

# INFORMATION HANDOUT

## WATER QUALITY

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
NORTH COAST REGION      WDID No. 1B09020WNME

## PERMITS

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

## DECLARATIONS

(FINAL) FOCUSED INITIAL STUDY WITH PROPOSED (MITIGATED) NEGATIVE  
DECLARATION

## ENCROACHMENT PERMITS

MENDOCINO COUNTY STAFF REPORT FOR COASTAL DEVELOPMENT USE  
PERMIT

MENDOCINO COUNTY COASTAL DEVELOPMENT USE PERMIT  
#CDU-1-2009

## MATERIALS INFORMATION

FINAL FOUNDATION REPORT FOR STORM DAMAGE SITE (RETAINING WALLS) AT  
01-MEN PM 82 (DATED 12/19/2007)

UNDERGROUND CLASSIFICATION



**California Regional Water Quality Control Board  
North Coast Region  
Bob Anderson, Chairman**



Linda S. Adams  
Secretary for  
Environmental Protection

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Arnold  
Schwarzenegger  
Governor

September 21, 2009

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In the Matter of  
**Water Quality Certification**

for the

**California Department of Transportation  
Highway 1 – Union Landing Viaduct Storm Damage Repair Project:  
WDID No. 1B09020WNME**

APPLICANT: California Department of Transportation  
RECEIVING WATER: Unnamed Ephemeral Coastal Drainages  
HYDROLOGIC AREA: Mendocino Coast Hydrologic Unit No.113.00  
Wages Creek Hydrologic Sub-Area No. 113.12.  
COUNTY: Mendocino  
FILE NAME: CDOT Hwy 1, Union Landing Viaduct Storm Damage Repair

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BY THE EXECUTIVE OFFICER:

1. On February 9, 2007, the North Coast Regional Water Quality Control Board (Regional Water Board) received an application and \$640.00 fee from the California Department of Transportation (Caltrans), requesting Federal Clean Water Act (CWA), section 401, Water Quality Certification for activities related to the proposed Highway 1, Union Landing Viaduct Storm Damage Repair project (project). The Regional Water Board provided public notice of the application pursuant to title 23, California Code of Regulations, section 3858 on July 29, 2009, and posted information describing the project on the Regional Water Board's website. No comments were received.
2. The proposed project is located on Highway 1 from post mile (PM) 82.0 to 82.30, in Mendocino County. The purpose of the proposed project is to stabilize and repair a section of the Highway that has deteriorated. Caltrans proposes: building two retaining walls at PM 82.09 and 82.21; replacing a culvert; installing rock slope protection; installing an underdrain; relocating utilities; installing metal beam guardrail; and paving the roadway. The proposed project will result in temporary and permanent impacts to waters of the U.S and waters of the State.

**California Environmental Protection Agency**

*Recycled Paper*

3. Caltrans has determined those temporary impacts to waters of the U.S. and State would total approximately 305 feet<sup>2</sup> (111 linear feet). However, permanent impacts are only 105 feet<sup>2</sup> (11 linear feet). Caltrans will avoid impacts to the drainage and associated riparian vegetation located at PM 82.10. Caltrans will utilize Best Management Practices (BMPs) to provide erosion control and pollution prevention throughout the project area during construction.
4. The project will result in a net increase of impervious surface area of approximately 0.03 acres. Caltrans has evaluated implementing post-construction storm water treatment at the site and determined implementing treatment measures within the project were not feasible.
5. The majority of proposed project activity is scheduled to be conducted between May 15, 2010 and October 15, 2010. The entire project is expected to take 90 days to complete. The proposed drainage work will only be conducted under dry conditions.
6. Caltrans has applied for authorization from the United States Army Corps of Engineers to perform the project under their Nationwide Permits No. 14 (linear transportation projects) pursuant to Clean Water Act, section 404. In addition, Caltrans has applied for a Coastal Development Permit from the County of Mendocino. On November 03, 2008, Caltrans certified a Negative Declaration (State Clearing House No. 2008062061) for the project in order to comply with the California Environmental Quality Act. The Regional Water Board has considered the environmental document.

Receiving Water: Unnamed Ephemeral Coastal Drainages  
Mendocino Coast Hydrologic Unit No.113.00  
Wages Creek Hydrologic Sub-Area No. 113.12.

Filled or Excavated Area: Permanent impacts: 105 feet<sup>2</sup> of new permanent impacts  
Temporary impacts: 305 feet<sup>2</sup> of temporary construction impacts

Total Linear Impact: Permanent impacts: 11 linear feet of new permanent impacts  
Temporary impacts: 111 linear feet of temporary construction impacts

Dredge Volume : None

Latitude/Longitude: 39.6939 N / 123.7973 W

Expiration: September 21, 2014

ACCORDINGLY, BASED ON ITS INDEPENDENT REVIEW OF THE RECORD, THE REGIONAL WATER BOARD CERTIFIES THAT THE CALTRANS – HIGHWAY 1 – UNION LANDING VIADUCT STORM DAMAGE REPAIR PROJECT, WDID NO. 1B09020WNME, 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:**

1. This certification action is subject to modification or revocation upon administrative or judicial review; including review and amendment pursuant to Water Code section 13330 and title 23, California Code of Regulations, section 3867.
2. This certification action is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to 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.
3. The validity of any nondenial certification action (actions 1 and 2) shall be conditioned upon total payment of the full fee required under title 23, California Code of Regulations, section 3833, unless otherwise stated in writing by the certifying agency.
4. The Regional Water Board shall be notified in writing each year at least five working days (working days are Monday – Friday) prior to the commencement of ground disturbing activities, with details regarding the construction schedule, in order to allow staff to be present onsite during installation and removal activities, and to answer any public inquiries that may arise regarding the project.
5. Except as may be modified by any preceding conditions, all certification actions are contingent on: a) the discharge being limited and all proposed revegetation being completed in strict compliance with the Applicant's project description, and b) compliance with all applicable requirements of the Basin Plan.
6. Caltrans shall construct the project in accordance with the project described in the application and the findings above, and shall comply with all applicable water quality standards.
7. Any change in the 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 and written approval.
8. Caltrans shall provide Regional Water Board staff access to the project site to document compliance with this order.
9. Caltrans shall provide a copy of this order and attachments 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 or subcontractors.
10. All activities and BMPs shall be implemented according to the submitted application and the conditions in this certification.
  11. All conditions required by this Order shall be included in the Plans and Specifications 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.
  12. The Resident Engineer shall hold on-site water quality permit compliance meetings (similar to tailgate safety meetings) to discuss permit compliance, including instructions on how to avoid violations and procedures for reporting violations. The meetings shall be held at least every other week, and particularly before forecasted storm events and when a new contractor or subcontractor arrives to begin work at the site. The contractors, subcontractors and their employees, as well as any inspectors or biological monitors assigned to the project, shall be present at the meetings. Caltrans shall maintain dated sign-in sheets for attendees at these meetings, and shall make them available to the Regional Water Board on request.
  13. If, at any time, an unauthorized discharge to surface water (including wetlands, rivers or streams) occurs, or any water quality problem arises, the associated project activities shall cease immediately until adequate BMPs are implemented. The Regional Water Board shall be notified promptly and in no case more than 24 hours after the unauthorized discharge or water quality problem arises.
  14. 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, other than that authorized by this Order, shall be allowed to enter into or be placed where it may be washed by rainfall into waters of the State.
  15. Water which has come into contact with wet concrete during construction shall be captured and disposed of in appropriate locations at least 100 linear feet beyond waters of the State. No excess concrete or concrete washings shall be allowed to contact waters of the State. In addition, all concrete contact water disposal locations as well as concrete washout basins shall have adequate BMPs in accordance with the Caltrans Construction Site Best Management Practices Manual (CCSBMPM).
  16. All materials used for cleaning concrete from tools and equipment, and any wastes generated by this activity, shall be adequately contained to prevent contact with soil and surface water and shall be disposed of properly within a clearly designated area at least 100 linear feet beyond waters of the State
  17. When operations are complete, any excess material or debris shall be removed from the work area and disposed of properly and in accordance with the Special

Provisions for the project and/or Standard Specification 7-1.13, Disposal of Material Outside the Highway Right of Way. Caltrans shall submit to the Regional Water Board the satisfactory evidence provided to the Caltrans engineer by the Contractor referenced in Standard Specification 7-1.13.

18. Work in flowing or standing surface waters, unless otherwise proposed in the project description and approved by the Regional Water Board, is prohibited. If construction dewatering of groundwater is found to be necessary, Caltrans shall use a method of water disposal other than disposal to surface waters (such as land disposal) or Caltrans shall apply for coverage under the Low Threat Discharge Permit or an individual National Pollutant Discharge Elimination System (NPDES) Permit and receive notification of coverage to discharge to surface waters, prior to the discharge.
19. Fueling, lubrication, maintenance, storage and staging of vehicles and equipment shall be outside of waters of the United States and the State. Fueling, lubrication, maintenance, storage and staging of vehicles and equipment shall not result in a discharge or a threatened discharge to any waters of the State or the United States. At no time shall the Applicant use any vehicle or equipment which leaks any substance that may impact water quality.
20. BMPs for erosion, sediment and turbidity control shall be implemented and in place at commencement of, during and after any ground clearing activities, construction activities, or any other project activities that could result in erosion or sediment discharges to surface water. The BMPs shall be implemented in accordance with the CCSBMPM and all contractors and subcontractors shall comply with the CCSBMPM.
21. Caltrans shall take photos of all areas disturbed by project activities, including all excess materials disposal areas, after rainfall events that generate visible runoff from these areas in order to demonstrate that erosion control and revegetation measures have been successful. A brief report containing these photos shall be submitted within 60 days of the rainfall event that generated runoff from the disturbed areas. In addition, Caltrans shall provide photos of the completed work to the appropriate Regional Water Board staff person, in order to document compliance.
22. In the event of any violation or threatened violation of the conditions of this Order, the violation or threatened violation shall be subject to any remedies, penalties, process or sanctions as provided for under 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 Order. 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 Order 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 Order, the Regional Water Board may add to or modify the conditions of this Order as appropriate to ensure compliance.
23. 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.
24. This Order is not transferable. In the event of any change in control of ownership of land presently owned or controlled by the Applicant, the Applicant shall notify the successor-in-interest of the existence of this Order 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 Order to discharge dredged or fill material under this Order. The request must contain the following:
- a. requesting entity's full legal name
  - b. the state of incorporation, if a corporation
  - c. address and phone number of contact person
  - d. description of any changes to the project or confirmation that the successor-in-interest intends to implement the project as described in this Order.
25. The authorization of this certification for any dredge and fill activities expires on September 21, 2014. 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.
26. Please contact Jeremiah Puget of our staff at (707) 576-2835 or [jpuget@waterboards.ca.gov](mailto:jpuget@waterboards.ca.gov) for notifications, comments, and questions.

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Catherine Kuhlman  
Executive Officer

092109\_JJP\_CDOT\_Hwy1\_UnionLanding\_401cert.

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)

**California Environmental Protection Agency**

Original sent to: Mr. Lupe Jimenez, 2800 Gateway Oaks Drive, Suite 100  
Sacramento, CA 95833

Copies sent to: Ms. Jane Hicks, U.S. Army Corps of Engineers, Regulatory  
Functions, 1455 Market Street, San Francisco, CA 94103-1398

U.S. Army Corps of Engineers, District Engineer,  
601 Startare Drive, Box 14, Eureka, CA 95501

Mr. Michael Cane, CDOT – District 3, P.O. Box 911,  
Marysville, CA 95901



U S Army Corps of  
Engineers  
Sacramento District

# Nationwide Permit Summary

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

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

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

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

**Notification:** The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds 1/10 acre; or (2) there is a discharge in a special aquatic site, including wetlands. (See general condition 27.) (Sections 10 and 404)

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

## A. Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as appropriate, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact

the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP.

### 1. Navigation.

- (a) No activity may cause more than a minimal adverse effect on navigation.
- (b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.
- (c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

**2. Aquatic Life Movements.** No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions.

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

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

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

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

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

**8. Adverse Effects From Impoundments.** If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or

restricting its flow must be minimized to the maximum extent practicable.

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

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

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

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

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

**14. Proper Maintenance.** Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety.

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

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

**17. Endangered Species.**

(a) No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will destroy or adversely modify the critical habitat of such species. No

activity is authorized under any NWP which “may affect” a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

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

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

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

(e) Authorization of an activity by a NWP does not authorize the “take” of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with “incidental take” provisions, etc.) from the U.S. FWS or the NMFS, both lethal and non-lethal “takes” of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide Web pages at <http://www.fws.gov/> and <http://www.noaa.gov/fisheries.html> respectively.

**18. Historic Properties.**

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

(b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

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

(e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to

notify the ACHP and provide documentation specifying the circumstances, explaining the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

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

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

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

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

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

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

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10 acre and require pre-construction notification, unless the district engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement. For wetland losses of 1/10 acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the

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

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

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

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(g) Permittees may propose the use of mitigation banks, in-lieu fee arrangements or separate activity-specific compensatory mitigation. In all cases, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan.

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

**21. Water Quality.** Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR

330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

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

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

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

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

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

-----  
(Transferee)

-----  
(Date)

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

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

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

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

**27. Pre-Construction Notification.**

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

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

(2) Forty-five calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 17 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 18 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) is completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee cannot begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

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

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

(2) Location of the proposed project;

(3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided result in a quicker decision.);

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

(5) If the proposed activity will result in the loss of greater than 1/10 acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

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

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

property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

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

(d) Agency Coordination:

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

(2) For all NWP 48 activities requiring pre-construction notification and for other NWP activities requiring pre-construction notification to the district engineer that result in the loss of greater than 1/2-acre of waters of the United States, the district engineer will immediately provide (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy of the PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

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

(4) Applicants are encouraged to provide the Corps multiple copies of pre-construction notifications to expedite agency coordination.

(5) For NWP 48 activities that require reporting, the district engineer will provide a copy of each report within 10 calendar days of receipt to the appropriate regional office of the NMFS.

(e) In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If the proposed activity requires a PCN and will result in a loss of greater than 1/10 acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for projects with smaller impacts. The district engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the district engineer will notify the permittee and include any conditions the district engineer deems necessary. The district engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP.

If the district engineer determines that the adverse effects of the proposed work are more than minimal, then the district engineer will notify the applicant either: (1) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (2) that the project is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or (3) that the project is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant

submit a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level. When mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan.

(a) **28. Single and Complete Project.** The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

**B. Regional Conditions:**

**I. Sacramento District (All States, except Colorado)**

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

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

b. Drawings, including plan and cross-section views, clearly depicting the location, size and dimensions of the proposed activity. The drawings shall contain a title block, legend and scale, amount (in cubic yards) and size (in acreage) of fill in Corps jurisdiction, including both permanent and temporary fills/structures. The ordinary high water mark or, if tidal waters, the high tide line should be shown (in feet), based on National Geodetic Vertical Datum (NGVD) or other appropriate referenced elevation; and

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

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

3. The permittee shall record the NWP verification with the Registrar of Deeds or other appropriate official charged with the responsibility for maintaining records of title to or interest in real property against areas (1) designated to be preserved as part of mitigation for authorized impacts, including any associated covenants or restrictions, or (2) where structures such as boat ramps or docks, marinas, piers, and permanently moored vessels will be constructed in or adjacent to navigable waters (Section 10 and Section 404). The recordation shall also include a map showing the surveyed location of the authorized structure and any associated areas preserved to minimize or compensate for project impacts.

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

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

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

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

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

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

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

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

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

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

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

14. For NWP 46, the discharge shall not cause the loss of greater than 0.5 acres of waters of the United States or the loss of more than 300 linear feet of ditch, unless this 300 foot linear foot limit is waived in writing by the Sacramento District.

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

16. All NWPs except 3, 6, 20, 27, 32, 38, and 47, are revoked for activities in histosols and fens and in wetlands contiguous with fens. Fens are defined as slope wetlands with a histic epipedon that are hydrologically supported by groundwater. Fens are normally saturated throughout the growing season, although they may not be during drought conditions. For NWPs 3, 6, 20, 27, 32, and 38, prospective permittees shall submit a PCN to the Sacramento District in accordance with General Condition 27.

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

## II. California Only

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

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

## III. Nevada Only

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

## IV. Utah Only

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

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

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

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

## V. Colorado Only

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

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

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

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

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

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

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

building structures is not authorized by this nationwide permit.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

## 4. Additional Information

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

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

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

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

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

### C. Further Information

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project.

### D. Definitions

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

**Compensatory mitigation:** The restoration, establishment (creation), enhancement, or preservation of aquatic resources for the purpose of compensating for unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

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

**Discharge:** The term “discharge” means any discharge of dredged or fill material.

**Enhancement:** The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic

resource function(s). Enhancement does not result in a gain in aquatic resource area.

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

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

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

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

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

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

**Non-tidal wetland:** A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. The definition of a wetland can be found at 33 CFR 328.3(b). Non-tidal wetlands

contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

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

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

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

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

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

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

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

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

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

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

**Riparian areas:** Riparian areas are lands adjacent to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects waterbodies with their adjacent uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 20.)

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

**Single and complete project:** The term “single and complete project” is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete project must have independent utility (see definition). For linear projects, a “single and complete project” is all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single waterbody several times at separate and distant locations, each crossing is considered a single and complete project. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

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

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

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

**Stream channelization:** The manipulation of a stream’s course, condition, capacity, or location that causes more than minimal

interruption of normal stream processes. A channelized stream remains a water of the United States.

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

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

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

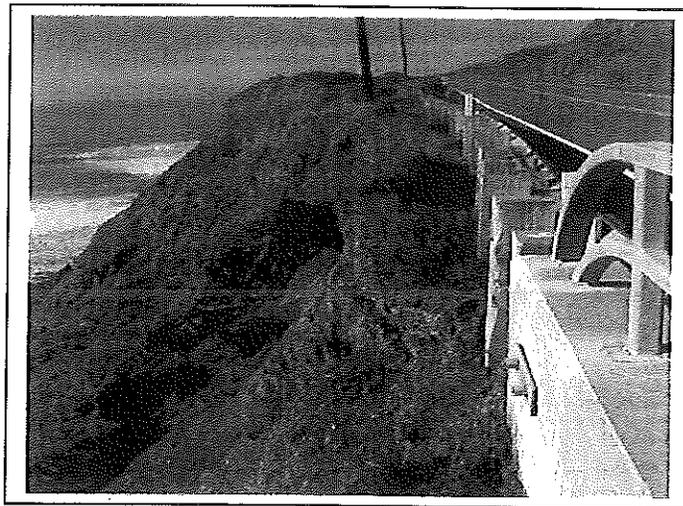
**Waterbody:** For purposes of the NWPs, a waterbody is a jurisdictional water of the United States that, during a year with normal patterns of precipitation, has water flowing or standing above ground to the extent that an ordinary high water mark (OHWM) or other indicators of jurisdiction can be determined, as well as any wetland area (see 33 CFR 328.3(b)). If a jurisdictional wetland is adjacent--meaning bordering, contiguous, or neighboring--to a jurisdictional waterbody displaying an OHWM or other indicators of jurisdiction, that waterbody and its adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)). Examples of "waterbodies" include streams, rivers, lakes, ponds, and wetlands.

**Highway 1 Union Landing Viaduct Storm Damage  
Permanent Restoration Project**

01-MEN-1 PM 82.0/82.3

01-47260

**Focused Initial Study  
with Proposed Negative Declaration**



Prepared by the  
State of California Department of Transportation

November 2008



SCH:2008062061  
01-MEN-1 PM 82.0/82.3  
01-47260

Union Landing Viaduct Storm Damage  
01-MEN-1 PM 82.0/82.3  
EA 01-47260

**FINAL FOCUSED INITIAL STUDY with MITIGATED Negative Declaration**

Submitted Pursuant to: (State) Division 13, California Resources Code

THE STATE OF CALIFORNIA  
Department of Transportation

3 November 2008  
Date of Approval

  
John D. Webb, Chief  
North Region Environmental Services  
California Department of Transportation

## Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

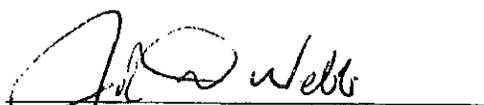
### ***Project Description***

The California Department of Transportation (Caltrans) is proposing a storm damage permanent restoration project on Highway 1 from postmile (PM) 82.0 to PM 82.3, in Mendocino County north of Westport. The project is necessary due to substantial bluff erosion caused by the 2005 and 2006 winter storms. The project work includes constructing two retaining walls at PM 82.09 and 82.21. In addition, work includes replacing metal beam guardrail, improving drainage, paving, and relocating telephone utilities. The project would have aesthetic treatments, revegetate disturbed areas, place erosion and water quality control protection measures. The project would use both state and federal funding.

### ***Determination***

Caltrans has prepared a Focused Initial Study for this project and, after public review, has determined from this study that the proposed project would not have a significant effect on the environment for the following reasons:

- The proposed project would have minimal or no effect on agricultural resources, air quality, cultural resources, floodplain, geology/soils, hazardous material, land use/planning, mineral resources, noise, population/housing, public services, recreation, transportation and traffic, and utilities/service systems.
- The proposed project would have a less than significant effect on the following resources: biology, visual/aesthetics, and hydraulics/water quality.

  
John D. Webb  
Chief, Office of Environmental Services  
North Region Environmental Planning  
California Department of Transportation

3 November 2008  
Date

## **Initial Study**

### ***Project Title***

Union Landing Viaduct Storm Damage

### ***Lead Agency Name, Address and Contact Person***

California Department of Transportation  
2389 Gateway Oaks Drive, Suite 100  
Sacramento, CA 95833  
Mr. Lupe Jimenez, Chief Branch S-4  
(916) 274-0557

### ***Project Location***

The project site is located on Highway 1 in Mendocino County from PM 82.0 to PM 82.3. This location is approximately 25 miles north of Fort Bragg, California.

### ***Project Sponsor's Name and Address***

California Department of Transportation  
John Webb, Chief, North Region Environmental Management Services  
2389 Gateway Oaks Drive, Suite 100  
Sacramento, CA 95833

Caltrans has received public comments on the Draft Initial Study. Responses to the comments are included in Appendix B. Changes to this document have been made in striked-out lines, and vertical lines indicate a change has been made to that section to the document.

### ***Purpose and Need***

#### **Purpose**

The purpose of this project is to stabilize and restore the roadway on State Highway Route 1 near Westport in Mendocino County from postmile (PM) 82.0 to PM 82.3 to maintain mobility along the coast in this area of California.

#### **Need**

This project is needed to maintain the mobility performance of Highway 1 from PM 82.0 to PM 82.3, and is considered at risk of failure due to storm damage and continued bluff erosion from winter storms.

### ***Description of Project***

The proposed project is referred to as the Union Landing Viaduct Storm Damage Permanent Restoration Project. It is located between PM 82.0 to PM 82.3 on Highway 1 in Mendocino County. The project includes constructing two retaining walls at PM 82.09 and PM 82.21. Wall 1 is adjacent to the existing Union Landing Viaduct (PM 82.1) and Wall 2 is approximately 300 feet north.

Caltrans, in conjunction with the Federal Highway Administration (FHWA), proposes storm damage repairs to Highway 1 as the heavy winter rains of the 2005 and 2006 winter storm season caused bluff erosion. The Union Landing Viaduct Storm Damage Permanent Restoration Project is eligible for federal emergency relief funding under the Federal Highway Administration (FHWA) Storm Damage Program for permanent restoration.

Emergency Relief (ER) funding is available with FHWA funding to help re-establish transportation facilities that are Federal-aid highways damaged due to a declared "natural disaster." Federal Emergency Relief has two components: Emergency Opening (EO) and Permanent Restoration (PR). Emergency repairs are repairs made during and immediately following a disaster to restore essential traffic, to minimize the extent of damage, or to protect remaining facilities. Permanent repairs are repairs undertaken, normally after emergency repairs have been complete, to restore the highway. Improvements or betterments are not intended to be included in permanent restoration storm damage projects, however building to current standards is supported by FHWA and is not considered betterment. In addition, if analysis indicates that repairing in kind would be more costly over time than a more permanent long-term repair, the long-term repair is permitted within the Emergency Relief Program.

In addition to the proposed retaining walls, the scope of work also consists of replacing metal beam guardrail (MBGR), improving drainage, paving, and relocating telephone utilities.

All drainage improvements will be at the highway level with down drains extending down 30 to 50 feet. The drainage improvements include culvert replacement at PM 82.19, which may include minor relocation of the cross culvert so it is perpendicular to the new wall, installing an underdrain on the east side of the roadway, adding and/or replacing horizontal drains, and installing a culvert at approximately PM 82.15.

Previously, four alternatives were considered:

Alternative 1: Building a retaining wall at PM 82.09 and PM 82.21

Alternative 2: Building a viaduct at PM 82.09 and a retaining wall at PM 82.21

Alternative 3: Retreating to the east

Alternative 4: No build

Alternative 2 was considered and rejected. This alternative was found to be more costly than Alternative 1.

Alternative 3 was considered and rejected. This alternative does not address the purpose and need. In addition, environmental impacts and cost for excavation and disposal were considerably greater than Alternatives 1 and 2. Excavation quantities were estimated up to 6 million cubic yards with cuts up to 250 feet high.

Alternative 4 was rejected as not meeting the purpose and need of restoring the integrity of Highway 1 at these two locations, PM 82.09 and PM 82.21.

Alternative 1 was chosen as the most appropriate alternative to consider. This alternative was chosen considering cost, environmental impacts, and meeting the purpose and need. The proposed project will be within the existing right of way; right of way limits are approximately 70 feet west and 100 feet east of the highway centerline. The elevation of right of way limits range from approximately 80 to 240-feet above sea level.

This portion of Highway 1 is a utility corridor for American Telegraph & Telephone (AT&T). To accommodate construction for this project, AT&T will relocate utilities within the project footprint, but outside of the Environmentally Sensitive Habitat Area (EHSA) #2 (refer to Attachment 2). Utility relocation may be above ground, below ground, or located within a concrete barrier, and will avoid sensitive resources.

### ***Surrounding Land Uses and Setting***

The Westport Union Landing Beach State Park lies to the south of the project area. To the north is Juan Creek followed by Hardy Creek and timberland. To the east is considered remote residential.

The project's immediate environment is composed of an area approximately 80 to 240-feet above sea level overlooking the Pacific Ocean in Mendocino County. The area has expansive views westward of the Pacific Ocean, of coastal bluffs to the north and south, and of the Coast Range, which rises above the shoreline to the east.

### ***Permits and Approvals Needed***

Upon completion of final design for this project, the following agencies will be contacted in order to obtain their jurisdictional permits or approvals:

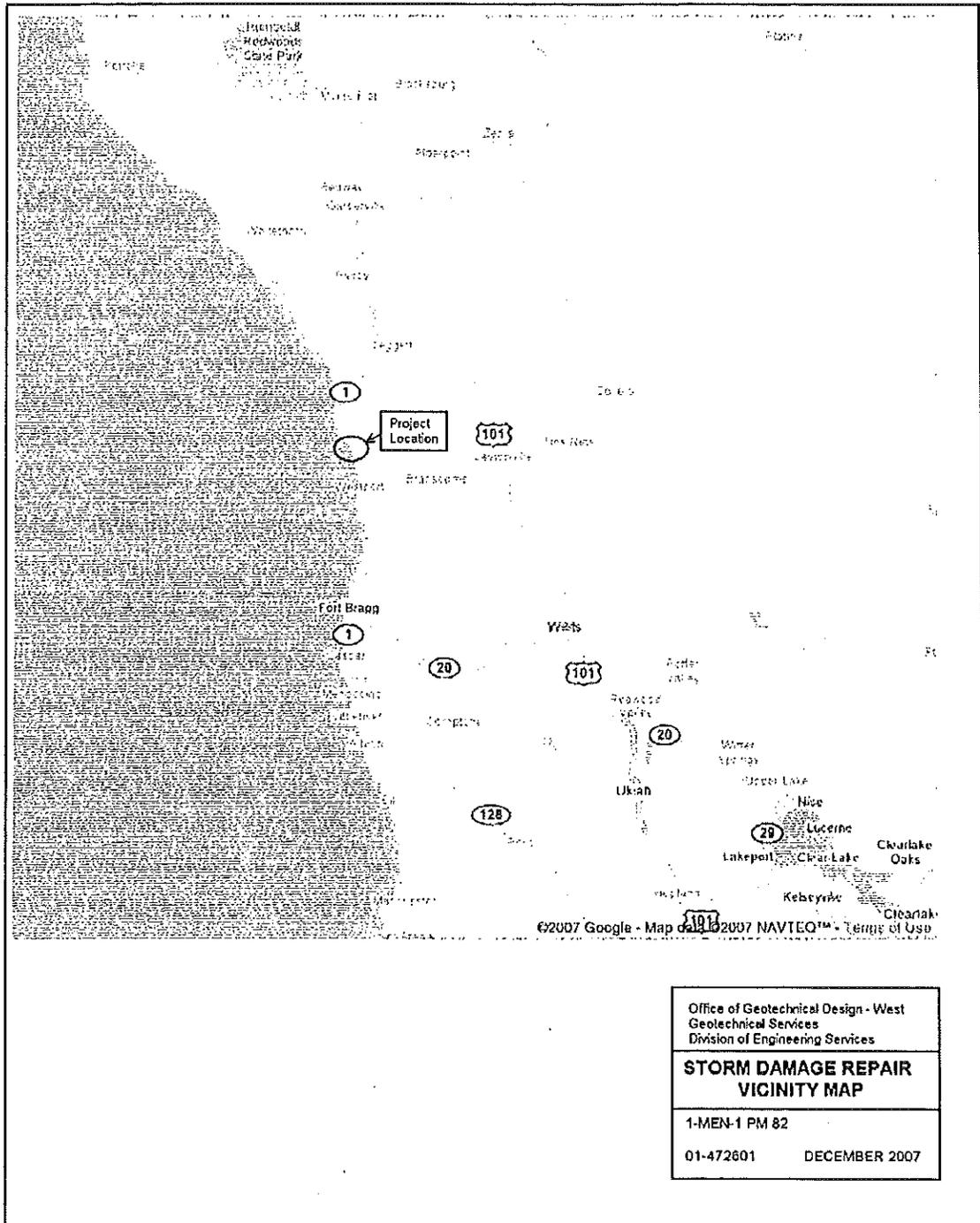
- North Coast Regional Water Quality Control Board (NCRWQCB): Clean Water Act of 1977, Section 401 Certification
- Mendocino County Planning Commission: Coastal Development Permit
- Statewide National Pollution Discharge Elimination System (NPDES) permit
- Section 404 of the Clean Water Act, Nationwide permit under the United States Army Corps of Engineers (USACE). However, the project will impact less than 0.1 acre of USACE jurisdiction waters and meets all qualifications for a non-reporting nationwide permit.

### ***Zoning***

All areas within the construction area of the project are within Caltrans right of way. To the east the zoning is remote residential, with no housing in the immediate area. Westport Union Landing Beach State Park is located on the coastline south of the project area ..



# Project Vicinity Map



## Environmental Factors Potentially Affected

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The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Less than Significant Impact" as indicated by the checklist on the following pages.

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology/Soils
- Hazards and Hazardous Materials
- Hydrology/Water Quality
- Land Use/Planning
- Mineral Resources
- Noise
- Population/Housing
- Public Services
- Recreation
- Transportation/Traffic
- Utilities/Service Systems
- Mandatory Findings of Significance

## Impacts Checklist

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The impacts checklist starting on the next page identifies physical, biological, social, and economic factors that might be affected by the proposed project. The California Environmental Quality Act impact levels include “potentially significant impact,” “less than significant impact with mitigation,” “less than significant impact,” and “no impact.”

A brief explanation of each California Environmental Quality Act checklist determination follows each checklist item. The checklist is followed by a focused discussion of biology, visual/aesthetic, and hydrology/water quality issues relating to this project.

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
--------------------------------	--	------------------------------	-----------

**I. AESTHETICS** — Would the project:

- |  |                          |                          |                                     |                                     |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Have a substantial adverse effect on a scenic vista?<br><b>Discussion of impacts starts at the Visual /Aesthetics section of this Initial Study.</b>  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| c) Substantially degrade the existing visual character or quality of the site and its surroundings?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |

**Discussion of impacts starts at the Visual /Aesthetics section of this Initial Study.**

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

*"No Impact" determinations in this section (b, d) are based on Visual Impact Analysis February 2008.*

**II. AGRICULTURE RESOURCES** — In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

*"No Impact" determinations in this section are based on various field reviews in 2007.*

**III. AIR QUALITY** — Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
--------------------------------	--	------------------------------	-----------

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Conflict with or obstruct implementation of the applicable air quality plan?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Expose sensitive receptors to substantial pollutant concentrations?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Create objectionable odors affecting a substantial number of people?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

*“No Impact” determinations in this section are based on the Air Quality Analysis, June 2007.*

**IV. BIOLOGICAL RESOURCES** — Would the project:

- |  |                          |                          |                                     |                                     |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |

**Discussion of impacts starts at the Biological/Coastal section of this Initial Study.**

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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corridors, or impede the use of native wildlife nursery sites?

- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

**Discussion of impacts starts at the Biological/Coastal section of this Initial Study.**

- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

*"No Impact" determinations in this section(a, c, d, f) are based on the Natural Environmental Study and Botanical/ESHA Assessment and Reduced Buffer Analysis, April 2008.*

**V. CULTURAL RESOURCES — Would the project:**

- a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

- b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

- c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

- d) Disturb any human remains, including those interred outside of formal cemeteries?

*"No Impact" determinations in this section are based on the amended Historic Resource Memo, updated February 2008.*

**VI. GEOLOGY AND SOILS — Would the project:**

- a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

- i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
--------------------------------	--	------------------------------	-----------

ii) Strong seismic ground shaking?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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*Temporary construction equipment generated ground shaking may occur during construction.*

iii) Seismic-related ground failure, including liquefaction?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

iv) Landslides?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

*No movement from slope indicators.*

b) Result in substantial soil erosion or the loss of topsoil?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

*"No Impact" determinations in this section are based on conversations with Project Engineer and Geotechnical February 2008 (Geotechnical Report December 2007).*

**VII. HAZARDS AND HAZARDOUS MATERIALS —**

Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

*All treated wood waste (TWW) from guardrails and some signs will either be re-used on-site or by Maintenance, or will be disposed of in an appropriate permitted facility. Additionally, TWW must be tracked by a combination of Caltrans approved reporting and record--keeping requirements in accordance with Department of Toxic Substances requirements.*

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
--------------------------------	--	------------------------------	-----------

accident conditions involving the release of hazardous materials into the environment?

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

*"No Impact" determination in this section is based on review of the Initial Site Assessment June 2007.*

**VIII. HYDROLOGY AND WATER QUALITY —**  
Would the project:

a) Violate any water quality standards or waste discharge requirements?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

**Discussion of impacts starts at the Storm Water/Water Quality section of this Initial Study.**

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
--------------------------------	--	------------------------------	-----------

that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or offsite?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or offsite?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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*Project drainage work includes realigning a culvert, installing a new culvert, horizontal drains, under-drains, and a dike to convey drainage and storm water. Shoulder improvements will result in a 0.03-acre increase in impervious surface*

**Discussion of impacts starts at the Storm Water/Water Quality section of this Initial Study.**

e) Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**Discussion of impacts starts at the Storm Water/Water Quality section of this Initial Study.**

f) Otherwise substantially degrade water quality?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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- loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?
- j) Result in inundation by a seiche, tsunami, or mudflow?

*"No Impact" determinations in this section (b, d, f, g, h, i, j), are based on the Floodplain Analysis June 2007 and the Water Quality Report March 2008.*

**IX. LAND USE AND PLANNING** — Would the project:

- a) Physically divide an established community?
- b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?
- c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

*"No Impact" determinations in this section are based on conversations with Project Engineer, February 2008.*

**X. MINERAL RESOURCES** — Would the project:

- a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?
- b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

*"No Impact" determinations in this section are based on conversations with Project Engineer and Geotechnical February 2008 (Geotechnical Report December 2007).*

**XI. NOISE** — Would the project result in:

- a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*"No Impact" determinations in this section are based on the Noise Analysis, June 2007.*

**XII. POPULATION AND HOUSING** — Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*"No Impact" determinations in this section are based on the scope and location of the project.*

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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**XIII. PUBLIC SERVICES —**

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*"No Impact" determinations in this section are based on the scope and location of the project.*

**XIV. RECREATION —**

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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*"No Impact" determinations in this section are based on the scope and location of the project.*

**XV. TRANSPORTATION/TRAFFIC —** Would the project:

a) Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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b) Exceed, either individually or cumulatively, a level of service standard established by the county

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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congestion management agency for designated roads or highways?

