Gap Curve Repair, PM 20.25	Widening and realignment of the highway. Includes geotechnical drilling	
Lupton Curve, PM 21.1	Widening to provide 8-foot shoulders	
Install radio stations, PM 22.1	Install roadside radio stations	
Sabertooth shoulder widening, PM 24.0	Widening to provide 8-foot shoulders	
Circle Point Curve, PM 25.0	Widening to provide 8-foot shoulders	
Repair, PM 31.0	Repair a slipout on highway	
Willow Creek wall, PM 32.0	Construct a wall to support the roadway prism	
Miscellaneous resurfacing, metal beam quad rail		

# **WATER QUALITY**

California Regional Water Quality Control Board

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## North Coast Regional Water Quality Control Board

June 12, 2015

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### In the Matter of Water Quality Certification

for the

**State Route 299 Storm Damage Project, Post-Miles 10.8 and 26.0  
40.926, -123.801 (~Post-Mile 26.0)  
WDID No. 1B15034WNHU, ECM PIN CW-814504  
Caltrans EA No. 01-0B450**

APPLICANT: California Department of Transportation  
RECEIVING WATERS: Redwood Creek  
HYDROLOGIC AREA: Hydrologic Planning Sub-Area 107.20, Beaver  
COUNTY: Humboldt  
FILE NAME: CDOT Highway 299 PM 10.8 & 26.0 - 2011 Storm Damage  
(Slide Repair)

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#### FINDINGS BY THE EXECUTIVE OFFICER:

1. On April 8, 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, section 401, Water Quality Certification (certification) for activities related to the proposed State Route 299 Storm Damage Project at post-miles 10.8 and 26.0 (Project).
2. **Hydrologic Unit:** The proposed Project would cause disturbances to jurisdictional waters within the Beaver Hydrologic Area of the Redwood Creek Hydrologic Unit (Basin Plan Hydrologic Planning Area 1107.20).

3. **Public Notice:** The Regional Water Board provided public notice of the application pursuant to title 23, California Code of Regulations, section 3858 on May 4, 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 at post-miles 10.8 and 26.0 in Humboldt County on State Route 299. According to Caltrans, storm events in March 2011 resulted in highway damage that this Project would permanently correct. Rock buttresses would be constructed at both locations; however, jurisdictional waters of the U.S. would only be impacted at post-mile (PM) 26.0.

At PM 26.0, a slip-out is present below the roadway adjacent to the eastbound lane. Project activities at this location would involve:

- Removal of approximately 6,200 cubic yards of slide debris on the downhill slope;
- Construction of a 230-foot long, 1-ton rock buttress on the downhill slope, extending between 20 and 50 feet down the slope;
- Replacement of a drainage structure consisting of a 65.4-foot by 18-inch cross culvert beneath the roadway and a 14.7 foot by 24-inch downdrain that transitions into an approximately 70-foot-long flume. The new structure would be placed at a slightly shallower angle and consist of a 61.9-foot by 24-inch cross culvert, a 68.6 by 24-inch downdrain, and a 26-foot by 13-foot rock channel. The last two feet of the downdrain would be incorporated into the rock channel which would outlet at the toe of the slope, similar to where the existing flume discharges. An existing rock energy dissipater at the toe of the slope would remain in place; and
- Repaving and striping of the roadway.

At PM 10.8, the westbound number two lane is currently covered with slide debris and closed to traffic. The slide is approximately 500 feet long with upslope scarps. Project activities at this location would involve:

- Removal of approximately 1,900 cubic yards of slide debris at the toe of the slope;
- Installation of hillside sub-surface horizontal drains;
- Construction of a 500-foot long, 1-ton rock buttress on the slope, extending between 20 and 50 feet up the slope; and
- Repaving and striping of the roadway.

5. **Construction Timing:** The Project is expected to begin after July 9, 2015, and be completed within fifty days. The Project is expected to be completed before October 15, 2015.
6. **Project Impacts:** The proposed Project would result in no permanent or temporary impacts to State jurisdictional waters.
7. **Mitigation for Project Impacts:** Mitigation is not required because there would not be permanent or temporary impacts to State jurisdictional waters.
8. **Disturbed Soil Area:** Project implementation would result in less than one acre of disturbed soil area. Caltrans shall utilize appropriate erosion control, sediment control, and site management Best Management Practices to prevent discharge of pollutants during construction.
9. **Utility Relocations:** Utility relocations affecting jurisdictional waters are not proposed for this Project.
10. **Other Agency Actions:** Caltrans intends to apply for coverage under a non-reporting U.S. Army Corps of Engineers Nationwide Permit No. 3, *Maintenance*, 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.
11. **CEQA Compliance:** The Regional Water Board, as lead California Environmental Quality Act (CEQA) agency, has determined that the project qualifies for a Categorical Exemption (Section 15301, *Existing Facilities*), and has filed a Notice of Exemption with the State Clearinghouse concurrent with issuance of this 401 Water Quality Certification, pursuant to CEQA guidelines.
12. **Total Maximum Daily Load:** The Redwood Creek watershed is listed on the Clean Water Act section 303(d) list as impaired for sediment and temperature. On December 30, 1998, the U.S. EPA established sediment total maximum daily loads (TMDLs) for the Redwood Creek watershed. Road-related erosion is identified as a factor in sediment contributions in the watershed. In addition, activities that impact stream beds, banks, and floodplains are identified as sources contributing to increased stream temperatures. Measures that reduce sediment discharges to surface waters from roads in the watershed, as well as measures to avoid, minimize, and mitigate impacts on riparian zones is essential for achieving TMDL, Basin Plan, and CEQA compliance. Caltrans would utilize appropriate erosion control, sediment control, and site management Best Management Practices to control pollutants during construction. Work would only be performed when the drainage is not flowing. Accordingly, this certification is consistent with, and implements portions of the Redwood Creek TMDL.

**13. 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.

14. 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:	Tributary to Redwood Creek, Beaver Hydrologic Area of the Redwood Creek Hydrologic Unit (Basin Plan Hydrologic Planning Area 1107.20)	
Filled and/or Excavated Areas:	Permanent – jurisdictional waters	none
	Temporary – jurisdictional waters	
Dredge Volume:	none	
Latitude/Longitude:	40.926, -123.8028 <sup>1</sup> (Post-Mile 26.0) 40.911, -123.9159 (Post-Mile 10.8)	

Accordingly, based on its independent review of the record, the Regional Water Board certifies that the State Route 299 Storm Damage Project at post-miles 10.8 and 26.0 (WDID No. 1B15034WNHU), 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.**

<sup>1</sup> WGS84 datum

### **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.

### **Standard Conditions**

2. 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.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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:

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

- 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 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.
8. 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.
9. 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.
10. 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;
11. Caltrans shall not use leaking vehicles or equipment within State waters or riparian areas.

**Standard Conditions (continued)**

12. 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 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.
13. Work in flowing or standing surface waters, unless otherwise proposed in the project description and approved by the Regional Water Board, is prohibited.
14. 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.
15. 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.
16. This Order does not authorize drafting of surface waters.
17. Caltrans shall provide access to the Project construction site upon request by Regional Water Board staff.
18. 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

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

Regional Water Board 401 certification and construction general permit requirements, identification of state waters and riparian areas, and violation avoidance and discharge reporting procedures.

19. 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 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.
20. 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.
21. 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.
22. 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.
23. 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.
24. 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.

**Standard Conditions (continued)**

25. 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 \$1,201 from Caltrans on April 8, 2015. A \$1,001 refund is due to Caltrans.
26. This certification will be subject to annual billing during the construction phase (“Annual Active Discharge Fee”) per the current fee schedule, which can be 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). This fee will be automatically invoiced to Caltrans.
27. 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.” Regional Water Board staff may request a site visit to confirm Project status and compliance with this Order.
28. 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.
29. 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.
30. This certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to Water Code section

**Standard Conditions (continued)**

13330 and title 23, California Code of Regulations, section 3867.

31. This certification is not transferable. In the event of any change in control of ownership of land presently owned or controlled by Caltrans, Caltrans shall notify the successor-in-interest of the existence of this certification by letter and shall forward a copy of the letter to the Regional Water Board. The successor-in-interest must send to the Regional Water Board Executive Officer a written request for transfer of this certification to discharge dredged or fill material under this Order. The request must contain the following:
- i) Requesting entity's full legal name;
  - ii) The state of incorporation, if a corporation;
  - iii) 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.
32. 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.

33. 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.

June 12, 2015

**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.

  
Matthias  
St. John  
2015.06.12  
12:25:30  
Water Board  
Matthias St. John  
Executive Officer

150612\_BJT\_dp\_CDOT\_HUM299\_PMs10.8and26.0\_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. Talitha Hodgson, Caltrans, District 1, 1656 Union Street, Eureka, CA 95501 [Talitha.Hodgson@dot.ca.gov](mailto:Talitha.Hodgson@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)  
Lisa Embree, Caltrans [Lisa.Embree@dot.ca.gov](mailto:Lisa.Embree@dot.ca.gov)

## **AGREEMENTS**

California Department of Fish and Wildlife

Notification No. 1600-2015-0123-R1

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



**STREAMBED ALTERATION AGREEMENT**  
NOTIFICATION No. 1600-2015-0123-R1  
UNNAMED TRIBUTARY TO CAPTAIN CREEK

RECEIVED

CALIFORNIA DEPARTMENT OF TRANSPORTATION  
HUM 299 STORM DAMAGE SLIDE REMOVAL  
EA 01-0B450; S.R. 299 PM 26.0, HUMBOLDT COUNTY

JUN 22 2015

CDFW - EUREKA

This 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. Talitha Hodgson.

#### RECITALS

WHEREAS, pursuant to Fish and Game Code (FGC) Section 1602, Permittee notified CDFW on April 6, 2015, that Permittee intends to complete the project described herein.

WHEREAS, pursuant to FGC Section 1603, 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 situated on Unnamed Tributary to Captain Creek, tributary to Redwood Creek, tributary to Pacific Ocean. The project is located in the County of Humboldt; State of California; Section 11, Township 6 North, Range 3 East, Humboldt Base and Meridian; Lord Ellis Summit U.S. Geological Survey 7.5-minute quadrangle.

#### PROJECT DESCRIPTION

The proposed project at PM 26.0 includes stabilizing the roadway by removing approximately 6,200 cubic yards of slide debris and constructing a 230-foot-long buttress of 1-ton rock that extends between 20 and 50 feet downslope of the road. The project will also replace an existing 18-inch culvert and associated downdrain and flume with a new 24-inch culvert, downdrain, and rock channel that outlets onto an existing

rock energy dissipater at the toe of the slope. Repaving and restriping the roadway will also be undertaken as part of the project.

## 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*), amphibians, reptiles, aquatic invertebrates, mammals, nesting resident and migratory birds, 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 indirect mortality of fish, amphibians and other aquatic species;
- injury to downstream fish and benthic invertebrates and spawning and/or rearing habitats through sediment transport and deposition and/or spills of deleterious materials;
- changes in channel form and contour of bed, bank, or channel;
- temporary increase of sediment and turbidity;
- temporary loss of riparian habitat;
- potential mortality of nesting birds, eggs or young through vegetation removal and construction disturbance; and
- colonization by non-native and/or invasive plants.

## 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, 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 in responsible positions who will be working on the project at the project site on behalf of Permittee, including but not limited to contractors, subcontractors, inspectors, and monitors.

- 1.3 Notification of Conflicting Provisions. Permittee shall notify 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 other aquatic species, Permittee shall implement each measure listed below.

- 2.1 Except where otherwise stipulated in this Agreement, all work shall be in accordance with Permittee's notification, including all maps, plans, photographs, drawings, and all other supporting documents submitted as part of the notification and received as of April 6, 2015.
- 2.2 All work within the bed, bank or channel shall be confined to the period June 1 to October 15 of any year in which this Agreement is valid.
- 2.3 Removal of existing vegetation shall not exceed the minimum necessary to complete operations. If vegetation must be removed during the nesting season (March 1 to September 14) nest surveys shall be conducted just prior to vegetation clearing and nesting buffers placed as appropriate prior to, and while, conducting work. Once vegetation is trimmed or removed, repeated hand-cutting of re-growth during the nesting season is permitted as needed to avoid re-growth that may attract nesting birds.
- 2.4 If sightings or den sites of ring-tailed cat (*Bassariscus astutus*), Pacific fisher (*Martes pennanti*), or marten (*Martes americana*) 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. Fill excavated from project work shall be placed in stable areas where it cannot enter or erode into a stream.
- 2.6 Adequate and effective erosion and siltation control measures shall be used at all times 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

not contain plastic mesh netting that can entrap or harm wildlife. Photodegradable synthetic products are not considered biodegradable.

- 2.7 All bare mineral soil exposed in conjunction with construction, deconstruction, maintenance or repair shall be treated for effective 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 measures shall include the proper installation and maintenance of approved BMPs and may include applications of seed, weed-free straw, compost, fiber, commercial fertilizer, stabilizing emulsion and mulch, or combinations thereof. Non-vegetative methods such as jute mat, coir mat, wood chip mat, straw mat or wattle, straw mulch, native duff (leaves, needles, fine twigs, etc.), or lopped native slash may be used as erosion control to protect and stabilize soils. Straw mulching shall utilize at least 2 to 4 inches of clean straw (such as rice, barley, wheat) or weed-free straw. Seeding shall use regional native seed 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 in erosion control or revegetation seed mixes.
- 2.8 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. The Permittee shall provide site maintenance during the life of the Agreement and the life of the structure, including, but not limited to, re-applying erosion control to minimize surface erosion and ensuring stream banks remain sufficiently functional, armored and/or stable.
- 2.9 Refueling of machinery or heavy equipment, or adding or draining oil, 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 off-site. Heavy equipment used or stored within stream bed, channel, and bank shall use drip pans or other devices (i.e., absorbent blankets, sheet barriers or other materials) as needed to prevent soil and water contamination.
- 2.10 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.
- 2.11 Any equipment or vehicles driven and/or operated adjacent to the stream channel shall be checked and maintained daily to prevent leaks of materials that could be deleterious to aquatic and terrestrial life or riparian habitat.

- 2.12 Stationary equipment such as motors, pumps, generators, and welders that contain deleterious materials, located adjacent to the stream channel shall be positioned over drip pans.
- 2.13 The permanent <sup>drainage system</sup> culvert shall be sized to pass the estimated 100-year flood flow, including debris and sediment loads, without overtopping or diverting. The permanent culvert and its outfall structure shall be aligned with the stream channel, as wide as or wider than the channel width, and shall be placed with the bottom set at or slightly below the natural streambed elevation to the maximum extent feasible. If permanent culverts cannot be set to grade, they shall have downdrains and/or energy dissipaters below the outfall as needed to effectively control erosion. Downdrains shall be securely attached to the culvert and staked or otherwise securely anchored to the fill slope.
- 2.14 No debris, soil, silt, sand, bark, slash, sawdust, rubbish, cement or concrete or washings thereof, asphalt, paint or other coating material, oil or petroleum products or other organic or earthen material from any construction, or associated activity of whatever nature shall be allowed to enter into, or placed where it may be washed by rainfall or runoff into, waters of the State. When operations are completed, any excess materials or debris shall be removed from the work area. No rubbish shall be deposited within 150 feet of the high water mark of any stream or lake.

### 3. Reporting Measures

- 3.1 Permittee shall notify CDFW within the 7-day period preceding the beginning of work permitted by this Agreement. Information to be disclosed shall include Agreement number, and the anticipated start date. Subsequently, the Permittee shall notify CDFW no later than 7 days after the project is fully completed. Notification may be faxed to CDFW at (707) 441-2021, Attn: JoAnn Dunn, Senior Environmental Scientist (Specialist), or via email: [joann.dunn@wildlife.ca.gov](mailto:joann.dunn@wildlife.ca.gov).

### CONTACT INFORMATION

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

To Permittee:

Ms. Talitha Hodgson  
Caltrans  
1656 Union St.  
Eureka, CA 95501  
Email: [talitha.hodgson@dot.ca.gov](mailto:talitha.hodgson@dot.ca.gov)

To CDFW:

California Department of Fish and Wildlife  
Northern Region  
619 Second Street  
Eureka, California 95501  
Attn: Lake or Streambed Alteration Program  
Notification #1600-2015-0123-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 Calif. Code Regs., Title 14, Section 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 Calif. Code Regs., Title 14, Section 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 Calif. Code Regs., Title 14, Section 699.5). CDFW shall process the extension request in accordance with FGC Section 1605(b) through (e).

If Permittee fails to submit a request to extend the Agreement prior to its expiration, Permittee must submit a new notification and notification fee before beginning or continuing the project the Agreement covers (FGC Section 1605(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.dfg.ca.gov/habcon/ceqa/ceqa\\_changes.html](http://www.dfg.ca.gov/habcon/ceqa/ceqa_changes.html).

## TERM

This Agreement shall expire **December 31, 2016**, 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.

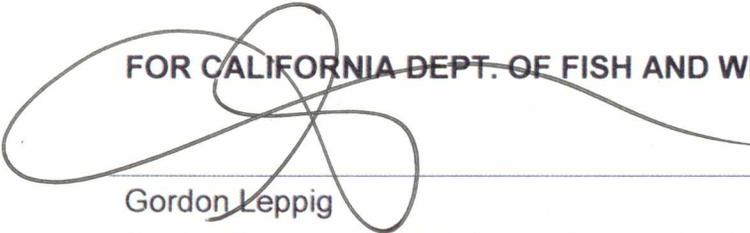
**FOR CALIFORNIA DEPT. OF TRANSPORTATION**



Talitha Hodgson  
Project Manager

6/18/15  
Date

**FOR CALIFORNIA DEPT. OF FISH AND WILDLIFE**



Gordon Leppig  
Senior Environmental Scientist (Supervisor)

6/22/15  
Date

## **MATERIALS INFORMATION**

Water Source Information

Dated July-2015

Geotechnical Reports

Postmile 10.8

Dated January 22,-2014

Postmile 26.0

Dated January 24,-2014

Addendum to Geotechnical Report PM 10.8

Dated June 10, 2015

**01-0B4504**

**WATER SOURCE INFORMATION**

July 2015

No readily available non-potable water sources have been identified for this project.

