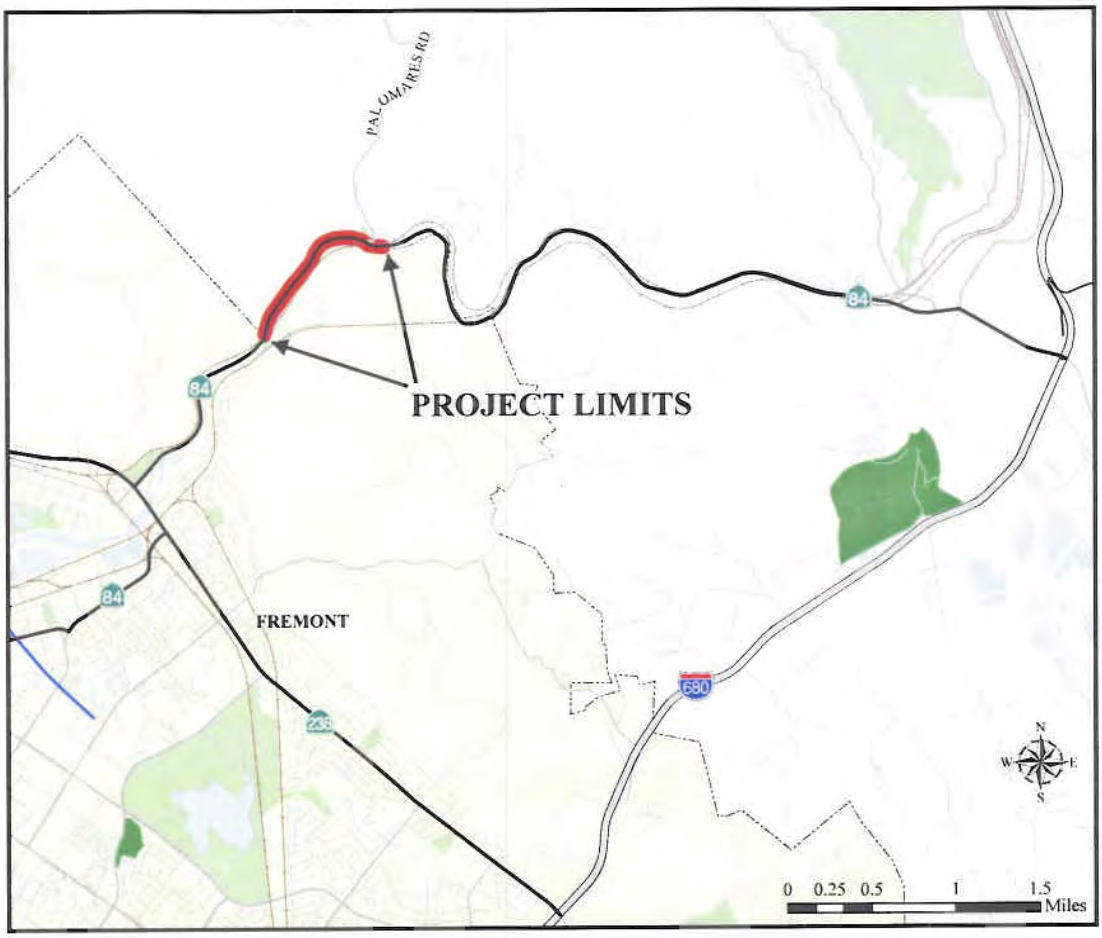
174400
ALA84

Route 84 Safety Improvement Project



Negative Declaration (CEQA)

Dividing Border Between Union City and the City of Fremont
In Alameda County, California
04-ALA-84-KP 19.5/21.4
EA 174400

June 2006

Caltrans
District 4

State of California
Department of Transportation

SCH No. #2005072059
04-ALA-84-KP 19.5/21.4
EA 174400

Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes to realign a section of the existing roadway, widen to accommodate standard shoulders, improve sight distance, and improve vertical clearance at Rosewarnes and Farwell Underpasses on Route 84 in Alameda County. The purpose of the project is to enhance safety.

Determination

Caltrans has prepared an Initial Study and determines from this study that the proposed project would not have a significant effect on the environment for the following reasons:

1. The project will not significantly impact fish, plant life, or wildlife; nor will it significantly impact any rare or endangered species.
2. No historic or archaeological sites or structures of architectural or engineering significance will be affected, nor will there be any significant impacts to cultural resources.
3. The project will not affect neighborhoods, social, or educational facilities, or the economy of the area.
4. There will be no significant impacts upon the aesthetic features of the area.
5. The project will not affect any important farmland or any floodplain.
6. The potential for geologic or seismic hazards will not be increased by the project.
7. The project is compatible with local, regional and state land use planning and will not introduce any new pattern of land use or any growth in the area. It will not alter present patterns of traffic circulation or movement.
8. The project will have no significant impacts to noise, air, or water quality. The project will not change the rate of use of any natural resources.

for

6/16/06
Date

James B. Richards
Deputy District Director
Division of Environmental Planning and Engineering
California Department Of Transportation

SUMMARY

A Proposed Negative Declaration and Initial Study/Environmental Assessment (IS/EA) dated May 2005 was approved and circulated to the public for this Safety Improvement Project on State Route 84 (SR 84) in Alameda County near the border of Union City and the City of Fremont. The project proposes to widen and realign a section of the existing roadway to accommodate standard width shoulders, improve sight distance, improve vertical clearances at the Rosewarnes and Farwell Underpasses in Niles Canyon, and provide a left turn pocket at SR 84 and Palomares Road. The SR 84/Palomares intersection will also be moved south of its current location.

The review and comment period for the Draft Environmental Document (IS/EA) was June 13, 2005 through July 13, 2005. Comments were received from public agencies and organizations including several expressing considerable interest and concern over the proposed reinforced concrete box culvert to replace the existing culvert at Stonybrook Creek. After further review and additional studies, a clear span bridge is now proposed to replace the existing culvert over Stonybrook Creek. All of the comments submitted have been added to the new Chapter 6 Responses to Comments section. Minor changes have been made to the previously circulated IS/EA to reflect updated information as well as editorial revisions to improve overall readability. The vertical lines adjacent to the text in the outside margin note more significant changes.

This June 2006 Negative Declaration (Neg. Dec) represents the Final Environmental Document for this project.

Route 84 Curve Realignment
Dividing Border Between Union City and the City of Fremont
Alameda County, California

Initial Study (CEQA)/Environmental Assessment (NEPA)

Submitted Pursuant to: (State) Division 13, Public Resources Code
(Federal) 42 USC 4332(2)(C)

THE STATE OF CALIFORNIA
Department of Transportation

U.S. DEPARTMENT OF TRANSPORTATION
Federal Highway Administration, and
Cooperating/Responsible Agencies

March 30, 2005
Date of Approval

Robert L. Gross
District Office Chief
District 04 Office of Environmental Analysis
California Department of Transportation

May 17, 2005
Date of Approval

for Gene K. Fong
Division Administrator
Federal Highway Administration

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List of Abbreviations and Acronyms

AADTT	Annual Average Daily Truck Traffic
ADT	Annual Daily Traffic
APE	Area of Potential Effect
ASR	Archaeological Survey Report
BMP	Best Management Practice(s)
Caltrans	California Department of Transportation
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CNDDB	California Natural Diversity Database
CO	Carbon Monoxide
DBH	Diameter at breast-height
DHV	Design Hourly Volume
ESA	Environmentally Sensitive Area(s)
FHWA	Federal Highway Administration
ft	foot/feet
HASR	Historical Architecture Survey Report
km	kilometer(s)
KP	kilometer post
kph	kilometer(s) per hour
m	meter(s)
mi	mile(s)
mm	millimeters
mph	miles per hour
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
PM	post mile
PSR	Project Study Report
SFPUC	San Francisco Public Utilities Commission
SHPO	State Historic Preservation Officer
TMP	Traffic Management Plan
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
vpd	vehicles per day

Proposed Project

1.1 Project Description

The proposed project is to widen State Route 84 (SR-84) to accommodate standard shoulder lane widths from Rosewarnes Underpass to just beyond Farwell Underpass in Niles Canyon, Alameda County (Figure 1-1 and Figure 1-2). This project also proposes to improve sight distance and vertical clearance at the Rosewarnes and Farwell Underpasses, provide a northbound left turn pocket at SR-84 and Palomares Road, and realign the intersection.

In the project area, SR-84 is an undivided two-lane highway with narrow shoulders on a typical curving horizontal alignment, bounded on the north by a steep mountainous face, and to the south by Alameda Creek. The existing pavement width from the centerline to the edge of pavement is typically 4.2 to 4.8 m (13.8 to 15.7 ft), which provides 3.6 m (11.8 ft) lanes and shoulders varying from 0.6 to 1.2 m (2 to 3.9 ft). The posted highway speed limit is 80 kilometers per hour (kph) (50 miles per hour (mph)) along most of the project. In sections where there are non-standard horizontal curves, the speed limit is reduced to 40 kph (25 mph).

1.2 Project Purpose

The purpose of this project is to enhance safety on Route 84. Specifically, the purposes of the project are to:

- Enhance traffic safety by increasing shoulder widths to meet current standards at select locations,
- Enhance traffic safety by increasing sight distance,
- Enhance traffic safety by increasing vertical clearances to meet current standards, and
- Enhance traffic safety by providing a northbound left turn pocket lane at Palomares Road to reduce backups to through traffic.

The proposed project has independent need and utility. It is a useable and reasonable transportation improvement even if no additional transportation improvements in the area are made. It is not a necessary precedent for action on a larger project or a commitment to a larger project with significant environmental effects.

Figure 1-1 Project Vicinity

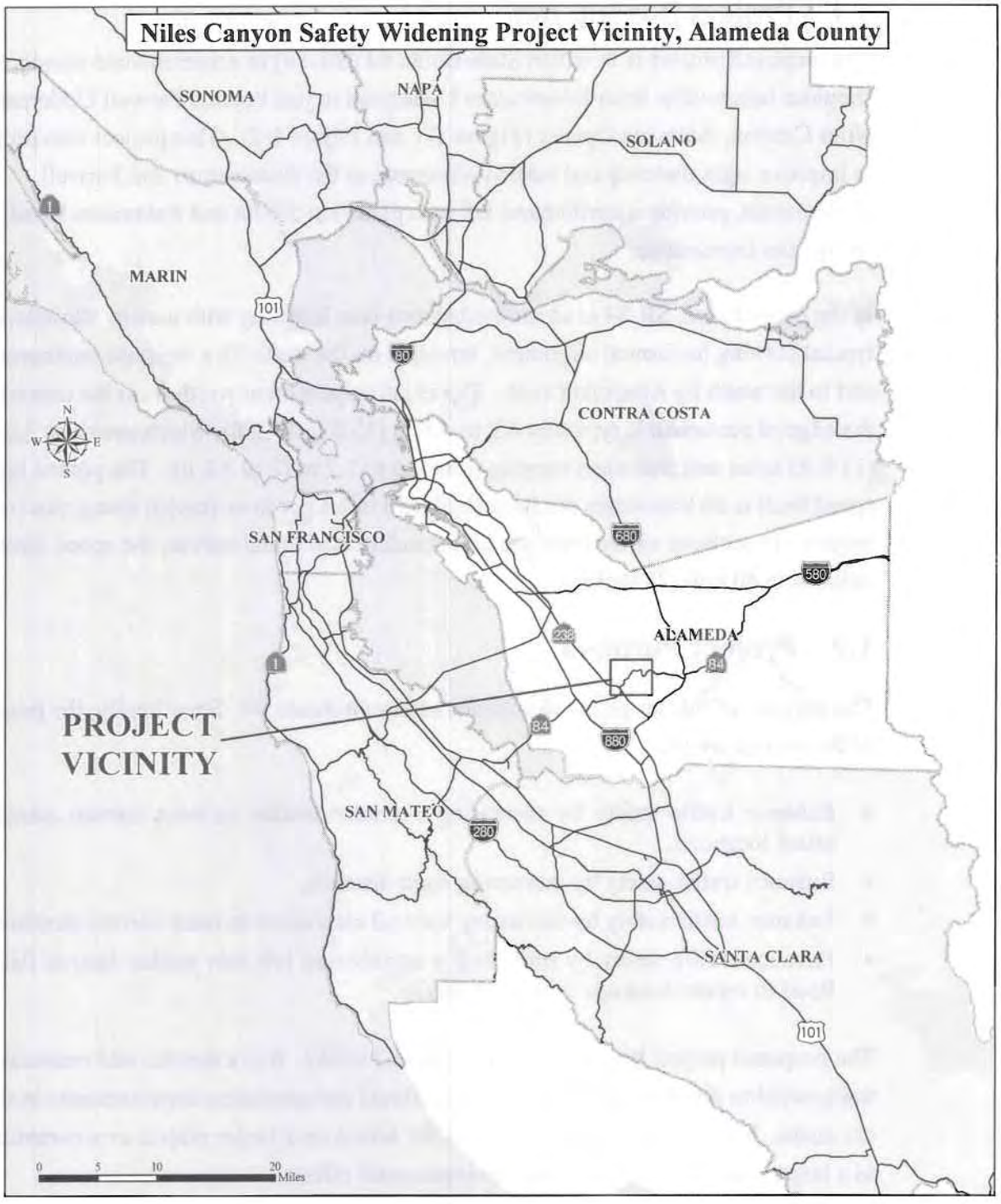
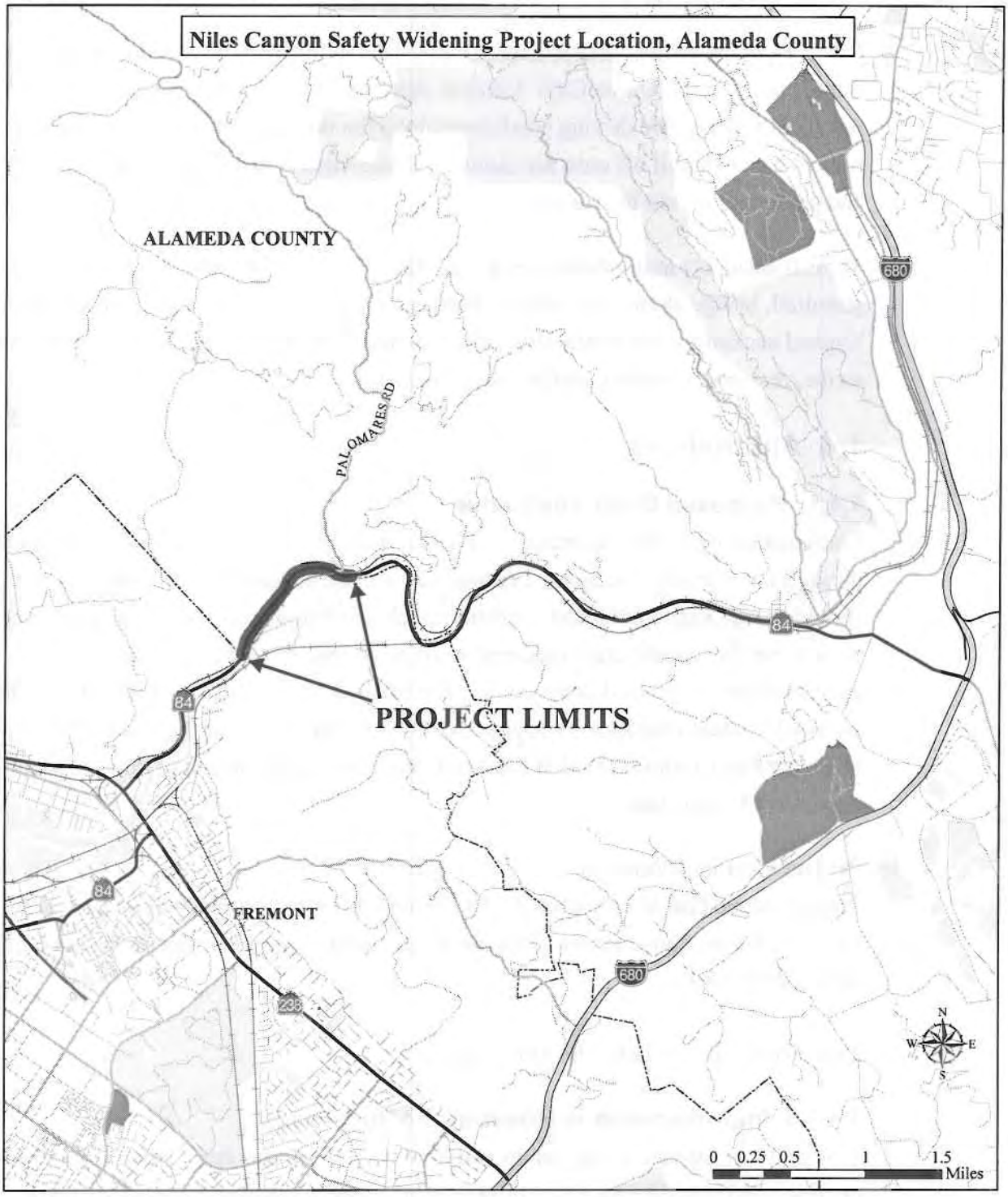


Figure 1-2 Project Limits



1.3 Project Need

Route 84 in the project area is a narrow two-lane highway in Niles Canyon between Sunol and Fremont/Union City. Limited sight distance and non-standard shoulder widths results in unfavorable driving conditions along the winding road. Disabled vehicles have limited space to pull off onto the shoulder where there is insufficient room for both driver and passenger to exit the car safely.

Typical accidents at the Rosewarnes Underpass include collisions with the approach guardrail, bridge abutment, concrete barrier, or head on-collisions with oncoming traffic. Typical accident at the intersection with Palomares Road are head-on, broadside, side-swipe, rear-end, overturn, and hit-object collisions.

1.4 Alternatives

1.4.1 Proposed Build Alternative

From just north of the San Francisco Public Utilities Commission (SFPUC) Niles Dam through the Farwell Underpass, the roadway will be widened to accommodate standard shoulders and lane widths and a left-turn pocket at Palomares Road. The widening will be achieved by constructing retaining walls to contain the roadway and limit encroachment into the adjacent creek. The roadway profile will be lowered to achieve standard vertical clearance by approximately 300 mm (12 in) at the Rosewarnes Underpass and 100mm (4 in) at Farwell Underpass. See Appendix D for the proposed alternative layout sheets.

Project Cost and Funding

Project capital cost is estimated at $10,208,465 and includes $48,000 for new R/W and $10,256,465 for construction. This project is currently programmed in the 2006 SHOPP for the 2007/08 FY.

This project also includes the following:

1.4.1.1 Improvements at Rosewarnes Underpass

This project proposes to realign the northbound lane around the existing column and to provide a left shoulder up to 1.5 m (4.9 ft) wide and a standard 2.4 m (7.9 ft) right shoulder. The roadway profile will also be lowered approximately 300mm (1 ft) in order to achieve standard vertical clearance through Rosewarnes Underpass. Additionally, a soft median barrier will be installed between Rosewarnes Underpass and Farwell Underpass.

1.4.1.2 Stonybrook Creek Culvert Replacement

The existing reinforced box culvert that drains Stonybrook Creek into Alameda Creek must be replaced to provide increased capacity to meet storm requirements and facilitate passage of Steelhead from Alameda Creek to Stonybrook Creek. The originally proposed preliminary culvert design, included in the draft environmental document (May 2005 IS/EA), was for a double box culvert and modification of 19 m (62.3 ft) of creek upstream of the new culvert.

After further review and evaluation, the proposed double box culvert was dropped from consideration because the proposed culvert design did not meet the criteria for up-migrating juvenile fish and the reliance on the roughened baffle elements was questionable. Since the creek can carry a heavy bed-load with large cobbles through the project site, they might occlude the baffles or weirs and disrupt the necessary hydraulic conditions. Therefore, a clear span bridge over Stonybrook Creek is now proposed. This can accommodate fish passage and will reduce channel maintenance requirements as well as provide the following:

- The bridge design will pass the 100-year design discharge with one foot of freeboard under the bridge,
- The proposed bridge abutments will be skewed to be more inline with the approaching creek (given site constraints),
- The channel profile and substrate will be restored to conditions similar to upstream and downstream conditions,
- The vertical bridge abutments will be spaced wider than the active channel width to allow unimpeded bed-load transport under the bridge,
- The re-graded channel bottom section will be shaped to match upstream channel sections and the creek bed will be overlaid with native materials. A slight centerline depression in the channel section will be provided to initiate the formation of a low flow channel, and
- The creek bed will be allowed to aggrade or degrade naturally over time while the creek's side slopes will be hardened as necessary to protect adjacent structures and embankments.

1.4.1.3 Palomares Road Intersection Relocation

The relocation of the SR 84 and Palomares Road intersection south of its current location would improve sight distance for motorists traversing this facility and would also provide 3.6 meter (12 ft) lanes and 1.2 meter (3.9 ft) shoulders. The relocation would be achieved by construction of a retaining wall between the realigned Palomares Road and Stonybrook Creek.

1.4.2 No Build Alternative

Under the No-Build Alternative, the existing highway configuration would remain as is. The No-Build Alternative, however, would not meet the purpose and need of the project to enhance safety and address poor driving conditions caused by nonstandard roadway features. Spot improvements or routine maintenance as necessary, are not precluded.

1.4.3 Alternatives Considered and Withdrawn

The Project Study Report (PSR) approved on November 2, 2001 presented two alternatives to address the purpose and need for this project.

Alternative 1 proposed to replace railroad bridges at these two locations with longer spans such that the roadway could be realigned to provide standard sight distance and shoulders. In addition, it was proposed to construct a left-turn lane to enhance left-turn movements entering Palomares Road from Route 84.

This alternative was rejected due to the increased cost and complexity, as well as the substantial environmental impact. Replacing railroad bridges would involve building a temporary detour structure to maintain the railroad operation during the construction phase, resulting in acquisition of additional right of way and easement. Environmentally it would also have an adverse effect on the historically significant bridges and greater impacts to Alameda Creek and the surrounding wildlife habitats. Implementing this alternative would cause a three-year delay in construction and was not acceptable for a safety improvement project.

Alternative 2 proposed widening Route 84 on the north and the south sides of the highway for the entire length of the project limits. After proceeding with the environmental assessment of this alternative, it was discovered that widening to the north would potentially affect large amounts of potential Alameda whipsnake habitat, listed as a Federally Threatened species. Other biological considerations included impacts to the riparian corridor along Alameda Creek to the south of Route 84. Cultural resource studies also identified an historic aqueduct that would have been adversely affected by this alternative. Alternative 2 would have also resulted in an adverse impact to a

resource determined eligible for inclusion on the National Register of Historic Places by the State Preservation Officer (SHPO).

In addition, Alternative 2 was dropped because of:

- Greater visual impacts due to retaining walls throughout much of the project limits, especially on the north side which is more visible from the highway than the south,
- Constructability issues,
- Greater impacts to the traveling public due to longer construction times (construction on both sides of the roadway instead of concentrated on one side), and
- Cost (length and height of retaining walls significantly increases the cost).

For these reasons, Alternative 2 was dropped from further consideration, and a variation of this alternative, referred to as the "proposed project" was developed to avoid or minimize impacts to these resources.

1.5 Permits and Approvals Needed

- Section 1602 Lake and Streambed Alteration Agreement from the California Department of Fish and Game (CDFG).

- Clean Water Act Section 401 Water Quality Certification Permit from the Regional Water Quality Control Board (RWQCB).

- Clean Water Act Section 404 Nationwide Permit 14 from the U. S. Army Corps of Engineers (USACE).

Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization and Compensation Measures

2.1 No Adverse Impact Determinations Summary

This section presents the result of Caltrans' analysis of environmental issues relevant to this project. Issues were identified after review of applicable federal requirements and completion of the CEQA checklist, a copy of which can be found in Appendix A.

As part of the scoping and environmental analysis conducted for the project, the following environmental resource areas were also considered but no potential for adverse impacts was identified: air quality, agriculture, community impacts, geology and soils, growth, hazards and hazardous materials, land use and planning, mineral resources, noise, paleontology, public utilities and services, recreation, and transportation and traffic, invasive species, water quality and storm water runoff. Table 2.1 below provides a brief explanation for the "no adverse impact" determination in these subject areas. The remainder of the chapter covers environmental issues that require further consideration or discussion.

Table 2.1 No Adverse Impact Determinations Summary

AIR QUALITY
This project was found to be exempt from Regional and Project level air conformity under 40 CFR 93.126 as a safety project to increase shoulder widths and increase sight distance.
AGRICULTURAL RESOURCES
The project will neither convert farmland to non-agricultural use nor conflict with current open space or agriculture land use designations.
COMMUNITY IMPACTS- Community Character and Cohesion
The project will not change public access, divide neighborhoods, separate residences from community facilities, change the quality of life or increase urbanization or isolation.
CULTURAL RESOURCES- Archaeology
An Archaeological Survey Report (ASR) was performed and found no sensitive archaeological sites within the established Area of Potential Effects (APE).
GEOLOGY AND SOILS
Because the Bay Area is seismically active, Caltrans routinely conducts detailed geotechnical studies and develops project specific construction features to minimize seismic risks. A Preliminary Geotechnical Report has been prepared to determine soil conditions and local earthquake fault characteristics in the immediate project vicinity. A design report stating mitigation recommendations shall be prepared in accordance with the following document: California Division of Mines and Geology Guidelines for Evaluating and Mitigating Seismic Hazards.

GROWTH
This project is a safety improvement project and the proposed improvements do not alter or increase the capacity of the State Route.
HAZARDS AND HAZARDOUS MATERIALS
This project will not result in any increased hazards or hazardous materials risks after construction. Aerially Deposited Lead (ADL) is known to occur in the area, but any contamination will be addressed by Caltrans' standard construction and remediation practices and will preclude substantial adverse impacts.
LAND USE AND PLANNING
The project does not conflict with any land use or planning policies.
MINERAL RESOURCES
The project does not conflict with resource recovery plans or operations in the vicinity
NOISE
No significant changes in noise levels are expected with this project because it is neither capacity increasing nor adds design elements to the current highway that would cause new sources of noise.
PALEONTOLOGY
The project will not affect paleontological resources.
PUBLIC SERVICES
The project will not affect provision of existing public services or measurably increase the need for new or physically altered government facilities in order to maintain acceptable service ratios, response times, other performance objectives for any public service. Standard Department Management practices will preclude substantial adverse impacts during construction. A traffic management plan (TMP) will be completed prior to construction to address lane closures and traffic rerouting.
RECREATION
Because the project will not cause a substantial noise level increase (12 dBA or more), it will not directly or indirectly reduce the value of any nearby recreational properties. Access to adjacent properties will remain unchanged and therefore the project will not measurably change the use of existing neighborhood and regional parks or other recreational facilities.
UTILITIES and SERVICES
Existing utilities and services will be restored to pre-existing conditions or better after construction. Standard Caltrans procedures for coordinating temporary service disruptions during construction are considered adequate for this project.
INVASIVE SPECIES
In compliance with the Executive Order on Invasive Species, E.O. 13112, and subsequent guidance from the Federal Highway Administration, the landscaping and erosion control included in the project will not use species listed as noxious weeds. In areas of particular sensitivity, extra precautions will be taken if invasive species are found in or adjacent to the construction areas. These include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur.
WATER QUALITY AND STORMWATER RUNOFF
Added pavement for shoulders and the left turn pocket at Palomares Road will increase road runoff, but the additional amount is negligible and will not result in significant impacts to water quality.

2.2 Community Impacts- Right of Way Requirements

2.2.1 Affected Environment

Construction of the proposed project will require the acquisition of right-of-way in the immediate area. The types of right-of-way required for this project include partial acquisitions, as well as underground, temporary and drainage easements. There will be no full acquisitions of residential, commercial, or municipal properties.

2.2.2 Impacts

The right-of-way requirements for the proposed project are found below in Table 2.2-1 and shown in the layout sheets.

Table 2.2-1 Project Right-of-Way Requirements

APN	ACQUISITION TYPE	AREA, m^2	Ft^2
85A-5400-1-2	Partial Acquisition	668.5	2193.2
85A-5400-1-2	Underground Easement	1774.9	5823.2
85A-507-762-10	Partial Acquisition	56.8	186.4
85A-507-762-10	Partial Acquisition	199.7	655.2
85A-507-762-10	Temporary Construction Easement	916.9	3008.2
85A-507-762-5	Partial Acquisition	36.2	118.8
85A-507-762-5	Drainage Easement	18.5	60.7
85A-507-762-5	Drainage Easement	8.4	27.6
85A-507-762-5	Drainage Easement	1.4	4.6
85A-507-762-5	Partial Acquisition	5.5	18.0
85A-507-762-5	Temporary Construction Easement	2920.3	9581.0
85A-507-762-5	Drainage Easement	12.6	41.3
85A-507-762-5	Drainage Easement	10.1	33.1
85A-507-762-5	Drainage Easement	4.7	15.4
85A-507-762-5	Drainage Easement	9.3	30.5
85A-507-762-5	Drainage Easement	3.5	11.5
85A-507-762-5	Drainage Easement	12.0	39.4
85A-507-762-5	Drainage Easement	12.0	39.4
85A-507-762-5	Temporary Construction Easement	1111.8	3647.6
85A-507-762-5	Partial Acquisition	89.0	292.0
85A-507-762-10	Partial Acquisition	240.6	789.4
85A-507-762-10	Drainage Easement	143.5	470.8
85A-507-762-10	Drainage Easement	12.1	39.7
85A-507-762-10	Temporary Construction Easement	1735.1	5692.6
85A-507-762-10	Drainage Easement	7.4	23.6
85A-507-762-10	Partial Acquisition	1087.1	3566.6
85A-507-762-10	Temporary Construction Easement	1283.1	4209.6

2.2.2.1 Environmental Justice

No minority or low-income populations have been identified that would be adversely impacted by the proposed project. Therefore, this project is not subject to the provisions of Executive Order 12898.

2.2.3 Avoidance, Minimization and Compensation Measures

Acquisitions and relocations will be in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970, as amended. The State Uniform Relocation Assistance Program has been developed to assist those displaced into successfully relocating homes and businesses, thereby mitigating relocation impacts. This program aims to meet or exceed the requirements of the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646). More information outlining the features of the State Uniform Relocation Assistance Program can be found in Appendix C: Relocation Benefits.

2.3 Traffic and Transportation/ Pedestrian and Bicycle Facilities

2.3.1 Affected Environment

The proposed project is located on SR 84 from just west of Rosewarnes Underpass (Bridge No.33-0034) to just east of the Farwell Underpass (Bridge No. 33-0035). This section of SR 84 is an undivided, two-lane rural highway with narrow shoulders on a typically curving horizontal alignment through rolling terrain.

The existing pavement width from the centerline to the edge of pavement is typically 4.2 to 4.8 m, yielding 3.6 m lanes and shoulders varying from 0.6 m – 1.2 m. The posted highway speed limit is 80 kph (50 mph) along most of the project. In sections where there are non-standard horizontal curves, the speed limit is reduced to 40 kph (25mph).

Palomares Road is a two-lane Alameda County road, located between SR 84 and Interstate 580, that passes through rolling terrain with minimal to nonexistent shoulders. At its intersection with SR 84, Palomares Road widens to accommodate a right turn lane onto southbound SR 84 and a left-turn lane onto northbound SR 84. Presently, SR 84 does not have a protected left turn pocket for vehicles traveling northbound on SR 84 and turning left onto Palomares Road.

2.3.1.1 Traffic and Transportation

SR 84 experiences heavy traffic during normal commute times. Peak hour traffic occurs southbound in the morning and northbound in the evening. Off peak and on weekends the highway operates with traffic normally at designated speed limits.

The following traffic volumes were taken from the 2002 Traffic Volumes on California State Highway Booklet:

Post mile (PM)	Location	Peak Hour	Peak Month	AADT
10.82	Fremont, South Junction Route 238	2,050	24,800	29,500
13.00	Palomares	1,400	17,200	15,900
17.29	Sunol, Pleasanton/Sunol Road	670	8,300	9,200

The 2004 Annual Average Daily Truck Traffic (AADTT) on California State Highway System indicated a vehicular AADT of 29,500 with 708 (2.4%) trucks at the north junction of Route 238 (PM 10.83). According to the traffic census counts in Caltrans Transportation System Network, the 2002 Annual Daily Traffic (ADT) adjusted volume for Route 84 was derived to be 9,611 vpd per peak approach with a Design Hourly Volume (DHV) of 946 vehicles in both directions. From the forecasting traffic volume of the Alameda CMA (Project 2002) model and the 2002 AADTT on California State Highway System, it is projected that by the year of 2018 the ADT will be 11,358, an 18% increase. The forecasted ADT for the year of 2028 is 12,450, a 30% increase.

Accident Rates

The following traffic data taken from TASAS Table B demonstrates the most recent three-year accident history from October 1, 2000 to September 30, 2003:

Accident Category	Actual Number			Actual Rates			Average Rates		
	Total	Fatal	Injury	F	F+I	Total	F	F+I	Total
All Accidents	32	0	14	.000	.61	1.39	.021	0.81	1.81
Wet Accidents	6	0	2	.000	2.17	6.50	.066	2.51	5.59
Dark Accidents	14	0	4	.000	.17	0.61	.008	0.31	0.69

The TASAS Selective Record Retrieval shows that 11 of the accidents (40.6%) occurred during the afternoon commute hours (2-6 PM). It is also noted that 53.1% of the accidents were hitting objects: guardrail, wall, cut slope and embankment. The majority of types of accidents at Rosewarnes Underpass are hitting the approaching guardrails/bridge abutments/concrete barriers, as well as colliding with the opposing vehicles by crossing the centerline. The typical accidents at the Route 84/Palomares Road intersection are head-on, broadside, sideswipe, rear-ender, overturn and hit object.

The maneuverability of the traveling public can be increased and thus will reduce traffic accidents by providing standard shoulders, sight distance, median soft barrier and a left-turn lane.

2.3.1.2 Pedestrian and Bicycle

There are no pedestrian facilities on SR 84 within the project limits. The Alameda Creek Trail is within the project area, but will not be impacted by the proposed improvements.

SR 84 within the project limits is identified as a cross-country corridor in the Alameda County Bike Plan and a proposed Class III bike route with widened shoulders. A Class III bikeway (widened shoulders) is defined as a roadway, generally in rural areas, where the shoulder has been widened to at least 1.2 m (4 ft). Bicycle traffic has increased along the corridor and has necessitated the installation of bicycle and "share the road" signs. The proposed project will provide the minimum requirement of a Class III bike route of at least 1.2m (4 ft) shoulders throughout the project limits. It should be noted that although this segment of SR 84 has been designated a proposed Class III bike route in the Alameda County Bike Plan, it does not have an official State Bike Route status.

2.3.2 Avoidance, Minimization and Compensation Measures

A comprehensive TMP will be prepared prior to construction to maintain circulation on streets and arterials. The TMP should include advance changeable message signs and broadcast media notifications, detour plans, and other contingency plans. Streets and arterials would be kept open to the maximum extent possible. If possible, lane and ramp closures would be limited to night and off-peak hours. Pedestrian and bicycle access would also be addressed in the TMP.

2.4 Visual/Aesthetics

A comprehensive Visual Impact Assessment Summary was prepared in June 2004 and the methods used for the analysis are in accordance with applicable FHWA guidelines. Existing visual conditions were reviewed on a regional scale and the project area was examined for the presence of smaller, visually distinct landscape units. All publicly accessible locations from which the project would be within view were identified and the distance of the view to the proposed project was determined. Affected user groups, (classes of viewers who differ in their response to the appearance of the highway and its setting), were studied, taking into account their location, activities, and values. Landscape character and levels of visual quality were determined for both pre- and post-project conditions. Visual impacts were then assessed according to the anticipated change in landscape character and visual quality caused but the project and the public's

likely response to such change. The Visual Impact Assessment process is supported by photographs of the project area paired with digitally edited visual simulations depicting the same views but with the completed project in place.

2.4.1 Affected Environment

This segment of Route 84 within the project limits is part of the State Scenic Highway system and is eligible for official designation as a State Scenic Highway. Alameda County is currently preparing a nomination package seeking a formal State Scenic Highway designation on this Route.

In the project area, Route 84 is an undivided, two-lane, rural highway with narrow shoulders. The road winds along the base of a steep hill as it follows Alameda Creek.

The landscape in this area is comprised of the wooded hillsides and valley surrounding Alameda Creek as it flows through Niles Canyon. The area has a predominantly natural, scenic appearance. Views along the highway are enclosed by the steep hillsides and often-dense tree stands. Attractive scenes of Alameda Creek occur through breaks in the band of riparian forest between the highway and the creek. Mature native California oak trees punctuate the grassy hills. Development is sparse with only a few, widely scattered residences visible within the area.

The project area encompasses three historic resources that were found eligible for the National Register of Historic Places. The Dresser Underpass (Bridge No. 33-0034) Post Mile 12.1 is near the southwest end of the project. It is also referred to as the Rosewarnes Underpass. The Farwell Underpass (Bridge No. 33-0035) Post Mile 13.3 is near the northeast end of the project. A portion of the Vallejo Mills/Spring Valley Water Company water-conveyance system built in the 1840s is visible from the highway near the Dresser Railroad bridge. These historical, large railroad trestles cross over the highway near each end of the project limits. The massive, rusting steel trestles and their hefty stone and concrete abutments are interesting features to highway motorists passing under and past them.

Viewers potentially affected by project-related changes include the following groups:

- Motorists and cyclists traveling on Route 84,
- Persons living in private residences (approximately half a dozen homes) along or near Niles Canyon Road with views of the highway from their property,
- Passengers of the Niles Canyon Railway tour trains,

- Employees or persons doing business at Mission Bay Clay Products, located on the opposite side of Alameda Creek,
- Parishioners and employees of the Golden Gate Primitive Baptist Church located at 2950 Niles Canyon Road near Palomares Road, and
- Occasional recreational users of Alameda Creek (though the creek is not developed for recreational use).

2.4.2 Impacts

Implementation of the project would cause both temporary and permanent changes in the appearance of the highway. Temporary changes would result from the removal of trees and from ground surface disturbance. Permanent changes would result from the following:

- Constructing a new retaining wall approximately 45 m (136 (ft)) long and ranging in height from 1.2 m (4 ft) to 9 m (30 ft) on the southbound (uphill) side of the highway,
- Realignment of the highway towards Alameda Creek with a new northbound lane on the east side of the existing trestle pier at the Rosewarnes Underpass, and construction of a new retaining wall 130 m (462.5 ft) long, ranging in height from 1.2 m (4 ft) to approximately 3.0 m (10 ft) at the edge of the stream channel, with 0.92 m (36 inch (in)) height concrete safety barrier,
- Realignment of the highway towards Alameda Creek from Niles Dam to the Farwell Underpass with a new retaining wall approximately 520 m (1,705 ft) long, ranging in height from 1.2 m (3.7 ft) to 4.2 meters (13.8 ft) with 0.92 m (36 in) height concrete safety barrier and tubular-steel bicycle-safety railing on top of the wall,
- Placement of crash cushions and 0.92 m (36 in) height concrete safety barriers at the abutments and piers at the Rosewarnes and Farwell Underpasses,
- Alterations to topography,
- A wider paved surface due to shoulder widening, and
- Realignment of the Palomares Road intersection including a new retaining wall 93 meters (305 ft) long, ranging in height from 1.2 meters (3.7 ft) to 4.2 m (13.8 ft.) with 0.92 m (36 inch) height concrete safety barrier and tubular-steel bicycle-safety railing on top of the wall along Stonybrook Creek.

2.4.3 Avoidance, Minimization and Compensation Measures

There are approximately 186 trees in the size range of 6" caliper or larger (measured at breast height) within the project limits. While most of these would remain, some trees would be removed. Trees on both sides of the highway would be affected including those near the intersection of Palomares Road. It is estimated that approximately 63 riparian trees would be removed and 7 oak trees in the vicinity of Paolmares Road and Stonybrook Creek. The affected trees are common within the vicinity of the project and, based on an initial review, appear not to exhibit the unique or outstanding visual characteristics necessary to be considered Scenic Resources. Even so, their removal would have some degree of visual impact. In some instances, the effect of removing trees could be positive where new, interesting views of the railroad trestles and scenic views of Alameda Creek would be created. In no case would the removal of trees expose unsightly areas. Caltrans policy is to replace vegetation that is damaged or removed due to highway improvement projects. Riparian trees grow quickly so they should provide suitable habitat within approximately 5 years.

The new retaining wall along the uphill side of the highway would be very readily visible to passing motorists and would diminish the scenic appeal of the immediate area. To mitigate the visual impact, this wall would be a soil-nail type wall, carved and stained to match the appearance of natural rock outcroppings in the area (Appendix E). The retaining walls along the banks of Alameda Creek and Stonybrook Creek would be visible from the creeks and the opposite bank, but generally not from the highway. To mitigate the visual impact of these retaining walls, an aesthetic treatment would be applied to the face of the walls to help make them compatible with the surrounding rural landscape. The creek-side faces of the walls would be textured and stained to match the random stacked rock of the existing stone wall sections that would remain. The top portion of the concrete safety barrier would be sand blasted to reduce the visual mass and the tubular-steel bicycle-safety railing would be painted to blend in with the natural surroundings. The wider paved surface created by shoulder improvements would have no apparent visual impact.