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

e) Result in inadequate emergency access?

f) Result in inadequate parking capacity?

g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

*As required in the Traffic Management Plan, traffic control during construction will accommodate bicycle traffic on this portion of the Pacific Coast Bike Route, and accommodate any bicycle races or private bike touring company activities. An improvement proposed with this project is reestablishment and construction of a 4-foot paved shoulder for a portion of the west side of Highway 1 and the majority of the eastern side of Highway 1 in the project limits. Shoulders along this section of Highway 1 are not continuous, and construction of a 4-foot shoulder benefits bicycle traffic and is consistent with the Coastal Element of the Mendocino County General Plan and with the Caltrans Route Concept Report for Highway 1.*

*"No Impact" determinations in this section are based on the Traffic Management Plan January 2008.*

**XVI. UTILITY AND SERVICE SYSTEMS —** Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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*Project drainage work includes, realigning a culvert, installing a new culvert, horizontal drains, under-drains, and a dike to convey drainage and storm water. This portion of Highway 1 is a utility corridor for AT&T. AT&T will relocate utilities within the project footprint and outside of the Environmentally Sensitive Habitat Area (EHSA) #2 (see Attachment 2) to accommodate construction for this project. Utility lines will be enclosed within trenched conduits across the southbound lane into the northbound lane. All utility relocation will be beneath built surfaces, and will avoid sensitive resources.*

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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*All treated wood waste from guardrails and some signs will either be re-used on-site or by Maintenance, or will be disposed of in an appropriate permitted facility. Additionally, treated wood waste must be tracked by a combination of Caltrans approved reporting and record -keeping requirements in accordance with Department. of Toxic Substances requirements.*

g) Comply with federal, state, and local statutes and regulations related to solid waste?  
*See f above.*

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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*"No Impact" determinations in this section are based on conversations with Project Engineer, Biologist and Water Quality Engineer, February and March 2008.*

**XVII. MANDATORY FINDINGS OF SIGNIFICANCE**

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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# Affected Environment, Environmental Consequences, and Mitigation Measures

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## **Biological Environment**

### **Biological Resources**

#### ***Regulatory Setting***

Because the proposed project is located adjacent to the Pacific Ocean, there are several federal, state, and local agencies that have jurisdiction over the project site. The Clean Water Act (CWA) established the basic mandates for regulating discharges of pollutants into the waters of the United States. The CWA set requirements for water quality standards for all contaminants in surface waters. In 1999, the State Water Resources Control Board (SWRCB) issued a National Pollution Discharge Elimination System (NPDES) permit that regulates storm water discharges from Caltrans facilities. The permit requires Caltrans to maintain and implement an effective Storm Water Management Plan (SWMP) that identifies and describes the Best Management Practices (BMPs) used to control the discharge of pollutants to waters of the United States.

Upon completion of the final design for this project, the North Coast Regional Water Quality Control Board and Mendocino County Planning Department will be contacted to obtain their jurisdictional permits or approvals. Before construction begins, the project engineer will file a 30-day notice of construction required for the statewide NPDES permit.

## **Waters and Wetlands**

#### **Regulatory Setting**

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Clean Water Act (33 U.S.C. 1344) is the primary law regulating wetlands and waters. The Clean Water Act regulates the discharge of dredged or fill material into waters of the United States, including wetlands. Waters of the United States include navigable waters, interstate waters, territorial seas and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the Clean Water Act, a three-parameter approach is used that includes the presence

of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils subject to saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the Clean Water Act.

Section 404 of the Clean Water Act establishes a regulatory program that provides that no discharge of dredged or fill material can be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers (USACE) with oversight by the U.S. Environmental Protection Agency (EPA).

The Executive Order for the Protection of Wetlands (E.O. 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, this executive order states that a federal agency, such as the Federal Highway Administration, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: 1) that there is no practicable alternative to the construction and 2) the proposed project includes all practicable measures to minimize harm.

At the state level, primarily the California Department of Fish and Game (DFG) and the Regional Water Quality Control Boards (RWQCB) regulate wetlands and waters. In certain circumstances, the California Coastal Commission may also be involved. Sections 1600-1607 of the Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify DFG before beginning construction. If DFG determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. The tops of the stream or lake banks, or the outer edge of riparian vegetation, usually define DFG jurisdictional limits, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the DFG.

The Regional Water Quality Control Boards were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The RWQCB also issues water quality certifications in compliance with Section 401 of the Clean Water Act. Please refer to the Water Quality section for additional details.

## **Affected Environment**

No federal wetlands were found in the project area. The culverts at PM 82.19 and PM 82.10 convey water from seasonal drainages. Water comes from storm runoff and sheet flow from the hill above. As the waters directly flow to the Pacific Ocean, they are considered waters of the United States. The drainage immediately above and below the culvert at PM 82.19 is unvegetated. Riparian vegetation surrounds the drainage starting approximately 21-feet above the culvert inlet. The drainage immediately above the culvert at PM 82.10 is surrounded by riparian vegetation.

## **Potential Impacts**

Utilities and traffic signal interconnect cable may be placed in a ditch along the east side of the roadway at PM 82.10, which is adjacent to an Environmental Sensitive Habitat Area (ESHA) (reference in Coastal section) and may affect the riparian area immediately adjacent to the inlet at PM 82.10. For the proposed cross-culvert at PM 82.15, no impacts are expected to affect any riparian areas. The proposed work near PM 82.19 is not expected to affect any riparian areas. The riparian area is 20-feet up slope from the proposed work. Utility lines will be enclosed within trenched conduits across the southbound lane into the northbound lane. All utility relocation will be beneath built surfaces.

## **Avoidance and Minimization Measures**

All work will be performed within Caltrans right of way or within prescriptive easement areas. Minor vegetation removal is anticipated due to the scope of work. Replacement measures shall include re-vegetation of native species at a minimum ratio of 2:1, and best management practices (BMPs). No trees in the project vicinity will be impacted, and no impacts to migratory birds are anticipated. Environmental Sensitive Area (ESA) fencing will be placed for ESHA #2. If any vegetation is removed in the ditch directly adjacent to the inlet at PM 82.10, replacement replanting will occur.

## **Coastal Zone**

### **Regulatory Setting**

The Coastal Zone Management Act of 1972 (CZMA) is the primary federal law enacted to preserve and protect coastal resources. The CZMA sets up a program under which coastal states are encouraged to develop coastal management programs. States with approved coastal management plans are able to review federal permits and activities to determine if they are consistent with the state's management plan.

California had developed a coastal zone management plan and has enacted its own law, the California Coastal Act of 1976 to protect the coastline. The policies established by the California Coastal Act are similar to those for the CZMA; they include the protection and expansion of public access and recreation, the protection, enhancement and restoration of environmentally sensitive areas, protection of agricultural lands, the protection of scenic beauty, and the protection of property and life from coastal hazards. The California Coastal Commission is responsible for implementation and oversight under the California Coastal Act.

Just as the federal CZMA delegates power to coastal states to develop their own coastal management plans, the California Coastal Act delegates power to local governments (15 coastal counties and 58 cities) to enact their own local coastal programs (LCPs). LCPs determine the short- and long-term use of coastal resources in their jurisdiction consistent with the California Coastal Act goals.

Within the Mendocino County LCP, Chapter 20.496 of the coastal zoning code includes policies that apply to ESHAs. Buffer areas are described and defined in Section 20.496.020 as an area that shall be established adjacent to all environmentally sensitive habitat areas. The purpose of a buffer area shall be to provide for a sufficient area to protect the environmentally sensitive habitat from significant degradation resulting from future developments. The width of the buffer area shall be a minimum of 100-feet, unless an applicant can demonstrate, after consultation and agreement with the California Department of Fish and Game (if applicable), and Mendocino County Planning Staff, that 100-feet is not necessary to protect the resources of that particular habitat area and the adjacent upland transitional habitat function of the buffer from possible significant disruption caused by the proposed development. The buffer area shall be measured from the outside edge of the environmentally sensitive habitat areas and shall not be less than 50-feet in width. This section describes a variety of standards for determining the allowable width of the buffer area, including standards for development permitted within the buffer area. Mendocino County Code Section 20.496.025(7) further specifies development that is allowed in wetlands, including incidental public service purposes.

### **Affected Environment**

Along the immediate east side of the highway, the terrain slopes upward at a steep gradient, and vegetative cover consists mostly of grasses. Further up the slope is coastal scrub dominated by coyote bush. The vegetation along the west shoulder of

the highway is mostly comprised of various native and non-native grasses and forbs. The project vicinity is of relatively low biological value as it is dominated by invasive species. West of the right of way, the terrain is mostly unvegetated and slopes steeply toward the beach. A list of plants identified at the project site is referenced in Attachment 1.

Botanical studies were done within the area extending 100-feet around the project footprint to satisfy the conditions of the Coastal Element of the Mendocino County General Plan. Two areas are located within the 100-foot study buffer of the project boundary. These 2 areas meet the definition of Environmental Sensitive Habitat Areas (ESHAs) as detailed in the Coastal Element of the Mendocino County General Plan (see Mendocino County Code chapters 20.496 & 20.532). Both are considered "riparian areas," which also can be considered as wetlands under the single parameter wetland classification applied in the coastal zone. ESHA mapping is referenced in Attachment 2.

All drainages within the project vicinity originate in the hills east of the project site, beyond the map, and are not biologically isolated. This area is quite susceptible to erosion due to geology and hydrology factors.

ESHA #1 is the northernmost of the two ESHAs, and consists of a vegetated area starting about 21-feet uphill from a culverted drainage at PM 82.19. The total area within the study limits for ESHA #1 is 2,528 square feet. This ESHA has been identified due to the presence of riparian vegetation; the dominant plant species in ESHA #1 are willow (*Salix sitchensis*), and coyote bush (*Baccharis pilularis*). The existing buffer between the proposed project and ESHA #1 is 20-feet up the slope east of the culvert inlet located at PM 82.19.

ESHA #2 is a riparian area surrounding the drainage immediately uphill from the culvert located at PM 82.10. The total area within the study limits for ESHA #2 is 3,933 square feet. This ESHA has been identified due to the presence of riparian vegetation; the dominant plant species in ESHA #2 are willow (*Salix sitchensis*), bishop pine (*Pinus muricata*) and coyote bush (*Baccharis pilularis*). The distance between ESHA #2 and temporary or permanent construction features may be 3-feet or less.

## **Potential Impacts**

Construction activities would occur within 50-feet of ESHA #1. Construction of the retaining walls, replacement of a 24-inch culvert at PM 82.19, utility relocation and road construction activities including paving and striping are planned within 50-feet of the ESHA.

Utility relocation may occur within 50-feet of ESHA #2 under the current proposal. Twenty-feet of Environmentally Sensitive Area (ESA) fencing will be placed along the highway at the base of the slope to prevent any equipment from entering the ESHA #2.

According to the Mendocino County LCP Chapter 20.496, highway activities can be allowed within ESHA buffers when avoidance is not feasible and when maintaining and improving Highway 1 along its existing alignment presents the least impacts.

The following analysis is based on the development criteria for a reduced buffer zone required by and outlined in chapter 20.496 of the Mendocino County Coastal Zoning Code.

Highway development and related ground disturbance have a lengthy history at this rural location without nearby housing. The 'best site' with the least environmental impact for these developments is the previously disturbed area contained in the project area. Development already exists within 50-feet of the ESHAs due to the highway, its associated structures and its drainage system. ESHA #1 is 21-feet from existing highway development, and ESHA #2 is 3-feet from existing highway development. All nearby project activities will take place down a steep slope from ESHA #1.

The proposed project will minimally change drainage flows to accommodate the new structures and storm water. No likelihood exists for equipment or materials inadvertently entering the riparian areas from construction activities. The proposed development would not significantly impact the functional capacity of the habitat area or the habitat area's ability to be self-sustaining and maintain species diversity. No known sensitive plant or animal species of concern were found in the project area.

In conclusion Environmental Sensitive Area (ESA) fencing will be placed on the project boundary to ESHA #2, shown in Attachment 2, and any potential disturbed areas will be replanted with native species at a minimum ratio of 2:1. No impacts are

anticipated at ESHA #1. Proposed developments within the buffer are not expected to have a significant impact on the adjacent habitat areas.

### **Avoidance and Minimization Measures**

Impacts are not likely at ESHA #1 from construction activities under the proposed project. Work at the culvert inlet at PM 82.19 will be the closest work to ESHA #1. Although project activities are planned within the required 50-foot buffer of ESHA #1, the sensitive habitat area is vertically 21-feet above all project activities. This vertical buffer feature provides additional protection and therefore no impacts are expected. Construction of the retaining walls, replacement of a 24-inch culvert at PM 82.19, and road construction activities including paving and striping would occur within 50-feet of ESHA #1.

ESHA #2 has limited potential for impacts, as this ESHA is 3 feet or less from highway improvement features located within the required 50-foot buffer of ESHA #2. In the buffer zones, avoidance minimization, and re-planting measures shall include re-vegetation of native species at a minimum ratio of 2:1, and best management practices (BMPs) and use of Environmental Sensitive Fencing (ESA) to protect ESHA #2.

Additionally, the proposed development would minimize the amount of added impervious surface area, limit the removal of vegetation to only those areas requiring grading with replacement at a minimum ratio of 2:1, treat all disturbed bare soil with erosion control, utilize equipment equipped with appropriate mufflers, and utilize dust controls whenever necessary.

The project will have several additional benefits. Hydraulic capacity should improve, and erosive energy and soil moisture should decrease with the proposed drainage improvements. Stability improvements gained from the retaining walls will improve the area's ability to withstand major storm events. Bluff erosion will be reduced and water quality of the ocean in the immediate area will be improved.

### **Construction**

Construction staging may occur at the Vista Point, which is a parking area a short distance south of the project site, the pullout within the project limits, and/or the Caltrans maintenance storage area directly across from the Vista Point. No Mendocino County Coastal Environmentally Sensitive Habitat Areas (ESHAs) occur

within 50-feet of the staging areas. The project is expected to take approximately two years to complete.

### ***Potential Impacts***

1. This portion of Highway 1 is a utility corridor for AT&T. AT&T will relocate utilities within the project footprint and outside of the Environmentally Sensitive Habitat Area (EHSA) #2 (see Attachment 1) to accommodate construction for this project. Utility lines will be enclosed within trenched conduits across the southbound lane into the northbound lane. All utility relocation will be beneath built surfaces.
2. Utilization of the three proposed construction staging areas has been environmentally cleared. All vehicles and materials must stay on the pavement at Vista Point, and on the hard-packed areas at the pullout within the project limits and the Caltrans maintenance storage area directly across from the Vista Point.
3. Temporary construction equipment generated ground vibrations may occur during construction.
4. All treated wood waste from guardrail and some signs will either be re-used on-site or by Maintenance, or will be disposed of in an appropriate permitted facility. Additionally, treated wood waste must be tracked by a combination of Caltrans approved reporting and record keeping requirements in accordance with Department of Toxic Substances requirements.
5. As required in the Traffic Management Plan, traffic control during construction will accommodate bicycle traffic on this portion of the Pacific Coast Bike Route, and accommodate any bicycle races or private bike touring company activities. An improvement proposed with this project is reestablishment and construction of a 4-foot paved shoulder for a portion of the west side of Highway 1 and the majority of the eastern side of Highway 1 in the project limits. Shoulders along this section of Highway 1 are not continuous, and construction of a 4-foot shoulder benefits bicyclists and pedestrians and is consistent with the Coastal Element of the Mendocino County General Plan and with the Caltrans Route Concept Report for Highway 1. Shoulder improvements result in a 0.03-acre increase in paved impervious area.
6. The design of Wall #1, at PM 82.09 includes consideration for safety, environmental protection and minimization of biological and visual impacts for

determining the overall roadway width. During early coordination with Mendocino County, the proposed 8 feet shoulder tapering to 4 feet shoulder has been revised. A consistent 4 feet shoulder width is proposed throughout the project. An “L-shaped” transition between Wall #1 and the existing crib wall is currently under consideration to join Wall #1 to the existing crib wall.

7. The proposed utility relocation will occur after the underdrain and culverts are installed, but before the retaining walls are constructed. There is existing conduit on the viaduct. We will install a 2 feet by 3 feet vault at the end of the viaduct (in the paved shoulder), and trench the conduit across the southbound lane into the northbound lane, where it will continue north on a straight alignment where it will again cross the southbound lane and terminate adjacent to the existing utility pole. The overhead phone lines will be undergrounded from approximate station 99+50 to station 107+50. The conduit will be approximately 3 feet deep, and will include two 4-inch diameter conduits. One will be for AT&T; the other will be a spare for AT&T that will be temporarily used for the temporary signals that will be placed for construction. The temporary signal systems will be placed on the northbound side (east side) of the road at approximate station 100+00, where a temporary line will cross the road at the south end of the viaduct. The other signal will be placed on the southbound side of the road at approximate station 110+50, and the signal line will be on the ground surface from station 107+50 to 110+50.

## footVisual /Aesthetics

### **Regulatory Setting**

The California Environmental Quality Act (CEQA) establishes state policy to take all action necessary to provide the people of the state “with...enjoyment of *aesthetic*, natural, scenic and historic environmental qualities.” [CA Public Resources Code Section 21001(b)]

Highway 1 is one of the most highly scenic roadways in the state. Mendocino County has created strict regulations on where and how development can occur along the coast. Sec. 20.504.010 of the Visual Resource and Special Treatment Areas section of the Mendocino County Coastal Zoning Code states: “The purpose of this section is to insure that permitted development shall be sited and designed to protect views to

and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas and, where feasible, to restore and enhance visual quality in visually degraded areas.”

Visual quality along the existing alignment is highly scenic and the final project design should minimize effects on the visual setting. This section of Route 1 has been found ‘Eligible’ for scenic highway designation on the California Scenic Highway System. It is also part of the Pacific Coast Bike Route and gets a sizable amount of touring bicyclists during the summer. The overall visual quality of this area is extremely high.

### ***Affected Physical Environment***

The physical environment is an area approximately 80 to 240-feet above sea level overlooking the Pacific Ocean in Mendocino County. The environment has expansive views westward of the Pacific Ocean, of the coastal bluffs to the north and south and the Coast Range that rises above the shoreline to the east. Native vegetation in the project area is characterized by the coastal prairie plant community, which includes mostly perennial bunch grasses, and other herbaceous plants common with the landscape. In addition to its biological importance, the Pacific Ocean represents a key visual resource along this segment of roadway. Additionally, several other views can be seen in the project area. The forest edge is visible in the middle and background. To the north, riparian woodlands include redwood, Douglas fir, big leaf maple, willow and alder that follow the major stream corridors. Redwood forest is located further inland.

### ***Potential Impacts***

This project includes the construction of two retaining walls. There are several retaining walls in the area. The proposed Wall 1 at PM 82.09 is located between an existing viaduct immediately to the south and an existing crib wall immediately to the north. From the Pacific Ocean, two additional retaining walls will add to the number of visual items along this section of the coastal bluffs. The tops of the new retaining walls located at roadway elevation will be capped with concrete. Both new retaining walls will include a safety barrier at the edge of the retaining wall. The concrete safety barrier, with a bicycle railing attached to the outer edge of the railing, is planned for Wall #1, at PM 82.09. A concrete safety barrier is the only option for Wall #1. The shoulder width at this location is limited, and Wall #1 must adjoin the existing viaduct to the south and the existing crib wall to the north. These constraints limit the available room for construction, and add to the difficulty of constructing

Wall #1. By aligning Wall #1 closely along the highway, the overall height of the wall will be reduced, minimizing visual impacts and costs. At Wall #2, PM 82.21, the distance between the coastal bluff and the roadway is greater, allowing the additional room required to install the MBGR safety barrier.

Visual impacts when viewed from the highway will be low to moderate, with the most noticeable element being the metal beam guardrail (MBGR) or concrete safety barriers depending upon facility selection. As viewed from the Pacific Ocean, the proposed retaining walls and safety barriers will have the greatest visual impacts, from moderate to high. The down drain may be slightly visible from the Pacific Ocean depending on the color of the pipe. A retaining wall and a viaduct currently exist in the project area, with another retaining wall immediately north of the project limits. The two additional retaining walls between the three existing structures would not have a significant impact on the existing views from the Pacific Ocean.

MBGR is the least visually intrusive safety barrier and is commonly used along roadsides because of its see-through design, its ease in installation, and it being relatively inexpensive. MBGR is low enough that views of the foreground, middle ground and background are not impeded.

A solid concrete barrier would provide visual consistency between the barrier types but has less see-through qualities than approved see-through barriers such as the Type-80. A solid concrete barrier could also house the AT&T utility requiring relocation through this section of the project, removing the utility as a visual intrusion. To maintain consistency and create a less busy visual impact, a solid concrete barrier is under consideration for the south wall. The solid safety barrier under consideration for the south wall is not a see-through barrier and would impede views of the foreground and the lower half of the middle ground.

### ***Avoidance and Minimization Measures***

Incorporating the following recommendations will reduce the level of impacts to an acceptable level:

1. The safety barriers will include bicycle safety cable systems at both wall locations. The metal beam guardrail at Wall #2, at PM 82.21, would have the shine removed with acid etching or another method. A solid safety barrier is proposed at PM 82.09 for consistency with the existing viaduct barrier, and as an option to house the relocated AT&T utility.

2. If a down drain is required, color to blend into the surrounding landscape, the preferred colors are black or brown.
3. If soldier pile tieback walls are selected, color the steel I-Beams and the concrete whalers dark brown to match the color of the timber infill. If a secant pile wall (pile elements that overlap as to form an interlocking wall) is constructed, all steel I-Beams will be painted dark brown.
4. Steel I-beams and concrete whalers should match the color of the timber infill on the retaining walls as much as possible.

## **Storm Water/Water Quality**

### ***Regulatory Setting***

In 1987 the Clean Water Act was amended and added section 402(p), which directed that storm water discharges are point source discharges and established a framework for regulating municipal and industrial storm water discharges under the National Pollutant Discharge Elimination System (NPDES) permitting program. Under this framework, storm water permits are required for urban areas with populations of 100,000 or more (Phase I) – defined as municipal separate storm sewer systems (MS4s). The United States Environmental Protection Agency defined MS4s to include roads and highways that traverse and serve urban population centers.

As a result, all storm water discharges and non-storm water discharges from all Department properties, facilities, and activities are regulated under Order No. 99-06-Department Water Quality, NPDES NO. CAS000003, NPDES Permit, Statewide Storm Water Permit and Waste Discharge Requirements for the State of California, Department of Transportation (Statewide General NPDES Permit).

The Department has a revised Storm Water Management Plan (SWMP), July 2007) that includes new and revised best management practices (BMPs) categories, including:

1. Design Pollution Prevention BMPs – Preservation of existing vegetation, concentrated flow conveyance systems, slope/surface protection, etc.
2. Treatment BMPs – Infiltration and detention basins, traction sand traps, biofiltration, etc.

3. Construction Site BMPs – Temporary soil stabilization and sediment control, non-storm water management, and waste management
4. Maintenance BMPs – Litter pickup, materials handling, waste management, and street sweeping

The Construction Site BMPs Manual identifies a suite of construction BMPs that can be divided into the following categories: Soil Stabilization, Temporary Sediment Control, Wind Erosion Control, Tracking Control, Non-Storm Water Management, and Waste Management and Material Pollution Control BMPs.

### ***Regional Regulatory Setting***

The Regional Water Quality Control Board has the authority to implement water quality protection standards through the issuance of permits to protect waters of the State of California. Water Quality Objectives for the North Coast Region are specified in the Water Quality Control Plan for the North Coast Region (Basin Plan) prepared in compliance with the Federal Clean Water Act and the State Porter-Cologne Water Quality Control Act. The Basin Plan establishes water quality objectives and implementation programs to meet stated objectives and to protect the beneficial uses of both surface waters and groundwater.

The North Coast Regional Water Quality Control Board 401 Certification Application contains the following specific language (request for information):

PROPOSED STORM WATER TREATMENT MEASURES (Describe the methods proposed to treat storm water runoff from the project site prior to entering the storm drainage system, wetlands, streams, etc. Please include proper design calculations to indicate that the proposed methods will treat runoff from the 85<sup>th</sup> percentile/24-hour storm event. See Standard Urban Stormwater Mitigation Plan (SUSMP) Guidelines available at:

*<http://ci.santa-rosa.ca.us/pworks/other/SW/SRSWManualFinalDraft.pdf>,  
or upon request*

The new drainage system will be designed to manage the storm water runoff and the estimated water quality volume. The end treatment of the down drain should be designed to dissipate the erosive energy of the storm water at the outlet.

### **Affected Environment**

The project is located in the Mendocino Coast Hydrologic Unit, Rockport Hydrologic Area , Wages Creek Hydrologic Sub-Area (HSA) 113.12, and within the jurisdictional boundary of the North Coast Regional Water Quality Control Board (Regional Water Board). Based upon the project's location, the receiving waters for the project limits are listed above as Wages Creek HSA, even though all storm water from the project will discharge to the Pacific Ocean, not Wages Creek.

The project will alter a portion of the existing drainage pattern (i.e. realigning a culvert, installing a new culvert, under-drains, shoulder widening, horizontal drains, a dike to convey drainages and storm water, and retaining wall construction) in an effort to reduce bluff erosion.

### **Potential Impacts**

1. The primary constituent of concern is potential sedimentation during construction, as temporary impacts may occur due to increased erosion that could be transported into receiving waters.
2. A potential exists for spills and leaks of lubricant, oil and grease, and other fluids associated with vehicles and equipment during construction. An accidental release of these materials may pose a threat to water quality if contaminants enter the drainage system. A spill on the roadway would trigger immediate response actions to report, contain, and mitigate the incident.
3. The North Coast Regional Water Quality Control Board typically requires a storm water plan for the Section 401 Water Quality Certification for projects that result in an increase in impervious surface. The increase in the impervious surface for the proposed project is 4.3 (0.03) acres in the project area, and will generate slightly more storm water runoff than currently exists.
4. Current estimates show that the project will result in a disturbed soil area of less than one acre, and therefore will not be regulated under the California Construction General Permit.

### ***Avoidance and Minimization Measures***

The Pacific Ocean is the receiving water for this project. Waters of the State exist within the project limits; Section 401 Water Quality Certification will be required for the drainage work associated with the culvert at 82.19. Erosion concerns have been identified at the down drain outlet. The project proposes to reroute the cross culvert to a traditional drainage and use a T end treatment to dissipate the erosive energy at the down drain.

1. Construction will include all necessary erosion and water quality control practices to minimize potential for sedimentation through use of construction BMPs identified in the Caltrans Water Quality Handbook, Construction Site BMPs Manual. Caltrans approved construction BMPs applicable to this project include measures for temporary sediment control (e.g. silt fences, fiber rolls, straw bale barriers) and temporary soil stabilization (e.g. hydraulic mulching, hydro seeding, straw mulch).
2. Caltrans has contingency plans, procedures, and emergency response crews trained for incident response. These procedures designate a chain of command for notification, evacuation, response, and cleanup of spills resulting from the use and/or transport of hazardous materials.
3. To address the potential temporary water quality impacts resulting from construction activities, Standard Special Provision (SSP) 07-340 will be included as part of the Plans, Specifications, and Estimates. SSP 07-340 specifies water pollution control work and implement a Water Pollution Control Program (WPCP) during construction. SSP 07-346 addresses source control issues, Construction Site Management addresses handling procedures and BMPs for potential sources not addressed by contract line items.

## **List of Preparers**

The following Caltrans North Region staff contributed to the preparation of this Initial Study:

**Beth Thompson**, Associate Environmental Planner. Contribution: Environmental Study Coordinator and Document Writer

**Lupe Jimenez**, Senior Environmental Planner. Contribution: Environmental Branch Chief

**Erick Wulf**, Associate Environmental Planner (Archaeology). Contribution: Archaeology Screened Memo for compliance Section 106.

**Chris Fox, Amy Kennedy, and Michelle Beachley**, Associate Environmental Planners (Natural Science), and **Pamela Lindholm**, Environmental Planner (Natural Science). Contribution: Project biologists, Natural Environment Study (NES).

**Jennifer Petrik, Brenda Harwell**, Project Engineers. Contribution: Preparation of Design Plans

**Steven Blair**, Contribution: Project Manager

**Mark Melani**, Transportation Engineer. Contribution: Hazardous Waste Initial Site Assessment

**Jim Hibbert**, Landscape Architect. Contribution: Visual Impact Analysis.

**Sharon Tang**, Air/Noise Specialist Contribution: Air Quality and Noise Reports

**Alex Arevalo**, Civil Transportation Engineer. Contribution: Water Quality Analysis and NPDES Storm Water Coordinator

**Fernando Manzanera**, Hydraulics Engineer, Contribution: Floodplain Study

**Alicia Boomer**, Community Impact Analyst, Contribution: Bicycle Route information.

**Jamie Lusk**, Traffic Engineer, Contribution: Traffic Management Plan

**Eduardo Ortega**, Transportation Engineer. Contribution: Geotechnical Report

# Attachment 1

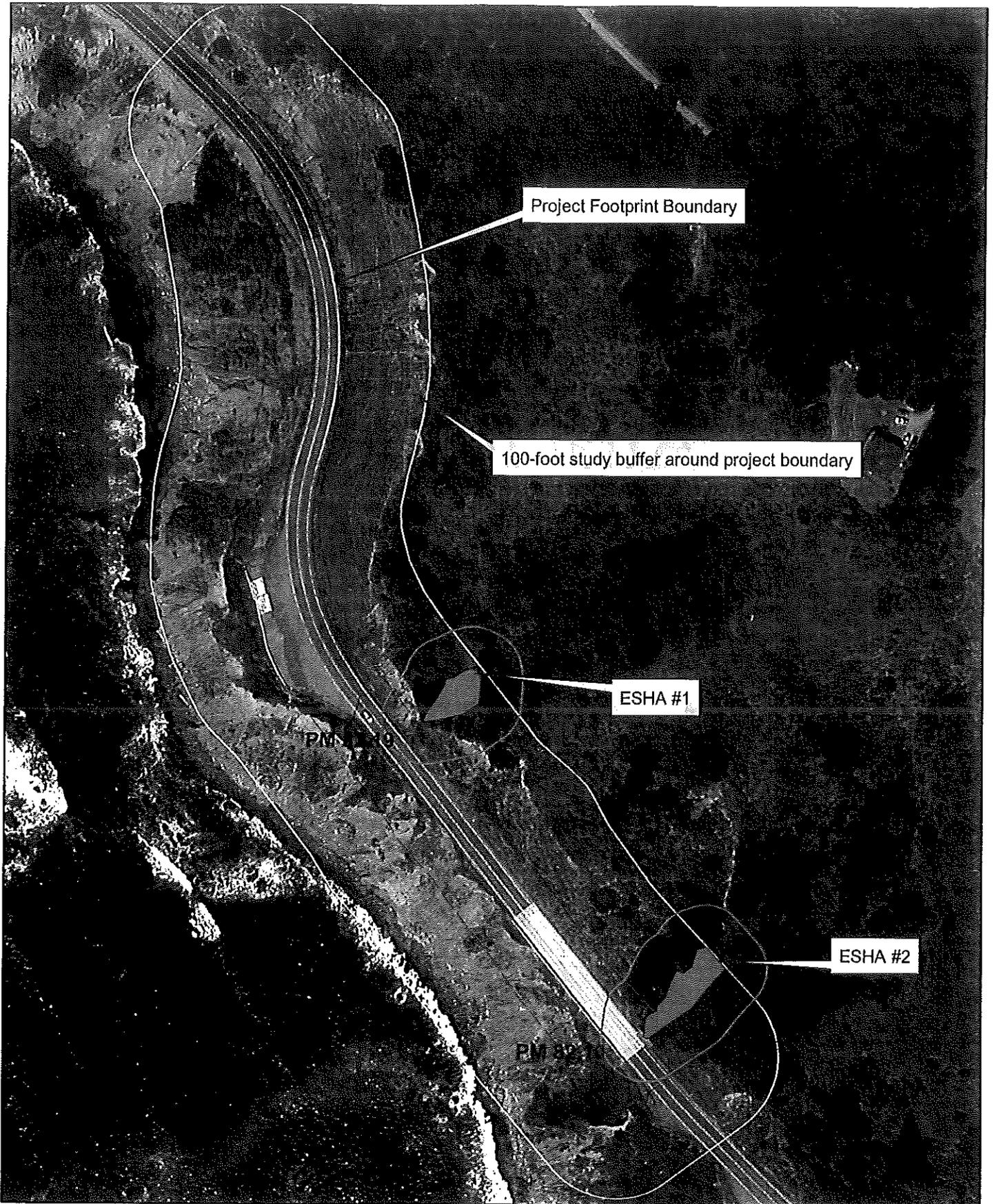
## Plant List

**Plants identified in the Union Landing  
Storm Damage Project Study Area  
EA 01-47620**

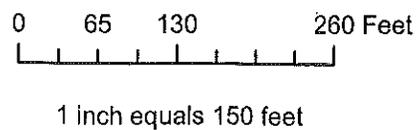
<i>Achillea millefolium</i>	Yarrow
<i>Alnus rhombifolia</i>	White alder
<i>Anagallis arvensis</i>	Pimpernel
<i>Artemisia douglasiana</i>	Mugwort
<i>Avena fatua</i>	Wild oats
<i>Baccharis pilularis</i>	Coyote brush
<i>Brassica rapa</i>	Field mustard
<i>Briza media</i>	Quaking grass
<i>Bromus diandrus</i>	Ripgut grass
<i>Castilleja wightii</i>	Paintbrush
<i>Cortaderia selloana</i>	Pampas grass
<i>Cupressus macrocarpa</i>	Monterey cypress (staging area)
<i>Dipsacus fullonum</i>	Teasel (staging area)
<i>Equisetum telmateia</i> spp. <i>braunii</i>	Giant horsetail
<i>Eriogonum latifolium</i>	Coast buckwheat
<i>Eschscholzia californica</i>	California poppy
<i>Fragaria californica</i>	Wild strawberry
<i>Galanthus nivalis</i>	Snowdrops (staging area)
<i>Gallium</i> sp.	Bedstraw
<i>Geranium dissectum</i>	Cutleaf geranium
<i>Heracleum lanatum</i>	Cow parsnip
<i>Heteromeles arbutifolia</i>	Toyon
<i>Hirschfeldia incans</i>	Mustard
<i>Iris douglasiana</i>	Douglas iris
<i>Lonicera</i> sp.	Honeysuckle
<i>Lupinus rivularis</i>	Lupine
<i>Marah fabaceus</i>	Manroot
<i>Medicago polymorpha</i>	Bur clover
<i>Mimulus aurantiacus</i>	Sticky monkeyflower
<i>Morella californica</i>	Wax myrtle
<i>Pinus muricata</i>	Bishop pine
<i>Plantago erecta</i>	English plantain
<i>Polystichum munitum</i>	Sword fern
<i>Pseudotsuga menziesii</i>	Douglas fir
<i>Pteridium aquilinum</i>	Bracken
<i>Raphanus sativus</i>	Wild radish
<i>Rubus ursinus</i>	California blackberry
<i>Rumex crispus</i>	Curly dock
<i>Salix sitchensis</i>	Sitka willow
<i>Silybum marianum</i>	Milk thistle

<i>Taeniatherum caput-medusae</i>	Medusa head
<i>Toxicodendron diversilobum</i>	Poison oak
<i>Trifolium hirtum</i>	Rose clover
<i>Vicia sativa</i>	Spring vetch

Attachment 2  
Environmentally  
Sensitive Habitat  
Area (ESHA)  
Mapping



Environmentally Sensitive Habitat Area (ESHA)  
 Mapping  
 Mendocino Co. State Route 1, PM 82.0/82.3  
 EA 01-47260  
 May 28, 2008



-  50-Foot ESHA Buffer
-  Riparian Areas
-  ESA Fence

## Appendix A Correspondence

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ARNOLD SCHWARZENEGGER  
GOVERNOR

STATE OF CALIFORNIA  
GOVERNOR'S OFFICE of PLANNING AND RESEARCH  
STATE CLEARINGHOUSE AND PLANNING UNIT



CYNTHIA BRYANT  
DIRECTOR

July 18, 2008

Beth Thompson  
California Department of Transportation, District 3  
2389 Gateway Oaks Drive, Suite 100  
Sacramento, CA 95833

Subject: Highway 1 Union Landing Viaduct Storm Damage Permanent Restoration Project  
(SCH#: 2008062061)

Dear Beth Thompson:

The State Clearinghouse submitted the above named Negative Declaration to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on July 17, 2008, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

"A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Terry Roberts  
Director, State Clearinghouse

Enclosures  
cc: Resources Agency

**Document Details Report  
State Clearinghouse Data Base**

**SCH#** 2008062061  
**Project Title** Highway 1 Union Landing Viaduct Storm Damage Permanent Restoration Project  
**Lead Agency** Caltrans #3

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**Type** Neg Negative Declaration  
**Description** The California Department of Transportation (Caltrans) is proposing a storm damage permanent restoration project on Highway 1 from postmile (PM) 82.0 to 82.3, in Mendocino County north of Westport. The project is necessary due to substantial bluff erosion caused by the 2005 and 2006 winter storms. The project work includes constructing two retaining walls at PM 82.09 and 82.21. In addition, work includes replacing metal beam guardrail, improving drainage, paving, and relocating telephone utilities. The project will have appropriate sediment control devices, aesthetic treatments, revegetate distributed areas, place erosion and water quality control protection measures, and use both state and federal funding.