# Memorandum

*Flex your power!  
Be energy efficient!*

**To:** TALITHA HODGSON  
Project Manager  
Storm Damage Projects  
District 1  
  
Attention: Jim Rasmussen

**Date:** January 22, 2014  
  
**File:** 01-HUM-299  
PM 10.8  
EA 01-0B4501  
ID 0112000130  
Storm Damage

**From:** DEPARTMENT OF TRANSPORTATION  
DIVISION OF ENGINEERING SERVICES  
OFFICE OF GEOTECHNICAL DESIGN NORTH (OGDN-E)

**Subject:** Geotechnical Design Report (GDR)

## Introduction

This Geotechnical Design Report has been prepared to provide geotechnical recommendations for the mitigation of a landslide along State Route 299 at PM 10.8 in Humboldt County. A vicinity map is presented on **Plate No. 1**. The recommendations contained in the memorandum are based on communication with the District 1 Office of Design and OGDN Eureka branch, review of pertinent geologic literature and maps, site reconnaissance, engineering analysis and our judgment. The revision includes two alternative horizontal drain layouts.

## Site History

During the winter of 2010-2011 a landslide occurred on the uphill side of SR 299 at PM 10.8. Landslide debris encroached sufficiently onto the west bound travelled lane to block traffic. Caltrans Maintenance subsequently removed the debris from the travel lane. At present between STA 199+00 and 200+00 debris extends to about the original fog line and west and east of these stations the toe of the slide gradually recedes to near the original edge of shoulder (Refer to **Plates 2 and 3**). The west bound lane has been removed from service and it has become a temporary shoulder. The active slide extends a distance of about 120 to 250 feet in the upslope direction. Also, between the stations noted above the shoulder and drainage ditch were uplifted by slide movement.

## Physical Setting

### Climate

According to the Western Regional Climate Center, the average annual precipitation in the project area is about 46 in. The majority of this precipitation (over 90 percent) falls between October and April. The average annual air temperature is about 55°F with the average daily maximum of about 79°F in August and the average daily minimum of about 38°F in January.

### Topography and Drainage

The topography of the project area is generally slightly inclined at the roadway and moderately steep to steep and hummocky on the adjoining slopes. Elevations along the roadway at the site range from 540 feet to 570 feet. Above the roadway the slope ascends to approximately 2000 feet elevation. Below the roadway the slope descends to approximately elevation 464 feet at the River. Generally, the slope terrain is densely forested except just above the roadway where remedial grading had occurred; there the slope is covered in a sparse cover of grass, conifer and deciduous saplings. Drainage along the roadway is achieved via ditches along the inboard edge of the pavement that connect to culverts located near the east and west ends of the project sites. During our site visit surface seepage and saturated soils were observed along the lower slope face and further upslope (Refer to **Plates 2, 3 and 4**).

### **Geology**

The slope areas above and below including the site have been mapped as a Quaternary landslide complex (Refer to **Plates 4 and 5**). The slide complex consists of rock slides, earth flows and debris slides and extends to above elevation 1400 feet. At the site the slide is mapped as a dormant debris slide, however, the lower part of the slide that impacted the highway has become active. This active slide segment is approximately 440 feet wide (Station 197+80 to 202+20). The slide headscarp can be found anywhere from approximately 120 to 230 feet up slope from the roadway. The depth of slide failure surface is estimated to be between 20 and 30 feet. The slide debris where observed at the surface consisted predominately of an unconsolidated matrix of wet clay to fine gravel size fragments interbedded with scattered larger blocks of resistant sandstone. An isolated block of sandstone several feet in size is partially exposed on the slope near the south end of the site. The slide complex below the roadway extends to the Mad River and is

considered dormant. At the time of our site visits the slide appeared not to be moving except for sloughing of the lower part of the slope. Bedrock underlying the landslide debris is mapped as the Snow Camp Mountain sandstone and Mélange (KJfsc) Central Belt Franciscan. This mélangé terrane is described as a chaotic mixture of fragmented rock masses of various sizes in a sheared finer grained matrix (block-in matrix rock).

### **Ground Water**

Groundwater at the site is inferred from wet soils and seepage observed during a site visit in October 2012. At that time these conditions were observed along much of the slope just above the roadway and at approximately elevation 595 feet in the vicinity of an existing rock lined terrace drain. These signs indicate that even late in the dry season there must be considerable groundwater behind the up slope area of the project site.

### **Geotechnical Recommendations**

Based on our knowledge of the site and experience dealing with seasonally related slide activity it seems reasonable to assume that groundwater builds up behind the subject slope during periodic storm events. With the rise of groundwater, the soil and rock weakens and simultaneously hydrostatic pressure increases, enough in this case to cause activation of a once dormant landslide. It is important to arrest the movement of this lower slide segment, because not doing so in time may cause the up slope slide segments to destabilize and start to move in earnest.

The recommendations for the project include the removal of slide debris to reestablish the original edge of shoulder and adjoining west bound lane, installation of horizontal drains to draw down groundwater in order to control slide movement and armor the reconstructed slope face with RSP to protect against slope face soil sloughing along the reconstructed slope face. Detailed recommendations are provided below.

### Rock Slope Protection (RSP)

Removal of the slide debris and placement of the RSP shall be done in sections in order to not cause activation of the entire land slide mass. The width of the sections may vary but initially a section width of 50 feet is recommended. RSP shall be constructed as follows and as shown on **Plate Nos. 6 through 11**.

1. Excavate the slide debris and keyway.
2. Place rock slope protection (RSP) filter fabric in conformance with Caltrans 2010 Standard Specifications.
3. Place the ½ Ton rock slope protection (Method B per Standard Specifications, Section 72-2) in layers into the excavated area over the RSP fabric until a height of 4 feet above the bottom of the key is reached. At that height, a 10-inch diameter by approx. 7 foot long schedule 80 PVC pipe section should be placed at the proposed horizontal drain locations and inclined at an upward angle of 3 to 6 degrees from horizontal. After the 10 inch diameter PVC pipe has been installed and stabilized, continue placing RSP material until the finished slope is achieved.
4. The larger RSP rock size should be placed in the key excavation and above lower layers.
5. Soil/rock debris and surface runoff control measures should be in place during construction.

### Horizontal Drain Installation

In order to control groundwater it is recommended that horizontal drains be installed. There are two alternatives horizontal drain layouts. Alternative 1 (shown on **Plate No. 12**) consists of 18 drains that project perpendicular to the slope face with an approximate 25 ft spacing, a positive gradient ranging from 3 to 5 degrees, and a length of 150 to 200 feet into the landslide. Alternative 2 (shown on **Plate No. 13**) consists of two fan arrays of 9 drains each. Each fan originates from a single point (approximate STA 199+00 and 201+00) with an approximate 10 degree angle between drains, a positive gradient ranging from 4 to 6 degrees, and a length of 150 to 200 feet into the landslide. The locations of the drains were selected based on the site geology, site topography and ground water. After placement of the RSP and 10 inch diameter PVC pipes as described above, the horizontal drains shall be installed through the 10 inch diameter PVC pipes. Each horizontal drain shall be 1.5 inch diameter schedule 80 PVC pipe. The water from the horizontal drains shall be collected and removed from the slide area to avoid water reentering the slide mass. Depending on the gradient this water should be carried to the

culverts at the west or east end of the project site. The water collection system should be designed in a manner to avoid erosion than may cause additional slope instabilities.

### **Construction Considerations**

Installation of the horizontal drains shall conform to Section 68-3 Horizontal Drains of the 2010 Standard Specifications.

All earth work shall conform to Section 19 Earthwork of the 2010 Standard Specifications.

Franciscan bedrock is known as 'block-in-matrix rock. This means that resistant (hard) blocks may be as small as a fraction of an inch to tens of feet across. Normal stratigraphic predictability does not apply, as the blocks are random in size and in distribution. Thus, excavation conditions at the site may be highly variable and because of the random distribution of the geologic materials highly resistant blocks of unknown size encountered may be difficult to excavate.

If rock encountered within the limits of the proposed cuts cannot be removed by ripping, 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 (Control Blasting).

### **Materials Disposal**

Removal and disposal of the excavated soil and rock debris shall be the responsibility of the Contractor. The Contractor should coordinate with Caltrans to determine a suitable disposal site.

## **Disclaimer and Contract Information**

The recommendations contained in this report are based on specific project information, surface observations, a review of published data and our current understanding of proposed project. If the scope of the proposed project changes from that described in this report, these recommendations should be reviewed by this Office.

## **Project Information**

“Project Information”, discloses to bidders and contractors a list of pertinent information available for their inspection prior to bid opening. The following is information originating from Geotechnical Services.

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

A. *None.*

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

A. *Geotechnical Design Report for EA 01-0B4501, dated 1/22/2014.*

*Data and Information available for inspection at the District Office:*

A. *None.*

*Data and Information available for inspection at the Transportation Laboratory are:*

A. *None.*

If there are any questions or comments in regards to this report, please contact William Bertucci at 916-227-1045 or Ben Barnes at 916-227-1039.



WILLIAM BERTUCCI  
Associate Engineering Geologist  
Office of Geotechnical Design North  
Geotechnical Services  
Division of Engineering Services



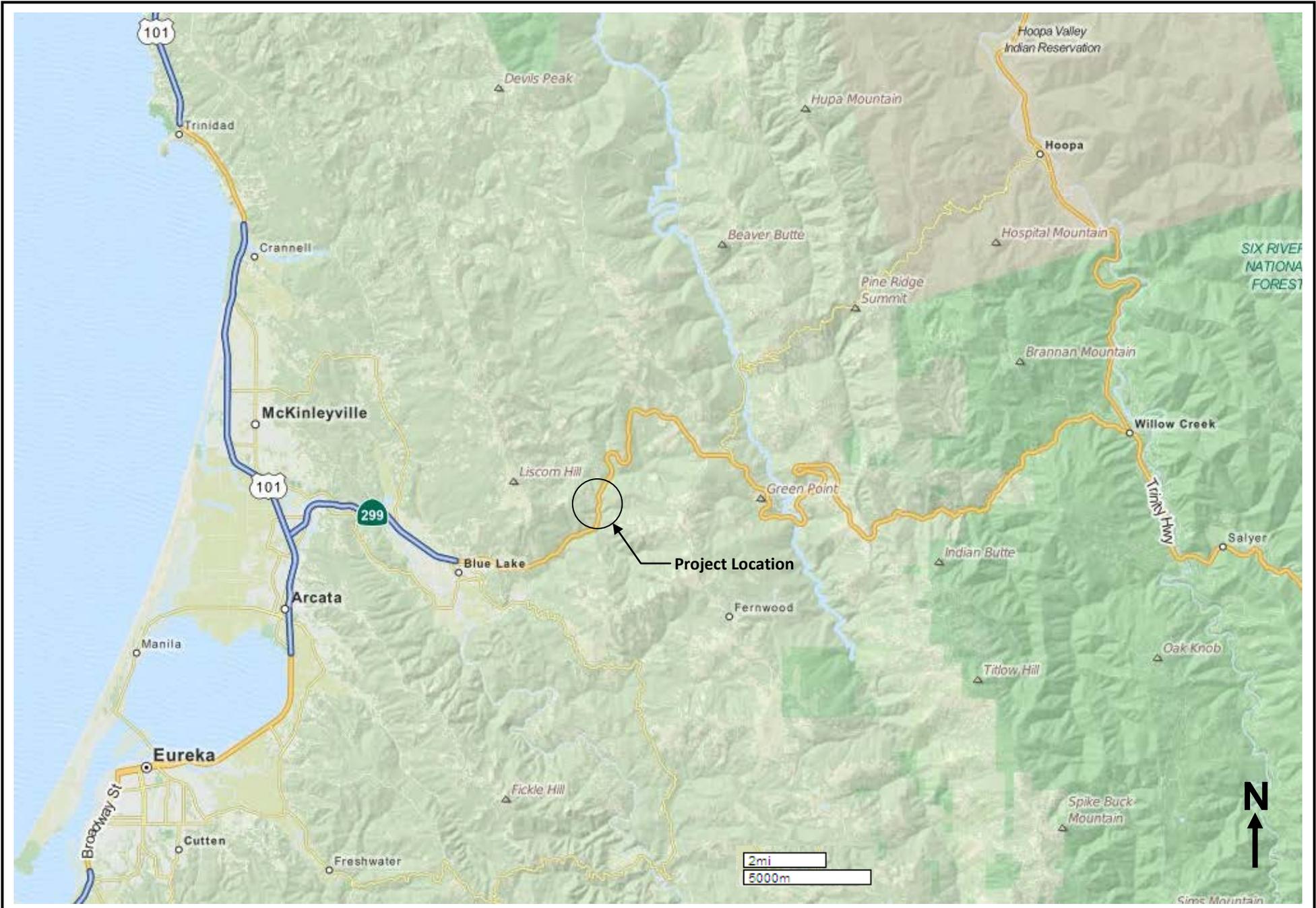
BENJAMIN M. BARNES, PE  
Transportation Engineer  
Office of Geotechnical Design North  
Geotechnical Services  
Division of Engineering Services

Attachments:

- Plate No. 1: Vicinity Map
- Plate No. 2: Photograph (Looking East)
- Plate No. 3: Photograph (Looking West)
- Plate No. 4: Topographic/Landslide Map
- Plate No. 5: Geologic/Landslide Map
- Plate No. 6: Horizontal Drain/RSP Detail
- Plate No. 7: Cross Section (STA 198+00)
- Plate No. 8: Cross Section (STA 199+00)
- Plate No. 9: Cross Section (STA 200+00)
- Plate No. 10: Cross Section (STA 201+00)
- Plate No. 11: Cross Section (STA 202+00)
- Plate No. 12: Horizontal Drain Layout (Alternative 1)
- Plate No. 13: Horizontal Drain Layout (Alternative 2)



- c: Qiang Huang (Geotechnical Services, OGDN-E)  
District Construction R.E. Pending File  
Tom Fitzgerald (D1 District Materials Engineer)  
Christine Lan (D1 Environmental)  
Dave McCanless (D1 Right of Way)  
Don Campbell (D1 Right of Way)  
Charlie Narwold (Geotechnical Services, OGDN-B)



	Division of Engineering Services Geotechnical Services Office of Geotechnical Design - North	ID 0112000130	VICINITY MAP	Plate No. 1
		EA 01-0B4501	01-HUM-299 PM 10.8, STORM DAMAGE	

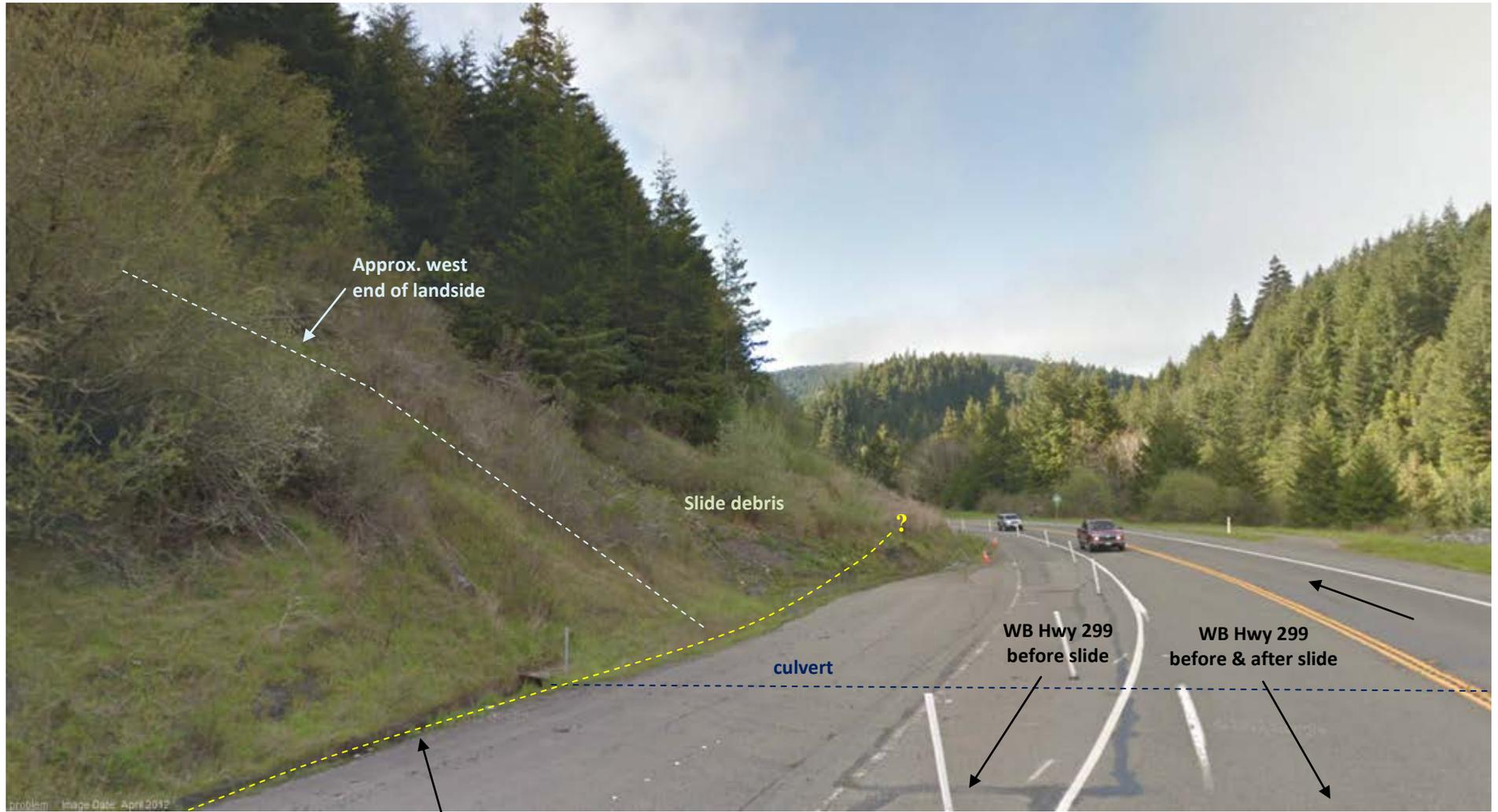


Photo looking east shows Highway 299 with inside lane removed.



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ID 0112000130

EA 01-0B4501

PHOTOGRAPH, HUM 299 LOOKING EAST

01-HUM-299 PM 10.8, STORM DAMAGE

Plate  
 No. 2



Photo looking west shows Highway 299 with inside lane removed.