The new crash cushions and concrete safety barriers required at the abutments and piers at the Rosewarnes and Farwell Underpasses would be very visible to motorists and would diminish the visual appeal of the historic railroad trestles. To mitigate this visual impact, the crash cushions would be selected to give the appropriate appearance compatible with railroad facilities and the concrete barriers would be sand blasted to match the barriers on top of the retaining walls (Appendix E).

2.5 Cultural Resources

2.5.1 Affected Environment

Surveys of archaeological and historic architectural resources in the project study area were conducted in November 2002, March and October 2003, and September 2004, and are summarized in a Historic Property Survey Report (November 2004). The APE for archaeological studies is defined as the area that would be directly impacted by project activities, or the project "footprint", which includes right-of-way takes, construction staging areas, utility relocation sites, and biological mitigation areas. The architectural APE essentially follows the State right-of-way of Route 84 with a few exceptions to include features that extend away from the existing highway alignment. The APE map was approved on October 25, 2004.

Archaeology

Investigations included pre-field review of Caltrans cultural resource files, as-built documents, information available at the Northwest Information Center (NWIC) of the California Historic Resource Inventory System at Sonoma State University, and research at the UC Berkeley Bancroft Library. Files at the NWIC indicated that the area had been previously surveyed. PQS Archaeologist Richard Fitzgerald conducted an additional pedestrian survey in 2004. No surface prehistoric cultural resources were observed within the archaeology APE, and the likelihood of any buried resources in this area is minimal.

Architectural History

The HRER (October 2004) identified two resources eligible for the National Register of Historic Places when judged in relation to the Criteria for Evaluation, as well as for the purposes of CEQA compliance when judged in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlines in Section 5024.1 of the California Public Resources Code. The California State Office of Historic Preservation (SHPO) concurred with the eligibility findings in a letter dated November 30, 2004.

The two properties determined eligible are the Vallejo's Mill/Spring Valley Water Company water-conveyance system, and the Niles Canyon railroad, which includes two railroad bridges known as Dresser and Farwell. The Niles Canyon railroad has been determined to be a National Register eligible district, with both bridges as contributing features.

The Vallejo's Mill/Spring Valley Water-Conveyance System was originally built around 1841 by Jose de Jesus Vallejo to direct Alameda Creek water to his grist mill at the

mouth of the canyon. The system was then altered in 1887 and is made up of three components: the dam, the turnout (distribution box), which includes the gatehouse, and the aqueduct. Exposed portions of the dam are a combination of concrete, stone and mortar, and brick and mortar. The visible portion of the turnout is brick and is angled west to lead water into the aqueduct. The aqueduct is approximately 2,700 ft long; the first 1,000 ft is located beneath the highway pavement. The structure begins to emerge along the north side of Highway 84 with an easily visible hump as it approaches Dresser Bridge. The original open structure of stone was lined and domed with fired red clay brick. This water conveyance system is eligible for the National Register of Historic Places for its early construction and its association with agricultural and industrial development, as well as the evolution of urban water supply in the region. The system also may be eligible as a resource that embodies distinctive characteristics of a type, period, or method of construction. Additionally, the system may be eligible for its likelihood to yield information on early solving construction techniques that addressed the difficult terrain of this narrow canyon, as well as, the seasonal changes to the flow of Alameda Creek.

The two railroad bridges are components of the Niles Canyon railroad district dating to 1865; the railroad was an original leg of the transcontinental railroad. The piers and abutments are comprised of ashlar stone and mortar and the wooden bridges have since been replaced with steel structures. The Farwell Bridge was rebuilt in 1896 with a pin-connected truss system. The Dresser Bridge super structure (also known as Rosewarnes Underpass) was replaced in 1906 with a riveted through truss bridge. The two railroad bridges, contributing components of the Niles Canyon railroad district, are eligible for the National Register of Historic Places for their association with the Transcontinental Railroad and associated history of transportation, commerce, and settlement. As contributors, these bridges are also eligible as examples of the progression of technological developments in railroad bridge construction.

2.5.2 Impacts

Archaeological Resources

No archaeological resources were found within the project's APE.

Historical Resources

The proposed build alternative was designed to avoid the above-mentioned cultural resources within the project's APE. Avoidance measures for the water conveyance system include designing the project so that no component will be physically affected. This is achieved by restricting shoulder widening to either side of the dam and turnout

and along the route of the aqueduct, thereby, limiting all widening to the creek side of the highway.

As with the water-conveyance system, the project will not alter the features of the bridges. At the Dresser Bridge, an additional lane will be constructed on the creek side of the western-most pier, thus placing northbound traffic on one side of the pier, and southbound on the other. The roadbed will be lowered at both bridges. Construction methods have been identified and will be implemented to avoid harming these resources. These are described in the Finding of Effects document.

2.5.3 Avoidance, Minimization and Compensation Measures

In the event that archaeological resources are unexpectedly discovered during project construction, work should immediately cease in the surrounding area until it can be evaluated by a qualified professional archaeologist and a suitable course of action developed in compliance with applicable laws and regulations, particularly 36 CFR Part 800.13.

The Federal Highway Administration proposes that a Finding of No Adverse Effect without Standard Conditions is appropriate and is seeking concurrence from the State Office of Historic Preservation in the finding, pursuant to 36 CFR 800.5(c) and Section 106 PA Stipulation X.B(1). A report documenting this finding specifies that conditions be imposed during construction to prevent damage to the historic resources.

For the purpose of the CEQA, pursuant to Title 14, Chapter 3, Section 15064.5(b), this undertaking will not cause a substantial adverse change in the significance of a historical resource because the significance of the resource will not be materially impaired.

2.6 Water Quality and Storm Water Runoff

Urban runoff is non-point as well as point source (confined and discrete conveyance or collection system or culverts) discharge into water bodies. In recent years, efforts to minimize or avoid the effects of water pollution have continued. An important component of urban runoff is that which comes from streets and freeways. The State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Board (RWQCB) have been working with Caltrans and local agencies to design projects that minimize the discharge of pollutants into waters of the United States to the maximum extent possible.

2.6.1 Regulatory Setting

The primary federal law regulating Water Quality is the Clean Water Act; (CWA) enforced by the U.S. Environmental Protection Agency (EPA). The EPA delegated its authority in California to the State Water Resources Control Board (SWRCB) and Regional Water Quality Control Boards (RWQCB). The RWQCB prepares and adopts the Water Quality Control Plan, (Basin Plan), a master policy document for managing surface and groundwater quality in the region. The State Water Resources Control Board and the Regional Water Quality Control Board issue permits that implement the standards included in the Basin Plan as well as other requirements of the State Water Code and the federal Clean Water Act.

Section 401 of the CWA requires a water quality certification from the State Board or Regional Board when a project: 1) requires a federal license or permit (a Section 404 permit is the most common federal permit for Caltrans projects), and 2) will result in a discharge to waters of the United States.

Section 402 of the CWA establishes the National Pollutant Discharge Elimination System (NPDES) permit system which directs that storm water discharges are point source discharges and establishes a framework for regulating municipal and industrial storm water discharges. To ensure compliance with Clean Water Act Section 402 the State Water Resources Control Board (SWRCB) has issued Caltrans an NPDES Statewide Storm Water Permit to regulate storm water discharges from Caltrans facilities (Order No. 99-06-DWQ, CAS000003).

In addition, the SWRCB has issued a statewide Construction General Permit for construction activities (Order No. 98-08-DWQ, CAS000002), that applies to all storm water discharges from land where clearing, grading, and excavation result in disturbances of at least 0.4 hectares (1 acre) or more. Construction activity that results in soil disturbances of less than 0.4 hectares (1 acre) is subject to the General Permit if the construction activity is part of a larger Common Plan of Development totaling 0.4 hectares (1 acre) or more of soil disturbing activities, or if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. All projects that are subject to the construction general permit require a Storm Water Pollution Prevention Plan (SWPPP). Caltrans' construction projects that are less than 0.4 hectares (1 acre) need to incorporate Water Pollution Prevention Plans (WPCP).

2.6.2 Affected Environment

The project is located within the San Francisco Bay Regional Water Quality Control Board (RWQCB) jurisdiction (Region 2), which is responsible for implementation of

State and Federal water quality protection laws and regulations in the vicinity of the project area.

2.6.2.1 Storm Water

The project site is within the South Bay Basin Watershed. The terrain in this area is mountainous and steep on both sides of the roadway. SR 84 within the project limits is adjacent to Alameda Creek. Storm water from the roadway currently discharges into this creek. Eventually, Alameda Creek discharges into the San Francisco Bay, Lower area, approximately 6.4 km (4 mi) away.

The Region 2 RWQCB Basin Plan establishes beneficial water uses for waterways and water bodies within the region. The following are the listed Beneficial uses for Alameda Creek: 1) agricultural supply, 2) cold freshwater habitat, 3) groundwater recharge, 4) fish migration, 5) water contact recreation, 6) non-contact recreation, 7) fish spawning, 8) warm freshwater habitat, and 9) wildlife habitat.

Per Section 303(d) of the 1972 Clean Water Act, California has developed a list of water quality limited segments. Although Alameda Creek is listed on EPA's 303(d) List of Water Quality Limited Segments for diazinon, this pollutant is not found at levels of concern as a product of roadway runoff.

2.6.2.2 Groundwater

This project is located in the Alameda Creek (Niles Cone) Groundwater Basin. The existing beneficial uses of this groundwater resource according to the Basin Plan include municipal and domestic water supply, industrial process water supply, industrial services water supply, and agricultural water supply. The Alameda Creek flows recharge the Niles Cone groundwater basin before emptying into the San Francisco Bay. Since this project will require construction of a retaining wall between the existing roadway and Alameda Creek, and the proposed re-construction of the box culvert that drains Stonybrook Creek into Alameda Creek, groundwater will likely be encountered during construction.

2.6.3 Impacts

2.6.3.1 Storm Water

Caltrans has performed many studies to monitor and characterize highway storm water runoff throughout the State. Commonly found pollutants include petroleum products, surfactants, Total Suspended Solids (TSS), nitrate Nitrogen, Total Kjedahl Nitrogen (TKN), phosphorous, Ortho-phosphate, Copper, Lead and Zinc. Some sources of this

pollution are natural erosion, phosphorus from tree leaves, combustion products from fossil fuels, and the wearing effects of brake pads.

This project is a safety project with only one build alternative. The added pavement for shoulders and the left turn pocket will increase roadway runoff. However, the additional amount is negligible and will not result in significant impacts to water quality due to added impervious pavement by the proposed widening.

2.6.3.2 Groundwater

Groundwater will be encountered during excavation for the retaining wall and culvert extension. Early discussion shall be initiated regarding the handling and disposal of this water during the design phase. The ground water will also be tested for potential contamination as part of the Hazardous Waste Site Investigation. Proper handling and disposal of the ground water will be based on the levels of contaminants identified in the Site Investigation report. The main pollution will be sediment. Temporary containment systems are proposed in combination with other sediment removal measures to reduce sediment loads to acceptable thresholds that will allow for discharge into Alameda Creek. Groundwater that is unsuitable for discharge into the creek will be hauled offsite for disposal. There are no known sanitary inlets near the project site.

Since the retaining wall is anticipated to be constructed during the dry season when there is minimal water flow into the creek, on-site contaminant devices such as Baker Tanks will be used on-site to temporarily hold the goundwater to ensure that sediment level meets the regulatory standards before the water is discharged into Alameda Creek.

2.6.4 Avoidance, Minimization and Compensation Measures

2.6.4.1 Section 401 of the Clean Water Act

The drainage improvements and work within Alameda Creek will require an Army Corps 404 permit as well as a 401 Water Quality Certification from Region 2, RWQCB.

Any impacts to the Waters of the U.S. will be minimized and mitigation measures will be considered for any unavoidable impacts.

2.6.4.2 Section 402 of the Clean Water Act

According to Caltrans NPDES permit and the Construction General Permit, BMPs will be incorporated into this project to reduce the discharge of pollutants during construction as well as permanently to the Maximum Extent Practicable (MEP), including Temporary Construction Site BMPs, Design Pollution Prevention BMPs, and Permanent Treatment BMPs.

(a) **Construction Site BMP**

Construction Site BMPs are implemented during construction activities to reduce pollutants in storm water discharges throughout construction. One critical construction activity, dewatering, may be necessary for this project because of the possibility of encountering groundwater during excavation in Alameda Creek. If necessary, early discussion will be initiated regarding the handling and disposal of this water during the design phase. Dewatering BMPs and temporary holding devices such as Baker Tanks will be included in the special contract provisions to meet the dewatering requirements. Grading of existing slopes will be required. However, the use of retaining structures, especially in excavation areas, will minimize the amount of grading required. Temporary silt fence, stockpile cover, stabilized construction entrance/exit and temporary soil stabilizers are some of the temporary erosion and water pollution control measures that will be utilized in combination to prevent and minimize soil erosion and sediment discharges during construction. Given an anticipated soil disturbance of greater than 0.4 hectares (1 acre), a Storm Water Pollution prevention Plan (SWPPP) will be developed during construction. This dynamic document addresses the deployment of various erosion and water pollution control measures that are required commensurate with the extent of construction activities.

(b) **Permanent Design Pollution Prevention BMPs**

Design Pollution Prevention BMPs are permanent measures to improve storm water quality by reducing erosion, stabilizing disturbed soil areas, and maximizing vegetated surfaces. Erosion control measures will be implemented on all disturbed areas. A retaining wall will be constructed between the new widened roadway and Alameda Creek to minimize impacts to the creek. The use of retaining wall structures will also minimize the amount of open disturbed soil.

Erosion control measures will utilize a combination of source and sediment control measures to prevent and minimize erosion from disturbed areas. Source controls will utilize erosion control netting in combination with hydroseeding. The biodegradable netting is effective in providing good initial mechanical protection while seed applied during the hydroseeding operation germinates and establishes itself. Other forms of source control such as tacked straw will also be used when applicable. Sediment controls, such as biodegradable fiber rolls, are used to retain sediments and to help control runoff from disturbed slope areas. Due to the steep terrain of the project area, it will be further investigated during the design phase to determine if slope paving or lining for ditches is needed to further minimize erosion potential.

Outlet protection and velocity dissipation devices placed at the downstream end of culverts and channels are also Design Pollution Prevention BMPs that reduce runoff velocity, control erosion, and scour. The need for these devices will be further investigated during the design phase.

(c) **Permanent Treatment BMPs**

Treatment BMPs are permanent devices and facilities treating storm water runoff. Caltrans approved Treatment BMPs are Biofiltration Swales, Infiltration Basins, Detention Basins, Traction Sand Traps, Dry Weather Flow Diversions, Media Filters, Gross Solids Removal Devices (GSRDs), Multi-chamber Treatment Trains, and Wet Basins.

Since this project is a critical safety improvement project (Safety Designation 010), it is exempt from required Permanent Treatment BMPs. However, treatments BMPs are still being considered due to the size of the project. Physical site constraints such as steep terrain and adjacent ESAs, limit the types of Treatment BMPs that can be implemented. Biofiltration Strips and Swales appear to be feasible, space permitting, and these options will be further investigated in the design phase.

2.7 Natural Communities

This section discusses natural communities of concern, with the focus on biological communities and not individual plant or animal species. This section also includes information on wildlife corridors, which in this case refers to fish passage. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration.

The table below summarizes the acreage of natural community habitat impacted by the proposed project. (Updated June 14, 2006)

Table 2.7-1 Impacts to Natural Communities

Natural Community	Temporary Impacts		Permanent Impacts	
	m^2	Acres	m^2	acres
Valley Foothill Riparian	7694	1.90	4107	1.02
Coastal Oak Woodland	131	0.32	958	0.237

Wetlands and other waters are discussed in Section 2.8.

2.7.1 Valley Foothill Riparian

The California Natural Diversity Database (CNDDB) classifies the riparian area within the project site as Sycamore Alluvial Woodland and is described as "open to moderately closed, winter deciduous broad leafed riparian woodland, overwhelmingly dominated by sycamore, buckeye, blue elderberry, and an understory of introduced grasses or seep willow.

Riparian habitat is classified as areas that provide cover for riverine habitats. This usually consists of open to dense canopy of a tree or trees of species such as California black walnut or oak varieties. Riparian habitat is distinct from fresh emergent wetlands because trees in riparian habitat do not necessarily occur in jurisdictional wetland areas although they could be associated with them. Riparian habitat value is derived from its proximity to riverine areas as a result of the cover they provide to the waterway.

Valley foothill riparian habitat is found along Alameda and Stonybrook Creeks within the project limits. Although Alameda Creek experiences flood flows and Stonybrook Creek is ephemeral, both corridors support riparian vegetation and habitat including sycamore (*Platanus racemosa*), valley (Quercus lobata) and live oak (*Quercus agrifolia*), bay (*Umbellularia californica*), maple (*Acer platanoides*), and willow (*Salix sp.*) thickets along the waterline.

2.7.1.1 Impacts

The removal of vegetation to accommodate the widening and construction access will result in both temporary and permanent impacts to the riparian environment. A tree survey was conducted by Caltrans biologists in April 2004. The riparian tree impacts area summarized is in Table 2.7-2 below. (*updated June 14, 2006*)

Table 2.7-2 Permanent Riparian Tree Impacts

Riparian Tree Species	Number of Permanently Impacted Trees
Alder (*Alnus sp.*)	10
Bay (*Umbellularia californica*)	27
Maple (*Acer platanoides*)	17
Sycamore (*Platanus racemosa*)	24
Walnut (*Juglansnigra*)	3
Willow (*Salix* sp.)	3
Total	**84**

The proposed construction will temporarily affect approximately 7694 m^2 (1.90 acre) of riparian habitat and permanently affect 4107 m^2 (1.02 acres) of riparian habitat. The necessary vegetation removal will reduce the available roosting habitat, shelter, and nutrient loading provided by the existing plants and trees.

2.7.1.2 Avoidance, Minimization and Compensation Measures

Caltrans will replace temporarily impacted riparian vegetation in-kind and on-site once the construction access is removed and the remaining bank restored to its pre-construction grades.

Caltrans will also replace permanently impacted riparian trees at a 3:1 ratio. In addition, Caltrans will salvage willows (*Salix* sp.) in the impact area that are greater than 10 cm (4 inches) DBH by cutting them at the base of the tree and storing the cuttings. Upon completion of construction, the temporarily impacted banks of Alameda Creek will be laid back and the branches of the salvaged willows will be planted/plugged onto the bank.

2.7.2 Coastal Oak Woodland

Coastal Oak Woodland is characterized by mixed chaparral, coastal scrub, and annual grasses. These areas tend to be north-facing with more moisture present and differ from forests in that the canopies touch but seldom overlap.

The oak woodland habitats within the project area are characterized by open to dense canopies of oak species. The understory is derived from the surrounding grassland habitat composed of non-native annual grasses. The clusters of oaks within the project area are associated with topographic depressions between rolling foothills that convey perennial flows.

Three relatively narrow patches of coastal oak woodland are found along three drainages on the upslope side of SR 84. These discrete patches of habitat support mature stands of live oak. The oak woodland can provide quality habitat for many wildlife species as well as provide adequate cover, food, and along with associated drainages, a source of moisture. Although these stands are not continuous, the areas could be used as cover within a wildlife corridor.

2.7.2.1 Regulatory Setting

Oak woodlands in California are protected by California Senate Concurrent Resolution Number 17 which states that California State agencies must preserve and protect to the maximum extent feasible or provide replacement plantings in oak woodlands where Blue

(*Quercus douglasii*), Engleman (*Quercus engelmanni*), Valley, or Coast Live oak are removed.

2.7.2.2 Impacts

The proposed construction activities will affect approximately 958 m^2 (0.237 acre) of coastal oak woodland. The necessary vegetation removal will reduce the available roosting habitat, shelter, and nutrient loading provided by the existing plants and trees. Oak woodland tree impacts are summarized in Table 2.7-3 below.

Table 2.7-3 Permanent Oak Woodland Impacts

Oak Woodland Species	Permanently Impacted Trees
Live Oak (*Quercus agrifolia*)	17

2.7.2.3 Avoidance, minimization, and compensation measures

In an effort to minimize impacts to the existing Oak woodland habitat, Caltrans will limit construction activities to the smallest area possible to complete the proposed work. A clear delineation of this limited construction area will be incorporated into the project plans and specifications. Environmentally Sensitive Area (ESA) fencing will be used to delineate protected areas and confine workers and equipment to the designated construction areas.

Caltrans will mitigate for the removal of all live oak trees larger than 6 inches diameter at breast height (DBH) at a 5:1 ratio as agreed upon by Fred Botti, CDFG liaison, during a site visit on April 5, 2004. Caltrans will prepare a mitigation plan to replant 85 replacement oak trees on-site along the new roadside, thereby buffering the riparian zone from SR 84.

2.8 Wetlands and Other Waters

Wetlands and water sources within the project limits were delineated using the 1987 Army Corps of Engineers (USACE) delineation manual. The ordinary high water for the creek has been verified by the USACE, however, verification of ephemeral tributaries to Alameda Creek is still in progress. Wetlands within the project area are typically small roadside drainage ditches along the roadway and near ruderal/disturbed habitat. However, larger tracts of wetlands can be found in association with riverine habitats. These tracts are known as fresh emergent wetlands and are characterized by rooted plants adapted to an aquatic or a very wet habitat. Areas of intermittent, seasonal inundation

support only facultative wetland species, such as canary grass (*Phalaris sp.*), to more obligate plants such as sedges (*Carex sp*). Sites under more wet conditions within the project area are able to support cattails (*Typa sp.*). See the Habitat Map in Appendix F or details.

2.8.1 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 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 administered by the USACE with oversight by the Environmental Protection Agency (EPA).

Executive Order 11990 for the protection of wetlands 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, wetlands and waters are regulated by the CDFG and the RWQCB. Sections 1600-1607 of the Fish and Game Code require any agency that proposes a project that will divert or obstruct the natural flow of, or change the bed or bank of a river, stream, or lake to notify CDFG before beginning construction. A CDFG Lake or Streambed Alteration Agreement will be required for projects within the bed or banks of a stream or lake. CDFG jurisdictional limits are usually defined as the tops of the stream or lake banks, or the outer edge of riparian vegetation, which ever 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 CDFG.

The RWQCBs 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.

2.8.2 Impacts

Two decidedly small areas of fresh emergent wetland are found within the project boundary (Appendix F). USACE has verified their jurisdiction of both these wetlands. Wetland A is located adjacent to Alameda Creek just to the west of Rosewarnes Underpass. The wetland is approximately 14 m (46 ft) long by 1 m (3 ft) wide. This wetland is inundated all year long due to a constant source of water draining from Wetland B, which is 11 m (35 ft) by 2 m (7 ft) wide and is located on the opposite side of SR 84. Wetland B is filled by a constant hillside seep, which then drains to a silted Caltrans drainage inlet, through a culvert that passses under SR 84 and then empties into Wetland A.

As a result of the proposed widening, Caltrans will completely fill wetlands A and B, a total area of 66.6 m^2 (0.016 acre). To address the drainage malfunction, Caltrans will replace the existing culvert that drains the seep from Wetland B with a new culvert.

2.8.3 Avoidance, Minimization and Compensation measures

The loss of wetlands will be mitigated by habitat replacement at a ratio of 2:1. The goal of the mitigation will be to create or preserve approximately 133.2 m^2 (0.033 acre) of fresh emergent wetland. Off-site wetland mitigation banking opportunities are being sought in Alameda County and its surrounding counties (the Pajaro River Mitigation Bank in San Benito County is currently under consideration).

2.9 Special Status Plant and Animal Species

Special status species for this section are defined as any plant or wildlife species present on the U. S. Fish and Wildlife Service (USFWS) species list for the Niles Quad (USFWS Reference # 1-1-03-SP-2424). A Natural Environment Study (September 2004) and Biological Evaluation (September 2004) were completed for this project.

Biological resources in the project area were evaluated based on record searches, field surveys, and habitat assessment. A comprehensive list of special status wildlife species

with the potential to occur in the project area was derived from the official list generated by the U.S. Fish and Wildlife Service (USFWS), a search of the California Department of Fish and Game Natural Diversity Database (CNDDB), and the California Native Plant Society (CNPS) inventory. Literature reviews and habitat assessment in the field resulted in a significant reduction in the number of species that have the potential to occur in the project area based on the presence of supporting habitat.

The resident rainbow trout (*Oncorhynchus mykiss*), California tiger salamander (*Ambystoma californiense*), Northwestern (*Clemmys marmorata marmorata*) and Southwestern (*Clemmys marmorata pallida*) pond turtles , and Alameda whipsnake (*Masticophis lateralis euryxanthus*) are found in the project area.

2.9.1 Regulatory Setting

The Federal and California Endangered Species Acts set forth extensive regulations and procedures to be followed when a plant or animal species is listed as either "Threatened" or "Endangered". These regulations are intended to avoid harm to such species and their habitat and, ultimately, to restore their numbers to where they are no longer threatened or endangered.

Studies conducted to evaluate biological resources in the project area were done in accordance with Section 7 of the Federal Endangered Species Act that preserves Federally listed species and designated critical habitats.

The California Fish and Game Code Section 3503.5 and the federal Migratory Bird Treaty Act (MBTA) of 1918 prohibit "taking" of all migratory birds, or their nests or eggs. This includes loss of fertile eggs or nesting migratory birds or any activities resulting in migratory bird nest abandonment. Any construction or disturbance to the area of nesting migratory birds could result in a "take".

2.9.2 Resident Rainbow Trout (*Oncorhychus mykiss*)

The resident rainbow trout is a proposed federally-threatened species (Federal Register, 2004). The resident rainbow trout of Alameda Creek live in streams and rivers throughout their entire lifecycle, they do not migrate out to sea like their anadromous counterparts (steelhead) due to impassable downstream barriers. Resident rainbow trout do, however, migrate up and downstream in search of food, refugia, and suitable spawning habitat. Resident rainbow trout lay their eggs in small to medium sized gravel beds. They are iteroparous, which means they are capable of spawning more than once in their lifetime, and spawning events are known to occur throughout the year.

Dr. Samuel McGinnis (California State University, Hayward), a USFWS-approved reptile and amphibian expert, did not find trout pairs during either of his two 2002 surveys in Alameda Creek.

2.9.2.1 Impacts

The proposed construction activities will not cause direct impacts to the resident rainbow trout. However, the removal of vegetation on one side of the creek may impose an indirect effect by temporarily reducing shading of the creek and reducing nutrient loading. The proposed revegetation of the stream bank and the subsequent maturing of the replanted trees and understory will reduce this effect. There is no closed canopy over the Niles Canyon stretch of Alameda Creek, which is, in part, why it is such suitable habitat for non-native fish species. The larger trees such as sycamores, live oaks, maples, bays, walnuts, and alders, grow farther up the bank of the creek and only provide shading during very high winter flows, when storm run-off is already cool. Furthermore, the replanted willows will mature quickly to provide the majority of the refugia and shading now existing at ordinary flow levels. Therefore, the loss of the mature trees is not expected to affect the resident rainbow trout.

Although the proposed widening will encroach into the riparian corridor, no permanent features will be constructed in the active channel below the ordinary high water mark of Alameda Creek. Because Alameda Creek flows at relatively consistent levels due to the regulation of the upstream dams, the new structures will only be inundated during storm flows. Accordingly, resident rainbow trout habitat reduction will only be of concern during periods of high flow. During such periods, the opposite side of Alameda Creek provides sufficient refugia for resident rainbow trout transiting the area.

The proposed shoulder widening will create an increased roadway surface area and thereby produce increased runoff into Alameda Creek. However, the proposed project is not capacity increasing. Therefore, the vehicle pollutant load entering Alameda Creek will not be augmented. Additionally, the improved safety features will prevent future collisions, thereby reducing the potential for spilled pollutants to enter Alameda Creek.

2.9.2.2 Avoidance Minimization and Compensation Measures

Caltrans has minimized the construction area to the smallest area needed to complete the project. As a first order of work, Caltrans will erect ESA fencing to ensure that no construction workers, debris, or equipment enter the surrounding aquatic environment.

The stream is to maintain its natural course throughout the duration of construction, which will occur during the dry season of June 15 through October 15. Coffer dams will

be used where necessary to dry out workspaces. Water seeping into the workspaces will be pumped into baker tanks located outside the ordinary high water level, to allow for sediment settling before being returned to the creek.

An on-site biological monitor will be present during the coffer-dam installation to ensure that no resident rainbow trout fingerlings are impacted by the installation. Should a fingerling be encountered, a qualified biologist will flush the fish from the area of impact.

Before construction begins, the project site will be videotaped to document the existing vegetation. The videotape will serve as an aid for the revegetation design and implementation. Stream banks will be regraded to their pre-construction contours and stabilized to prevent erosion and will be replanted with native trees and understory plant species.

The existing willows will be cut at ground level to promote rapid regrowth. The flood-prone nature of Alameda Creek induces seasonal losses of vegetation during times of high flows. By cutting the existing vegetation at ground level, the temporal loss of habitat will mimic that of the natural losses that the resident fish populations have adapted to. During the growth lag for the replanted willows, the heavily vegetated opposite bank will provide shade for stream cooling and fish thermoregulation during times of lower flows. Therefore, the rainbow trout will not be adversely affected by the temporary vegetation removal.

2.9.2.3 Special Enhancements

At the request of CDFG and National Oceanic and Atmospheric Administration/National Marine Fisheries Service (NOAA/NMFS), the existing reinforced box culvert draining Stonybrook Creek into Alameda Creek will be made fish passable. The new structure will provide capacity to meet storm requirements and facilitate Steelhead (*Oncirhyncus mykiss*) passage from Alameda Creek to Stonybrook Creek.

The originally proposed preliminary culvert design, included in the draft environmental document (May 2005 IS/EA), was for a double box culvert and modification of 19 m (62.3 ft) of creek upstream of the new culvert.

After further review and evaluation, the proposed double box culvert was dropped from consideration because the proposed culvert design did not meet the criteria for up-migrating juvenile fish and the reliance on the roughened baffle elements was questionable. Since the creek can carry a heavy bed-load with large cobbles through the project site, they might occlude the baffles or weirs and disrupt the necessary hydraulic

conditions. Therefore, a clear span bridge over Stonybrook Creek is now proposed. This can accommodate fish passage and will reduce channel maintenance requirements.

2.9.3 California Tiger Salamander (*Ambystoma californiense*)

California tiger salamanders (CTS) are biphasic, spending ninety percent of their life upland and ten percent in the water. Females lay 400 to 1,300 eggs that hatch within two to three weeks. Larvae feed on algae, small crustaceans, and mosquito larvae. At six weeks, the larvae eat tadpoles of the Pacific tree frog, California red-legged frog (CRF), western toad and spadefoot toad, as well as aquatic invertebrates. Adults and juveniles disperse up to 670.6 m (0.42 mi) from their ponds.

Adults feed on earthworms, small invertebrates, and vertebrates and can travel up to 50.8 m (166.6 ft) in one hour. The average CTS breeds between four to six years of age and less than fifty percent breed more than once. The breeding season is December through April and their average life span is ten years. They typically follow the same migration route every year.

The CTS prefers cool, wet winters and hot dry summers. Breeding habitat are typically bodies of water that fill during winter and dry by summer, such as vernal pools, seasonal as well as stock ponds, and roadside ditches.

2.9.3.1 Affected Environment

The CNDDB map shows a CTS occurrence in a stock pond high on the south wall of Niles Canyon, over 2.4 km (1.5 mi) away from the project site. According to the Federal Register (2003), "Adult California tiger salamanders may migrate up to 2 km (1 mi) from their aestivation sites to the breeding ponds" (Sweet, 1998).

Dr. McGinnis has found CTSs in ponds and associated side pools of Arroyo Del Valle Creek in the Pleasanton/Livermore area. Arroyo del Valle eventually flows into Alameda Creek, however the juncture is located over 16 km (10 mi) upstream of the canyon from the proposed project site. Wandering CTS individuals moving down Alameda Creek would be exposed to predatory fish, therefore Dr. McGinnis argues that a CTS occurrence within the project is not very likely.

2.9.3.2 Impacts

The CTS is not known to occur within the proposed project area. Therefore, impacts to individuals or populations are not expected to occur as a result of the construction of this safety project.

2.9.4 Northwestern (*Clemmys marmorata marmorata*) and Southwestern (*Clammys marmorata pallida*) Pond Turtles

The western pond turtles are moderate sized (120-210 mm, 4.7-8.3 in), drab brown or khaki colored turtle lacking any prominent markings on its carapace. It is an aquatic turtle, yet leaves the water to reproduce, aestivate, and overwinter. Recent fieldwork has found that not all pond turtles overwinter on land. Some remain active in water during winter, but the pattern varies considerably with latitude and habitat type and is still not well understood. Activity greatly increases when water temperature consistently reaches over 15 degrees Celsius. Therefore, it is possible for western pond turtles to be active year-round along the central and southern coast of California, compared to interior locales or higher latitudes where the western pond turtle becomes active in March or April and overwinters beginning in October or November. Western pond turtles are California species of concern.

2.9.4.1 Affected Environment

Dr. McGinnis did not observe western pond turtles during his 2002 survey of the proposed project area. However, during a survey for a Caltrans project 1.6 km (1 mi) upstream, he observed a western pond turtle leaving a shallow gravel shore area. Suitable habitat does exist within the project vicinity. Their preferred habitat includes ponds or slow moving bodies of water.

2.9.4.2 Impacts

The proposed project will cause temporary impacts to approximately 3010 m^2 (1.87 mi^2) of potential turtle habitat and permanent impacts to approximately 4750 m^2 (2.95 mi^2) of potential turtle habitat. The presence of a biological monitor will ensure that construction activity does not cause direct impacts to any turtles.

2.9.4.3 Avoidance, Compensation and Minimization Measures

The proposed construction zone has been confined to an area necessary for the completion of the project. Caltrans will designate areas not needed for construction as ESAs and mark them with ESA fencing. Construction personnel, equipment, or debris will not be allowed within the ESA.

Coffer-dams will be used to dry out work spaces and to prevent disturbance to the surrounding aquatic environment. The creek will not be contained and will maintain its natural flow throughout the duration of the construction.

An onsite biological monitor will be present during the initial ground disturbing activities to remove wildlife encountered from the construction zone. If a turtle is found, the biological monitor will remove the turtle from the construction zone immediately.

2.9.5 Alameda Whipsnake (*Masticophis lateralis euryxanthus*)

The Alameda whipsnake (AW) is typically found in northern coastal scrub, coastal sage scrub and chaparral plant communities, but may also occur in adjacent grasslands and oak and oak/bay woodlands. Optimal habitat for this snake is characterized by southern facing slopes with open-canopy stands, woody debris, and exposed rock outcroppings. This fast moving diurnal predator holds its head high off the ground to peer over rocks and vegetation while pursuing its prey. Its diet consists of lizards, small mammals, snakes, and nesting birds.

AWs can occupy home ranges varying in size from 1.9 to 8.7 hectares (ha) (5.0 to 21.5 acres) and often times overlap with other AWs. They breed from March through June, and females will lay clutches of 6-11 eggs from May through July. The young hatch and emerge in late summer to early fall.

2.9.5.1 Affected Environment

Dr. McGinnis finds that the open canopy coastal scrub and occasional rock outcrops on the steep southeast facing immediately northwest of the project site represent the preferred habitat of the AW (Swaim and McGinnis, 1992). The significant number of the northern fence lizards (principal prey of the AW), present within the area further substantiates the possibility of the AW on the steep south-facing slope just north of the proposed widening.

To date, no trapping surveys for the AW have been conducted in Niles Canyon. Records from the CNDDB show AW occurrences within the immediate watershed area of Alameda Creek in Sunol Regional Park and further upstream at the Camp Ahlone staging area. Dr. McGinnis has also documented populations at the current Walpert Ridge development site at the northern border of Garin Regional Park, adjacent to the California State University Hayward campus, and near the border of the Dry Creek Regional Park.

Dr. McGinnis believes that due to the unbroken extent of the main north-south ridge of the Inner Coast Range between Hayward and Niles Canyon, AW likely exists throughout

the area, including the north wall of Niles Canyon. However, for the AW to gain access to the north bank of Alameda Creek within the extent of the proposed project, it would have to cross the heavily traveled SR 84, which fragments the riparian and upland habitat in Niles Canyon and creates a migration barrier to AW movements.

During a phone conversation on June 26, 2004, Dr. McGinnis explained that the AW is a very wary snake and would not venture out into an open area to cross SR 84. The AW is also very sensitive to movements and would retreat from passing vehicles. Dr. McGinnis stated that the AW is not a nocturnal snake and that it would be most active during the warm hours of the day when traffic volumes would be highest on SR 84. Therefore, AW is not expected to occur on the south side of SR 84.

2.9.5.2 Impacts

The proposed widening will result in permanent impacts to 182.9 m^2 (0.05 acre) of potential AW habitat of very steep coastal scrub. The area is disturbed by railroad tracks that run adjacent to the parcel. Given the enormous slopes of open canopy coastal scrub available throughout Niles Canyon, the area affected is a decidedly insignificant and non-essential portion of the AW habitat complex available in the canyon.

2.9.5.3 Avoidance, Minimization and Compensation Measures

As mentioned before, the construction zone has been minimized to the smallest area possible and all other areas will be designated as ESAs and cordoned with ESA fencing. Construction personnel, equipment, or debris will not be allowed within the ESA.

AW is not expected to occur on the creek side of SR 84 where the majority of the widening will take place. Although the AW prey species, the northern fence lizard, is present along the creek, SR 84 acts as a migration barrier to any snakes attempting to cross the road in search of food (McGinnis phone conversation, 2004).

A small amount of work will be completed on the south-facing slope to avoid a cultural resource on the creek side of SR 84. A retaining wall will also be built, approximately 45 m (136 ft) long and ranging in height from 1.2 m (4 ft) to 9 m (30 ft.) This work area has been confined to the smallest area possible to complete the needed work.

Prior to the initiation of upslope construction, Caltrans will provide an on-site biological monitor to ensure that no AW are present within the 182.9 m^2 (0.05 acre) construction zone.

2.9.6 Little Willow Flycatcher (Empidonax traillii brewsteri)

The little willow flycatcher is a federal species of concern. They nest in thickets of low, dense willow that edge wet meadows, ponds, and backwaters.

2.9.6.1 Affected Environment

Marginal habitat exists for the little yellow flycatcher within the biological study area. Higher quality habitat for the species is located outside the study area. If present, the species is expected to be transient within the project vicinity.

2.9.6.2 Impacts

Through the successful implementation of avoidance and minimization efforts, the project will have no impact on the species.

2.9.6.3 Avoidance, Compensation and Minimization Measures

Qualified biologists will conduct a pre-construction nest survey prior to the start of construction. If nests are found, they will be protected.

2.9.7 Migratory Bird Treaty Act

If construction is scheduled during the nesting season, which extends from January through August for most migratory birds in the San Francisco Bay Area, pre-construction bird surveys will be conducted by a Caltrans biologist before work begins. If the biologist determines that migratory birds are nesting within the zone of potential disturbance, then construction should be rescheduled to avoid the nesting season. If it is not possible to schedule construction to occur between September and the end of December, then the biologist, in consultation with the CDFG, shall determine the extent of a buffer zone (typically 76 m or 250 ft). No work will be allowed within the buffer zones, but work can proceed in all other areas.

An alternate measure would be to allow vegetation removal only during the non-breeding season (September – mid-January). This measure would avoid potential impacts to nesting migratory birds during breeding season. This measure is preferable to pre-construction surveys during the breeding season.

2.10 Hydraulics

The Hydraulic Study was completed in April 2006 which evaluated the hydraulic impacts of the highway safety improvement project on Alameda Creek. In addition, potential impacts to channel stability, channel erosion, and scour due to the project were evaluated.

The hydraulic impacts to the project associated with the proposed future removal of the Niles Dam Diversion Weir by the San Francisco Public Utilities Commission were also investigated.

2.10.1 Affected Environment

Backwater computations for existing and proposed project conditions were performed to evaluate hydraulic impacts to Alameda Creek. The limits of study were from the existing US Geological Survey (USGS) Alameda Creek gage station, located about 500 meters downstream of the Rosewarnes Underpass, to upstream of the Farwell Underpass. The project also includes replacing the existing box culvert under Route 84 at Stonybrook Creek with a free span bridge. The preliminary analysis for the proposed bridge crossing is contained in a separate study titled, *Stonybrook Creek at SR 84 Culvert Replacement Hydraulic Report* (WRECO 2006).

Flood conditions on Alameda Creek were generated for existing and proposed project conditions for the 2-, 10-, 25- and 100-year flood events.

The calculated channel flow velocity at each cross section was used to develop the critical particle size required for onset of motion to develop a preliminary evaluation of potential erosion in the creek channel.

2.10.2 Impacts

General Flooding Conditions in Alameda Creek

In general, the flood boundaries for various floods are not substantially different under the existing and proposed project conditions.

Two-year flood levels remain contained within the creek channel without overtopping the road surface under both existing and proposed conditions. For the 10-year flood, the estimated water surface elevations for existing and project conditions would over top the road surface near the Rosewarnes Underpass and just downstream of Farwell Underpass. For the 25-year and 100-year floods, the estimated water surface elevations would overtop the road surface more frequently and to a greater depth under existing and proposed conditions. The 100-year flood will overtop almost all the whole study reach except for a few localized spots.