---

**Lead Agency Contact**

**Name** Beth Thompson  
**Agency** California Department of Transportation, District 3  
**Phone** (916) 274-0571 **Fax**  
**email**  
**Address** 2389 Gateway Oaks Drive, Suite 100  
**City** Sacramento **State** CA **Zip** 95833

---

**Project Location**

**County** Mendocino  
**City**  
**Region**  
**Lat / Long**  
**Cross Streets**  
**Parcel No.**  
**Township**

**Range** **Section** **Base**

---

**Proximity to:**

**Highways**  
**Airports**  
**Railways**  
**Waterways** Postmile 80.55 Howard Creek, postmile 82.9 Juan Creek  
**Schools**  
**Land Use** The Westport Union Landing Beach State Park lies to the south of the project area. To the north is Juan Creek followed by Hardy Creek and timberland. To the east is considered remote residential. The project's immediate environment is composed of an area approximately 80 to 240-feet above sea level overlooking the Pacific Ocean in Mendocino County. The area has expansive views westward of the Pacific Ocean, of coastal bluffs to the north and south, and of the Coast Range, which rises above the shoreline to the east.

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**Project Issues** Aesthetic/Visual; Coastal Zone; Drainage/Absorption; Soil Erosion/Compaction/Grading; Water Quality; Wetland/Riparian

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**Reviewing Agencies** Resources Agency; California Coastal Commission; Department of Fish and Game, Region 1E; Department of Parks and Recreation; Department of Water Resources; Office of Emergency Services; California Highway Patrol; Air Resources Board, Transportation Projects; Regional Water Quality Control Board, Region 1; Native American Heritage Commission

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**Date Received** 06/17/2008 **Start of Review** 06/18/2008 **End of Review** 07/17/2008

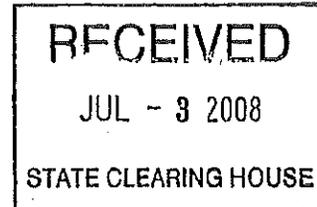
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## NATIVE AMERICAN HERITAGE COMMISSION

915 CAPITOL MALL, ROOM 364  
 SACRAMENTO, CA 95814  
 (916) 653-4082  
 (916) 657-5390 - Fax



June 23, 2008



clear  
 7-17-08  
 e

Beth Thompson  
 CA Department of Transportation D03  
 2389 Gateway Oaks Drive, Suite 100  
 Sacramento, CA 95833

RE: SCH#2008062061 Highway I Union Landing Viaduct Storm Damage Permanent Restoration Project; Mendocino County.

Dear Ms. Thompson:

The Native American Heritage Commission (NAHC) has reviewed the Notice of Completion (NOC) referenced above. The California Environmental Quality Act (CEQA) states that any project that causes a substantial adverse change in the significance of an historical resource, which includes archeological resources, is a significant effect requiring the preparation of an EIR (CEQA Guidelines 15064(b)). To comply with this provision the lead agency is required to assess whether the project will have an adverse impact on historical resources within the area of project effect (APE), and if so to mitigate that effect. To adequately assess and mitigate project-related impacts to archaeological resources, the NAHC recommends the following actions:

- ✓ Contact the appropriate regional archaeological Information Center for a record search. The record search will determine:
  - If a part or all of the area of project effect (APE) has been previously surveyed for cultural resources.
  - If any known cultural resources have already been recorded on or adjacent to the APE.
  - If the probability is low, moderate, or high that cultural resources are located in the APE.
  - If a survey is required to determine whether previously unrecorded cultural resources are present.
- ✓ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
  - The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure.
  - The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological Information Center.
- ✓ Contact the Native American Heritage Commission for:
  - A Sacred Lands File Check. USGS 7.5 minute quadrangle name, township, range and section required.
  - A list of appropriate Native American contacts for consultation concerning the project site and to assist in the mitigation measures. Native American Contacts List attached.
- ✓ Lack of surface evidence of archeological resources does not preclude their subsurface existence.
  - Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) §15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.
  - Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans.
  - Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5(e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

Sincerely,  
  
 Katy Sanchez  
 Program Analyst

CC: State Clearinghouse

## Appendix B Comments and Responses

This appendix contains the comments received during the public circulation and comment period. A Caltrans response follows each comment presented.



COUNTY OF MENDOCINO  
DEPARTMENT OF PLANNING AND BUILDING SERVICES  
790 SOUTH FRANKLIN STREET · FORT BRAGG · CALIFORNIA · 95437

RAYMOND HALL, DIRECTOR  
Telephone 707-964-5379  
FAX 707-961-2427  
www.co.mendocino.ca.us/planning

July 3, 2008

Mr. Lupe Jimenez  
Environmental Branch Chief  
North Region  
California Department of Transportation  
P. O. Box 942874  
Sacramento, CA 94274-0001

Subject: Initial Study for the Highway 1 Union Landing Viaduct Storm Damage Permanent Restoration Project -- 01-MEN-1 PM 82.0/82.3, 01-47260

Dear Mr. Jimenez:

The Mendocino County Planning Division offers the following comments regarding the proposed Negative Declaration:

1. The project is likely to require a Coastal Development Use Permit, as development appears to be proposed on the bluff face per Section 20.500.020 (B) (4) of Mendocino County Coastal Zoning Code. Please plan for approximately 6 months processing time. A reduced buffer analysis and development within a buffer analysis, per Section 20.496.020 of the Mendocino County Coastal Zoning Code will need to be completed by the biologist and submitted with the project application. Please also provide a revegetation plan (see item 4 below). 1
2. Please provide a description of the dimensions of the proposed retaining walls. 2
3. A Negative Declaration is proposed. As visual and natural resource mitigations are indicated, a Mitigated Negative Declaration may be more appropriate. 3
4. The proposed ESHA revegetation indicates a 1:1 replacement ratio. Please be aware that the Department of Fish and Game, our consulting resource agency for Coastal Act compliance, may require a replacement ratio of 2:1 or more. 4
5. For "Proposed Wall 1" to be located between the existing viaduct and existing crib wall, it is our understanding that two shoulder width options are being considered to connect the existing eight foot wide shoulder near the crib wall to the four foot wide shoulder near the viaduct. The first option is a taper, and the second option is a "dog leg" or "L-shaped" transition. Four foot paved shoulders are consistent with our Local Coastal Plan requirements. We would suggest the option the best meets safety and environmental protection goals be selected while minimizing the overall width of the roadway. 5

6. Generally, metal guard rail is preferable to the concrete barrier from a visual standpoint. However, it is our understanding that metal guard rail is not feasible at the "Proposed Wall 1" location because the embankment drops off, and there is not sufficient room to properly anchor the guard rail in places. This would result in the need for concrete barrier at least some of the length, which would show up as visually inconsistent. The County requests that Caltrans consider the visual impact of the chosen rail or barrier design to provide the most visually consistent and non view obscuring option possible throughout the project site. 6
  
7. It is our understanding that two options are being considered for the relocation of PG&E utility wires. Plan A would move the overhead lines from the west side permanently to the east side. Plan B would result in the final placement of the utility lines inside a concrete barrier and underground. Both options would result in the utility lines out of the west view. Plan B is preferable because it would not require new poles above ground installation on the east side of the highway, but both appear to be an improvement over the existing condition. 7
  
8. If the retaining walls will be visible from any public view area (the ocean is not considered a public view area for this requirement), visual buffering of wall materials and colors will be needed. 8

Sincerely,

*Teresa Spade*

Teresa Spade  
Planner II

## Responses to Comments:

Response to Comment 1: A reduced buffer analysis and developments analysis, per Section 20.496.020 of the Mendocino County Coastal Zoning Act will be completed by the biologist. A revegetation plan will also be prepared, and will be sent along with the application for a Coastal Development Use Permit.

Response to Comment 2: Design is preliminary, however the approximate configurations of the proposed retaining walls are estimated as follows: Wall #1, 220-ft long, with an area of approximately 1,200-square ft, and heights up to approximately 18 -ft; Wall #2, 120-ft long, with an area of approximately 1,400-square ft and heights up to approximately 15-ft. The retaining wall heights are not uniform.

Response to Comments 3: A Mitigated Negative Declaration will be signed on this project.

Response to Comments 4: The ESA revegetation plan 1:1 replacement ratio will be changed to a 2:1 replacement ratio.

Response to Comment 5: The design of Wall #1 includes consideration for safety, environmental protection and minimization of biological and visual impacts for determining the overall roadway width. During early coordination with Mendocino County, the proposed 8-ft shoulder tapering to 4-ft shoulder has been revised. A consistent 4-ft shoulder width is proposed throughout the project. An "L-shaped" transition between Wall #1 and the existing crib wall is currently under consideration to join Wall #1 to the existing crib wall.

Response to Comment 6: The rail types will be visually consistent. A solid barrier will be placed on Wall #1 joining and matching the solid barrier of the existing viaduct. Metal beam guardrail currently exists along the area of Wall #2. This barrier type will be perpetuated along Wall #2.

Response to Comment 7: Further coordination with AT&T is needed for completion of utility relocation design. Efforts are being taken to relocate utilities underground if possible.

Response to Comment 8: Visual treatments of the retaining wall will be part of the project plans and specifications where retaining walls are visible from public view. Visual treatments include color treating downdrains and piles. Color will be added to the concrete walers on the tie-back and secant retaining walls to blend in with the color of the timber I-beams. This color treatment will provide consistency throughout the project.

**STAFF REPORT FOR COASTAL DEVELOPMENT  
USE PERMIT**

**CDU# 1-2009 (Caltrans)  
May 21, 2009  
PC-1**

**OWNER/APPLICANT:** California Department of Transportation (Caltrans)  
District 3, Sacramento  
PO Box 942874, MS-15  
Sacramento, CA 94274-0001

**AGENT:** Beth Thompson  
Caltrans District 3, Sacramento  
PO Box 942874, MS-15  
Sacramento, CA 94274-0001

**REQUEST:** Construct two retaining walls. Replace metal beam guard rail. Replace/install two culverts. Relocate AT&T utilities. Materials removed to be placed at a temporary disposal site at PM 81.25 on the east side of the highway.

**LOCATION:** In the Coastal Zone, approximately 3 miles north of Westport, within the Highway One road corridor, at mile marker 82.0/82.3, adjacent to APN 013-820-03.

**APPEALABLE AREA:** Yes - Conditional Use, Bluff top lots

**PERMIT TYPE:** Coastal Development Use Permit

**ZONING:** Right of Way

**EXISTING USES:** State Highway 1 right of way

**ADJACENT ZONING:** Open Space

**SURROUNDING LAND USES:** Westport Union Landing

**SUPERVISORIAL DISTRICT:** 4

**CA COASTAL RECORDS PROJECT:** [image\\_200802904](#)

**OTHER RELATED APPLICATIONS:**  
Will need 401 Water Quality Certificate from the North Coast Regional Water Quality Control Board, 404 permit from Army Corps, and NPDES.

**PROJECT DESCRIPTION** as submitted by Caltrans:

The proposed project is referred to as the Union Landing Viaduct Storm Damage Permanent Restoration Project. It is located between PM 82.0 to PM 82.03 on Highway 1 in Mendocino County. The project includes constructing two retaining walls at PM 82.09 and 82.21. Wall 1 is adjacent to the existing Union Landing Viaduct (PM 82.1) and Wall 2 is approximately 300 feet north.

Caltrans, in conjunction with the Federal Highway Administration (FHWA), proposes storm damage repairs to Highway 1 as the heavy winter rains of the 2005 and 2006 winter storm season caused bluff erosion. The Union Landing Viaduct Storm Damage Permanent Restoration Project is eligible for federal emergency relief funding under the Federal Highway Administration (FHWA) Storm Damage Program for permanent restoration.

In addition to the proposed retaining walls, the scope of work also consists of replacing metal beam guardrail (MBGR), improving drainage, paving, and relocating telephone utilities.

All drainage improvements will be at the highway level with down drains extending down the bluff face 30 to 50 feet. The drainage improvements include culvert replacement at PM 82.19, which may include minor relocation of the cross culvert so it is perpendicular to the new wall, installing an underdrain on the east side of the roadway, adding and/or replacing horizontal drains, and installing a culvert at approximately PM 82.15. The proposed project will be within the existing right of way; right of way limits are approximately 80-240 feet above sea level.

This portion of Highway 1 is a utility corridor for American Telegraph & Telephone (AT&T). To accommodate construction for this project, AT&T will relocate utilities within the project footprint, but outside the Environmentally Sensitive Habitat Area. Utility relocation may be above ground, below ground, or located within a concrete barrier, and will avoid sensitive resources.

**ENVIRONMENTAL REVIEW:** The California Department of Transportation (Caltrans) is the lead agency responsible for project compliance with the California Environmental Quality Act (CEQA). Caltrans has prepared a Focused Initial Study with Proposed Mitigated Negative Declaration (MND) (located in the project file). The MND, as amended, includes mitigation measures that are recommended as a condition of approval of the project.

In reviewing the adopted Mitigated Negative Declaration, staff has no reason to challenge its conclusions and mitigations. Recommended Condition Number 1 is included to emphasize that all applicable mitigation measures specified in the Mitigated Negative Declaration are conditions of CDU 1-2009.

**LOCAL COASTAL PROGRAM CONSISTENCY REVIEW:** The Mitigated Negative Declaration prepared by the Department of Transportation describes design features and mitigation measures incorporated into the project to reduce potential impacts to a level of insignificance as required by CEQA. In addition, the project must also comply with policies in the County's Coastal Plan and regulations in the County's Coastal Zoning Code that impose specific requirements which in some cases may exceed those necessary to satisfy CEQA. The following melds the review of the CEQA analysis done with the adopted negative declaration, with the a discussion of requirements found in the County's Local Coastal Plan and Zoning Code, along with conditions recommended where necessary to achieve compliance. The following section

also addresses any comments received from agencies in response to the County's referrals. With the addition of the recommended conditions, the project is consistent with the applicable goals and policies of the Local Coastal Program as described below.

**Summary of Caltrans CEQA Mitigated Negative Declaration** - the following factors have potential for "less than significant impact" (all other factors have "no impact"):

**Aesthetics:**

- a) Substantial adverse effect on a scenic vista
- c) Substantially degrade the existing visual character or quality of the site and its surroundings

In the Mitigated Negative Declaration, Caltrans states:

Visual impacts when viewed from the highway will be low to moderate, with the most noticeable element being the metal beam guardrail (MBGR) or concrete safety barriers depending upon facility selection. As viewed from the Pacific Ocean, the proposed retaining walls and safety barriers will have the greatest visual impacts, from moderate to high.

As discussed in detail in the Visual Resources section of this report, this section of the highway has been found "eligible" for scenic highway designation on the California Scenic Highway System. Materials have been selected to be least visually impacting, and materials are to be colored to blend in.

**Biological Resources:**

- b) Substantial adverse effect on any riparian habitat or other sensitive natural community identified on local or regional plans, policies, and regulations or by the California Department of Fish and Game or US Fish and Wildlife Service
- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

As discussed in the Natural Resources section of this report, two riparian areas, associated with stormwater runoff, are in the project vicinity. No direct impacts would occur to the riparian areas resulting from the project, and temporary fencing would protect the riparian vegetation where developments would be close enough to otherwise have potential to impact the riparian vegetation. Any vegetation removed within the 50 foot buffer area to the riparian areas is to be replaced at a 2:1 ratio.

**Hydrology/Water Quality:**

- a) Violate any water quality standards or waste discharge requirements
- d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off-site

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- e) Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff

As discussed in the Grading, Erosion and Runoff section of this report, a culvert replacement and associated drainage improvements are proposed. The new culvert would extend down the bluff face and would have a T-end at the outlet to dissipate erosion causing energy of the stormwater runoff on the bluff face. The addition of 0.03 acres of impervious paving (to accommodate bicycle travel, 4 foot shoulders) will insignificantly increase stormwater runoff.

**Municipal Advisory Council:**

The Westport Municipal Advisory Council (WMAC) considered the project at their regularly scheduled meeting held February 25, 2009.

Comments submitted for WMAC by Thad Van Bueren regarding the project are as follows:

The WMAC and public support this project, which will maintain critical transportation connectivity to the north. Like other projects along the Highway 1 corridor between Usal Road and the Ten Mile River, we wish to reiterate strong local support for a project design that includes sufficient paved width west of the fog line/traveled way for safe non motorized travel for bicycles and pedestrians. That additional width should nominally be four feet wide and it would be desirable to mark it for use by bicycles.

**Land Use:**

Section 3.4-10 of the Coastal Element (reiterated in Section 20.500.020(B)(4) of the Mendocino County Coastal Zoning Code) states as follows:

*No development shall be permitted on the bluff face because of the fragility of this environment and the potential for resultant increase in bluff and beach erosion due to poorly-sited development. However, where they would substantially further the public welfare, developments such as staircase accessways to beaches or pipelines to serve coastal-dependent industry may be allowed as conditional uses, following a full environmental, geologic and engineering review and upon the determinations that no feasible less environmentally damaging alternative is available and that feasible mitigation measures have been provided to minimize all adverse environmental effects.*

The proposed project includes development on the bluff face. Specifically, construction of two retaining walls proposed on the bluff face, to protect the highway from erosion. This development would further the public welfare, and is subject to a Coastal Development Use Permit as described above.

The proposed retaining walls and associated developments would not substantially change the land use of the existing highway.

The following policies are particularly relevant to the proposed project.

Coastal Element Policy 3.8-2 states,

*Current studies indicate a need for future improvement to certain stretches of Highway 1 and to major intersections. These improvements shall be encouraged so as to accommodate essential industries vital to the economic health of the County and other priority uses under the Coastal Act.*

*The Department of Transportation shall be requested and urged as a high priority of public interest and Coastal Act purpose to:*

- 1. accelerate highway improvement projects along Highway 1 and those state maintained highway intersections within the Coastal Zone of Mendocino County.*
- 2. develop a long range comprehensive circulation plan for Mendocino County coastal state highways and tributaries consistent with Coastal Act mandates.*

*If the objectives of the Coastal Act are to be met, these goals must receive high priority at both local and state levels.*

Coastal Element Policy 3.8-5 states,

*Caltrans shall, in cooperation with the County, set priorities based on safety requirements and existing highway congestion for improving the capacity of impacted segments of Highway 1. Measures to be studied should include minor re-alignments, width and shoulder improvements, passing lanes, view turnouts and parking areas, and intersection improvements*

Coastal Element Policy 3.8-6 states,

*It shall be a goal of the Transportation Section to achieve, where possible and consistent with other objectives of The Coastal Act and plan policies for Highway 1, a road bed with a vehicle lane width of 16 feet including the shoulder to achieve a 32 foot paved roadway (12-foot vehicle lane and 4-foot paved shoulder). The minimum objective shall be a 14-foot vehicle lane width (10-foot vehicle lane and 4-foot paved shoulder). New widening projects shall be allocated, first to safety and improved capacity needs and secondly to paved shoulders.*

Coastal Element Policy 3.6-20 states,

*Paved 4 foot shoulders should be provided by Caltrans along the entire length of Highway 1 wherever construction is feasible without unacceptable environmental effects.*

The project includes construction of a four foot shoulder for the entire west side and the majority of the east side of the highway within the project limits. These improvements are intended to accommodate bicycle traffic to the extent feasible in association with this project. Therefore, the proposed project is consistent with the applicable Coastal Element policies.

Public Access

The project site is located west of Highway 1, but is not designated as a potential public access trail location on the LUP maps. Public access is not feasible in this location due to steep bluffs. The project would have no effect on public access to the coast.

Hazards

Fire Hazard - The property is in an area that has a "moderate" fire hazard severity rating as determined by the California Department of Forestry and Fire Prevention (CALFIRE). The project is exempt from CALFIRE fire safety regulations, and would not result in any increases in fire hazards.

Flood Hazard – Proposed developments would be located outside the 100 year flood zone, and would not be subject to flooding potential.

Tsunami Hazard – The project is not located in a tsunami hazard zone.

Earthquake Hazard – There are no known earthquake faults in the immediate project vicinity. The project consists of repairs to the existing highway and would not result in an increased risk from earthquakes.

Landslide Hazard – The purpose of the project is to stabilize and restore the roadway damaged from landsliding at this location. The roadway is considered at risk from bluff erosion resulting from winter storms.

Grading, Erosion and Runoff

Two retaining walls would be constructed, one culvert would be repaired or replaced, and a metal beam guard rail would be replaced. Preliminary grading is estimated at 450 cubic yards. The walls to be constructed are preliminarily estimated as follows:

Table 1. Preliminary wall parameters.

	Length	Sq. Footage	Maximum Height
Wall 1	227	1200	18
Wall 2	120	1600	20

Construction staging is proposed at: 1. the vista point parking turnout south of the project area, 2. the pullout within the project limits, and/or 3. the Caltrans maintenance storage area across from the vista point. Temporary disposal of grading materials would occur at the Caltrans maintenance storage area, which is on the east side of the highway at PM 81.25. Materials will be removed from this site by a hired contractor, who will be responsible for proper removal and disposal of the materials at an approved location outside of the Coastal Zone. No grading will occur to facilitate staging and storage as these areas are existing.

Culvert repairs/replacements include 24 inch culvert replacement at PM 82.19 and may also include: 1. a minor relocation of the cross culvert so it is perpendicular to the new wall, 2. installing an underdrain on the east side of the highway, 3. adding or replacing horizontal drains, and 4. installing a culvert at approx. PM 82.15. Down drains would extend down the bluff face

on the west side 30 to 50 feet, and a t-end treatment is proposed to dissipate erosive energy at the downdrain.

An additional four foot width will be paved where feasible to accommodate bicycle use. This addition in paving will increase impervious surfaces by approximately 0.03 acres within the 4.3 acre project area.

Potential impacts of the project include 1. potential for erosion of soils into the ocean during construction activities, 2. potential for spills and/or leaks of fluid materials including lubricants, oil, and grease from heavy equipment during construction, 3. increase in storm water runoff from increased impervious surface resulting from paving additions (four foot shoulders), and 4. erosion from drainage water at culvert outlets.

Avoidance and minimization measures are outlined in the Mitigated Negative Declaration on page 29, and include:

1. Use of a T-end treatment to dissipate erosive energy at the culvert outlet.
2. Minimization of sedimentation potential through use of Best Management Practices including temporary sediment control (silt fences, fiber rolls, straw bale barriers), and temporary soil stabilization (hydraulic mulching, hydro seeding, straw mulch).
3. Outlined spillage and leakage procedures, including training of personnel for proper notification, evacuation, response, and cleanup of hazardous materials.

As proposed, the project would result in a net decrease in erosion potential at the site. Grading is to be kept to a minimum. Stormwater runoff will slightly increase, however the addition of four foot shoulders where feasible is consistent with LCP Coastal Element Policy 3.6-20 which states:

*Paved 4 foot shoulders should be provided by Caltrans along the entire length of Highway 1 wherever construction is feasible without unacceptable environmental effects.*

The project application was referred to the County Water Agency, and Dennis Slota responded with a request to require documentation (i.e. photos) of erosion control BMPs and culvert outlet protection. Recommended Condition Number Two is included to require the documentation requested by Dennis Slota.

### Visual Resources

The project is not located in a designated "Highly Scenic Area," however this section of Highway One has been found "Eligible" for scenic highway designation on the California Scenic Highway System.

Coastal Plan Policy 3.5-1 (Code Section 20.504.015) requires that State Highway 1 shall remain a scenic two-lane road; that scenic qualities be protected, and that any new development be compatible with the surrounding area, and subordinate to the character of its setting.

The County's Coastal Plan does allow for minor realignments, width and shoulder improvements, view turnouts and parking areas.

The project includes the construction of two retaining walls, culvert repair/replacement, replacement of metal beam guard rail, and re-routing of existing overhead AT&T lines. There is an existing viaduct in the project vicinity, as well as several existing retaining walls.

The wall type to be used has not been selected, however it is to be either a soldier tieback or secant pile wall type. If the soldier tieback wall type is selected, Caltrans proposes to color the steel I-Beams and concrete walers dark brown to match the timber infill. If a secant pile type is selected, all steel I-Beams are to be painted dark brown. The tops of the retaining walls, at the roadway elevation, would be capped with concrete.

AT&T overhead utility lines are to be relocated underground within the project area limits.

Both retaining walls would include safety barriers at the edge of the retaining wall. Metal beam guard rail is proposed at Wall #2. Metal beam guard rail a rail type similar to other highway structures common along the coastline where the highway traverses steep terrain. The shine would be removed with acid etching or another method. Metal beam guard rail is considered to be most visually appropriate because of its see-through design. A bicycle barrier would be attached to the metal beam guard rail at this location. Due to existing constraints, a bicycle barrier is not feasible at Wall #1. A solid concrete barrier is being considered at Wall #1 instead of the metal beam guard rail. This would tie in visually with the existing viaduct, and would allow for housing of the relocated AT&T utility lines.

The culvert down drain would also be colored to match the surrounding landscape, with preferred colors noted as black and brown.

With the proposed measures as outlined above, the project is not expected to result in significant impacts to visual resources.

### Natural Resources

The project area is the highway situated between a sparsely vegetated steep hillside and the bluff face. Two culverts underneath the highway convey stormwater runoff to the ocean. Botanical surveys were conducted by Caltrans staff and include an area of 100 feet surrounding the project area.

The County of Mendocino Coastal Element describes an Environmentally Sensitive Habitat Area (ESHA) as follows:

*Any areas in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.*

Two Environmentally Sensitive Habitat Areas, consisting of limited riparian vegetation around stormwater runoff areas, were found within the project vicinity. The ESHAs are described in the Caltrans Natural Environment Study and Mitigated Negative Declaration as follows:

#### **ESHA #1**

Description: this is the northernmost of the two ESHAs, and it consists of a vegetated area starting about 21 feet uphill from a culverted drainage at PM 82.19. The total area within the study limits for ESHA #1 is 2528 square feet. This ESHA has been identified due to the presence of

riparian vegetation: the dominant plant species in ESHA #1 are willow (*Salix stichensis*), and coyote bush (*Baccharis pilularis*).

Buffer: Various construction activities would occur within 50-feet of ESHA #1 under the proposed project. Construction of the retaining walls, replacement of a 24-inch culvert, and road construction activities including paving and striping will occur within 50 feet of the ESHA.

Potential Impacts: Work at the culvert inlet will be the closest work to the ESHA. However, as the ESHA is 21 feet uphill from the culvert, there should be no impacts.

#### ESHA #2

Description: this is also a riparian area surrounding the drainage immediately uphill from the culvert located at PM 82.10. The total area within the study limits for ESHA #2 is 3,933 square feet. This ESHA has been identified due to the presence of riparian vegetation; the dominant plant species in ESHA #2 are willow (*Salix stichensis*), bishop pine (*Pinus muricata*) and coyote bush (*Baccharis pilularis*).

Buffer: No construction activities would occur within 50 feet of ESHA #2 under the proposal. The original project proposal considered replacing the culvert at PM 82.10, but subsequent inspections found that this was a relatively new culvert. Most construction work will take place from north of the viaduct, which is over 200 feet from this location. Utility relocation may occur within 50-feet of ESHA #2 under the current proposal. Twenty feet of Environmentally Sensitive Area (ESA) fencing will be placed along the highway at the base of the slope to prevent any equipment from entering ESHA #2. The distance between ESHA #2 and temporary or permanent construction features may be 3 feet or less. Any potential disturbed areas will be replanted with native species at a minimum ratio of 2:1.

Chapter 20.496 and Section 20.532.060, et. seq. of the MCCZC contain specific requirements for protection of ESHAs and development within the buffer area of an ESHA. A sufficient buffer area is required to be established and maintained to protect ESHAs from disturbances related to proposed development. Section 20.496.020(A)(1) of the MCCZC states:

*The width of the buffer area shall be a minimum of one hundred (100) feet, unless an applicant can demonstrate, after consultation and agreement with the California Department of Fish and Game, and County Planning staff, that one hundred (100) feet is not necessary to protect the resources of that particular habitat area from possible significant disruption caused by the proposed development. The buffer area shall be measured from the outside edge of the Environmentally Sensitive Habitat Areas and shall not be less than fifty (50) feet in width.*

Caltrans staff has conducted the required reduced buffer analysis to determine the appropriate width of the buffer area, which was set at the minimum allowed 50 feet. Caltrans contacted Rick Macedo of the Department of Fish and Game, who commented on April 16, 2008, that the project would not come under the jurisdiction of the Department of Fish and Game. Planning staff additionally visited the site with Rick Macedo, and are in agreement that as mitigated, the reduction of the buffer would not result in detrimental impacts to the resource areas. The reduced buffer analysis is included as Appendix A.

Components of the project are to occur within the minimum 50 foot buffer area, but no direct impacts would occur to the ESHAs. Section 20.496.020(A)(1) of the Mendocino County Coastal Zoning Code states in part:

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*Developments permitted within a buffer area shall generally be the same as those uses permitted in the adjacent Environmentally Sensitive Habitat Area.*

Proposed developments within the buffer include culvert replacement, utility relocation, retaining wall construction, and road construction activities. Requirements for development within a riparian buffer area are outlined in Section 20.496.035 as follows:

*(A) No development or activity which could degrade the riparian area or diminish its value as a natural resource shall be permitted in the riparian corridor or in any area of riparian vegetation except for the following:*

*(1) Channelizations, dams or other alterations of rivers and streams as permitted in Section 20.496.030(C);*

*(2) Pipelines, utility lines and road and trail crossings when no less environmentally damaging alternative route is feasible;*

*(3) Existing agricultural operations;*

*(4) Removal of trees for disease control, public safety purposes or personal use for firewood by property owner.*

*(B) Requirements for development in riparian habitat areas are as follows:*

*(1) The development shall not significantly disrupt the habitat area and shall minimize potential development impacts or changes to natural stream flow such as increased runoff, sedimentation, biochemical degradation, increased stream temperatures and loss of shade created by development;*

*(2) No other feasible, less environmentally sensitive alternative exists;*

*(3) Mitigation measures have been incorporated into the project to minimize adverse impacts upon the habitat;*

*(4) Where development activities caused the disruption or removal of riparian vegetation, replanting with appropriate native plants shall be required at a minimum ratio of one to one (1:1) and replaced if the survival rate is less than seventy-five (75) percent.*

Utility and road crossings are allowable in riparian areas where no less damaging route is available. The proposed development is generally the same, and not less damaging alternative is available. The project also meets the requirements outlined for development in an ESHA in 20.496.035(B)(1-4) in that the development will not result in significant impacts to the buffer area, impacts such as sedimentation are minimized, no other less impacting alternative exists, mitigation measures are proposed to reduce impacts, and any vegetation removal in the buffer is to be replaced at a 2:1 ratio.

In addition to replanting and placement of temporary protective fencing as outlined above, Caltrans indicates in the Mitigated Negative Declaration (page 21) that they propose to treat all disturbed bare soil with erosion control, utilize equipment with appropriate mufflers, and utilize dust control when necessary. In the Natural Environment Study, Caltrans indicates (page 8) that weed-free erosion applications will be used, including certified weed-free straw, weed-free mulches and hydroseed, and native, weed free revegetation seed mix. Special Condition

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Number One is included to ensure that the conditions outlined in the Mitigated Negative Declaration and Natural Environment Study are required conditions of the Use Permit.

The project is in conformance with natural resources protection policies of the LCP, and would not result in significant impacts to natural resources.

**Archaeological/Cultural Resources**

Field surveys were conducted on January 25 and May 14, 2007, by Erick Wulf, Caltrans Archaeologist. No resources of significance were encountered. The mitigated negative declaration indicates that no impact would occur to cultural resources, and that the no impact determination is based on the amended Historic Resource Memo, updated February 2008. The project was not referred to Sonoma State University because of the low possibility for archaeological or cultural resources of concern - the project would occur on the eroding bluff face and within the developed highway corridor. Recommended Condition Number 9 is included, advising the applicant of the requirements of the County's Archaeological Ordinance (Chapter 22.12 of the Mendocino County Code) in the event that archaeological or cultural materials are unearthed during site preparation or construction activities.

**Groundwater Resources**

The site is located within an area designated as a Critical Water Resources area (CWR) as shown in the 1982 Coastal Groundwater Study prepared by the Department of Water Resources. The project does not propose aspects that would have potential to impact groundwater resources. The Division of Environmental Health was sent a referral, and did not submit any comments.

**Transportation/Circulation**

The project would result in temporary impacts to transportation and circulation. The project is expected to occur over the course of two construction seasons, and would require a signalized, one-way traffic control system during the majority of construction activities.

The project would accommodate bicycle traffic during construction, and four foot wide shoulders would be constructed within the project limits to accommodate long term bicycle traffic in this section of the highway.

The project would not result in any increase in automobile traffic lanes.

**Zoning Requirements**

The project complies with the zoning requirements for the Range Lands District set forth in Chapter 20.368, and with all other zoning requirements of Division II of Title 20 of the Mendocino County Code.

RECOMMENDED MOTION:

**General Plan Consistency Finding:** As discussed under pertinent sections of this report, the proposed project is consistent with applicable goals and policies of the General Plan as subject to the conditions being recommended by staff.

**Environmental Findings:** The Planning Commission notes that the California Department of Transportation is the lead agency under the California Environmental Quality Act, and that Caltrans has prepared a mitigated negative declaration for the project, and therefore the Planning Commission is not required to make an environmental determination; however the Planning Commission certifies that the information contained in the Final Mitigated Negative Declaration prepared by Caltrans was reviewed and considered prior to acting on this application.

**Coastal Development Use Permit Findings:** The Planning Commission finds that the application and supporting documents and exhibits contain information and conditions sufficient to establish, as required by Section 20.532.095 of the Coastal Zoning Code, that:

1. The proposed development is in conformity with the certified local coastal program; and
2. The proposed development will be provided with adequate utilities, access roads, drainage and other necessary facilities; and
3. The proposed development is consistent with the purpose and intent of the zoning district applicable to the property, as well as the provisions of the Coastal Zoning Code, and preserves the integrity of the zoning district; and
4. The proposed development will not have any significant adverse impacts on the environment within the meaning of the California Environmental Quality Act.
5. The proposed development will not have any adverse impacts on any known archaeological or paleontological resource.
6. Other public services, including but not limited to, solid waste and public roadway capacity have been considered and are adequate to serve the proposed development.
7. The proposed development is in conformity with the public access and public recreation policies of Chapter 3 of the California Coastal Act and Coastal Element of the General Plan.

RECOMMENDED CONDITIONS:

- \*\*
1. The proposed project shall comply with all of the applicable mitigation measures contained in the *Final Initial Study and Mitigated Negative Declaration*, prepared by the State of California Department of Transportation, November

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2008, and Natural Environment Study, prepared by Caltrans, dated June 2008 (located in the project file).

2. As soon as feasible, Caltrans shall provide documentation to the County Water Agency and Planning and Building Services of the installation of erosion control BMPs and culvert outlet protection.
3. This permit is subject to the securing of all necessary permits for the proposed development and eventual use from County, State and Federal agencies having jurisdiction. Any requirements imposed by an agency having jurisdiction shall be considered a condition of this permit.
5. This permit shall become effective after all applicable appeal periods have expired, or appeal processes have been exhausted, and after any fees required or authorized by Section 711.4 of the Fish and Game Code are submitted to the Department of Planning and Building Services. Failure of the applicant to make use of this permit within 2 years or failure to comply with payment of any fees within specified time periods shall result in the automatic expiration of this permit.

To remain valid, progress towards completion of the project must be continuous. The applicant has sole responsibility for renewing this application before the expiration date, June 21, 2009. The County will not provide a notice prior to the expiration date.