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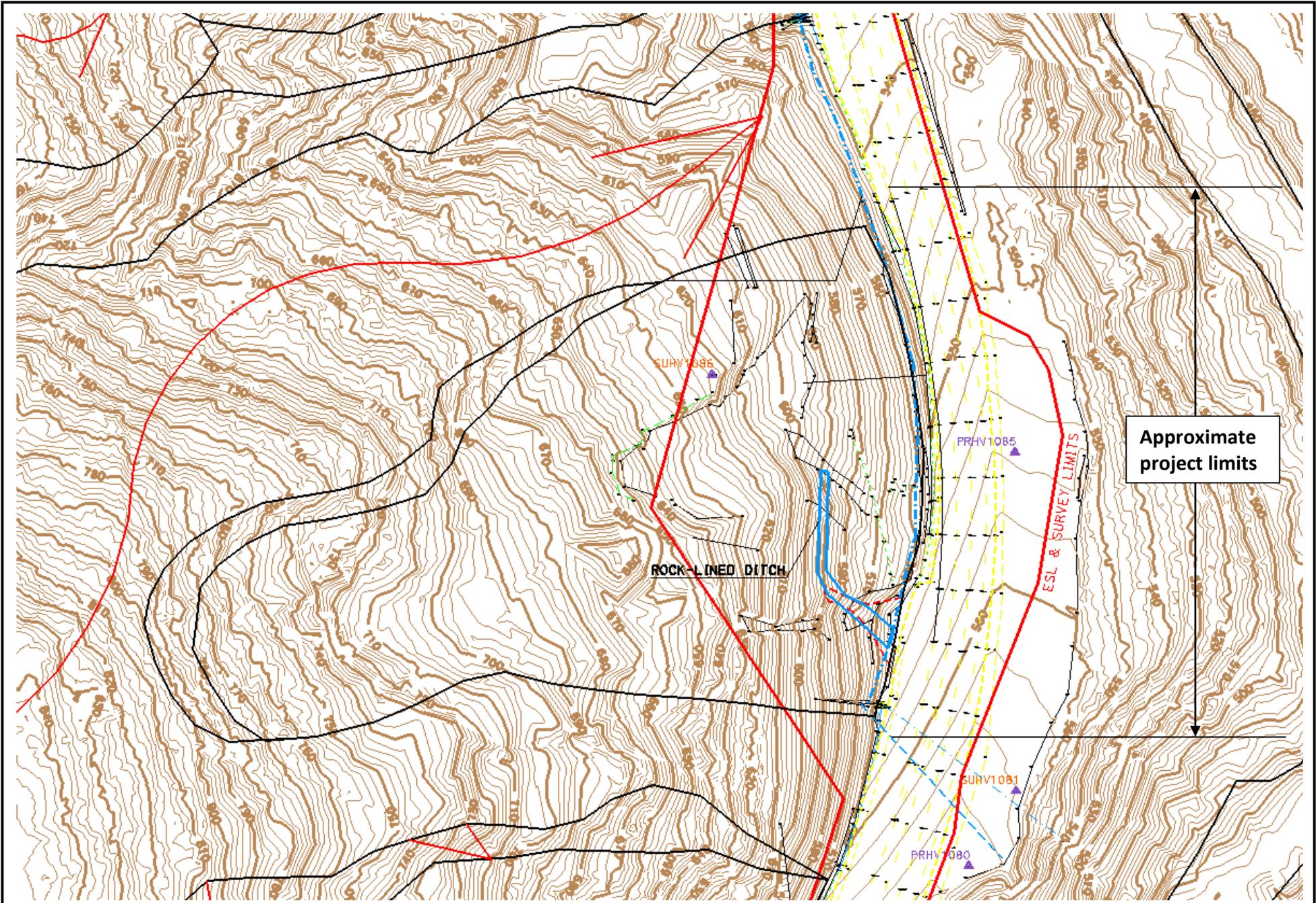
ID 0112000130

EA 01-0B4501

PHOTOGRAPH, HUM 299 LOOKING WEST

01-HUM-299 PM 10.8, STORM DAMAGE

Plate  
 No. 3

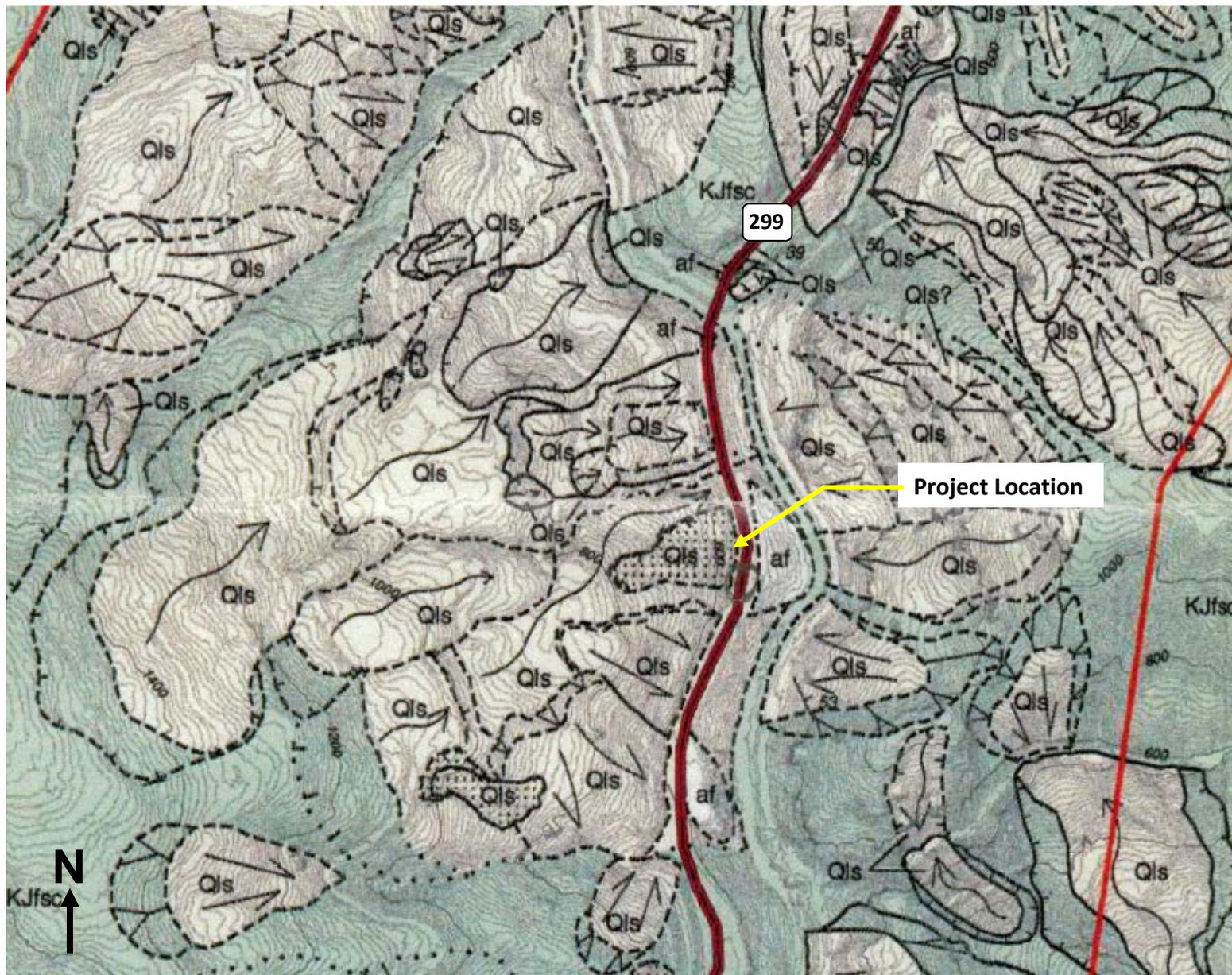


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 Office of Geotechnical Design - North

ID 0112000130  
 EA 01-0B4501

TOPOGRAPHIC/LANDSLIDE MAP  
 01-HUM-299 PM 10.8, STORM DAMAGE

Plate  
 No. 4



**LEGEND**

**KJfsc:** Sandstone and mélange unit of Snow Camp Mountain (Cretaceous-Jurassic) Central Belt Franciscan Complex

**af:** Artificial fill (Holocene)

**Landslides (Qls)**

-  Rock Slide
-  Earthflow
-  Debris Slide
-  Debris Flow
-  Bedding Plan Attitude
-  Geologic Contact

MAP SOURCE: Landslides in the Highway 299 Corridor between Blue Lake and Willow Creek, Humboldt County, California, Caltrans, Special Report 195, 2006.



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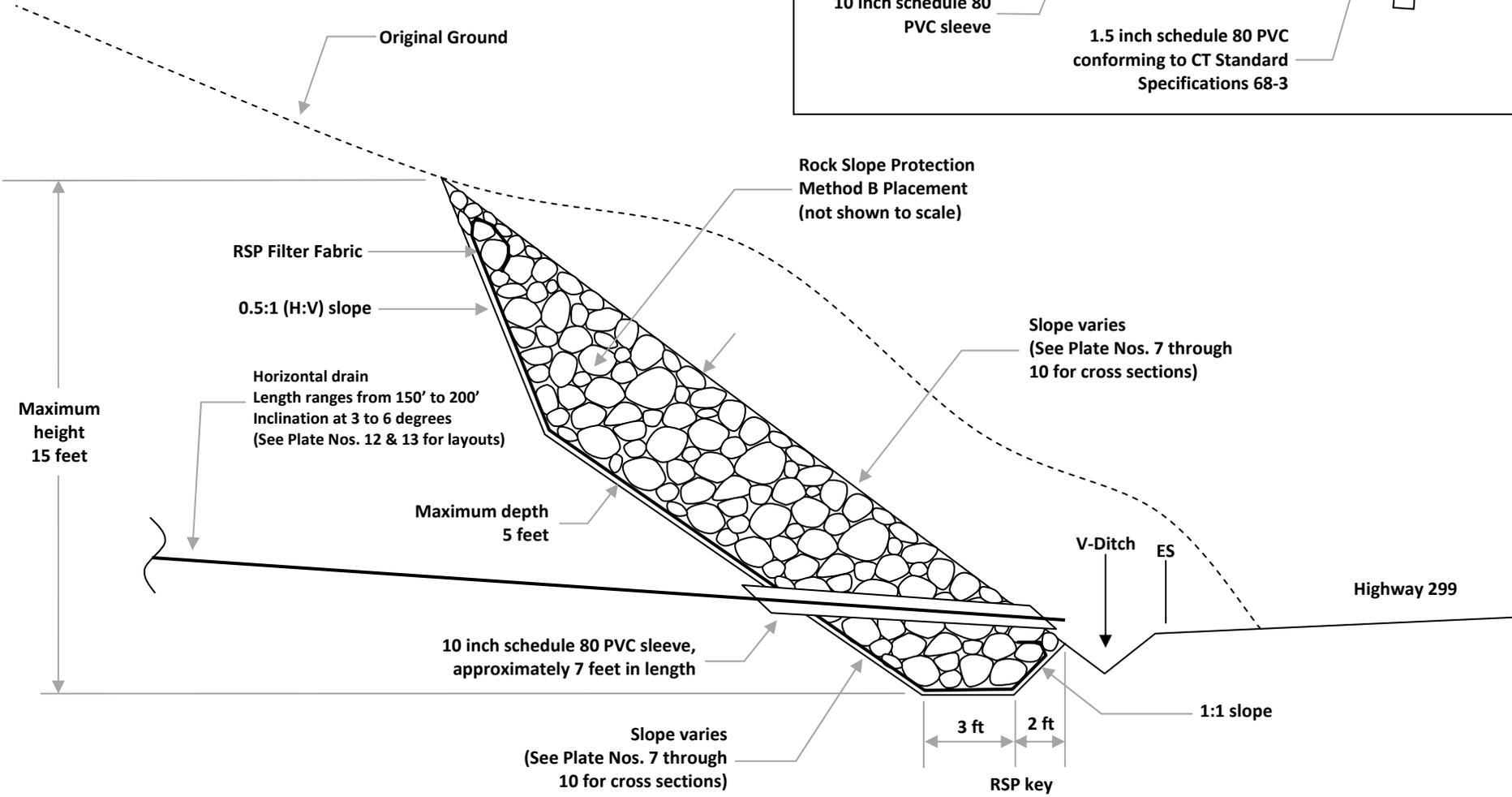
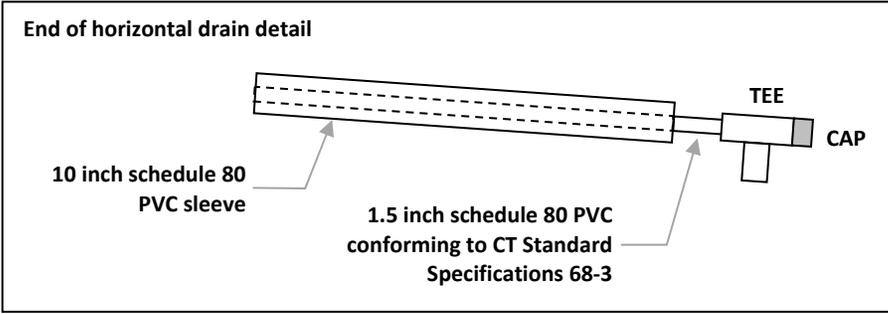
ID 0112000130

EA 01-0B4501

GEOLOGIC/LANDSLIDE MAP

01-HUM-299 PM 10.8, STORM DAMAGE

Plate  
 No. 5



Not to Scale



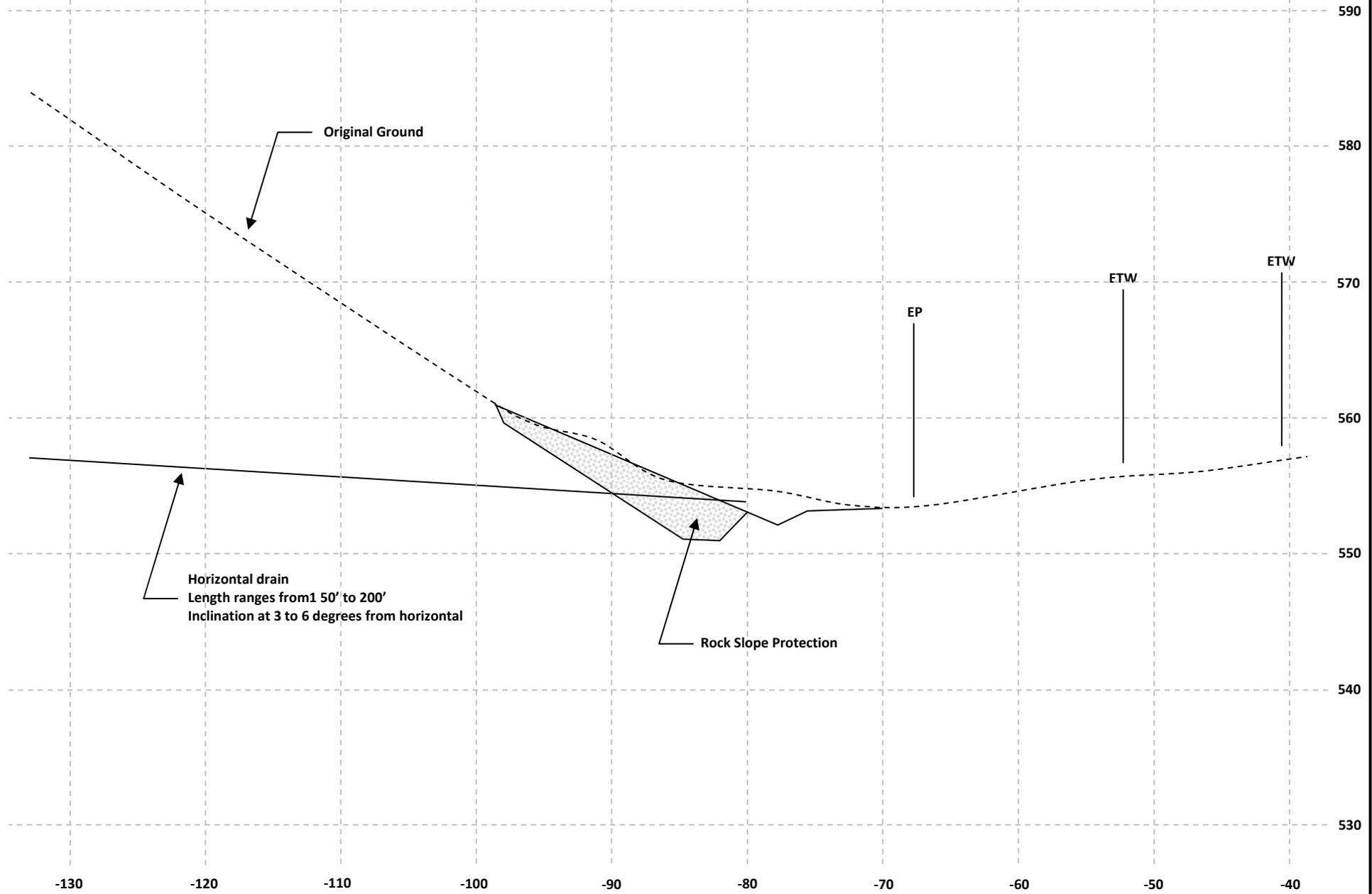
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Office of Geotechnical Design - North

ID 0112000130  
EA 01-0B4501

**HORIZONTAL DRAIN / RSP DETAIL**  
01-HUM-299 PM 10.8, STORM DAMAGE

Plate No. 6

SCALE: 1 INCH = 10 FEET



Original Ground

Horizontal drain  
Length ranges from 150' to 200'  
Inclination at 3 to 6 degrees from horizontal