2.10.3 Rosewarnes Underpass Improvement Reach

Flood Levels

For the 2-year event, the calculated flow depths and water surface elevations in Alameda Creek with this project built, will be slightly lower than those under existing conditions

from about Station 101 to about Station 102, and then become slightly higher until existing and proposed water surface elevations converge at about Station 104.(See Appendix H for Hydraulic Evaluation Station Map). The changes in flow depth are less than 2% of the channel flow depth and not significant. For the 10 to 100 year floods, the analysis suggests that the water surface will be slightly lower from about Station 101+40 to about Station 107 where the water surface profiles converge. The maximum change is about 0.15 m and occurs just downstream of the Underpass. The impact of the proposed widening within the Rosewarnes Improvement reach on flood levels in Alameda Creek is insignificant for the 2 to 100 year floods.

Flow Velocity

For the 2-year flood, calculated channel flow velocities are slightly higher under project conditions from about Station 101 to about 102. Upstream of Station 102, channel velocities will be slightly lower than under existing conditions due to higher water surface levels until the profiles converge at about Station 104. For the 10 to 100 year floods, channel flow velocities are generally higher with the project from about Station 101+50 to about Station 107, with the maximum increases occurring near the bridge piers.

Erosion and Scour

Long-term aggradation and degradation within the project reach, is controlled by the downstream weir at the USGS gage station and the Niles Dam Diversion Weir. Consequently, the long-term aggradation and degradation within the project reach is expected to be minimal. The narrowing of the cross sections at certain locations would result in higher channel flow velocity than under existing conditions, and may cause more contraction scour than under existing conditions. Local scour at the railroad bridge piers may not be significantly different since the creek cross-section at the pier locations does not appear to differ significantly between the existing and project build conditions.

Potential for scour near the center pier of the Rosewarnes Underpass (about Sta. 610) are about the same for existing and proposed project. The effect of the project on the local scour at the bridge pier is negligible.

The higher channel velocity due to the project will result in slightly higher erosive forces on the channel bed. The higher flow velocities will be able to mobilize a larger median particle size than under existing conditions. The increase in size ranges from 6mm to 13mm for the 2- to 100-year flood events, respectively.

2.10.4 Farwell Improvement Reach

Flood Levels

For the 2-year flood, the water surface elevation is controlled by the critical flow condition at the Niles Dam. The calculated water surface elevations upstream of the dam under project conditions appear to be slightly higher than under existing conditions, with a maximum increase of about 0.16 m occurring near Station 114. For the 10 to 100 year floods, a similar increase in water surface level occurs. The higher flood levels due to the project for the 10 to 100 year floods will not have a measurable impact on the water surface elevations upstream of the project limits.

Channel Flow Velocity

Except for the 2-year flood event, channel flow velocities will be slightly higher under project conditions from the beginning of the Farwell reach at about Station 111+50 where the roadway improvements start to encroach toward the creek

Erosion and Scour

Since there appears to be no encroachment under the project condition improvements, potential scour at the Farwell Underpass will be relatively unchanged for existing and project conditions. The higher channel velocity due to the project will result in slightly higher erosive forces on the channel bed. The higher flow velocities will be able to mobilize a larger median particle size than under existing conditions. The increase in size ranges from 2 mm to 46 mm for the 2- to 100-year flood events, respectively.

2.10.5 SFPUC Proposed Removal of Existing Diversion Weir (Niles Dam)

The San Francisco Public Utilities Commission (SFPUC) plans to remove the existing diversion weir located at about Sta. 111. Our studies indicate that this structure is eligible for inclusion in the National Register of Historic Places and have therefore designed this highway safety project to not impact the weir.

The hydraulic analysis of Alameda Creek incorporated a short term condition and a long term condition for the changes in Alameda Creek associated with the future dam removal. The analysis indicates that under proposed project conditions, the backwater without the diversion weir will converge to existing conditions at Stations 115+60 and 115+80 for the assumed short-term and long-term conditions, respectively. Flow conditions in Alameda Creek upstream of station 115+80 will not be affected by the removal of the dam.

With the dam removed, it is anticipated that increased sediment loads downstream of the dam site will occur for some period of time. The enlargement of existing and the formation of new sand bars may occur which could alter the existing low flow channel

alignment. The proposed removal of the Niles Dam should establish a more natural bedload transport condition in this section of creek and could also reduce the creek's erosive potential.

2.11 Construction Impacts

2.11.1 Air Quality

During construction, the proposed project would generate air pollutants, including hydrocarbons, nitrogen oxides, carbon monoxide, and particulates. Most of the pollution will consist of wind-blown dust generated by excavation, grading, hauling, and various other activities. The impacts from the above activities would vary from day to day as construction progresses. The Environmental Protection Agency (EPA) considers construction impacts to be temporary and unavoidable. Caltrans Standard Specifications and Special Provisions for construction contracts include dust control measures.

Section 51.454 (g) of the Clean Air Act Amendments states that carbon monoxide and PM10 hot spot analyses are not required to consider construction-related activities which cause temporary increases in emissions. Each site, which is affected by construction related activities, shall be considered separately, using established "Guideline" methods. Temporary increases are defined as those that occur only during the construction phase and last five years or less at any individual site. It is estimated that construction will be completed in less than five years.

The Special Provisions and Standard Specifications will include requirements to minimize or eliminate dust through the application of water or dust palliatives.

2.11.2 Temporary or Periodic Increase in Ambient Noise Levels

Construction activities for the proposed project could result in noise levels greater than the existing noise levels. Since construction activities would move around the respective project areas as construction proceeds, it is unlikely that any one location would experience high noise levels continuously for extended periods of time.

Construction noise is unavoidable and could adversely affect some nearby members of the public during daytime hours. However, the impact would be temporary and limited to the time of the construction in any one location.

Caltrans Standard Specifications for construction contracts include the following noise abatement measures to minimize construction noise impacts:

- All construction equipment shall be required to conform to the provisions in Section 7-1.01I of the latest edition of Standard Specifications to minimize noise from construction activities, such as maintaining equipment mufflers in proper operating order.

- The contractor shall comply with any local noise ordinances.

2.11.3 Traffic, Transportation and Bicycle

Since SR-84 is a narrow 2-lane winding road, construction will require the closure of one or both lanes along the project limits and it is possible that motorists/bicyclists would be detoured. All efforts will be made to minimize lane closures or detours to reduce impacts to the traveling public. Night-time work and lane closures can be expected during construction. Flaggers and message signs may be used to warn travelers of anticipated delays or closures. These issues will be addressed in the Traffic Management Plan (TMP) to be developed prior to construction. These impacts are considered temporary and not significant.

2.11.4 Water Quality

Please see Water Quality (section 2.6.4.2) for temporary construction impacts.

2.12 Cumulative Impacts

In compliance with NEPA and CEQA requirements, this cumulative effects section identifies past, present, and reasonably anticipated future projects that could result in cumulative impacts on resources (e.g., wetlands and cultural resources) and traffic-related impacts (e.g., noise and air quality). The analysis considers other Caltrans projects and projects proposed by other outside agencies and developers.

Other planned or recently completed transportation improvement projects in the vicinity of this project include the following projects:

- Route 84 Alameda Creek Bridge and Overhead Retrofit (BR 33-0039)
  This project was a seismic retrofit of a 14-span, reinforced concrete box girder bridge. The project was completed in January 2005.

- Route 84 Safety Improvements between Palomares Road and I-680

  This project will be a continuation of the scope of work proposed in this document, which is to increase safety by widening shoulders and increasing sight distance. It was recently programmed in the 2006 SHOPP and the environmental studies will soon be initiated.

- Route 84 Alameda Creek Bridge (BR 33-0036) Replacement

  This project proposes to replace the existing two-lane bridge, just north of the Palomares Road intersection on Route 84. The structure crosses over the Union Pacific Railroad tracks and the Alameda Creek. This project was not included in the recent 2006 SHOPP; the next SHOPP cycle is 2008.

- San Francisco Public Utilities Commission (SFPUC) Fish Passage Project – Niles Dam Removal

  The SFPUC proposes to remove barriers to fish passage along Alameda Creek, once a migration route for breeding anadromous fish. Within the project limits, the SFPUC plans to remove the Niles dam.

Aesthetics

The riparian and oak trees to be removed by the SR 84 Safety Project would have some degree of visual impact, both positive and negative. Tree removal can provide new interesting views to the historic railway trestles and Alameda Creek. Vegetation that is damaged or removed as a result of the project will be replaced. An aesthetic treatment on the face of the retaining wall is proposed to make it compatible with the surrounding rural landscape. Therefore, there are no cumulative impacts.

Biological Resources

Permanently impacted Oak trees (6 in DBH or greater) will be replaced at a 5:1 ratio. Permanently impacted wetlands will be replaced at a 2:1 (replaced to impacted) area ratio.

Caltrans will replace temporarily impacted riparian vegetation in-kind following the removal of the construction work zone and its return to pre-construction grades.

Caltrans will also replace permanently impacted riparian trees at a 3:1 ratio. In addition, Caltrans will salvage willows (*Salix* sp.) in the impact area that are greater than 10 cm (4 inches) DBH by cutting them at the base of the tree and storing the cuttings. Upon

completion of construction, the temporarily impacted banks of Alameda Creek will be laid back and the branches of the salvaged willows will be planted/plugged onto the bank.

Caltrans will also replace permanently impacted riparian trees at a 3:1 ratio. The CDFG and SFPUC approved an area upstream of the project limits, east of SR 680, to implement any replacement planting that cannot be accommodated onsite.

There were no determinations of "likely to adversely affect" for biological resources.

Considering these compensation measures, it is determined that there are no cumulative impacts to biological resources.

Cultural Resources

The Vallejo Mills/Spring Valley water conveyance system was found eligible for the National Register of Historic Places. This project was designed to avoid impacting the historical resource, however precautionary measures will still include monitoring by a qualified archaeologist and a Caltrans cultural resource specialist. If required, incorporation of other construction methodology to reduce potential vibration effects would minimize the potential unforeseen impacts to the Vallejo Mills site.

The Route 84 Safety Improvement Project includes provisions for assessing and mitigating unanticipated cultural resources uncovered during construction. Therefore, there would be no cumulative impacts on historic or archaeological resources as a result of the proposed project.

Hazards and Hazardous Materials

During construction a limited amount of fueling and maintenance of equipment would likely occur on site. Transport, storage, handling, and use of fuels, lubricants, and other chemicals at the site could create the potential for accidental release of hazardous materials. These potential impacts would be minimized by the implementation of a spill and pollution prevention plan and appropriate health and safety training for construction workers who may be exposed to hazardous materials during excavation activities. If encountered, impacted soil will be removed and disposed of appropriately and in accordance with State and local regulations. Preliminary soil sampling will be conducted to evaluate the potential for aerially deposited lead within the project area and any soil generated during construction would be subject to the soil reuse variance issued by Cal/EPA, Department of Toxic Substances Control. With the implementation of these

measures, any impacts related to hazardous materials would be localized in extent and quickly remediated. Therefore, there would be no cumulative impacts.

Hydrology

Changes to flood levels, channel flow velocity, and erosion and were found to be less than significant. Therefore no cumulative impacts are expected.

Water Quality

Water quality could be impacted in a variety of ways as a result of construction activities, storm water runoff, and spills of hazardous materials. To avoid and minimize these effects the contractor will implement BMPs for dewatering, spill prevention, material management, and sediment control during the construction period. Compliance with the Caltrans NPDES permit and adherence to erosion control measures included in Caltrans Standards and Specifications would reduce or eliminate potential construction-related impacts. Design Pollution Prevention and Treatment BMPs, if feasible, would be incorporated into the project to improve water quality or reduce the discharge of pollutants. Each of the other projects considered in the cumulative analysis would also include Construction and Design Pollution and Prevention BMPs, thereby minimizing any cumulative impacts.

Transportation/Traffic

Traffic caused by construction of the project would be temporary in nature. The improvements in this Safety Project will not increase capacity of the highway nor will it change the pattern of traffic. Therefore, there would be no cumulative impacts related to traffic.

Chapter 3 Comments and Coordination

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process to determine the scope of environmental documentation, the level of analysis, potential impacts and mitigation measures and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including: project development team meetings, interagency coordination meetings, and correspondence with other interested parties. This chapter summarizes the results of the Department's efforts to fully identify, address and resolve project-related issues through early and continuing coordination.

3.1 Coordination

3.1.1 Biological Resources Coordination

A Caltrans biologist met with Fred Botti of the CDFG April 5, 2004 for a field review of the proposed improvements and anticipated impacts. Mr. Botti suggested the oak trees removed greater that six inch DBH should be replaced at a 5:1 ratio. A mitigation plan to replant the oak trees on-site along the new roadside will be developed to buffering the riparian zone from SR 84.

Caltrans personnel also met with Tim Koopman of the SFPUC regarding potential mitigation opportunities on SFPUC land also in February 2005.

Phone conversations include the following people:

- Dan Buford, USFWS. February, 2004. Status of the riparian brush rabbit in Niles Canyon,
- Tim Koopman, SFPUC. April 2004. Effect of tree removal on watershed and resident fish, and
- Dr. Sam McGinnis, California State University Hayward. June and August 2004. Status of the Western Pond Turtle and Alameda Whipsnake in Alameda Creek, and impact potential on resident fish populations.

3.1.1.1 Section 7 Consultation with the U.S. Fish and Wildlife Service

Caltrans submitted a biological evaluation to the U.S. Fish and Wildlife Service on November 3, 2004 requesting concurrence that the proposed project is not likely to adversely affect the California red-legged frog, Alameda whipsnake, and California tiger

salamander. The Service responded January 27, 2005 requesting additional information (see Section 3.2.1) prior to making a determination. This information is being developed and will be provided. It is expected that the ongoing ESA Section 7 informal consultation will conclude with the USFWS concurring with our finding that the project may effect, but is not likely to adversely affect listed species. If the USFWS does not concur, then Caltrans and FHWA will proceed to formal consultation with the USFWS.

Formal consultation was requested by FHWA on October 7, 2005. A Biological Opinion, dated May 24, 2006, was issued by the Service and includes a detailed consultation history.

3.1.1.2 Section 7 Consultation with NOAA-NMFS

Caltrans representatives met February 9, 2005 with Gary Stern, National Marine Fisheries Service (NMFS) to discuss the fish passage at Stonybrook Creek. Mr. Stern provided written comments (dated March 10, 2005) on the proposed conceptual design, which was followed-up with a phone conference with Caltrans staff to clarify his comments and further discuss the proposed design. Once the design is finalized to NMFS's satisfaction, a biological assessment will be submitted to initiate formal consultation under Section 7 of the Endangered Species Act. It is expected consultation will conclude with a finding that the project is likely to adversely affect resident rainbow trout. However, because of the Stonybrook Creek culvert replacement element, the project is expected to have an overall beneficial effect on the species.

Informal consultation on the threatened Central California Coast (CCC) steelhead was initiated with NMFS on March 23, 2006. The steelhead is not currently in the project area due to existing downstream barriers. In a letter dated April 18, 2006, NMFS concurred with Caltrans' determination that this project "may affect, but will not adversely affect threatened CCC steelhead."

3.1.2 Historical Resources Coordination

Coordination with a variety of agencies and individuals was conducted in the course of preparing the technical documents for historical resources. Written correspondence include letters between Caltrans, the Federal Highway Administration, and the State Historic Preservation Office (SHPO) regarding the eligibility of cultural resources within the project area as either eligible or ineligible for the National Register of Historic Places. In a letter dated November 30, 2004, SHPO (see letter in Section 3.2.3) concurred with the finding of eligibility of two historic properties. These properties include the Niles

Canyon railroad and its two contributing bridges known as Dresser railroad bridge and Farwell railroad bridge, and the Vallejo/Spring Valley water-conveyance system.

When the finding supports eligibility of historic properties, a finding of effect is written to determine if the project is going to adversely affect or harm the resource. An FOE has been written with the determination of no adverse effect and is currently being reviewed by SHPO for concurrence.

Letters were also sent to municipal and county authorities as well as historic society/preservation organization to identify properties that are historically or architecturally significant in the project area. These organizations include: Alameda County Historical Society, Amador-Livermore Valley Historical Society, Museum of Local History - Fremont, Hayward Area Historical Society and Museum, Mission Peak Heritage Guild, Niles Depot Historical Foundation, and Washington Township Historical Society.

Other correspondence includes letters between Caltrans, the Native American Heritage Commission, and Native American tribe representatives requesting information regarding the presence of Native American cultural resources in the project area. Copies of the correspondence are included in the Historic Property Survey Report (November 2004). Phone conversations and separate meetings also occurred in October 2003 between Caltrans personnel and representatives of the Museum of Local History in Fremont and the Pacific Locomotive Association.

3.1.3 Niles Dam Removal

Ongoing coordination continues with the SFPUC concerning their project to remove barriers to fish passage along Alameda Creek. Within the project limits, the SFPUC plans to remove the Niles Dam, which is found to be eligible for the National Register of Historic Places by the SHPO. Although this SR 84 Safety project was designed to avoid this cultural resource, ongoing coordination with the SFPUC will ensure that the Niles dam removal will not have an effect on the SR 84 project improvements.

3.1.4 Eligibility for State Scenic Highway Status

The segment of SR 84 which includes this project, is eligible for official designation as a State Scenic Highway. Alameda County is currently preparing a formal nomination package seeking State Scenic Highway designation for this Route. Contact with Alameda County Planning staff (Lisa Asche) has been established to follow the status of their efforts for Scenic Highway Designation and they will be included in the distribution of this document to the public.

Chapter 4 List of Preparers

California Department of Transportation (Caltrans)

Ron Kiaaina, Project Manager

Office of Design, Alameda II
Patrick Pang, Office Chief
Grace Magsayo/Ghulam Popal, District Branch Chief
Scott Paterson/Don Breeden/James Hsiao, Transportation Engineer

Office of Environmental Analysis
Melanie Brent/Robert Gross, Office Chief
Ed Pang, Senior Environmental Planner
Frances Maroni, Associate Environmental Planner
Kimberly Brimmer, Environmental Planner
Christina Lau, Associate Environmental Planner

Office of Environmental Engineering
Allan Baradar, Office Chief

Office of Water Qualiy
David Yam, Office Chief
Analette Ochoa, Senior Transportation Engineer, Water Quality

Office of Cultural Resources
Brian Ramos, Office Chief
Elizabeth Mckee, Senior Environmental Planner, Archaeology
Elizabeth Krase, Senior Environmental Planner, Architectural History
Meg Scantlebury, Associate Environmental Planner, Architectural History
Richard Fitzgerald, Associate Environmental Planner, Archaeology
Alisa Reynolds, Associate Environmental Planner, Archaeology
Thad Van Bueren, Senior Environmental Planner, Prehistoric Archaeology

Office of Biological Sciences and Permits
Jeffrey Jensen, Office Chief
Margaret Gabil, Senior Environmental Planner, Natural Sciences
Amy Fowler, Associate Environmental Planner, Natural Sciences
Melissa Barrow, Associate Environmental Planner, Natural Sciences

Office of Landscape Architecture
Bryan Walker, Senior Landscape Architect
Keith Suzuki, Associate Landscape Architect
Doug Brown, Landscape Architect
Tom Packard

Division of Design West
Craig Tomimatsu, District Hydraulics Engineer, Engineering Services
Steven Kakihara, Branch Chief, Geotechnical Design-West
Panchanatham Sundaram, Transportation Engineer, Geotechnical Design-West

Federal Highway Administration
Leland Dong, North Region Team Leader (District 4)
Steve Healow, Project Development Engineer-District 4

WRECO Walnut Creek, Han-Bin Liang,

Chapter 5 Distribution List

In compliance with the National Environmental Policy Act (NEPA) and the CEQA, this document was distributed to key interested agencies and key elected and appointed officials, as well as to all parties requesting it. The document was made available at the local libraries in Niles, Fremont, Union City, Livermore, and Pleasanton. A list of agencies and individuals that received the Initial Study/ Environmental Assessment follows.

State Legislature:

California State Assemblyman
Guy S. Houston
1635 Chestnut Street Suite A
Livermore, CA 94551

California State Senator
Liz Figueroa, District 10
43801 Mission Blvd., No.103
Fremont, CA 94539

Federal Agencies:

California Environmental Protection Agency
1001 I Street
P.O. Box 2815
Sacramento, CA 95812-2815

Mr. Wayne Nastri
Regional Administrator
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA, 94105

Bureau of Indian Affairs
2800 Cottage Way
Sacramento, CA 95825

USFWS
Steve Thomson, Operations Manager
2800 Cottage Way
Sacamento CA 95825

U. S. Geological Suvey
345 Middlefield Road, MS 370
Menlo Park, CA 94027

California Department of Health and Human Services
P.O. Box 997413
Sacramento, CA 95899-7413

Federal Railroad Administration
1120 Vermont Avenue NW
Washington, DC 20590

National Resources Conservation Service
Concord Service Center
5552 Clayton Road
Concord, CA 94521-4158

United States Department Of Energy
1000 Independence Ave., SW
Washington, DC 20585

Department of Housing and Urban Development
1000 Independence Ave., SW
Washington, DC 20585

Federal Emergency Management Agency,
California Governor's Office of Emergency Services
P.O. Box 419047
Rancho Cordova, CA 95741-9047

Federal Transit Administration, Region 9
201 Mission Street, Suite 2210
San Francisco, CA 94105

National Marine Fisheries Service
Northern California Habitat Conservation Manager
777 Sonoma Avenue, Room 325
Santa Rosa, CA 95404-6515

U.S. Army Corps of Engineers
333 Market Street, Room 923
San Francisco, CA 94105-2195

State Agencies:

Department of Water Resources
P. O. Box 942836,
Sacramento, CA 94236

California Department of Parks and Recreation
State Historic Preservation Officer
P. O. Box 942896
Sacramento, CA 94896-0001

California Department of Conservation
801 K Street, MS 24-01
Sacramento, CA 95814

California Resources Agency
1416 Ninth Street, Suite 1311
Sacramento, CA 95814

California Department of Fish and Game
DFG Headquarters
1416 Ninth Street
Sacramento, California 95814

California Department of Fish and Game, Region 3
P. O. Box 47
Yountville, CA 94599

California Highway Patrol
2434 Whipple Road
Hayward, CA 94544

California Public Utilities Commission
Executive Director
505 Van Ness Avenue
San Francisco, CA 94102

Integrated Waste Management Board
P.O. Box 4025
Sacramento, CA 95812-4025

Metropolitan Transportation Commission
Steve Heminger, Executive Director
101 8th Street
Oakland, CA 94607

Native American Heritage Commission
915 Capitol Mall, Room 364
Sacramento, CA 95814

Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612

State Clearinghouse
P.O. Box 3044
Sacramento, CA 95814-3044

State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812

Alameda County Agencies and Officials

Alameda County Clerk
1106 Madison Street
Oakland, CA 94607

Alameda County Planning Department
Attn: Lisa Ashe
224 W. Winton Ave, Suite 111
Hayward, CA 94544

Alameda County Supervisor Gail Steele
1221 Oak Street, Suite 536
Oakland, CA 94612

Alameda County Supervisor Scott Hagarty
1221 Oak Street, Suite 5536
Oakland, CA 94612

Alameda County Congestion Management Agency
1333 Broadway, Suite 220
Oakland, CA 94612

Alameda Control Flood Control and Water Conservation District
Deputy Director Scott Swanson
951 Turner Court, Room 100
Hayward, CA 94545-2698

Alameda County Water District
General Manager - Paul Piraino
43885 South Grimmer Boulevard
Fremont, CA 94537

Alameda County Clerk-Recorder's Office
1106 Madison Street
Oakland, CA 94607

Alameda County Administrator
1221 Oak Street, Room 555
Oakland 94612

Alameda County Counsel
1221 Oak Street, Room 463
Oakland CA 94612

Alameda County Fire Department
Fire Chief William J. McCammon
835 East 14th Street, Suite 200
San Leandro, CA 94577

Alameda County Planning Department
Chris Bazar, Director
224 W. Winton, Room 111
Hayward, CA 94544

Donald J. LaBelle, County of Alameda
Director of Public Works
399 Elmhurst Street
Hayward, CA 94544

Alameda County Sheriff's Office
1401 Lakeside Drive, 12th Floor
Oakland, CA 94612

AC Transportation Improvement Authority
Alameda County Transportation Authority
Christine Monsen, Executive Director
426 17th Street, Suite 100
Oakland, CA 94612-2814

AC Transit
General Manager
1600 Franklin Street
Oakland, CA 94612

Union City Officials

Mark Green, Mayor
34009 Alvarado-Niles Boulevard
Fremont, CA 94587

Larry Cheeves, City Manager
34009 Alvarado-Niles Boulevard
Fremont, CA 94587

Karen Diaz, City Clerk
34009 Alvarado-Niles Boulevard
Fremont, CA 94587

Mintze Cheng, Public Works Director
34009 Alvarado-Niles Boulevard
Fremont, CA 94587

Wilson Lee, Transit Manager
34009 Alvarado-Niles Rd
Union City, Ca 94587

Union City Police Administration
Randy Ulibarri, Police Chief
34009 Alvarado-Niles Road
Union City, California 94587

City Of Fremont Officials

Bob Wasserman, Mayor
P.O. Box 5006
Fremont, CA 94537-5006

City Clerk Office
Lynn Macy, Assistant City Manager
P.O. Box 5006
Fremont, CA 94537-5006

City Manager's Office
Fred Diaz, City Manager
3300 Capitol Avenue
Fremont, CA 94538

City of Fremont Engineering Division
39550 Liberty Street
Fremont, CA 94538

City of Fremont Environmental Services Division
Development Services Center
39550 Liberty Street
Fremont, CA 94538

City of Fremont Office of Housing and Redevelopment
Niles Redevelopment Project Manager
Luke Connolly
39550 Liberty Street
Fremont, CA 94538

City of Fremont Planning Division
39550 Liberty Street
Fremont, CA 94538

Fremont Fire Department
Administration Offices
3300 Capitol Avenue, Building B
Fremont, CA 94538

Fremont Police Department
2000 Stevenson Boulevard
Fremont, CA 94538

Other Agencies/Parties

Association of Bay Area Governments
Henry L. Gardner, Executive Director
P.O. Box 2050
Oakland, CA 94604-2050

Alameda Creek Alliance
Jeff Miller, Director
P.O. Box 192
Canyon, CA 94516

Alameda County Historical Society
Helen Lore, President
484 Lake Park Ave, #307
Oakland, CA 94610-2730

Amador-Livermore Valley Historical Society
603 Main Street
Pleasanton, CA 94566

Bay Area Bicycle Coalition
PO Box 2214
Novato, CA 94948-2214

California Preservation Foundation
Roberta Deering, Executive Director
1611 Telegraph Ave., Suite 820
Oakland, CA 94612

Center for Ecosystem Management and Restoration
4179 Piedmont Avenue, Suite 325
Oakland, California 94611

California Native Plant Society
East Bay Chapter
P. O. Box 5597 Elmwood Station
Berkeley, CA 94705

California State University, Hayward
25800 Carlos Bee Boulevard
Hayward, CA 94542

Hayward Area Historical Society and Museum
227101 Main Street
Hayward, CA 94536

Mission Peak Heritage Guild
4035 Central Ave
Fremont, CA 94536

Museum of Local History
P. O. Box 3087
Fremont, CA 94539

Niles Depot Historical Foundation
P. O. Box 2716
Fremont, CA 94536

Niles Main Street Association
P.O. Box 2038
Fremont, CA 94536

Pacific Locomotive Association
P. O. Box 2247
Fremont, CA 94536-0247

East Bay Municipal Utility District
P.O. Box 24055
Oakland, CA 94623

East Bay Regional Park District
2950 Peralta Oaks Court
P.O. Box 5381
Oakland, CA 94605-0381

Golden Gate Audubon Society
2530 San Pablo Ave, Suite G
Berkeley, CA 94702-2047

San Francisco Public Utilities Commission
1155 Market St., 4th floor
San Francisco CA, 94103

Tri-Valley Council
5354 Sandra Way
Livermore, CA 94704

Washington Township Historical Society
P. O. Box 3045
Fremont, CA 94536

Libraries

Niles Library
150 I Street
Fremont, CA 94538

Castro Valley Library
20055 Redwood Road
Castro Valley, CA 94546

Centerville Library- Fremont
3801 Nicolet Ave
Fremont, CA 94536

Fremont Main Library
2400 Stevenson Boulevard
Fremont, CA 94538

Union City Library
34007 Alvarado Niles Road
Union City, CA 94587-4452

Pleasanton Public Library
400 Old Bernal Avenue
Pleasanton, CA 94566

Civic Center Library- Livermore
1188 S. Livermore Avenue
Livermore, CA 94550

Rincon Library- Livermore
725 Rincon Acenue
Livermore, CA 94551

Springtown Branch- Livermore
998 Bluebell Drive
Livermore, CA

Chapter 6 Responses to Comments

The following list of public agencies and organizations submitted comments on the Proposed Negative Declaration and Initial Study/Environmental Assessment. The comments are included in this section followed by the responses.

- Robert W. Floerke, Regional Manager, Department of Fish and Game, July 26, 2005;
- Brian Wines, Water Resources Control Engineer, California Regional Water Quality Control Board, San Francisco Bay Region August 4, 2005;
- Jim Townsend, Trail Development Program Manager, East Bay Regional Park District, July 20, 2005;
- Alex Amoroso, Assistant Planning Director, Alameda County Community Development Agency, July 21, 2005;
- Edward A. Wylie, Chief, South Section, U.S. Army Corps of Engineers, Regulatory Branch, July 8, 2005;
- Paul Piraino, General Manager, Alameda County Water District, July 13, 2005;
- Stanley Fung, Deputy Director, Alameda County, Public Works Agency, July 13, 2005;
- Joseph Naras, San Francisco Public Utilities Commission, July 13, 2005;
- Jeff Miller, Director, Alameda Creek Alliance, June 24, 2005;
- William Kirkpatrick, Manager of Water Distribution Planning, East Bay Municipal Utility District, June 28, 2005;
- Eric Bissinger, Office of Local Assistance, California Integrated Waste Management Board, July 1, 2005;
- Robin Brabb, Acting Fire Marshal, City of Fremont, June 14, 2005;
- Stephen J. Roderick, Captain, Alameda County Sheriff's Office, June 14, 2005;

State of California

Memorandum

To : Mr. Raymond Pang
California Department of Transportation
Post Office Box 23660
Oakland, CA 94623-0660

RECEIVED
AUG - 8 2005
STATE CLEARING HOUSE

Clear 8.10.05 e

Date: July 26, 2005

C. Cathcart

From : Robert W. Floerke, Regional Manager
Department of Fish and Game - Central Coast Region, Post Office Box 47, Yountville, California 94599

Subject : Route 84 Safety Improvement Project, Rosewarnes and Farwell Underpasses (Niles Canyon), Union City/Fremont Area, Alameda County SCH 2005072059

Department of Fish and Game (DFG) personnel have reviewed the Proposed Negative Declaration/Initial Study for the subject project. The project is to realign a section of the existing roadway, widen to accommodate standard shoulders, improve sight distance, and improve vertical clearance at Rosewarnes and Farwell underpasses on Route 84 in Alameda County.

The Alameda Creek watershed has historically supported a population of steelhead trout (*Oncorhynchus mykiss*); the upstream portion of Stoneybrook Creek currently supports a resident trout population; and there are currently ongoing efforts by Alameda Creek Fisheries Restoration Workgroup members to allow fish passage past downstream structures deemed to be partial fish migration barriers and to create suitable spawning and rearing habitat in Stoneybrook Creek and upper Alameda Creek. There are published genetic studies showing that native Alameda Creek rainbow trout should be considered part of the CCC steelhead population, and NOAA Fisheries has proposed including resident rainbow trout in Alameda Creek in the threatened CCC steelhead population.

Furthermore, Fish and Game Code Section 5901 states, "Except as otherwise provided in this code, it is unlawful to construct or maintain in any stream in Districts 1, 1-1/2, 2, 2-1/2, 2-3/4, 3, 4, 4-1/2, 23, and 25, any device or contrivance which prevents, impedes, or tends to prevent or impede, the passing of fish up and down stream." Section 5901 covers Alameda County, District 3, and is independent of potential downstream barriers. Therefore, without incorporating fish passage in the project design, there will be a Section 5901 violation.

DFG, therefore, requires that all structures in the above-referenced project be designed for fish passage. The existing Caltrans culvert is a migration barrier for steelhead trout, and DFG recommends Caltrans replace the existing box culvert with a free span bridge or arch culvert which will restore fish passage into Stoneybrook Creek, avoid hydraulic constraints that could lead to erosion or limit fish passage, reduce the amount of hardscape, and maintain a natural stream channel. All fish

passage structures must be approved by DFG engineers prior to construction. Also, any activity such as those stated above that would affect the bed, channel or bank of a stream requires a Streambed Alteration Agreement with DFG.

The project proposes to temporarily impact approximately 0.87-acre of riparian habitat and permanently impact 1.45 acres of riparian habitat including the removal of 63 riparian trees along Alameda Creek. The project also proposes to permanently impact 0.27-acre of coastal oak woodland. Caltrans proposes to mitigate for losses with on-site in-kind planting and with replacement planting at an undisclosed off-site area. The mitigation area and management plan should be disclosed for DFG evaluation and approval in writing.

The project site is within designated critical habitat for the Alameda whipsnake. The project should avoid adverse modification of Alameda whipsnake critical habitat. Caltrans has declared the 0.05-acre of whipsnake habitat that will be impacted by the project as insignificant and non-essential; however, the U. S. Fish and Wildlife Service has determined that this habitat is part of an essential connective corridor between sub-populations (see Federal Register, October 3, 2000). Loss of this habitat could be considered as a cumulative impact, and the habitat impacts should be avoided or mitigated by preserving an equivalent or greater amount of whipsnake habitat. One alternative would be to purchase credits at the Ohlone Conservation Bank.

Please be advised this project may result in changes to fish and wildlife resources as described in the California Code of Regulations, Title 14, Section 753.5(d)(1)(A)-(G)[1]. Therefore, a de minimis determination is not appropriate, and an environmental filing fee as required under Fish and Game Code Section 711.4(d) should be paid on or before filing of the Notice of Determination for this project.

If you have any questions, please contact Ms. Marcia Grefsrud, Environmental Scientist, at (707) 944-5559; or Mr. Scott Wilson, Habitat Conservation Supervisor, at (707) 944-5584.

cc: State Clearinghouse

[1] http://ccr.oal.ca.gov/. Find California Code of Regulations, Title 14 Natural Resources, Division 1, Section 753

Response to Comments from Robert W. Floerke (Department of Fish and Game)

Native Alameda Creek Rainbow Trout

Your comment that NOAA Fisheries has proposed including resident rainbow trout in Alameda Creek in the threatened CCC steelhead population is noted. NOAA has since removed the resident rainbow trout from the proposed inclusion in the threatened CCC steelhead population.

Fish Passage

The original project proposal included a reinforced concrete double box culvert to replace the existing culvert at Stonybrook Creek. The conceptual design for this culvert replacement included fish baffles along the bottom surface and was sized to carry a 50-year storm discharge and to also enable the passage of adult steelhead fish by grading the culvert slope and providing surface roughness (baffles) to simulate a natural stream bottom. This fish passage design was based on Department of Fish and Game's (DFG) Culvert Criteria for Fish Passage (May 2002). Similar guidelines from National Oceanic and Atmospheric Administration (NOAA Fisheries) were also used to establish fish passage criteria and suitable hydrologic conditions.

The project included re-grading the channel, upstream and downstream of the culvert, as well as armoring of the channel bottom using a series of vortex boulder weirs as step pools. The design included stabilizing the vertical alignment of the creek due to the fixed culvert bottom and adding fish baffles to improve passage. The proposed design for the vortex weirs was intended to create stable conditions and allow fish passage based on this "Hydraulic Design" criteria.

After further review and evaluation, the proposed double box culvert was dropped from consideration because the proposed culvert design did not meet the criteria for up-migrating juvenile fish and the reliance on the roughened baffle elements was questionable. Because the creek can carry a heavy bed-load with large cobbles through the project site, they might occlude the baffles or weirs and disrupt the necessary hydraulic conditions. Therefore, a clear span bridge over Stonybrook Creek is now proposed. This can accommodate fish passage and will reduce channel maintenance requirements as well as provide the following:

- *The bridge design will pass the 100-year design discharge with one foot of freeboard under the bridge;*

- *The proposed bridge will be skewed to be more inline with the approaching creek (given site constraints);*
- *The downstream pool will be filled.*
- *The proposed creek alignment under the bridge will improve the creek flowline;*
- *The channel profile and substrate will be restored to conditions similar to upstream and downstream conditions;*
- *The vertical bridge abutments will be spaced wider than the active channel width to allow unimpeded bed-load transport under the bridge;*
- *The re-graded channel bottom section will be shaped to match upstream channel sections and the creek bed will be overlaid with native materials. A slight centerline depression in the channel section will be provided to initiate the formation of a low flow channel;*
- *The creek bed will be allowed to aggrade or degrade naturally over time while the creek's side slopes will be hardened as necessary to protect adjacent structures and embankments.*

Temporary and Permanent Riparian and Coast Woodland Impacts

Your comments that the project proposes to permanently and temporarily impact riparian habitat and coastal oak woodland and that the mitigation area and management plan should be disclosed for DFG evaluation and approval are noted.

Critical Whipsnake Habitat

Your comments that the project site is within designated critical habitat for the Alameda whipsnake and your suggestion to possibly purchase credits at the Ohlone Conservation Bank are noted. Consultation with the USFWS concluded that the project is not likely to adversely affect California tiger salamander, but may adversely affect California red-legged frog, and Alameda whipsnake. Caltrans proposes to mitigate for impacts to these species by the purchase of credits at an approved mitigation bank. A Biological Opinion for the project was issued on May 24, 2006.

California Regional Water Quality Control Board
San Francisco Bay Region

Alan C. Lloyd, Ph.D.
Agency Secretary

1515 Clay Street, Suite 1400, Oakland, California 94612
(510) 622-2300 • Fax (510) 622-2460
http://www.waterboards.ca.gov/sanfranciscobay

Arnold Schwarzenegger
Governor

August 4, 2005
File No. 2198.09 (BKW)
Site No. 02-43-C0849

Ed Pang
California Department of Transportation
Post Office Box 23600
Oakland, CA 94623

Re: Comments on the Route 84 Safety Improvement Project, Proposed Negative Declaration / Initial Study (CEQA) and Environmental Assessment (NEPA), Dividing Border Between Union City and the City of Fremont in Alameda County, California (04-ALA-84-KP 19.5/21.4, EA 174400), May 2005 SCH Number: 2005072059

Dear Mr. Pang:

Regional Water Quality Control Board (Water Board) staff have reviewed the May 2005, *Route 84 Safety Improvement Project, Proposed Negative Declaration / Initial Study (CEQA) and Environmental Assessment (NEPA), Dividing Border Between Union City and the City of Fremont in Alameda County, California (04-ALA-84-KP 19.5/21.4, EA 174400).* The *Proposed Negative Declaration / Initial Study* was prepared to evaluate environmental impacts resulting from the proposed action, which includes the widening of State Route 84 between post miles 12.1 and 13.3 in Union City and the City of Fremont in Alameda County (Project). The project also includes the reconstruction of Farewell Underpass and the Rosewarnes Underpass, and the replacement of the culvert at the mouth of Stonybrook Creek. Water Board staff have the following comments on the *Proposed Negative Declaration / Initial Study.*

Comment 1
Since the Project has not yet evaluated all potentially significant environmental impacts and has also not yet demonstrated that all potentially significant impacts can be mitigated to less than significant levels, a Negative Declaration is not the appropriate CEQA document for the project. Because several endangered species may be impacted by the project, an Environmental Impact Report should be prepared for the Project

Comment 2
Section 1.4 Alternatives, Section 1.4.1.2 Stonybrook Creek Culvert Replacement. (page 4). Text in this section states that the, "existing reinforced box culvert that drains Stonybrook Creek into Alameda Creek must be replaced to provide increased capacity and facilitate the passage of steelhead from Alameda Creek to Stonybrook Creek." The proposed replacement is a double box culvert. The Project does not appear to have evaluated replacing the culvert with a free span bridge or properly sized arch culvert at Stonybrook Creek. A free span bridge or properly sized arch culvert would improve

hydraulic capacity at the crossing of Stonybrook Creek and would allow the channel to be configured to improve conditions for fish passage. As is discussed below in Comment 10, the culvert design presented in the *Proposed Negative Declaration / Initial Study* results in excessive hardening of the channel bed and banks and may require costly long-term maintenance measures. In addition, it may not meet current design requirements for fish passage. Evaluation of a free span bridge or arch culvert is also necessary to satisfy the requirements of the U.S. EPA's Clean Water Act Section 404(b) (1) Guidelines. The San Francisco Basin Water Quality Control Plan (Basin Plan) requires that projects involving fill in waters of the State be evaluated using these guidelines.

Comment 3

Section 2.6.3 Impacts, Section 2.6.3.2 Storm Water (page 20). Text in this section states that the additional pavement for shoulders and a left turn pocket will only result in a negligible increase in the amount of impervious pavement at the Project site. Please quantify the pre- and post-Project surface areas of pavement, so that the significance of the increase can be assessed.