6. The application, along with supplemental exhibits and related material, shall be considered elements of this permit, and that compliance therewith is mandatory, unless an amendment has been approved by the Planning Commission.
7. This permit shall be subject to revocation or modification upon a finding of any one or more of the following:
  - a. The permit was obtained or extended by fraud.
  - b. One or more of the conditions upon which the permit was granted have been violated.
  - c. The use for which the permit was granted is conducted so as to be detrimental to the public health, welfare or safety, or to be a nuisance.
  - d. A final judgment of a court of competent jurisdiction has declared one or more conditions to be void or ineffective, or has enjoined or otherwise prohibited the enforcement or operation of one or more such conditions.

Any revocation shall proceed as specified in Title 20 of the Mendocino County Code.

8. This permit is issued without a legal determination having been made upon the number, size or shape of parcels encompassed within the permit described boundaries. Should, at any time, a legal determination be made that the number,

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size or shape of parcels within the permit described boundaries are different than that which is legally required by this permit, this permit shall become null and void.

9. If any archaeological sites or artifacts are discovered during site excavation or construction activities, the applicant shall cease and desist from all further excavation and disturbances within one hundred feet of the discovery, and make notification of the discovery to the Director of the Department of Planning and Building Services. The Director will coordinate further actions for the protection of the archaeological resources in accordance with Section 22.12.090 of the Mendocino County Code.

Staff Report Prepared By:

April 16, 2009

Date

Original Signed

Teresa Spade  
Planner II

Attachments: Exhibit A Location Map  
Exhibit B Zoning Display Map  
Exhibit C Land Use Map  
Exhibit D 100 Year Flood and Wave Action Map  
Exhibit E California Natural Diversity Database Map  
Exhibit F Project Area Map  
Exhibit G ESHA Map

Appendix A Reduced Buffer Analysis

Appeal Period: Ten calendar days for the Mendocino County Board of Supervisors, followed by ten working days for the California Coastal Commission following the Commission's receipt of the Notice of Final Action from the County.

Appeal Fee: \$945 (For an appeal to the Mendocino County Board of Supervisors)

**SUMMARY OF REFERRAL AGENCY COMMENTS:**

Planning – Ukiah	No comment.
Department of Transportation	No comment.
Environmental Health – Fort Bragg	No response.
Building Inspection – Fort Bragg	No comment.
Assessor	No response.
Coastal Commission	No response.
Department of Fish and Game	No response.
RWQCB	No response.
Army Corps of Engineers	No response.
Westport MAC	WMAC supports project.

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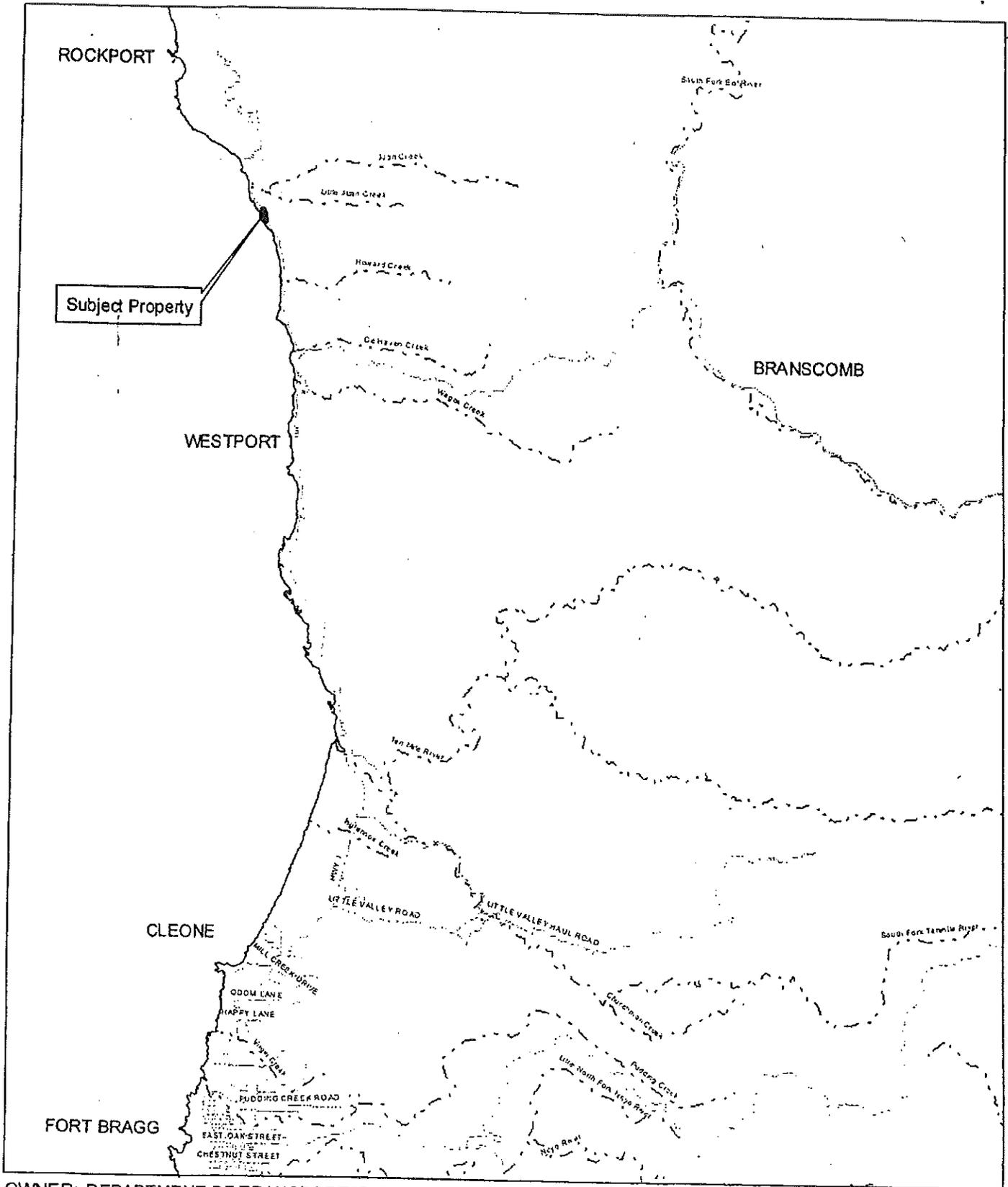
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County Water Agency

Project looks ok, please require  
documentation (i.e. photos) of erosion control BMPs and  
culvert outlet protection.

Dept of Parks and Recreation  
US Fish and Wildlife Service

No response.  
No response.

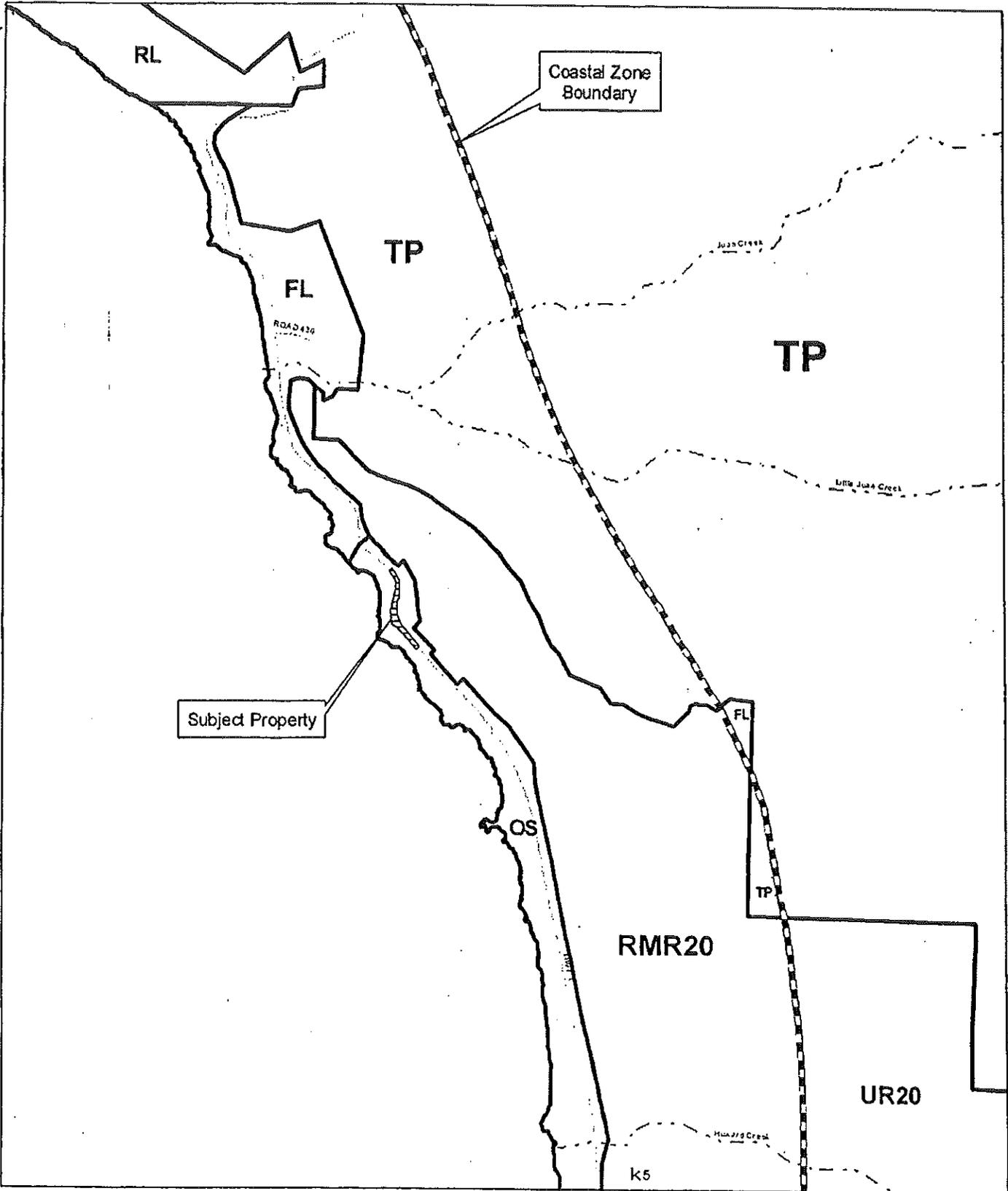


OWNER: DEPARTMENT OF TRANSPORTATION  
 AGENT: THOMPSON, Beth  
 CASE #: CDU 1-2009  
 APNs: Within the Highway Right of Way

LOCATION MAP

Parcel lines are approximate. Parcel lines on this map are NOT SURVEY LINES, they are for viewing purposes only and should not be used to determine legal boundary lines. Parcel line can be over 200 feet off. (Parcel lines are as of September 2007)





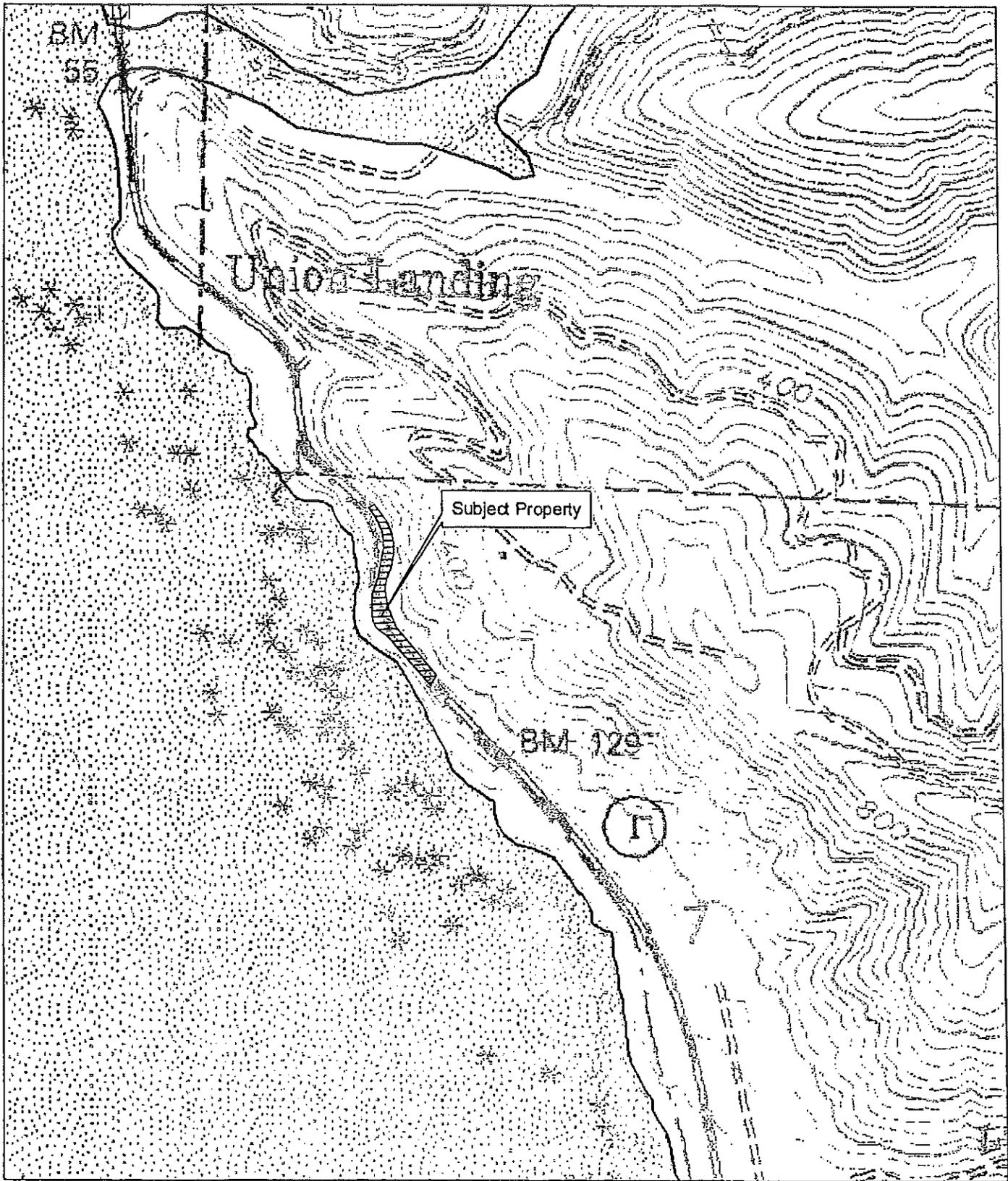
OWNER: DEPARTMENT OF TRANSPORTATION  
 AGENT: THOMPSON, Beth  
 CASE #: CDU 1-2009  
 APNs: Within the Highway Right of Way

ZONING DISPLAY MAP

Parcel lines are approximate. Parcel lines on this map are NOT SURVEY LINES, they are for viewing purposes only and should not be used to determine legal boundary lines. Parcel line can be over 200 feet off. (Parcel lines are as of September 2007)





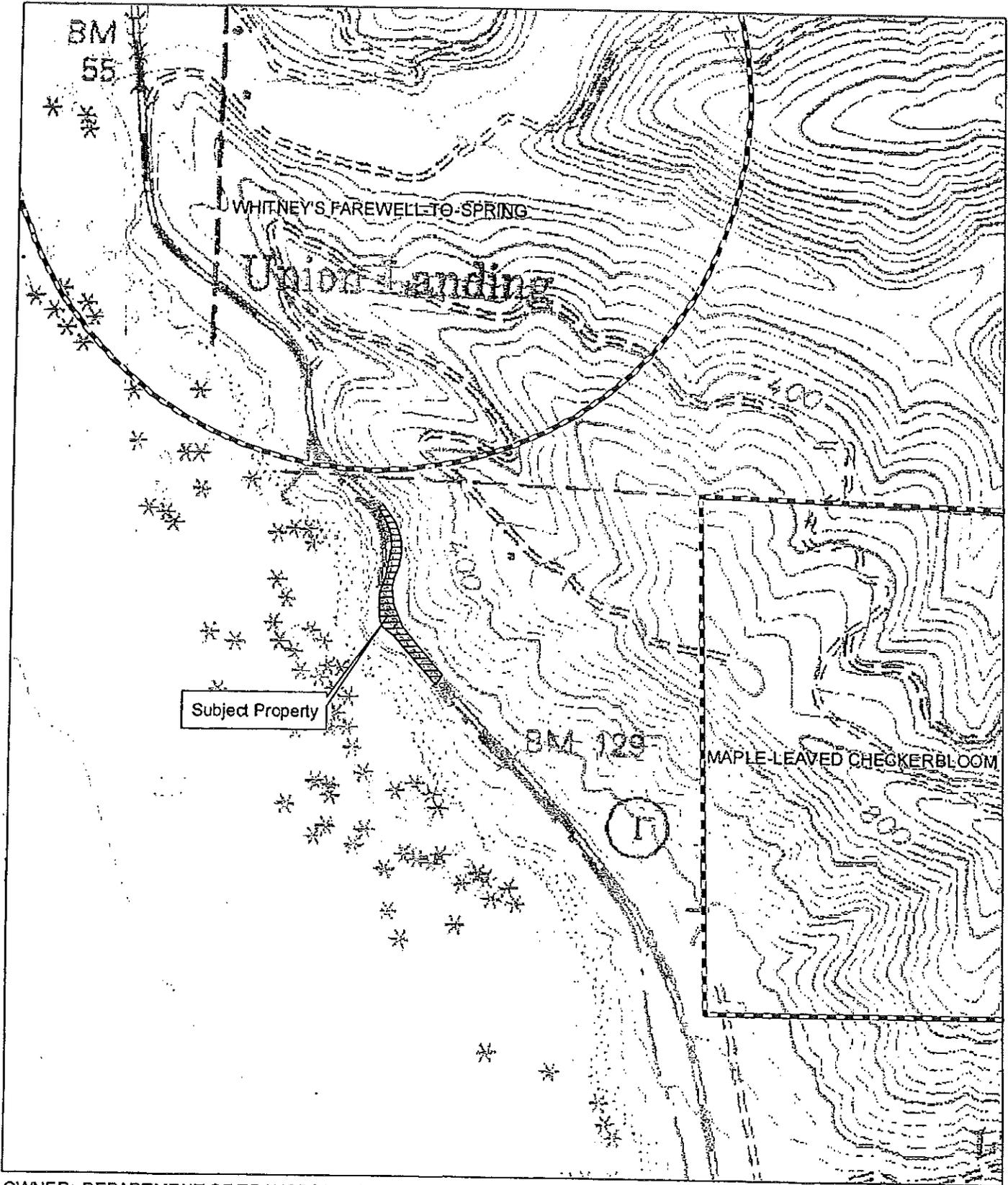


OWNER: DEPARTMENT OF TRANSPORTATION  
 AGENT: THOMPSON, Beth  
 CASE #: CDU 1-2009  
 APNs: Within the Highway Right of Way

 100 YEAR FLOOD ZONE and  
 COASTAL FLOOD VELOCITY (WAVE ACTION)

Parcel lines are approximate. Parcel lines on this map are NOT SURVEY LINES, they are for viewing purposes only and should not be used to determine legal boundary lines. Parcel line can be over 200 feet off. (Parcel lines are as of September 2007)





OWNER: DEPARTMENT OF TRANSPORTATION  
 AGENT: THOMPSON, Beth  
 CASE #: CDU 1-2009  
 APNs: Within the Highway Right of Way

**CALIFORNIA NATURAL DIVERSITY  
 DATABASE RAREFIND** (January 2009)

Parcel lines are approximate. Parcel lines on this map are NOT SURVEY LINES, they are for viewing purposes only and should not be used to determine legal boundary lines. Parcel line can be over 200 feet off. (Parcel lines are as of September 2007)





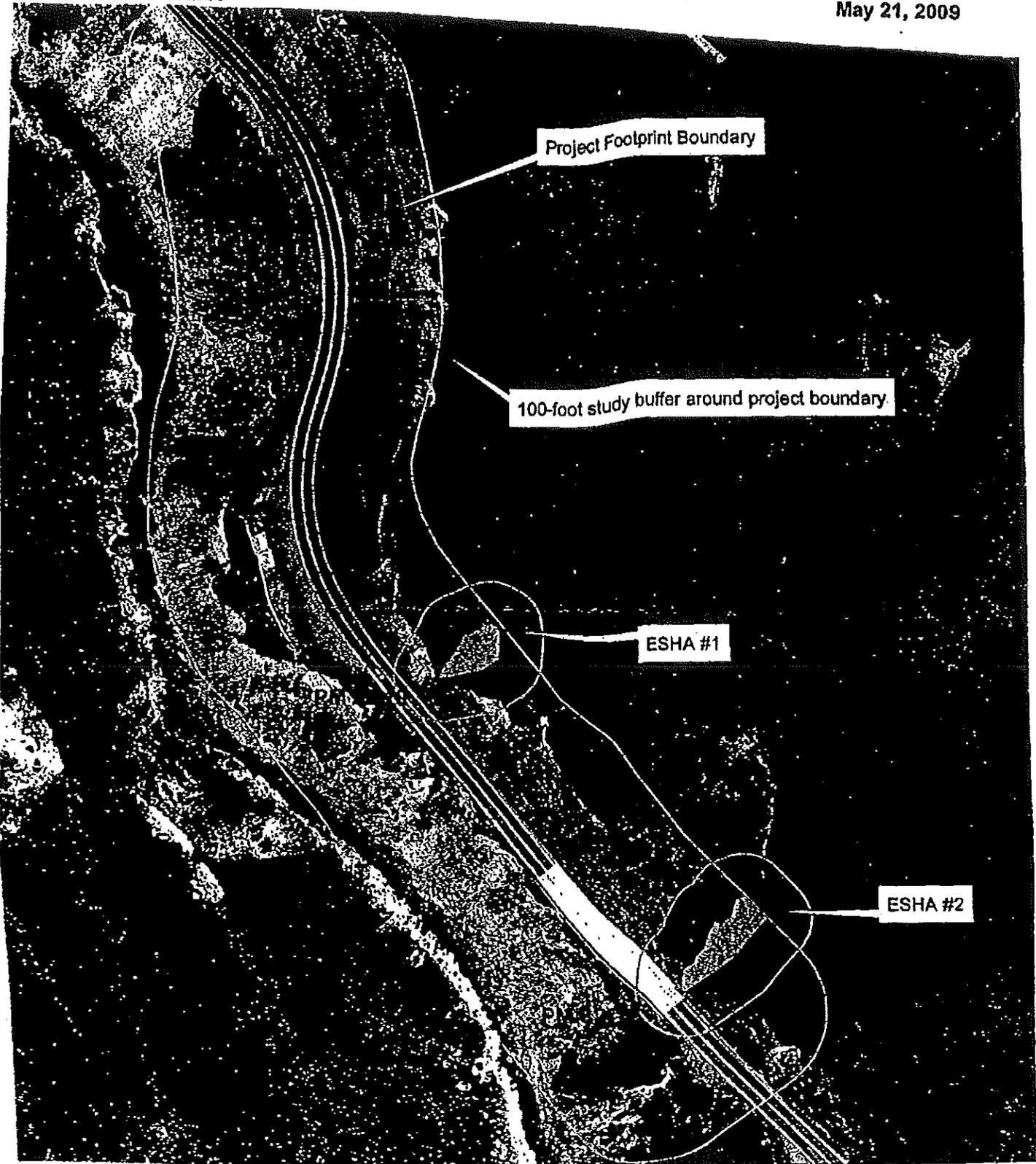


EXHIBIT G

ESHA MAP  
NO SCALE



## Appendix A

**BOTANICAL/ESHA ASSESSMENT AND  
REDUCED BUFFER ANALYSIS  
FOR THE ROUTE 1 UNION LANDING STORM DAMAGE REPAIR PROJECT  
POST MILE 82.0/82.3  
IN MENDOCINO COUNTY  
EA 01-47260**

June 2008

Contact Information:

Chris Fox, Project Biologist (530) 741-6038  
Beth Thompson, Environmental Coordinator (916) 275-0571  
Lupe Jimenez, Environmental Branch Chief (916) 275-0557

**Purpose**

This botanical and Environmentally Sensitive Habitat Area (ESHA) survey was conducted as a condition of the Mendocino County Coastal Zoning code to construct within the Coastal Zone in Mendocino County. The purpose of the study was to describe the existing vegetation communities, survey for special-status plant species and wetlands, and recommend appropriate mitigation measures to reduce the impacts to wetland-, riparian-, and rare plant-buffers, which are considered Environmentally Sensitive Habitat Areas under the Mendocino County General Plan, Coastal Element (Mendocino County, 1991).

The descriptions, quantities, areas, and conclusions included in this report reflect the most current information related to this proposed project.

The conclusions regarding ESHAs contained within this report are based upon field observations made by qualified biologists on January 25 and May 14, 2007 (Michelle Beachley and Pamela Lindholm), January 31, 2008 (Pamela Lindholm), and March 12 and April 16, 2008 (Chris Fox and Encanta Engleby).

**Project Site Description**

The proposed project is located along Highway 1 in Mendocino County, approximately 3 miles north of the town of Westport in Township 21 North, Range 17 West, Section 7 at highway post mile (PM) 82.0/82.3. The majority of the proposed work would take place from the highway, with traffic control to restrict traffic to one lane.

Botanical studies were done within the area extending 100-feet around the project footprint to satisfy the conditions of the Coastal Element of the Mendocino County General Plan. Due to the steepness of the location, not all the 100-foot buffer area was covered on foot. Plants that could not be reached were assumed to be the same species as identical looking plants nearby.

Two areas are located within the 100-foot study buffer of the project boundary. These 2 areas meet the definition of ESHAs as detailed in the Coastal Element of the Mendocino County General Plan (see Mendocino County Code chapters 20.496 & 20.532). Both are considered "riparian areas". ESHA mapping is referenced in Attachment 1. Photographs are provided in Attachment 2.

Along the immediate east side of the highway, the terrain slopes upward at a steep gradient, and vegetative cover consists mostly of grasses. Further up the slope is coastal scrub dominated by

## ESHA ASSESSMENT/REDUCED BUFFER ANALYSIS

MEN-01 PM 82.0182.3 EA 01-47260

Page 2 of 14

coyote bush. The vegetation along the west shoulder of the highway is mostly comprised of various native and non-native grasses and forbs. The project vicinity is of relatively low biological value as it is dominated by invasive species. West of the right of way, the terrain is mostly unvegetated and slopes steeply toward the beach. A list of plants identified at the project site is referenced in Attachment 3.

Two areas within the project limits meet the definition of ESHAs as detailed in the Coastal Element of the Mendocino County General Plan (see Mendocino County Code sections 20.496 & 20.532.060). Both are considered "riparian areas". Mapping, photographs, and a detailed discussion of these ESHAs and the potential impacts to them will follow in this report.

The proposed staging areas are south of the project site at PM R81.1/R81.3. The vista point area is entirely paved, and fenced. The Caltrans maintenance area across the highway is on packed soil, considerably disturbed, and contains piles of gravel, dirt, and debris, with non-native weedy species. Outside both areas, the species are similar to those found at the project site. No ESHAs occur within 100 feet of either staging area.

### **Construction**

The project consists of work at two locations, and includes constructing two retaining walls. Location 1 is adjacent to the north end of the existing Union Landing Viaduct and location 2 is approximately 300 feet north.

In addition to the proposed retaining walls, the scope of work also consists of replacing metal beam guardrail (MBGR), improving drainage, rebuilding the structural section, and relocating telephone utilities. Utility relocation may include a permanent relocation to the east of the highway within the Caltrans right of way or a temporary relocation to the east of the highway and a permanent relocation to the west of the highway within the Caltrans right of way. Utilities relocation may be above or below ground.

All drainage improvements will be at the highway level with down drains extending down 30 to 50 feet. The drainage improvements include culvert replacement at PM 82.19 which may include minor relocation, installing an underdrain on the east side of the roadway, adding and/or replacing horizontal drains, and installing a new culvert at approximately PM 82.15.

According to the Mendocino County LCP Chapter 20.496, highway activities can be allowed within ESHA buffers when avoidance is not feasible and when maintaining and improving Highway 1 along its existing alignment presents the least impacts.

### **ESHAs, Buffers, and Potential Impacts**

Within the Mendocino County LCP, Chapter 20.496 of the coastal zoning code includes policies that apply to ESHAs. Buffer areas are described and defined in Section 20.496.020 as an area that shall be established adjacent to all environmentally sensitive habitat areas. The purpose of a buffer area shall be to provide for a sufficient area to protect the environmentally sensitive habitat from

significant degradation resulting from future developments. The width of the buffer area shall be a minimum of 100-feet, unless an applicant can demonstrate, after consultation and agreement with the California Department of Fish and Game (if applicable), and County Planning Staff, that 100-feet is not necessary to protect the resources of that particular habitat area and the adjacent upland transitional habitat function of the buffer from possible significant disruption caused by the proposed development. The buffer area shall be measured from the outside edge of the environmentally sensitive habitat areas and shall not be less than 50-feet in width. This section describes a variety of standards for determining the allowable width of the buffer area, including standards for development permitted within the buffer area. Mendocino County Code Section 20.496.025(7) further specifies development that is allowed in wetlands, including incidental public service purposes

The project was discussed with Rick Macedo of California Department of Fish and Game (CDFG) on April 16, 2008. He did not visit the site, but after viewing a number of site photographs, he decided that the waters in the project area did not come under jurisdiction of the CDFG. As we have no DFG jurisdictional issues in the project I did not consult with them about the buffer size.

Rick Miller, of the County Planning Staff was consulted about the buffer size on May 21, 2008. He agreed that we could reduce the ESHA buffers on this project to 50 feet (the minimum).

As noted previously, there are two areas within the project limits that meet the County's definition of an Environmentally Sensitive Habitat Area or ESHA. Both are considered "Riparian Areas".

#### ESHA #1

Description: this is the northernmost of the two ESHAs, and it consists of a vegetated area starting about 21 feet uphill from a culverted drainage at PM 82.19. The total area within the study limits for ESHA #1 is 2528 square feet. This ESHA has been identified due to the presence of riparian vegetation; the dominant plant species in ESHA #1 are willow (*Salix sitchensis*), and coyote bush (*Baccharis pilularis*).

Buffer: Various construction activities would occur within 50-feet of ESHA #1 under the proposed project. Construction of the retaining walls, replacement of a 24-inch culvert, and road construction activities including paving and striping will occur within 50 feet of the ESHA.

Potential Impacts: Work at the culvert inlet will be the closest work to the ESHA. However, as the ESHA is 21 feet uphill from the culvert, there should be no impacts.

#### ESHA #2

Description: this ESHA also is a riparian area surrounding the drainage immediately uphill from the culvert located at PM 82.10. The total area within the study limits for ESHA #2 is 3,933 square feet. This ESHA has been identified due to the presence of riparian vegetation; the dominant plant species in ESHA #2 are willow (*Salix sitchensis*), bishop pine (*Pinus muricata*) and coyote bush (*Baccharis pilularis*).

**Buffer:** No construction activities would occur within 50-feet of ESHA #2 under the proposal. The original project proposal considered replacing the culvert at PM 82.10, but subsequent inspections found that this was a relatively new culvert. Most construction work will take place from north of the viaduct, which is over 200 feet from this location. Utility relocation may occur within 50-feet of ESHA #2 under the current proposal. Twenty-feet of Environmentally Sensitive Area (ESA) fencing will be placed along the highway at the base of the slope to prevent any equipment from entering the ESHA #2.

**Potential Impacts:** Utility relocation may occur within 50-feet of ESHA #2 under the current proposal. Twenty-feet of Environmentally Sensitive Area (ESA) fencing will be placed along the highway at the base of the slope to prevent any equipment from entering the ESHA #2. Any potential disturbed areas will be replanted with native species at a minimum ratio of 1:1.

### **REDUCED BUFFER ANALYSIS**

The following information is a reduced buffer analysis as required by and outlined in Section 20.496.020 (a) through (k) of the Mendocino County Coastal Zoning Code.

#### **Development Criteria**

(A) **Buffer Areas:** As required by this section of code, a buffer area is hereby being established in conjunction with the two onsite ESHAs.

(1) **Width:** Based on the following criteria, staff has determined that the buffer width east of the Highway shall be 50 feet. West of the highway is the bluff face. Per section 20.496.020(A)(1)(d) below, the entire bluff face shall be included in the buffer area.

**Biological Significance of Adjacent Lands:** The project vicinity is of relatively low biological value as it is dominated by invasive species. Development already exists in the ESHA buffers due to the highway, its associated structures and its drainage system. All drainages within the project vicinity appear to originate in the hills east of the project site, beyond the mapped and surveyed area, and are not biologically isolated from the project area.

**Sensitivity of Species to Disturbance:** The project area does not support any known sensitive plant or animal species of concern, based upon record searches and field surveys by qualified biologists. Species located within the area are common species adapted to human disturbance. Avian species present are highly adaptable to human disturbance. The continued use of the project area by common species is expected to continue after the project is completed and all mitigation measures are in place. Highway development and related ground disturbance have a lengthy history at this location, and activities associated with the proposed development would not substantially change the future use of this area by common species.

(a) **Susceptibility of Parcel to Erosion:** The proposed project is located along the coastal bluffs north of Westport, making the parcel highly susceptible to erosion. In addition, the project area is within a "landslide complex" that is the main justification for replacement of

the failed highway facilities.

- (b) **Use of Natural Topographic Features to Locate Development:** The use of topographic features to buffer the proposed development is not an option, as the project involves replacing existing highway facilities on the existing alignment. Mendocino County code specifically states that "bluff faces shall be included in the buffer zone", so all portions of the project area located on the bluff face shall be considered buffer zone area or ESHA.
- (c) **Use of Existing Cultural Features to Locate Buffer Zones:** The use of existing cultural or man-made features to locate buffer zones is not an option. The proposed development consists of the replacement of existing highway facilities on the existing roadway alignment.
- (d) **Lot Configuration and Location of Existing Development:** The project is located in a rural area that is free of housing development. The project vicinity itself is heavily developed with highway facilities, including three drainage culverts, two separate sections of guardrail, an existing viaduct, and the highway itself. Since the surrounding area is largely undeveloped, according to County policy the widest and most protective buffer zone is required.
- (e) **Type and Scale of Development Proposed:** The proposed project consists of highway repairs including replacement of a failed bluff retaining wall and temporary road widening for access during construction. The project is expected to take at least two years to complete. While there will be substantial temporary impacts to ESHA buffer areas, the proposed mitigation and restoration measures will, at a minimum, return the site to its current condition.

(2) **Configuration-** The buffer is measured from the nearest outside edge of the ESHA. Additionally, per Section 20.496.020(1)(A)(d) of the Mendocino County Coastal Zoning Code, all areas of the bluff face are considered buffer area. Based on the criteria outlined in the reduced buffer analysis above, the appropriate buffer to ESHAs other than on the bluff face is 50 feet.

(3) **Land Division-** No new subdivision or boundary line adjustments are proposed in conjunction with this development.

(4) **Permitted Development-**

- (a) The proposed developments would not significantly impact the functional capacity of the habitat area or the habitat areas ability to be self-sustaining and maintain species diversity.
  - (b) The proposed project consists of replacing existing highway facilities (culverts, guardrail, retaining wall, etc.) and alternative locations are not an option. There is no other feasible, less impacting alternative.
  - (c) Proposed developments within the buffer would not have a significant impact on the adjacent habitat areas. The 'best site' with the least environmental impact for these developments is the previously-disturbed area in which the development already exists. Relocating the proposed developments would result in a greater impact to the environment than replacing them in their current locations. Replacement of impaired drainage facilities and the failing wall would improve the area's ability to withstand major storm events.
-

- (d) The project shall be compatible with the continuance of such habitat areas by maintaining their functional capacity and their ability to be self-sustaining and to maintain natural species diversity.
- (e) The project proposes to replace existing highway facilities. No other feasible location is available for development. Mitigation shall include re-vegetation of native species currently found on-site at a minimum ratio of 1:1, and BMPs.
- (f) The proposed development would minimize the amount of added impervious surface area, limit the removal of vegetation to only those areas requiring grading, treat all bare soil with erosion control, limit most construction noise to daytime hours and utilize equipment equipped with appropriate mufflers, and utilize dust palliatives whenever necessary. The proposed development would cause no increase in artificial light, or nutrient runoff, or air pollution. There will be no human intrusion into the ESHAs.
- (g) Impacted vegetation would be replaced as at a minimum ratio of 1:1 for vegetation lost.
- (h) The project is not located in a 100-year flood area.
- (i) Upon completion of the proposed project and associated mitigation, there should be no interference with the hydrologic processes or biological diversity on site. Hydraulic capacity should improve with the proposed drainage system repairs.
- (j) The proposed development would not change or impact any drainage patterns or flow.
- (k) The proposed development would not cause significant adverse impacts to any ESHA.