Rock Slope Protection

EP

ETW

ETW



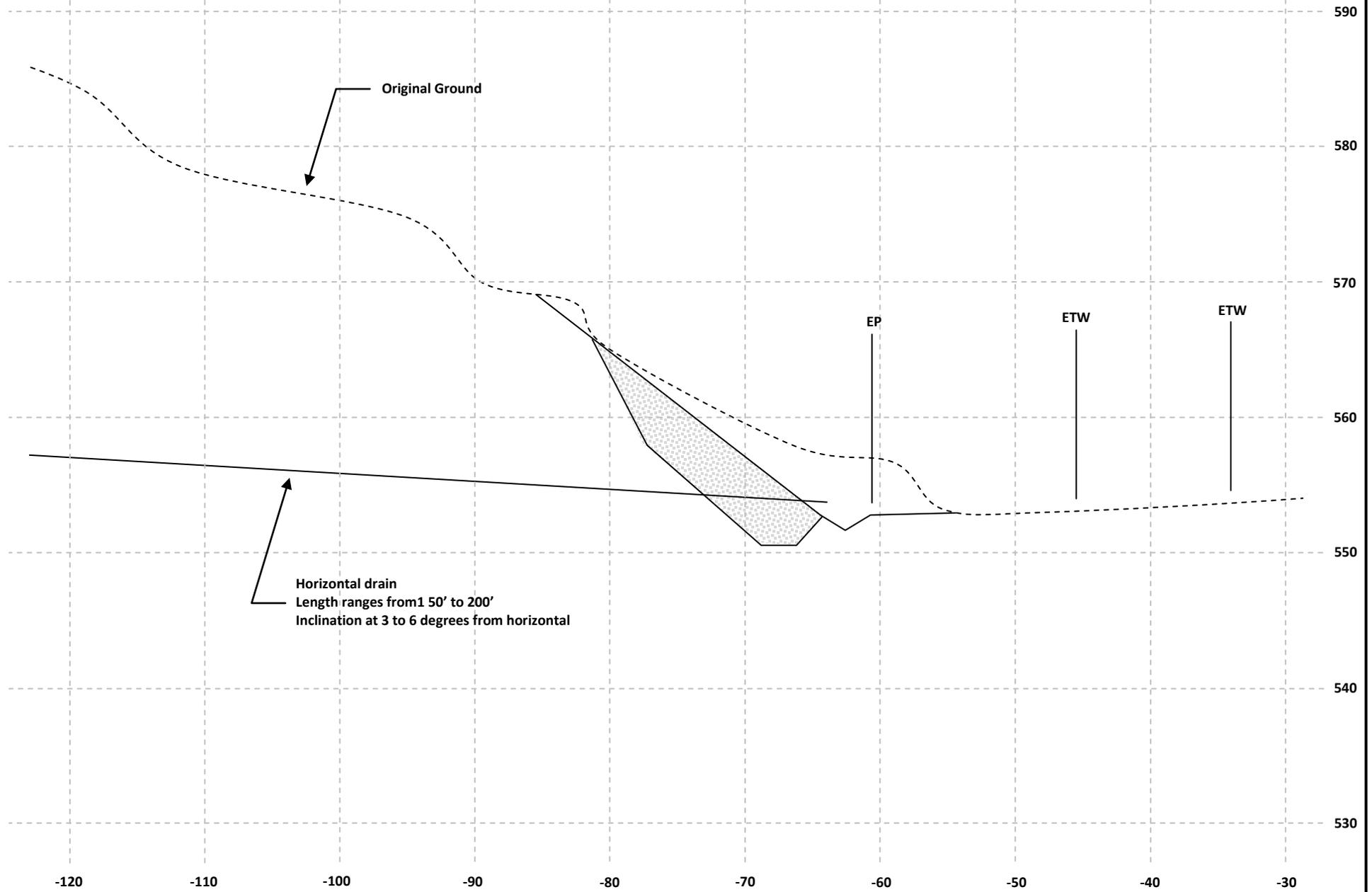
Division of Engineering Services  
Geotechnical Services  
Office of Geotechnical Design - North

ID 0112000130  
EA 01-0B4501

Cross Section, STA 198+00  
01-HUM-299 PM 10.8 Storm Damage

Plate  
No. 7

SCALE: 1 INCH = 10 FEET



Horizontal drain  
Length ranges from 150' to 200'  
Inclination at 3 to 6 degrees from horizontal



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ID 0112000130

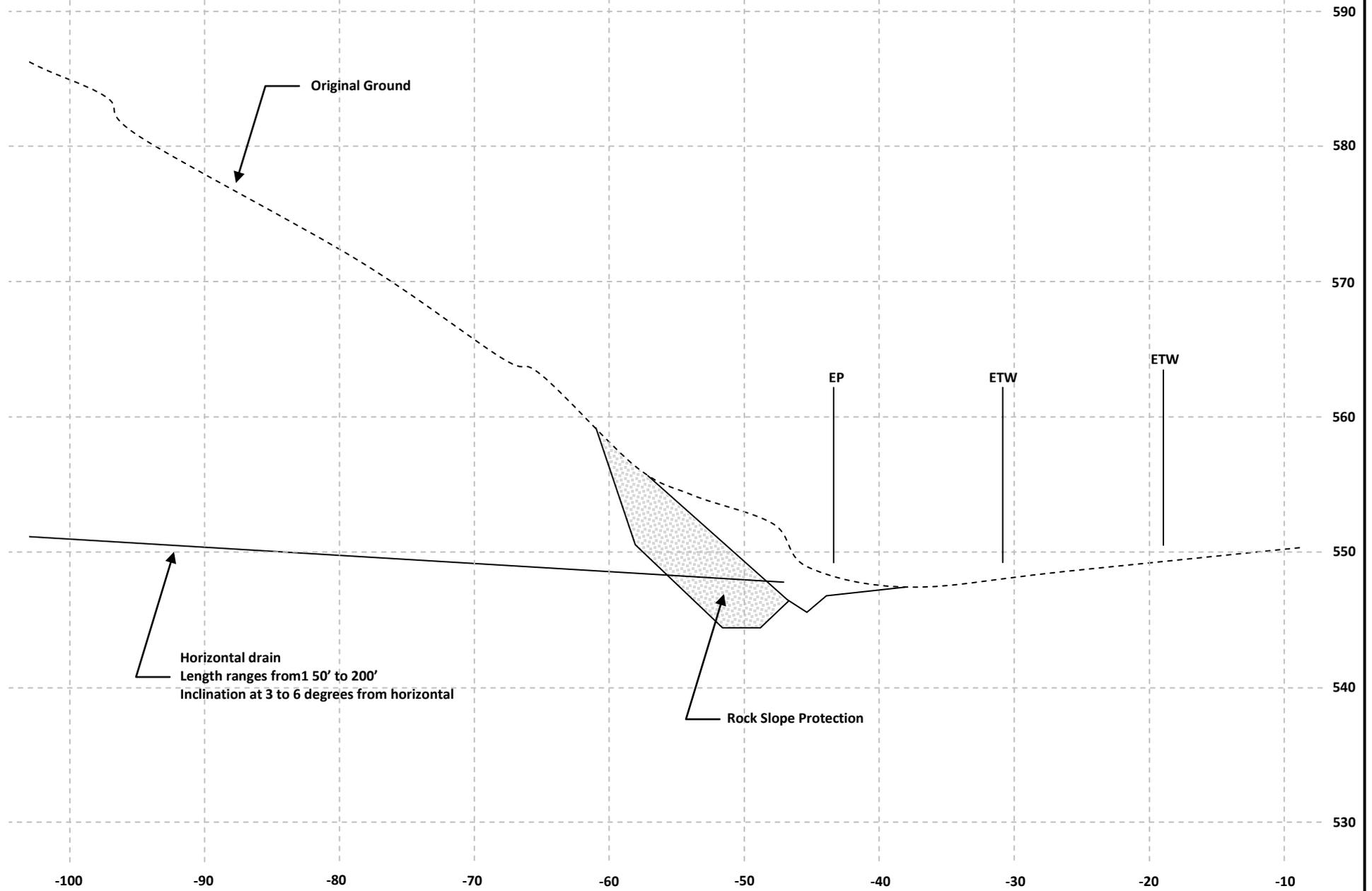
EA 01-0B4501

Cross Section, STA 199+00

01-HUM-299 PM 10.8 Storm Damage

Plate  
No. 8

SCALE: 1 INCH = 10 FEET



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Office of Geotechnical Design - North

ID 0112000130

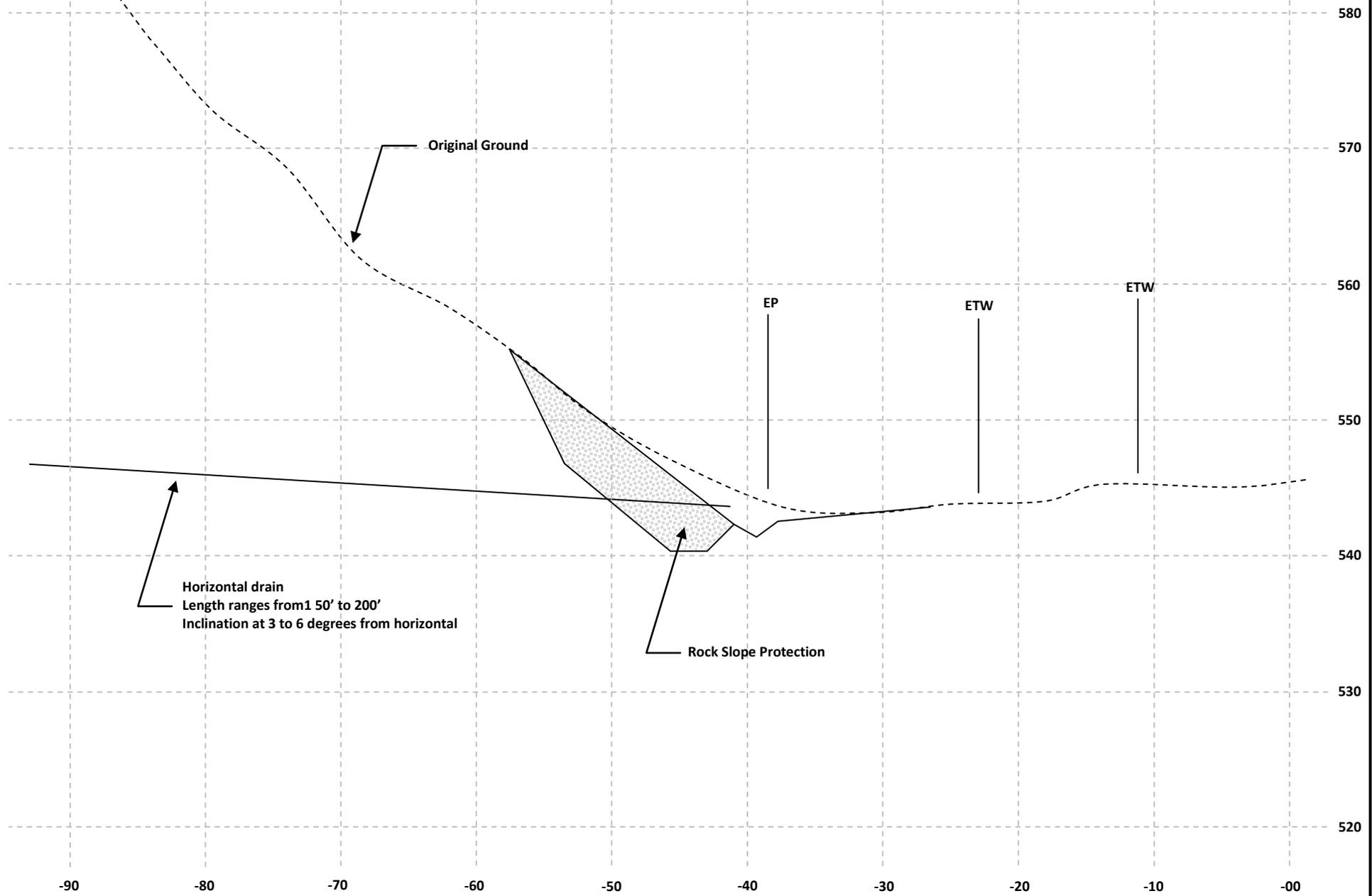
EA 01-0B4501

Cross Section, STA 200+00

01-HUM-299 PM 10.8 Storm Damage

Plate  
No. 9

SCALE: 1 INCH = 10 FEET



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Office of Geotechnical Design - North

ID 0112000130

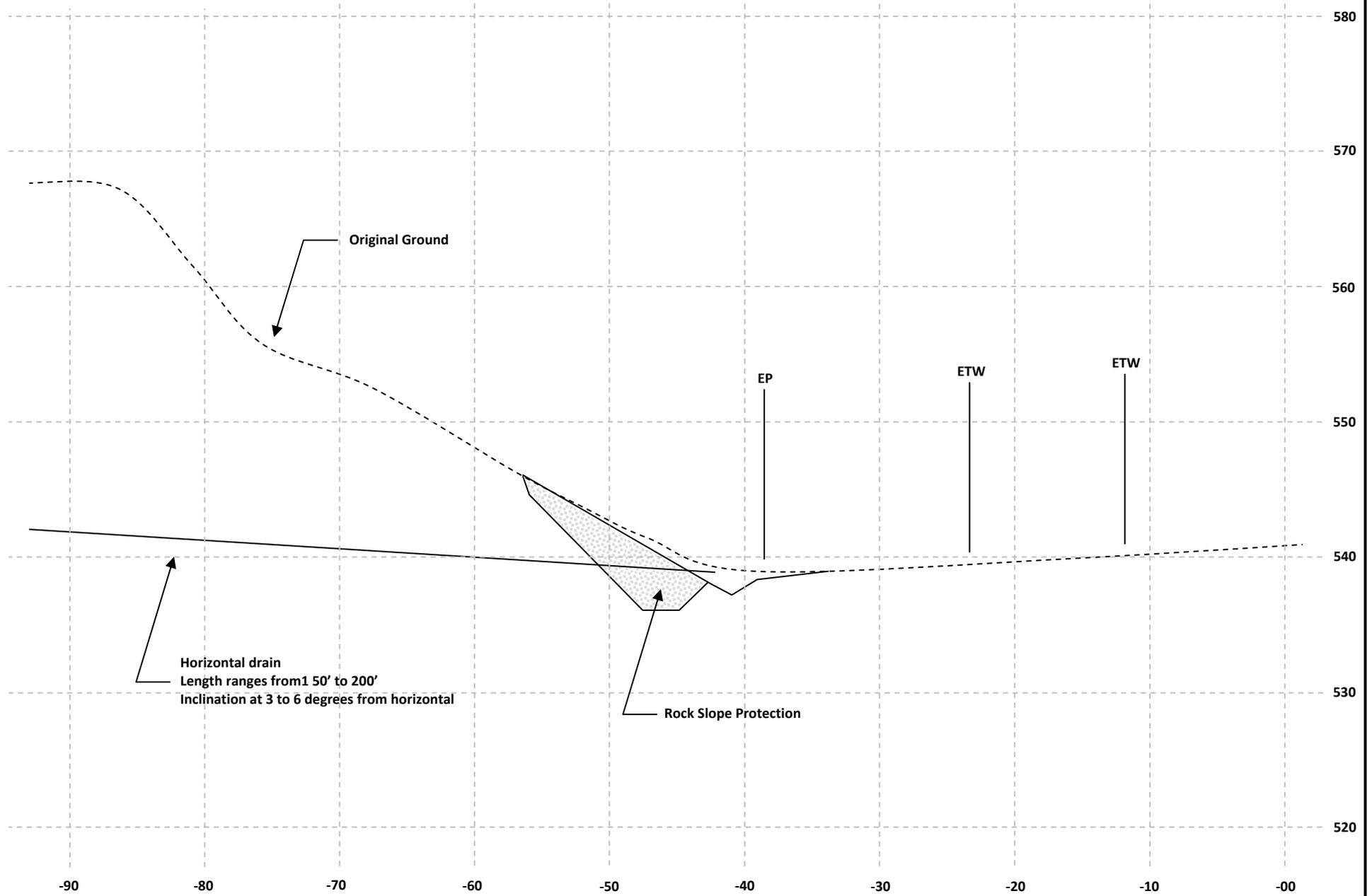
EA 01-0B4501

Cross Section, STA 201+00

01-HUM-299 PM 10.8 Storm Damage

Plate  
No. 10

SCALE: 1 INCH = 10 FEET

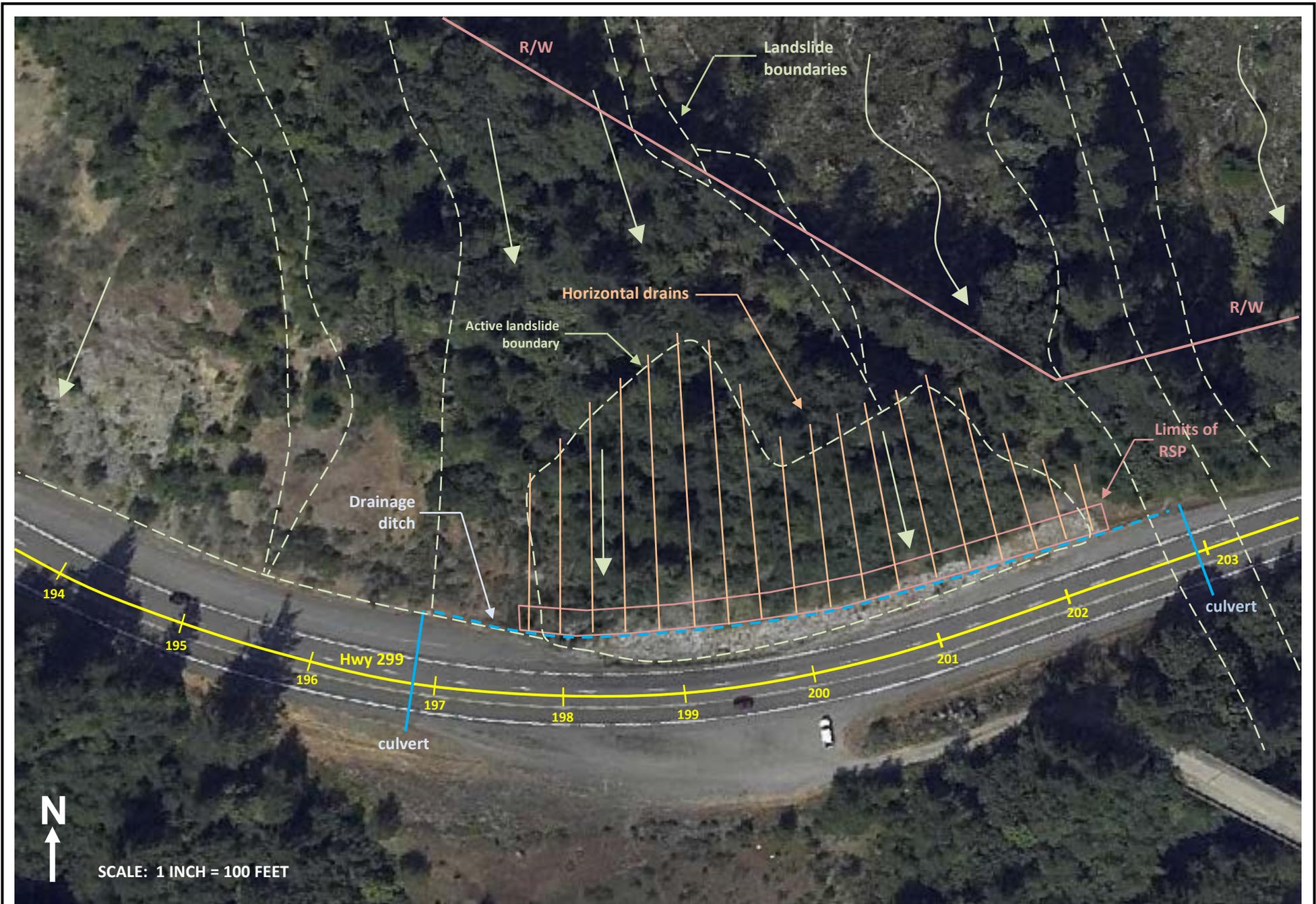


Division of Engineering Services  
Geotechnical Services  
Office of Geotechnical Design - North