Comment 4

Section 2.6.4 Avoidance, Minimization and Compensation Measures, Section 2.6.4.1 Section 401 of the Clean Water Act (page 21). Text in this section stats, "[A]ny impacts to Waters of the U.S. will be minimized and mitigation measures will be considered for any unavoidable impacts". A Negative Declaration is not appropriate if impacts are identified for the Project. A Mitigated Negative Declaration is appropriate, if the Mitigated Negative Declaration includes mitigation measures that mitigate the Project's impacts to insignificant levels. In order to evaluate the suitability of the mitigation, the proposed mitigation must be identified in a Mitigated Negative Declaration. Although Section 2.8.3 (page 28) states that the Project intends to create 76 square meters of mitigation wetlands on site, the *Proposed Negative Declaration / Initial Study* does not identify where this wetland will be located. Therefore, Water Board staff are not able to evaluate the suitability or viability of the proposed mitigation. Also, as noted above in Comment 1, an Environmental Impact Report is appropriate for the Project, because the Project may impact endangered species.

Comment 5

Section 2.6.4 Avoidance, Minimization and Compensation Measures, Section 2.6.4.1 Section 401 of the Clean Water Act (page 21). The Project has not evaluated avoidance and minimization of impacts at the crossing of State Route 84 over Stonybrook Creek. Alternatives that include a free span bridge (i.e., avoidance) or a large arch culvert (i.e., minimization) should be evaluated for the Project. Without analyzing these alternatives,

the Project cannot be considered in compliance with the Clean Water Act Section 404(b)(1) Guidelines.

Comment 6
Section 2.6.4.2 Section 402 of the Clean Water Act, (b) Permanent Design Pollution Prevention BMPs (page 22). The BMPs in the second paragraph under the heading, "Permanent Design Pollution Prevention BMPs", appear to be construction site BMPs that should appear under the heading, "Construction Site BMP", at the top of Page 22.

Comment 7
Section 2.7.1 Valley Foothill Riparian, Section 2.7.1.1 Impacts (page 25). The loss of shade should be added to the list of impacts associated with the removal of riparian vegetation. Shade regulates temperature in Alameda Creek and also provides some shelter from predation.

Comment 8
Section 2.7.1 Valley Foothill Riparian, Section 2.7.1.2 Avoidance, Minimization and Compensation Measures (page 25). It is not clear from the text if the "temporarily impacted riparian vegetation" that is proposed to be replaced "in kind" refers only to shrubs and grasses, or if it includes trees. Due to the long time period required for the growth of riparian trees, any impacts to riparian trees should be considered permanent impacts.

Comment 9
Section 2.8 Wetlands and Other Waters, Section 2.8.3 Avoidance Minimization and Compensation Measures (page 28). The proposed location of the mitigation wetland should be included in the *Proposed Negative Declaration / Initial Study* so that the adequacy and feasibility of the proposed site can be evaluated. In addition, the proposed three-year monitoring period is unusually short for a wetland mitigation site. Minimum mitigation periods of five to ten years are necessary to establish the likely success of mitigation wetlands.

Comment 10
Section 2.9.2 Resident Rainbow Trout, Section 2.9.2.3 Special Enhancements (pages 31-32). The *San Francisco Bay Basin Water Quality Control Plan* (Basin Plan) defines the beneficial uses of waters of the State. The proposed project would impact Alameda Creek, and Stonybrook Creek, which is a tributary of Alameda Creek. Since the Basin Plan states that "[t] he beneficial uses of any specifically identified waterbody generally apply to all of its tributaries," the beneficial uses specified for Alameda Creek also apply to Stonybrook Creek. Actions taken by the Water Board must be consistent with maintaining the

beneficial uses of waters of the State. Alameda Creek has the following existing beneficial uses defined in the Basin Plan: agricultural supply, cold freshwater habitat, ground water recharge, fish migration; water contact recreation; non-contact water recreation; fish spawning; warm freshwater habitat; and wildlife habitat. In order to be eligible for Waste Discharge Requirements and Clean Water Act Section 401 Water Quality Certification, the Project design must not impact the Beneficial Uses of Alameda Creek or Stonybrook Creek. Therefore, modifications to the culvert at Stonybrook Creek must not negatively impact fish migration or spawning in Stonybrook Creek.

The proposed modification of the existing culvert should be evaluated with respect to replacing the culvert with a free span bridge or large arch culvert. Either of these structures should provide a degree of long-term channel stability at the Stonybrook Creek Alameda Creek confluence that the highly engineered design proposed in the *Proposed Negative Declaration / Initial Study* would not be able to provide.

The proposed weir heights in the culvert and upstream of the culvert in Stonybrook Creek appear to exceed the acceptable heights for juvenile trout movement that have been established by the National Oceanographic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries) and the California Department of Fish and Game (CDFG). The Project should also evaluate the anticipated flow velocities in the box culverts during the rainy season and compare the predicted velocities with the acceptable velocities for trout migration that have been established by NOAA Fisheries and CDFG. Flow rates for 1-year, 2-year, and 10-year flow events should be provided for the proposed design.

The proposed design may also require costly, long-term maintenance of the culverts to maintain fish passage. At high flows, the boulder weirs may be subject to movement and at low flows the spaces between the weirs may be subject to high levels of sedimentation. A design that more closely mimics a natural channel would have lower long-term maintenance needs and is more likely to provide conditions amenable to fish migration. As noted above, fish migration is an identified Beneficial Use of Alameda Creek and Stonybrook Creek.

Also, the designs provided in Appendix G indicate that a large amount of channel hardening is proposed at the outfall of the box culverts. Water Board staff assume this hardening is proposed because of the high energy flows that will be caused by high flow rates that are constricted by the box culverts. The erosive energy of the flows exiting Stonybrook Creek could be significantly reduced if a free span bridge or a large arch culvert replaced the box culvert. Therefore, the amount of bank hardening could probably be reduced if a free span bridge or large culvert were used to carry State Route 84 over

Stonybrook Creek. The placement of riprap at the culvert outfall and the placement of stone weirs upstream of the culvert will be regulated as fill of a water of the State and, as such, will require mitigation. To the extent that the use of a free span bridge or arch culvert reduces the need for riprap or weirs in the channel, the amount of mitigation required for the Project will also be reduced.

Comment 11

Section 2.10 Hydraulics, Section 2.10.1 Affected Environment (page 37). Text in this section notes that, "[A]n evaluation of Stonybrook Creek flow conditions upstream of the box culvert crossing under SR 84 is still in progress." Since a potentially significant impact of the Project is still being evaluated, it is premature to circulate a *Proposed Negative Declaration / Initial Study* for the Project. Based on the information provided to the Water Board to date, an Environmental Impact Report, is the appropriate CEQA compliance document for the Project. All potentially significant impacts and associated mitigation measures should be incorporated into the Project's CEQA document before the CEQA document is circulated for review and comment.

Comment 12

Section 2.10 Hydraulics, Section 2.10.4 Farwell Improvement Reach, Erosion and Scour (page 40). The second paragraph on page 40 states:

> The current low flow channel pattern on Alameda Creek near the Farwell improvements indicates that the channel is migrating toward the road embankment upstream of the existing diversion weir structure. The higher channel flow velocity may cause a slight increase in channel bed erosion in this area. The proposed retaining wall in this improvement reach will have a foundation deep enough to avoid undermining the roadbed.

The analysis of impacts concentrates on the stability of the new retaining wall. The discussion should be expanded to consider impacts on the geomorphology of the low flow channel of Alameda Creek. The discussion should include an evaluation of the potential channel incision that can be anticipated to result from placing a retaining wall in the path of the low flow channel's migration toward the road embankment. Potential consequences to riparian vegetation or fish passage should be evaluated.

Comment 13

Section 2.12 Cumulative Impacts (page 42). This section of the *Proposed Negative Declaration / Initial Study* should evaluate the cumulative impacts of riparian vegetation disturbance associated with the Project in combination with both the Route 84 Safety

Improvements Between Palomares Road and I-680 and the Route 84 Alameda Creek Bridge (BR 33-0036) Replacement.

Based on the information provided in the *Proposed Negative Declaration / Initial Study*, the low flow channel runs close to the creek bank below the Route 84 road embankment for at least part of the Project reach. Removal of vegetation below the roadway will have potentially significant impacts with respect to shading/temperature modulation along these reaches of Alameda Creek. Depending on the distance to the riparian vegetation on the opposite bank, the decrease in shade cover to the low flow channel, which will be most critical during the summer months when ambient temperatures are highest and flows are lowest, may be cumulatively significant. Potential cumulative impacts on shade should consider the extent to which removal of vegetation may impact the viability of the creek as trout habitat.

Cumulative impacts of retaining wall incursions into the low flow channel of Alameda Creek should also be evaluated. This evaluation should consider both areas in which new retaining walls will impact the current alignment of the low flow channel and areas in which the currently observed migration of the channel will result in the channel becoming adjacent to new retaining walls. The evaluation should consider cumulative potential impacts on the channel cross-section, potential impacts on channel incision, potential impacts on riparian vegetation, and potential impacts on fish migration. The cumulative impacts evaluation should include impacts associated with the Project in combination with both the Route 84 Safety Improvements Between Palomares Road and I-680 and the Route 84 Alameda Creek Bridge (BR 33-0036) Replacement.

If you have any questions, please contact me at (510) 622-5680 or by e-mail at bwines@waterboards.ca.gov.

Sincerely,

Brian Wines

Brian Wines
Water Resources Control Engineer
South Bay Watersheds.

Response to Comments from Brian Wines (California Regional Water Quality Control Board)

Comment 1: Level of Environmental Documentation

The standard CEQA and NEPA process have been followed for this project. Appropriate technical studies were conducted and these studies supported the conclusion of the Initial Study that the project would not have a significant effect on the environment. The process also included consultation and coordination with appropriate resources agencies, most notably, U.S. Army Corps of Engineers (USACE), U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG), and National Oceanic and Atmospheric Administration (NOAA Fisheries) with regard to threatened or endangered species. This consultation and coordination will continue through and after construction.

Comment 2: Stonybrook Creek Culvert Replacement

The original project proposal included a reinforced concrete double box culvert to replace the existing culvert at Stonybrook Creek. The conceptual design for this culvert replacement included fish baffles along the bottom surface and was sized to carry a 50-year storm discharge and to also enable the passage of adult steelhead fish by grading the culvert slope and providing surface roughness (baffles) to simulate a natural stream bottom. This fish passage design was based on Department of Fish and Game's (DFG) Culvert Criteria for Fish Passage (May 2002). Similar guidelines from National Oceanic and Atmospheric Administration (NOAA Fisheries) were also used to establish fish passage criteria and suitable hydrologic conditions.

The project included re-grading the channel, upstream and downstream of the culvert, as well as armoring of the channel bottom using a series of vortex boulder weirs as step pools. The design included stabilizing the vertical alignment of the creek due to the fixed culvert bottom and adding fish baffles to improve passage. The proposed design for the vortex weirs was intended to create stable conditions and allow fish passage based on this "Hydraulic Design" criteria.

After further review and evaluation, the proposed double box culvert was dropped from consideration because the proposed culvert design did not meet the criteria for up-migrating juvenile fish and the reliance on the roughened baffle elements was questionable. Because the creek can carry a heavy bed-load with large cobbles through the project site, they might occlude the baffles or weirs and disrupt the necessary

hydraulic conditions. Therefore, a clear span bridge over Stonybrook Creek is now proposed. This can accommodate fish passage and will reduce channel maintenance requirements as well as provide the following:

- *The bridge design will pass the 100-year design discharge with one foot of freeboard under the bridge;*
- *The proposed bridge alignment will be skewed to be more inline with the approaching creek (given site constraints);*
- *The downstream pool will be filled.*
- *The proposed creek alignment under the bridge will improve the creek flowline;*
- *The channel profile and substrate will be restored to conditions similar to upstream and downstream conditions;*
- *The vertical bridge abutments will be spaced wider than the active channel width to allow unimpeded bed-load transport under the bridge;*
- *The re-graded channel bottom section will be shaped to match upstream channel sections and the creek bed will be overlaid with native materials. A slight centerline depression in the channel section will be provided to initiate the formation of a low flow channel;*
- *The creek bed will be allowed to aggrade or degrade naturally over time while the creek's side slopes will be hardened as necessary to protect adjacent structures and embankments.*

Comment 3: Pre- and Post-Project Surface Areas of Pavement

The pre-project paved areas are approximately 18,050 m^2. The post-project paved areas are approximately 24,500 m^2. This is an increase in impervious pavement of approximately 6,450 m^2.

Comment 4: Potential Impacts to Waters of the U.S.:

Refer to Response to Comment # 1 regarding level of environmental documentation and note that the reference to impacts in Section 2.6.4.1 was regarding unavoidable effects that are unforeseen or not anticipated.

The ND/IS provides a summary of information on sensitive habitats including the loss of wetlands. Measures to minimize impacts to wetlands are based on informal consultation with the U.S. Fish and Wildlife Service, the California Department of Fish and Game and the National Marine Fisheries Service. To compensate for the loss of wetlands, Caltrans will purchase credits for wetland replacement at an offsite mitigation bank and include a detailed monitoring program.

Comment 5: Compliance with the Clean Water Act Section 404 (b)(1) Guidelines

Refer to Response to Comment # 2 regarding Stonybrook Creek Culvert Replacement.

Comment 6: Permanent Design Pollution Prevention BMPs

The BMPs referenced in the second paragraph under "Permanent Design Pollution Prevention BMPs" are appropriate. As explained, this terminology refers to "permanent" measures to improve storm water quality, provide soil stabilization, and erosion control. Construction site BMPs are "temporary" and address construction-related activities.

Comment 7: Loss of Shade

Removal of riparian vegetation could result in loss of shade at certain locations or under certain scenarios. However the extent of shade loss is not anticipated to significantly alter creek temperature or significantly reduce predatory shelter.

Comment 8: Temporarily Impacted Riparian Vegetation: Trees

The "temporary impact" refers to the area or type of vegetation or habitat affected. Those will be replaced in kind and are not limited to shrubs and grasses. Any trees removed from the "temporarily impacted riparian" area is a permanent impact and will be replaced at an appropriate ratio.

Comment 9: Location of Wetland Mitigation Site

Wetland mitigation will be off-site at an approved wetland mitigation bank.

Comment 10: Beneficial Uses of Waters of the State

Refer to Response to Comment # 2 regarding Stonybrook Creek Culvert Replacement.

Comment 11: Flow Conditions Upstream of the Culvert

The information in the draft Hydraulic Evaluation was sufficient to support the assessment of the project impacts presented in the draft environmental document. It is not unusual to expand the original study area or to continue an evaluation of certain relevant issues beyond the project limits. These studies will be revised and finalized as appropriate and a "final" environmental document will be prepared as well. See also, response to Comment # 1.

Comment 12: Retaining Wall

The Hydraulics Study indicates the change in velocity varies from about 0.02m/s to 0.20m/s. This variation is well within the tolerance of the analysis and such slight changes in velocity could occur naturally due to the localized accumulation of debris and boulders conveyed by the creek. The proposed removal of the diversion weir by SFPUC would likely have more of an effect on existing low flow conditions and potential migration of the low flow channel. The effect of the removal of Niles Dam on the low flow channel is more appropriately addressed by that project. The placement of the retaining wall by this project to support the roadway embankment and to reduce and minimize encroachment into the creek should not significantly increase the potential for channel incision.

Comment 13: Cumulative Impacts

The Route 84 Safety Improvement between Palomares Road and I-680 is still in the early planning stages and was only recently programmed in the 2006 SHOPP. The project scope of widening the roadway to provide standard width shoulders is similar to this project and therefore, the potential impacts may be similar. However, preliminary engineering plans have not been prepared so the project elements and work activities have not been determined, and consequently, the specific impacts and cumulative impacts are not known at this time.

The Route 84 Alameda Creek Replacement Project was not included in the recent 2006 SHOPP cycle and the next cycle is not until 2008.

EAST BAY REGIONAL PARK DISTRICT

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July 20, 2005

Via FAX and US MAIL

Mr. Ed Pang
Caltrans District 4
Office of Environmental Analysis
P.O. Box 23600
Oakland, CA 94623-0660

RE: Niles Canyon and Vargas Plateau to Garin/Dry Creek Regional Trail
Caltrans Route 84 Safety Improvement Project
Proposed Negative Declaration/Initial Study (CEQA) and Environmental Assessment (NEPA)

Dear Mr. Pang:

Thank you for providing the East Bay Regional Park District (District) with the opportunity to comment on the Negative Declaration/Initial Study (ND/IS) for the proposed Route 84 Safety Improvement Project. The proposed project is to widen State Route 84 (SR-84) to accommodate standard shoulder lane widths from Rosewarnes Underpass to just beyond the Farwell Underpass in Niles Canyon, Alameda County. The project also proposes to improve sight distance and vertical clearance at these underpasses and provide a northbound left turn pocket at SR-84 and Palomares Road and realign the intersection.

The Niles Canyon Corridor remains the subject of significant public interest by recreational users, residents, businesses, bicycle organizations, transit, and local agencies, as well as the District. Multi-use public access, including non-motorized bicycle transportation and recreational access through the Corridor, is of particular interest to many agencies which have included proposed bikeways on SR-84 in their plans, including the Metropolitan Transportation Commission Regional Bicycle Plan, the City of Fremont Bicycle and Pedestrian Plan, the Alameda Countywide Bicycle Plan, and the East Bay Regional Park District 1997 Trails Master Plan.

As indicated under Section 2.3.1.2 Pedestrian and Bicycle Facilities (pg 12), "the Alameda Creek Trail is within the project area, but will not be impacted by the proposed improvements." The Alameda Creek Trail is actually located west of the project area and extends west from the Niles Canyon Staging Area (on Old Canyon Rd.) westward to San Francisco Bay for a distance of 12 miles. Currently, the District continues to monitor land use changes and opportunities in the Niles Canyon Corridor to extend the Alameda Creek Trail eastward as the Niles Canyon Trail, as well as a north south segment of the Bay Area Ridge Trail known as the Vargas Plateau to Garin/Dry Creek Pioneer Trail.

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inted on recycled paper with soy ink.

In addition to these two trails, the District has land use planning underway for the proposed Vargas Plateau Regional Park. District landholdings in the project area include the 24-acre former Full Gospel Church property on both sides of SR-84 just north of Palomares Rd. and 1870 acres of Vargas Plateau which abuts Alameda Creek to the south.

A previous Niles Canyon and Alameda Creek Regional Trail Corridor Study and Environmental Impact Report was adopted by the District in 1980, which identified potential Niles Canyon Regional Trail alignments extending 5.5 miles from the existing Alameda Creek Regional Trail (Niles Canyon Staging Area) to one mile west of Sunol. Caltrans District 4 comments were included in this EIR and demonstrated Caltrans' vital interest in providing safe bicycle access through the Route 84 Niles Canyon corridor. At that time however, funding was unavailable for shoulder widening of Highway 84. Since 1980, many of the potential bicycle trail opportunities in the Corridor have changed or are no longer available, now making this SR-84 Safety Improvement Project important as the unique opportunity to provide safe bicycle access through the Corridor.

The ND/IS states that SR-84 within the project limits is identified as a cross-county corridor and a proposed Class III bike route with widened shoulders in the Alameda Countywide Bicycle Plan. Furthermore, the document defines a Class III bikeway as a roadway, generally in rural areas, where the shoulder has been widened to at least 1.2 m (4 ft). However, the Caltrans Highway Design Manual, Chapter 1000 Bikeway Planning and Design, states that Class II Bikeways (bike lanes) on a typical roadway/highway in outlying areas (without parking, curbs and gutters) shall have a minimum width of 1.2 meters. The manual does not provide for minimum widths for Class III bike route, rather states that such routes are established by placing Bike Route signs along roadways. Please clarify that Class II bikeways can be accommodated on SR-84 and if Caltrans plans on designating a Class II bikeway as part of this project in order to provide safe bicycle passage through Niles Canyon.

As one of several possible trail alternatives and within the ND/IS project limits, the District anticipates an east west pedestrian/equestrian crossing of Palomares Road, at or near, the proposed intersection as a segment of the proposed Vargas Plateau to Garin/Dry Creek Pioneer Trail. The District would appreciate the opportunity to continue discussions with Caltrans on what crosswalk treatments might be possible in the Palomares Rd. area within this project scope.

Section 2.12. Cumulative Impacts section of the ND/IS, identifies additional SR-84 improvements anticipated to occur in the future which may result in cumulative impacts on resources and traffic. Relevant to our agency's interest in the corridor is the proposed continuation of the SR-84 safety improvements between Palomares Road and Interstate 680 to increase safety by shoulder widening and increasing sight distance. Also identified, is the replacement of the SR-84 Alameda Creek Bridge, just east of Palomares Road, which crosses over the Union Pacific Railroad tracks and the Alameda Creek. These projects most likely would affect our proposed trail alignments, including potential locations to cross the highway and creek, potential staging area opportunities, and may

require acquisition or temporary construction easements by Caltrans of District-owned landbanked property on both sides of the highway (the former Full Gospel Church parcels).

Additionally, in 1993, a cultural resources inventory of Niles Canyon and archaeological survey of the right of way for two trails through the Canyon, prepared for the District, identifies the area around the Route 84/Palomares Road intersection (the Farwell area) as the location of a significant historic resource. This site was not identified in the ND/IS. Relevant information excerpted from the inventory and survey indicate that Niles Canyon has long been a recreation area of regional significance. Between 1878 and 1941, Niles Canyon supported 10 picnic grounds, served by railroad flag stops, which could accommodate up to 6,000 people each weekend. The picnic area at Farwell, in operation from 1878 to 1956 was the largest and most successful. The Farwell location is a complex of several overlapping sites: a stone quarry, several picnic areas, including former dance floors and pavilions, railway worker camps and a hobo jungle. The hobo jungle at Farwell was also the inspiration and the film set for Charlie Chaplin's "The Tramp". Chaplin worked for Essanay Film Company in Niles, when Niles preceded Hollywood as the center of the film industry on the west coast and the canyon was a setting for many movies.

The site extends 300 meters up Stonybrook Canyon. Areas of archaeological sensitivity are mostly north of the highway, and presumably encompass the general vicinity of the proposed Palomares Road realignment and Stonybrook Creek improvements. The remnant concrete abutments near Stonybrook Creek on the south side of the highway are part of this site complex. The site apparently does not meet the criteria for eligibility to the National Register but is nevertheless a significant historic resource for purposes of CEQA and should therefore be evaluated in the environmental document.

The District appreciates this opportunity to comment on the SR-84 Safety Improvement Project and looks forward to continued coordination with Caltrans on the recreation and non-motorized transportation planning underway. Our agency believes in the importance of providing Caltrans with the information available about the public access and multi-use recreational activities and facilities that are desired throughout the canyon in order to ensure that the proposed project and future projects along SR-84 not preclude, but rather accommodate, any alternatives under consideration at this time.

Please contact me at (510) 544-2602 should you have any additional questions.

Sincerely,

Jim Townsend
Trail Development Program Manager

Response to Comments from Jim Townsend (East Bay Regional Park District)

We are aware of the significant public interest in the Niles Canyon corridor and the particular interest in bicycle access on Route 84.

Alameda Creek Trail

The clarification regarding location and extent of the Alameda Creek Trail as well as information regarding the Park District's future trail planning are noted. As stated in the document, this safety improvement project will not impact the Alameda Creek Trail. The improvements will be primarily adjacent to the existing roadway with the Rosewarnes and Farwell railroad bridges as the limits of this project.

Bicycle Access through the Route 84 Niles Canyon Corridor

The existing roadway has non-standard shoulders. This is a safety improvement project with budget and project scope limitations and thus, provision of a bicycle facility is not part of this project. The project does however, include standard width shoulders, which can be used by bicyclists and represents an improvement over the existing condition of narrow or non-existing shoulders. The standard width shoulders will enhance bicycle safety as well as provide greater compatibility with bikeway designations by the county. This project is only one section of the Route 84 corridor and is between Fremont and Sunol; other segments of Route 84 beyond the limits of this project also have shoulder widths less than 2.4 meters.

Crosswalk Treatments at Palomares Road

An east/west pedestrian/equestrian crossing of Palomares Road north of the intersection will likely be within Alameda County right-of-way rather than State Highway right of way. Pavement markings or crosswalk treatments of Palomares Road are not included in this project.

Cumulative Impacts of Future Projects

The Route 84 Safety Improvement between Palomares Road and I-680 is still in the early planning stages and was only recently programmed in the 2006 SHOPP. The project scope of widening the roadway to provide standard width shoulder is similar to this project and therefore, the potential impacts may be similar. However, preliminary engineering plans have not been prepared so the project elements and work activities

have not been determined, and consequently, the specific impacts and cumulative impacts are not known at this time.

The Route 84 Alameda Creek Replacement Project was not included in the recent 2006 SHOPP cycle and the next cycle is not until 2008.

Any future proposed trail alignments that involve crossing this heavily traveled highway should be coordinated with Caltrans.

Cultural Resources

As part of the Cultural Resource Studies for this project, a foot survey of the proposed right-of-way in the vicinity of the SR 84/Palomares Road intersection was conducted by a qualified architectural historian. Since only minimal remnant features of the picnic site remained, it was determined to not have historic integrity and would not be affected by the project.

ALAMEDA COUNTY COMMUNITY DEVELOPMENT AGENCY
PLANNING DEPARTMENT

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July 21, 2005 email and signed Hard copy sent

Mr. Ed Pang
Caltrans District 4
Office of Environmental Analysis
P.O. Box 23660
Oakland, CA 94623-0660

Re.: Comments to the Proposed Negative Declaration/Initial Study (CEQA) and Environmental Assessment (NEPA) for the Route 84 Safety Improvement Project

Dear Mr. Pang;

Thank you for the opportunity to respond to the Proposed Negative Declaration/Initial Study (CEQA) and Environmental Assessment (NEPA) for the Route 84 Safety Improvement Project.

The County of Alameda has been working closely with Dennis Cadd, Caltrans Scenic Highway Coordinator and Joe Lieber, District 4 Branch Chief, Senior Landscape Architect, to designate Highway 84 through the Niles Canyon as a Scenic Corridor. On December 18, 2003, the Departmental Transportation Advisory Committee (DTAC) approved the nomination package submitted by the County of Alameda, and the cities of Fremont and Union City thus authorizing the jurisdictions to prepare the Protection Plan and have it adopted by the affected jurisdictions.

The County, along with the cities of Fremont and Union City, has submitted the adopted Protection Plan to Caltrans for their review. The designation of this corridor should be considered 90% complete with final designation by the Director of Caltrans anticipated in the Fall of 2005.

The primary focus of the Protection Plan is to enhance, protect, and preserve the visual quality of the scenic corridor from the motorist's point of view as they travel through the canyon. The three involved local jurisdictions have adopted policies and plans to provide the local level protections required by Caltrans.

We are glad to see Caltrans addressing safety issues along this corridor. There may be components of your proposed plan that could affect the integrity of the visual quality and Scenic Highway designation of Route 84. We are confident that you will coordinate the safety improvements identified in the Initial Study with Mr. Cadd and Mr. Lieber (our contacts noted previous in this letter) to address any of their concerns so that the Scenic Corridor Plan Designation will not be affected.

Thank you for the opportunity to review the Draft Initial Study for the Route 84 Safety Improvement Project. If you need additional information on the Protection Plan or any other land use issues throughout the Niles Canyon, please contact Lisa Asche at (510) 670-6515 or Cindy Horvath, Transportation Planner at (510) 670-6511.

Sincerely,

Alex Amoroso,
Assistant Planning Director
Policy Planning Division, County of Alameda

Cc: Dennis Cadd, Caltrans Scenic Highway Coordinator
Joe Lieber, Caltrans District 4 Branch Chief, Senior Landscape Architect
Chris Bazar, Planning Director, Alameda County CDA
Cindy Horvath, Alameda County Transportation Planner

Response to Comments from Alex Amoroso (Alameda County Community Development Agency)

Our Office of Landscape Architecture will continue working with Alameda County to designate Route 84 through Niles Canyon as a Scenic Corridor and to assure that this project has minimal visual impacts and the visual quality of the scenic corridor will be protected or enhanced. As proposed, this project should not affect the anticipated Scenic Highway designation for Route 84.

DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
333 MARKET STREET
SAN FRANCISCO, CALIFORNIA 94105-2197

Regulatory Branch (1145b)

JUL 0 8 2005

SUBJECT: File Number 28651S

Mr. Robert Gross, Chief
California Department of Transportation
Office of Environmental Analysis
P.O. Box 23660
Oakland, California 94623-0660

Attention: Ed Pang or Kimberly Brimmer

Dear Mr. Gross:

This letter is written in response to a request for comments on the Proposed Negative Declaration/Initial Study and Environmental Assessment concerning your Route 84 Safety Improvement Project as described in the notice from California Department of Transportation dated June 7, 2005. Your project is located near Alameda Creek at State Route 84 between post miles12.1 and 13.3 in Union City and the City of Fremont, Alameda County, California. Since this activity may involve placement of fill to widen Route 84 from just north of the San Francisco Public Utilities Commission Niles Dam through the Farewell Underpass, widen and realign the road at Rosewarnes Underpass, replace the culvert at Stonybrook Creek, and realign the Palomares Road Intersection and; therefore, impact a water of the U.S., including adjacent wetlands, the Corps of Engineers will need to review those portions of your project.

All proposed discharges of dredged or fill material into waters of the United States must be authorized by the Corps of Engineers pursuant to Section 404 of the Clean Water Act (CWA) (33 U.S.C. Section 1344). Waters of the United States generally include tidal waters, lakes, ponds, rivers, streams (including intermittent streams), and wetlands.

Your proposed work appears to be within our jurisdiction and a permit may be required for your project. Application for Corps authorization should be made to this office using the application form in the enclosed pamphlet. To avoid delays it is essential that you enter the File Number at the top of this letter into Item No. 1 of the application. The application must include plans showing the location, extent and character of the proposed activity, prepared in accordance with the requirements contained in this pamphlet. You should note, in planning your project, that upon receipt of a properly completed application and plans, it may be necessary to advertise the proposed work by issuing a Public Notice for a period of 30 days.

Since an Individual Permit may be required, it will be necessary for you to demonstrate to the Corps that your proposed fill is necessary because there are no practicable alternatives, as

outlined in the U.S. Environmental Protection Agency's Section 404(b)(1) Guidelines. A copy is enclosed to aid you in preparation of this alternative analysis. You are advised to refrain from starting your proposed activity until we complete our review of your application and issue you the required authorization. Commencement of work before you receive our notification will be interpreted as a violation of our regulations.

The Corps also suggests that you contact the appropriate Regional Water Quality Control Board and California Department of Fish and Game Office to ensure they review your project relative to their permitting requirements for activities that may impact aquatic resources.

Should you have any questions regarding this matter, please call John Yeakel of our Regulatory Branch at 415-977-8472. Please address all correspondence to the Regulatory Branch and refer to the File Number at the head of this letter.

Sincerely,

Edward A. Wylie

Edward A. Wylie
Chief, South Section
Regulatory Branch

Enclosures

Copies Furnished (w/o encl.):

CA DFG, Yountville, CA
CA RWQCB, Oakland, CA

Response to Comments from Edward A. Wylie (U.S. Army Corps of Engineers)

We are aware that this project involves work within USACE jurisdiction and will require permit authorization. As part of our consultation process, we expect to demonstrate that the proposed fill is necessary and there are no practicable alternatives.

Our project consultation and coordination also involves the Regional Water Quality Control Board, U.S. Fish and Wildlife Service, and California Department of Fish and Game.

ALAMEDA COUNTY WATER DISTRICT

43885 SOUTH GRIMMER BOULEVARD • P.O. BOX 5110, FREMONT, CALIFORNIA 94537-5110
(510) 668-4200 • FAX (510) 770-1793 • www.acwd.org

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Operations Manager
WILLIAM J. ZENONI
Finance and Administration Manager

July 13, 2005

Attn: Mr. Ed Pang
Caltrans District 4
Office of Environmental Analysis
P.O. Box 23660
Oakland, CA 94623-0660

Dear Mr. Pang:

Subject: Comments on the Proposed Negative Declaration / Initial Study (CEQA) and Environmental Assessment (NEPA) for the Caltrans State Route 84 Safety Improvement Project

Thank you for the opportunity to comment on the environmental document dated May 2005 concerning the Caltrans proposed State Route 84 Safety Improvement Project a copy of which accompanied your letter to us dated June 7, 2005.

The Alameda County Water District (ACWD) has a strong interest in protecting and preserving the water quality in Alameda Creek, and, therefore is especially interested in projects as they relate to watershed issues in the Alameda Creek watershed. ACWD is particularly concerned with potential impacts that projects may have on downstream water quality.

ACWD has no utilities within the proposed project area. However, ACWD, with a service area located downstream of the proposed project location, uses water from the Alameda Creek Watershed for drinking water supply to over 323,000 people in the cities of Fremont, Newark, and Union City. ACWD has a need to maintain adequate flow and suitable quality of the water in Alameda Creek for groundwater recharge and ultimate drinking water supply.

During the proposed project construction period, ACWD may have need for water to be released from the South Bay Aqueduct into a tributary of Alameda Creek, located upstream of the proposed project, to augment water flow for groundwater recharge. As has been done in prior years, these water releases are typically made during the period June 1 through October 30 at a flow of up to 50 cubic feet per second. Construction work specifications need to provide for the passage of the ACWD released water through the project area and mitigation of any sediment, turbidity, and pollutants from the construction work which could adversely impact the quality of the water flowing through the project area.

Please note that ACWD neither regulates or nor has control over the release of water from rainstorm runoff, impoundments, or other dischargers within the Alameda Creek watershed.

Based on our review of the environmental documents we have the following comments:

1. Section 2.6 Water Quality and Storm Water Runoff

   Under sub-section 2.6.3.1 (p. 20), Storm Water Impacts, the list of commonly found pollutants needs to include petroleum products and surfactants (foaming substances). New asphalt concrete (AC) pavement, will add these pollutants to the storm water runoff.

2. Section 2.6 Water Quality and Storm Water Runoff

   Under sub-section 2.6.4.2 (pp 21-23), Section 402 of the Clean Water Act, we strongly encourage that the Permanent Design Pollution Prevention BMP's include the use of outlet protection and velocity dissipation devices at the downstream end of culverts and channels. Also, we strongly encourage that the Permanent Treatment BMP's include the use of bio-filtration strips and swales.

If you have any questions regarding this letter, please contact Jim Reynolds at (510) 668-6511. Thank you again for the opportunity to comment on the environmental documents.

Sincerely,

Paul Piraino
General Manager

jrr

Response to Comments from Paul Piraino (Alameda County Water District)

Passage of Released Water

Your comment that construction specifications need to provide for the passage of ACWD released water through the project area and for mitigation of any sediment, turbidity and pollutants from construction work is noted. The need for passage of the released water will be addressed in the design and PS&E phase of the project and water quality concerns will be addressed in the Storm Water Data Report.

Water Quality and Storm Water Run-off

Petroleum products and surfactants were added to the list of "commonly found pollutants".

Caltrans standard practice is to incorporate Permanent Design Pollution Prevention BMPs, such as outlet protection and velocity dissipation devices, when feasible, to improve hydraulic operations and to help prevent scour and minimize erosion at inlets and outlets.

Permanent Treatment BMPs will be evaluated further during the design phase. Physical site constraints, such as steep terrain and adjacent environmental sensitive areas, minimize the types of Treatment BMPs that can be implemented, however, these will be considered and addressed during PS&E and implemented to the maximum extent practicable.

COUNTY OF ALAMEDA
PUBLIC WORKS AGENCY
DEVELOPMENT SERVICES DEPARTMENT
951 Turner Court, Room 100
Hayward, CA 94545-2698
(510) 670-6601
FAX (510) 670-5269

July 13, 2005

Ed Pang
Office of Environmental Analysis
California State Department of Transportation
PO Box 23660
Oakland, CA 94623-0660

Dear Mr. Pang:

Subject: Route 84 Safety Improvement Project - Proposed Negative Declaration/Initial Study/Environmental Assessment

Reference is made to your transmittal of June 7, 2005, regarding the Proposed Negative Declaration/Initial Study and Environmental Assessment for the Route 84 Safety Improvement Project in Niles Canyon between the cities of Union City and Fremont.

We have reviewed the submitted document and offer the following comments:

1. As roadway widening and curve realignment are being considered, it is also important to consider the existing demand for recreational cycling that typically occurs between the City of Fremont and the town of Sunol. Although this plan does not include roadway shoulder width for the installation of a bike lane, we recommend that consideration be given to the ultimate installation of an on-street (Class II) facility at some future date.

2. In addition to Route 84, Palomares Road is also designated a bikeway on the County's Bicycle Master Plan.

3. The reconstructed portion of Palomares Road needs to be designed to provide 2.4 m wide shoulders.

4. Restoration/repair of County roadways due to damage caused by construction traffic will be required. Truck haul routes will need to be designated.

5. It is the County's preference to convey by easements rather than fee title for the two parcels to be acquired by the State for the roadway improvements at the Rosewarnes Underpass.

6. The two County owned bridges require seismic retrofitting.

7. The contractor must not impact operations of the Niles Canyon RR.

8. The Alameda County Flood Control and Water Conservation District is an active participant in the efforts to re-introduce steelhead trout back into the network of creeks in Alameda County, including Alameda Creek and Stonybrook Creek. District staff has tracked steelhead from Alameda Creek up into the lower reaches of Stonybrook Creek. The success of the proposed fish passage through the proposed culvert and the upstream modified creek section is of significant interest to the District and County.

Thank you for the opportunity to review the Notice of Preparation of a DSEIR for this project. If you have any questions, please call Andrew Otsuka at (510) 670-6613.

Very truly yours,

Stanley Fung
Deputy Director
Development Services Department

SF:AO
cc: Hank Ackerman, Flood Program
John Fenstermacher, Real Estate Division
James Chu, Road Department
Robert Preston, Traffic Engineering
Tom Hinderlie, Maintenance & Operations
Fred Wolin, Environmental Services
Robert Hale, Clean Water Division
Gary Moore, Permits Section

Response to Comments from Stanley Fung (Alameda County Public Works Agency)

Comments # 1-3: Shoulder Width for Bike Lane; Palomares Road Bikeway and Shoulder:

Your interest in a Class II bicycle lane along Route 84 in Niles Canyon is understandable. However, designating a bicycle facility as a Class II Bikeway (Bike Lane) depends on factors such as demand, bicycle volume, continuity with other bike routes, safety, etc.

The existing roadway has non-standard shoulders. This is a safety improvement project with budget and project scope limitations and thus, provision of a bicycle facility is not part of this project. The project does however, include standard width shoulders, which can be used by bicyclists and represents an improvement over the existing condition of narrow or non-existing shoulders. The standard width shoulders will enhance bicycle safety as well as provide greater compatibility with bikeway designations by the county. This project is only one section of the Route 84 corridor and is between Fremont and Sunol; other segments of Route 84 beyond the limits of this project also have shoulder widths less than 2.4 meters.

Comment that Palomares Road is also a County designated bikeway is noted. Palomares Road currently has minimal or no shoulders beyond the project improvements. A sudden transition from wide shoulders to no shoulders can pose hazardous conditions for drivers and therefore, it is proposed to construct 1.2 meter wide shoulders on Palomares Road at the intersection with Route 84.

Comment # 4: Construction Traffic and Truck Haul Routes:

Concern regarding damage to County roadways due to construction traffic is noted. Appropriate truck haul routes will be considered and identified during the project design phase.

Comment # 5: Preference for Easement Conveyance:

Caltrans policy is to pursue fee title rather than an easement for the two Alameda County owned parcels needed to expand the existing roadway. This will be addressed as part of the Right of Way process for the project and may include revisions to the existing easement agreements with Alameda County.

Comment #6: County Bridges:

Various retrofit strategies for the Rosewarnes Underpass are currently being studied but any such retrofit work on this bridge structure will be a separate project.

Comment # 7: Nile Canyon Railroad Operations:

The SR-84 Curve Realignment between Rosewarnes Underpass and Farwell Underpass project is not expected to impact the Niles Canyon Railroad District operations.

Comment # 8: Reintroduction of Steelhead Trout into Alameda Creek Network:

We are aware of the concerted effort to reintroduce this species back into Alameda County's network of creeks. Our current proposal for a clear span bridge to replace the existing culvert at Stonybrook creek will provide fish passage at this location and contribute to this effort.

SFPUC
WATER
HETCH HETCHY
WATER & POWER
CLEAN WATER

SAN FRANCISCO PUBLIC UTILITIES COMMISSION

Water Supply and Treatment Division
Land and Resources Management Section
1657 Rollins Road, Burlingame, Ca 94010 • Tel: (650) 652-3209 • Fax: (650) 652-3219

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SUSAN LEAL
GENERAL MANAGER

July 13, 2005

Caltrans
Attn: Ed Pang, Office of Environmental Analysis
P.O. Box 23660
Oakland, CA 94623-0660

Dear Mr. Pang:

The City and County of San Francisco (CCSF) provides these comments on the Route 84 Safety Improvement Project Proposed Negative Declaration/Initial Study and Environmental Assessment, prepared by Caltrans and the United States Department of Transportation.

The proposed project involves Route 84 in Alameda County and would realign existing roadway, widen roadway to accommodate standard shoulder widths, improve sight distance, and improve vertical clearance at two underpasses, in order to enhance overall safety. The Proposed Initial Study and Environmental Assessment examines potential environmental impacts of alternatives to the proposed project.

The San Francisco Public Utilities Commission (SFPUC) manages the Alameda Watershed lands, protecting the water supply and maintaining the highest possible source water quality. The SFPUC's Alameda Watershed Management Plan, provides a comprehensive framework for maintaining and improving source water quality. To that end, the SFPUC encourages Caltrans and the U.S. Department of Transportation to follow the practices outlined in the Plan and avoid impacts to fisheries resources in Alameda Creek. The SFPUC also suggests the following change:

- Section 2.8.3 Avoidance, Minimization and Compensation measures: The wetland should not be seeded with the plants listed in this section. The plants listed are non-native, and some are invasive and not wetland plants.