#### **CONCLUSIONS**

There will be no permanent impacts to any ESHA detailed within this report as a consequence of the proposed highway project.

---

**CATEGORICAL EXEMPTION/ CATEGORICAL EXCLUSION DETERMINATION FORM**

01-MEN-01 PM 82.082.3 47260  
 Dist.-Co.-Rta. (or Local Agency) P.M.P.M. E.A. (State project) Federal-Aid Project No. (Local project) Proj. No.

**PROJECT DESCRIPTION:** (Briefly describe project, purpose, location, limits, right-of-way requirements, and activities)

The proposed project is referred to as the Union Landing Viaduct Storm Damage Permanent Restoration Project, located between postmile (PM) 82.0 to PM 82.3 on Highway 1 in Mendocino County. The project consists of work at PM 82.09 and PM 82.21 which includes constructing two retaining walls. Wall 1 is adjacent to the existing Union Landing Viaduct (PM 82.1) and Wall 2 is approximately 300 feet north. In addition to the proposed retaining walls, the scope of work also consists of replacing metal beam guardrail (MBGR), improving drainage, paving, and relocating telephone utilities. (continued next page)

**CEQA COMPLIANCE** (for State Projects only)

- Based on an examination of this proposal, supporting information, and the following statements (See 14 CCR 15300 et seq.):
- If this project falls within exempt class 3, 4, 5, 8 or 11, it does not impact an environmental resource of hazardous or critical concern where designated, precisely mapped and officially adopted pursuant to law.
  - There will not be a significant cumulative effect by this project and successive projects of the same type in the same place, over time.
  - There is not a reasonable possibility that the project will have a significant effect on the environment due to unusual circumstances.
  - This project does not damage a scenic resource within an officially designated state scenic highway.
  - This project is not located on a site included on any list compiled pursuant to Govt. Code § 65962.5 ("Cortese List").
  - This project does not cause a substantial adverse change in the significance of a historical resource.

**CALTRANS CEQA DETERMINATION**

Exempt by Statute. (PRC 21080(b); 14 CCR 15260 et seq.)

Based on an examination of this proposal, supporting information, and the above statements, the project is:

Categorically Exempt. Class \_\_\_\_\_. (PRC 21084; 14 CCR 15300 et seq.)

Categorically Exempt. General Rule exemption. (This project does not fall within an exempt class, but it can be seen with certainty that there is no possibility that the activity may have a significant effect on the environment (CCR 15061(b)(3))

Signature: Environmental Branch Chief \_\_\_\_\_ Date \_\_\_\_\_ Signature: Project Manager \_\_\_\_\_ Date \_\_\_\_\_

**NEPA COMPLIANCE**

- In accordance with 23 CFR 771.117, and based on an examination of this proposal and supporting information, the State has determined that this project:
- does not individually or cumulatively have a significant impact on the environment as defined by NEPA and is excluded from the requirements to prepare an Environmental Assessment (EA) or Environmental Impact Statement (EIS), and
  - has considered unusual circumstances pursuant to 23 CFR 771.117(b) (<http://www.fhwa.dot.gov/rep/23cfr771.htm> - sec. 771.117).

In non-attainment or maintenance areas for Federal air quality standards, the project is either exempt from all conformity requirements, or conformity analysis has been completed pursuant to 42 USC 7506(c) and 40 CFR 93.

**CALTRANS NEPA DETERMINATION**

Section 6004: The State has been assigned, and hereby certifies that it has carried out, the responsibility to make this determination pursuant to Chapter 3 of Title 23, United States Code, Section 326 and a Memorandum of Understanding (MOU) dated June 7, 2007, executed between the FHWA and the State. The State has determined that the project is a Categorical Exclusion under:

- 23 CFR 771 activity (c)
- 23 CFR 771 activity (d)
- Activity 4 listed in the MOU between FHWA and the State

Section 6005: Based on an examination of this proposal and supporting information, the State has determined that the project is a CE under Section 6005 of 23 U.S.C. 327.

Signature: Environmental Branch Chief Pope Jimenez Date 9/29/08 Signature: Project Manager/DLA Engineer [Signature] Date 9/30/08

Briefly list environmental commitments on continuation sheet. Reference additional information, as appropriate (e.g., air quality studies, documentation of conformity exemption, FHWA conformity determination if Section 6005 project; §108 commitments; § 4(f); § 7 results; Wetlands Finding; Floodplain Finding; additional studies; and design conditions). Revised September 6, 2007

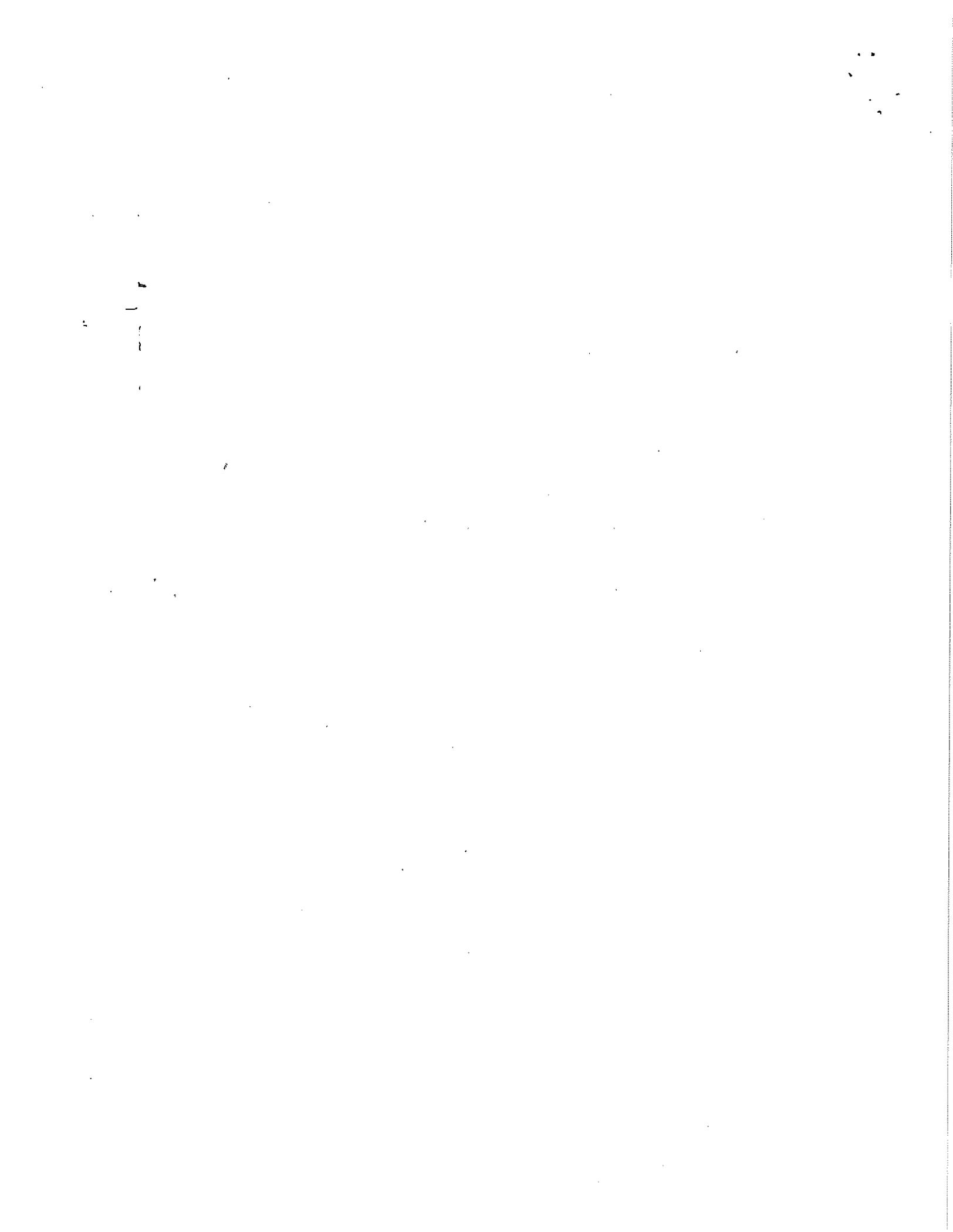
**CATEGORICAL EXEMPTION/CATEGORICAL EXCLUSION DETERMINATION FORM**  
**Continuation Sheet**

**Project Description (continued)**

All drainage improvements will be at the highway level with down drains extending down 30 to 50 feet. The drainage improvements include culvert replacement at PM 82.19, which may include minor relocation of the cross culvert so it is perpendicular to the new wall, installing an underdrain on the east side of the roadway, adding and/or replacing horizontal drains, and installing a culvert at approximately PM 82.15.

The proposed project will be within the existing right of way; right of way limits are approximately 70 feet west and 100 feet east of the highway centerline. The elevation of right of way limits range from approximately 80 to 240-feet above sea level.

This portion of Highway 1 is a utility corridor for American Telegraph & Telephone (AT&T). AT&T will relocate utilities within the project footprint and outside of the Environmentally Sensitive Habitat Area (EHSA) #2 to accommodate construction for this project. Utility relocation may be above ground, below ground, or located within a concrete barrier, and will avoid sensitive resources.





**COUNTY OF MENDOCINO**  
**DEPARTMENT OF PLANNING AND BUILDING SERVICES**  
501 LOW GAP ROAD · ROOM 1440 · UKIAH · CALIFORNIA · 95482

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**FINAL FINDINGS AND CONDITIONS OF APPROVAL**  
**CASE # CDU 1-2009 – CALTRANS**  
**MAY 21, 2009**

The Planning Commission approves Coastal Development Use Permit # CDU 1-2009 per the findings and conditions of approval contained in the staff report further finding, as required by Section 20.532.095 of the Coastal Zoning Code, that:

1. The proposed development is in conformity with the certified local coastal program; and
2. The proposed development will be provided with adequate utilities, access roads, drainage and other necessary facilities; and
3. The proposed development is consistent with the purpose and intent of the zoning district applicable to the property, as well as the provisions of the Coastal Zoning Code, and preserves the integrity of the zoning district; and
4. The proposed development will not have any significant adverse impacts on the environment within the meaning of the California Environmental Quality Act.
5. The proposed development will not have any adverse impacts on any known archaeological or paleontological resource.
6. Other public services, including but not limited to, solid waste and public roadway capacity have been considered and are adequate to serve the proposed development.
7. The proposed development is in conformity with the public access and public recreation policies of Chapter 3 of the California Coastal Act and Coastal Element of the General Plan.

**CONDITIONS OF APPROVAL:**

- \*\* 1. The proposed project shall comply with the all of the applicable mitigation measures contained in the *Final Initial Study and Mitigated Negative Declaration*, prepared by the State of California Department of Transportation, November 2008, and Natural Environment Study, prepared by Caltrans, dated June 2008 (located in the project file).
2. As soon as feasible, Caltrans shall provide documentation to the County Water Agency and Planning and Building Services of the installation of erosion control BMPs and culvert outlet protection.
3. This permit is subject to the securing of all necessary permits for the proposed development and eventual use from County, State and Federal agencies having jurisdiction. Any requirements imposed by an agency having jurisdiction shall be considered a condition of this permit.
4. This permit shall become effective after all applicable appeal periods have expired, or appeal processes have been exhausted, and after any fees required or authorized by Section 711.4 of the Fish and Game Code are submitted to the Department of Planning and Building Services. Failure of the applicant to make use of this permit within 2 years or failure to comply with payment of any fees within specified time periods shall result in the automatic expiration of this permit. To remain valid,

progress towards completion of the project must be continuous. The applicant has sole responsibility for renewing this application before the expiration date, June 21, 2009. The County will not provide a notice prior to the expiration date.

5. The application, along with supplemental exhibits and related material, shall be considered elements of this permit, and that compliance therewith is mandatory, unless an amendment has been approved by the Planning Commission.
6. This permit shall be subject to revocation or modification upon a finding of any one or more of the following:
  - a. The permit was obtained or extended by fraud.
  - b. One or more of the conditions upon which the permit was granted have been violated.
  - c. The use for which the permit was granted is conducted so as to be detrimental to the public health, welfare or safety, or to be a nuisance.
  - d. A final judgment of a court of competent jurisdiction has declared one or more conditions to be void or ineffective, or has enjoined or otherwise prohibited the enforcement or operation of one or more such conditions.

Any revocation shall proceed as specified in Title 20 of the Mendocino County Code.

7. This permit is issued without a legal determination having been made upon the number, size or shape of parcels encompassed within the permit described boundaries. Should, at any time, a legal determination be made that the number, size or shape of parcels within the permit described boundaries are different than that which is legally required by this permit, this permit shall become null and void.
8. If any archaeological sites or artifacts are discovered during site excavation or construction activities, the applicant shall cease and desist from all further excavation and disturbances within one hundred feet of the discovery, and make notification of the discovery to the Director of the Department of Planning and Building Services. The Director will coordinate further actions for the protection of the archaeological resources in accordance with Section 22.12.090 of the Mendocino County Code.

**SPECIAL CONDITIONS OF APPROVAL:**

- \*\*1. If the right of way fence separating the disposal site associated with subject project from the highway is the responsibility of Caltrans to maintain, maintenance in the form of repair or replacement shall occur during the course of the project.

Mendocino County Dept. of Planning & Building Services  
Coastal Planning Division  
790 South Franklin Street  
Fort Bragg, CA 95437  
707 964-5379 (tel) • 707 961-2427 (fax)

## MEMORANDUM

TO: Lupe Jimenez, Chief, Caltrans Office of Environmental Mgt. (S-4 Branch)  
C/C: Nash Gonzalez, Director; Frank Lynch, Chief Planner; Rick Miller, Senior Planner; Project File  
FROM: Teresa Spade, Planner II  
DATE: September 3, 2009  
SUBJECT: Rail Type Modification for CDU 1-2009

---

CDU 1-2009 was approved by the Planning Commission on May 21, 2009. The project, called the Union Landing Viaduct Project, consists of the construction of two retaining walls, replacement of the existing metal beam guard rail, replacement or installation of two culverts, and relocation of AT&T utilities. One of the retaining walls would attach to the existing viaduct. The project is located approximately 3 miles north of Westport, within the Highway One road corridor, at mile marker 82.0/82.3.

On June 29<sup>th</sup>, Bob Merrill of the California Coastal Commission spoke with Caltrans staff, asking if Caltrans could use a different rail type than was approved for extension to the existing viaduct rail. The rail type approved for this extension to the existing viaduct rail was a solid concrete barrier, which would match the existing viaduct, and would allow for housing of the relocated AT&T utility lines. Also approved was metal beam guard rail for the retaining wall not directly attached to the viaduct. The metal beam guard rail was considered appropriate because it is a rail type similar to other highway structures common along the coastline where the highway traverses steep terrain, the shine would be removed with acid etching or another method, and because of its see-through design.

After subsequent meetings and discussions between Caltrans and the Coastal Commission (these discussions occurred after the project appeal periods were over), the ST-10 rail type was considered as a top alternative to the approved solid barrier, with notations that the metal beam guard rail would be fine where appropriate.

County staff has been asked to amend the use permit to allow for the ST-10 rail type as an alternative to the solid concrete barrier extension to the existing viaduct. Staff finds the change does not warrant a formal amendment process because:

1. The project is not located in a Highly Scenic Area or within a designated California Scenic Highway System (Highway One has been found "Eligible," however no formal designation exists).
2. The change from a solid concrete barrier to a "see through" barrier such as the ST-10 rail type would be a visual resource improvement, with no environmental detriment.
3. The change is insubstantial, and would not require any new conditions or mitigation measures.
4. Utilization of the ST-10 rail type instead of a concrete barrier is consistent with the findings and conditions outlined in CDU 1-2009, and is in compliance with the Local Coastal Plan.
5. The proposed change does not warrant an amendment to the Mitigated Negative Declaration, and would not result in significant impacts under the California Environmental Quality Act.

Staff therefore notes to the file that the project has been administratively amended to allow for the ST-10 rail type as an alternative to the approved concrete barrier extension to the existing viaduct.

As noted in the minutes approved by the Planning Commission, the permit expiration date is June 21, 2011.

# Memorandum

*Flex your power!  
Be energy efficient!*

To: MR. TOM OSTROM  
Chief Office of Bridge Design - North

Date: December 19, 2007

File: 01-MEN-1 KP 132/132.5  
(PM 82/82.3)  
01-472601  
Union Landing Retaining Walls

*Rec'd  
1/25/08  
from TAO*

From: EDUARDO ORTEGA *EO*  
Associate Materials and Research Engineer  
Office of Geotechnical Design – West  
Geotechnical Services  
Division of Engineering Services

WAJAHAT NYAZ *WN*  
Chief, Branch C  
Office of Geotechnical Design – West  
Geotechnical Services  
Division of Engineering Services

Subject: Final Foundation Report for Storm Damage Site (Retaining Walls) at 01-MEN-1 PM 82

This memorandum presents our geotechnical recommendations for the above referenced storm damage site. The project is located about 19 miles north of the City of Westport in Mendocino County, California (see attached Vicinity Map). The recommendations contained in this memorandum are based on the results of our subsurface explorations performed at the site, our site observations, and our engineering judgment.

## BACKGROUND AND SITE DESCRIPTION

During January/February 2006 rainstorms, two landslides occurred on a steeply sloping ground along the Pacific Ocean coast on State Route (SR) 1. The first landslide (Locations#1) is about 210 ft in length when measured along the roadway, and extends about 10 to 30 ft on the downhill slope below the roadway. The second landslide (Locations#2) is about 145 ft in length when measured along the roadway, and extends about 10 to 40 ft on the downhill slope below the roadway. At few locations, the headscarp of these landslides are located on the on or at the edge of the southbound travel lane of SR 1, which is a two-lane highway. The approximate locations of the landslides limits (headscarp) are shown on the attached Layout Map.

Immediately to the southeast of the first landslide is the Union Landing Viaduct. This viaduct was constructed in 1998/1999 to bridge across the landslide area. Recent topographic map and aerial photographs indicate that some relative movement may have

MR. TOM OSTROM

December 19, 2007

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occurred between the roadway and the viaduct. We have requested Office of Structure Maintenance to perform a bridge inspection and determine if the bridge structure has been compromised due to the suspected movement. We have not received any response from the Office of Structure Maintenance to date. In the absence of response from the Office of Structure Maintenance, we are assuming that the Lincoln Union Viaduct Bridge structure has not been compromised.

### **SCOPE OF WORK**

Work performed for this investigation included:

- Visual reconnaissance of the project site.
- Review of available information on the site geology and seismicity.
- Subsurface investigation consisting of six power borings (P1 to P6) in the vicinity of the subject landslides to determine the subsurface conditions at the site.
- Installation of four Slope Inclinometers (SI) in borings P1, P2, P4, and P5 to monitor the ground movement.
- Periodic monitoring of the SIs installed at the site.
- Engineering analysis and formulation of the repair recommendations.

### **REGIONAL AND SITE GEOLOGY**

#### **Regional Geology**

The project area lies within Coast Range Geomorphic Province of Northern and Central California. The province is characterized by a series of northwesterly trending ridges, faults, and intermountain valleys formed by compressional tectonics forces. The project area consists of sedimentary rocks and landslide deposits composed of members of the Franciscan Complex. These included graywacke, shale (siltstone) and conglomerate of the eugeosynclinal facies (Bull.183, 1964) that apparently does not show regional metamorphism.

#### **SITE GEOLOGY**

Principle rocks of the project area are members of the Franciscan Complex. The dominant member exposed within the project limits is greywacke. It is a light bluish gray grayish to yellowish brown when weathered, generally medium grained feldspathic

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sandstone. It is fairly well indurated to weakly cemented. A shale member is present but less dominant. The shale is indurated also, and is characterized as being silty, dark gray in color. The principal rocks are described as:

- SEDIMENTARY ROCK (Greywacke), light bluish grey, intensely weathered to fresh, very weak to weak, very soft to soft, intensely fractured.
- SEDIMENTARY ROCK (Shale/Siltstone) dark grey, intensely weathered to fresh, very weak, very soft to soft, intensely fractured.

For more detail on these rock units, please refer to the attached boring logs and the Subsurface Conditions Section of this report.

Weathering extends deeply into the slide deposits. Oxidation extends thoroughly for up to 60 ft in depth, and intermittently for another 10 to 20 ft along fracture and joint surfaces. Weathering causes toe rock to be bleached and iron oxide stained from decomposition of iron bearing minerals. The overall fault scheme appears to be landslide generated along with ubiquitous internal crushing exhibited by the Franciscan Complex due to compressional tectonism.

### SEISMICITY

Three major active fault zones are located within (40 miles) of the project site (Jennings, 1994). The Mendocino Fault zone extends eastward and is a suture along a plate boundary. Two Faults trend in a northwesterly direction and are designated as Earthquake Studies Zones. These are the San Andreas Fault and the Maacama Fault zones, both within 12 miles. The project area lies between these two strike-slip zones, however, no known active fault trace crosses the project site. Strong ground movement should be expected as a result of earthquake activity on one or more of the faults but no surface rupture should occur. A seismic event on one of the above active faults could produce an estimated Maximum Peak Bedrock Acceleration of 0.50g.

Table 1 shows the faults, their distance from the project site, maximum credible earthquake magnitude, and the peak bedrock acceleration anticipated at the site from such events (Maulchin, 1996):

TABLE 1. FAULT DATA SUMMARY

Fault	Distance From Project Site	Maximum Credible Earthquake Magnitude (Mw)	Maximum Peak Bedrock Acceleration
San Andreas	15 km (9.3 mi)	8.0	0.50 g
Maacama	15 km (9.3 mi)	7.2	0.31 g
Mendocino Fault Zone	56 km (34.8 mi)	8.0	0.25 g

#### EXPLORATION

Six borings (P1 to P6) were drilled in the vicinity of the subject landslides in June 2007 utilizing the rotatory wash drilling method to the maximum depth of 100 ft. Three borings were drilled at each of the landslide locations. At each of these locations, two borings were drilled in the southbound lane immediately behind the landslide headscarp and one boring was drilled in the northbound lane and as far back as possible from the headscarps. The borings locations are shown in the attached Layout Map. Soil/rock samples were collected from these borings for observation and laboratory testing. The rock cores retrieved from the borings are in storage and they can be made available for review upon request.

#### SUBSURFACE CONDITIONS

The subsurface conditions encountered in the borings at each location are briefly described below:

##### Location #1

Borings P1, P2 and P3, were drilled at Location #1. these borings show that the subsurface conditions at the site consists of 6-inch Asphalt Concrete (AC) underlain by 2 ft to 5 ft of fill/colluvium consisting of poorly graded sand with clay and gravel. The fill/colluvium is underlain by fine to medium grained, very intensely weathered, very

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weak to weak, soft to moderately soft, very intensely fractured, not healed, sedimentary rock (Franciscan Formation). Generally, the rock in these borings can be classified as very poor to poor rock with very low Rock Quality Designations (RQD) and Rock Mass Rating (RMR). For rock mass rating purposes, rock below the oxidized weathered zone was interpreted as being wet. The plots of RQD and RMR with depth are included in Appendix A. See Boring Logs in Appendix A for details.

Due to the drilling method used (wet rotatory), groundwater was not measured in the borings during drilling. However, we anticipate groundwater to be about 20 ft below the ground surface. We also anticipate that a perched groundwater condition will develop at the higher elevations during the rainy season.

#### Location #2

Borings P4, P5 and P6, were drilled at Location #2. These borings show that the subsurface conditions at the site consists of about 6-inch of Asphalt Concrete (AC) underlain by 5 to 10 ft of fill/colluvium consisting of poorly graded sand with clay and gravel or sand with silt. The fill/colluvium is underlain by fine to medium grained, very intensely weathered, very weak to weak, soft to moderately soft, very intensely fractured, not healed, sedimentary rock (Franciscan Formation). Siltstone was encountered in boring P5 and P6 at the depth of 50 ft and 78 ft, respectively. The Siltstone generally consists of fine to medium grained, very intensely weathered, very weak, moderately soft, very intensely fractured sedimentary rock.

The rock encountered in borings P4, P5, and P6 is generally very poor rock with very low (near zero) RQDs and very low RMRs. For rock mass rating purposes, rock below the oxidized weathered zone was interpreted as being wet. The plots of RQD and RMR with depth are included in Appendix A. See boring logs in Appendix A for details.

Groundwater was recorded at the depth of 20 ft in borings P4 and P5 during drilling. The actual groundwater elevation is likely to be higher. We also anticipate that a perched groundwater condition will develop at the higher elevations during the rainy season.

Log of Test Boring (LOTB) sheet should be included with the contract plans. The LOTB sheet(s) will be forwarded to you upon completion.

### **SLOPE INCLINOMETER(SI) MONITORING, FINDINGS, AND CONCLUSIONS**

Since there is some evidence that the nearby Union Landing Viaduct may have moved in the recent past and since the project site is prone to land sliding, it was important to accurately determine the size and nature of the landslide at the site. Although, the visible ground cracking at the site is located on (or near) the edge of the roadway, we could not exclude the possibility of a larger landslide that extends below the roadway based on visual observations. To determine the nature and extent of the landslide movements at the site, we installed several SIs behind the landslide headscarps on the roadway to determine if the landslide extends below the roadway.

Four SIs were installed in borings P1, P2, P4 and P5. Our review of the SI results indicates no movement or a slip-plane below the roadway. P4 (SI) reading shows that the SI casing is leaning. The movement (lean) is linear and starts at the depth of approximately 70 ft below the ground surface. At this time, it is our opinion that the lean is due to a systematic instrument error and it does not represent actual ground movement.

The SI data to date show that the subject landslides are limited to the slope below the roadway and the landslide at Location #1 is not directly related to the suspected viaduct movement. However, this conclusion is based on data available and we will re-evaluate our findings after the bridge inspection report is completed and as more SI readings are taken during the rainy season. We will continue to monitor this P4 (SI) and re-evaluate our conclusion if the lean continues to increase over time. The SI locations are shown in the attached Layout Map. The plots of the SI readings are attached in Appendix B.

Based on the SI readings to date and our experience, it is our opinion that the landslide is limited to erosion (surficial) slope failure on the downhill slope. The slope will continue to recede as more erosion occurs. If repair measures are not performed, there is a possibility that erosional activity will accelerate during the rainy season(s) and this may compromise the roadway.

### **RECOMMENDATIONS**

The most viable repair strategy for this location is to construct a soldier-pile earth retaining system at both Locations #1 and #2. The earth retaining system (wall) at Locations #1 and #2 will be referred to as Retaining Walls #1 and #2, respectively. The design height of the retaining systems should extend to a depth that will prevent the roadway from being compromised in the long term as the erosional activity continues on

the downhill slope. We anticipated anchors (tiebacks or dead-man) will be needed where the wall heights exceeds 15 ft.

Retaining Wall #1

The recommend wall heights and wall types for Retaining Wall #1 are listed in Table 2. These design heights were determined based on the proposed wall location with respect to the hinge point of the existing slope and site geology.

**TABLE 2 RETAINING WALL DESIGN HEIGHTS AND WALL TYPES**

Location	Maximum Retaining Wall Heights (H) (ft)	Wall Type
102+18± to 102+60± <i>75' @ 6'±4"</i>	15	Soldier-Pile
102+60± to 103+20±	12	Soldier-Pile or Secant Pile
103+20± to 104+15± <i>95' @ 6'±9"</i>	25	Anchored Soldier-Pile
104+15± to 104+40± <i>75' @ 8'±9"</i>	12	Soldier-Pile

*Taper wall end at 1:2 and transitions at 1:1*

Earth Pressures

The rock at the site is very poor and for engineering design purposes, it can be considered as a slightly/moderately cemented granular soil. For Soldier-Pile wall, compute the static active and passive earth pressure using Bridge Design Specifications (BDS) Figure 5.5.5.6-1. For Anchored Soldier-Pile wall, compute the static active earth pressure using BDS Section 5.5.5.7.1 (Figure 5.5.5.7.1-1 (a)). The following design parameters should be used in conjunction with the appropriate BDS

- Soil 1  
 $\Phi'_{f1} = 32^\circ$   
 $\gamma_{s1} = 125 \text{ pcf}$   
 $K_{a1} = 0.3 \checkmark$   
 $\beta = 0^\circ$
- Soil 2  
 $\Phi'_{f2} = 36^\circ$   
 $\gamma_{s2} = 130 \text{ pcf}$

Date 1/21/09  
 (GS)  
 Soil 1  $\uparrow$  timber lagging  
 Soil 2  $\downarrow$  lagging / pile

Location	Soil 1	Soil 2
102+18 to 102+60	0-15'	15' $\downarrow$
102+60 to 103+20	0-12'	12' $\downarrow$
103+20 to 104+15	0-25'	25' $\downarrow$
104+15 to 104+40	0-12'	12' $\downarrow$

$$K_{a2} = 0.25 \checkmark$$

$$K_{p2} = 2.0 \text{ (considering minimum berm width of 10 ft and } \beta' = -36^\circ)$$

$$\beta' = -36^\circ$$

- $D_o = 20$  ft (minimum)
- ✓ • Berm width = 10 ft. (minimum)
- For seismic *earth pressure* against the wall/piles, use a constant pressure of 19H psf (rectangular pressure diagram), where H is the full wall design height.
- ✓ • For traffic loading, use a constant pressure of 70 psf (rectangular pressure diagram) to a maximum depth of 10 ft below the top of the wall. This pressure is equivalent to a ~~(2 ft)~~ 0.6 m of surcharge immediately behind the wall.
- ✓ • The wall should be free draining. If drainage cannot be provided, assume hydrostatic pressure behind the wall for full design height.

Please note that the  $D_o$  stated above is the minimum embedment depth to ensure that the pile is firmly embedded in competent material. The Structural Engineer should determine the required embedment depth.

Because of the location of the proposed Retaining Wall #1, from stations 102+60± to 103+20±, with respect to the hinge point of the existing slope, a conventional soldier pile wall will require significant excavation. If large excavation is not desirable, a Secant-Pile wall can be constructed in lieu of the conventional Soldier-Pile wall. Using Secant-Pile wall will reduce the excavation needed to about three feet.

If the Secant-Pile wall option is used for a portion of the wall (Table 2), the secant piles should be a minimum 2 ft in diameter (d) with maximum pile spacing 1.2 x d. The pile embedment depth (below the design height) should be computed using BDS, Figure 5.5.5.6-1. The piles should be embedded a minimum of 20 ft below the wall design height. The top of the piles should be connected with a link-beam that connects all of the secant piles. The main advantage of using the Secant-Pile wall option is that it will reduce the amount of excavation needed to the depth of the link-beam.

*Bonded length*

#### Retaining Wall #2

The most suitable retaining system for Retaining Wall #2 is soldier pile wall with anchors. The maximum design height of the wall is 23 ft. The wall ends should be tapered at 1:2. Retaining Wall #2 can be designed using procedure and parameters specified for Retaining Wall #1

**Vertical Capacity of Soldier Piles**

If tiebacks are used as anchors, the pile will be subject to vertical load. For design purpose, use ultimate vertical compression/tension capacities of the piles as listed in Table 3.

**TABLE 3 PILE FRICTION AND TIP COMPRESSION CAPACITIES**

	Ultimate (ksf)	Allowable (ksf)
Unit pile shaft surface area (of the pile below the full design height)	1.7	0.85 (Safety Factor = 2.0)
Pile tip compression pressure per unit area of the pile tip	100	33 (Safety Factor = 3.0)

*Use 60% of the pile compression resistance value for tension capacity*

**CORROSION**

We recommend the use of Marine Atmosphere Protection Measures for this project in accordance with Section 8-38, Table 8.22.1 (Minimum Concrete Cover for 75-year Design Life) of the Caltrans Bridge Design Specifications.

**CONSTRUCTION CONSIDERATIONS AND REQUIREMENTS**

The following construction considerations and requirements should be included in the design and construction specifications for the proposed wall:

- The Contractor may encounter difficult drilling for the CIDH piles. This is likely due to the presence of loose material in the top 2.0 m and the presence of very poor rock and occasional large hard rock boulders in a silt or clay matrix. Groundwater may be encountered depending on the season. Casing of drilled hole may be required where loose material is encountered.
- Installation of the CIDH piles should be performed in accordance with Section 49-4 of the Standard Specifications.
- The drilling and concrete placement for CIDH pile construction shall be staggered. No open holes shall be adjacent.

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December 19, 2007  
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\* \* \* \* \*

Should you have any questions, please contact Eduardo Ortega at (510) 286-4821 or  
Wajahat Nyaz, Branch Chief, at (510) 622-1777.