ID 0112000130  
EA 01-0B4501

Cross Section, STA 202+00  
01-HUM-299 PM 10.8 Storm Damage

Plate  
No. 11



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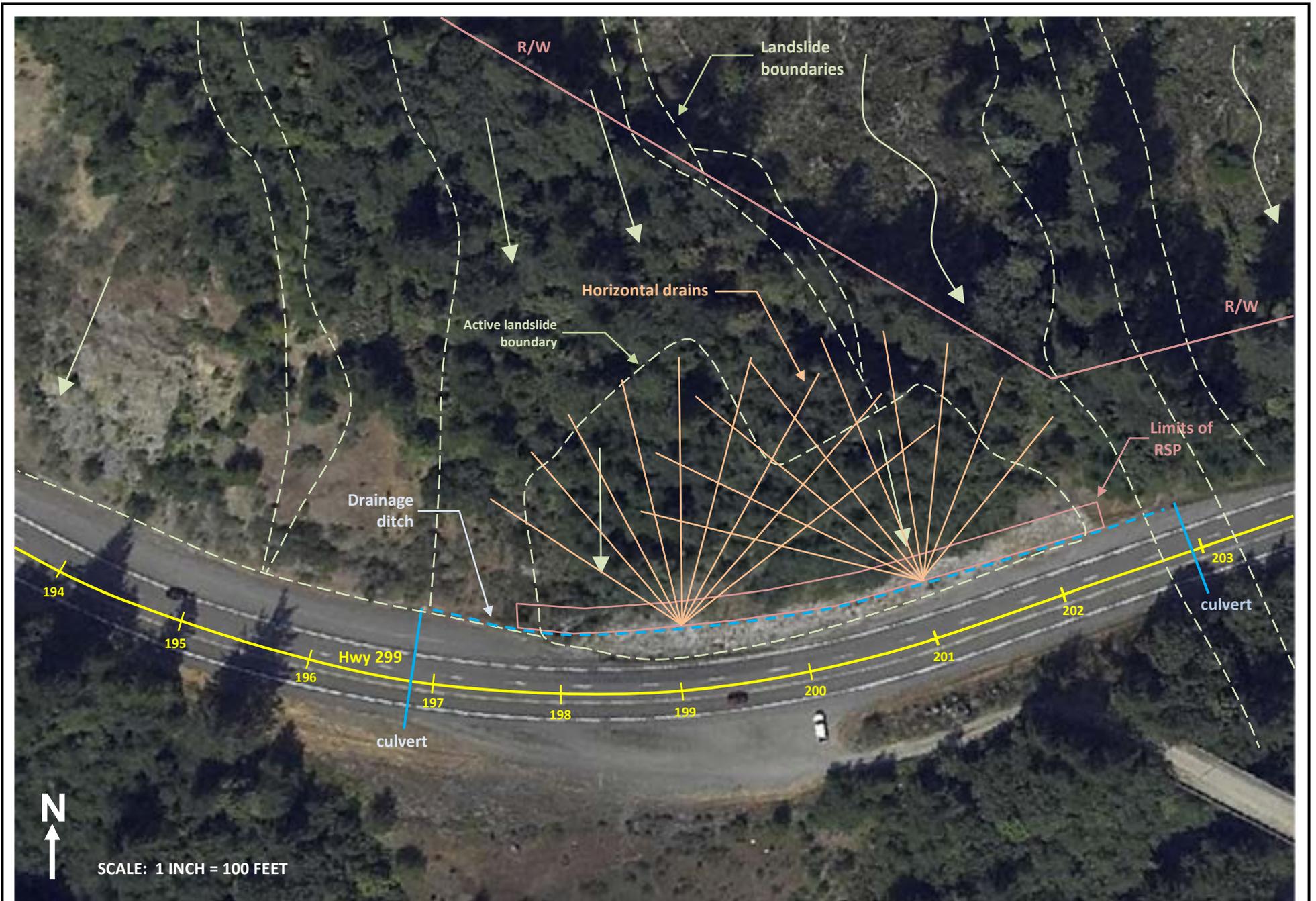
ID 0112000130

EA 01-0B4501

HORIZONTAL DRAIN LAYOUT (ALTERNATIVE 1)

01-HUM-299 PM 10.8, STORM DAMAGE

Plate  
 No. 12



Division of Engineering Services  
 Geotechnical Services  
 Office of Geotechnical Design - North

ID 0112000130

EA 01-0B4501

HORIZONTAL DRAIN LAYOUT (ALTERNATIVE 2)

01-HUM-299 PM 10.8, STORM DAMAGE

Plate  
 No. 13

# GEOTECHNICAL DESIGN REPORT

for the

## Storm Damage Repair

State Highway 299  
In Humboldt County near Willow Creek  
01-HUM-299-26.0  
EA: 0B450  
PID: 01120000130  
FHWA DAF Number CEP-CT01-037-0  
FHWA Disaster Number CA 11-3

Prepared for:

Caltrans District 01  
North Region Program/Project Management

By:



Christopher W. Koepke, C.E.G.



Benjamin Barnes, T.E. Civil



Division of Engineering Services  
Geotechnical Services  
Office of Geotechnical Design – North



January 24, 2014

## **INTRODUCTION**

### **General**

The Office of Geotechnical Design North (OGDN) has prepared this report for the storm damage mitigation project proposed on Route 299 at postmile 26.0 in Humboldt County. The project site is located a straight line distance of approximately 8.8 miles west of the town of Willow Creek, CA. The approximate geographic coordinates are Lat:40.9258° and Lon:-123.8013°. This report is intended for use by roadway design engineers, construction personnel, bidders and contractors.

### **Background**

During a March, 2011 storm event, the project site was subjected to intense rainfall with resulting landsliding. This landsliding distressed the adjacent roadway in the form an approximately 230 feet long tension crack in roadway fill near the center of the eastbound lane. The U.S. Department of Transportation-Federal Highway Administration has since identified the site as subject to disaster relief and issued a Damage Assessment Form (DAF) Number CEP-CT01-037-0 dated July 12, 2011. Since this time the roadway has been patched and there have been placements of minor amounts of loose debris over the downslope face of the failed roadway fill.

### **Scope of Work**

The scope of our work included a review of data from CA Geologic Survey (CGS) publications, a review of previous reports for the region, a site reconnaissance, a subsurface exploration program and the installation of instrumentation for monitoring ground movement and groundwater elevations. Upon completion of the field exploration program we have performed our geotechnical analysis and prepared this report summarizing our findings and recommendations.

### **Field Study**

#### **Exploratory Drilling**

Subsurface exploration drilling, sampling and logging was performed in March, 2013. Boring Nos. R-13-001 and -002 were conducted in the roadway above the area of the downslope sliding using an Acker AD2 truck-mounted drill rig set up for mud rotary drilling. The depths of the borings were 70 and 85 feet. Soil samples were collected in each of the borings using HX continuous "punch core" and was interrupted by drive sampling at 5 feet intervals for standard penetration tests (SPT). The logs for both borings are attached in Appendix B as boring record sheets.

#### **Instrumentation**

One slope inclinometer was installed in Boring No. R-13-001. Readings obtained during a dry period from 3/12/2013 to 12/4/2013 indicate no displacement occurred during that time.

Additionally, no distress has occurred to the roadway and no additional asphalt patch repair has been done since the exploratory borings were drilled in February, 2013.

## **FINDINGS**

### **Climate**

Weather data are available at the Western Regional Climate Center internet website. Rainfall records from September, 1968 to September, 2012 from a weather station named Willow Creek 1NW (049694) indicate an average total precipitation of 50.9 inches, an average total snowfall of 2.1 inches, a maximum average temperature of 71.8°F and a minimum average temperature of 42.4°F.

### **Geology**

The site is underlain by roadway fill which is composed of lean clay with gravel and is very soft to stiff. This fill is overlying colluvium and landslide debris. The fill contains large amounts of tree material. Based on historic aerial photos this fill was constructed in 1972-73. Underlying the fill and colluvium is Franciscan Complex mélangé which has been subjected to historic landslide activity. The mélangé/landslide debris consists of pervasively sheared gray shale and meta-sandstone. The meta-sandstone is present in the form of extremely fractured block-in-matrix masses. Intact bedrock was not encountered in the exploratory borings or mapped during reconnaissance.

### **Groundwater**

Groundwater was measured in the slope inclinometer pipe in Boring No. R-13-001 during the period from 3/12/2013 to 8/14/2013. The following table lists the measured groundwater elevations and dates:

Table 1, Groundwater Measurements

Date (2013)	Boring	Depth Below OG	Approx. Elevation
3-12	R-13-001	38.2'	2013.5'
5-31	R-13-001	41.5'	2010.5'
8-14	R-13-001	42.0'	2010.0'

### **Landsliding**

The site area is situated on a large, regional scale complex of slow moving historic earthflows (Plate 1). These features are large and deep-seated. The depth of the earthflows is unknown, however, the Highway 299 corridor report (Ref. 1) classifies pre-storm damage sliding in the project area as "M" for medium (up to 50 feet). The exploratory borings conducted in February, 2013 for the storm damage repair did not encounter the bottom of the pre-existing earthflows to the maximum depth explored of 85 feet.

## **Site Specific Storm Damage**

The subject storm damage is a roadway fill failure within an older earthflow. The repaired tension crack in the roadway marks an approximate section of the cut-fill transition between older earthflow debris and the prism of fill constructed to build the roadway. The direction of movement was to the south. The approximate limits of the fill failure caused by the March, 2011 storm event are shown schematically on Plate 2.

The attached Plate 9 shows the limits of the site specific storm damage. The control points SUH2601 and SUH2603 can be referenced by D01 Design to calculate quantity estimates. The exact limits have also been surveyed by D01 Surveys.

## **CONCLUSION**

The distress to the roadway was caused by excessive water entering poorly compacted roadway fill material due to blocked or insufficient drainage in 2011. The attached Plate 10 shows the pre-storm damage subsurface drainage configuration of the site.

## **RECOMMENDATIONS**

### **Fill Removal / Rock Slope Buttress (RSP) Buttress with Keyway**

It is recommended to remove the failed roadway fill prism and construct an RSP buttress with a toe keyway to stabilize the roadway. It is understood that a new culvert/downrain system will also be installed.

### **Rock Slope Protection-Buttress (RSP)**

#### **Suggested Sequencing**

1. Install a new culvert/downrain if required by District 01. (Sequence may vary based on construction logistics).
2. Excavate the failed roadway fill and keyway as shown in the attached Plate No. 8.
3. The placement of RSP filter fabric on the slope backcut is not required.
4. Place ½ ton rock slope protection (Method B per Standard Specifications, Section 72) in layers into the excavated area until the slope and finished grade is complete.
5. Repair the roadway.

## **Site Excavatability**

Our site reconnaissance and drilling exploration program indicate that the project site is underlain by fill and highly sheared to pulverized clayey shales that have a near soil-like consistency. The majority of the recommended removal involves the failed roadway fill which is very soft to soft. The underlying geologic materials should be considered excavatable with conventional excavation equipment. No ripping or blasting is expected to be required.

## **Material Disposal**

Removal and disposal of excavated soil and rock debris shall be the responsibility of the Contractor who should coordinate with Caltrans to determine a suitable disposal site.

## **CONSTRUCTION CONSIDERATIONS**

All earthwork shall conform to Section 19, Earthwork of the 2010 Standard Specifications.

Block-in-matrix (bimrock) conditions are sometimes encountered during construction operations in the region. Bimrock is described as random, localized blocks of small- to large-diameter (inch to tens of feet), resistant (hard) competent rock embedded in a matrix of sheared, soft and crushed shale. Bimrock blocks were encountered in boring R-13-001 at 55 feet below the roadway and R-13-002 at 80 feet below the roadway. A large clast of bimrock was also observed in the adjacent cut slope along the westbound lane. Encountering bimrock during excavation is possible due to the highly variable composition of landslide impacted Franciscan mélangé below the failed roadway fill under the repair area.

## Project Information

This section discloses to bidders and contractors a list of pertinent information available for their inspection prior to bid opening. The following is information originating from Geotechnical Services.

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

None.

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

Geotechnical Design Report, 01-HUM-299-26.0, dated January 24, 2014.

*Data and information available for inspection at the District Office:*

None.

*Data and information available for inspection at the Transportation Laboratory are:*

None.

For questions concerning this report contact Christopher Koepke at (916) 227-1040 or Benjamin Barnes at (916) 227-1039.



ATTACHMENTS:

Plates 1 thru 10

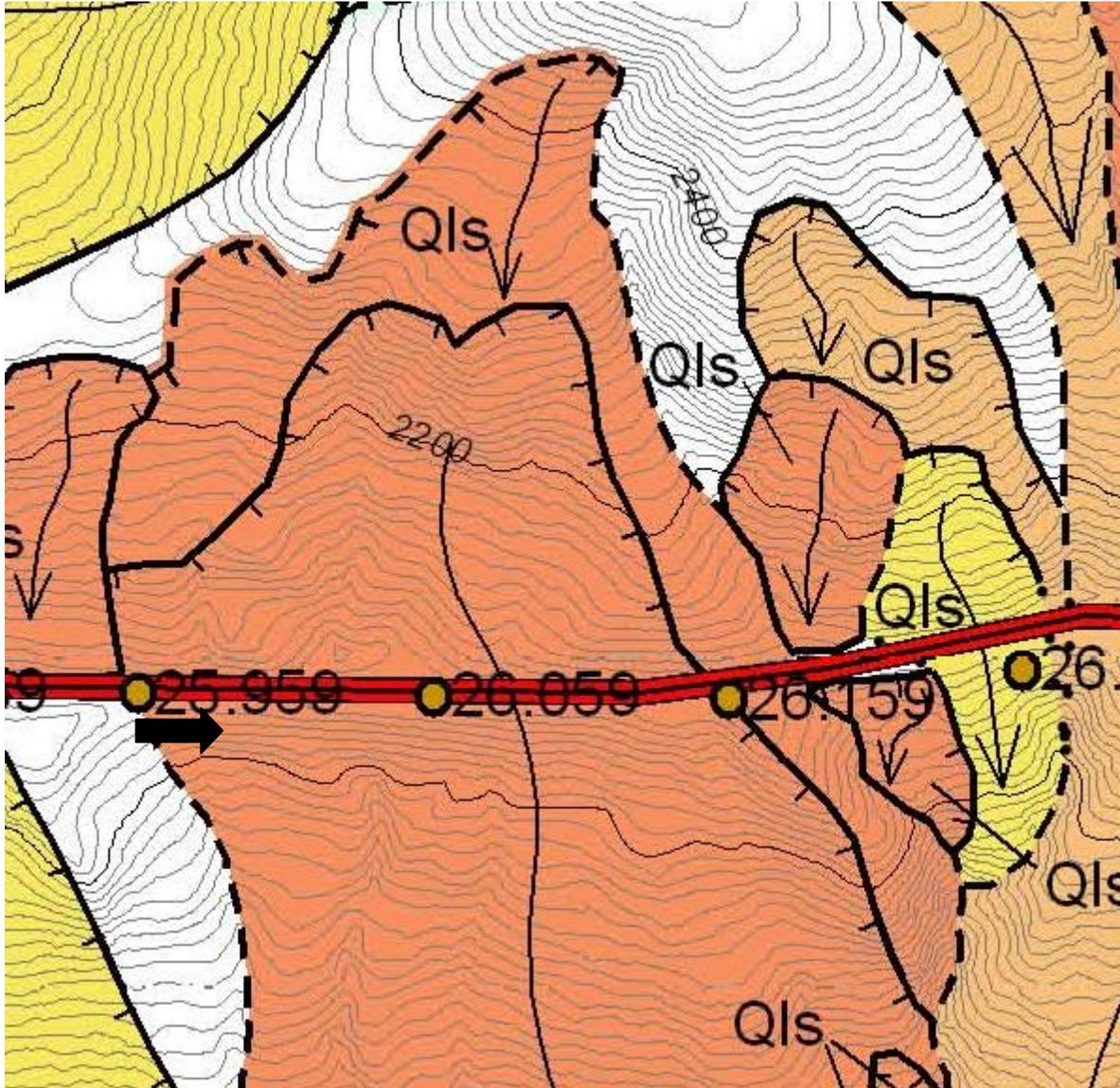
- Geologic map
- Approximate storm damage limits
- Topography/Section Line/Boring locations
- Stability analysis
- Slope inclinometer readings
- Typical construction detail
- RSP repair limits
- As-built drainage, pre storm damage