Please also make sure to coordinate work on this project with the SFPUC's Niles and Sunol Dam Removal Projects. Feel free to contact me if you have any questions.

Sincerely,

Joseph P. Naras

Response to Comments from Joseph P. Naras (San Francisco Public Utilities Commission)

Non-Native Plants

Mitigation for the loss of wetlands will now be off-site at an approved mitigation bank. Therefore, the plant species proposed for seeding within "the newly created wetlands area" previously referenced in Section 2.8.3 are no longer applicable.

Response to Comments from Joseph P. Naras (San Francisco Public Utilities Commission)

Non-Native Plants

Mitigation for the loss of wetlands will now be off-site at an approved mitigation bank. Therefore, the plant species proposed for seeding within "the newly created wetlands area" previously referenced in Section 2.8.3 are no longer applicable.

Alameda Creek Alliance

PO Box 192 • Canyon, CA • 94516 • (510) 499-9185
e-mail: alamedacreek@hotmail.com
web site: http://www.alamedacreek.org

June 24, 2005

Caltrans District 4
Office of Environmental Analysis
Attn: Ed Pang or Kimberly Brimmer
P. O. Box 23600
Oakland, CA 94623

Re: Route 84 Safety Improvement Project

Dear Mr Pang:

These are the comments of the Alameda Creek Alliance (ACA) on the Route 84 Improvements project. The ACA is a non-profit community watershed organization with over 680 members, working to protect and restore the Alameda Creek watershed. We have been focused on restoring steelhead trout and eliminating fish passage barriers in reaches of Alameda Creek, including Alameda Creek and Stonybrook Creek in Niles Canyon, in the Route 84 project area.

We are disappointed with the process, the quality of environmental review, and the proposed design for this project. We have made every effort to discuss our concerns with Caltrans representatives about migratory fish passage at the Stonybrook Creek culvert within this project. Since 2000, I have met with, corresponded, or visited the site a half dozen times with Robert Young, Melissa Barrow, and Gary Winters of Caltrans, to try to ensure that this project includes appropriate and effective fish passage improvements. We urged Caltrans to consult with the California Department of Fish and Game (CDFG) and the National Marine Fisheries Service (NMFS) to ensure that the project design corrected the fish passage problems at the Stonybrook Creek culvert and did not cause future fish passage concerns. To that end, we encouraged Caltrans to replace the existing box culvert with a free span or bridge, which will ensure fish passage into Stonybrook Creek, avoid hydraulic constraints that could lead to erosion or limit fish passage, and maintain a natural stream channel in Stonybrook Creek.

Until Caltrans addresses the outstanding fish passage issues and potential impacts to habitat for listed species, a Negative Declaration is inappropriate for this project. If Caltrans is unwilling to incorporate the concerns of the ACA, NMFS, CDFG, and the U. S. Fish and Wildlife Service (USFWS) into the project design, then an Environmental Impact Report should be prepared.

Sincerely,

Jeff Miller

Director, Alameda Creek Alliance

Specific comments:

Section 1.2 - Project Purpose (page 1)

One of the project purposes should be "to provide for migratory fish passage at the Stonybrook Creek culvert."

Section 1.4.1.2 - Stonybrook Creek Culvert Replacement (pages 4-5)

This section should note that the existing Caltrans culvert is a migration barrier for resident rainbow trout and anadromous steelhead trout that needs to be addressed, to comply with California Fish and Game Codes requiring fish passage and to prevent unauthorized "take" of a listed species under the federal the Endangered Species Act (ESA). The existing culvert may block fish migration and cause unauthorized take of central California coast steelhead trout, which are listed as a threatened species under the ESA, and resident rainbow trout, which are proposed for listing under the ESA.

The project proposes to modify 19 meters of Stonybrook Creek upstream of the Caltrans culvert. Adding this kind of hardscape to a natural streambed is inappropriate for a stream restoration project and is unnecessary for fish passage. An alternative design should be chosen that does not alter the streambed.

Section 1.4 – Alternatives (pages 4-6)

One of the alternatives that should be considered is replacing the existing Stonybrook Creek culvert with a bridge or free span, as suggested by the ACA and CDFG Biologist Fred Botti over 4 years ago. Caltrans has apparently not considered a free span or bridge design or has failed to discuss the reasons for considering and rejecting such a design.

Section 2.1 – Adverse Impact Determinations (pages 7-8)

This section fails to analyze adverse impacts to biological resources. The proposed project may perpetuate a migratory fish passage barrier, exacerbate erosion problems, and impact habitat for endangered species. As currently proposed, the project will definitively cause adverse impacts to biological resources.

Section 2.4 – Visual/Aesthetics Impacts (pages 12-15)

The addition of hardscape materials and altering of what is now a natural streambed in lower Stonybrook Creek will undeniably cause aesthetic impacts to Stonybrook Creek. These impacts as well as avoidance, minimization, and compensation measures need to be discussed.

Section 2.7 – Impacts to Vegetation (pages 23-26)

The project will impact 63 riparian trees along Alameda Creek, which are an important habitat component for steelhead/rainbow trout and native amphibians and reptiles. The project proposes to replace impacted riparian vegetation at a 3:1 ratio (2.7.1.2, page 25 and 2.12, page 43). Many of these riparian trees, particularly the 19 impacted sycamores, are mature trees. Caltrans should replace these mature trees at a higher ratio to compensate for the decades it will take replanted trees to mature to the size of the impacted riparian trees that currently exist. If possible, these should be older trees that are well-established, rather than seedlings. We suggest a 5:1 ratio, similar to the replacement ratio for oak woodland (2.7.2.3).

The project proposes to plant replacement riparian that cannot be accommodated onsite at an location upstream of Highway 680 owned by the SFPUC (2.7.1.2, page 25 and 2.12, page 43). This site should be identified and if it falls within SFPUC land that has an active cattle grazing lease, the project should include measures to ensure that planted vegetation will not be eaten, trampled, or destroyed by cattle. The project should also include guaranteed funding for any watering and monitoring that will be needed to ensure that replanted trees actually survive and mature.

Section 2.9.2 – Impacts to Rainbow Trout (pages 29-31)

Despite our every effort to inform Caltrans about their status in Alameda Creek, steelhead trout are not addressed in the Initial Study/Environmental Assessment (IS/EA). The rainbow trout section (2.9.2) should also discuss steelhead trout and describe the regulatory context for steelhead, which are listed under the ESA. Also, Alameda Creek and Stonybrook Creek within the project area are proposed for re-designation as critical habitat for Central California Coast steelhead trout.

This section should also note that adult steelhead moved from the lower creek channel have used Stonybrook Creek recently, and that native rainbow trout currently spawn and rear in this tributary. Steelhead trout continue to be moved into Niles Canyon in the vicinity of the Caltrans project, under permit from CDFG and NMFS. Further, projects are underway to ensure permanent fish passage for steelhead into Niles Canyon and suitable spawning and rearing habitat in Stonybrook Creek and upstream in upper Alameda Creek. The project has the potential to impact federally listed steelhead trout even if resident rainbow trout are not listed under the ESA in the future. This section should note that impeding or delaying migration is "take" under the federal ESA and that CA Fish and Game Codes prohibit maintaining in-stream fish passage barriers.

Section 2.9.2.3 – Special Enhancements (page 31)

Providing fish passage at the Stonybrook culvert should not be considered a "special enhancement," but rather is mitigation for the existing Caltrans fish passage barrier.

We have serious questions about whether the proposed double box culvert design will actually be passable to steelhead and resident rainbow trout. The NMFS comment letter of 3/10/05 on the proposed design (3.2.2, pages 51-52) concludes that the box culverts will cause hydraulic problems at the culvert exit that may compromise attraction flows for steelhead; that a proposed flow control weir upstream of the culvert may block fish migration; and that the design may cause sediment deposition that could impact fish passage. We share NMFS' concern that the proposed boulder weirs inside the culvert may not be stable under high flows and are also concerned that the proposed weirs upstream of the culvert may also be susceptible to blowout. The design leaves the potential for failure of the weirs and deposition of debris in the box culverts and the IS/EA does not demonstrate that that fish passage will not be compromised.

The channel design should be further evaluated by fish passage specialists. The effectiveness of the design should be analyzed on the basis of the range of flows under which steelhead and rainbow trout will be able to migrate through the proposed culvert. The analysis also should discuss why bridging or free-spanning the channel has not been proposed, as this is the most desirable design for providing fish passage. If a bridge design is not chosen, mitigation for not using a free-span approach should be incorporated in the environmental review.

NMFS also requested that Caltrans address erosion of the right streambank upstream of the culvert with bioengineering and improve drainage on the adjacent driveway to prevent further erosion (3.2.2, pages 51-52). The proposed design does not address these concerns and may result in streambank failure and/or deposition of debris in the box culverts, compromising fish passage.

Caltrans should explain why the free span design proposed by the ACA or the design modifications proposed by NMFS have not been adopted.

Section 2.9.3 – Impacts to California Tiger Salamander (pages 32-33)

There are known occurrences of California tiger salamander (CTS) closer than those noted by Caltrans (2.9.3.1) in Arroyo del Valle, 10 miles from the project site. Adult CTS have been found and reported to the CNDDB on Calaveras Road in the vicinity of the Sunol Water Treatment Plant, along Alameda Creek upstream of the proposed project. The USFWS (3.2.1, page 49) reports 4 CTS occurrences within 3 miles of the project site.

Section 2.9.5 – Impacts to Alameda whipsnake (pages 34-36)

Much of Niles Canyon, including the project site, is designated critical habitat for the Alameda whipsnake. The project should avoid adverse modification of Alameda whipsnake critical habitat. Caltrans has concluded that the 0.05 acres of whipsnake habitat that will be impacted by the project is insignificant and non-essential (2.9.5.2, page 35), but USFWS has determined that this habitat is part of an essential connective corridor between sub-populations (see Federal Register, October 3, 2000). Loss of this habitat is a cumulative impact and the habitat impacts must be avoided, or if it is not possible to avoid them, should be mitigated by preserving an equivalent or greater amount of whipsnake habitat.

Sections 3.1.1.1 and 3.1.1.2 – Likely to Adversely Affect (pages 45-46)

The USFWS (3.2.1, page 49) did not concur with Caltrans that the project is not likely to adversely affect the California red-legged frog, California tiger salamander, and Alameda whipsnake and requested that Caltrans provide additional information. This additional information should be included in the final CEQA/NEPA document. Caltrans notes that NMFS is likely to conclude that the project will adversely affect resident rainbow trout (3.1.1.2, page 46) and it is likely to affect listed steelhead trout also. With the current culvert design, we disagree that Caltrans can conclude the project will have an overall beneficial affect on steelhead/rainbow trout (3.1.1.2, page 46), given that fish passage is not assured.

Appendix I – List of Technical Studies

The technical studies referred to should be made available to the public for informed comment. We specifically request that Caltrans send us the following technical studies referenced in the report:
Biological Evaluation, September 2004
Natural Environment Study Report, September 2004
Stonybrook Creek Crossing Fish Passage Draft Mitigation Report, February 2005

NMFS also requested that Caltrans address erosion of the right streambank upstream of the culvert with bioengineering and improve drainage on the adjacent driveway to prevent further erosion (3.2.2, pages 51-52). The proposed design does not address these concerns and may result in streambank failure and/or deposition of debris in the box culverts, compromising fish passage.

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Stonybrook Creek Crossing Fish Passage Draft Mitigation Report, February 2005

Response to Comments from Jeff Miller (Alameda Creek Alliance)

General Comment

Unfortunately, project continuity may have been affected by staff changes here at Caltrans as well as at the resources agencies dating back to year 2000. Nevertheless, we were aware of the concerns and issues associated with fish passage. Consultation with both the California Department of Fish and Game as well as NOAA Fisheries did occur and will continue.

The original project proposal included a reinforced concrete double box culvert to replace the existing culvert at Stonybrook Creek. The conceptual design for this culvert replacement included fish baffles along the bottom surface and was sized to carry a 50-year storm discharge and to also enable the passage of adult steelhead fish by grading the culvert slope and providing surface roughness (baffles) to simulate a natural stream bottom. This fish passage design was based on Department of Fish and Game's (DFG) Culvert Criteria for Fish Passage (May 2002). Similar guidelines from National Oceanic and Atmospheric Administration (NOAA Fisheries) were also used to establish fish passage criteria and suitable hydrologic conditions.

The project included re-grading the channel, upstream and downstream of the culvert, as well as armoring of the channel bottom using a series of vortex boulder weirs as step pools. The design included stabilizing the vertical alignment of the creek due to the fixed culvert bottom and adding fish baffles to improve passage. The proposed design for the vortex weirs was intended to create stable conditions and allow fish passage based on this "Hydraulic Design" criteria.

After further review and evaluation, the proposed double box culvert was dropped from consideration because the proposed culvert design did not meet the criteria for up-migrating juvenile fish and the reliance on the roughened baffle elements was questionable. Because the creek can carry a heavy bed-load with large cobbles through the project site, they might occlude the baffles or weirs and disrupt the necessary hydraulic conditions. Therefore, a clear span bridge over Stonybrook Creek is now proposed. This can accommodate fish passage and will reduce channel maintenance requirements as well as provide the following:

- *The bridge design will pass the 100-year design discharge with one foot of freeboard under the bridge;*

- *The downstream pool will be filled.*
- *The proposed bridge alignment will be skewed to be more inline with the approaching creek (given site constraints);*
- *The proposed creek alignment under the bridge will improve the creek flowline;*
- *The channel profile and substrate will be restored to conditions similar to upstream and downstream conditions;*
- *The vertical bridge abutments will be spaced wider than the active channel width to allow unimpeded bed-load transport under the bridge;*
- *The re-graded channel bottom section will be shaped to match upstream channel sections and the creek bed will be overlaid with native materials. A slight centerline depression in the channel section will allow for a low flow channel to form;*
- *The creek bed will be allowed to aggrade or degrade naturally over time while the creek's side slopes will be hardened as necessary to protect adjacent structures and embankments.*

Specific Comments:

Comment 1: Project Purpose:

The Project Purpose in Section 1.2 is appropriate as presented.

Comment 2: Stonybrook Creek Culvert Replacement:

See Response to General Comment above.

Comment 3: Alternatives:

See Response to General Comment above.

Comment 4: Adverse Impact Determination:

We realize you disagree with our analysis as presented in the draft environmental document. The standard CEQA and NEPA processes have been followed for this project. Appropriate technical studies were conducted and these studies supported the conclusion

of the Initial Study that the project would not have a significant effect on the environment. The process also included consultation and coordination with appropriate resources agencies, most notably, U.S. Army Corps of Engineers (USACE), U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG), and National Oceanic and Atmospheric Administration (NOAA Fisheries) with regard to threatened or endangered species.

See Response to General Comment above.

Comment 5: Visual/Aesthetics Impacts

Your reference to "hardscape" is assumed to be the concrete box culverts, previously proposed to replace the existing culvert at Stonybrook Creek. The current proposal is a free span bridge. Also see Response to General Comment above.

Comment 6: Impacts to Vegetation

All mature native trees impacted by this project, including oaks, will be replaced at an appropriate ratio as determined by consultation with the appropriate resource agency (5:1 ratio for larger trees and 3:1 ratio for smaller trees).

The off-site riparian replacement, previously proposed upstream of Route 680 on land owned by the SFPUC, is no longer being considered. Replacement will be on-site and developed in consultation with CFDG. A mitigation and monitoring plan will be developed and include appropriate replacement ratios and monitoring regimes.

Comment 7: Impacts to Rainbow Trout

Central California Coast Steelhead ESU (CCCS ESU) was listed as Federal Threatened effective October 17, 1997 by NOAA-Fisheries (61 FR 41541, August 9, 1997). Following an updated status review of this ESU, NOAA Fisheries proposed that resident O. mykiss sub-populations upstream of Dam 1 in upper Alameda Creek be included in the CCCS ESU (69 FR 33103, June 14, 2000). On June 28, 2005, NOAA-Fisheries determined that a 6-month extension for a final listing determination for this ESU (including the resident O. mykiss component) was warranted (70 FR 37219). However, in the January 5, 2006 Federal Register, NMFS concluded the anadromous life form is markedly separate from the resident life form and did not include the resident form in the final steelhead listing (71 CFR 833, January 5, 2006).

The proposed project may have the potential to affect resident rainbow trout. Measures to reduce these effects to less than significant include implementation of BMP's, to reduce construction impacts, as well as the currently proposed clear span bridge which will replace the existing culvert at Stonybrook Creek.

The proposed project could have the potential to affect CCC Steelhead if all downstream barriers to fish passage were removed. Measures to reduce these effects to less than significant include implementation of BMP's to reduce construction impacts as well as the current proposed clear span bridge to replace the existing culvert at Stonybrook Creek.

Comment 8: Special Enhancements

This safety improvement project does not create or result in a fish passage barrier and therefore providing fish passage is not considered mitigation but rather a project enhancement included as part of the project as well as an anticipated permit requirement for the project. The existing culvert at Stonybrook Creek is a barrier to resident rainbow trout/steelhead under some flow conditions. This will be addressed by replacement of the existing culvert with a clear span bridge. See Response to General Comment above.

Caltrans has discussed erosion control alternatives with the regulatory agencies, and these will be included in the design.

Comment 9: Impacts to California Tiger Salamander

Section 2.9.3 stated that the CNDDB map included a CTS occurrence approximately 1.5 miles away from the project area, which is closer than the ten miles distance to Arroyo del Valle. The other reported occurrences are noted.

Comment 10: Impacts to Alameda Whipsnake

Every effort has been and will be made to limit the construction area to minimize potential effects to their habitat.

Comment 11: Likely to Adversely Affect

This project is not likely to adversely affect the threatened California tiger salamander. Formal consultation with the USFWS concluded that the project is likely to adversely affect, but not likely to jeopardize the continued existence California red-legged frog, and Alameda Whipsnake. Caltrans will be mitigating impacts to these species through

The proposed project may have the potential to affect resident rainbow trout. Measures to reduce these effects to less than significant include implementation of BMP's, to reduce construction impacts, as well as the currently proposed clear span bridge which will replace the existing culvert at Stonybrook Creek.

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purchase of credits at an approved mitigation bank. A Biological Opinion for the project was issued on May 24, 2006.

The previously proposed double box culvert has been dropped from consideration and a clear span bridge over Stonybrook Creek is now proposed. See Response to General Comment above.

As the resident trout are no longer proposed for listing, no determination is required for the species. Additionally, with the proposed inclusion of the clear span bridge, NOAA determined the project is not likely to adversely affect the CCC steelhead.

Comment 12: Appendix I – List of Technical Studies

All technical studies and reports supporting the environmental document are available for the public to review at 111 Grand Ave, Oakland, CA 94623.

EAST BAY
MUNICIPAL UTILITY DISTRICT

June 28, 2005

Ed Pang, Senior Environmental Planner
Caltrans District 4
Office of Environmental Analysis
P.O. Box 23600
Oakland, CA 94623-0660

Dear Mr. Pang:

Re: Negative Declaration – Route 84 Safety Improvement Project, Alameda County

East Bay Municipal Utility District (EBMUD) appreciates the opportunity to comment on the Proposed Negative Declaration for the Route 84 Safety Improvement Project, Dividing Border Between Union City and the City of Fremont in Alameda County. The project is outside EBMUD's ultimate service boundary and service area; therefore, EBMUD has no comments on this project.

If you have any questions concerning this response, please contact David J. Rehnstrom, Senior Civil Engineer, Water Service Planning at (510) 287-1365.

Sincerely,

William R. Kirkpatrick
Manager of Water Distribution Planning

WRK:JLM:sb
sb05_184.doc

Recycled Paper

Response to Comments from William Kirkpatrick (East Bay Municipal Utility District)

No response required.

California Integrated Waste Management Board

Rosario Marin, Chair
1001 I Street • Sacramento, California 95814 • (916) 341-6000
Mailing Address: P. O. Box 4025, Sacramento, CA 95812-4025
www.ciwmb.ca.gov

Alan C. Lloyd, Ph.D.
Secretary for Environmental Protection

Arnold Schwarzenegger
Governor

July 1, 2005

Caltrans District 4
Office of Environmental Analysis
Attn: Ed Pang
PO Box 23600
Oakland, CA 94623-0660

Dear Mr. Pang,

This letter is to comment on the proposed realignment and widening project located on State Route 84 (Niles Canyon Road) in Alameda County.

The California Integrated Waste Management Board (CIWMB) is responsible for managing California's solid waste stream. A recent study concludes that construction and demolition (C&D) materials account for approximately 12 percent of California's waste stream. The State of California has a 50 percent waste reduction goal and the County of Alameda has made a commitment to reach a 75 percent waste diversion goal. In addition, the cities of Fremont and Union City encourage C&D recycling. I understand that Caltrans has an excellent history of recycling C&D materials. Yet, I did not see a recycling plan in the environmental report, so therefore I encourage you, if you have not done so already, to develop a C&D recycling plan that attempts to divert at least 50 percent of the waste generated from the proposed project.

Both CIWMB and Alameda County offer technical assistance in developing C&D recycling plans. The following websites contain extensive C&D recycling information:

- www.ciwmb.ca.gov
- www.stopwaste.org

Please contact me if you have any question regarding this letter and/or C&D recycling.

Respectfully,

Eric Bissinger
Office of Local Assistance, Bay Section

Response to Comments from Eric Bessinger (California Integrated Waste Management Board)

Construction and Demolition Recycling Plan

Caltrans typically considers recycling of construction and demolition materials whenever feasible on all projects. Excavated materials from the proposed project will be re-used on-site as appropriate with the Fifty Percent (50%) Reduction as a goal. Details will be included in the Plans, Estimate and Specifications package.

CITY OF Fremont

Fire Department
3300 Capitol Avenue, P.O. Box 5006, Fremont, CA 94537-5006
510 494-4200 *ph* | 510 494-4250 *fax* | www.fremont.gov

June 14, 2005

Caltrans District 4
Office of Environmental Analysis
Attn: Ed Pang or Kimberley Brimmer
P.O. Box 23600
Oakland, CA 94623-0660

Dear Mr. Pang:

I have received and reviewed a copy of the Caltrans Environmental Assessment for the Route 84 Safety Improvement Project. At this time, I find no issues that need the Fremont Fire Department's attention. However, we would like to be kept appraised of future plans and meetings involving this project as we will need to identify emergency response issues such as access, water supply, road closures, etc.

Thank you for soliciting our input into this project and if I may be of further assistance, please feel free to contact me at 510-494-4277.

Sincerely,

Robin Brabb
Acting Fire Marshal

Response to Comments from Robin Brabb (City of Fremont Fire Department)

Fremont Fire Department and other emergency service agencies will be appraised of relevant project activities, particularly construction, which could affect response issues.

Alameda County Sheriff's Office

EDEN TOWNSHIP SUBSTATION, 15001 FOOTHILL BOULEVARD, SAN LEANDRO, CA 94578-1008
(510) 667-7721 • FAX (510) 667-3626

CHARLES C. PLUMMER, SHERIFF

MARSHAL - CORONER - PUBLIC ADMINISTRATOR
DIRECTOR OF EMERGENCY SERVICES

June 14, 2005

Caltrans District 4
Office of Environmental Analysis
Attn: Ed Pang or Kimberly Brimmer
P.O. Box 23600
Oakland, CA 94623-9660

RE: Route 84 Safety Improvement Project

My staff reviewed the attached application for the proposed improvements to a segment of State Route 84 (Niles Canyon Road), and has no objection to the request. If further assistance is needed, feel free to contact Deputy Joe Bricker at (510) 667-3620.

Charles C. Plummer
Sheriff-Coroner

S. J. Roderick, CAPT.

Stephen J. Roderick, Captain
Law Enforcement Services
Eden Township Substation

CCP:SJR:jfb

Response to Comments from Stephen J. Roderick (Alameda County Sheriff's Office)

No response required.

Appendix A CEQA Checklist

One of the basic purposes of CEQA is to inform state, regional, and local governmental decisions makers and the public of impacts of proposed activities, and in particular, those impacts that are either significant or potentially significant.

Determining and documenting whether an activity may have a significant effect on the environment plays a critical role in the CEQA process. The following CEQA Environmental Significance Checklist is a device that was used to identify and evaluate any potential impacts from the proposed activity on physical, biological, and social and economic resources. This checklist is not a NEPA requirement.

Differences do exist in the way impacts are addressed in CEQA environmental documents as compared to NEPA environmental documents. While CEQA requires that environmental documents state a determination of significant or potentially significant impacts, as has been done in the following CEQA checklist, NEPA does not. It can be seen that having to address significant or potentially significant impacts in joint CEQA and NEPA environmental documents can be confusing especially in those instances where the two laws and implementing regulations have different thresholds of significance.

Under NEPA, the degree to which a resource is impacted is only used to determine whether a NEPA Environmental Impact Statement (EIS) or some other lower level of NEPA documentation would be required. Under NEPA, once the Federal Agency has determined the magnitude of the project's impacts and the level of environmental documentation required, it is the magnitude of the impact that is evaluated in the environmental document and no judgement of its degree of significance is deemed important in the document text. For the purposes of the impact discussion in this document, determination of significant or potentially significant impacts is made in only the context of CEQA. Although not explicitly identified in this document, impacts in the NEPA context can be assumed to be minimal or non-existent.

Based on the results of the technical studies, it has been determined that the appropriate level of documentation for this project is an Initial Study/Negative Declaration.

CEQA Environmental Checklist

The following checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. The CEQA impact levels include potentially significant impact, less than significant impact with mitigation, less than significant

impact, and no impact. Please refer to the following for detailed discussions regarding impacts:

CEQA:

- Guidance: Title 14, Chapter 3, California Code of Regulations, Sections 15000 et seq. (http://www.ceres.ca.gov/topic/env_law/ceqa/guidelines/)
- Statutes: Division 13, California Public Resource Code, Sections 21000-21178.1 (http://www.ceres.ca.gov/topic/env_law/ceqa/stat/)

CEQA requires that environmental documents determine significant or potentially significant impacts. In many cases, background studies performed in connection with the project indicate no impacts. A "no impact" reflects this determination. Any needed discussion is included in the section following the checklist.

	Potentially significant impact (CEQA context)	Less than significant impact (CEQA context) with mitigation	Less than significant impact (CEQA context)	No impact
AESTHETICS - Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	X	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a state scenic highway?	☐	☐	X	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	X	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	X	☐
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?	☐	☐	☐	X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	X
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?	☐	☐	☐	X
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:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	X

	Potentially significant impact (CEQA context)	Less than significant impact (CEQA context) with mitigation	Less than significant impact (CEQA context)	No impact
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	X
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)?	☐	☐	☐	X
d) Expose sensitive receptors to substantial pollutant concentration?	☐	☐	☐	X
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	X
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?	☐	☐	X	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	X	☐
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?	☐	☐	X	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	X	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	X

	Potentially significant impact (CEQA context)	Less than significant impact (CEQA context) with mitigation	Less than significant impact (CEQA context)	No impact
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?	☐	☐	☐	X
COMMUNITY RESOURCES - Would the project:				
a) Cause disruption of orderly planned development?	☐	☐	☐	X
b) Be inconsistent with a Coastal Zone Management Plan?	☐	☐	☐	X
c) Affect life-styles, or neighborhood character or stability?	☐	☐	☐	X
d) Physically divide an established community?	☐	☐	☐	X
e) Affect minority, low-income, elderly, disabled, transit-dependent, or other specific interest group?	☐	☐	☐	X
f) Affect employment, industry, or commerce, or require the displacement of businesses or farms?	☐	☐	☐	X
g) Affect property values or the local tax base?	☐	☐	☐	X
h) Affect any community facilities (including medical, educational, scientific, or religious institutions, ceremonial sites or sacred shrines?	☐	☐	☐	X
i) Result in alterations to waterborne, rail, or air traffic?	☐	☐	☐	X
j) Support large commercial or residential development?	☐	☐	☐	X
k) Affect wild or scenic rivers or natural landmarks?	☐	☐	☐	X
l) Result in substantial impacts associated with construction activities (e.g., noise, dust, temporary drainage, traffic detours, and temporary access, etc.)?	☐	X	☐	☐
CULTURAL RESOURCES - Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	X	☐

	Potentially significant impact (CEQA context)	Less than significant impact (CEQA context) with mitigation	Less than significant impact (CEQA context)	No impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	X
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	X
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	X
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.	☐	☐	X	☐
ii) Strong seismic ground shaking?	☐	☐	X	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	X	☐
iv) Landslides?	☐	☐	X	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	X	☐
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 on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	X	☐
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.	☐	☐	X	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	X

	Potentially significant impact (CEQA context)	Less than significant impact (CEQA context) with mitigation	Less than significant impact (CEQA context)	No impact
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?	☐	☐	☐	X
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	X
c) Emit hazardous emissions or handle hazardous or acutely hazardous material, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	X
d) Be located on a site which 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?	☐	☐	☐	X
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?	☐	☐	☐	X
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?	☐	☐	☐	X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	X
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?	☐	☐	☐	X
HYDROLOGY AND WATER QUALITY - Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	X	☐

	Potentially significant impact (CEQA context)	Less than significant impact (CEQA context) with mitigation	Less than significant impact (CEQA context)	No impact
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such 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 which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	X
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 which would result in substantial erosion or siltation on- or off-site?	☐	☐	X	☐
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 which would result in flooding on- or off-site?	☐	☐	X	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	X	☐
f) Otherwise substantially degrade water quality?	☐	☐	☐	X
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?	☐	☐	☐	X
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	X
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	X
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	X
LAND USE AND PLANNING - Would the project:				
a) 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?	☐	☐	☐	X

	Potentially significant impact (CEQA context)	Less than significant impact (CEQA context) with mitigation	Less than significant impact (CEQA context)	No impact
b) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	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?	☐	☐	☐	X
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?	☐	☐	☐	X
NOISE - Would the project:				
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?	☐	☐	X	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	X	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	X	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	X	☐
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?	☐	☐	☐	X
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?	☐	☐	☐	X
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)?	☐	☐	☐	X

	Potentially significant impact (CEQA context)	Less than significant impact (CEQA context) with mitigation	Less than significant impact (CEQA context)	No impact
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	X
PUBLIC SERVICES -				
a) 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?	☐	☐	☐	X
Police protection?	☐	☐	☐	X
Schools?	☐	☐	☐	X
Parks?	☐	☐	☐	X
Other public facilities?	☐	☐	☐	X
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?	☐	☐	☐	X
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	X
TRANSPORTATION/TRAFFIC - Would the project:				
a) Cause an increase in traffic which his 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)?	☐	☐	☐	X

	Potentially significant impact (CEQA context)	Less than significant impact (CEQA context) with mitigation	Less than significant impact (CEQA context)	No impact
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☐	X
c) Result in a change in air traffic patters, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	X
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incomplete uses (e.g., farm equipment)?	☐	☐	☐	X
e) Result in inadequate emergency access?	☐	☐	☐	X
f) Result in inadequate parking capacity?	☐	☐	☐	X
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	X
UTILITY AND SERVICE SYSTEMS – Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	X
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?	☐	☐	☐	X
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?	☐	☐	☐	X
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	X
e) Result in determination by the wastewater treatment provider which 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?	☐	☐	☐	X
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	X

	Potentially significant impact (CEQA context)	Less than significant impact (CEQA context) with mitigation	Less than significant impact (CEQA context)	No impact
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	X

MANDATORY FINDINGS OF SIGNIFICANCE -	Potentially Significant Impact	Less Than Significant with Mitigation	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, or cause a fish or 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?	☐	X	☐
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)?	☐	X	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	X

Appendix B Title VI Policy Statement

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
1120 N STREET
P. O. BOX 942873
SACRAMENTO, CA 94273-0001
PHONE (916) 654-5266
FAX (916) 654-6608
TTY (916) 653-4086

Flex your power!
Be energy efficient!

January 14, 2005

TITLE VI
POLICY STATEMENT

The California Department of Transportation under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, and age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

WILL KEMPTON
Director

Appendix C Relocation Benefits

Acquisitions and relocations will be in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. The State Uniform Relocation Assistance Program has been developed to assist displacees in successfully relocating homes and businesses, thereby mitigating relocation impacts. This program aims at meeting or exceeding the requirements of the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646).

The State Uniform Relocation Assistance Program as it relates to residential displacements is summarized below. The program can be divided into two broad topics: Relocation Assistance Services and Relocation Payment Program.

Residential Relocation Assistance Services.

Any individual or family displaced by Caltrans shall be offered relocation assistance services for purposes of locating a suitable replacement property. A Relocation Advisor from Caltrans will contact the displacee(s) personally and explain relocation services and payments for which the displacee(s) may be eligible. During this interview, the housing needs and desires of the displacee(s) are determined as well as the displacee's eligibility for assistance. Displacee(s) are not required to move unless at least one comparable replacement dwelling is made available to him/her, and ninety days written notice is given. Caltrans will ensure that the housing made available to the displacee(s) meets decent, safe, and sanitary standards. If desired by the displacee(s), the Relocation Advisor will provide current listings of other replacement housing that is available.

Transportation will be provided to inspect available housing, especially for the elderly and the handicapped displacee(s). Special language assistance, if needed, will be provided during the relocation process. Caltrans will also provide the displacee(s) with information concerning other federal, state, and local housing programs that offer assistance to displaced persons, and will provide counseling to minimize hardships. Displacees will also be provided with a booklet which explains their rights and benefits under the Uniform Relocation Assistance Program.

Residential Relocation Payment Program.

Eligible displacees are also entitled to relocation payments to relieve the financial hardship of locating and acquiring replacement housing.

All eligible displaced households will be entitled to reimbursement of the moving costs and related expenses incurred in moving. These could be actual reasonable moving costs including packing and unpacking, temporary storage, transportation,

moving insurance, and other related costs. These could alternately be a fixed moving-cost schedule based on the number of rooms moved.

Replacement housing payments are paid to eligible displaced households to complete a successful relocation. These payments are separated into three types: purchase supplements, rental assistance, and down payments. The type of payment depends on whether the displacee is an owner or a tenant, and how long the displacee has been living in the property prior to the start of negotiations.

- Purchase Supplements. These are paid when the fair market price paid by Caltrans to a homeowner (who has occupied the house for more than 180 days) is not enough to allow the owner to replace the displacement property in the competitive market. This supplement can be up to a maximum of $22,500 (except under Last Resort Housing, explained below), and includes the price differential payment, increased mortgage interest payment, and nonrecurring incidental expenses associated with the purchase of the replacement housing.

- Rental Assistance. Owner occupants and tenants of 90 days or more may be eligible for a rental assistance payment. To be eligible, the tenants and owners must have been in occupancy at least 90 days prior to the initiation of negotiations for the acquisition of the property. The payment enables them to rent a comparable, decent, safe, and sanitary replacement dwelling for a 42-month period. This payment covers the difference in the rents of the displaced dwelling and the replacement dwelling and may not exceed $5250 over the 42-month period (except under Last Resort Housing).

- Down Payment. Displaced tenants may also use the full amount of their rent supplement as a down payment on a replacement dwelling. This payment provides up to $5250 to be used solely for the down payment and incidental purchase expenses.

In situations where the available housing and housing assistance is insufficient to allow the successful relocation of displacees, Caltrans will resolve the problem by the administrative process called Last Resort Housing. Caltrans may provide a replacement housing payment in excess of the $5,250 or $22,500 payment limits. Caltrans evaluates each displacement on a case-by-case basis, and utilizes other options only if considered necessary.

Finally, the Fair Housing Law (Title VIII of the Civil Rights Act of 1968) sets forth the policy of the United States to provide, within Constitutional limitations, for fair housing throughout the United States. This act and other amendments make discriminatory practices in the purchase and rental of most residential units illegal if based on race, color, religion, sex, or national origin. In compliance with Title VI of the 1964 Civil Rights Act, all services and benefits will be administered to the general public without regard to race, color, national origin, or sex. A copy of Title VI Policy Statement is included in Appendix B. The implementation of the Uniform Relocation

Assistance Program mitigates the relocation impacts of the project, to an insignificant level. Under this program, comparable housing will be located within the same or similar desired neighborhoods, so that displacement impacts are minimized.

Business-Farm And Non-Profit Relocation Assistance Program.

Any business displaced by Caltrans will be provided with advisory assistance in finding suitable replacement quarters. Eligible businesses will also receive compensation for moving costs and related expenses. In addition, displaced businesses may be eligible for payments covering losses of tangible personal property, search and reestablishment expenses. For eligible enterprises that cannot be relocated without substantial loss of patronage, an in-lieu payment may be made instead of payment for moving expenses. In this case, payment is equal to the average annual net earnings of the business over the two-year period before displacement. The fixed payment may not be less than $1,000 or more than $20,000.