Attachments:

Vicity Map  
Layout Map  
Appendix A  
    Boring Logs  
    RQD and RMR Plots  
Appendix B  
    SI Plots

c: TPokrywka, WNyaz, EOrtega, BHarwel, CNarwold, RBibbens, Daily File, Route File,  
Translab File

EOrtega/WNyaz/mm

# **Appendix A**

**Boring Log**

**RQD & RMR Plots**

LOGGED BY e. Ortega	BEGIN DATE 6-4-07	COMPLETION DATE 6-6-07	BOREHOLE LOCATION (Lat/Long or North/East and Datum) 39° 41' 38.42" / 123° 47' 52.35" NAD83	HOLE ID P 1
DRILLING CONTRACTOR Caltrans	BOREHOLE LOCATION (Station, Offset, Line) Sta ~ Offset L		SURFACE ELEVATION 114 ft NAVD 88	
DRILLING METHOD Rotary Wire-Line	DRILL RIG Mobile B47		BOREHOLE DIAMETER	
SAMPLER TYPE(S) AND SIZE(S) (ID) HQ Core	SPT HAMMER TYPE		HAMMER EFFICIENCY, ERI	
BOREHOLE BACKFILL AND COMPLETION Slope Inclinometer 3.34"	GROUNDWATER DURING DRILLING READINGS		AFTER DRILLING (DATE) - TOTAL DEPTH OF BORING 100.0 ft	

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location Sample Number	Blows per 6 in.	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (kN/m <sup>3</sup> )	Shear Strength (kPa)	Drilling Method	Casing Depth	Remarks
0	0		No core.											
1	1		No core.											
112.00	2		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, moderate reddish brown to light brown, very intensely weathered, very weak, soft to moderately soft, very intensely fractured, joint, not healed, hardness and strength are estimates [Franciscan].	c01			100	13						
110.00	4													
108.00	6		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, very intensely weathered, very weak, soft to moderately soft, very intensely fractured, joint, not healed, hardness and strength are estimates [Franciscan].	c02			100	0						
106.00	8													
104.00	10		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, medium gray to light brown, very intensely weathered, very weak, soft to moderately soft, very intensely fractured, shear, not healed, hardness and strength are estimates [Franciscan].	c03			40	0						
102.00	12													
100.00	14													
98.00	16		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, very intensely weathered, very weak, soft to moderately soft, very intensely fractured, joint, not healed, hardness and strength are estimates [Franciscan].	c04			40	13						
96.00	18													
94.00	20		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, very intensely weathered, very weak, soft to moderately soft, intensely fractured, joint, not healed, hardness and strength are estimates [Franciscan].	c05			60	8						
92.00	22													
90.00	24													
	25													

(continued)



Department of Transportation  
Division of Engineering Services  
Geotechnical Services  
Office of Geotechnical Design - West

REPORT TITLE BORING RECORD				HOLE ID P 1	
DIST. 04	COUNTY Mendocino	ROUTE 01MEN1	POSTMILE L82.2/D82.3	EA 04-472601	
PROJECT OR BRIDGE NAME Union Landing					
BRIDGE NUMBER		PREPARED BY		DATE	SHEET 1 of 4

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location Sample Number	Blows per 6 in.	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (kN/m <sup>3</sup> )	Shear Strength (kPa)	Drilling Method	Casing Depth	Remarks
88.00	25		At 25 ft, contains siltstone, fine-grained to medium-grained, very intensely weathered, very weak to weak, moderately soft, very intensely fractured, joint, not healed, hardness and strength are estimates.	c06			100	10						
86.00	26													
84.00	27													
82.00	28		At 30 ft, contains siltstone, fine-grained to medium-grained, very intensely weathered, very weak to weak, moderately soft, very intensely fractured, shear, not healed, hardness and strength are estimates.	c07			80	0						
80.00	29													
78.00	30													
76.00	31		At 35 ft, contains siltstone, fine-grained to medium-grained, moderately weathered, very weak to weak, moderately soft, very intensely fractured, shear, not healed, hardness and strength are estimates.	c08			60	0						
74.00	32													
72.00	33													
70.00	34		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, moderately weathered, very weak to weak, moderately soft, very intensely fractured, joint, not healed, hardness and strength are estimates [Franciscan].	c09			60	0						
68.00	35													
66.00	36													
64.00	37		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, slightly weathered, very weak to weak, moderately soft, very intensely fractured, joint, not healed, hardness and strength are estimates [Franciscan].	c10			50	18						
62.00	38													
60.00	39													
	40		At 50 ft, contains siltstone, fine-grained to medium-grained, slightly weathered, very weak to weak, moderately soft, very intensely fractured, shear, not healed, hardness and strength are estimates.	c11			80	16						
	41													
	42													

(continued)



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REPORT TITLE BORING RECORD				HOLE ID P 1	
DIST. 04	COUNTY Mendocino	ROUTE 01MEN1	POSTMILE L82.2/D82.3	EA 04-472601	
PROJECT OR BRIDGE NAME Union Landing					
BRIDGE NUMBER	PREPARED BY	DATE	SHEET 2 of 4		

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location Sample Number	Blows per 6 in.	Blows per Foot	Recovery (%)	RCD (%)	Moisture Content (%)	Dry Unit Weight (kN/m <sup>3</sup> )	Shear Strength (kPa)	Drilling Method	Casing Depth	Remarks
55.00	55		No recovery.	c12			37	0						
54.00	60		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, slightly weathered, very weak to weak, moderately soft, very intensely fractured, joint, not healed, hardness and strength are estimates [Franciscan].	c13				78						
48.00	66		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, dark yellowish orange to light bluish gray, slightly weathered, very weak to weak, moderately soft, very intensely fractured, shear, not healed, hardness and strength are estimates [Franciscan].	c14			90	0						
42.00	72		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, light bluish gray, slightly weathered, very weak to weak, moderately soft, very intensely fractured, joint, not healed, hardness and strength are estimates [Franciscan].	c15			50	38						
38.00	76		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, light bluish gray, fresh, very weak to weak, moderately soft, very intensely fractured, shear, not healed, hardness and strength are estimates [Franciscan].	c16			80	14						
34.00	80		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, light bluish gray, fresh, very weak to weak, moderately soft, very intensely fractured, shear, not healed, hardness and strength are estimates [Franciscan].	c17			83	0						

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REPORT TITLE BORING RECORD				HOLE ID P 1	
DIST. 04	COUNTY Mendocino	ROUTE 01MEN1	POSTMILE L82.2/D82.3	EA 04-472601	
PROJECT OR BRIDGE NAME Union Landing					
BRIDGE NUMBER	PREPARED BY	DATE	SHEET 3 of 4		

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (kN/m <sup>3</sup> )	Shear Strength (kPa)	Drilling Method	Casing Depth	Remarks	
28.00	85		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, fresh, very weak to weak, moderately soft, very intensely fractured, shear, not healed, hardness and strength are estimates [Franciscan].	c18				60	0							
24.00	90								20	17						
18.00	95									40	0					
14.00	100		Bottom of Borehole at 100.0 ft. gw estimate from core													

 <p>Department of Transportation Division of Engineering Services Geotechnical Services Office of Geotechnical Design - West</p>	REPORT TITLE BORING RECORD				HOLE ID P 1	
	DIST. 04	COUNTY Mendocino	ROUTE 01MEN1	POSTMILE L82.2/D82.3	EA 04-472601	
	PROJECT OR BRIDGE NAME Union Landing					
	BRIDGE NUMBER	PREPARED BY	DATE	SHEET 4 of 4		

LOGGED BY E. Ortega	BEGIN DATE 6-13-07	COMPLETION DATE 6-18-07	BOREHOLE LOCATION (Lat/Long or North/East and Datum) 39° 41' 39.31" / 123° 47' 53.35" NAD83	HOLE ID P2
DRILLING CONTRACTOR Caltrans	BOREHOLE LOCATION (Station, Offset, Line) Sta - Offset L		SURFACE ELEVATION 129 ft NAVD 88	
DRILLING METHOD Rotary Wire-Line	DRILL RIG Acker AD2		BOREHOLE DIAMETER	
SAMPLER TYPE(S) AND SIZE(S) (ID) HQ Core	SPT HAMMER TYPE		HAMMER EFFICIENCY, ERI	
BOREHOLE BACKFILL AND COMPLETION Slope Inclinometer 3.34"	GROUNDWATER READINGS	DURING DRILLING 70 ft on	AFTER DRILLING (DATE) TOTAL DEPTH OF BORING 100.0 ft	

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (kN/m <sup>3</sup> )	Shear Strength (kPa)	Drilling Method	Casing Depth	Remarks
0	0														
127.00	1		Poorly graded SAND with CLAY and GRAVEL.												
125.00	2				1			80	0						
123.00	3		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, moderate yellowish-brown to light bluish gray, very intensely weathered, extremely weak, very soft, very intensely fractured, shear, not healed, hardness and strength are estimates [Franciscan].												
121.00	4				2			90	0						
119.00	5		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, very intensely weathered, extremely weak, very soft, very intensely fractured, joint, not healed, hardness and strength are estimates [Franciscan].												
117.00	6				3			60	0						
115.00	7		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, very intensely weathered, extremely weak, very soft, very intensely fractured, joint, not healed, hardness and strength are estimates [Franciscan].												
113.00	8				4			60	0						
111.00	9		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, moderately weathered, extremely weak, very soft, very intensely fractured, joint, not healed, hardness and strength are estimates [Franciscan].												
109.00	10				5			95	0						
107.00	11		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, moderately weathered, extremely weak, very soft, very intensely fractured, joint, not healed, hardness and strength are estimates [Franciscan].												
105.00	12														

(continued)

	Department of Transportation Division of Engineering Services Geotechnical Services Office of Geotechnical Design - West			REPORT TITLE <b>BORING RECORD</b>		HOLE ID <b>P2</b>	
	DIST. 04	COUNTY Mendocino	ROUTE 01MEN1	POSTMILE L82.2/D82.3	EA 04-472601		
	PROJECT OR BRIDGE NAME Union Landing						
	BRIDGE NUMBER		PREPARED BY		DATE		SHEET 1 of 4

CALTRANS BORING RECORD 052007 UNION LANDING.GPJ CT SACTO 053107.GDT 12/17/07

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location Sample Number	Blows per 6 in.	Blows per Foot	Recovery (%)	ROD (%)	Moisture Content (%)	Dry Unit Weight (kN/m <sup>3</sup> )	Shear Strength (kPa)	Drilling Method	Casing Depth	Remarks
103.00	25		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, moderate yellowish brown, moderately weathered, extremely weak, very soft, very intensely fractured, shear/fault zone, not healed, hardness and strength are estimates [Franciscan].	6			95	7						
	26													
	27													
101.00	28		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, moderately weathered, extremely weak, very soft, very intensely fractured, shear, not healed, hardness and strength are estimates [Franciscan].	7			77	8						
	29													
	30													
99.00	31		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, moderate yellowish brown, moderately weathered, extremely weak, very soft, very intensely fractured, joint, not healed, hardness and strength are estimates [Franciscan].	8			20	0						
	32													
	33													
95.00	34		No recovery.	9			0	0						
	35													
	36													
93.00	37		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, moderate yellowish brown to light bluish gray, moderately weathered, extremely weak, very soft, very intensely fractured, shear, not healed, hardness and strength are estimates [Franciscan].	10			80	58						
	38													
	39													
91.00	40		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, moderate yellowish brown to light bluish gray, moderately weathered, extremely weak, very soft, very intensely fractured, shear, not healed, hardness and strength are estimates [Franciscan].	11			120	14						
	41													
	42													
89.00	43													
87.00	44													
85.00	45													
83.00	46													
81.00	47													
79.00	48													
77.00	49													
75.00	50													
	51													
	52													
	53													
	54													
	55													

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Department of Transportation  
 Division of Engineering Services  
 Geotechnical Services  
 Office of Geotechnical Design - West

REPORT TITLE BORING RECORD				HOLE ID P2	
DIST. 04	COUNTY Mendocino	ROUTE 01MEN1	POSTMILE L82.2/D82.3	EA 04-472601	
PROJECT OR BRIDGE NAME Union Landing					
BRIDGE NUMBER		PREPARED BY		DATE	SHEET 2 of 4

CALTRANS BORING RECORD 052007 UNION LANDING.GPJ CT SACTO 053107.GDT 12/17/07

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (kN/m <sup>3</sup> )	Shear Strength (kPa)	Drilling Method	Casing Depth	Remarks
73.00	55		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, pale yellowish brown to dark gray, moderately weathered, extremely weak, very soft, very intensely fractured, shear, not healed, hardness and strength are estimates [Franciscan].		12			80	8						
71.00	56														
	57														
	58														
	59														
69.00	60		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, moderately weathered, extremely weak, very soft, very intensely fractured, shear/fault zone, not healed, hardness and strength are estimates [Franciscan].		13			90	49						
67.00	61														
	62														
	63														
65.00	64		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, moderately weathered, extremely weak, very soft, very intensely fractured, shear/fault zone, not healed, hardness and strength are estimates [Franciscan].		14			87	0						
63.00	65														
	66														
	67														
	68														
59.00	70		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, pale yellowish brown dark gray, moderately weathered, extremely weak, very soft, very intensely fractured, shear/fault zone, not healed, hardness and strength are estimates [Franciscan].		15			80	0						
	71														
57.00	72														
	73														
	74														
53.00	75		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, light bluish gray to dark gray, slightly weathered, extremely weak, very soft, very intensely fractured, shear/fault zone, not healed, hardness and strength are estimates [Franciscan].		16			120	0						
	76														
	77														
51.00	78														
	79														
49.00	80		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, slightly weathered to fresh, extremely weak, moderately hard, very intensely fractured, joint, not healed, hardness and strength are estimates [Franciscan].		17			120	0						
	81														
47.00	82														
	83														
45.00	84														

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 Office of Geotechnical Design - West

REPORT TITLE BORING RECORD				HOLE ID P2	
DIST. 04	COUNTY Mendocino	ROUTE 01MEN1	POSTMILE LB2.2/D82.3	EA 04-472601	
PROJECT OR BRIDGE NAME Union Landing					
BRIDGE NUMBER	PREPARED BY	DATE	SHEET 3 of 4		

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Locality	Sample Number	Blows per 6 in.	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (kN/m <sup>3</sup> )	Shear Strength (kPa)	Drilling Method	Casing Depth	Remarks
43.00	85		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, slightly weathered to fresh, extremely weak, very soft, very intensely fractured, shear/fault zone, not healed, hardness and strength are estimates [Franciscan].		18			60	13						
	86														
	87														
41.00	88														
	89		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, light bluish gray to, slightly weathered to fresh, extremely weak, very soft, very intensely fractured, shear, not healed, hardness and strength are estimates [Franciscan].		19			80	0						
39.00	90														
	91														
37.00	92														
	93		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, very light gray to dark gray, slightly weathered to fresh, extremely weak, soft, very intensely fractured, shear, not healed, hardness and strength are estimates [Franciscan].		20			60	0						
35.00	94														
	95														
33.00	96														
	97		Bottom of Borehole at 100.0 ft. gw estimate from core												
31.00	98														
	99														
29.00	100														
	101														
27.00	102														
	103														
25.00	104														
	105														
23.00	106														
	107														
21.00	108														
	109														
19.00	110														
	111														
17.00	112														
	113														
15.00	114														
	115														



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REPORT TITLE BORING RECORD				HOLE ID P2	
DIST. 04	COUNTY Mendocino	ROUTE 01MEN1	POSTMILE L82.2/D82.3	EA 04-472601	
PROJECT OR BRIDGE NAME Union Landing					
BRIDGE NUMBER	PREPARED BY	DATE	SHEET 4 of 4		

LOGGED BY E. Ortega	BEGIN DATE 6-19-07	COMPLETION DATE 6-21-07	BOREHOLE LOCATION (Lat/Long or North/East and Datum) 39° 41' 39.44" / 123° 47' 53.11" NAD83	HOLE ID P 3
DRILLING CONTRACTOR Caltrans		BOREHOLE LOCATION (Station, Offset, Line) Sta ~ Offset L		SURFACE ELEVATION 135 ft NAVD 88
DRILLING METHOD Rotary Wire-Line		DRILL RIG Acker AD2		BOREHOLE DIAMETER
SAMPLER TYPE(S) AND SIZE(S) (ID) HQ Core		SPT HAMMER TYPE		HAMMER EFFICIENCY, ERI
BOREHOLE BACKFILL AND COMPLETION Slope Inclnometer 3.34"		GROUNDWATER READINGS	DURING DRILLING AFTER DRILLING (DATE) 75 ft on	TOTAL DEPTH OF BORING 100.0 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (kN/m <sup>3</sup> )	Shear Strength (kPa)	Drilling Method	Casing Depth	Remarks
133.00	1		CLAYEY SAND with GRAVEL fill.		1			100	0						
129.00	5		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, moderate yellowish brown dark gray, moderately weathered, extremely weak, moderately soft, very intensely fractured, shear, not healed, hardness and strength are estimates [Franciscan].		2			43	0						
125.00	10		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, moderate yellowish brown dark gray, moderately weathered, extremely weak, moderately soft, very intensely fractured, joint, not healed, hardness and strength are estimates [Franciscan].		3			57	0						
119.00	15		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, moderate yellowish brown dark gray, moderately weathered, extremely weak, moderately soft, very intensely fractured, joint, not healed, hardness and strength are estimates [Franciscan].		4			40	0						
115.00	20		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, moderate yellowish brown dark gray, moderately weathered, very weak, moderately soft, very intensely fractured, joint, not healed, hardness and strength are estimates [Franciscan].		5			80	0						

(continued)

 Department of Transportation Division of Engineering Services Geotechnical Services Office of Geotechnical Design - West	REPORT TITLE BORING RECORD			HOLE ID P 3	
	DIST. 04	COUNTY Mendocino	ROUTE 01MEN1	POSTMILE L82.2/D82.3	EA 04-472601
	PROJECT OR BRIDGE NAME Union Landing				
	BRIDGE NUMBER	PREPARED BY	DATE	SHEET 1 of 4	

CALTRANS BORING RECORD 052007 UNION LANDING.GPJ CT SACTO 053107.GDT 12/18/07

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (kN/m <sup>3</sup> )	Shear Strength (kPa)	Drilling Method	Casing Depth	Remarks
109.00	25		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, moderate yellowish brown dark gray, moderately weathered, very weak, moderately soft, very intensely fractured, joint, not healed, hardness and strength are estimates [Franciscan].	6				93	0						
	26														
	27														
107.00	28														
	29														
105.00	30		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, moderate yellowish brown dark gray, moderately weathered, very weak, moderately soft, intensely fractured, joint, not healed, hardness and strength are estimates [Franciscan].	7				100	0						
	31														
103.00	32														
	33														
101.00	34		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, moderate yellowish brown dark gray, moderately weathered, very weak, moderately soft, very intensely fractured, joint, not healed, hardness and strength are estimates [Franciscan].	8				100	0						
	35														
99.00	36														
	37														
97.00	38		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, moderate yellowish brown dark gray, moderately weathered, very weak, moderately soft, very intensely fractured, joint, not healed, hardness and strength are estimates [Franciscan].	9				90	0						
	39														
95.00	40														
	41														
93.00	42														
	43														
91.00	44		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, moderate yellowish brown dark gray, moderately weathered, very weak, moderately soft, very intensely fractured, shear, not healed, hardness and strength are estimates [Franciscan].	10				80	0						
	45														
89.00	46														
	47														
87.00	48		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, moderate yellowish brown medium gray, moderately weathered, very weak, moderately soft, very intensely fractured, joint, not healed, hardness and strength are estimates [Franciscan].	11				100	12						
	49														
85.00	50														
	51														
83.00	52														
	53														
81.00	54														
	55														

(continued)



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REPORT TITLE <b>BORING RECORD</b>				HOLE ID <b>P 3</b>	
DIST. <b>04</b>	COUNTY <b>Mendocino</b>	ROUTE <b>01MEN1</b>	POSTMILE <b>L82.2/D82.3</b>	EA <b>04-472601</b>	
PROJECT OR BRIDGE NAME <b>Union Landing</b>					
BRIDGE NUMBER		PREPARED BY		DATE	SHEET <b>2 of 4</b>

CALTRANS BORING RECORD 052007 UNION LANDING.GPJ CT SACTO 053107.GDT 12/18/07

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (kN/m <sup>3</sup> )	Shear Strength (kPa)	Drilling Method	Casing Depth	Remarks
79.00	55		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, moderate yellowish brown medium gray, moderately weathered, very weak, moderately soft, very intensely fractured, joint, not healed, hardness and strength are estimates [Franciscan].		12			60	25						
	56														
	57														
77.00	58														
	59														
75.00	60		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, moderate yellowish brown medium gray, moderately weathered, weak, moderately soft, intensely fractured, joint, not healed, hardness and strength are estimates [Franciscan].		13			120	0						
	61														
	62														
	63														
71.00	64														
	65														
69.00	66		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, medium gray medium gray, moderately weathered, weak, moderately soft, moderately fractured, joint, not healed, hardness and strength are estimates [Franciscan].		14			80	60						
	67														
	68														
	69														
65.00	70		At 70 ft, with Siltstone, fine-grained to medium-grained, moderate yellowish brown dark gray, moderately weathered, weak, moderately soft, very intensely fractured, shear, not healed, hardness and strength are estimates.		15			80	0						
	71														
	72														
	73														
61.00	74														
	75														
59.00	76		At 75 ft, with Siltstone, fine-grained to medium-grained, moderate yellowish brown dark gray, slightly weathered to fresh, very weak, moderately soft, very intensely fractured, shear, not healed, hardness and strength are estimates.		16			26	60						
	77														
	78														
	79														
55.00	80		At 80 ft, with Siltstone, fine-grained to medium-grained, medium gray dark gray, slightly weathered to fresh, extremely weak, moderately soft, very intensely fractured, shear, not healed, hardness and strength are estimates.		17			80	0						
	81														
	82														
	83														
51.00	84														
	85														

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REPORT TITLE <b>BORING RECORD</b>				HOLE ID <b>P 3</b>	
DIST. <b>04</b>	COUNTY <b>Mendocino</b>	ROUTE <b>01MEN1</b>	POSTMILE <b>L82.2/D82.3</b>	EA <b>04-472601</b>	
PROJECT OR BRIDGE NAME <b>Union Landing</b>					
BRIDGE NUMBER		PREPARED BY		DATE	SHEET <b>3 of 4</b>

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Blows per 6 in.	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (kN/m <sup>3</sup> )	Shear Strength (kPa)	Drilling Method	Casing Depth	Remarks
				Sample Number										
49.00	85		At 85 ft, with Siltstone, fine-grained to medium-grained, medium gray dark gray, slightly weathered to fresh, weak, moderately soft, very intensely fractured, shear, not healed, hardness and strength are estimates.	18			40	0						
47.00	86													
45.00	87													
43.00	88		At 90 ft, with Siltstone, fine-grained to medium-grained, medium gray dark gray, slightly weathered to fresh, very weak, moderately soft, very intensely fractured, joint, not healed, hardness and strength are estimates.	19			48	0						
41.00	89													
39.00	90													
37.00	91		At 95 ft, with Siltstone, fine-grained to medium-grained, medium gray dark gray, slightly weathered to fresh, very weak, moderately soft, very intensely fractured, joint, not healed, hardness and strength are estimates.	20			14	0						
35.00	92													
33.00	93													
31.00	94		Bottom of Borehole at 100.0 ft. gw estimate from core											
29.00	95													
27.00	96													
25.00	97													
23.00	98													
21.00	99													
	100													
	101													
	102													
	103													



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REPORT TITLE BORING RECORD				HOLE ID P 3	
DIST. 04	COUNTY Mendocino	ROUTE 01MEN1	POSTMILE L82.2/D82.3	EA 04-472601	
PROJECT OR BRIDGE NAME Union Landing					
BRIDGE NUMBER		PREPARED BY		DATE	SHEET 4 of 4

LOGGED BY K. Griswell	BEGIN DATE M. 06-15-07	COMPLETION DATE 6-13-07	BOREHOLE LOCATION (Lat/Long or North/East and Datum) 39° 41' 43.14" / 123° 47' 55.62" NAD83	HOLE ID P 4
DRILLING CONTRACTOR Caltrans	BOREHOLE LOCATION (Station, Offset, Line) Sta - Offset L		SURFACE ELEVATION 138 ft NAVD 88	
DRILLING METHOD Rotary Wire-Line	DRILL RIG Acker AD2		BOREHOLE DIAMETER	
SAMPLER TYPE(S) AND SIZE(S) (ID) HQ Core	SPT HAMMER TYPE		HAMMER EFFICIENCY, ERI	
BOREHOLE BACKFILL AND COMPLETION Slope Inclinator 3.34"	GROUNDWATER READINGS	DURING DRILLING 20 ft on	AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING 100.0 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (kN/m <sup>3</sup> )	Shear Strength (kPa)	Drilling Method	Casing Depth	Remarks
136.00	1		CLAYEY SAND with GRAVEL (SP-SM); dark reddish brown.		1			57	0						
132.00	5		Poorly graded SAND with SILT (SP-SM); dark reddish brown.		2			42	0						
130.00	7		Poorly graded SAND with CLAY and GRAVEL (SP-SM); strong brown.		3			89	0						
128.00	10		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained medium-grained, dark gray grades to black, moderately weathered, weak to medium strong, moderately hard, very intensely fractured, fracture zone, not healed, (Franciscan).		4			128	0						
126.00	12				5			122	0						
124.00	14		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, dark gray grades to black, moderately weathered, medium strong, moderately hard, very intensely fractured, fracture zone, not healed.		6			100	0						
122.00	15		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, dark gray grades to black, moderately weathered, medium strong, moderately hard, very intensely fractured, shear, not healed.		7			75	0						
120.00	17		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, slightly weathered, shear/fault zone, not healed.												
118.00	20		At 20 ft, with siltstone, fine-grained to medium-grained, slightly weathered to fresh, shear/fault zone, not healed.		8			56	0						
114.00	23		At 23 ft, with siltstone, fine-grained to medium-grained, slightly weathered to fresh, shear/fault zone, not healed.		9			83	0						

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 <p>Department of Transportation Division of Engineering Services Geotechnical Services Office of Geotechnical Design - West</p>	REPORT TITLE BORING RECORD			HOLE ID P 4	
	DIST. 04	COUNTY Mendocino	ROUTE 01MEN1	POSTMILE L82.2/D82.3	EA 04-472601
	PROJECT OR BRIDGE NAME Union Landing				
	BRIDGE NUMBER	PREPARED BY	DATE	SHEET 1 of 4	

CALTRANS BORING RECORD 052007 UNION LANDING.GPJ CT SACTO 053107.GDT 12/17/07

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location Sample Number	Blows per 6 in.	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (kN/m <sup>3</sup> )	Shear Strength (kPa)	Drilling Method	Casing Depth	Remarks
112.00	25			10			0							
110.00	27		At 27 ft, with siltstone, fine-grained to medium-grained, slightly weathered to fresh, shear/fault zone, not healed.	11			28							
108.00	30		At 30 ft, with fine-grained to medium-grained, slightly weathered to fresh, shear/fault zone, not healed.	12			40	0						
102.00	35		At 35 ft, with fine-grained to medium-grained, slightly weathered to fresh, shear/fault zone, not healed.	13			80	0						
100.00	37.5		At 37.5 ft, with siltstone, fine-grained to medium-grained, slightly weathered to fresh, shear/fault zone, not healed.	14			47	0						
98.00	40		At 40 ft, with siltstone, fine-grained to medium-grained, slightly weathered to fresh, shear/fault zone, not healed.	15			50	0						
96.00	42.5		At 42.5 ft, with siltstone, fine-grained to medium-grained, slightly weathered to fresh, shear/fault zone, not healed.	16			47	0						
94.00	45		At 45 ft, with fine-grained to medium-grained, slightly weathered to fresh, shear/fault zone, not healed.	17			100	0						
92.00	46		At 46 ft, with siltstone, fine-grained to medium-grained, slightly weathered to fresh, shear/fault zone, not healed.	18			50	0						
88.00	50		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, slightly weathered to fresh, shear/fault zone, not healed.	19			50	0						

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Department of Transportation  
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REPORT TITLE BORING RECORD				HOLE ID P 4	
DIST. 04	COUNTY Mendocino	ROUTE 01MEN1	POSTMILE L82.2/D82.3	EA 04-472601	
PROJECT OR BRIDGE NAME Union Landing					
BRIDGE NUMBER		PREPARED BY		DATE	SHEET 2 of 4

CALTRANS BORING RECORD 052007 UNION LANDING.GPJ CT SACTO 053107.GDT 12/17/07

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location Sample Number	Blows per 6 in.	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (kN/m <sup>3</sup> )	Shear Strength (kPa)	Drilling Method	Casing Depth	Remarks
82.00	55		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, slightly weathered to fresh, shear/fault zone, not healed.	20			0	0						
	56													
	57													
80.00	58		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, slightly weathered to fresh, shear/fault zone, not healed, [Franciscan].	21			0	0						
	59													
78.00	60													
	61													
76.00	62													
	63													
74.00	64													
	65													
72.00	66													
	67													
70.00	68													
	69													
68.00	70													
	71													
66.00	72													
	73													
64.00	74													
	75													
62.00	76													
	77													
60.00	78													
	79													
58.00	80													
	81													
56.00	82													
	83													
54.00	84													
	85													

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REPORT TITLE BORING RECORD				HOLE ID P 4	
DIST. 04	COUNTY Mendocino	ROUTE 01MEN1	POSTMILE L82.2/D82.3	EA 04-472601	
PROJECT OR BRIDGE NAME Union Landing					
BRIDGE NUMBER		PREPARED BY		DATE	SHEET 3 of 4

CALTRANS BORING RECORD 052107 UNION LANDING.GPJ CT SACTO 053107.GDT 12/17/07

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per Foot	Recovery (%)	RCID (%)	Moisture Content (%)	Dry Unit Weight (kN/m <sup>3</sup> )	Shear Strength (kPa)	Drilling Method	Casing Depth	Remarks
52.00	86														
50.00	88														
48.00	90														
46.00	92														
44.00	94														
42.00	96														
40.00	98														
38.00	100		Bottom of Borehole at 100.0 ft. gw estimate from core												
36.00	102														
34.00	104														
32.00	106														
30.00	108														
28.00	110														
26.00	112														
24.00	114														
	115														



Department of Transportation  
 Division of Engineering Services  
 Geotechnical Services  
 Office of Geotechnical Design - West

REPORT TITLE BORING RECORD				HOLE ID P 4	
DIST. 04	COUNTY Mendocino	ROUTE 01MEN1	POSTMILE L82.2/D82.3	EA 04-472601	
PROJECT OR BRIDGE NAME Union Landing					
BRIDGE NUMBER	PREPARED BY	DATE	SHEET 4 of 4		

CALTRANS BORING RECORD 052007 UNION LANDING.GPJ CT SACTO 053107.GDT 12/17/07

LOGGED BY Marcia Klesse	BEGIN DATE 6-5-07	COMPLETION DATE 6-5-07	BOREHOLE LOCATION (Lat/Long or North/East and Datum) 39° 41' 45.1" / 123° 47' 55.41" NAD83	HOLE ID P 5
DRILLING CONTRACTOR Caltrans	BOREHOLE LOCATION (Station, Offset, Line) Sta ~ Offset L		SURFACE ELEVATION 141 ft NAVD 88	
DRILLING METHOD Rotary Wire-Line	DRILL RIG Acker AD2		BOREHOLE DIAMETER	
SAMPLER TYPE(S) AND SIZE(S) (ID) HQ Core	SPT HAMMER TYPE		HAMMER EFFICIENCY, ERI	
BOREHOLE BACKFILL AND COMPLETION Slope inclinometer 3.34"	GROUNDWATER READINGS	DURING DRILLING	AFTER DRILLING (DATE) 20 ft on	TOTAL DEPTH OF BORING 100.0 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location Sample Number	Blows per 6 in.	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (kN/m <sup>3</sup> )	Shear Strength (kPa)	Drilling Method	Casing Depth	Remarks
0	0													
139.00	1		No sampling.											
137.00	4													
135.00	5		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, moderate yellowish brown, very intensely weathered, extremely to very weak, hard, very intensely fractured, shear, not healed, (Franciscan).	c10			72	0						
133.00	7		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, greenish gray, very intensely weathered, extremely weak, very soft to soft, very intensely fractured, shear, not healed.	c02			29	0						
131.00	10		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained medium-grained, moderate yellowish brown, intensely weathered, very weak, very soft to soft, very intensely fractured, shear, not healed.	c03			72	0						
129.00	12		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained medium-grained, moderate yellowish brown, intensely weathered, very weak, very soft to soft, very intensely fractured, shear, not healed.	c04			60	0						
127.00	15		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained medium-grained, intensely weathered, very weak, very soft to soft, very intensely fractured, shear, not healed.	c05			28	0						
125.00	18													
123.00	20		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained medium-grained, intensely weathered, very weak, very soft to soft, very intensely fractured, shear, not healed.	c06			100	0						
121.00	21													
119.00	22													
117.00	24		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained medium-grained, dark gray, slightly	c07			100	0						

(continued)

 Department of Transportation Division of Engineering Services Geotechnical Services Office of Geotechnical Design - West	REPORT TITLE BORING RECORD			HOLE ID P 5	
	DIST. 04	COUNTY Mendocino	ROUTE 01 MEN1	POSTMILE L82.2/D82.3	EA 04-472601
	PROJECT OR BRIDGE NAME Union Landing				
	BRIDGE NUMBER	PREPARED BY	DATE	SHEET 1 of 4	

CALTRANS BORING RECORD 052007 UNION LANDING.GPJ CT SACTO 053107.GDT 12/17/07

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location Sample Number	Blows per 6 in.	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (kN/m <sup>3</sup> )	Shear Strength (kPa)	Drilling Method	Casing Depth	Remarks
115.00	25		weathered, very weak, very soft to soft, very intensely fractured, shear, not healed.	c08			100	0						
	26		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained medium-grained, slightly weathered, very weak, very soft to soft, very intensely fractured, shear, not healed.											
	27													
113.00	28		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained medium-grained, dark gray, moderately weathered, very weak, very soft to soft, very intensely fractured, shear, not healed.	c09			100	0						
	29													
111.00	30		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, grayish blue, moderately weathered, very weak, very soft to soft, very intensely fractured, shear, not healed.	c10			100	0						
	31													
109.00	32													
	33													
107.00	34													
	35													
105.00	36		At 35 ft, with Wacke (Lithic Arenite), fine-grained, grayish green, moderately weathered, very weak to weak, very soft to soft, very intensely fractured, shear, not healed.	11			100	0						
	37													
103.00	38		At 37 ft, with Wacke (Lithic Arenite), fine-grained, grayish green, moderately weathered, very weak, very soft to soft, very intensely fractured, shear/fault zone, not healed.	12			67	0						
	39													
101.00	40		At 40 ft, with Wacke (Lithic Arenite), fine-grained, dark gray, moderately weathered, very weak to weak, moderately soft, very intensely fractured, shear/fault zone, not healed.	13			100	30						
	41													
99.00	42													
	43													
97.00	44													
	45													
95.00	46		At 45 ft, with Wacke (Lithic Arenite), fine-grained, dark gray, moderately weathered, very weak to weak, moderately soft, very intensely fractured, shear/fault zone, not healed.	14			95	0						
	47													
93.00	48													
	49													
91.00	50		SEDIMENTARY ROCK (Siltstone), fine-grained, moderately weathered, very weak to weak, moderately soft, very intensely fractured, shear/fault zone, not healed.	15			100	0						
	51													
89.00	52													
	53		SEDIMENTARY ROCK (Siltstone), fine-grained, medium gray to dark gray, slightly weathered, very weak to weak, moderately soft, very intensely fractured, shear/fault zone, not healed.	16			97	0						
87.00	54													

(continued)



Department of Transportation  
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 Office of Geotechnical Design - West

REPORT TITLE BORING RECORD				HOLE ID P 5	
DIST. 04	COUNTY Mendocino	ROUTE 01MEN1	POSTMILE L82.2/D82.3	EA 04-472601	
PROJECT OR BRIDGE NAME Union Landing					
BRIDGE NUMBER		PREPARED BY		DATE	SHEET 2 of 4

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location Sample Number	Blows per 6 in.	Blows per Foot	Recovery (%)	RCOD (%)	Moisture Content (%)	Dry Unit Weight (kN/m <sup>3</sup> )	Shear Strength (kPa)	Drilling Method	Casing Depth	Remarks
85.00	55		At 55 ft, with Wacke (Lithic Arenite), fine-grained, fresh, very weak to weak, moderately soft, very intensely fractured, shear/fault zone, not healed.	17			95	0						
	56													
	57													
83.00	58													
	59													
81.00	60		At 60 ft, with Wacke (Lithic Arenite), fine-grained, very weak to weak, moderately soft, very intensely fractured, shear/fault zone, not healed.	18			83	0						
	61													
79.00	62													
	63													
77.00	64		At 63 ft, with Wacke (Lithic Arenite), fine-grained, medium gray to dark gray, fresh, very weak to weak, moderately soft, very intensely fractured, shear/fault zone, not healed.	19			100	0						
	65													
75.00	66		At 65 ft, with Wacke (Lithic Arenite), fine-grained, very weak to weak, moderately soft, very intensely fractured, shear/fault zone, not healed.	20			100	67						
	67													
73.00	68		At 67.5 ft, with Wacke (Lithic Arenite), fine-grained, medium gray to dark gray, very weak to weak, moderately soft, very intensely fractured, shear/fault zone, not healed.	21			100	0						
	69													
71.00	70		At 70 ft, with Wacke (Lithic Arenite), fine-grained, fresh, very weak to weak, moderately soft, very intensely fractured, shear/fault zone, not healed.	22			100	0						
	71													
69.00	72													
	73													
67.00	74		At 73 ft, with Wacke (Lithic Arenite), fine-grained, very weak to weak, moderately soft, very intensely fractured, shear, not healed.	23			100	0						
	75													
65.00	76		At 75 ft, with Wacke (Lithic Arenite), fine-grained, light bluish gray to dark gray, very weak to weak, moderately soft, very intensely fractured, shear/fault zone, not healed.	24			100	0						
	77													
63.00	78		At 77 ft, with Wacke (Lithic Arenite), fine-grained, fresh, very weak to weak, moderately soft, very intensely fractured, shear/fault zone, not healed.	5			100	0						
	79													
61.00	80		At 80 ft, with Wacke (Lithic Arenite), fine-grained, very weak to weak, moderately soft, very intensely fractured, shear/fault zone, not healed.	26			100	0						
	81													
59.00	82													
	83													
57.00	84		SEDIMENTARY ROCK (Siltstone), fine-grained, fresh, very weak to weak, moderately soft, very intensely fractured, shear, not healed.	27			100	0						
	85													

(continued)



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REPORT TITLE BORING RECORD				HOLE ID P 5	
DIST. 04	COUNTY Mendocino	ROUTE 01MEN1	POSTMILE L82.2/D82.3	EA 04-472601	
PROJECT OR BRIDGE NAME Union Landing					
BRIDGE NUMBER		PREPARED BY		DATE	SHEET 3 of 4

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (kN/m <sup>3</sup> )	Shear Strength (kPa)	Drilling Method	Casing Depth	Remarks
55.00	85		At 85 ft, with Siltstone, fine-grained, light bluish gray to dark gray, very weak to weak, moderately soft, very intensely fractured, shear, not healed.		28			100	13						
51.00	89		At 89 ft, with Siltstone, fine-grained, very weak to weak, moderately soft, very intensely fractured, shear, not healed.		29			100	0						
49.00	90		At 90 ft, with Siltstone, fine-grained, fresh, very weak to weak, moderately soft, very intensely fractured, shear, not healed.		30			100	0						
47.00	92		At 92 ft, with Wacke (Lithic Arenite), fine-grained, very weak to weak, moderately soft, very intensely fractured, shear, not healed.		31			100	0						
45.00	95		At 95 ft, with Wacke (Lithic Arenite), fine-grained, very weak to weak, moderately soft, very intensely fractured, shear, not healed.		32			100	0						
43.00	97		At 97 ft, with Wacke (Lithic Arenite), fine-grained, light bluish gray to dark gray, fresh, very weak to weak, moderately soft, very intensely fractured, shear, not healed.		33			100	0						
41.00	100	Bottom of Borehole at 100.0 ft. gw estimate from core													
39.00	101														
37.00	102														
35.00	103														
33.00	104														
31.00	105														
29.00	106														
27.00	107														
	108														
	109														
	110														
	111														
	112														
	113														
	114														
	115														