Appendices

- A -Damage Assessment Form
- B- Exploratory Boring Records

Reference

# PLATES



Source: Reference 1

Qls: Quaternary landslide

➔ Site

● : Postmile



**CALTRANS**  
 Division of Engineering Services  
 Geotechnical Services  
 Geotechnical Design - North

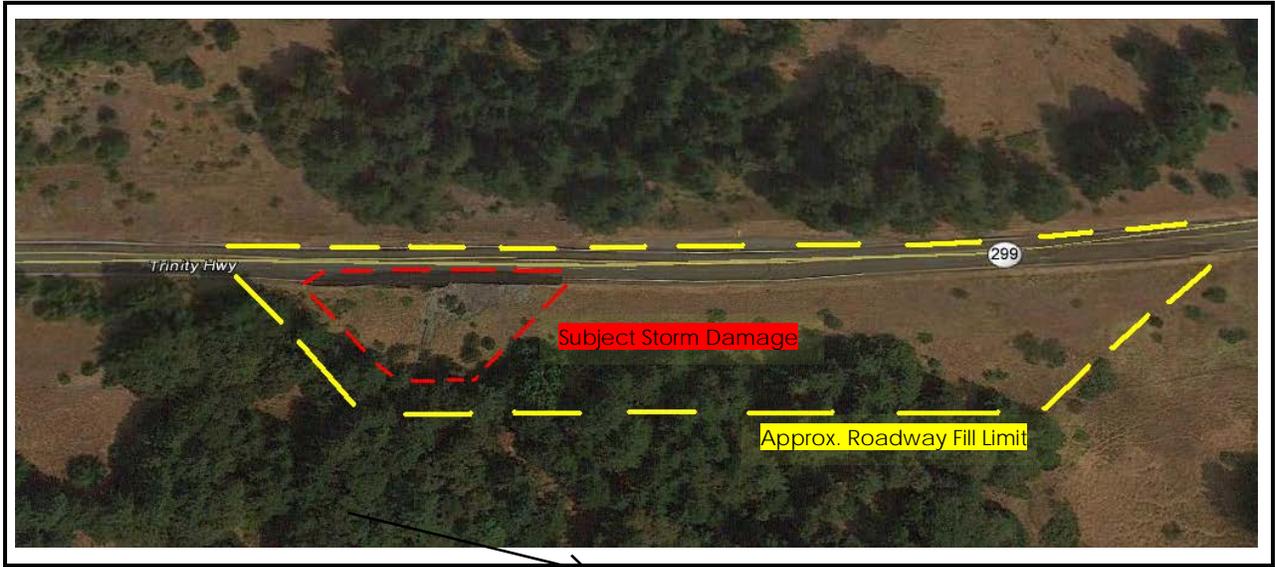
EA: 01-0B450

No Scale

**SITE GEOLOGIC MAP**

01-HUM-299-26.0  
 Storm Damage Repair  
 GEOTECHNICAL DESIGN REPORT

Plate  
 1



**Plate 2**  
**Existing Fill and Approximate Storm Damage Limits**

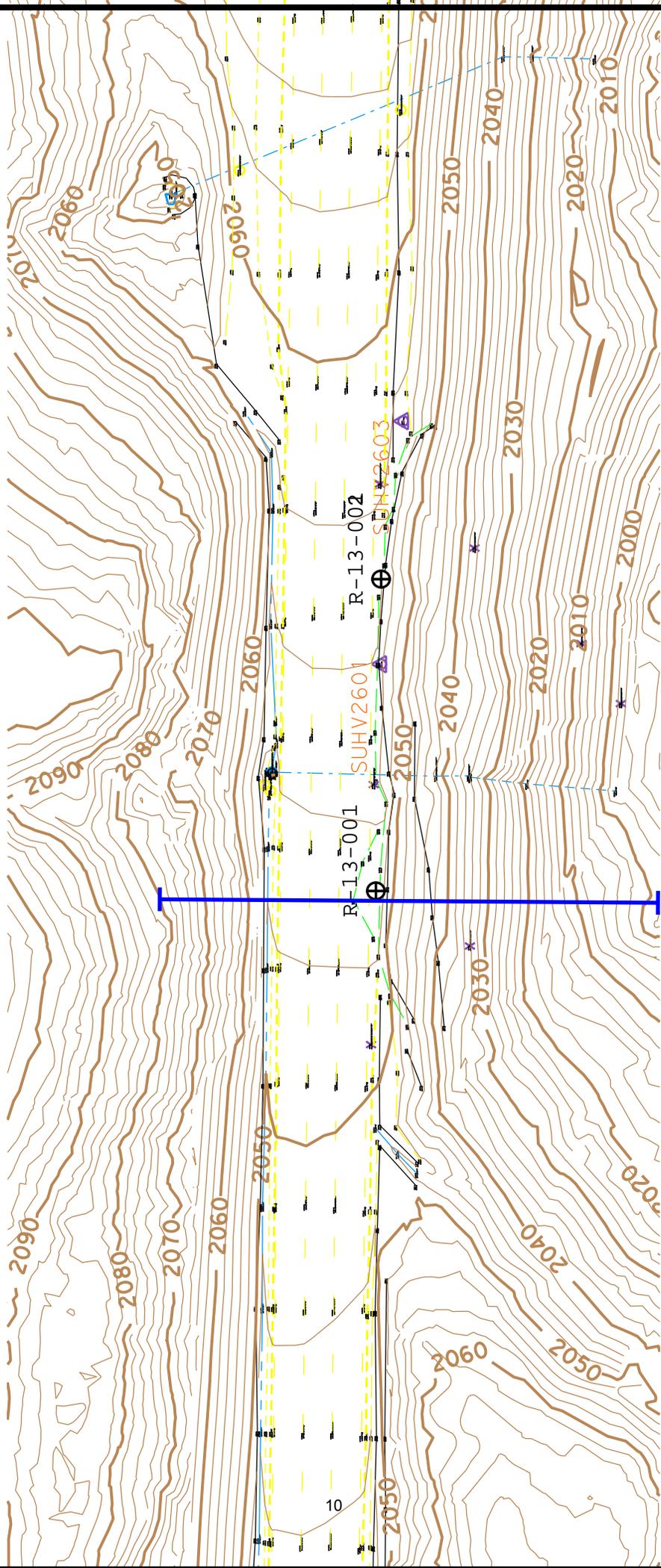


PLATE 3

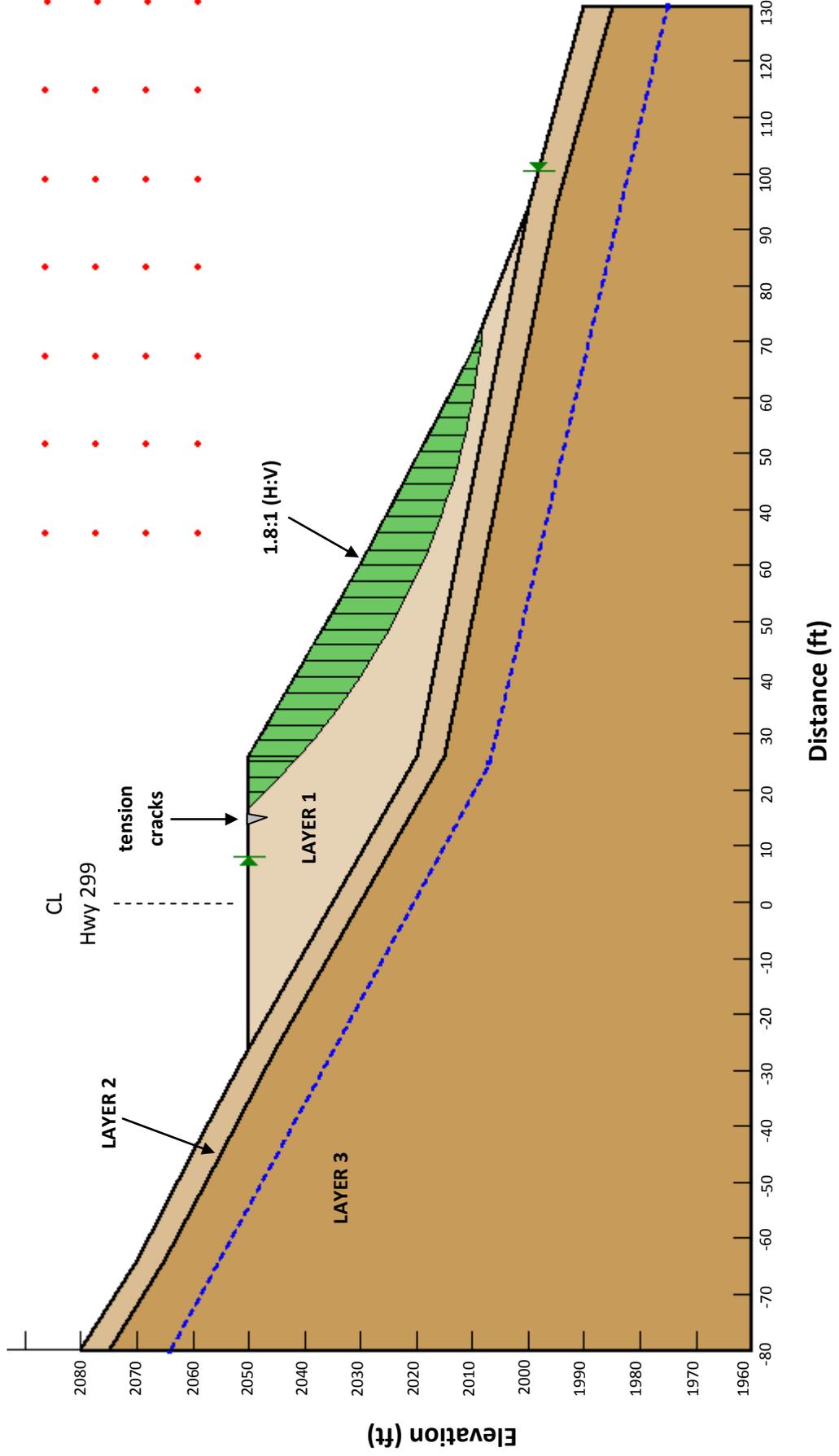
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- = Stability Analysis Line
- 01-HUM-299-PM26.0
- 01-0B450 Storm Damage