Appendix D Proposed Project Layout Sheets

Curve Table

NO	R	Δ	T	L
(1)	400.0	4°33'2"	15.9	31.8
(2)	600.0	7°13'44"	37.9	75.7
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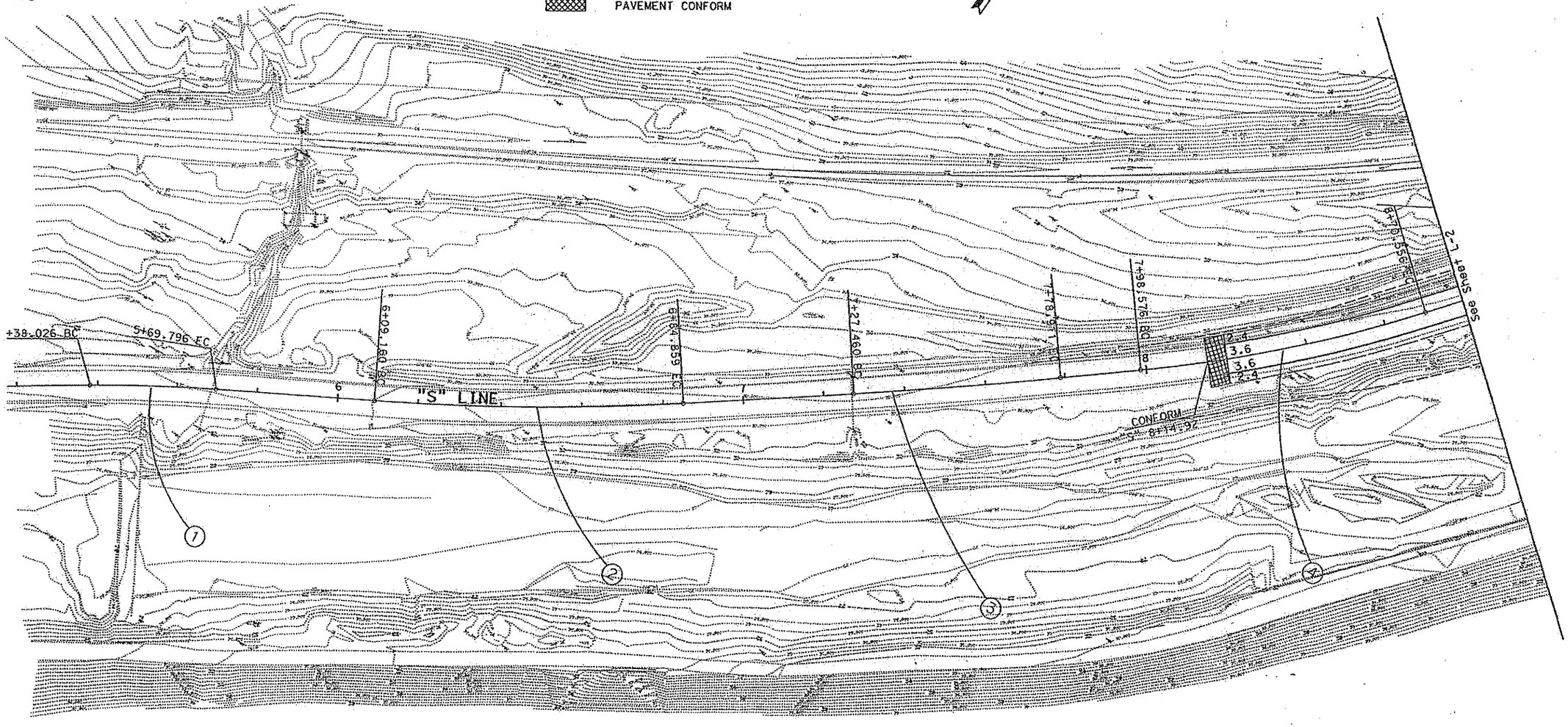

LAYOUT
SCALE 1:500

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L-1

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO	TOTAL SHEETS
04	ALA	84	19.48/21.40 (12.1/13.3)		

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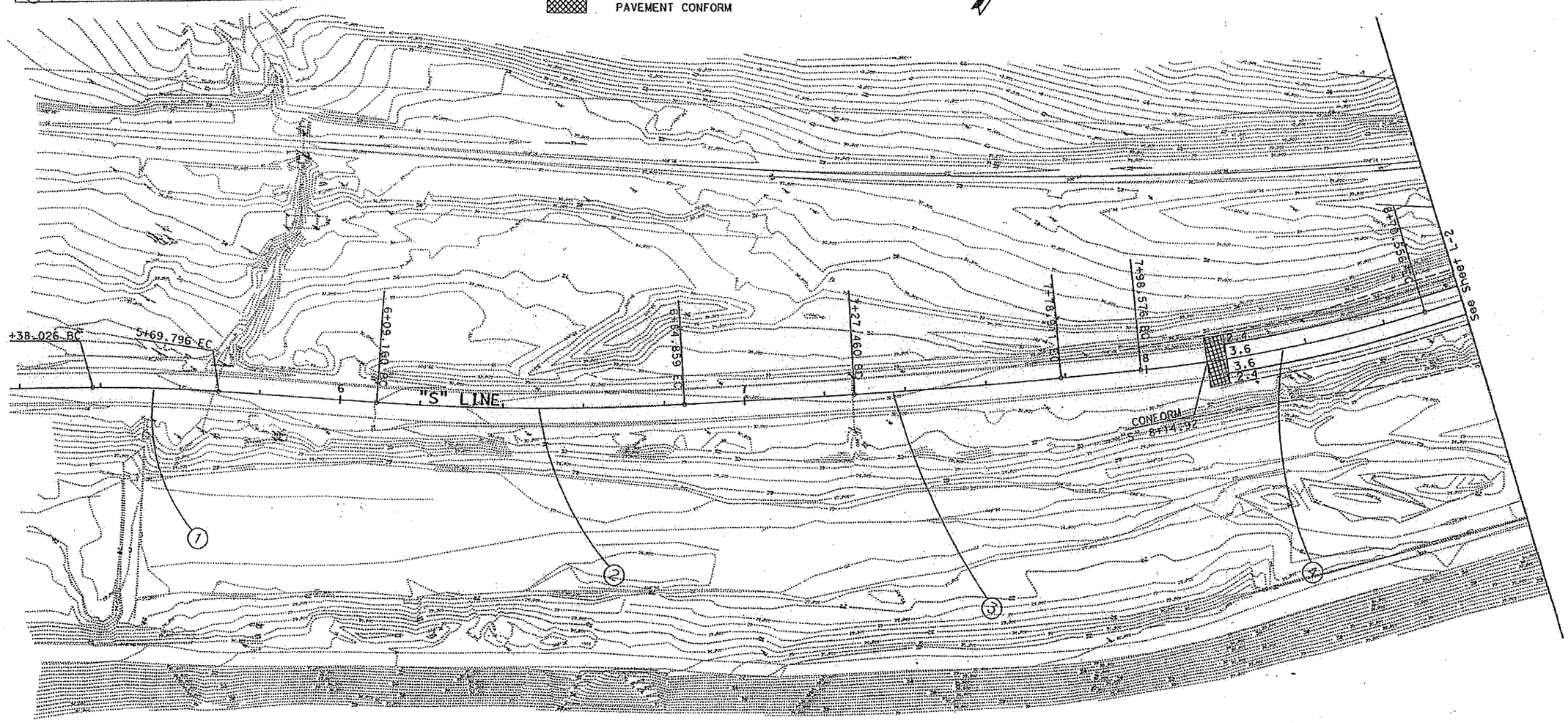

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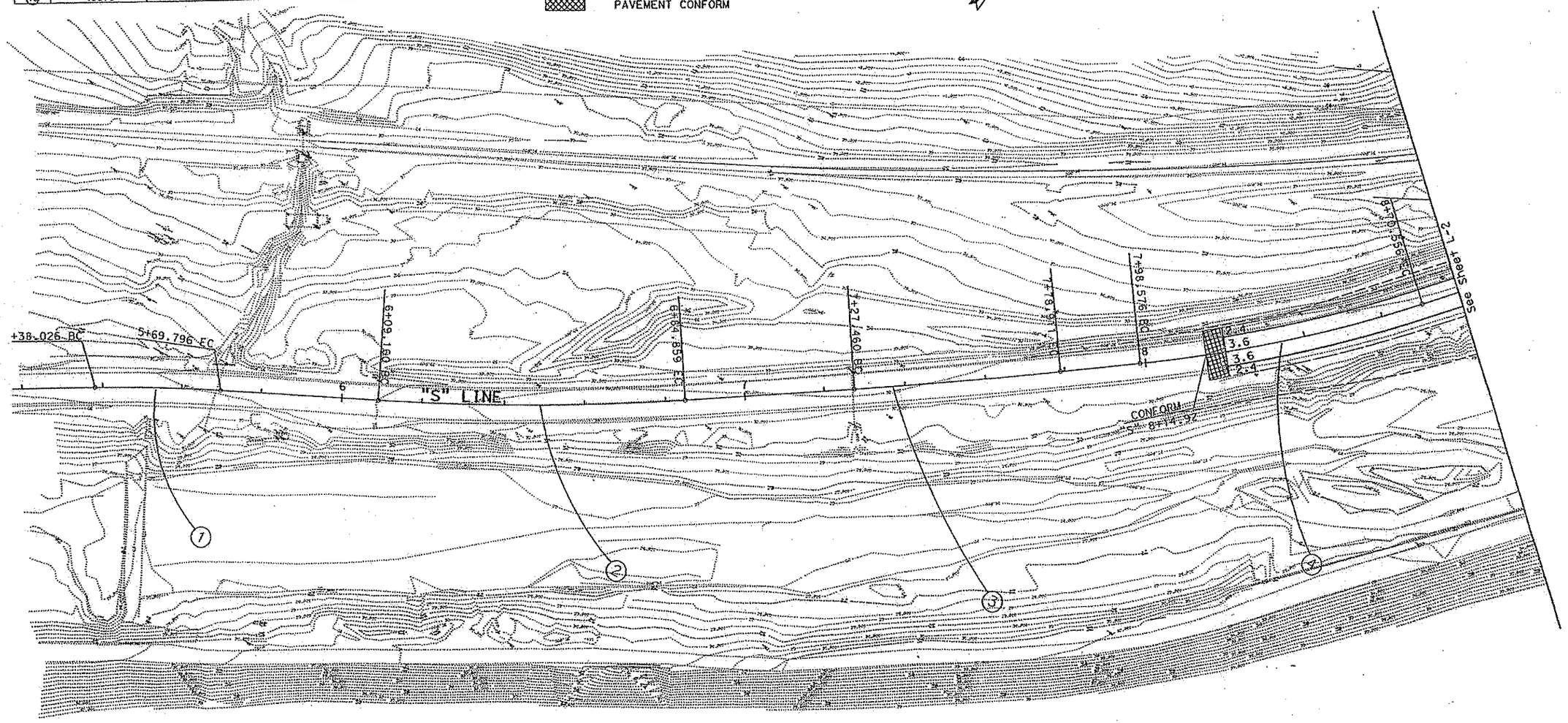

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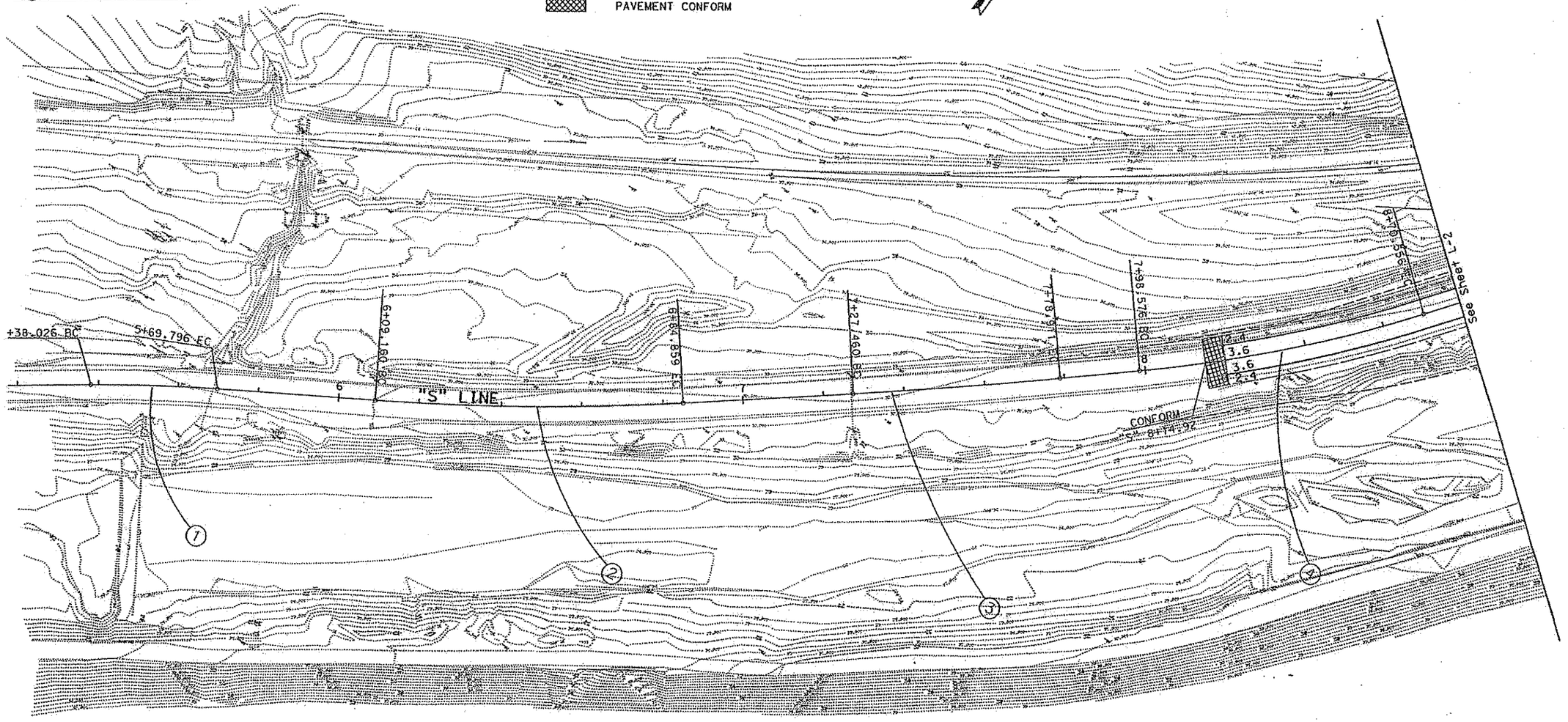

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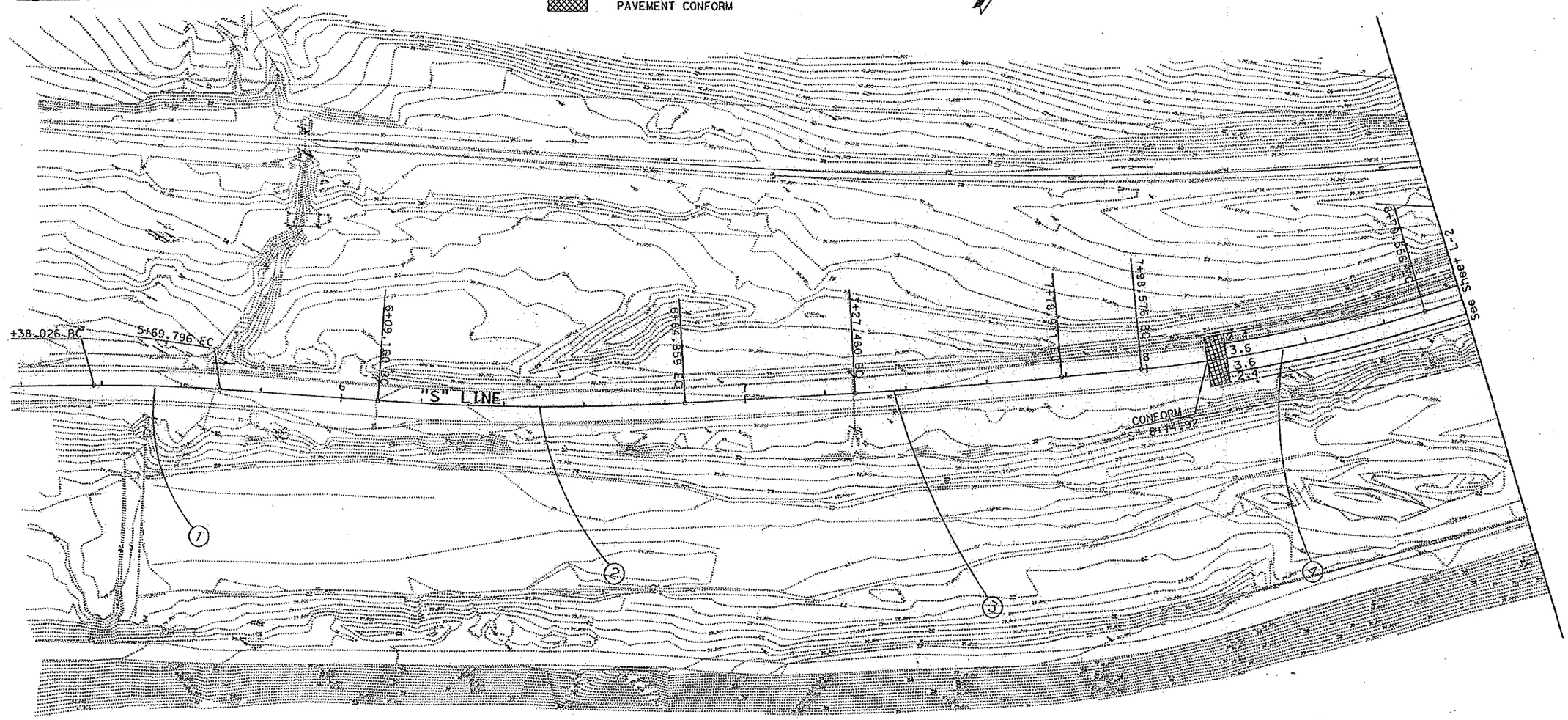

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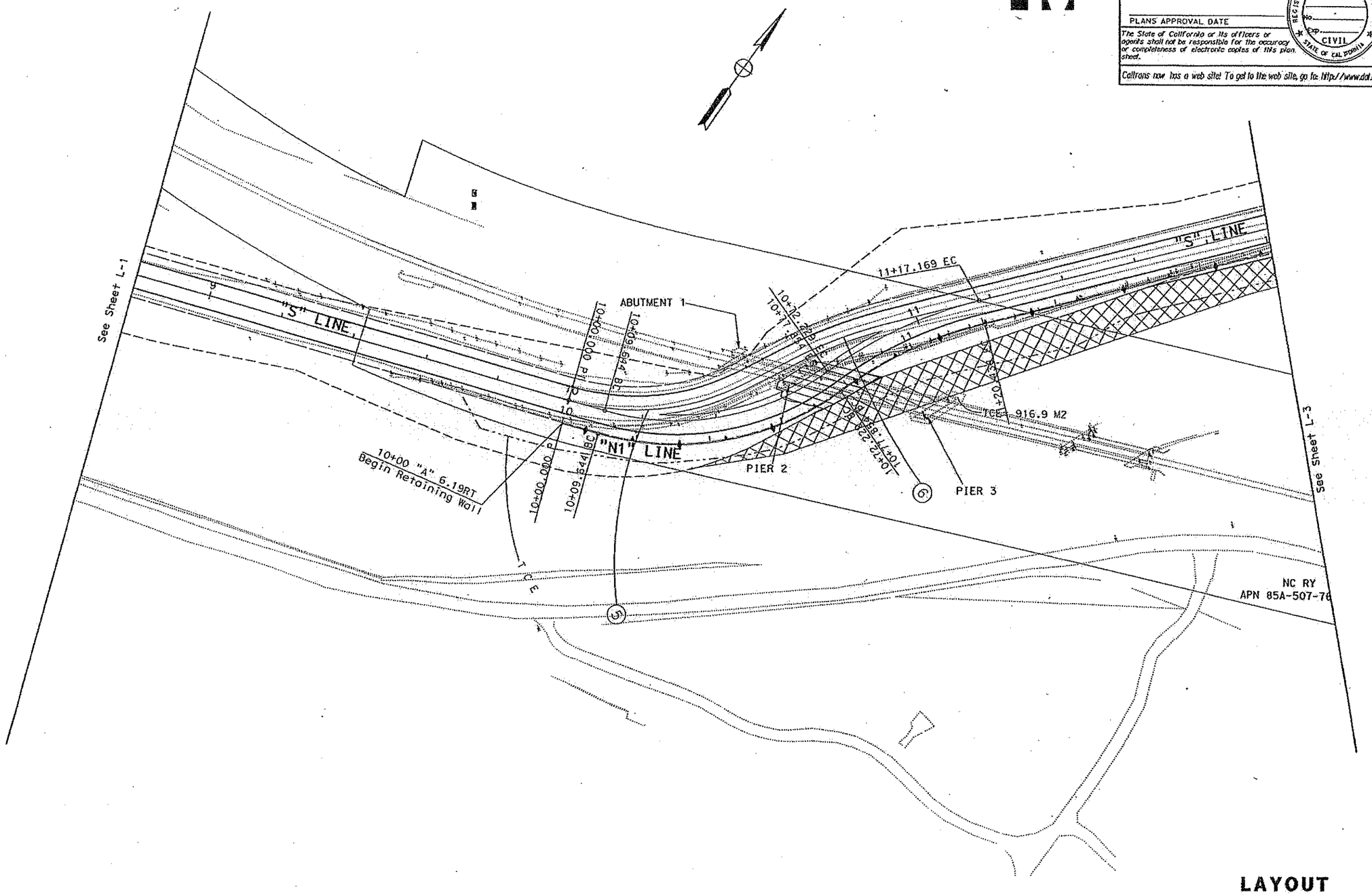

LAYOUT

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Caltrans PROJECT DEVELOPMENT

See Sheet L-2

12+75.040 EC

CONFORM

"H1" LINE

TCE= 1111.8 M²

TCE

12+75.04 "A" 6.2 Rt
End Retaining Wall

SFPUC
APN 85A-507-762-5

"S" LINE

14+80.560 EC

See Sheet L-4

2-10

LAYOUT

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L-3

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DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
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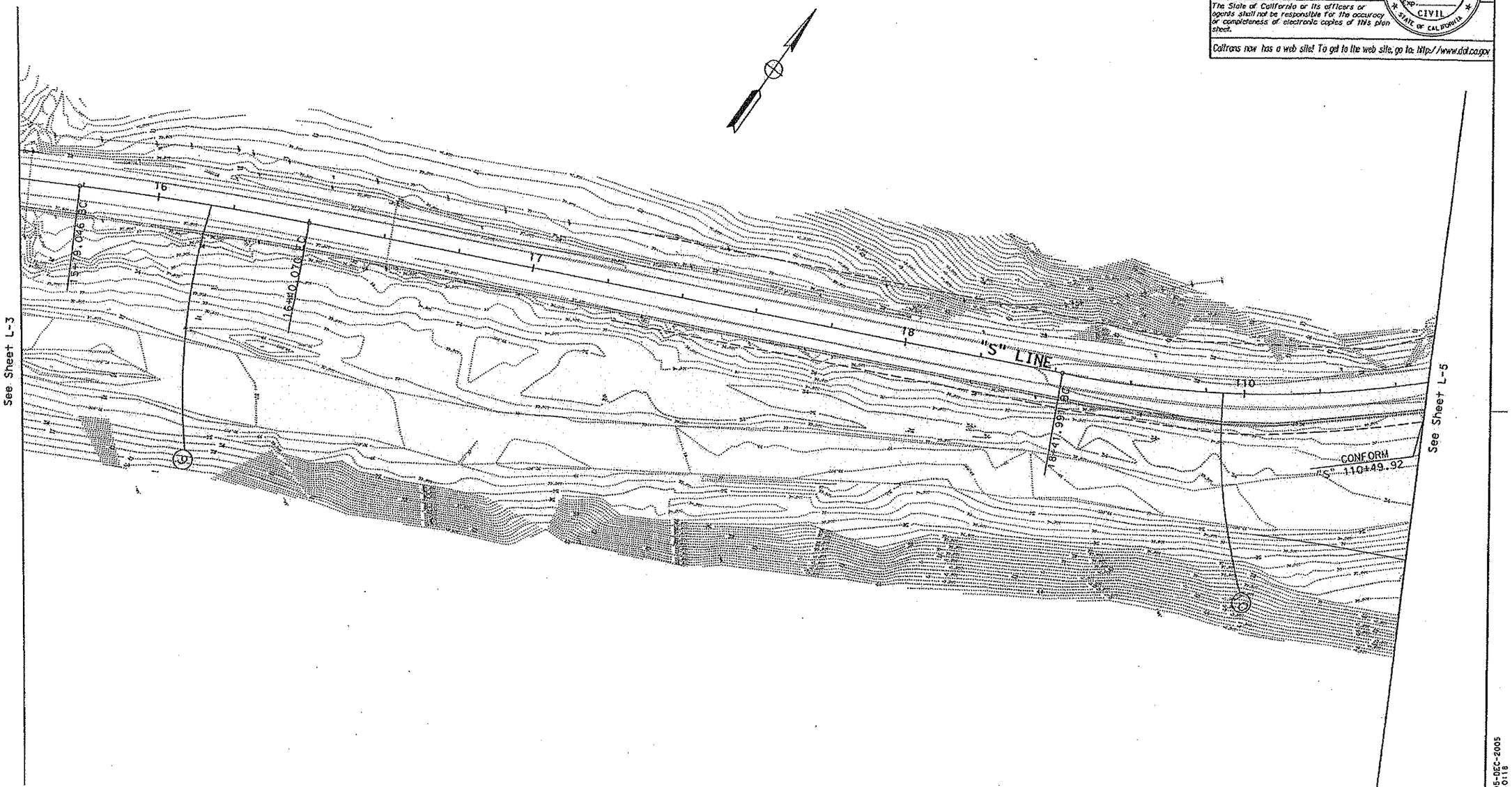

LAYOUT

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RELATIVE BORDER SCALE 0 20 40 60 80

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Caltrans Metric

DATE	REVISED BY	DATE REVISED

CALCULATED/DESIGNED BY

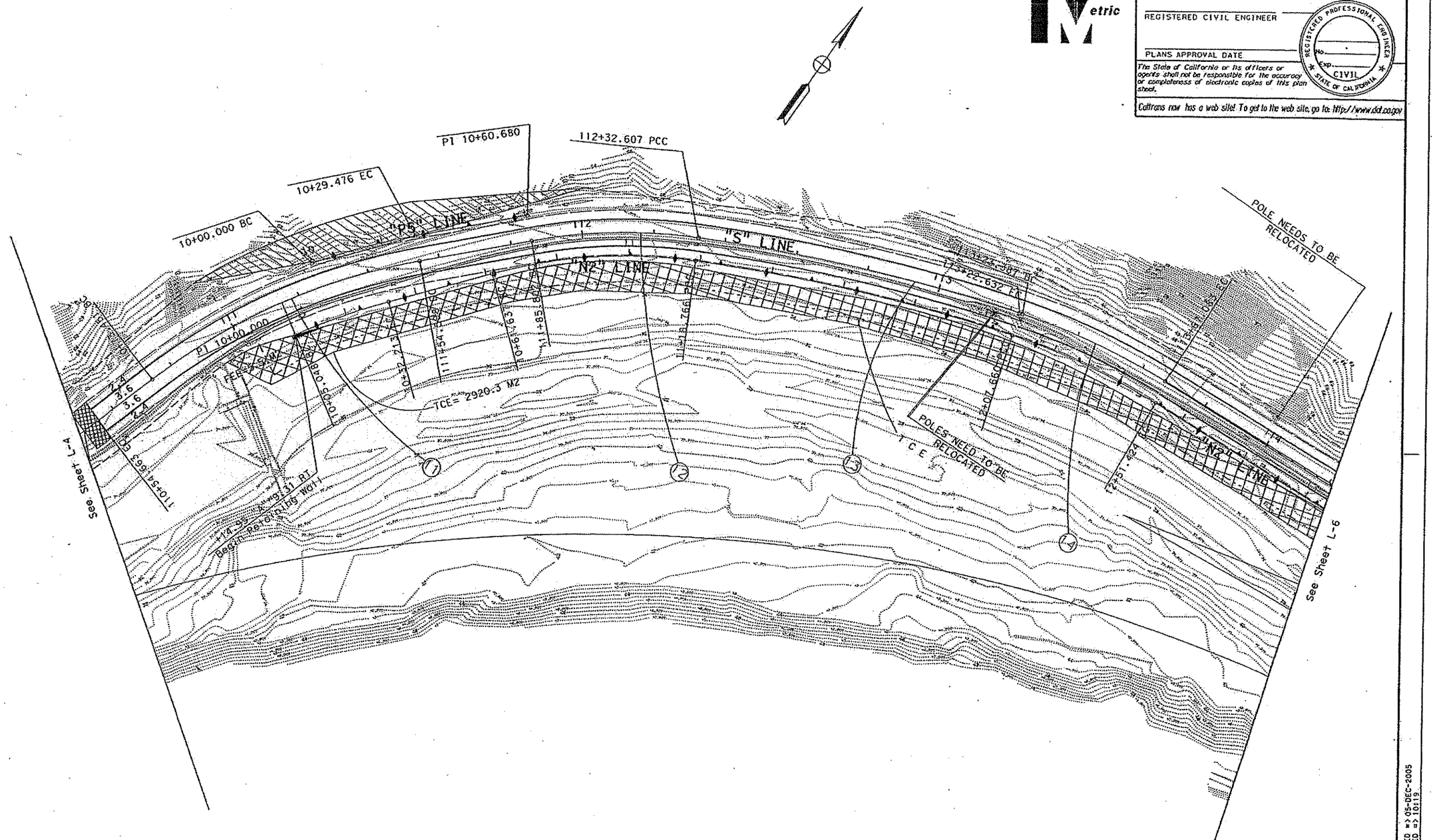
CHECKED BY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans PROJECT DEVELOPMENT

PROJECT ENGINEER

SCOTT PATTERSON



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L-5

LAST REVISION 00-00-00
DATE PLOTTED => 05-DEC-2005
TIME PLOTTED => 10:19

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	ALA	84	19.48/21.40 (12.1/13.3)		

REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

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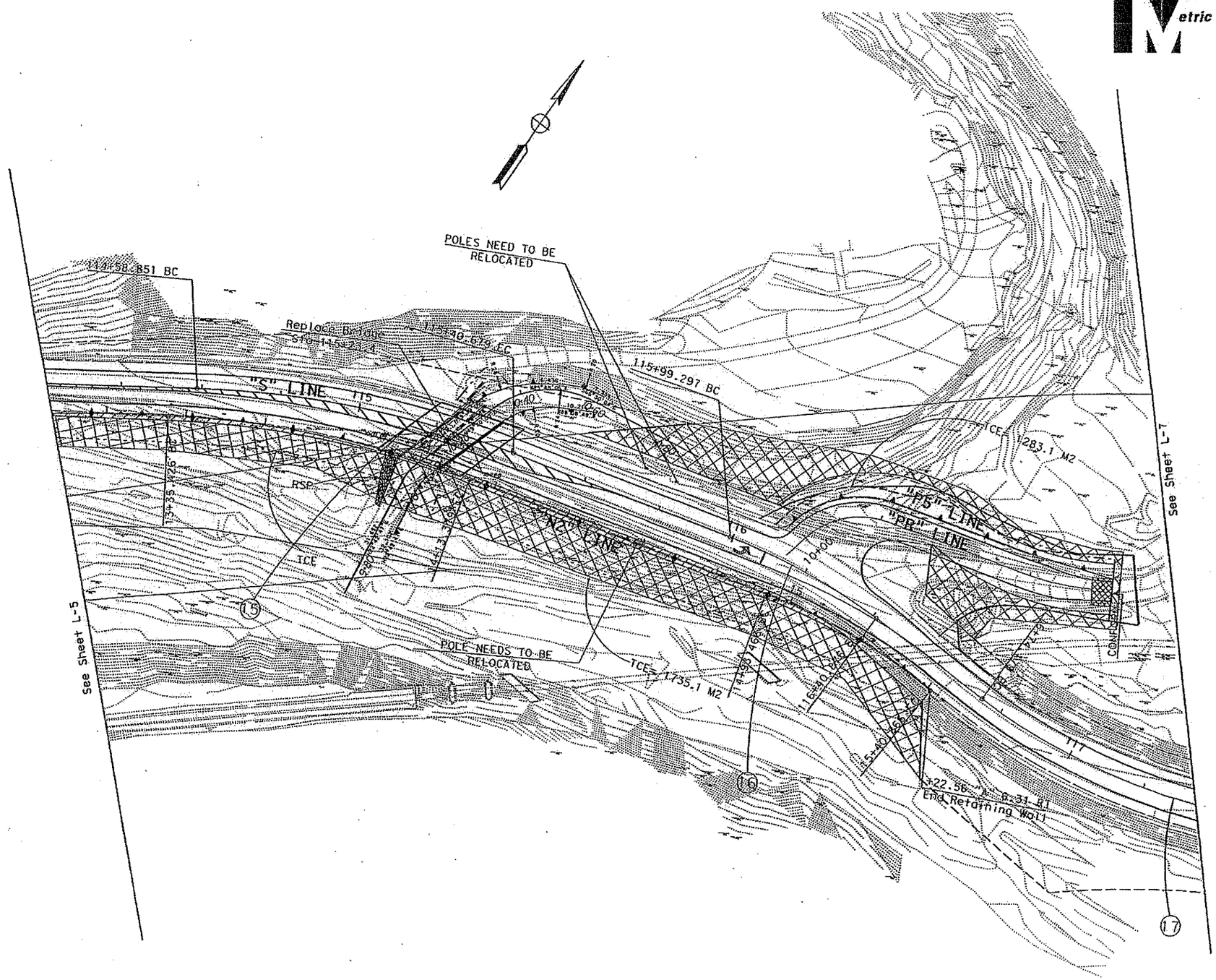
Caltrans Metric



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L-6

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans PROJECT DEVELOPMENT

PROJECT ENGINEER: SCOTT PATTERSON

CALCULATED/DESIGNED BY | CHECKED BY | DATE | REVISED BY | DATE REVISED

LAST REVISION 00-00-00 | DATE PLOTTED => 08-DEC-2005 | TIME PLOTTED => 16:03

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04	ALA	84	19.48/21.40 (12.1/13.3)		

REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

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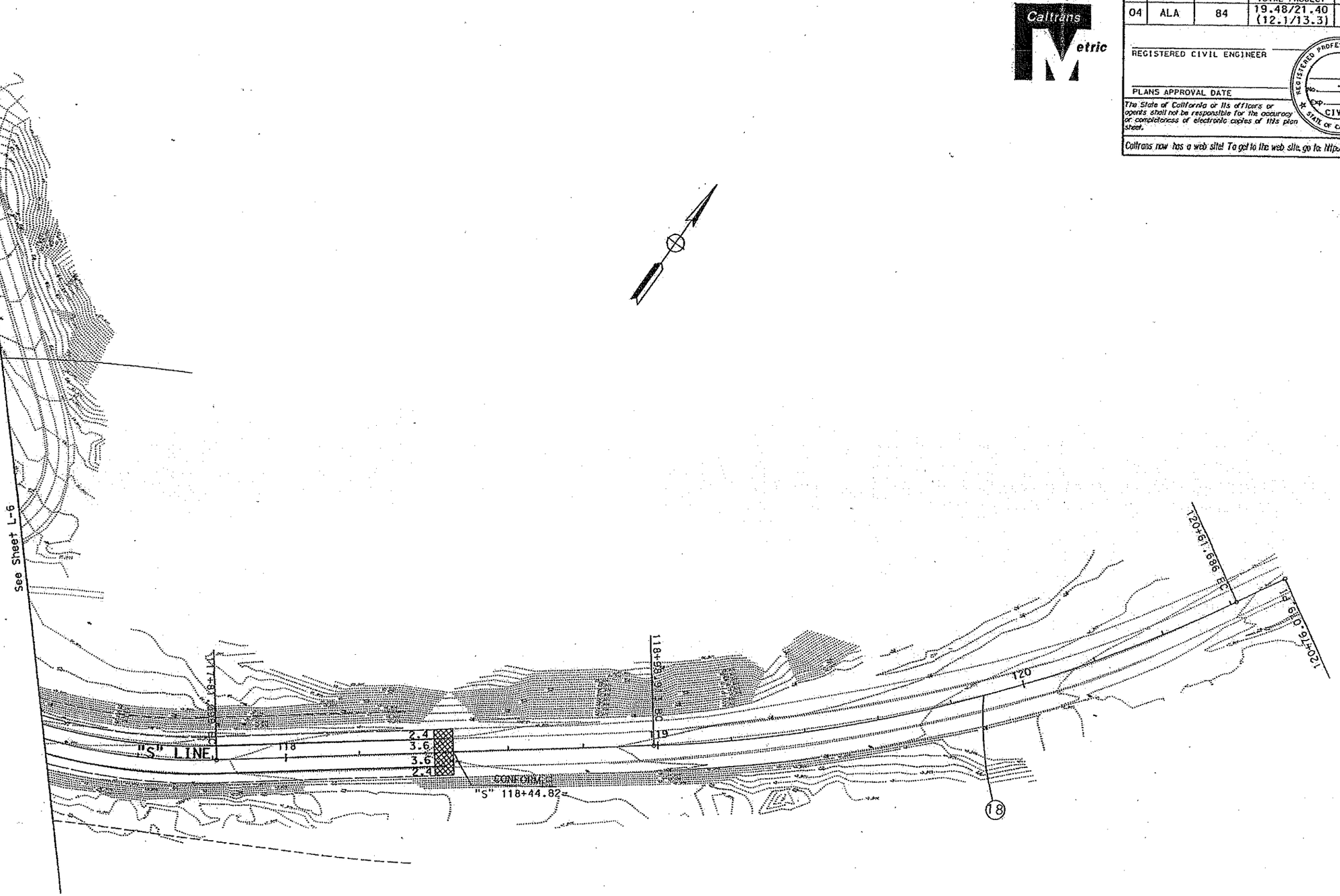
REGISTERED PROFESSIONAL ENGINEER — No. — EXP. — CIVIL — STATE OF CALIFORNIA

Caltrans now has a web site! To get to the web site, go to: http://www.dot.ca.gov



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ALL DIMENSIONS ARE IN METERS
UNLESS OTHERWISE SHOWN

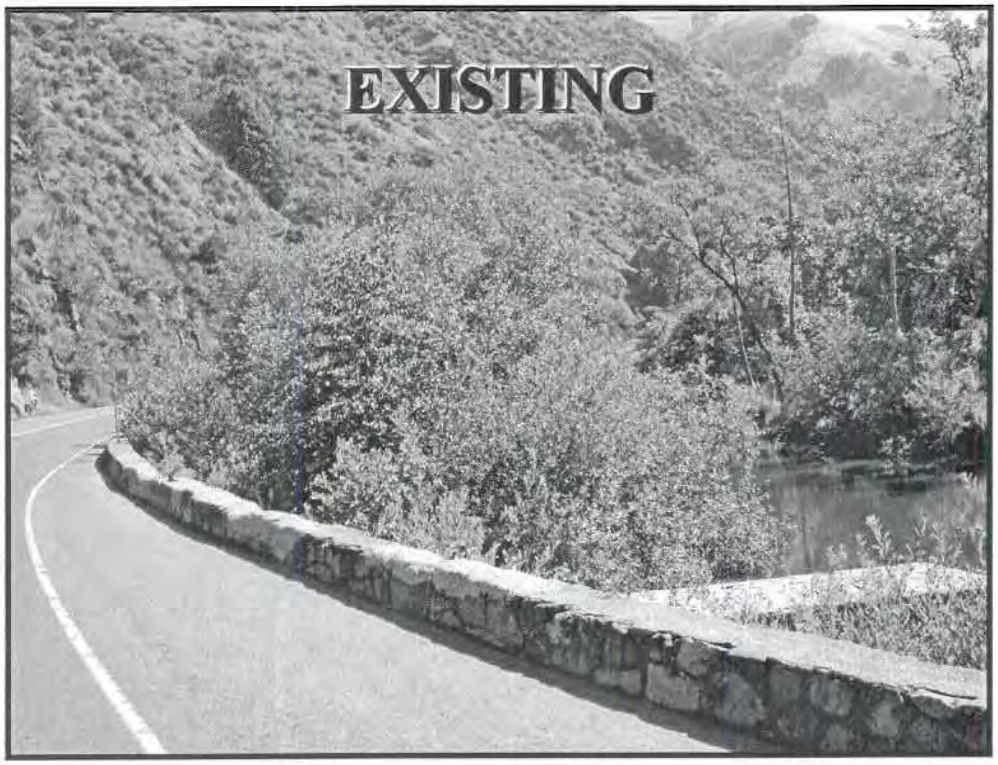
L-7

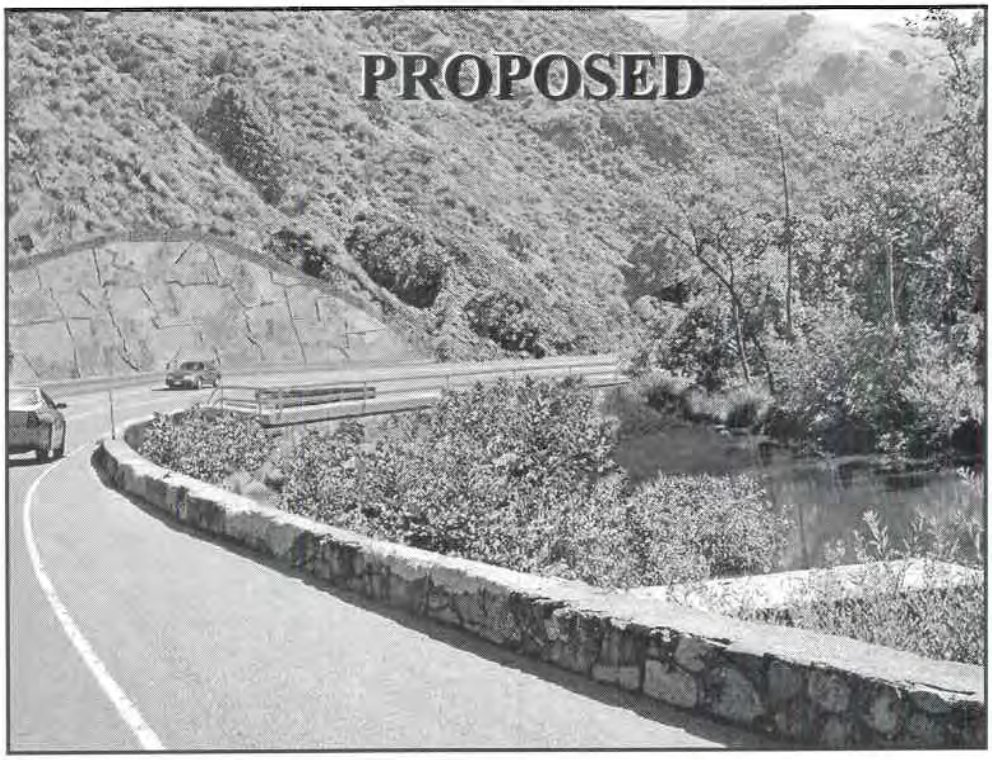
LAST REVISION	DATE PLOTTED => 05-DEC-2005
00-00-00	TIME PLOTTED => 10:22

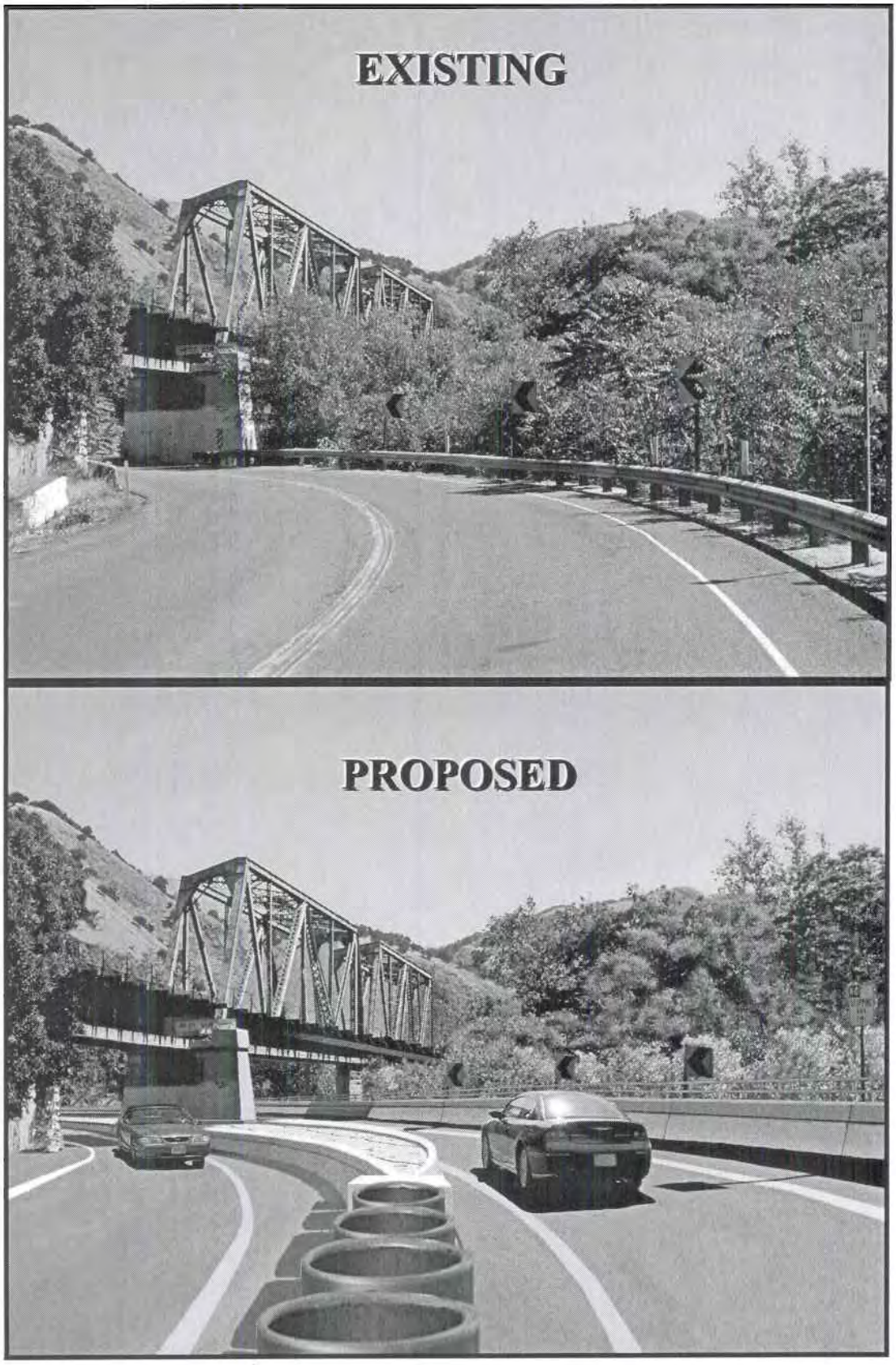
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	PROJECT ENGINEER
Caltrans PROJECT DEVELOPMENT	SCOTT PATTERSON