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REPORT TITLE BORING RECORD				HOLE ID P 5	
DIST. 04	COUNTY Mendocino	ROUTE 01MEN1	POSTMILE L82.2/D82.3	EA 04-472601	
PROJECT OR BRIDGE NAME Union Landing					
BRIDGE NUMBER		PREPARED BY		DATE	SHEET 4 of 4

CALTRANS BORING RECORD 052007 UNION LANDING.GPJ CT SACTO 053107.GDT 12/17/07

LOGGED BY Luis Paredes	BEGIN DATE 6-19-07	COMPLETION DATE 6-20-07	BOREHOLE LOCATION (Lat/Long or North/East and Datum) 39° 41' 45.25" / 123° 47' 55.06" NAD83	HOLE ID P 6
DRILLING CONTRACTOR Caltrans			BOREHOLE LOCATION (Station, Offset, Line) Sta ~ Offset L	SURFACE ELEVATION 122 ft NAVD 88
DRILLING METHOD Rotary Wire-Line			DRILL RIG Acker AD2	BOREHOLE DIAMETER HQ Impac 3.75" OD
SAMPLER TYPE(S) AND SIZE(S) (ID) HQ Core			SPT HAMMER TYPE	HAMMER EFFICIENCY, ERI
BOREHOLE BACKFILL AND COMPLETION Slope Inclinator 3.34"			GROUNDWATER DURING DRILLING AFTER DRILLING (DATE) READINGS 35 ft on	TOTAL DEPTH OF BORING 100.0 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location Sample Number	Blows per 6 in.	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (kN/m <sup>3</sup> )	Shear Strength (kPa)	Drilling Method	Casing Depth	Remarks
120.00	2		Poorly graded SAND with SILT and GRAVEL (SP); fill.	1			20	0						
116.00	6		SEDIMENTARY ROCK (Siltstone), fine-grained, dark gray, very intensely weathered, extremely weak, very soft, very intensely fractured, shear/fault zone, not healed, [Franciscan].	2			64	0						
112.00	10		SEDIMENTARY ROCK (Siltstone), fine-grained, very intensely weathered, extremely weak, very soft, very intensely fractured, shear/fault zone, not healed.	3			80	0						
106.00	16		SEDIMENTARY ROCK (Siltstone), fine-grained, moderately weathered, extremely weak, very soft, very intensely fractured, shear/fault zone, not healed.	4			90	0						
104.00	17		SEDIMENTARY ROCK (Siltstone), fine-grained, moderately weathered, extremely weak, very soft, very intensely fractured, shear/fault zone, not healed.	5			100	0						
102.00	20		SEDIMENTARY ROCK (Siltstone), fine-grained, moderately weathered, extremely weak, very soft, very intensely fractured, shear/fault zone, not healed.	6			100	0						
100.00	21		SEDIMENTARY ROCK (Siltstone), fine-grained, moderately weathered, extremely weak, very soft, very intensely fractured, shear/fault zone, not healed.	7			40	0						

(continued)

 Department of Transportation Division of Engineering Services Geotechnical Services Office of Geotechnical Design - West	REPORT TITLE BORING RECORD			HOLE ID P 6	
	DIST. 04	COUNTY Mendocino	ROUTE 01MEN1	POSTMILE L82.2/D82.3	EA 04-472601
	PROJECT OR BRIDGE NAME Union Landing				
	BRIDGE NUMBER	PREPARED BY	DATE	SHEET 1 of 4	

CALTRANS BORING RECORD 052007 UNION LANDING.GPJ CT SACTO 053107.GDT 12/17/07

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (kN/m <sup>3</sup> )	Shear Strength (kPa)	Drilling Method	Casing Depth	Remarks
96.00	25		SEDIMENTARY ROCK (Siltstone), fine-grained, intensely weathered, extremely weak, very soft, very intensely fractured, shear/fault zone, not healed.		8			60	0						
94.00	28														
92.00	30								60	0					
90.00	32		SEDIMENTARY ROCK (Siltstone), fine-grained, moderately weathered, extremely weak, very soft, very intensely fractured, shear/fault zone, not healed.		9										
88.00	34														
86.00	36								70	0					
84.00	38		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, medium gray, moderately weathered, extremely weak, very soft, very intensely fractured, shear/fault zone, not healed.		10										
82.00	40														
80.00	42								70	0					
78.00	44		At 45 ft, with Wacke (Lithic Arenite), fine-grained to medium-grained, medium gray, moderately weathered, extremely weak, very soft, very intensely fractured, shear/fault zone, not healed.		12										
76.00	46								40	0					
74.00	48														
72.00	50		At 50 ft, with Wacke (Lithic Arenite), fine-grained to medium-grained, medium dark gray, slightly weathered to fresh, extremely weak, very soft, very intensely fractured, shear/fault zone, not healed.		13										
70.00	52								80	0					
68.00	54		At 52.5 ft, with Wacke (Lithic Arenite), fine-grained to medium-grained, medium dark gray, slightly weathered to fresh, extremely weak, very soft, very intensely fractured, shear/fault zone, not healed.		14										
	55							112	0						

(continued)

 <p>Department of Transportation Division of Engineering Services Geotechnical Services Office of Geotechnical Design - West</p>	REPORT TITLE BORING RECORD			HOLE ID P 6	
	DIST. 04	COUNTY Mendocino	ROUTE 01MEN1	POSTMILE L82.2/D82.3	EA 04-472601
	PROJECT OR BRIDGE NAME Union Landing				
	BRIDGE NUMBER	PREPARED BY	DATE	SHEET 2 of 4	

CALTRANS BORING RECORD 052007 UNION LANDING.GPJ CT SACTO 053107.GDT 12/17/07

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location Sample Number	Blows per 6 in.	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (kN/m <sup>3</sup> )	Shear Strength (kPa)	Drilling Method	Casing Depth	Remarks
66.00	55		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, medium gray, fresh, extremely weak, very soft, very intensely fractured, shear/fault zone, not healed.	15			80	0						
64.00	58		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, medium gray to medium dark gray, fresh, very weak, soft, very intensely fractured, shear/fault zone, not healed.	16			100	0						
62.00	60		At 60 ft, with Wacke (Lithic Arenite), fine-grained to medium-grained, medium gray to medium dark gray, fresh, very weak, soft, very intensely fractured, shear/fault zone, not healed.	17			100	0						
60.00	62		At 62 ft, with Wacke (Lithic Arenite), fine-grained to medium-grained, medium gray to medium dark gray, fresh, very weak, soft, very intensely fractured, shear/fault zone, not healed.	18			100	0						
56.00	66		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, medium gray to medium dark gray, fresh, very weak, soft, very intensely fractured, shear/fault zone, not healed.	19			60	17						
52.00	70		SEDIMENTARY ROCK (Wacke (Lithic Arenite)), fine-grained to medium-grained, medium gray to medium dark gray, fresh, very weak, soft, very intensely fractured, shear/fault zone, not healed.	20			100	11						
48.00	74		At 73 ft, with Wacke (Lithic Arenite), fine-grained to medium-grained, medium gray to medium dark gray, fresh, very weak, soft, very intensely fractured, shear/fault zone, not healed.	21			100	0						
46.00	76		At 75 ft, with Wacke (Lithic Arenite), fine-grained to medium-grained, medium gray to medium dark gray, fresh, very weak, soft, very intensely fractured, shear/fault zone, not healed.	22			80	14						
42.00	80		At 78.5 ft, with Siltstone, fine-grained to medium-grained, medium gray to medium dark gray, fresh, very weak, soft, very intensely fractured, shear/fault zone, not healed.	23			100	0						
40.00	81		At 80 ft, with Siltstone, fine-grained to medium-grained, medium gray to medium dark gray, fresh, very weak, soft, very intensely fractured, shear/fault zone, not healed.	24			56	0						

(continued)



Department of Transportation  
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REPORT TITLE BORING RECORD				HOLE ID P 6	
DIST. 04	COUNTY Mendocino	ROUTE 01MEN1	POSTMILE L82.2/D82.3	EA 04-472601	
PROJECT OR BRIDGE NAME Union Landing					
BRIDGE NUMBER	PREPARED BY	DATE	SHEET 3 of 4		

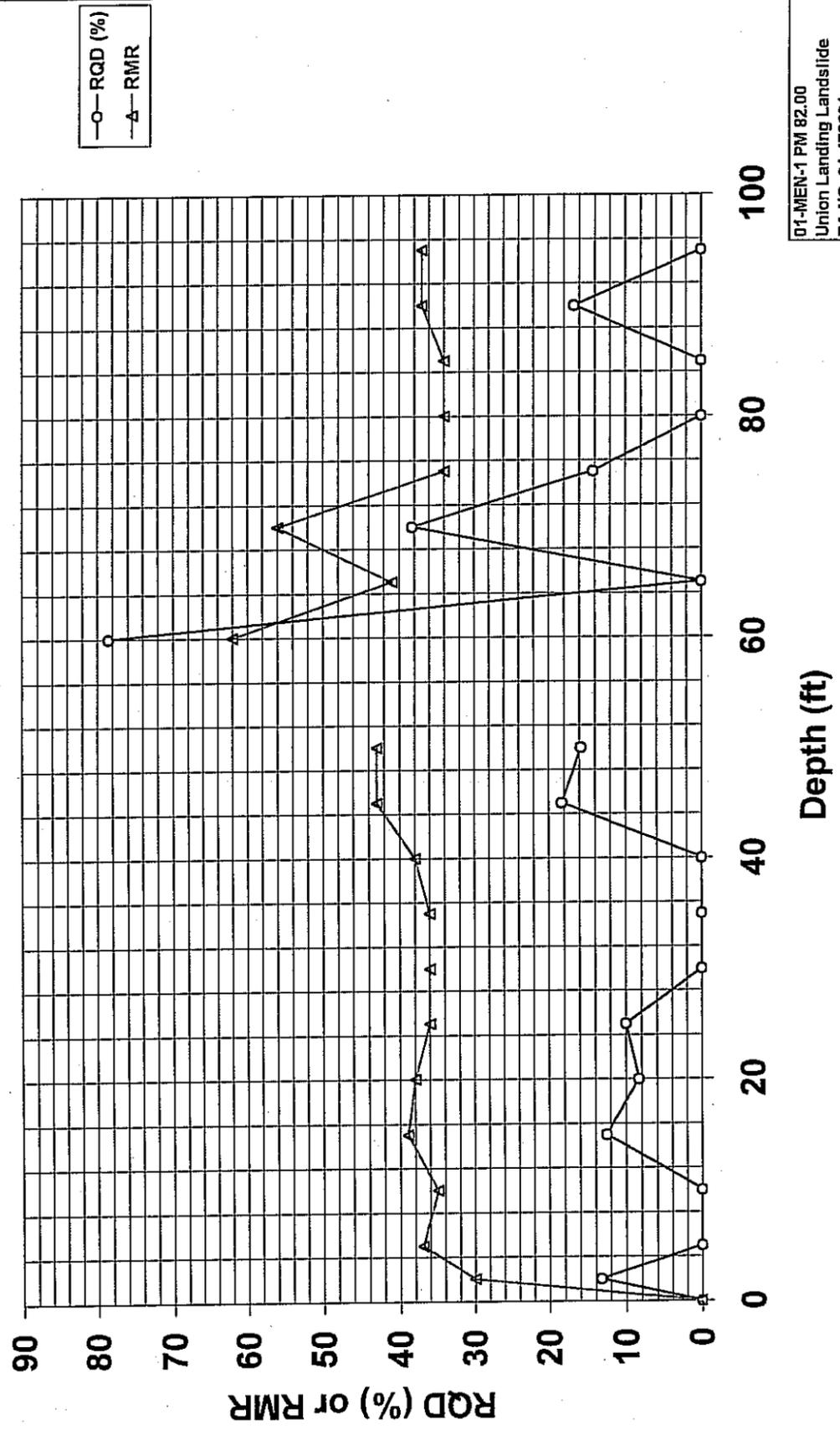
ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (kN/m <sup>3</sup> )	Shear Strength (kPa)	Drilling Method	Casing Depth	Remarks
36.00	85		At 85 ft, with Siltstone, fine-grained to medium-grained, medium gray to medium dark gray, fresh, very weak, soft, very intensely fractured, shear/fault zone, not healed.		25			96	0						
	86				26			92	0						
34.00	87		At 85.8 ft, with Siltstone, fine-grained to medium-grained, medium gray to medium dark gray, fresh, very weak, soft, very intensely fractured, shear/fault zone, not healed.												
	88				27			100	0						
32.00	89		At 88 ft, with Siltstone, fine-grained to medium-grained, medium gray to medium dark gray, fresh, very weak, soft, very intensely fractured, shear, not healed.												
	90				28			40	0						
30.00	91		At 90 ft, with Siltstone and shale, fine-grained to medium-grained, medium gray to medium dark gray, fresh, very weak, soft, very intensely fractured, shear, not healed.												
	92				29			88	0						
28.00	93		At 92.5 ft, with Siltstone and shale, fine-grained to medium-grained, medium gray to medium dark gray, fresh, very weak, soft, very intensely fractured, shear, not healed.												
	94				30			90	0						
26.00	95		At 95 ft, with Siltstone and shale, fine-grained to medium-grained, medium gray to medium dark gray, fresh, very weak, soft, very intensely fractured, shear, not healed.												
	96														
24.00	97														
	98														
22.00	99														
	100		Bottom of Borehole at 100.0 ft. gw estimate from core												
	101														
20.00	102														
	103														
18.00	104														
	105														
16.00	106														
	107														
14.00	108														
	109														
12.00	110														
	111														
10.00	112														
	113														
8.00	114														
	115														



Department of Transportation  
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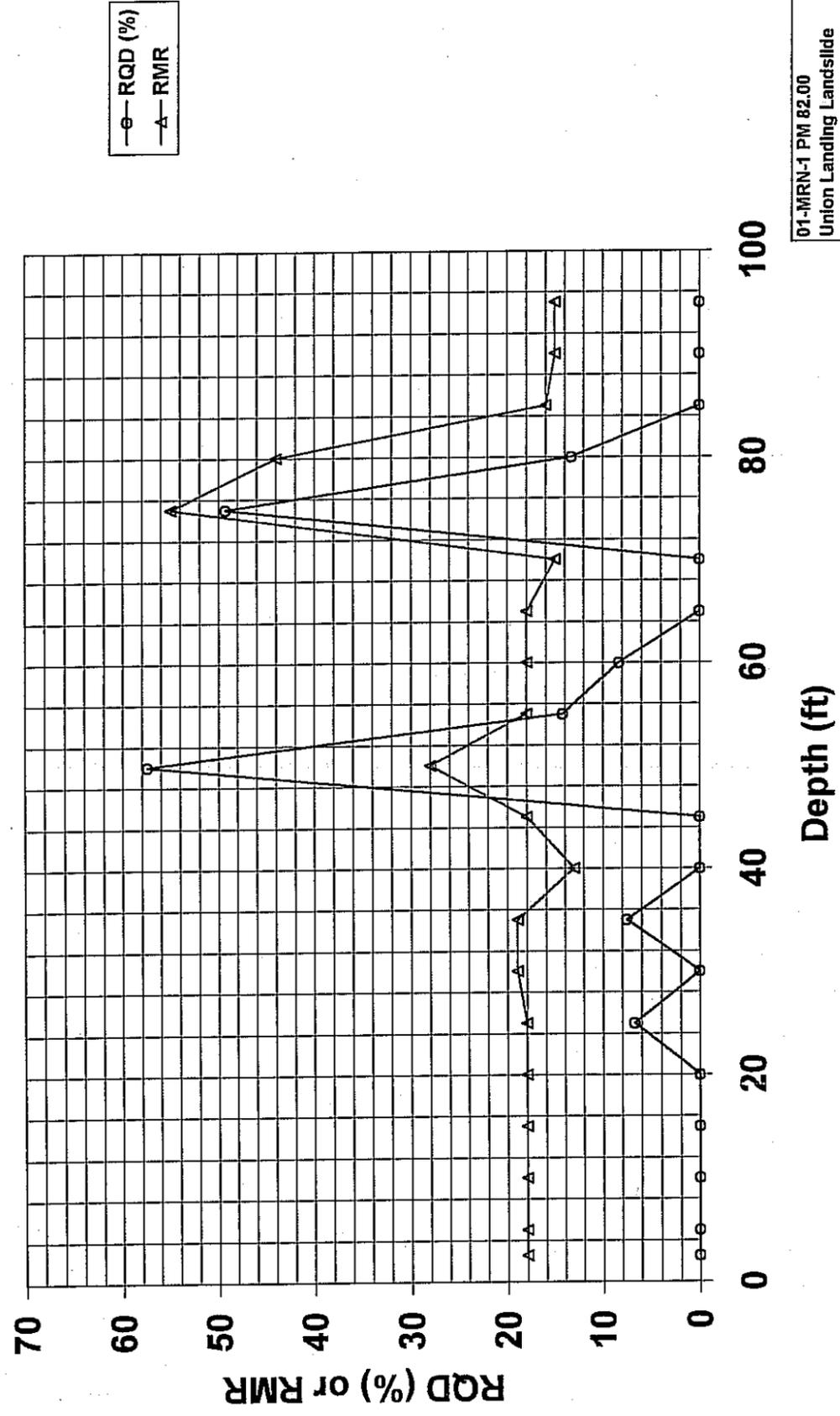
REPORT TITLE <b>BORING RECORD</b>				HOLE ID <b>P 6</b>	
DIST. 04	COUNTY Mendocino	ROUTE 01MEN1	POSTMILE L82.2/D82.3	EA 04-472601	
PROJECT OR BRIDGE NAME <b>Union Landing</b>					
BRIDGE NUMBER	PREPARED BY	DATE	SHEET 4 of 4		

# Boring P1



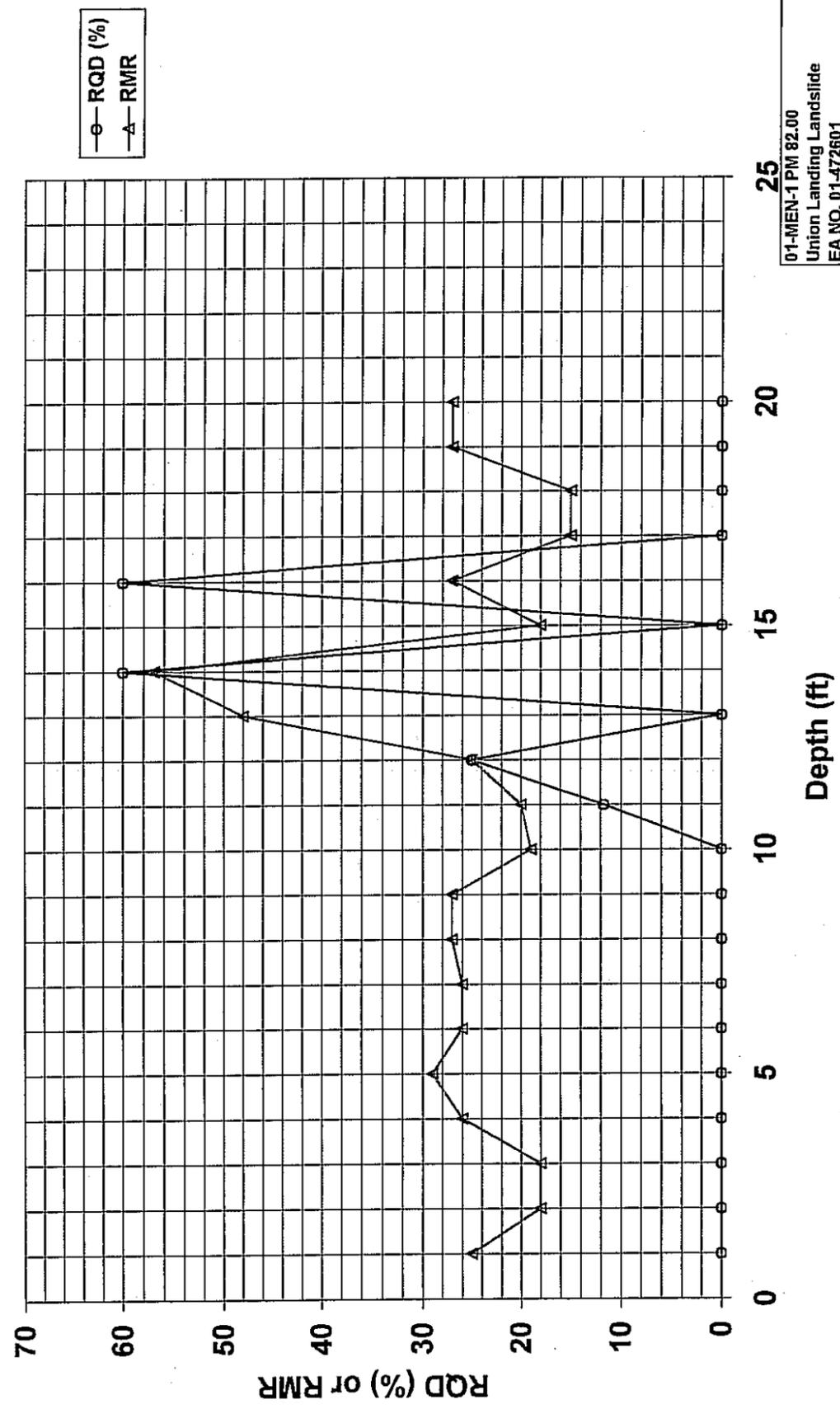
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Union Landing Landslide  
EA NO. 01-472601

# Boring P2



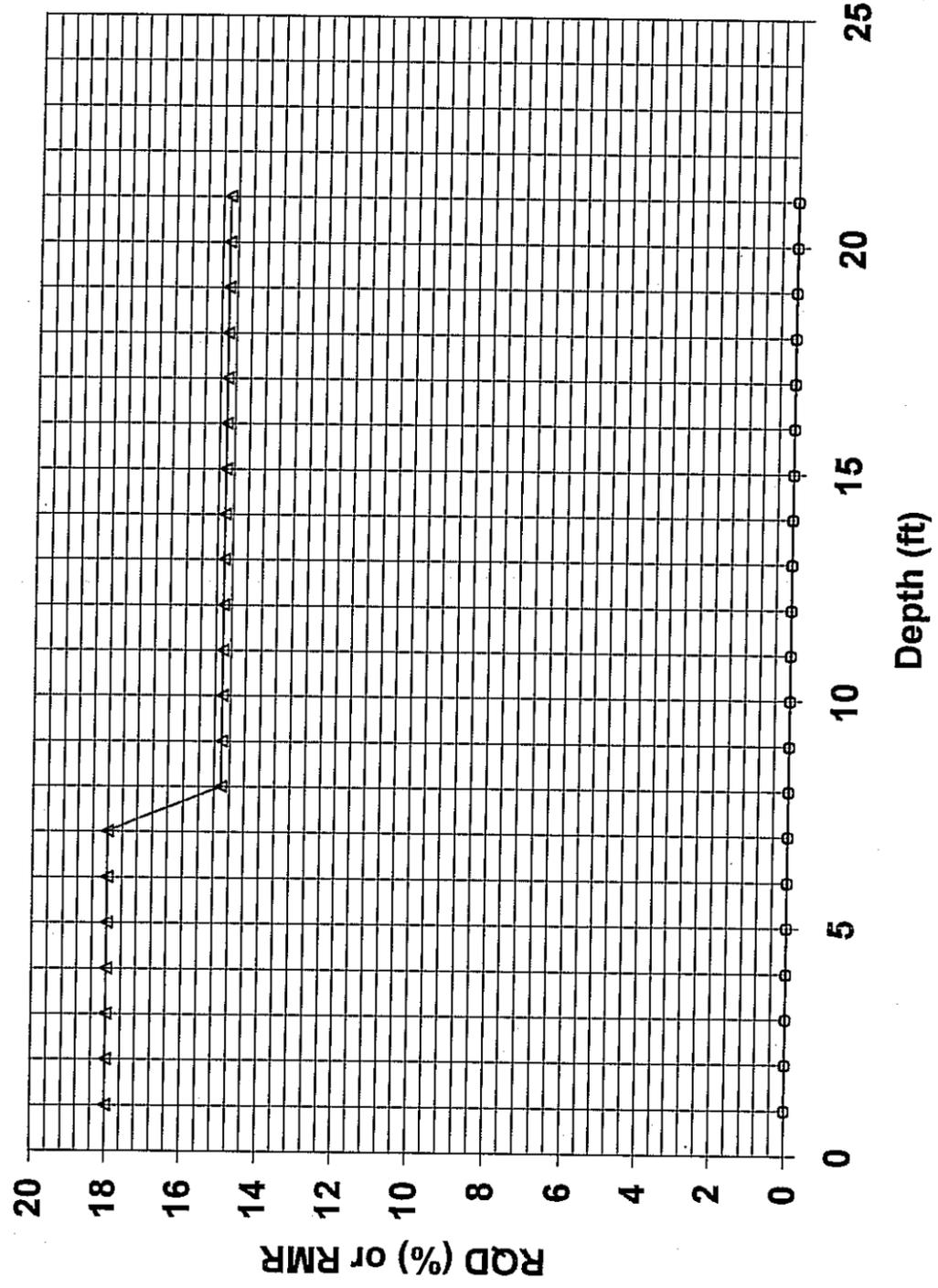
01-MRN-1 PM 82.00  
Union Landing Landslide  
EA NO. 01-472601

# Boring P3



01-MEN-1 PM 82.00  
Union Landing Landslide  
EA NO. 01-472601

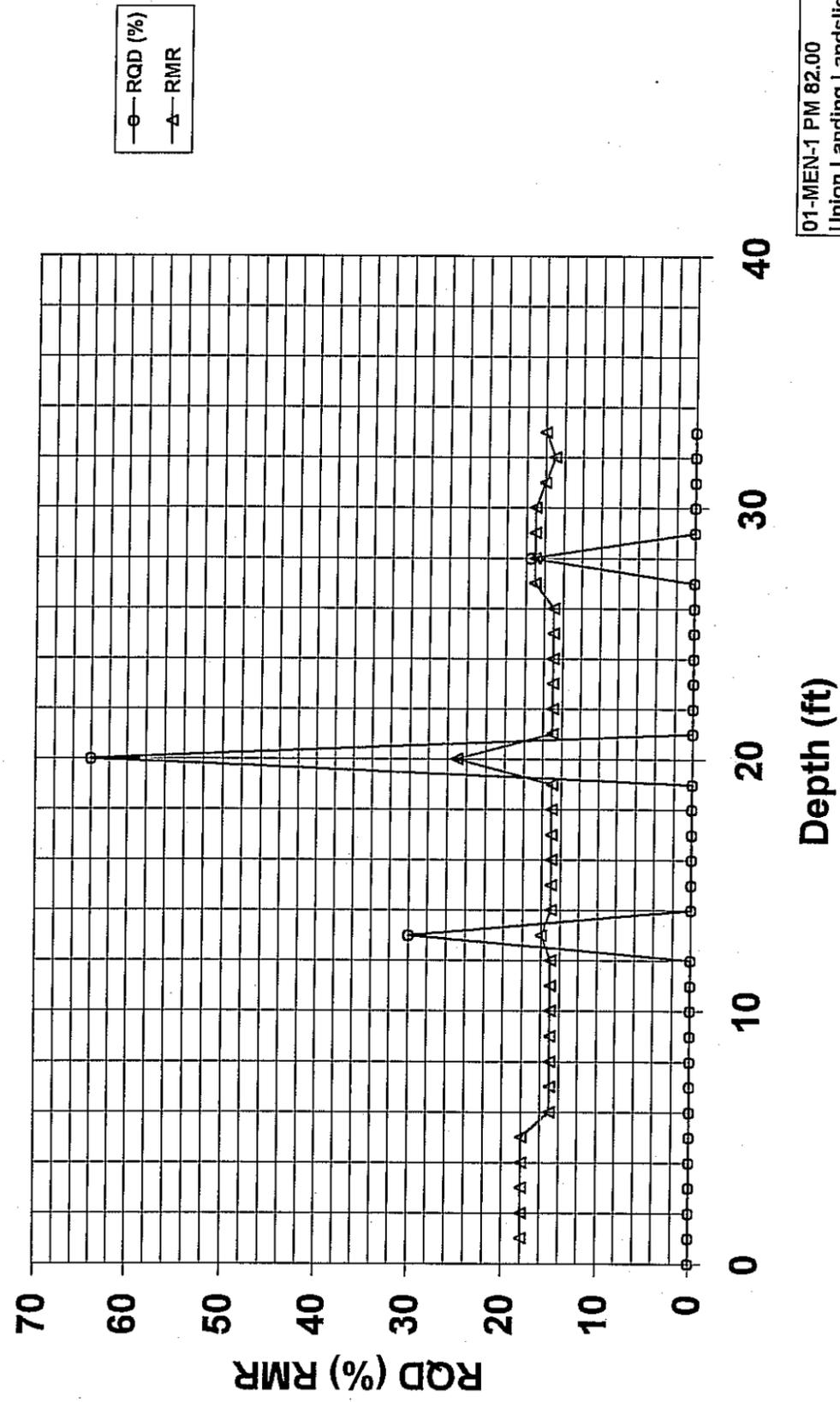
# Boring P4



○—RQD (%)  
—△—RMR

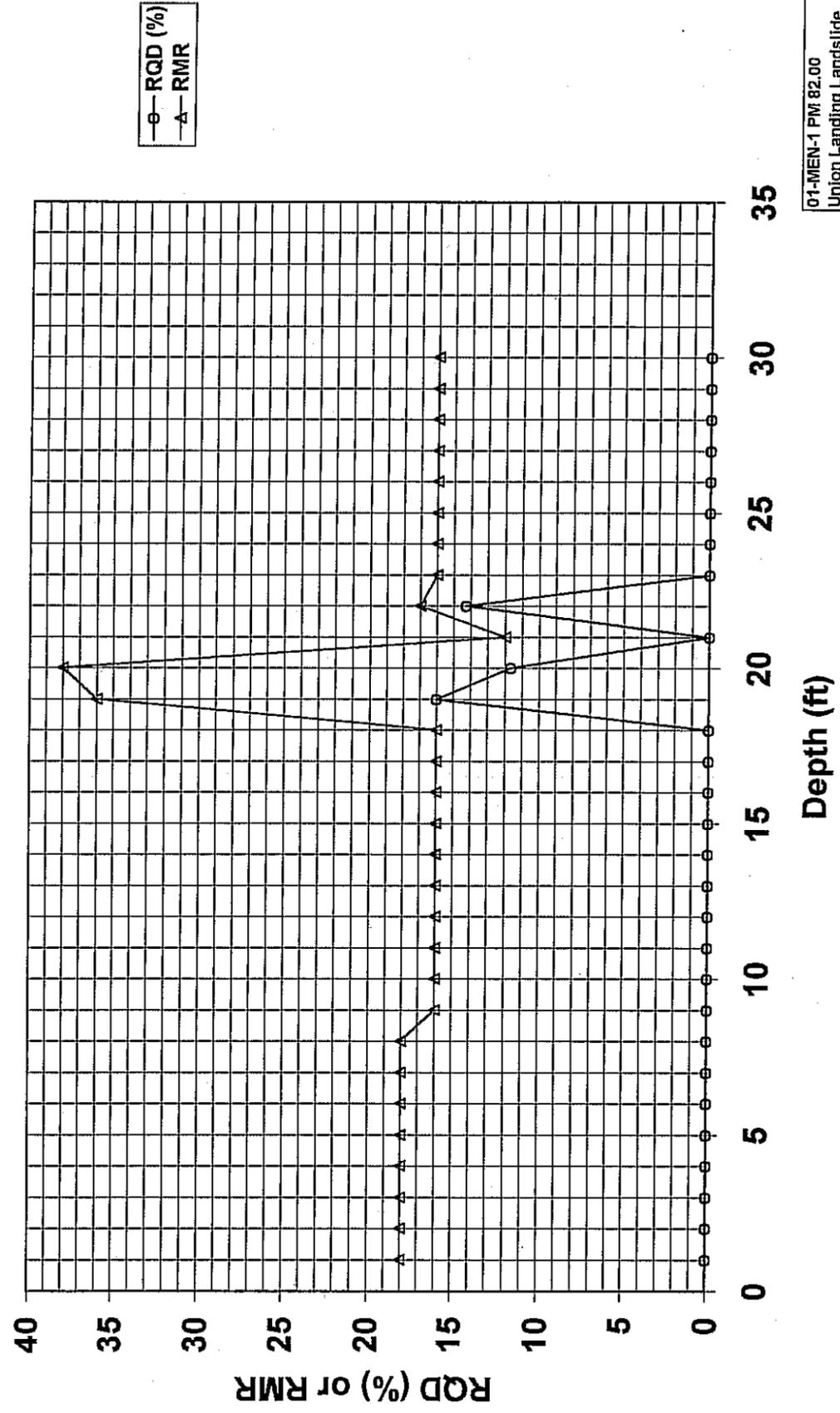
01-MEN-1 PM 82.00  
Union Landing Landslide  
EA NO. 01-472601

# Boring P5



01-MEN-1 PM 82.00  
Union Landing Landslide  
EA NO. 01-472601

# Boring P6



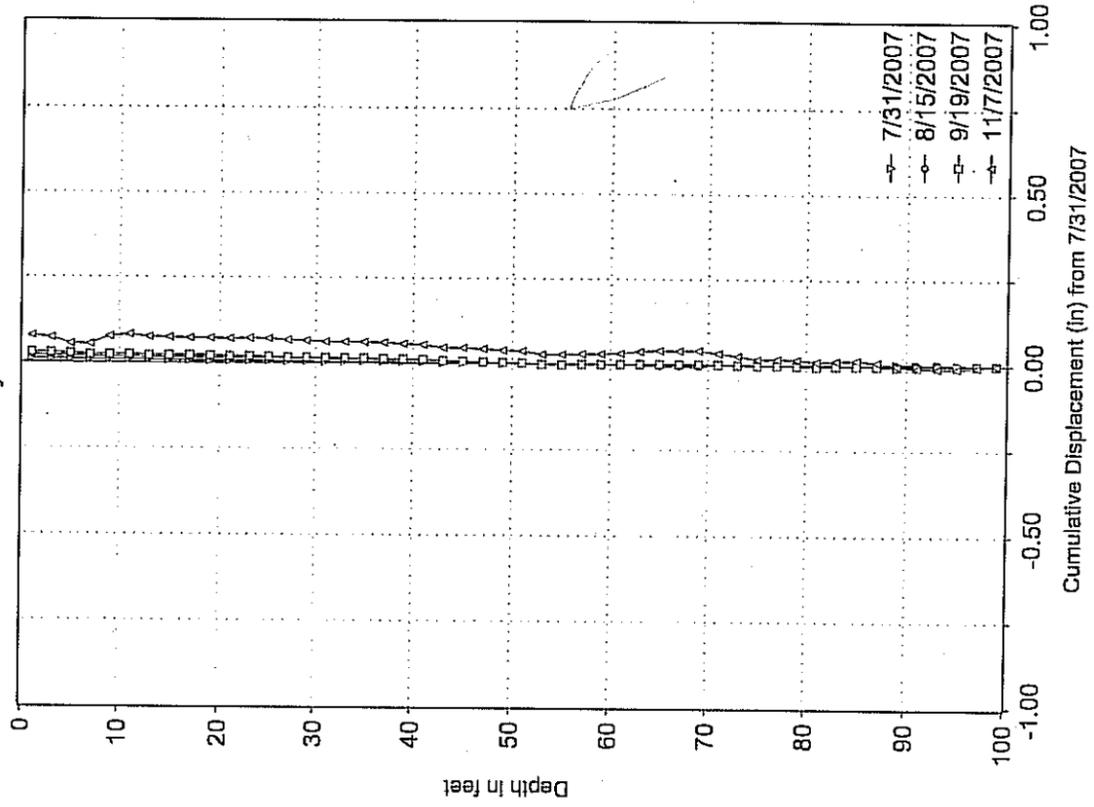
01-MEN-1 PM 82.00  
Union Landing Landslide  
EA No. 01-472601