SLOPE STABILITY ANALYSIS

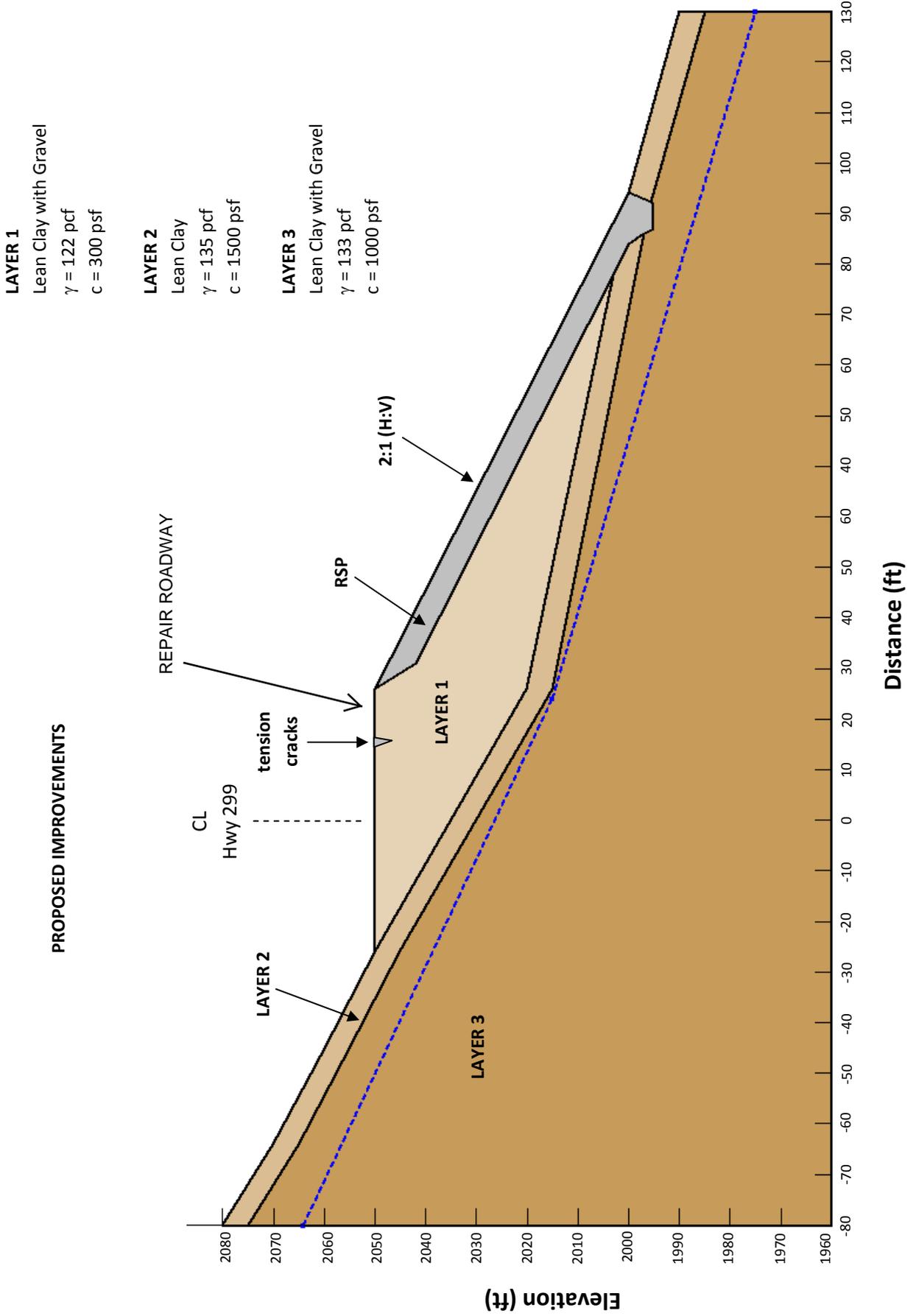
factor of safety

0.774

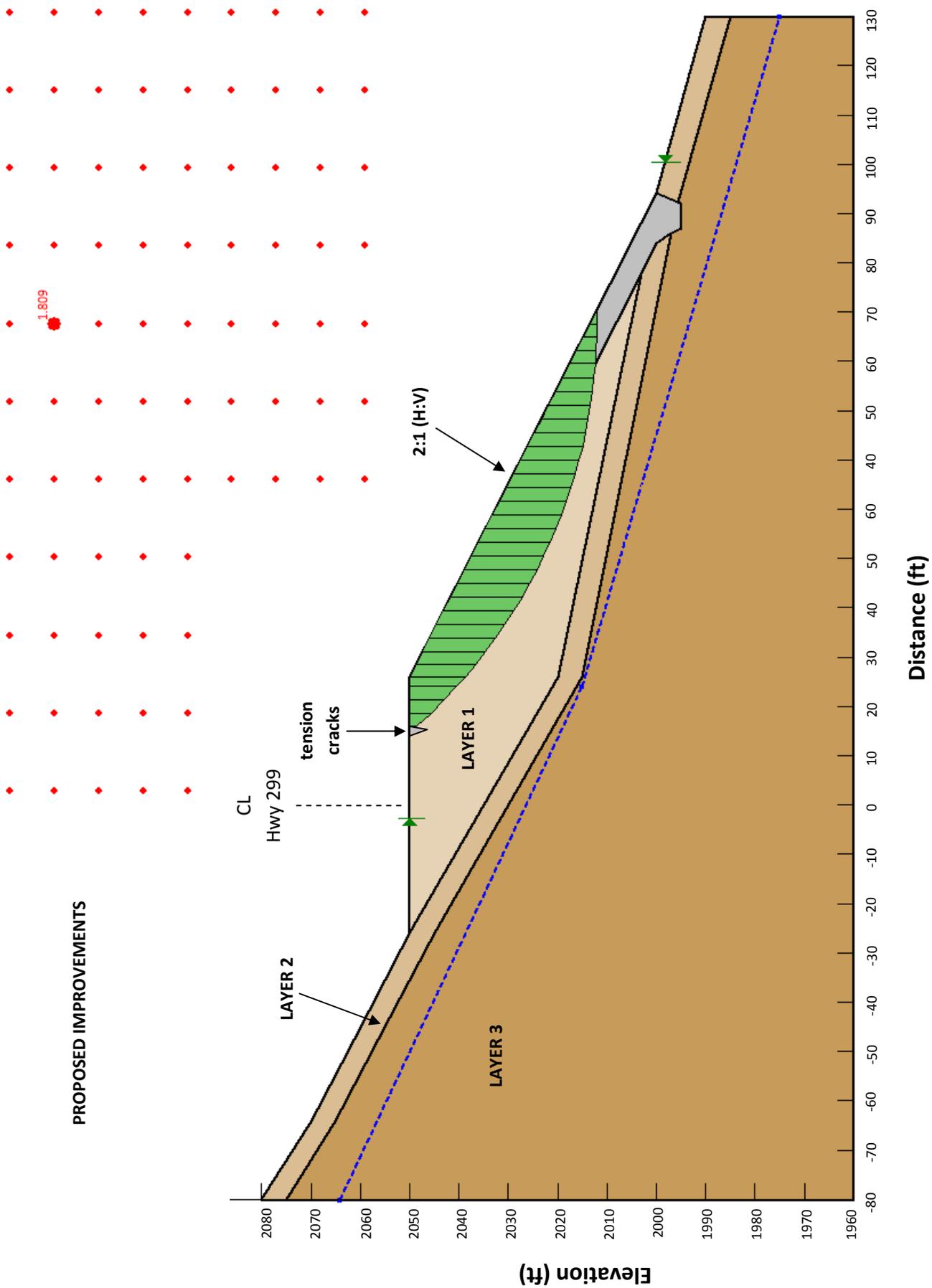
EXISTING CONDITIONS



SLOPE STABILITY ANALYSIS

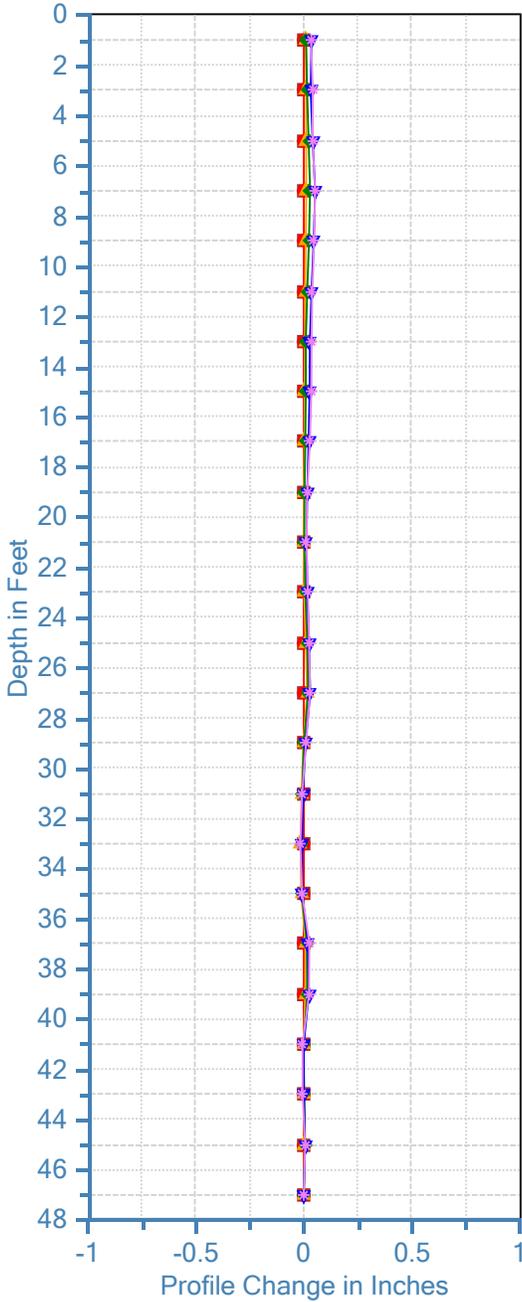


SLOPE STABILITY ANALYSIS



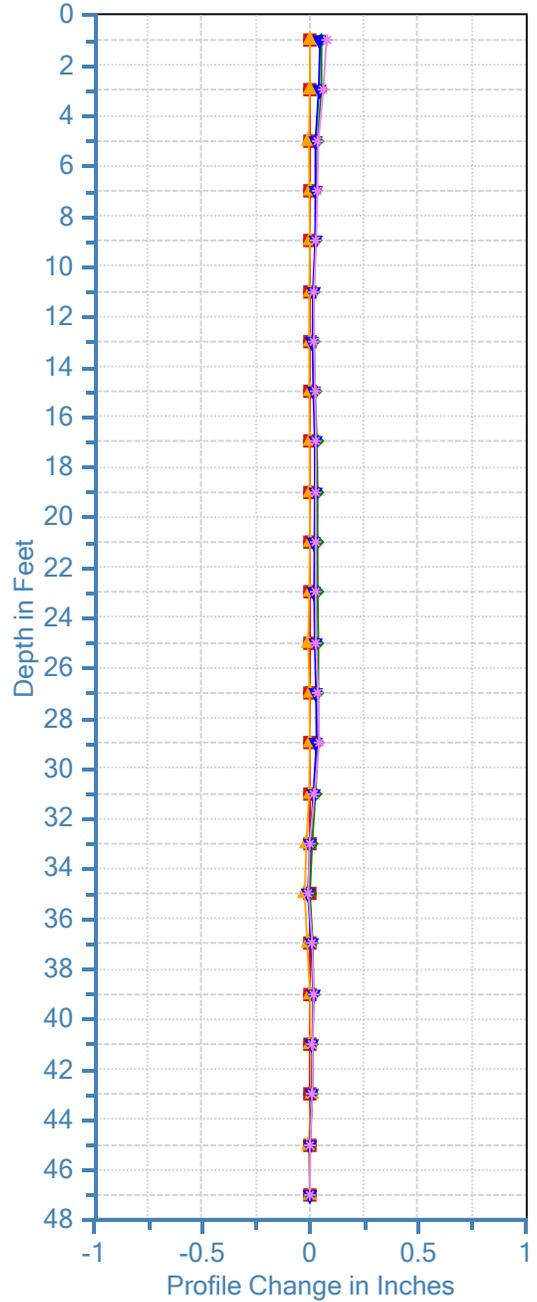
D01SD R-13-003, A-Axis

■ 3/12/2013    ● 3/12/2013  
▲ 3/28/2013    ◆ 5/22/2013  
▼ 7/30/2013    ✱ 12/4/2013



D01SD R-13-003, B-Axis

■ 3/12/2013    ● 3/12/2013  
▲ 3/28/2013    ◆ 5/22/2013  
▼ 7/30/2013    ✱ 12/4/2013



INCLINOMETER MONITORING RESULT

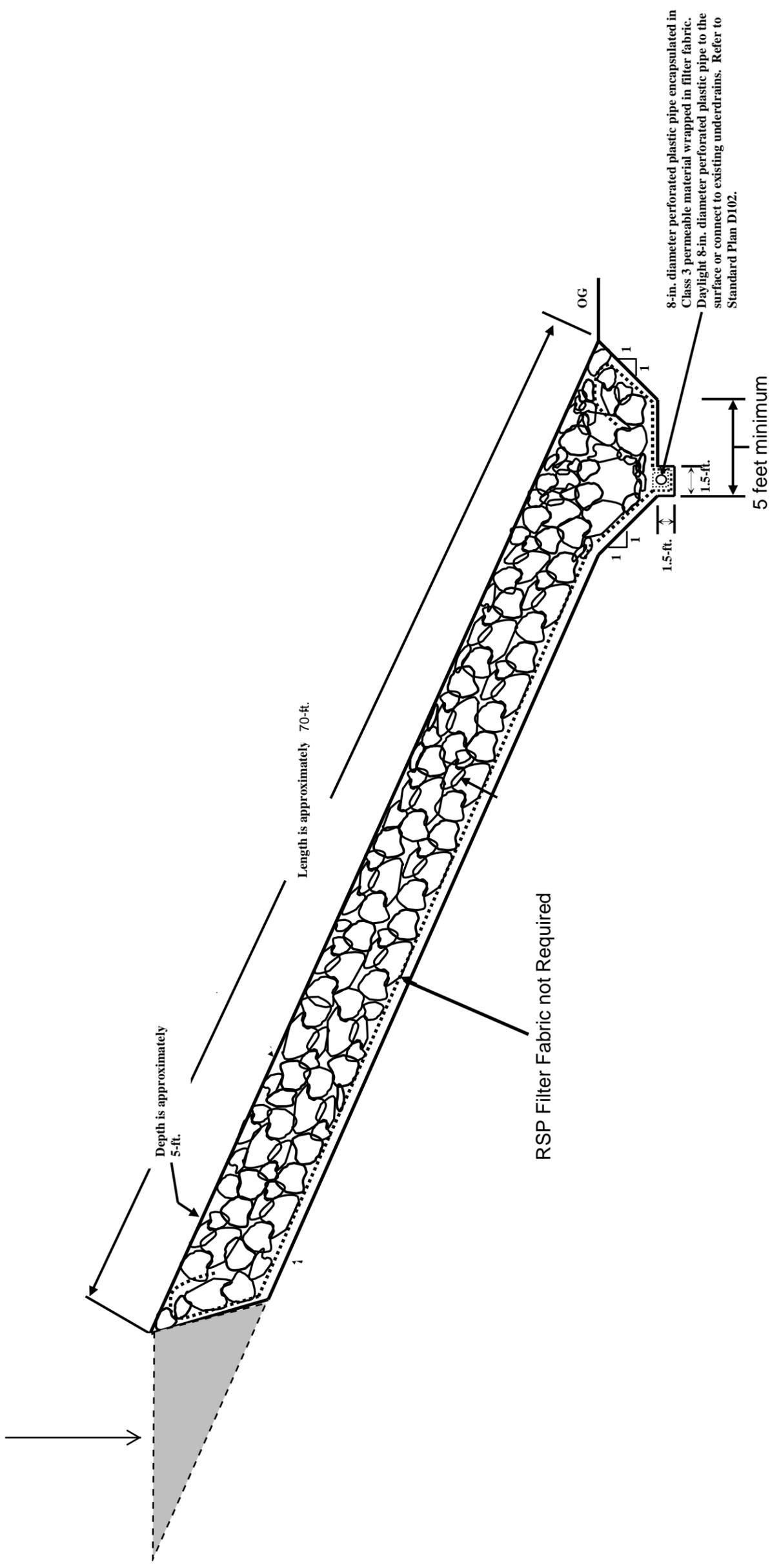
01/HUM/299/PM 26.0  
 D01 Storm Damage, R-13-003  
 E.A.: 0112000130

Depth of Casing: 50'9"  
 A0 Direction (magnetic north): 153 deg  
 Location: N40°55.554', W123°48.087'

Note: SI was installed in R-13-001

PLATE 7

Repair Roadway by others



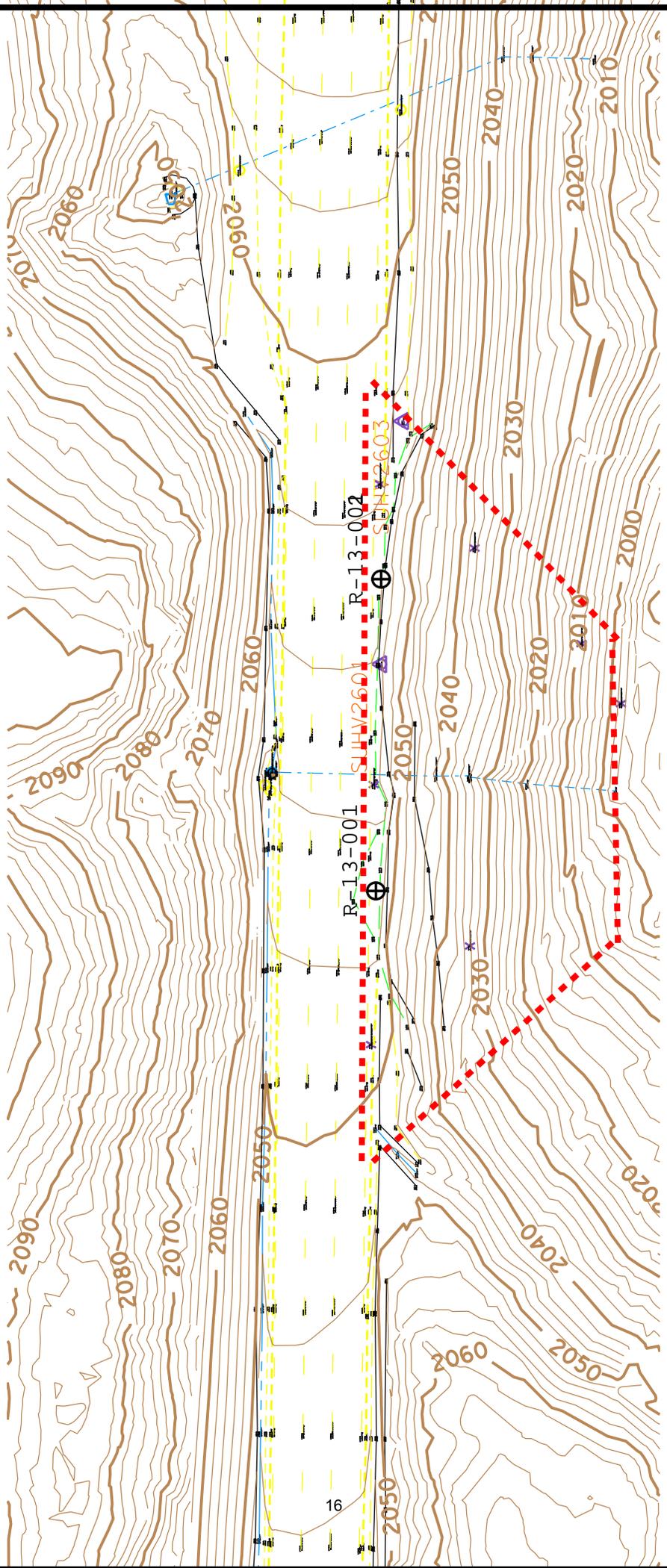
Note: Drawing is not to scale.

PLATE 8

Office of Geotechnical Design  
Geotechnical Services  
Division of Engineering Services

TYPICAL CROSS-SECTION FOR  
ROCK SLOPE PROTECTION REPAIR

01-HUM-299-26.0, 01-0B450



= RSP REPAIR LIMITS

01-HUM-299-PM26.0  
 01-0B450 Storm Damage  
 PLATE 9



**APPENDIX A**  
**FHWA Damage Assessment Form**

U.S. Department of Transportation Federal Highway Administration- California Division- Title 23 Damage Assessment Form (DAF)		DAF No. <input type="text"/> - <input type="text"/> - <input type="text"/> - <input type="text"/>	Sheet # 1 of <input type="text"/> Federal Project # EO ER - <input type="text"/> ( <input type="text"/> )	Disaster No. CA <input type="text"/> - <input type="text"/> PR ER - <input type="text"/> ( <input type="text"/> )
Applicant	County	Incident Date (mm/dd/yyyy)	Inspection	
<b>Location of Damage:</b> <input type="text"/> Per Site <input type="checkbox"/> or <input type="checkbox"/> Per Mile		Federal-aid Highway? Y for yes, if no, ineligible for ER funds <input type="checkbox"/>		
Name of Road/Bridge: <input type="text"/> PM Begin: <input type="text"/> PM Length: <input type="text"/> (in feet) PM End: <input type="text"/>		Map No <input type="text"/> Functional Classification Type: <input type="text"/> Route # <input type="text"/>		
<b>Road/Bridge Data:</b>	Bridge No <input type="text"/> Type: <input type="text"/>	Traveled Way: Width <input type="text"/> Type: PCC <input type="checkbox"/> AC <input type="checkbox"/> Gravel <input type="checkbox"/> Forest Hwy? Y/N <input type="checkbox"/> Interstate? Y/N <input type="checkbox"/>		
	Shoulder: Width <input type="text"/> Type: PCC <input type="checkbox"/> AC <input type="checkbox"/> Gravel <input type="checkbox"/>	Existing ADT: <input type="text"/>		
Description of Damage:	<input type="text"/>			

COST ESTIMATE					
Emergency Opening (EO)	Type of Repair	Description of Work	Cost Summary		
	EO- AGENCY FORCES CT Work Order #(s): <input type="text"/> EA(s): <input type="text"/>			PE	
CE					
Construction					
EO- CONTRACT EO EA(s): <input type="text"/>			PE		
			CE		
			Construction		
<b>NOTE: Environmental documentation for EO is required. It is generally started after work has begun.</b>			R/W		
<b>Subtotal Emergency Opening</b>					
Permanent Restoration (PR)	PR- CONSTRUCTION FA requires an approved PIF		PE		
	Contract <input type="text"/> FA <input type="text"/>		CE		
	PR EAs <input type="text"/>		Construction		
<b>NOTE:PRIOR AUTHORIZATION (APPROVED E-76) IS REQUIRED TO PROCEED WITH PERMANENT RESTORATION R/W &amp; CONSTRUCTION</b>			R/W		
<b>NOTE: Environmental clearance for permanent restoration is conducted through normal Federal-aid procedures</b>			<b>Subtotal Permanent Restoration</b>		
<b>Eligible</b>		<b>Signature</b>	<b>Date</b>	<b>PE Total</b>	
<input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Local Agency (if applicable):		CE Total	
<input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Caltrans:		R/W Total	
<input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	FHWA*:		Construction Total	
<b>TOTAL ESTIMATE</b>					

Agency sig. Name (print): \_\_\_\_\_ FHWA Sig. Name (print): \_\_\_\_\_  
 CT signature Name (print): \_\_\_\_\_ DAF Prepared by (print): \_\_\_\_\_

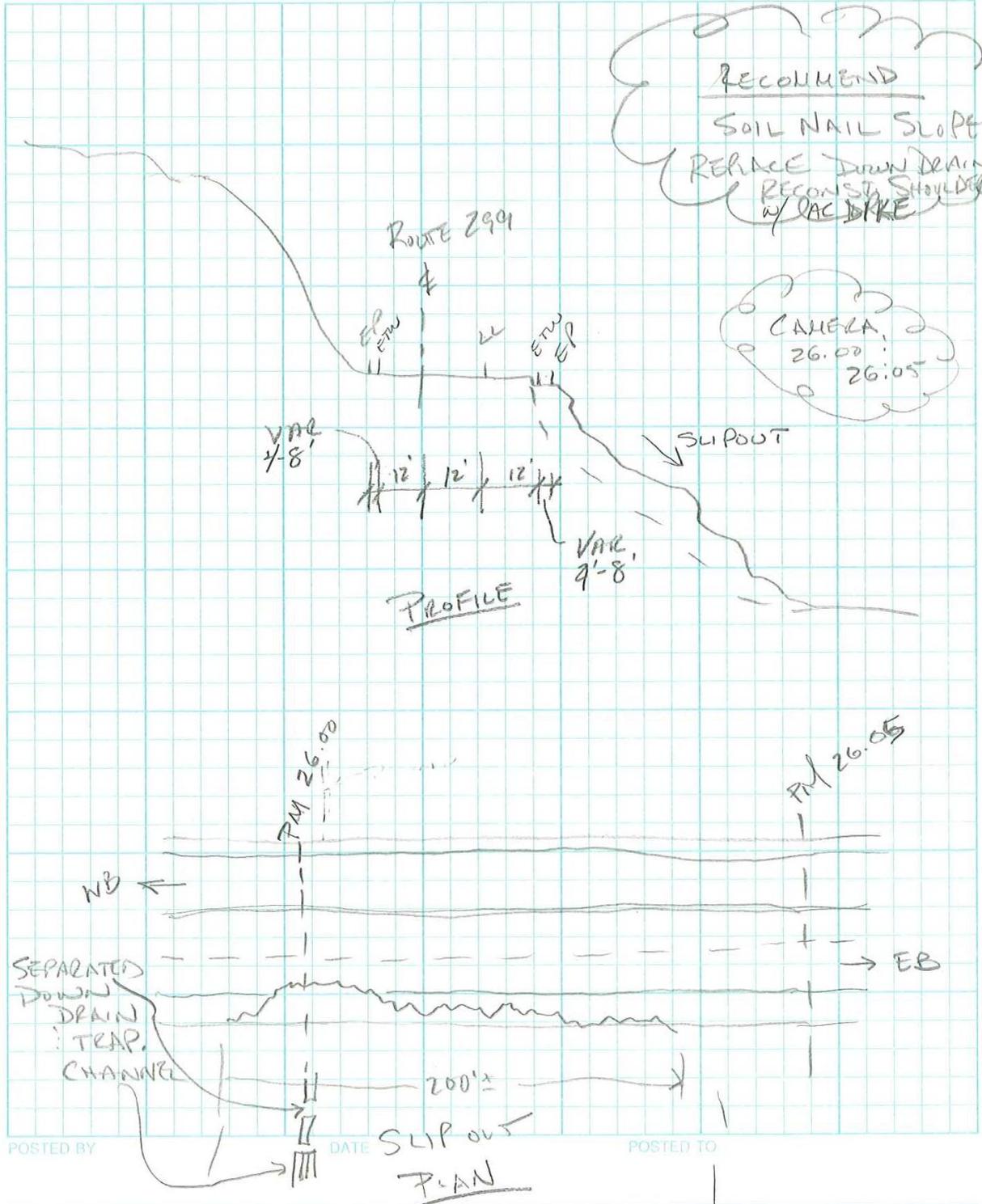
**Original:** Caltrans District **Copies:** FHWA, Division of Local Assistance(local roads), Federal Resources (state hwy), HQ Major Damage Engineer (state hwy)  
 \*Write "N/A" in FHWA signature block if the project has no Federal ER funding or Federal ER funding delegated to the State.  
**FHWA Signature:** REQUIRED for all Federal Funded State projects. REQUIRED for any Local Agency projects with 1) any **BETTERMENT**, 2) more than 2 ROW takes or 3) when paving is more than 50% of the Total Estimated Cost. **Reminder: This DAF must be accompanied by photos of the damage.**