	DATE	REVISED BY
		DATE REVISED
CALCULATED/ DESIGNED BY		
CHECKED BY		

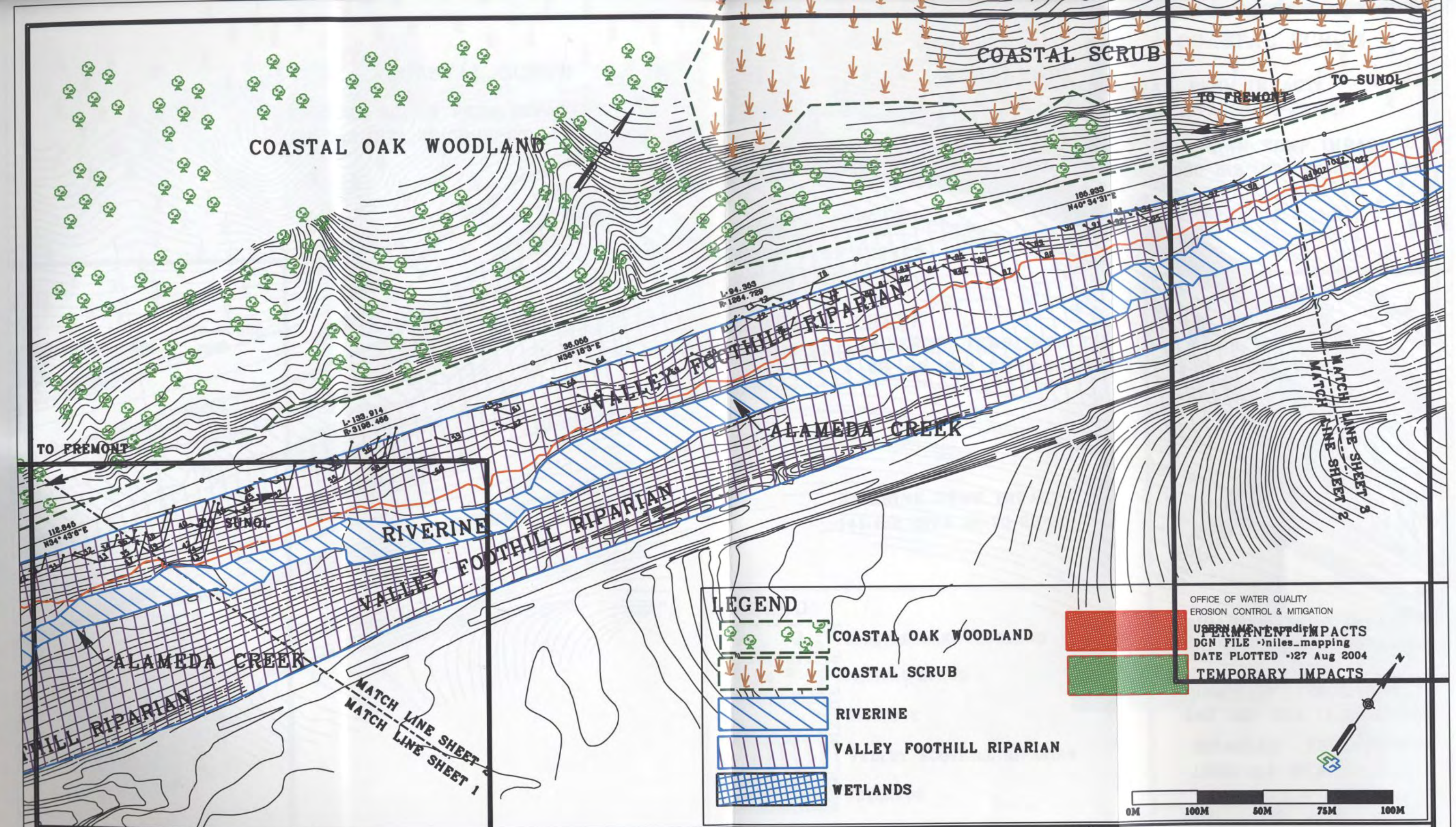
Appendix E Existing Visual Conditions and Visual Impact Simulations






EXISTING
PROPOSED

Appendix F Habitat Impact Maps



OFFICE OF WATER QUALITY
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DGN FILE =>niles_mapping
DATE PLOTTED =>27 Aug 2004

NILES CANYON SAFETY WIDENING PROJECT
STATE ROUTE 84

NILES CANYON
HABITAT IMPACTS MAP
MATCH LINE SHEET 2

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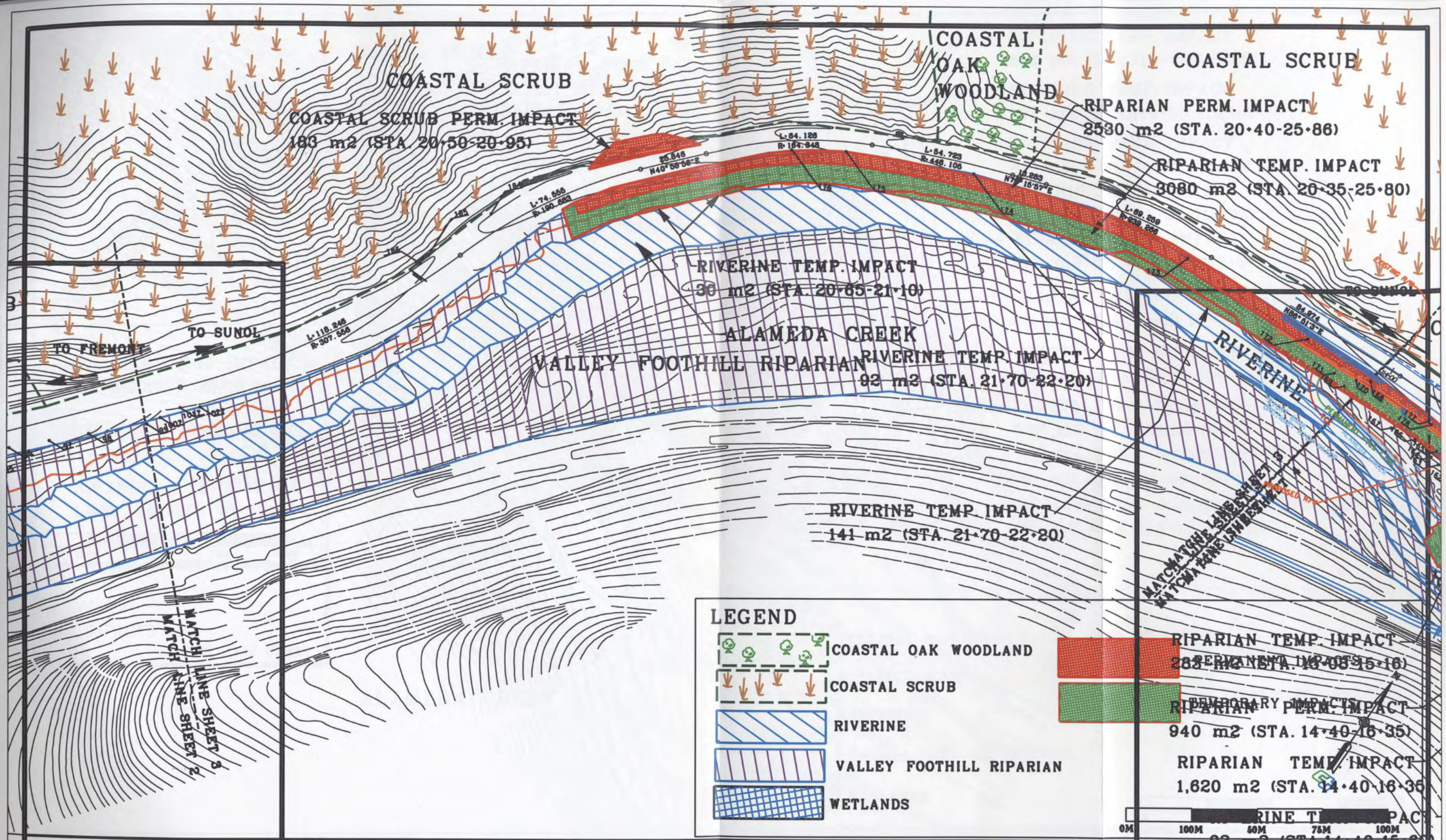

OFFICE OF WATER QUALITY
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PERMANENT IMPACTS
TEMPORARY IMPACTS

NILES CANYON SAFETY WIDENING PROJECT
STATE ROUTE 84

NILES CANYON
HABITAT IMPACTS MAP
MATCH LINE SHEET 3

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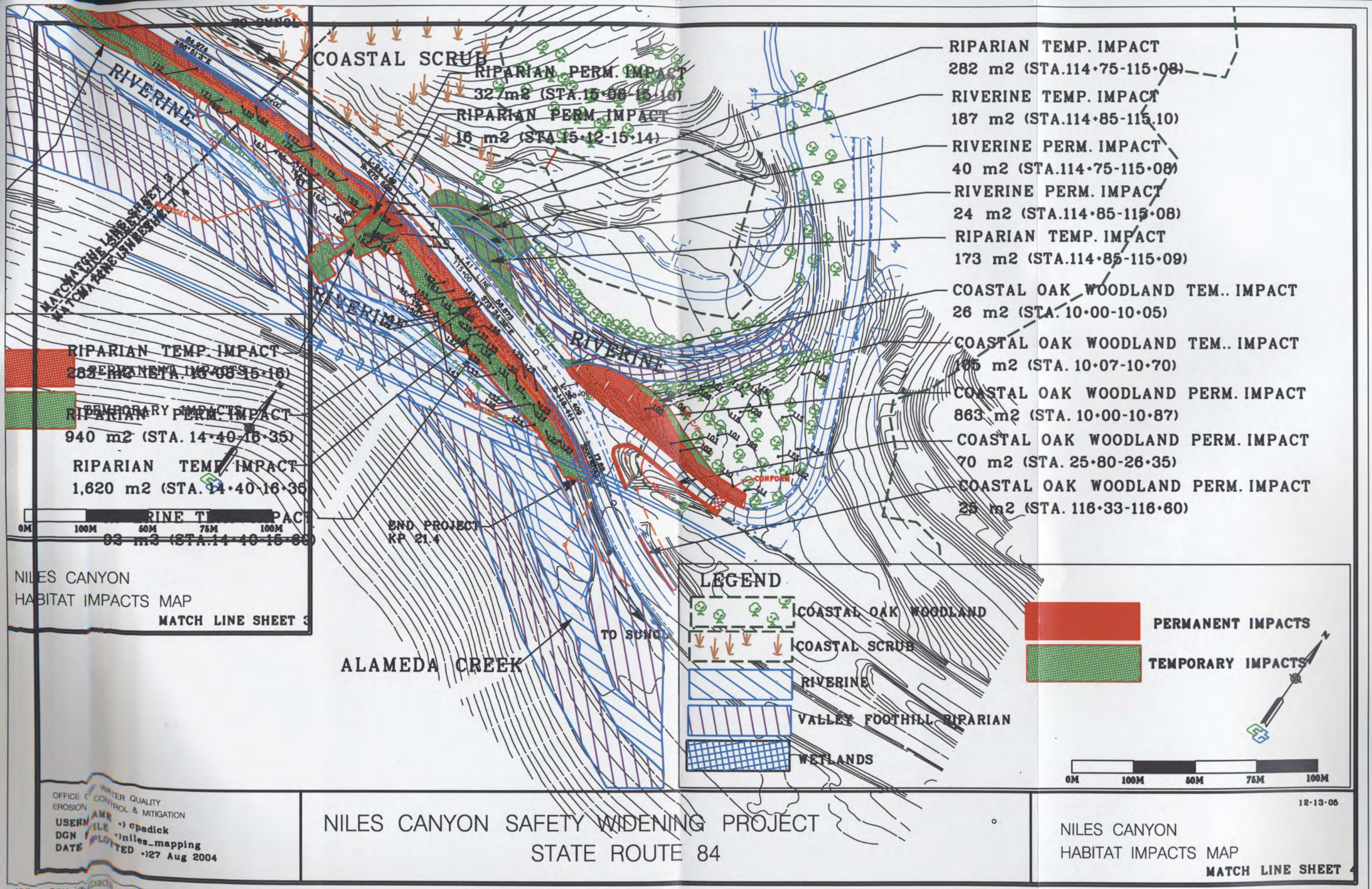
COASTAL SCRUB
RIPARIAN PERM. IMPACT
327 m2 (STA.15+08-15+16)
RIPARIAN PERM. IMPACT
16 m2 (STA.15+12-15+14)
RIPARIAN TEMP. IMPACT
282 m2 (STA.114+75-115+08)
RIVERINE TEMP. IMPACT
187 m2 (STA.114+85-115.10)
RIVERINE PERM. IMPACT
40 m2 (STA.114+75-115+08)
RIVERINE PERM. IMPACT
24 m2 (STA.114+85-115+08)
RIPARIAN TEMP. IMPACT
173 m2 (STA.114+85-115+09)
COASTAL OAK WOODLAND TEM.. IMPACT
26 m2 (STA. 10+00-10+05)
COASTAL OAK WOODLAND TEM.. IMPACT
105 m2 (STA. 10+07-10+70)
COASTAL OAK WOODLAND PERM. IMPACT
863 m2 (STA. 10+00-10+87)
COASTAL OAK WOODLAND PERM. IMPACT
70 m2 (STA. 25+80-26+35)
COASTAL OAK WOODLAND PERM. IMPACT
25 m2 (STA. 116+33-116+60)
RIPARIAN TEMP. IMPACT
283 m2 (STA. 15+08-15+16)
RIPARIAN PERM. IMPACT
940 m2 (STA. 14+40-16+35)
RIPARIAN TEMP. IMPACT
1,620 m2 (STA. 14+40-16+35)
RIVERINE TEMP. IMPACT
93 m2 (STA.14+40-15+60)
MATCH LINE SHEET 3
MATCH LINE SHEET 3
END PROJECT
KP 21.4
TO SUNOL
ALAMEDA CREEK
RIVERINE
RIVERINE
RIVERINE
LEGEND
COASTAL OAK WOODLAND
COASTAL SCRUB
RIVERINE
VALLEY FOOTHILL RIPARIAN
WETLANDS
PERMANENT IMPACTS
TEMPORARY IMPACTS
0M 100M 50M 75M 100M
0M 100M 50M 75M 100M
NILES CANYON
HABITAT IMPACTS MAP
MATCH LINE SHEET 3
OFFICE OF WATER QUALITY
EROSION CONTROL & MITIGATION
USERNAME: cpadick
DGN FILE: niles_mapping
DATE PLOTTED: 27 Aug 2004
NILES CANYON SAFETY WIDENING PROJECT
STATE ROUTE 84
12-13-05
NILES CANYON
HABITAT IMPACTS MAP
MATCH LINE SHEET 4
..\niles_env_impacts_up4_06.dgn 4/20/2006 12:22:10 PM

COASTAL OAK WOODLAND

COASTAL SCRUB

RIVERINE

VALLEY FOOTHILL RIPARIAN

ALAMEDA CREEK

WETLAND PERM. IMPACT
27.4 m2 (STA. 11+00)

WETLAND PERM. IMPACT
39.2 m2 (STA. 10+80)

RIPARIAN TEMP. IMPACT
2256 m2 (STA. 10+15-13+40)

RIVERINE IMPACT 2 m2
(STA. 11+40)

RIPARIAN PERM. IMPACT
589 m2 (STA. 10+20-11+60)

RIVERINE TEMP. IMPACT
9.9 m2 (STA. 10+56-10+68))

TO FREMONT

MATCH LINE SHEET 2

MATCH LINE SHEET 1

OFFICE OF WATER QUALITY
EROSION CONTROL & MITIGATION
USERNAME -) cpadick
DGN FILE -)niles_mapping
DATE PLOTTED -)27 Aug 2004

NILES CANYO

LEGEND

- COASTAL OAK WOODLAND
- COASTAL SCRUB
- RIVERINE
- VALLEY FOOTHILL RIPARIAN
- WETLANDS
- PERMANENT IMPACTS
- TEMPORARY IMPACTS

0M 100M 50M 75M 100M

OFFICE OF WATER QUALITY
EROSION CONTROL & MITIGATION
USERNAME -) cpadick
DGN FILE -)niles_mapping
DATE PLOTTED -)27 Aug 2004

NILES CANYON SAFETY WIDENING PROJECT
STATE ROUTE 84

NILES CANYON
HABITAT IMPACTS MAP

MATCH LINE SHEET 1

niles_env_impacts_up4_06.dgn 4/20/2006 12:16:01 PM

Appendix G USFWS BIOLOGICAL OPINION

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

IN REPLY REFER TO:
1-1-06-F-0125

MAY 24 2006

Mr. Gene Fong
Federal Highway Administration
Department of Transportation
650 Capital Mall, Suite 4-100
Sacramento, California 95814

Subject: Biological Opinion on the Proposed State Route 84, Niles Canyon Safety Widening Project, Alameda County, California

Dear Mr. Fong:

This is in response to your October 7, 2005, request for formal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed road widening, intersection realignment, and other road safety improvement measures to State Route 84 (Niles Canyon) in Alameda County, California. Your request was received in this Field Office on October 19, 2005. This document represents the Service's biological opinion on the effects of the action on the threatened California red-legged frog (*Rana aurora draytonii*) and the threatened Alameda whipsnake (*Masticophis lateralis euryxanthus*); and conference opinion on the effects of the action on proposed critical habitat for the Alameda whipsnake. This document is issued pursuant to section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) (Act).

The proposed State Route 84, Niles Canyon Project is not likely to adversely affect the threatened California tiger salamander (*Ambystoma californiese*) due to an apparent lack of suitable habitat for this listed animal in the action area.

This biological opinion is based on: (1) a letter from the Federal Highway Administration (FHWA) to the Service dated November 8, 2004; (2) *State Route 84 Niles Canyon Safety Widening Project Biological Evaluation (04-ALA-84, KP 19.5-20.9/PM 12.1-13.3, EA 174400, USFWS Reference # 1-1-03-SP-2424)* dated September 2004; (3) *Niles Canyon (SR 84) Safety Widening Project Technical Memorandum for Listed Herpetofauna Occurrences and Effects* dated June 2005; (4) a meeting on August 2, 2005, between Ryan Olah and John Cleckler of the Service, and Margaret Gabil and Amy Fowler of the California Department of Transportation (Caltrans); (5) additional project description information provided by Amy Fowler of Caltrans on January 4, March 14, and March 17, 2006; (6) electronic mail and telephone conversations between Caltrans and the Service; and (7) other information available to the Service.

TAKE PRIDE IN AMERICA

CONSULTATION HISTORY

November 8, 2004: The Service received the *State Route 84 Niles Canyon Safety Widening Project Biological Evaluation (04-ALA-84, KP 19.5-20.9/PM 12.1-13.3, EA 174400, USFWS Reference # 1-1-03-SP-2424).*

January 27, 2005: The Service submitted a request to Caltrans for additional project information. The communication also included the statement that the Service does not concur with the not likely to adversely affect determination for the California red-legged frog and the Alameda whipsnake.

June 27, 2005: The Service received the *Niles Canyon (SR 84) Safety Widening Project Technical Memorandum for Listed Herpetofauna Occurrences and Effects* from Caltrans. This memorandum was submitted in response to the Service's January 2005, request for additional information.

August 2, 2005: The Service met with Caltrans to discuss the State Route 84, Niles Canyon Project at the Sacramento office of the Service.

August 11, 2005: John Cleckler of the Service met Caltrans and their consultants at the State Route 84, Niles Canyon Project site.

August 12, 2005: The Service sent Caltrans a request for additional project information via electronic mail.

August 25, 2005: The Service received an electronic mail from Caltrans in response to the Service's August 12, 2005, request for information.

September 6, 2005: The Service sent an additional request for information to Caltrans via electronic mail in response to information provided by Caltrans on August 25, 2005.

September 7, 2005: The Service sent a message to Caltrans via electronic mail expressing the need to consult on "maximum forcasted effects" should Caltrans wish to continue consultation without the final project description in regards to the bridge design at Stonybrook Creek.

September 13, 2005: The Service sent Caltrans the project description section from the draft biological opinion via electronic mail to review for accuracy.

September 14, 2005: The Service received additional information from Caltrans via electronic mail in response to select previous information requests.

September 16, 2005:	The Service received an electronic mail from Caltrans which included contact information for representatives of other Federal and State agencies involved in the State Route 84, Niles Canyon Project.
October 6, 2005:	The Service received additional information from Caltrans via electronic mail in response to select previous information requests.
October 14, 2005:	The Service received additional project description information from Caltrans via electronic mail along with a notice that the project was on hold due to potential project design changes.
October 18, 2005:	The Service informed Caltrans via electronic mail that critical habitat had been reproposed for the Alameda whipsnake.
October 19, 2005:	The Service received a letter from FHWA, dated October 7, 2005, requesting initiation of formal consultation for the California red-legged frog, the California tiger salamander, and the Alameda whipsnake. The letter was accompanied by additional copies of the September Biological Evaluation and the June 2005 Technical Memorandum; responses to the Services' August 12, 2005 request for additional information; and three associated reports prepared by Sam McGinnis in 2002.
January 4, 2006:	The Service received the final project description from Caltrans via electronic mail.
February 10, 2006:	The Service received an updated project effects map from Caltrans.
February 14, 2006:	The Service received verification of values provided for habitat loss from Caltrans via electronic mail.
March 14, 2006:	The Service received additional project description information from Caltrans via electronic mail.
March 17, 2006:	The Service received additional project description information from Caltrans via electronic mail.
March 16, 2006:	The Service received the species habitat compensation statement from Caltrans via electronic mail.

BIOLOGICAL OPINION

Description of Proposed Action

The State Route 84, Niles Canyon Project is intended to correct existing horizontal and vertical alignment deficiencies on SR 84 between the Rosewarnes Underpass (Bridge No. 33-0034), post mile (PM) 121 (kilometer post [KP] 19.5), and the Farwell Underpass (Bridge No. 33-0035), PM 13.3 (KP 21.4), in Alameda County, California.

This existing section of State Route 84 is an undivided, two-lane rural highway with narrow shoulders on a typically curving horizontal alignment through rolling terrain. The existing pavement width from the centerline to the edge of pavement typically measures between 11.8 and 15.7 feet (3.6 and 4.8 meters), yielding 11.81 feet (3.6 meter) lanes with up to 3.93 feet (1.2 meter) shoulders. The posted speed limit is 49.7 miles per hour (80 kilometers per hour) along most of State Route 84 within the project boundaries. The speed limit is reduced to 24.85 miles per hour (40 kilometers per hour) at non-standard horizontal curve locations.

Palomares Road is a two-lane County road, located between State Route 84 and Interstate 580, which passes through rolling terrain with minimal to nonexistent shoulders. At its intersection with State Route 84, Palomares Road widens to accommodate a right turn lane onto southbound State Route 84 and a left turn onto northbound State Route 84. Presently, State Route 84 does not have a protected turn pocket for northbound traffic turning left onto Palomares Road.

The purpose of the project is to: (1) improve sight distance and vertical clearances at Rosewarnes Underpass and Farwell Underpass; (2) widen existing shoulders to current standards; (3) relocate the Palomares Road / State Route 84 Intersection approximately 62.34 feet (19 meters) to the south; (4) provide a northbound left turn pocket on State Route 84 at Palomares Road, thereby reducing the accident rate for this corridor. The project will also include the bridge replacement at Stonybrook Creek that may enhance fish passage. These proposed construction activities are further described as follows.

According to Caltrans, the proposed approximately 7.69 acre (3.11 hectares) project footprint includes approximately 4.28 acres (1.73 hectares) of existing hardscape, approximately 1.34 acres (0.55 hectares) of permanent effects to non-hardscape land features, and approximately 2.07 acres (0.84 hectares) of temporary effects to non-hardscape land features. The 1.34 acres (0.55 hectares) of permanent effects will result from construction of hardscape features such as additional roadway, retaining walls, engineered drainages, and bridge installation. Areas of temporary effects are those that will be restored to pre-construction conditions following construction completion. These areas are expected to regain their previous habitat values within one year following restoration actions.

Clear and Grub

The objective of clearing and grubbing is to remove organic material that prevents successful compaction of soil around structures and pavement. The contractor's personnel will use cutting tools (e.g. chain saws) and loaders to remove vegetation from the action area prior to construction. The contractor will be responsible for properly disposing of any material hauled out of the action area.

Caltrans will install Environmentally Sensitive Area (ESA) fencing prior to clearing and grubbing, by hand to discourage construction workers, debris, and equipment from entering habitat outside the action area. Rootballs extending beyond the action area will be cut at the limit of excavation to minimize soil disturbance. Existing willows will be cut at ground level during vegetation clearing to promote rapid re-growth and the cuttings will be salvaged for future planting.

Rosewarnes Underpass

To improve sight distance and create standard shoulders and lanes under the Rosewarnes railroad overpass, Caltrans proposes to construct a new northbound lane around the existing column associated with the rail road overpass within the state right-of-way. The existing roadway will become the southbound lane with a standard-width shoulder. The design of the underpass includes construction of a new retaining wall between the existing roadway and Alameda Creek. Caltrans also proposes to lower the profile of the roadway in order to achieve standard vertical clearance through the Rosewarnes Underpass.

Construction of the concrete retaining wall will require a temporary access road between the wall and Alameda Creek. Excavation to the bottom of the retaining wall foundation will be performed by a scraper, excavator and / or motor grader. If needed, piles will be driven or drilled and poured to support the retaining wall. Concrete will be hauled in and poured or pumped into forms created by plywood, lumber, and reinforcing steel. The forms will be removed after the concrete cures and fill will be brought in to support the toe of the retaining wall. Backfill material will also be used to reestablish the grade for the stream bank, primarily above the ordinary high water mark of Alameda Creek.

Upon completion of the retaining walls, material will be compacted behind the retaining walls to form the sub-grade of the new roadway. The sub-base (a controlled mixture of rock, dirt and water) will be laid and compacted, and then asphalt concrete will be placed in layers and compacted. A reinforced concrete safety shape barrier with tubular steel bicycle railing will be placed on top of the creekside retaining walls. The safety shape barrier requires placement of reinforcing steel and steel mounting plates and bolts, placing formwork (plywood and lumber, aluminum or steel), pouring concrete, stripping forms, curing, texturing and colorizing concrete, and mounting tubular bicycle railing.

Niles Dam to Farwell Underpass

Caltrans plans to lower the existing road profile under the Farwell railroad overpass to meet standard vertical clearance requirements. In order to achieve this, Caltrans proposes to construct retaining walls on both sides of the existing roadway from north of the San Francisco Public Utilities Commission Niles Dam to the Farwell railroad overpass. The retaining walls are designed to facilitate roadway widening, which will provide standard shoulders, lane widths, and left turn channelization. Caltrans will build the southbound retaining wall into the hillside from the roadway for approximately 148 feet (45 meters). The northbound retaining wall, located between the existing roadway and Alameda Creek, will extend for approximately 1706 feet (520 meters).

Caltrans plans to install a soil nail wall for the southbound retaining wall. First, the hillside will be cut back at 1 horizontal to 10 vertical. Then holes will be drilled into the embankment for the soil nails. Nails with tension bars will be inserted into the holes and grout is pumped in to hold them in place. The wall is then created with a reinforcing steel framework and concrete. The completed retaining wall will be textured and stained to match existing features. The same method will be used to install the northbound retaining wall as described for the Rosewarnes Underpass.

State Route 84/Palomares Road Intersection

Caltrans proposes to relocate the State Route 84/Palomares Road intersection to the south by approximately 63 feet (19 meters) to create greater sight distance to oncoming vehicles (traveling southbound on State Route 84) for motorists turning onto southbound State Route 84 from Palomares Road. The relocation of the State Route 84/Palomares Road intersection will involve construction of a retaining wall between the realigned Palomares Road and Stonybrook Creek.

Safety improvements at the intersection will also include the addition of a northbound (or left) turn pocket on State Route 84 at Palomares Road. The turn pocket is intended to increase safety for motorists turning left off of northbound State Route 84 onto Palomares Road. The construction of the turn pocket will require additional widening of State Route 84 in this area.

Miscellaneous Drainage Facilities

Caltrans plans to replace several lateral culverts within the project limits with larger sized units. Other related drainage elements of the project include constructing drainage inlets, headwalls, endwalls, laterals, horizontal drains, and utility access openings in retaining walls as needed.

Drainage improvements will facilitate movement of stormwater from the roadway and side slopes to Alameda and Stonybrook creeks. Construction of these facilities will be within the roadway prism and will extend to slope protected outfalls at the base of the retaining walls adjacent to Alameda and Stonybrook creeks. The bulk of this work includes excavating trenches,

placing pipe and backfilling the trench to roadway sub-grade. Reinforced concrete drainage inlets and asphalt concrete dikes will be located to collect water at intervals along the roadway shoulder and to channel runoff into drainage pipes. The drainage pipes will be designed to outfall through the retaining walls prior to flowing in to Alameda and Stonybrook creeks. Erosion control measures will be incorporated into the outfall designs.

Bridge/Culvert Replacement at Stonybrook Creek

Caltrans plans to replace the existing 57 foot (17.5 meter) long reinforced box culvert, that serves as a bridge crossing for State Route 84 over Stonybrook Creek, with a clear span bridge. The new structure will provide capacity to meet design storm requirements and facilitate passage of fish between Alameda Creek and Stonybrook Creek. The new bridge is also designed to pass a higher design flow (100-year event), allow bedload transport through the site, reduce channel maintenance requirements, and respond to the creeks normal aggradations and degradation cycles.

Following construction, the bridge will be straighter than the existing skewed culvert alignment. The profile of the creek, including that under the bridge, will be graded to match the existing slopes both upstream and downstream of the crossing. The bridge will be designed to accommodate future changes to the creek profile (including scour). The vertical bridge abutments will be spaced wider than the active channel width to allow unimpeded bedload transport under the bridge. The regraded Stonybrook Creek channel bottom section will be shaped to resemble upstream channel sections. The bedding will be overlayed with local rock materials. A slight centerline depression in the channel section will allow for a low flow channel to form. While the bed will be allowed to aggrade or degrade over time, the creek slopes will be hardened as necessary to protect adjacent structures and embankments. The new bridge will permanently shade an additional 15 feet (4.5 meters) of Stonybrook Creek on the Alameda Creek side of State Route 84.

Cofferdams will be used where necessary to dry out workspaces within Alameda Creek and Stonybrook Creek. The upstream end of any cofferdam would be installed prior to installation of the downstream end. Any equipment used to transport water around and downstream of the construction zone, or used to pump water to baker tanks will be screened with fine enough mesh to avoid the intake of fish or other of wildlife. Any encountered groundwater or water seeping into a cofferdam will be temporarily held in the on-site contaminant removal devices such as Baker tanks to ensure the sediment level meets the regulatory standards before the water is discharged into Alameda Creek.

Proposed retaining wall construction will extend along Alameda Creek to the confluence with Stonybrook Creek and the proposed bridge over Stonybrook Creek. The contractor will construct the Alameda Creek retaining wall and the new bridge in the first stage, placing traffic behind K-rail in the existing southbound direction, and then build the roadway section behind the Alameda Creek retaining wall so as to move both lanes of traffic over to the new roadway section for stage

two. This will allow the contractor to complete the bridge construction on the upstream side in stage two. The work in both stages includes clearing and grubbing; removing manmade objects (i.e. the existing headwalls, retaining walls and slope paving); making subgrade for the various structures and elements; placing piles; reinforcing bar, formwork; pouring concrete; compacting soil; and finish grading. The equipment used to complete the bridge construction will likely include an excavator, hoe ram, backhoe, loader, manually operated, wheeled and /or tracked compactor, material handling trucks (pickup, flatbed truck with crane, end dump tractor trailer), concrete truck and tremmy. In-stream work will probably be limited to the use of an excavator or loader and a compactor(s) to prepare sub-grade and finish grades.

Approximately 14 new drainage culverts will also be placed under and across State Route 84 to replace existing damaged culverts. These new culverts will be placed approximately every 200 feet (60 meters) along the roadway and will be from 18 to 24 inches (46 to 61 centimeters) or more in diameter. The culvert outlets will have erosion protection treatments and energy dissipaters.

Bank Stabilization

Caltrans also plans to stabilize a portion of the Stonybrook Creek bank that has become unstable due to erosion, upstream of the culvert. Caltrans will stabilize a portion of the Stonybrook Creek bank, upstream of the new bridge. This activity is not related to the roadway improvement design. The proposed bank stabilization is intended to protect the integrity of Stonybrook Creek from an adjacent, private driveway. Erosion created by runoff from the private drive has created a situation that could eventually result in the collapse of the roadway into Stonybrook Creek. Stabilization is intended to minimize continued discharge of silt and debris into Stonybrook Creek.

Temporary Effects

According to Caltrans, project construction will result in approximately 2.07 acres (0.84 hectares) of areas defined by temporary effects. Construction of retaining walls along Alameda Creek and along the realigned Palomares Road will require temporary construction accesses and working benches to provide entry for contractor's personnel, equipment and materials. Temporary fill will be placed to build construction accesses, working benches and footings for retaining wall foundations. The working benches (including fill used to form the benches) within the Alameda Creek riparian corridor will be removed at the close of each construction season.

In Stonybrook Creek, demolition of the existing box culvert and construction of the bridge and retaining walls will require the contractor's personnel, equipment and materials to work directly on the creek bed. At the end of construction, the creek bed will be restored to its pre-construction condition.

Restoration

Caltrans plans to restore the contours and revegetate all areas of temporary effects in the action area. Before construction begins, the project site will be photographed to document the existing vegetation. The photos will serve as an aid for the revegetation design and implementation. Stream banks will be regraded to their pre-construction contours and secured to minimize erosion. Temporary workspaces within the Stonybrook Creek and Alameda Creek riparian corridors will be replanted with native trees and understory plant species including California sycamore (*Platanus racemosa*), alder (*Alnus* species), willow (*Salix* species), California bay (*Umbellularia californica*), and big leaf maple (*Acer macrophyllum*). Coast live oak (*Quercus agrifolia*) and California buckeye (*Aesculus californica*) will be planted at the outer edges of the riparian corridors. Removed riparian trees will be replaced at 3:1 and oak trees will be replaced at 5:1. A more detailed restoration and revegetation plan will be developed and submitted to the Service. The replanted areas will be monitored for a minimum of three years. Remedial actions will be taken as necessary to ensure plant survival.

Scheduling

Caltrans does not expect to phase the improvement activities but expects activities to proceed in the following order: (1) identification and delineation of Environmentally Sensitive Areas; (2) clearing and grubbing; (3) culvert installation and concrete retaining wall construction; (4) Stonybrook Creek bank stabilization, bridge construction, and fish passage improvements; (5) soil nail retaining wall construction; (6) roadway improvements; and (7) drainage improvements.

Caltrans expects project construction to follow a two-year time table that will roughly begin in December 2007 and be completed by December 2009. The two-year construction schedule includes seasonal restrictions in particular habitat areas as defined in Caltrans' proposed Avoidance and Protection Measures. Caltrans does expect to conduct nighttime construction.

Avoidance and Conservation Measures

According to information provided in the June 2005 Technical Memorandum, Caltrans proposes to avoid, minimize, and compensate for effects to listed fish species. These fish species are not under Service jurisdiction but the following associated measures likely will serve as effective conservation measures for the California red-legged frog and the Alameda whipsnake:

1. As a first order of work, Caltrans will install ESA fencing to ensure that construction workers, debris, and equipment do not enter aquatic habitat outside the described project footprint.

2. Construction within Alameda Creek and Stonybrook Creek will be limited to a June 15 to October 15, dry season work window.

3. An on-site biological monitor will be present during the cofferdam installation in Stonybrook Creek to minimize the potential for resident rainbow trout (*Oncorhynchus mykiss*) fingerlings that will be affected by the installation. Should a fingerling be encountered, a qualified biologist will flush the fish from the area of impact.

4. Caltrans will implement standard Best Management Practices (BMPs) that will be used to reduce pollutants in storm water discharges throughout construction. Dewatering may be necessary if ground water is encountered during excavation activities or if water is present in the work areas within Alameda Creek and Stonybrook Creek. Dewatering BMPs and temporary holding devices such as Baker Tanks will be included in the contract provisions. Grading of existing slopes will be minimized by retaining walls. Temporary silt fence, stockpile cover, and other temporary erosion and water pollution control measures will be utilized.

5. Caltrans will incorporate standard BMPs into the project design to reduce pollutants in storm water discharges during long-term operation of the new roadway features. The Permanent design pollution prevention BMPs are intended to improve storm water quality by reducing erosion, stabilizing disturbed soil areas, and maximizing vegetated surface.

6. Before construction begins, the project site will be photographed to document the existing vegetation. The photos will serve as an aid for the revegetation design and implementation. Stream banks will be regraded to their pre-construction contours and secured to minimize erosion. Temporary workspaces within the Alameda Creek and Stonybrook Creek riparian corridors will be replanted with native trees and understory plant species, including California sycamore, alder, willow, California bay, and big leaf maple. Coast live oak and California buckeye will be planted at the outer edges of the riparian corridors. Existing willows will be cut at ground level during vegetation clearing to promote rapid regrowth. A more detailed restoration and revegetation plan will be developed.

Avoidance and Protection Measures – Listed Species

According to the June 2005 Technical Memorandum, Caltrans proposes to avoid, minimize, and compensate for effects to listed species through the following measures:

Compensation

1. The permanent effects to 1.34 acres of California red-legged frog habitat will be compensated at 3:1 (3.99 acres [1.61 hectares]) with occupied California red-legged frog habitat. The permanent effects to 1.34 acres of Alameda whipsnake habitat will be compensated at 3:1 (3.99 acres [1.61 hectares]) with occupied Alameda whipsnake habitat.

2. The temporary effects to 2.07 acres (0.84 hectares) of California red-legged frog habitat will be compensated at 1.1:1 (2.28 acres [.092 hectares]) with occupied California red-legged frog habitat. The temporary effects to 2.07 acres (0.84 hectares) of Alameda whipsnake habitat will be compensated at 1.1:1 (2.28 acres [0.92 hectares]) with occupied Alameda whipsnake habitat.

3. Caltrans will seek a 1:1 credit (2.07 acres [0.84 hectares]) for temporary effects compensation through adequate on-site restoration of California red-legged frog and Alameda whipsnake habitat. In such an event, Caltrans will seek the remaining 0.1:1 (0.21 acres [0.08 hectares]) compensation with the purchase of appropriate credits at the Ohlone Preserve Conservation Bank.

4. Compensation for the permanent and temporary effects to both species will be satisfied through the purchase of 4.07 acres (1.65 hectares) of occupied habitat shared for the California red-legged frog and the Alameda whipsnake at the Ohlone Preserve Conservation Bank. Documentation of this purchase will be submitted to the Service a minimum of 60 days prior to the onset of construction.

California Red-Legged Frog

1. Seasonal Avoidance. Construction will be limited to the dry season from June 15 to October 15.

2. Construction Fencing. Exclusion fencing will be installed for any work occurring before June 15 or after October 15. The fence will consist of a taut silk fabric and will be a minimum of 24 inches (0.6 meters) tall, staked at ten-foot (3 meter) intervals, and buried 6 inches (15 centimeters) below grade, or sealed in a like manner to prevent incursion under the fence. The exclusion fence will be placed immediately outside the ESA fencing, and will be installed at an angle of 15 to 20 degrees away from the interior work areas.

3. Pre-construction Survey. A pre-construction survey will be conducted by a qualified biologist in the immediate area of construction and where equipment and construction activities will be located. The survey will consist of two consecutive day and two consecutive night surveys with the last survey occurring the night before the start of construction. Any encountered frogs will be moved outside the exclusion fencing and will be reported to the Service.

4. On-site Meeting with Construction Crew. Prior to construction, a biologist will educate construction workers about the California red-legged frog and how to avoid them. If a frog is detected during construction, work will halt and a qualified biologist will be called to identify the frog. If the frog is determined to be a California red-legged frog, the frog will be allowed to leave the site passively or the Service will be contacted to consult regarding take of the individual to remove it from the project area.