## **Appendix B**

### **SI Plots**

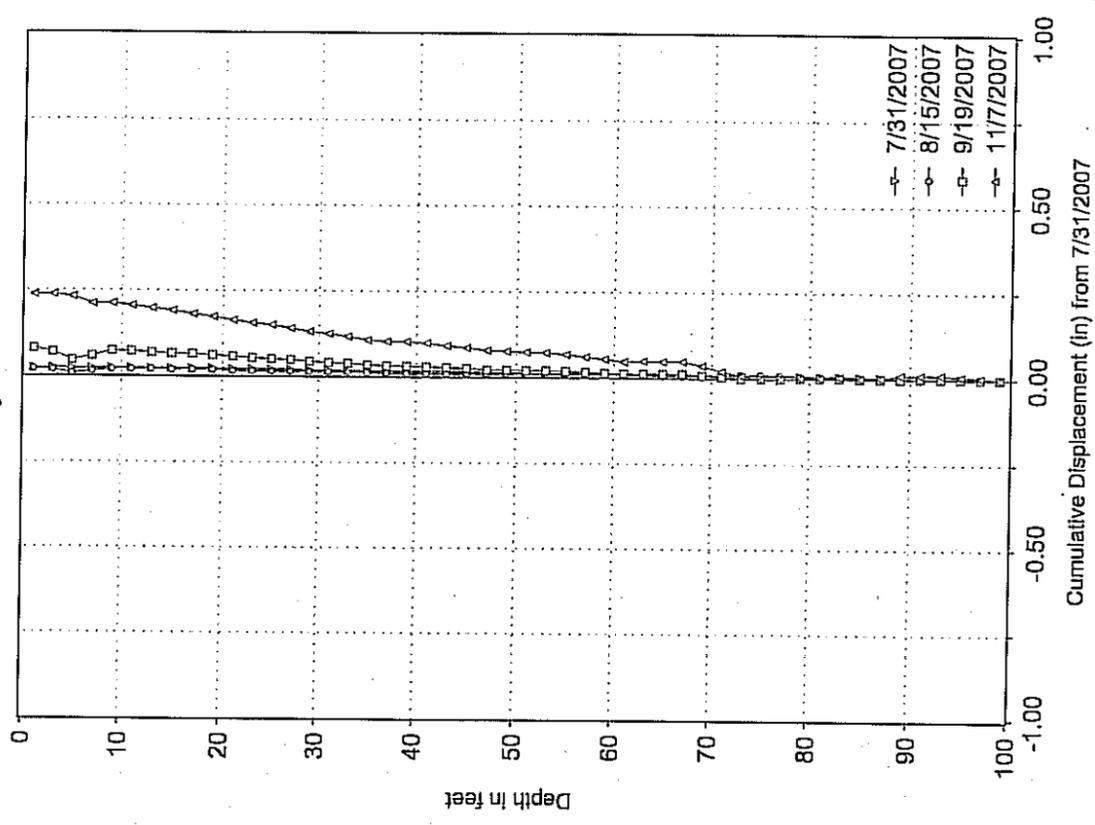
P4 12-17-07

UNION P3, A-AXIS



P4 12-17-07

UNION P3, B-AXIS

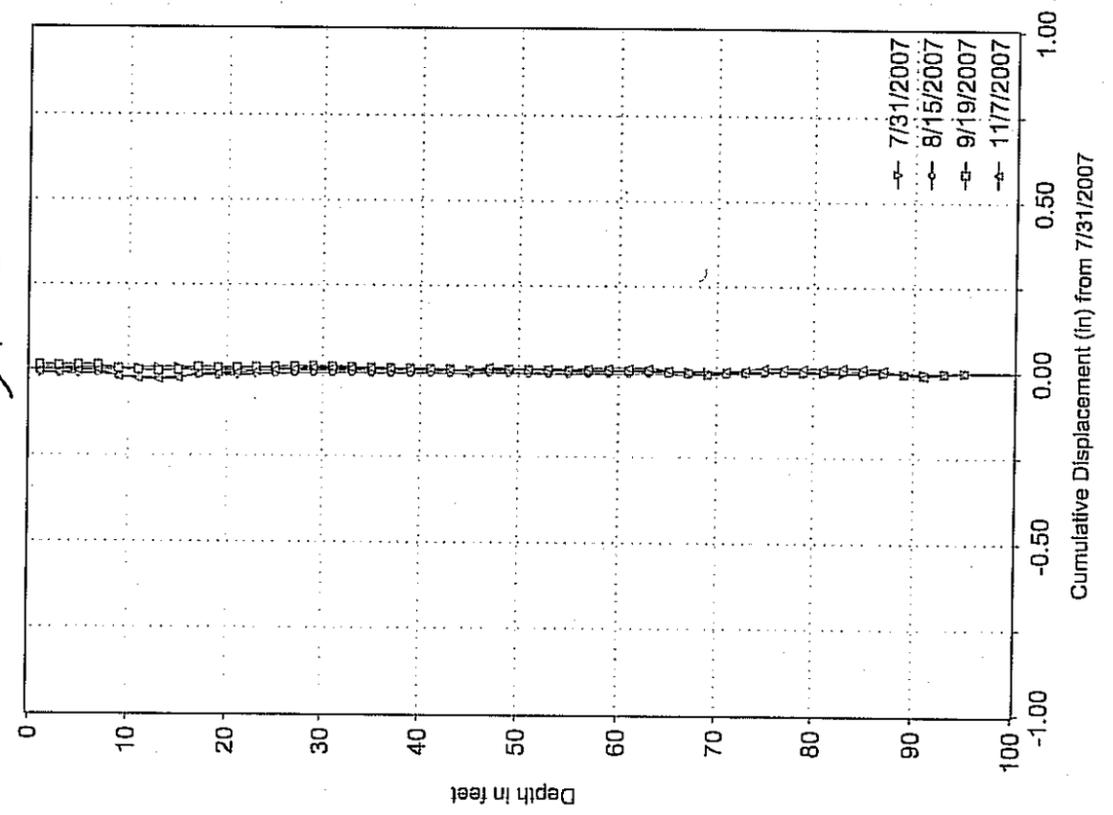


INCLINOMETER RESULTS

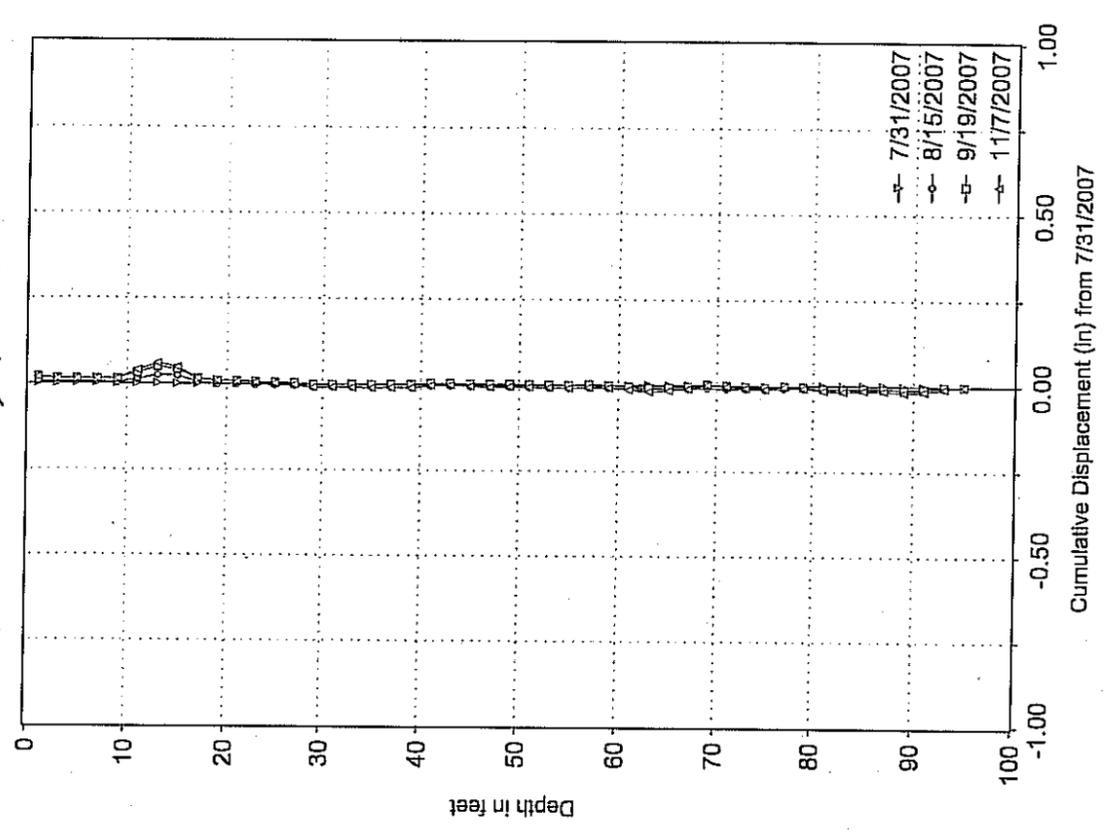
01-MEN-1- P.M 82.00  
Union Landing Landslide  
E.A. No: 01-472601

DEPTH OF INCLINOMETER CASING: 99 ft  
Az DIRECTION: 270\* ( magnetic North)  
Location (WGS-84) :

P5 8/12-17-07  
UNION P4, A-AXIS



P5 8/12-17-07  
UNION P4, B-AXIS

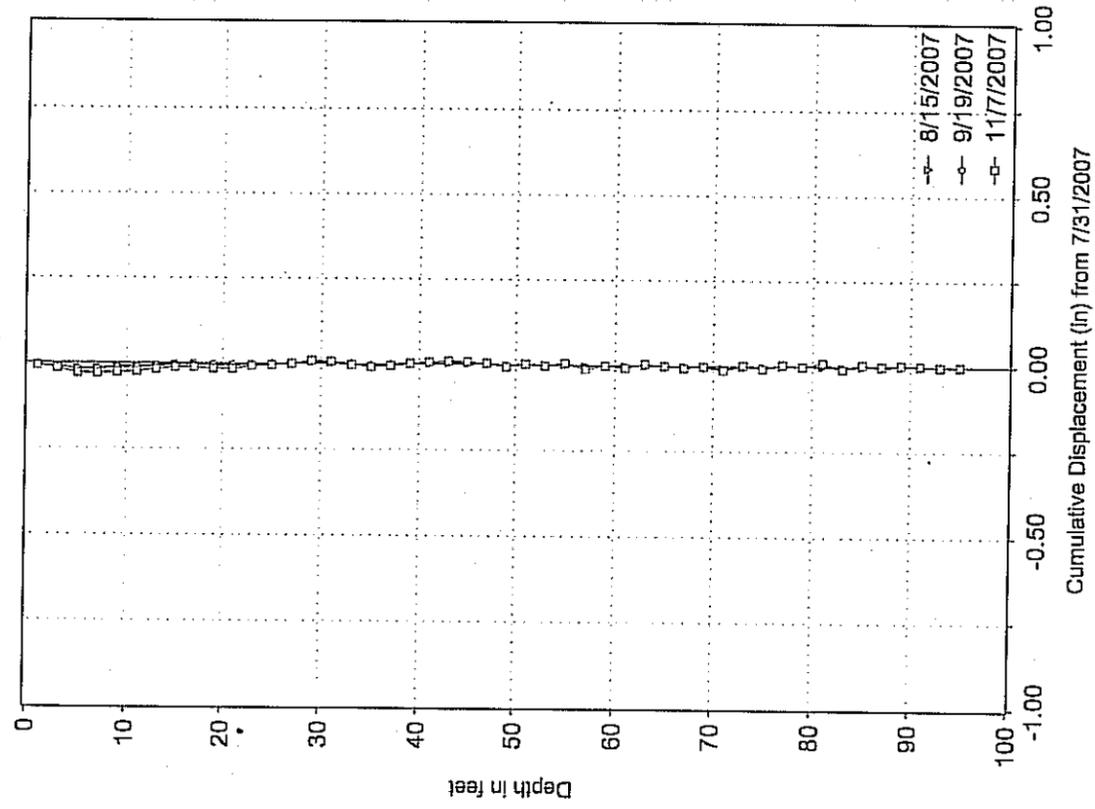


INCLINOMETER RESULTS

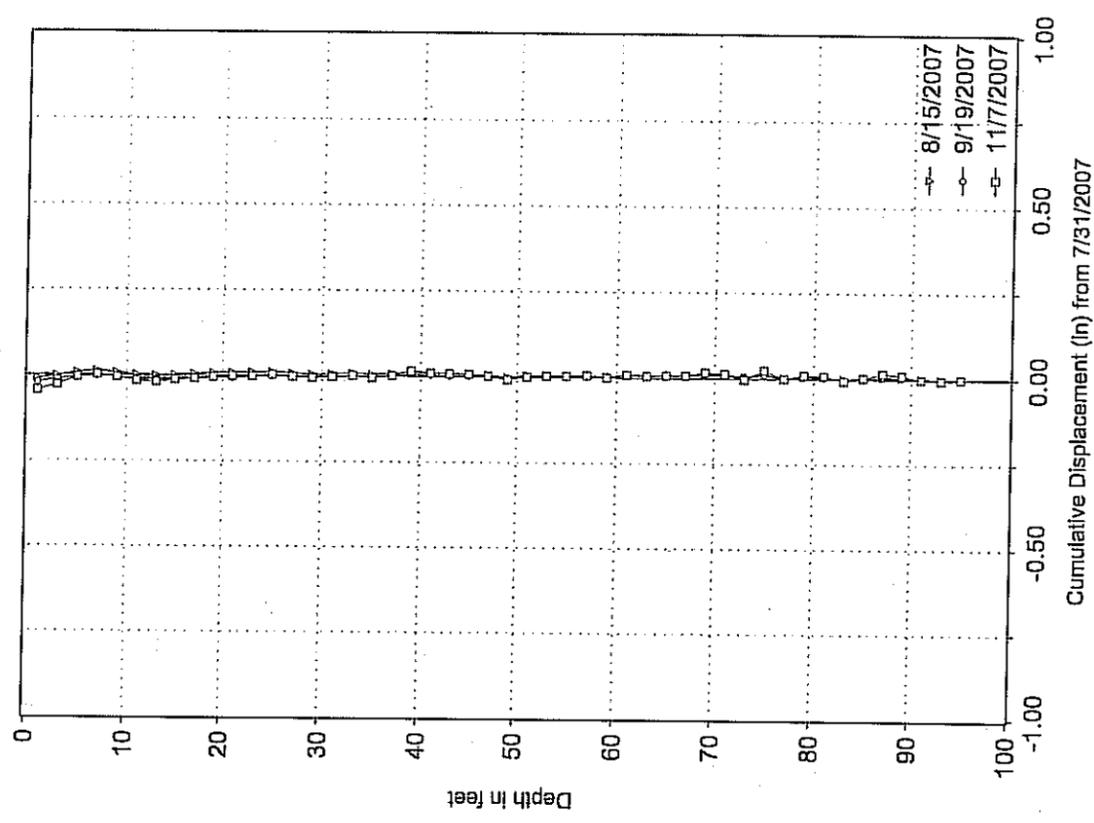
01-MEN-1- P.M 82.00  
Union Landing Landslide  
E.A. No: 01-472601

DEPTH OF INCLINOMETER CASING: 95 ft  
Az DIRECTION: 270° ( magnetic North)  
Location (WGS-84) :

UNION P1, A-Axis



UNION P1, B-Axis

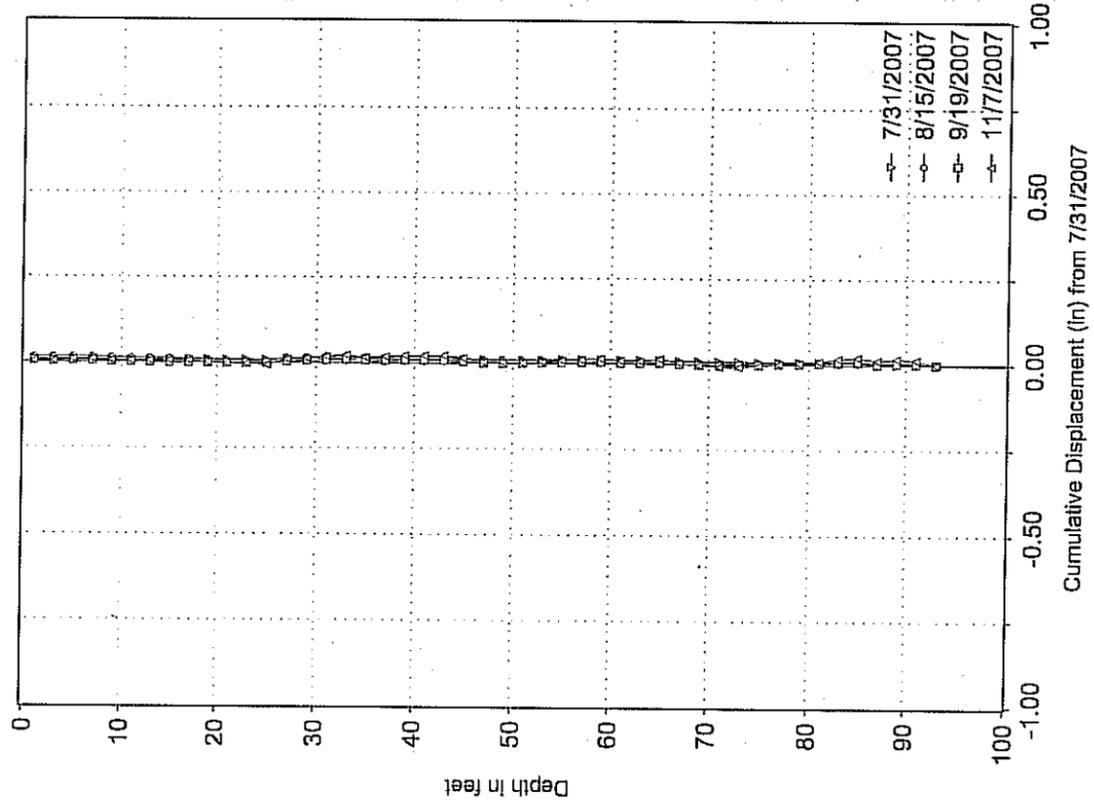


INCLINOMETER RESULTS

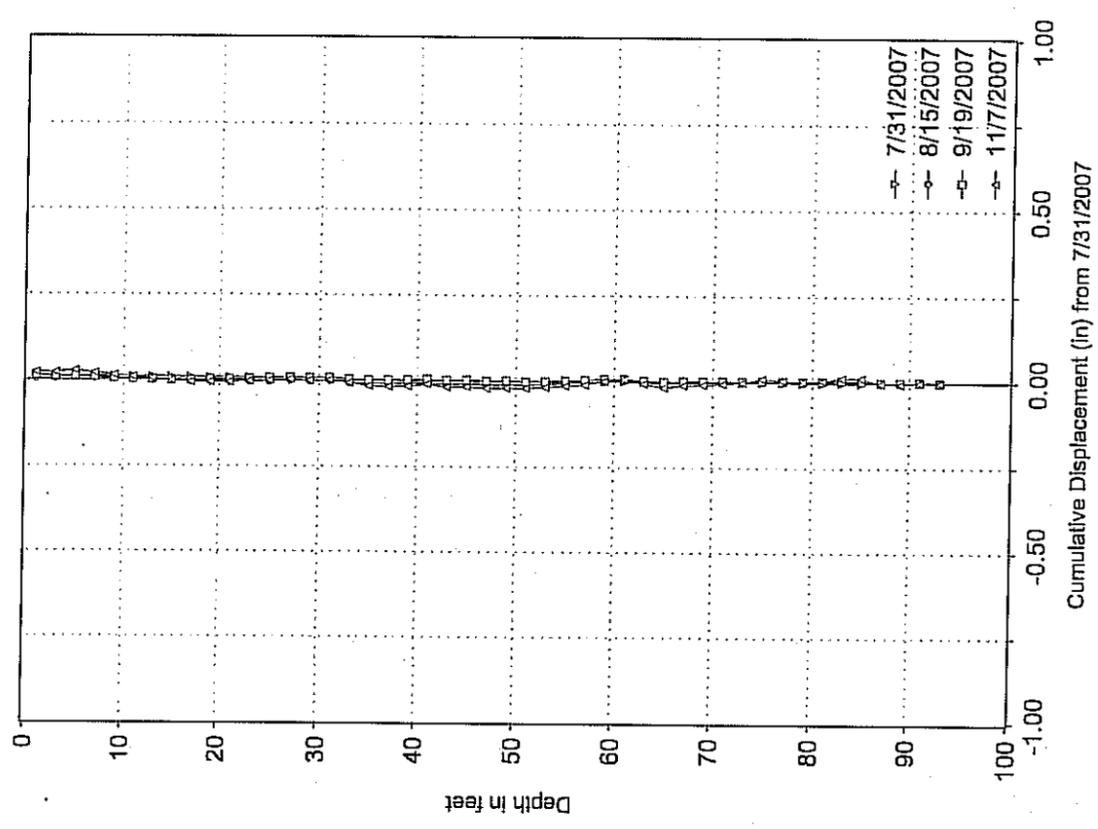
01-MEN-1- P.M 82.00  
Union Landing Landslide  
E.A. No: 01-472601

DEPTH OF INCLINOMETER CASING: 95 ft  
Az DIRECTION: 200\* ( magnetic North)  
Location (WGS-84) :

UNION P2, A-Axis



UNION P2, B-Axis



INCLINOMETER RESULTS

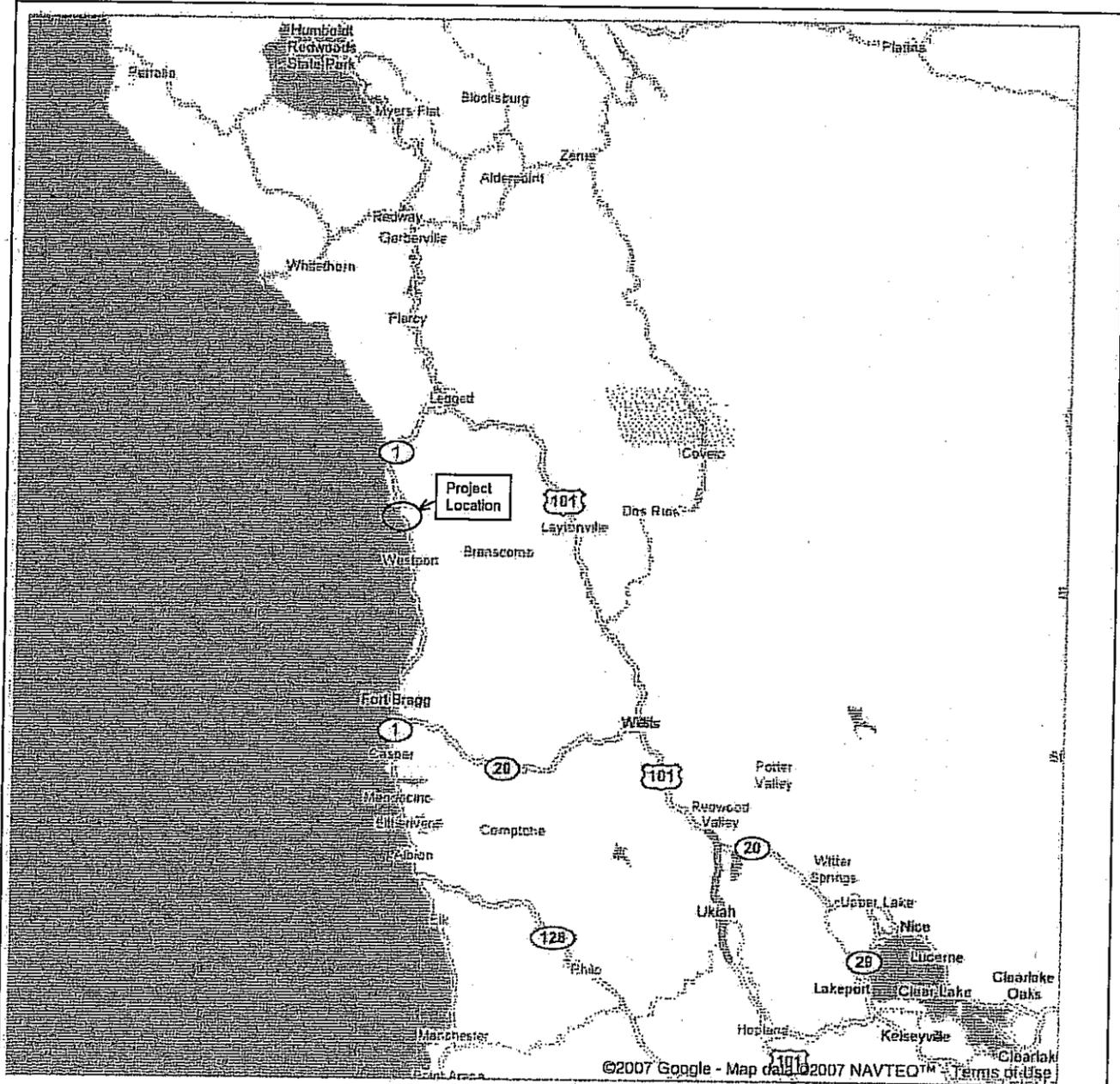
01-MEN-1- P.M 82.00  
Union Landing Landslide  
E.A. No: 01-472601

DEPTH OF INCLINOMETER CASING: 93 ft  
Az DIRECTION: 240° ( magnetic North)  
Location (WGS-84) :

## **Figures**

**Vicinity Map**

**Layout Map**



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

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**STORM DAMAGE REPAIR  
 VICINITY MAP**

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1-MEN-1 PM 82

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01-472601      DECEMBER 2007

NOTE:  
1. FOR COMPLETE R/W DATA, SEE R/W RECORD MAPS AT DISTRICT OFFICE.

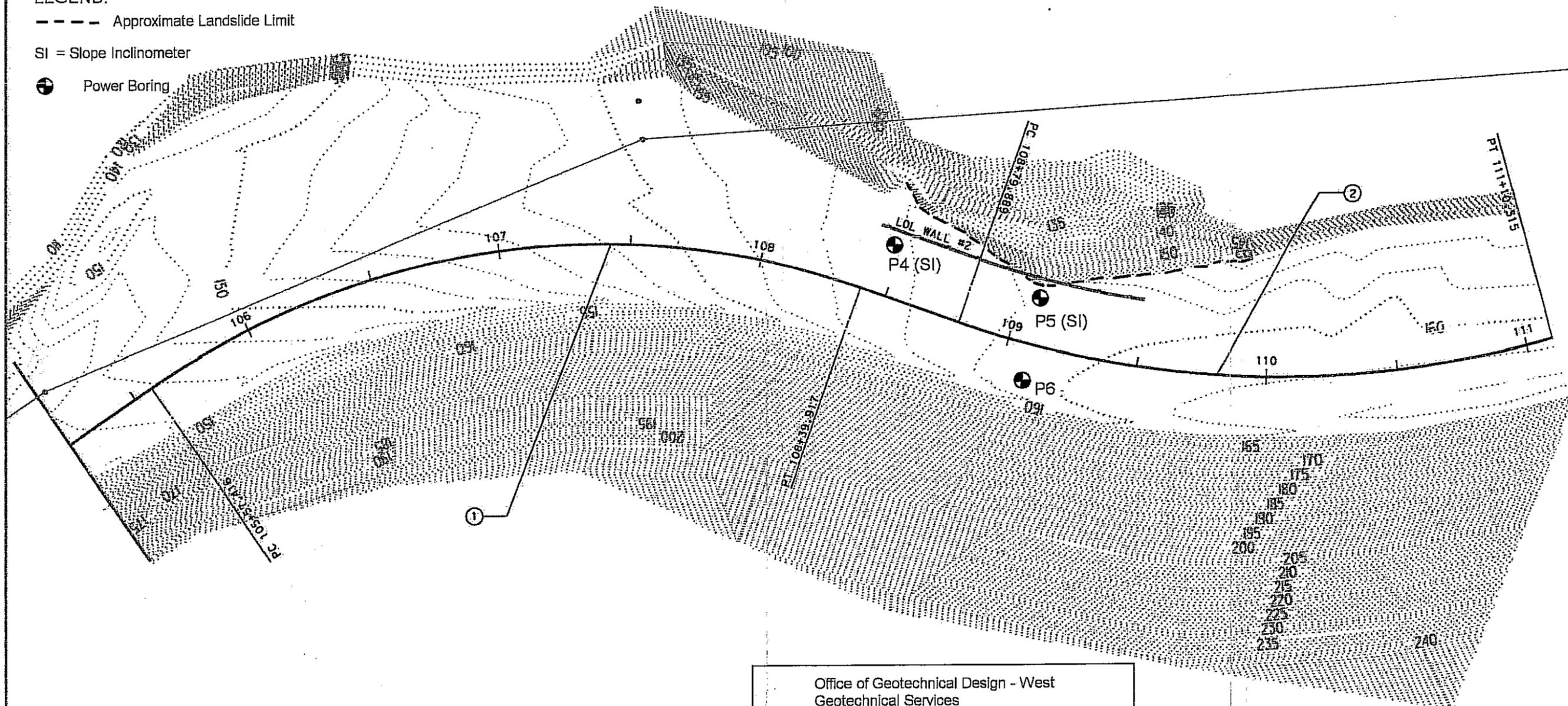
CURVE TABLE				
NO.	R	Δ	T	L
①	300'	53°57'33.3"	39.97'	282.50'
②	380'	34°44'24.0"		230.42'

**LEGEND:**

----- Approximate Landslide Limit

SI = Slope Inclinometer

⊕ Power Boring



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

**STORM DAMAGE REPAIR  
LOCATION 2**

1-MEN-1 PM 82  
1-472601      DECEMBER 2007

SCALE: 1"=20'

**LAYOUT  
L-2**

REVISOR BY DATE REVISION  
CALCULATED-DRAWN BY CHECKED BY  
SUPERVISING ENGINEER  
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**

DIST	COUNTY	ROUTE	TOTAL PROJECT	NO.	SHEETS

**FOR DESIGN STUDY ONLY**

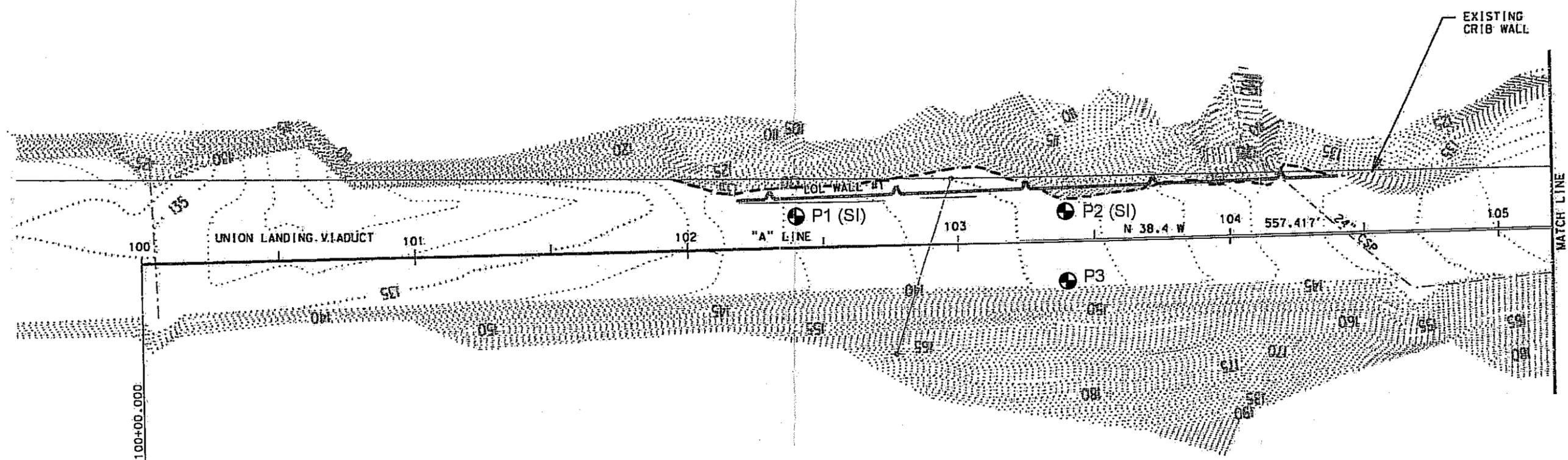
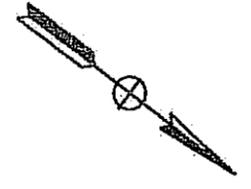
REGISTERED CIVIL ENGINEER DATE \_\_\_\_\_

PLANS APPROVAL DATE \_\_\_\_\_

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

NOTE:  
1. FOR COMPLETE R/W DATA, SEE R/W RECORD MAPS AT DISTRICT OFFICE.

LEGEND:  
 - - - - - Approximate Landslide Limit  
 SI = Slope Inclinometer  
 Power Boring



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

**STORM DAMAGE REPAIR  
 LOCATION 1**

1-MEN-1 PM 82  
 1-472601      DECEMBER 2007

SCALE: 1"=20'

**LAYOUT  
 L-1**

REVISIONS: \_\_\_\_\_  
 REVISION BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 DESIGNED BY: \_\_\_\_\_  
 SUPERVISING ENGINEER: \_\_\_\_\_  
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

LAST REVISION DATE: 01/07/08 BY: J. ROY



State of California

Department of Industrial Relations

DIVISION OF OCCUPATIONAL SAFETY AND HEALTH  
MINING AND TUNNELING UNIT

# Underground Classification

C267-045-09T

DEPARTMENT OF TRANSPORTATION

(NAME OF TUNNEL OR MINE AND COMPANY NAME)

of PO Box 3700, Eureka, California 95502

(MAILING ADDRESS)

at ROUTE 1 IMPROVEMENT – MENDOCINO COUNTY

(LOCATION)

has been classified as **\*\*\* POTENTIALLY GASSY with Special Conditions\*\*\***

(CLASSIFICATION)

as required by the California Labor Code Section 7955.

The Division shall be notified if sufficient quantities of flammable gas or vapors have been encountered underground. Classifications are based on the California Labor Code Part 9, Tunnel Safety Orders and Mine Safety Orders.

### \*\*\*SPECIAL CONDITIONS\*\*\*

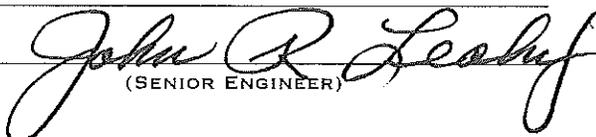
1. A Certified Gas Tester shall perform pre-entry and continuous monitoring of the underground environment to measure Oxygen and detect explosive, flammable, and toxic gasses whenever an employee is working in the underground environment.
2. Mechanical ventilation shall provide for continuous exhaust of fumes and air at any time an employee is working in the underground environment. The primary ventilation fans must be located outside of the underground environment and shall be reversible by a single switch near the fan location.
3. The Division shall be notified immediately if any **Flammable Gas** or **Petroleum Vapor** exceeds 5% of the Lower Explosive Limit.
4. All utilities that may be in conflict with the project shall be identified and physically located (potholed) prior to the start of project operations.

The sixty-three 30-inch diameter by 40 feet deep drilled shafts (soldier pile wall) located along Route 1 approximately 3.0 miles north of the intersection of Route 1 and Branscomb Road, Westport, Mendocino County.

This classification shall be conspicuously posted at the place of employment.

June 30, 2009

Date

  
(SENIOR ENGINEER)

John R. Leahy



DEPARTMENT OF INDUSTRIAL RELATIONS  
DIVISION OF OCCUPATIONAL SAFETY AND HEALTH  
MINING AND TUNNELING UNIT  
2211 Park Towne Circle, Suite 2  
Sacramento, California 95825



Telephone (916) 574-2540  
FAX (916) 574-2542

June 30, 2009

Department of Transportation  
PO Box 3700  
Eureka, California 95502

Attention: Todd Lark, PE

Subject: Underground Classification No. C267-045-09T  
Route 1 Improvements-Mendocino County.

Mr. Lark

The information provided to this office relative to the above project has been reviewed. On the basis of this analysis, an Underground Classification of "Potentially Gassy with Special Conditions" has been assigned to the tunnel identified on your submittal. Please retain the original Classification for your records and deliver a true and correct copy of the Classification to the tunnel contractor for posting at the job site.

When the contractor who will be performing the work is selected, please advise them to notify this office to schedule the mandated Prejob Conference with the Division prior to commencing any activity associated with construction or rehabilitation of the tunnel.

Please be informed that whenever an employee enters any bore or shaft being constructed under 30 inches in diameter, the Mining and Tunneling Unit then has immediate jurisdiction over that job. Please contact the Mining and Tunneling Unit prior to entering such spaces.

If you have any questions on this subject, please contact this office at your earliest convenience.

Sincerely,

A handwritten signature in cursive script that reads "John R. Leahy".

John R. Leahy  
Senior Engineer

cc: Richard Brockman  
File