Photos, Sketches and/or Narrative



Photos, Sketches and/or Narrative



**APPENDIX B**  
**Exploratory Boring Records**

DRILL RIG:		Acker AD2		GROUND SURFACE EL.:		2052 feet		I.D.		Boring No. R-13-001		
BORING DIAMETER:		3.8 inches		DEPTH TO GROUND WATER:		Not encountered		DATE PERFORMED:		03/05/2013		
DRILLING METHOD:		Rotary wash		SAMPLING METHOD:		Finger Bit with Punch Core and SPT auto-hammer, Efficiency = 83%		LOGGED/ PREPARED BY:		C. Koepke		
				APPROXIMATE BORING LOCATION (STA;KP;PM):		At postmile 26.0 paddle marker		OFFSET FROM ROADWAY CL:		20 feet right		
ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	GEOTECHNICAL DESCRIPTION	SOIL TYPE	SAMPLER	SAMPLE NO.	DRIVING DATA	WATER CONTENT %	Liquid Limit	Plasticity Index	Unconfined Compression Cu (psi)	ADDITIONAL COMMENTS AND TESTS
2047.0	5		FILL SLOPE MATERIAL (AF): Lean CLAY with GRAVEL, firm, light brown, 30% GRAVEL, 10% of gravel is rounded stream type.	CL	S		3/3/4					PP=0.5 tsf
2042.0	10		soft	CL	S		2/2/4					PP=0.25-0.5 tsf
2037.0	15		soft	CL	S		2/3/3					PP=0.25 tsf
2032.0	20		stiff	CL	S		3/4/6					PP=0.5 tsf
2027.0	25		very stiff	CL	S		5/6/10					PP=1.0-1.25 tsf
2022.0	30		Colluvium (Qcol) - Lean CLAY, dark brown, hard, roots.	CL	S		13/13/22					PP=1.5-2.0 tsf
2017.0	35		LANDSLIDE DEBRIS (Qls) Lean CLAY with GRAVEL, very stiff, dark gray, intensely sheared, 20% GRAVEL.	CL	S		16/16/40					Pre-existing/Historic PP=2.0 tsf
2012.0	40		stiff	CL	S		7/7/9					PP=1.5-1.75 tsf
2007.0	45		stiff	CL	S		6/7/9					PP=1.75 tsf
 <b>CALTRANS</b> Division of Engineering Services Geotechnical Services Office of Geotechnical Design - North				EA:		<b>01-0B450</b>		<b>LOG OF BORING R-13-001</b> <b>Pg. 1 of 2</b>				
		Date:		3/5/2013								
						01-HUM-299-26.0, DAF CEP-CT01-037-0				PLATE NO.		
						<b>GEOTECHNICAL DESIGN REPORT</b>						

DRILL RIG:		Acker AD2		GROUND SURFACE EL.:		2052 feet		I.D.		Boring No. R-13-001		
BORING DIAMETER:		3.8 inches		DEPTH TO GROUND WATER:		Not encountered		DATE PERFORMED:		03/05/2013		
DRILLING METHOD:		Rotary wash		SAMPLING METHOD:		Finger Bit with Punch Core and SPT auto-hammer, Efficiency = 83% and Diamond Core starting at 55' = $\diamond$		LOGGED/PREPARED BY:		C. Koepke		
				APPROXIMATE BORING LOCATION (STA;KP;PM):		At postmile 26.0 paddle marker		OFFSET FROM ROADWAY CL:		20 feet right		
ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	GEOTECHNICAL DESCRIPTION	SOIL TYPE	SAMPLER	SAMPLE NO.	DRIVING DATA	WATER CONTENT %	Liquid Limit	Plasticity Index	Unconfined Compression Cu (psi)	ADDITIONAL COMMENTS AND TESTS
2002.0	50		LANDSLIDE DEBRIS (continued)	CL	S		6/8/8					Pre-existing /historic
1997.0	55		METAMORPHIC ROCK - Franciscan melange bimrock block, light gray and dark gray, slightly weathered, very hard, very intensely fractured, fractures chaotic.		S		REF					Refusal on bimrock Switched to diamond core bit/split barrel at 55' 4" clay gouge/shear 57'
1992.0	60				$\diamond$		RQD = 0					
1987.0	65				$\diamond$		RQD = 0					
					$\diamond$		RQD = 0					
1982.0	70				$\diamond$		RQD = 0					
			Total depth = 70 feet Slope inclinometer installed to 60' due to caving in bimrock. #20 sand annulus									
 <b>CALTRANS</b> Division of Engineering Services Geotechnical Services Office of Geotechnical Design - North				EA: <b>01-0B450</b>		LOG OF BORING R-13-001 Pg. 2 of 2						
				Date: <b>3/5/2013</b>								
				01-HUM-299-26.0, DAF CEP-CT01-037-0						PLATE NO.		
				<b>GEOTECHNICAL DESIGN REPORT</b>								

DRILL RIG:		Acker AD2		GROUND SURFACE EL.:		2056 feet		I.D.		Boring No. R-13-002		
BORING DIAMETER:		3.8 inches		DEPTH TO GROUND WATER:		Not measured.		DATE PERFORMED:		03/12/2013		
DRILLING METHOD:		Rotary wash		SAMPLING METHOD:		Finger Bit with Punch Core and SPT auto-hammer, Efficiency = 83%,		LOGGED/ PREPARED BY:		C. Koepke		
				APPROXIMATE BORING LOCATION (STA;KP;PM):		No STA. 114 feet east of postmile 26.0 paddle marker		OFFSET FROM ROADWAY CL:		20 feet right		
ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	GEOTECHNICAL DESCRIPTION	SOIL TYPE	SAMPLER	SAMPLE NO.	DRIVING DATA	WATER CONTENT %	Liquid Limit	Plasticity Index	Unconfined Compression Cu (psi)	ADDITIONAL COMMENTS AND TESTS
2051.0	5		FILL SLOPE MATERIAL (AF): Lean CLAY with GRAVEL, stiff, light brown, 10% GRAVEL, numerous large root balls and branches.	CL								PP=1-1.5 tsf
2046.0	10			CL								PP=2.0 tsf
2041.0	15		very soft	CL								PP=0.25 tsf
2036.0	20		very soft	CL								PP=0.25 tsf
2031.0	25		soft	CL								PP=0.5 tsf
2026.0	30		soft	CL								PP=0.5-0.75 tsf
2021.0	35		Colluvium (Qcol) - Lean CLAY, dark brown, very stiff, roots.	CL								PP=3-3.5 tsf
2016.0	40		LANDSLIDE DEBRIS (Qls) Lean CLAY with GRAVEL, very stiff, dark gray, very intensely sheared, 20% GRAVEL.	CL								Pre-existing/historic
2011.0	45		medium stiff	CL								PP=1.0 tsf
 <b>CALTRANS</b> Division of Engineering Services Geotechnical Services Office of Geotechnical Design - North				EA: <b>01-0B450</b>		<b>LOG OF BORING R-13-002</b>						
				Date: <b>3/12/2013</b>		<b>Pg. 1 of 2</b>						
				<b>01-HUM-299-26.0, DAF CEP-CT01-037-0</b>						PLATE NO.		
				<b>GEOTECHNICAL DESIGN REPORT</b>								

DRILL RIG:		Acker AD2		GROUND SURFACE EL.:		2056 feet		I.D.		Boring No. R-13-002		
BORING DIAMETER:		3.8 inches		DEPTH TO GROUND WATER:		Not measured		DATE PERFORMED:		03/12/2013		
DRILLING METHOD:		Rotary wash		SAMPLING METHOD:		Finger Bit with Punch Core and SPT auto-hammer, Efficiency = 83% and Diamond Core starting at 80' = $\diamond$		LOGGED/ PREPARED BY:		C. Koepke		
				APPROXIMATE BORING LOCATION (STA;KP;PM):		N STA. 114 feet east of postmile 26.0 paddle marker		OFFSET FROM ROADWAY CL:		20 feet right		
ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	GEOTECHNICAL DESCRIPTION	SOIL TYPE	SAMPLER	SAMPLE NO.	DRIVING DATA	WATER CONTENT %	Liquid Limit	Plasticity Index	Unconfined Compression Cu (psi)	ADDITIONAL COMMENTS AND TESTS
2006.0	50		LANDSLIDE DEBRIS (continued) soft	CL								Pre-existing /historic PP=0.25 tsf
2001.0	55		medium stiff	CL								PP=0.5 tsf
1996.0	60		stiff	CL								PP=1.5 tsf
1991.0	65		soft	CL								PP=0.25 tsf
1986.0	70		stiff	CL								PP=1.5 tsf
1981.0	75		medium stiff	CL								PP=1.0 tsf
1976.0	80		METAMORPHIC ROCK/LANDSLIDE DEBRIS		$\diamond$							Refusal on bimrock Switched to diamond core bit/split barrel at 80'
1971.0	85		Franciscan bimrock block, light gray and dark gray, slightly weathered, very hard, very intensely fractured and sheared, fractures chaotic, shears low dip, parallel.		$\diamond$							
			Total depth = 85 feet									
 <b>CALTRANS</b> Division of Engineering Services Geotechnical Services Office of Geotechnical Design - North				EA:		01-0B450		<b>LOG OF BORING R-13-001</b> <b>Pg. 2 of 2</b>				
				Date:		3/12/2013						
				01-HUM-299-26.0, DAF CEP-CT01-037-0						PLATE NO.		
<b>GEOTECHNICAL DESIGN REPORT</b>												

Reference:

- (1) Falls, J. N., C.J. Wills and Hardin, B. C. (2006) "Landslides in the Highway 299 Corridor between Blue Lake and Willow Creek, Humboldt County, California", California Geologic Survey Special Report 195.

# Memorandum

*Serious Drought.  
Help Save Water!*

**To: JIM RASMUSSEN**  
Project Engineer  
North Region Design  
Design R1

**Date:** June 10, 2015

**File:** 01-HUM-299 PM 10.8  
Storm Damage  
EA 06-2HT101  
ID 0612000287

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

**Subject:** Addendum to Geotechnical Design Report (GDR)

At your request, OGDN has prepared this addendum to the Geotechnical Design Report, dated January 22, 2014. This addendum provides additional recommendations for the addition of an underdrain system to augment the planned horizontal drains that are described in the 1/22/2014 GDR. The underdrain will be located at the back of the proposed RSP buttress keyway, extending from about Station 197+70 to Station 202+50 and will outlet at the culvert located at about Station 202+93 (the exact location and design will be presented in the contract plans and specifications). In general, the horizontal drain system can remove groundwater (GW) particularly deep behind the slope face. The purpose of the underdrain will be to remove groundwater that has entered the slope closer to the slope face and GW that has not been captured by horizontal drains. Together they can potentially act as a more efficient means of dewatering the slope area. Plate 6 and Plate 12, taken from the 1/22/2014 GDR, were modified to show the additional underdrain system and are attached as Plate No. 1 and 2.

## Project Information

“Project Information,” discloses to bidders and contractors a list of pertinent information available for their inspection prior to bid opening. The following is information originating from Geotechnical Services.

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

A. None.

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

A. Addendum to Geotechnical Design Report, dated June 10, 2015.

*Data and information available for inspection at the District Office:*

A. None.

*Data and information available for inspection at the Transportation Laboratory:*

A. None.

Any questions regarding the recommendations in this report should be directed to the attention of William Bertucci at 916-203-7992 or Ben Barnes at 916-227-1039.



WILLIAM BERTUCCI  
Associate Engineering Geologist  
Geotechnical Design - North



BENJAMIN M. BARNES  
Transportation Engineer, Civil  
Geotechnical Design – North

### **Attachments**

Plate No. 1: Horizontal Drain Layout  
Plate No. 2: Horizontal Drain/RSP Detail

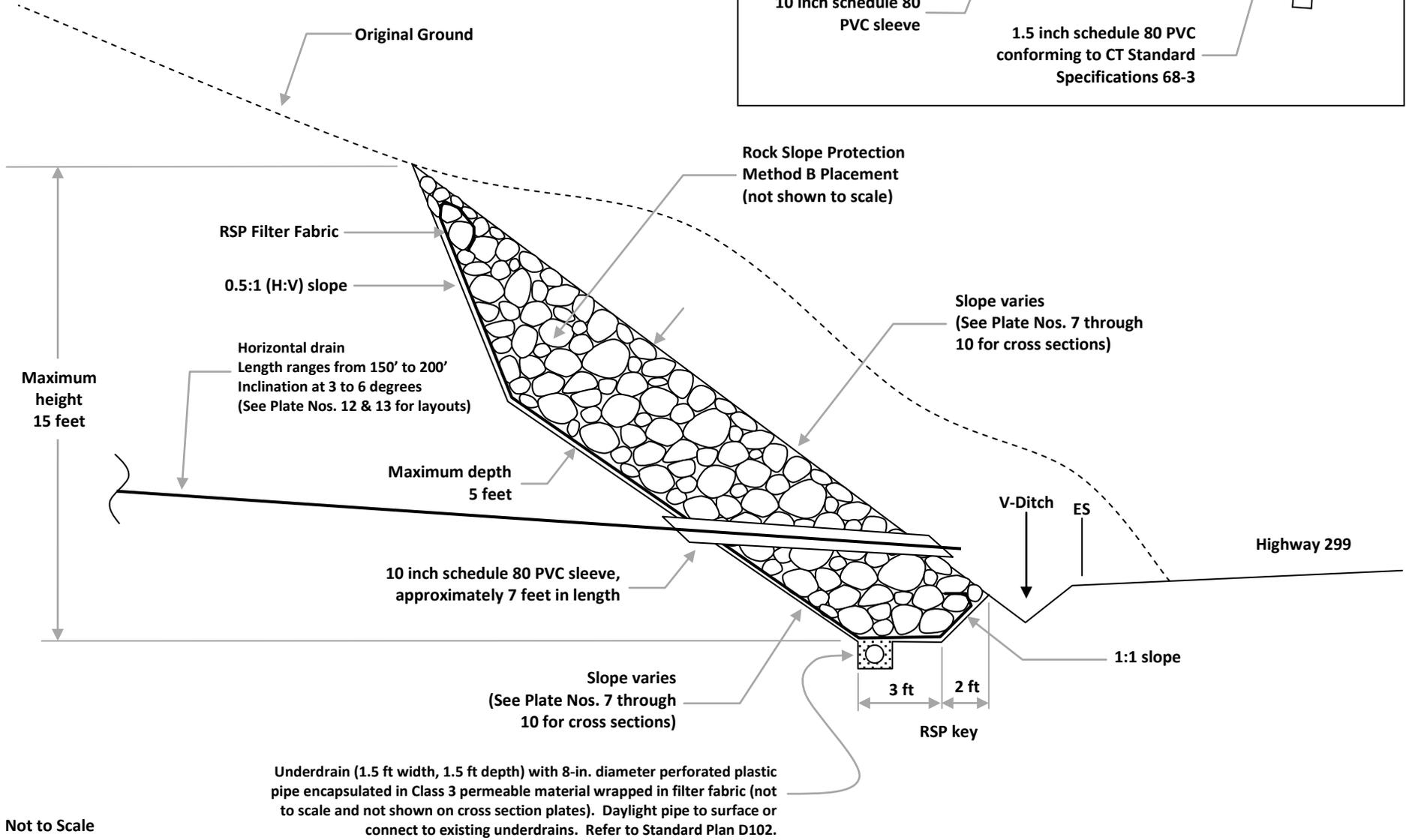
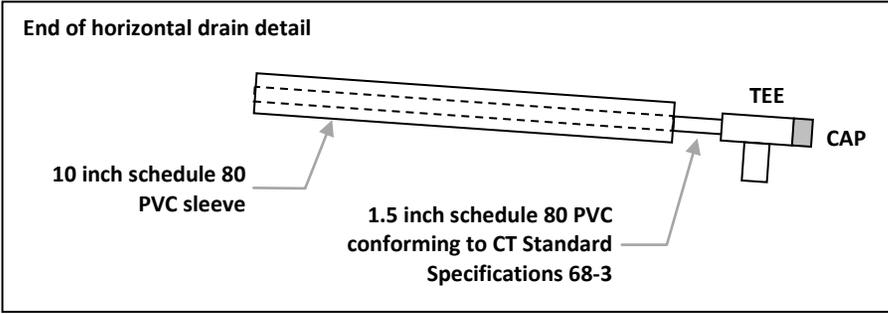
### **Report Copy List**

Talitha Hodgson – Project Manager  
Reza Mahallati - Branch Chief, OGDN-C  
Geotechnical Archive





	Division of Engineering Services Geotechnical Services Office of Geotechnical Design - North	ID 0112000130	<b>HORIZONTAL DRAIN LAYOUT (ALTERNATIVE 1)</b>	Plate No. 1
		EA 01-0B4501	01-HUM-299 PM 10.8, STORM DAMAGE	



Not to Scale



Division of Engineering Services  
Geotechnical Services  
Office of Geotechnical Design - North

ID 0112000130

EA 01-0B4501

HORIZONTAL DRAIN / RSP DETAIL

01-HUM-299 PM 10.8, STORM DAMAGE

Plate  
No. 2