5. Construction Area Delineation and ESA Fencing. The boundaries of the project area will be clearly identified with ESA fencing to prevent workers or equipment from straying outside the project area. All construction personnel, equipment, and activities will be confined to designated construction and staging areas.

6. Location of Refueling and Staging Areas. All refueling, maintenance, and staging of equipment and vehicles will occur at least 60 feet (18.3 meters) from riverine habitat.

7. On-site Monitor. A qualified biologist will be present during initial ground disturbance within the riparian and riverine habitat of Alameda Creek and Stonybrook Creek. Construction activity will halt if a California red-legged frog is detected. The frog will be allowed to leave the site passively or the Service will be contacted to consult regarding translocation outside the project area. After initial ground disturbance is completed, the Resident Engineer, or their designee, will monitor on-site compliance with all avoidance measures.

8. Dewatering of Workspace. As needed, workspaces within Alameda Creek and Stonybrook Creek will be dewatering using cofferdams. Water seeping into the workspaces will be pumped into Baker tanks located outside the ordinary high water level to allow sediment to settle out before the water is returned to the creek. Pump intakes will be fitted with 0.2 inch (0.5 centimeters) or less wire mesh screens to prevent California red-legged frogs from entering the pump system. A qualified biologist will monitor the initial dewatering of these areas. Dewatering activity will halt if a California red-legged frog is detected within the work area. Frogs will be allowed to leave the site passively or the Service will be contacted to consult regarding translocation outside the project area.

Alameda Whipsnake

1. Pre-construction Survey. A pre-construction survey will be conducted by a qualified biologist in the immediate area of construction and where equipment and construction activities will be located. Any encountered snakes will be allowed to leave the site passively or the Service will be contacted to consult regarding translocation outside the project area.

2. On-site Meeting with Construction Crew. Prior to construction, a biologist will educate construction workers about the Alameda whipsnake and how to avoid them. If a snake is detected during construction, work will halt and a qualified biologist will be called to identify the snake. If the snake is determined to be an Alameda whipsnake, the snake will be allowed to leave the site passively or the Service will be contacted to consult regarding translocation outside the project area.

3. Construction Area Delineation and Exclusion Fencing. The boundaries of the project area will be clearly delineated with ESA fencing to prevent workers or equipment from entering adjacent potential Alameda whipsnake habitat. All construction personnel, equipment, and activities will be confined to designated construction and staging areas. A qualified biologist will perform a clearance survey as vegetation is hand-cleared from the project area. The biologist will have the authority to halt all activities until an encountered snake is out of the area. Snake exclusionary fencing will be placed immediately outside the ESA fencing. The exclusionary fencing, consisting of 4 x 8 foot (1.2 x 2.4 meter) Stand Board or plywood panels set lengthwise, supported by metal fence posts, and buried 6 inches below grade, or sealed in a like manner to prevent incursion under the fence. This fencing will be installed at an angle of 15 to 20 degrees away from the interior work areas to prevent snakes from entering the construction area. Additional fencing may also be necessary along the creek side of the construction zone, but the decision by a qualified biologist as to the exact positioning of the fence can only be made once the contractor is on site and all work spaces are defined within the described action area.

STATUS OF SPECIES/ENVIRONMENTAL BASELINE

California Red-Legged Frog

The red-legged frog was listed as a threatened species on May 23, 1996 (Service 1996). Please refer to the final rule and the *Recovery Plan for the California Red-Legged Frog (Rana aurora draytonii)* (Service 2002b) for additional information on this species.

This species is the largest native frog in the western United States (Wright and Wright 1949), ranging from 1.5 to 5.1 inches (3.81 to 12.95 centimeters) in length (Stebbins 2003). The abdomen and hind legs of adults are largely red, while the back is characterized by small black flecks and larger irregular dark blotches with indistinct outlines on a brown, gray, olive, or reddish background. The California red-legged frog has dorsal spots that usually have lighter centers (Stebbins 2003) and they also have distinctive dorsolateral folds that start near the eye and run the length of their body. Larvae (tadpoles) range from 0.6 to 3.1 inches (1.52 to 7.87 centimeters) in length, with a dark brown body with yellow with darker spots (Storer 1925). Red-legged frogs have paired vocal sacs and vocalize in air (Hayes and Krempels 1986).

Red-legged frogs typically breed from November through March, although there are earlier breeding records reported for the southern localities (Storer 1925). Individuals occurring in coastal drainages are active year-round (Jennings *et al.* 1992), whereas those found in interior sites are normally less active during the cold season. Female frogs deposit egg masses on emergent vegetation, allowing the eggs to float on the surface of the water (Hayes and Miyamoto 1984).

The historic range of the red-legged frog once extended coastally from the vicinity of Elk Creek in Mendocino County, California, and inland from the vicinity of Redding, Shasta County, California, southward to northwestern Baja California, Mexico (Fellers 2005; Jennings and Hayes 1985; Hayes and Krempels 1986). The red-legged frog was historically documented in 46 counties but the taxa is now thought to remain in 238 streams or drainages within 23 counties. This represents a loss of approximately 70 percent of its former range (Service 2002b). Red-legged frogs are still locally, and relatively, abundant within portions of the San Francisco Bay area and the Central Coast. Within the remaining distribution of the species, only isolated populations have been documented in the Sierra Nevada, northern Coast, and northern Transverse ranges. The species is believed to be extirpated from the southern Transverse and Peninsular ranges, but is still present in Baja California, Mexico (CDFG 2004).

Adult red-legged frogs prefer dense, shrubby or emergent riparian vegetation, closely associated with deep (>2.3 feet [0.7 meters]), still, or slow-moving water (Hayes and Jennings 1988). However, this species also have been found in ephemeral creeks and drainages and in ponds that may or may not have associated riparian vegetation. The largest densities of red-legged frogs are currently associated with deep pools with dense stands of overhanging willows (*Salix* species) and an intermixed fringe of cattails (*Typha latifolia*) (Jennings 1988). Red-legged frogs disperse upstream and downstream of their breeding habitat to forage and seek sheltering habitat.

During other parts of the year, California red-legged frog habitat includes nearly any area that stays moist and cool through the summer within 1-2 miles (1.6-3.2 kilometers) of a breeding site (Fellers 2005). According to Fellers (2005), this can include vegetated areas with coyote bush (*Baccharis pilularis*), California blackberry thickets (*Rubus ursinus*), and root masses associated with willow (*Salix* species) and California bay trees (*Umbellularis californica*). Sometimes the non-breeding habitat used by red-legged frogs is extremely limited in size. For example, non-breeding red-legged frogs have been found in a 6-foot (1.8-meter) wide coyote bush thicket growing along a tiny intermittent creek surrounded by heavily grazed grassland (Fellers 2005). Sheltering habitat for red-legged frogs is potentially all aquatic, riparian, and upland areas within the range of the species. This includes any landscape features that provide cover, such as existing animal burrows, boulders or rocks, organic debris such as downed trees or logs, and industrial debris. Sheltering red-legged frogs have also been found in agricultural features such as drains, watering troughs, spring boxes, abandoned sheds, or hay stacks. Incised stream channels sections narrower and deeper than 18 inches (45.7 centimeters) also may provide important summer sheltering habitat. Accessibility to sheltering habitat is essential for the

survival of red-legged frogs within a watershed, and can be a factor limiting frog population numbers and survival.

Red-legged frogs do not have a distinct breeding migration (Fellers 2005). Adult frogs are often associated with permanent bodies of water. Some frogs remain at breeding sites all year while others disperse. Dispersal distances are typically less than 0.5 mile (0.8 kilometers), however some individuals have been known to move up to 2 miles (3.2 kilometers) (Fellers 2005). Movements are typically along riparian corridors, but some individuals, especially on rainy nights, move directly from one site to another through normally inhospitable habitats, such as heavily grazed pastures or oak-grassland savannas (Fellers 2005). In one study, dispersing frogs in northern Santa Cruz County were found to travel distances from 0.25 miles (0.4 kilometers) to more than 2 miles (3.2 kilometers) without apparent regard to topography, vegetation type, or riparian corridors (Bulger *et al.* 2003).

Egg masses typically consist of 2,000 to 5,000 moderate sized (0.08 to 0.11 inches [0.2 to 0.3 centimeters] in diameter), dark reddish-brown eggs and are typically attached to vertical emergent vegetation, such as bulrushes (*Scirpus* species) or cattails (Jennings *et al.* 1992). Red-legged frogs are often prolific breeders, and typically lay their eggs during or shortly after large rainfall events in late winter and early spring (Hayes and Miyamoto 1984). Eggs typically hatch in 6 to 14 days (Jennings 1988). In coastal lagoons, the most significant mortality factor in the pre-hatching stage is water salinity (Jennings *et al.* 1992). Exposure to salinity levels greater than 4.5 parts per thousand results in 100 percent egg mortality (Jennings and Hayes 1990). Increased siltation during the breeding season can cause asphyxiation of eggs and small larvae. Larvae undergo metamorphosis 3.5 to 7 months after hatching (Storer 1925; Wright and Wright 1949; Jennings and Hayes 1990). Of the various life stages, larvae probably experience the highest mortality rates, with less than 1 percent of eggs laid reaching metamorphosis (Jennings *et al.* 1992). Sexual maturity normally is reached at 3 to 4 years of age (Storer 1925; Jennings and Hayes 1985). Red-legged frogs may live 8 to 10 years (Jennings *et al.* 1992). Populations of red-legged frogs fluctuate from year to year. When conditions are favorable red-legged frogs can experience extremely high rates of reproduction and thus produce large numbers of dispersing young, as well as a concomitant increase in the number of occupied sites. In contrast, red-legged frogs may temporarily disappear from an area when conditions are stressful (*e.g.*, drought).

The diet of red-legged frogs is highly variable. Hayes and Tennant (1985) found invertebrates to be the most common food items. According to their data, vertebrates, such as Pacific tree frogs (*Pseudacris regilla*) and California mice (*Peromyscus californicus*), represented over half the prey mass eaten by larger frogs (Hayes and Tennant 1985). Hayes and Tennant (1985) found juvenile frogs to be active diurnally and nocturnally, whereas adult frogs were largely nocturnal. Feeding activity probably occurs primarily along the shoreline and on the surface of the water (Hayes and Tennant 1985). The diet of red-legged frogs is not well studied, but their diet is likely similar to other ranid frogs that feed on algae, diatoms, and detritus by grazing on the surface of rocks and vegetation (Fellers 2005; Kupferberg 1996a, 1996b).

Several researchers in central California have noted the decline and eventual disappearance of red-legged frog populations once bullfrogs (*Rana catesbeiana*) became established at the same site (L. Hunt, in litt. 1993; S. Barry, in litt. 1992; S. Sweet, in litt. 1993). This has been attributed to predation, competition, and reproduction interference. Twedt (1993) documented bullfrog predation of juvenile northern red-legged frogs (*Rana aurora aurora*), and suggested that bullfrogs could prey on subadult northern red-legged frogs as well. Bullfrogs may also have a competitive advantage over red-legged frogs. For instance, bullfrogs are larger and possess more generalized food habits (Bury and Whelan 1984). In addition, bullfrogs have an extended breeding season (Storer 1933) during which an individual female can produce as many as 20,000 eggs (Emlen 1977). Further more, bullfrog larvae are unpalatable to predatory fish (Kruse and Francis 1977). Bullfrogs also interfere with red-legged frog reproduction. Both California and northern red-legged frogs have been observed in amplexus (mounted on) with both male and female bullfrogs (Jennings and Hayes 1990; Twedt 1993; M. Jennings, in litt.1993; R. Stebbins in litt. 1993). Thus bullfrogs are able to prey upon and out-compete red-legged frogs, especially in sub-optimal habitat. Other species such as red swamp crayfish (*Procambarus clarkii*), signal crayfish (*Pacifastacus leniusculus*), and several species of warm water fish including sunfish (*Lepomis* species), goldfish (*Carassius auratus*), common carp (*Cyprinus carpio*), and mosquitofish may also contribute to the decline of red-legged frog populations (L. Hunt, in litt. 1993; S. Barry, in litt. 1992; S. Sweet, in litt. 1993).

The urbanization of land within and adjacent to red-legged frog habitat has also adversely affected red-legged frogs. These declines are attributed to channelization of riparian areas, enclosure of the channels by urban development that blocks red-legged frog dispersal, conversion and isolation of perennial pool habitats, and the introduction of predatory fishes and bullfrogs. The California red-legged frog may be susceptible to many of the same pathogens, fungi, water mold, bacteria, and viruses have been known to adversely other amphibian species. Chytridiomycosis and ranaviruses may be a particular developing concern for California red-legged frog populations. Mao *et al.* (1999 cited in Fellers 2005) reported northern red-legged frogs infected with an iridovirus, which was also present in sympatric three-spined sticklebacks (*Gasterosteus aculeatus*) in northwestern California. Ingles (1932a, 1932b, and 1933 cited in Fellers 2005) reported four species of trematodes from red-legged frogs, but he later synonymized two of them (found them to be the same as the other two). Nonnative species, such as bullfrogs, are located within the range of the California red-legged frog and have been identified as potential carriers of these diseases. Human activities can facilitate the spread of disease by encouraging the further introduction of non-native carriers and by acting as carriers themselves (i.e. contaminated boots or fishing equipment). Human activities can also introduce stress by other means, such as habitat fragmentation, that results in red-legged frogs being more susceptible to the effects of disease. Disease will likely become a growing threat because of the relatively small, fragmented remaining California red-legged frog breeding sites; the many stresses on these sites due to habitat losses and alterations; and the many other potential disease-enhancing anthropogenic changes which have occurred both inside and outside the species' range.

The recovery plan for red-legged frogs identifies eight Recovery Units (Service 2002b). The establishment of these Recovery Units is based on the Recovery Team's determination that various regional areas of the species' range are essential to its survival and recovery. The status of the red-legged frog will be considered within the smaller scale of Recovery Units as opposed to the overall range. These Recovery Units are delineated by major watershed boundaries as defined by U.S. Geological Survey hydrologic units and the limits of the range of the California red-legged frog. The goal of the draft recovery plan is to protect the long-term viability of all extant populations within each Recovery Unit. Within each Recovery Unit, core areas have been delineated and represent contiguous areas of moderate to high red-legged frog densities that are relatively free of exotic species such as bullfrogs. The goal of designating core areas is to protect metapopulations that, combined with suitable dispersal habitat, will allow for the long term viability within existing populations. This management strategy will allow for the recolonization of habitat within and adjacent to core areas that are naturally subjected to periodic localized extinctions, thus assuring the long-term survival and recovery of red-legged frogs.

The State Route 84, Niles Canyon Project is located within the East San Francisco Bay Recovery Unit, which extends from the northernmost portion of Contra Costa County, and includes a portion of San Joaquin County south to Santa Clara County, the eastern portion of San Mateo County, and all of San Francisco County (Service 2002b). This recovery unit is essential to the survival and recovery of the California red-legged frog, as it contains the largest number of occupied drainages in the northern portion of its range. Within this recovery unit, the frog appears to have been nearly eliminated from the western lowland areas near urbanization. However, they still occur in isolated populations in the East Bay Foothills (between Interstate 580 and Interstate 680), and are abundant in several areas in the eastern portions of Alameda and Contra Costa counties. Contra Costa and Alameda counties contain the majority of known California red-legged frog localities within the eastern San Francisco Bay area. The eastern and western edges of this area are heavily urbanized and the northern and southern edges are bounded by major highways. However, the Niles Canyon portion of State Route 84, between Sunol and Niles Junction, is largely undeveloped and parallels Alameda Creek. Alameda Creek is one of the defining hydrologic basins in the recovery unit and provides connectivity between several documented red-legged frog populations. Overall, there is a connection between red-legged frog populations in the foothills of central Alameda and Contra Costa Counties and the populations found in eastern Alameda County. Current survey data is inadequate in determining red-legged frog activity in the State Route 84, Niles Canyon Project vicinity however the species historically bred in several ponds and drainages within Garin/Dry Creek Regional Park, Pleasanton Ridge Regional Park, and Sinbad Creek.

There are several documented California red-legged frog observations within 5 miles (8 kilometers) of the action area and areas that are hydrologically connected to the aquatic habitat within the action area (CDFG 2005; Caltrans 2005). California red-legged frogs were not observed during 2002 protocol surveys conducted for the State Route 84, Niles Canyon Project (Caltrans 2004). However, Alameda Creek, Stonybrook Creek, and the associated riparian habitat within and adjacent to the action area was identified as likely California red-legged frog

dispersal and foraging habitat in a June 2005 technical memorandum (Caltrans 2005) and during an August 11, 2005 field visit with the Service (personal communication from J. Wilkenson, H.T. Harvey and Associates to J. Cleckler, Service). Habitat for this listed species occurs along the entire State Route 84, Niles Canyon Project corridor. The presence of predators such as bullfrogs and largemouth bass (*Micropterus salmoides*) does not necessarily preclude California red-legged frog from the local areas of Alameda Creek, Stonybrook Creek, or the associated riparian and adjacent upland habitat. Adult California red-legged frogs are highly mobile and may move considerable distances from their breeding ponds. California red-legged frogs have been documented to move more than 2 miles (3.2 kilometers). Areas containing aquatic and upland habitat exist within and adjacent to the action area (Caltrans 2005; Cleckler personal observation, August 2005). The action area contains components that can be used by the California red-legged frog for feeding, resting, mating, movement corridors, and other essential behaviors. Therefore, the Service believes that the California red-legged frog is reasonably certain to occur within the action area because of the biology and ecology of the animal, the presence of suitable habitat in and adjacent to the action area, as well as local observations of this listed species.

Alameda Whipsnake

The Alameda whipsnake was federally listed as threatened on December 5, 1997, (Service 1997). Approximately 406,598 acres (164,545 hectares) of critical habitat was designated for the Alameda whipsnake within Contra Costa, Alameda, Santa Clara, and San Joaquin counties on October 3, 2000 (Service 2000). The critical habitat was vacated and remanded on May 9, 2003. Critical habitat was proposed again for the Alameda whipsnake on October 18, 2005, (Service 2005a). A draft Alameda whipsnake recovery plan was included in the *Draft Recovery Plan for Chaparral and Scrub Community Species East of San Francisco Bay, California*, issued in November 2002 (Service 2002a).

The Alameda whipsnake is a slender, fast-moving, diurnal snake with a narrow neck and a relatively broad head with large eyes. The snake's dorsal surface is sooty black with distinct yellow-orange stripes along each side. The coloration of the snake's ventral surface varies along its length: the anterior portion is orange-rufous; the midsection is cream colored; and the posterior and tail are pinkish. Adults range in length from 3 to 4 feet (0.9 to 1.2 meters) (Service 1997).

The Alameda whipsnake is one of two subspecies of California whipsnake (*Masticophis lateralis*). The Alameda whipsnake is distinguished from the other subspecies, the chaparral whipsnake (*M. l. lateralis*), by its sooty black dorsum; wider lateral yellow-orange stripes; the lack of a dark line across the rostral; an uninterrupted light stripe between the rostral and eye; and the virtual absence of spotting on the venter of the head and neck.

The Alameda whipsnake inhabits the inner Coast Ranges in western and central Contra Costa and Alameda counties (Jennings 1983; McGinnis 1992; Swaim 1994) where it is found in a

variety of vegetation communities including chamise-redshank chaparral, mixed chaparral, coastal scrub, annual grassland, blue oak-foothill pine, blue oak woodland, coastal oak woodland, valley oak woodland, eucalyptus, redwood, and riparian (CDFG 1988).

Scrub and chaparral communities are the primary habitat types essential for providing space, food, and cover necessary to sustain all life stages of the Alameda whipsnake. Associated scrub habitat typically consists of Diablan sage scrub, coyote bush scrub, and chamise chaparral (Swaim 1994), and is also classified as coastal scrub, mixed chaparral, and chamise-redshank chaparral (CDFG 1988). Swaim (1994) found that core scrub habitat areas (areas of concentrated use by Alameda whipsnakes, based on telemetry and trapping data) tended to occur on east, southeast, south or southwest facing slopes and were within 500 feet (152.4 meters) of open or partially-open canopy or grassland habitat. Alameda whipsnakes have also been found in open chaparral stands with a northern exposure (K. Swaim, Swaim Biological Consulting, personal communication with the Service 2004). As a result of incidental observations and trapping surveys, Alameda whipsnakes have been discovered greater than 600 feet (182.9 meters) and as much as 21,600 feet (6.6 kilometers) from primary scrub and chaparral habitat (K. Swaim, Swaim Biological Consulting, personal communication with the Service 2004).

Alameda whipsnakes are also known to use other habitat types adjacent to their primary scrub and chaparral habitat. McGinnis (1992) has documented Alameda whipsnakes using oak woodland/grassland habitat as a corridor between stands of northern coastal scrub. Grassland habitats appear to be used extensively by male Alameda whipsnakes during the spring mating season (Swaim 1994). Females appear to use these grassland areas more extensively after mating (Swaim 1994), possibly looking for suitable egg-laying sites or for dispersing to other scrub habitat (K. Swaim, Swaim Biological Consulting, personal communication with the Service, 2002). Egg-laying sites have been found close to scrub communities in grasslands with scattered shrubs (Swaim 1994) and in true scrub communities (K. Swaim, Swaim Biological Consulting, personal communication with the Service, 2002). These other habitat areas may be important in the early life history stages of hatchling whipsnakes (Swaim 1994). Rock outcrops, talus, and burrows (mating habitats) need to be within dispersal range of scrub and grassland habitat (egg-laying habitats). Swaim (1994) also observed Alameda whipsnakes mating in rock outcrops.

Alameda whipsnakes require plant canopy covers that supply a suitable range of temperatures, corridors of plant cover and retreats (including rock outcrops) sufficient to provide dispersal pathways between areas of habitat, and plant community patches of sufficient size to prevent the deleterious effects of isolation, such as inbreeding or the loss of a subpopulation due to a catastrophic event. Specific habitat features used by Alameda whipsnakes include, but are not limited to, small mammal burrows, rock outcrops, talus, soil crevices, debris piles, and other forms of cover to provide temperature regulation, shelter from predators, egg-laying sites, and winter hibernaculum (Swaim 1994). Adequate insect populations are also necessary to sustain their primary lizard prey populations.

Survey data suggests that the Alameda whipsnake exhibits a bimodal season activity pattern with peak activity in the spring and late summer/early fall (Swaim 1994). Male Alameda whipsnakes appear to be more active than females in the spring, which is likely attributed to breeding season behavior (Swaim 1994). The breeding season is thought to be between March and June, and mating appears to typically occur near the female's hibernacula (Swaim 1994). During the mating season, females likely remain near their retreat sites while males disperse throughout their home ranges. In one study, Swaim (1994) estimated a mean individual home range size for four males was 13.6 acres (5.5 hectares), and 8.4 acres (3.4 hectares) for two females. Gravid female Alameda whipsnakes likely lay eggs between May and July (Stebbins 2003). Clutch sizes are typically between 6 to 11 eggs and the young hatch and emerge in the late-summer to early-fall (Swaim 1994). Male and female snakes appear to exhibit similar movement and activity patterns following the breeding season (Swaim 1994). Increases in late summer/early fall activity may be attributed to emergence of hatchling whipsnakes and the increased availability of hatchling lizard prey (Swaim 1994). Alameda whipsnakes typically retreat into winter hibernacula in November and emerge in March.

Alameda whipsnake above-ground activity cycles appear to be highly temperature dependent. Alameda whipsnakes have the highest documented mean active body temperature (92.1 degrees Fahrenheit [33.4 degrees centigrade]) and degree of body temperature stability (stenothermy) than other snake species under natural conditions (Swaim 1994). Maintenance of such a high body temperature likely enables the snake to capture its characteristically fast-moving prey (Swaim 1994). Open and partially open and/or low growing shrub communities provide a mosaic of sunny and shady areas that apparently allow the snake to effectively maintain sufficient body temperature while providing cover from potential predators (Swaim 1994).

The Alameda whipsnake is an active diurnal predator and hunts by holding its head high off the ground to peer over vegetation or rocks for potential prey. This foraging strategy corresponds with the open habitat with which this species is typically associated with (Swaim 1994). Its diet includes lizards, skinks, frogs, small mammals, snakes, nesting birds, and insects. Features such as small mammal burrows, rock outcrops, and talus provide important habitat components such as shelter from predators, egg-laying sites, over-night retreats, and winter hibernacula (Swaim 1994). Their lizard prey is often abundant in these areas as well. Lizards, especially the western fence lizard (*Sceloporus occidentalis*), appear to be the Alameda whipsnake's primary prey item (Stebbins 2003; Swaim 1994).

Urban development has fragmented the once contiguous range of the Alameda whipsnake into the following five population centers: (1) the Tilden-Briones population (Sobrante Ridge, Tilden/Wildcat Regional Parks to the Briones Hills, in Contra Costa County); (2) the Oakland-Las Trampas population (Oakland Hills, Anthony Chabot area to Las Trampas Ridge, in Contra Costa County); (3) the Hayward-Pleasanton Ridge population (Hayward Hills, Palomares area to Pleasanton Ridge, in Alameda County); (4) the Mount Diablo-Black Hills population (Mount Diablo vicinity and the Black Hills, in Contra Costa County); and (5) the Sunol-Cedar Mountain population, (Wauhab Ridge, Del Valle area to the Cedar Mountain Ridge) (Service 1997).

Habitat fragmentation appears to have resulted in little to no gene flow or interchange between the five populations. Interchange between the Tilden-Briones, Oakland-Las Trampas, and Hayward-Pleasanton Ridge populations appears to depend on dispersal over the Caldecott Tunnel in Contra Costa County; under State Route 580 in Alameda County (at the Eden Canyon interchange); under the Dublin Boulevard undercrossing; or where San Lorenzo Creek passes under the highway (Service 1997). Interchange between the Hayward-Pleasanton Ridge and Sunol-Cedar Mountain populations depends on dispersal along Alameda Creek in Alameda County; crossing under I-680 (where the creek passes under the highway); or crossing under the highway at Scott's Corner along Vallecitos Creek, or where two unnamed tributaries to Arroyo de la Laguna cross under I-680 north of Scott's Corner (Service 1997). The Mount Diablo-Black Hills population appears to be completely isolated from the other populations (Service 1997).

Habitat fragmentation makes some Alameda whipsnake populations more vulnerable to extinction. Habitat patches with high edge to interior ratios are known to provide less value for some species than round or square patches (Jimerson and Hoover 1991; Saunders *et al.* 1991). In general, the species most prone to extinction in fragmented habitats are those that depend on native vegetation; require combinations of different habitat types; require large territories; and exist at low densities (Saunders *et al.* 1991). Alameda whipsnakes have been associated with a variety of habitats for different natural history functions. They are primarily associated with native Diablan sage scrub, but are known to forage in adjacent grasslands, and migrate along riparian corridors. Consistent low trap success and high recapture rates suggests Alameda whipsnakes may be sparse, even in suitable habitat (Swaim 1994). The combination of these factors may cause the Alameda whipsnake to be more vulnerable to extinction in small habitat patches resulting from habitat fragmentation.

Small populations with limited breeding partners are prone to inbreeding which often results in problems associated with the lack of genetic diversity (Frankham 1998). Populations with less genetic variability or more deleterious genetic material are typically less able to successfully respond to environmental stresses or adapt to even relatively minor changes in environmental conditions. These factors influence the survivability of smaller, genetically isolated populations.

The Alameda whipsnake has a variety of potential native and exotic predators including California kingsnake (*Lampropeltis getula californiae*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), opossum (*Didelphis virginianus*), coyote (*Canis latrans*), gray fox (*Vulpes cinereoargenteus*), red fox (*V. vulpes*), and red-tailed hawk (*Buteo jamaicensis*). Urbanization often facilitates the introduction or spread of non-native predators (Goodrich and Buskirk 1995). Increased predatory pressure may become excessive in situations where Alameda whipsnake habitat is fragmented, isolated, and otherwise degraded by human activities. This may be especially true where alien species, such as rats, feral pigs (*Sus scrofa*), and feral and domestic cats (*Felis domesticus*) and dogs (*Canis familiaris*) are present. These additional threats become particularly acute where urban development immediately adjacent to Alameda whipsnake habitat. A growing movement to maintain feral cats in parklands, such as those managed by East Bay Regional Park District, is a potential threat to a variety of wildlife species (Coleman *et al.* in litt.

1997; Roberto 1995; DelVecchio 1997). Little is known about the predation of Alameda whipsnakes, but feral cats are known to prey on reptiles, including the yellow racer (*Coluber mormon*), a fast, diurnal snake similar to the Alameda whipsnake (Hubbs 1951; Stebbins 2003). The threat of predation and harassment from domestic and feral cats and other non-native species increases as human disturbance from recreational use on regional and state parks, and urban development encroaches into the current open space buffers between existing developments and Alameda whipsnake habitat on public lands (Coleman *et al.* in litt. 1997).

McGinnis (1992) has suggested that grazing has impacted Alameda whipsnake habitat in many areas east of the Coast Range. Livestock grazing that significantly reduces or eliminates shrub and grass cover can be detrimental to this snake. Many snake species, including the Alameda whipsnake, likely avoid such open areas due to increased danger from predators and lack of prey (McGinnis 1992). Removed native vegetation is often replaced by non-native plant species that significantly degrade habitat values or even replace entire plant communities such that it no longer provides appropriate habitat for the Alameda whipsnake. For instance, radio telemetry data indicates that Alameda whipsnakes tend to avoid dense stands of eucalyptus (Swaim 1994).

The Alameda whipsnake is directly and indirectly threatened by the effects of fire suppression. Fire suppression results in a buildup of fuel (underbrush, thatch, and woody debris). This exacerbates the effects of wildfires by creating conditions for hot, slow-moving fires. The development of a closed scrub canopy also results in a buildup of flammable fuels over time (Parker 1987; Rundel *et al.* 1987). Fire suppression can also result in the spread and proliferation of non-native vegetation, further increasing flammable fuel loads in and around Alameda whipsnake habitat. The threat of wildfire is typically highest in the summer and early fall when accumulated fuel is abundant and dry. This "fire season" coincides with the primary above-ground activity period for hatchling and adult Alameda whipsnakes (Swaim 1994). Therefore, populations are likely to sustain heavy losses from fires during this period.

Changes in the vegetation structure typically results in changes to the micro-climate temperature regime important in maintaining the Alameda whipsnake's high optimal body temperature. For instance, fire suppression may result in increased canopy closure and shading (Parker 1987) from plant species such as poison oak (*Toxicodendron diversilobum*) and coyote brush (*Baccharis pilularis*). Increased vegetative cover can result in ground temperatures that are less than optimal for the Alameda whipsnake. Survey data suggests that Alameda whipsnakes are less likely to be found in areas of scrub habitat with a closed canopy (Swaim 1994).

Encroaching urban development has lead to the implementation of rigorous fire suppression practices in and around adjacent suitable Alameda whipsnake habitat. Frequent fire events are important in maintaining the scrub habitat associated with the Alameda whipsnake. Many native coastal scrub and chaparral plant species require periodic fires to stimulate new sprouting, seedling recruitment, and seed dispersal (Parker 1987; Keeley 1987; Keeley 1992). The optimal frequency of fire events is often disputed but likely ranges from every 10 to 30 years (Keeley 1987; Rundel *et al.* 1987). Depending on the rate of fuel accumulation, any prescribed burn

program should take place every 10 to 30 years (J. Ferreira, California Department of Parks and Recreation, personal communication with the Service 1996).

All five remaining populations of the Alameda whipsnake are threatened by a variety of factors. Each of these populations consists of several to numerous subpopulations with varying degrees of connectivity between them. In the western portion of the species' range, the Tilden-Briones population is threatened by a high potential for catastrophic wildfire and urban development. However, the remaining habitat, regional parklands, and municipal watersheds within this area overlap to the extent that a regional preserve may be possible. The Oakland-Las Trampas population is threatened by a high potential for catastrophic wildfire and the negative effects associated with habitat fragmentation and urban development. The Hayward-Pleasanton Ridge population, who's distribution includes the State Route 84, Niles Canyon Project action area, may be the most susceptible to extirpation. This population is scattered in distribution and is, therefore, more vulnerable to the effects of development and subsequent habitat fragmentation. The Mount Diablo-Black Hills population, in the eastern portion of the species' range, is threatened by a high potential for catastrophic wildfire, development and its associated impacts, and inappropriate grazing practices. If threats associated with urbanization can be controlled, this population is a good candidate for recovery, due to the inclusion of public lands and the potential for improved fire and grazing management on parklands. The Sunol-Cedar Mountain population is threatened by development and inappropriate grazing practices. Overall, the Oakland-Las Trampas and Hayward-Pleasanton Ridge populations are the most immediately imperiled with habitat fragmentation becoming prevalent enough to compromise its long-term viability.

Seven recovery units have been identified for the Alameda whipsnake (Service 2002a). The State Route 84, Niles Canyon Project is located within the Niles Canyon-Sunol Corridor Unit (Unit 7). The unit's northern boundary is defined by State Route 84 and Alameda Creek. The Hayward-Pleasanton Ridge Unit (Unit 3) is located immediately north of the project action area and State Route 84. The Niles Canyon-Sunol Corridor Unit connects the Hayward-Pleasanton Ridge and the Sunol-Cedar Mountain populations. This corridor is completely within Alameda County on land predominately owned by East Bay Regional Park District (Vargas Plateau) and San Francisco Public Utility watershed lands (Alameda Watershed). The Alameda whipsnake recovery plan encourages the development of safe passage across Niles Canyon Road/ State Route 84 by removing barriers and constructing "snake friendly" undercrossings.

Focused Alameda whipsnake surveys and trapping efforts were not completed for the State Route 84, Niles Canyon Project. McGinnis (2002) conducted a site assessment of the project area and concluded that the Alameda whipsnake is likely to occur in the action area based on presence of suitable coastal scrub habitat and abundance of prey items (northern fence lizards). Therefore, the Service believes that the Alameda whipsnake is reasonably certain to occur in the action area because of the known distribution of the animal, its biology and ecology, and the presence of suitable habitat in and adjacent to the action area.

Alameda Whipsnake Proposed Critical Habitat

On October 18, 2005, the final rule determining proposed critical habitat for the Alameda whipsnake was published in the Federal Register (Service 2005a). The proposed rule identifies approximately 203,342 acres (82,290 hectares) within six critical habitat units based on three primary constituent elements: (1) scrub/shrub communities with a mosaic of open and closed canopy; (2) woodland or annual grassland plant communities contiguous to lands containing primary constituent element 1; and (3) lands containing rock outcrops, talus, and small mammal burrows.

Section 7 requires Federal agencies to confer with the Service on any action that is likely to result in destruction or adverse modification of proposed critical habitat. Therefore, this opinion includes a formal conference opinion for proposed Alameda whipsnake critical habitat within the State Route 84, Niles Canyon Project action area. The conference opinion is prepared according to 50 CFR 402.14, as if critical habitat was designated and provides conservation recommendations to assist Federal Highways and Caltrans in eliminating conflicts that may be caused by the proposed action. The conservation recommendations included in this conference opinion are advisory. The Service may adopt the formal conference report as part of the biological opinion when critical habitat is designated, as long as no substantial new information or changes in the action alter the content of the opinion (see 50 CFR 402.10(d)).

When designating critical habitat, the Service is required to list the known primary constituent elements together with the critical habitat description. Such physical and biological features include, but are not limited to, space for individual and population growth and for normal behavior; food, water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, rearing (or development) of offspring; and habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of a species (Service 2005a).

The primary constituent elements for the Alameda whipsnake are based on the current knowledge of the life history, biology, and ecology of the species and the requirements of the habitat necessary to sustain the essential life history functions of the subspecies. The three identified primary constituent elements are defined as: (1) scrub/shrub communities with a mosaic of open and closed canopy; (2) woodland or annual grassland plant communities contiguous to lands containing primary constituent element 1; and (3) lands containing rock outcrops, talus, and small mammal burrows. These three elements are further described as follows.

Scrub/shrub communities with a mosaic of open and closed canopy

This element is defined by scrub/shrub vegetation dominated by low to medium-stature woody shrubs with a mosaic of open and closed canopy as characterized by the chamise, chamise-eastwood manzanita, chaparral whitethorn, and interior live oak shrub vegetation series as

identified in the Manual of California Vegetation (Sawyer and Keeler-Wolf 1995), A Guide to Wildlife Habitats of California (Mayer and Laudenslayer 1988), and California Wildlife Habitat Relationship System (CDFG 1998), occurring at elevations from sea level to approximately 3,850 feet (1,170 meters). Such scrub/shrub vegetation within these series form a pattern of open and closed canopy which is used by the Alameda whipsnake to provide shelter from predators, temperature regulation by providing sunny and shady locations, prey-viewing opportunities, and nesting habitat and substrate. These features contribute to support a prey base consisting of western fence lizards and other prey species such as skinks, frogs, snakes, and birds.

Woodland or annual grassland plant communities contiguous to lands containing primary constituent element 1

The vegetation series of this element are comprised of one or more of the following: blue oak, coast live oak (*Quercus* species), California bay (*Umbellularia californica*), California buckeye, and California annual grassland vegetation series (as identified in the Manual of California Vegetation (Sawyer and Keeler-Wolf 1995), A Guide to Wildlife Habitats of California (Mayer and Laudenslayer 1988), and California Wildlife Habitat Relationship System (CDFG 1998). This mosaic of vegetation supports a prey base consisting of western fence lizards and other prey species such as skinks, frogs, snakes, and birds and provides opportunities for: (1) Foraging by allowing snakes to come in contact with and visualize, track, and capture prey (especially western fence lizards along with other prey such as skinks, frogs, birds); (2) short and long distance dispersal within, between, or to adjacent to areas containing essential features (i.e., primary constituent elements 1 or 3); and (3) contact with other Alameda whipsnakes for mating and reproduction.

Lands containing rock outcrops, talus, and small mammal burrows

The areas within this element are used for retreats (shelter), hibernacula, foraging, dispersal, and provide additional prey population support functions.

There is no firm information on the actual population of Alameda whipsnake within its range. In addition, there has been no analysis of the minimum viable population size necessary to maintain a stable or increasing population of Alameda whipsnake. However, expert opinion is that the subspecies persists in relatively low numbers throughout its range (McGinnis 1992). Moreover, irretrievable loss of occupied Alameda whipsnake habitat due to recent urban development is significant in areas adjacent to several of the proposed critical habitat units. This development has likely resulted in a commensurate reduction in population size for the Alameda whipsnake. Accordingly, the general pattern of habitat loss and fragmentation was taken into consideration in the designation of critical habitat.

Connectivity has been applied as a criterion to those areas where designation would result in a relatively high potential for dispersal between and within units of critical habitat. The need for

special management considerations was applied where such management may be essential to enhance the connectivity or the integrity of high quality habitat within a unit of critical habitat. The designated critical habitat is being proposed on lands that were determined to be occupied at the time of listing and contain the features, or primary constituent elements, found to be essential to the conservation of the Alameda whipsnake. Within the boundaries of critical habitat, land that contains developed areas such as buildings, paved areas, and other structures has been excluded from this designation.

The action area is within proposed Critical Habitat Unit 3 (otherwise know as the Hayward–Pleasanton Ridge Unit). This unit comprises 34,119 acres (13807 hectares) within Alameda County of which approximately 404 acres (164 hectares) are within East Bay Regional Park lands and the remainder is privately owned.

The Hayward–Pleasanton Ridge Unit contains the mosaic of scrub and chaparral vegetation and rocky outcrops considered as essential features (primary constituent element 1) for Alameda whipsnake critical habitat. The unit also includes a variation in vegetation patch size, an abundant edge between grassland and woodland, and a minimal amount of development or planned development. The soils present are considered supportive of the scrub and rock outcrop features essential for Alameda whipsnake. The Alameda whipsnake records within this unit are associated with Gaviota rocky sandy loams in particular, which likely provide talus (primary constituent element 3) and appear to coincide in aerial imagery to scrub or chaparral vegetation preferred by Alameda whipsnake. The primary habitat type within the unit is largely characterized by a woodland vegetation type of variable densities (primary constituent element 2) and statures (trees, shrubs) interspersed with grassland.

Some peripheral portions of habitat around this unit were not included as proposed critical habitat due to the high degree of development-related disturbance and fragmentation of the habitat. The Hayward–Pleasanton Ridge Unit is included in proposed critical habitat because it contains features essential to the conservation of the Alameda whipsnake, it is occupied by the subspecies, and it represents the southwestern portion of the subspecies' range and one of the five population centers.

The special management which may be required throughout this unit includes management of controlled burns and grazing, trespass, unauthorized trail and road construction, dumping, feral animal control, and other activities associated with urban or recreational interface.

The action area vicinity is relatively undeveloped, but includes State Route 84, Palomares Road, the Central Pacific Railway, vineyard developments, ranches, and other widely-spaced private holdings. The surrounding habitat includes several vegetation communities, including coast oak woodland, coastal scrub, and annual non-native grassland, as well as rocky outcrops. All undeveloped lands on and adjacent to the action area contain one or more of the constituent elements of proposed Alameda whipsnake critical habitat, including essential scrub/shrub communities with a mosaic of open and closed canopy; woodland or annual grassland plant

communities contiguous to lands containing scrub/shrub habitat; and lands containing rock outcrops, talus, and small mammal burrows.

Effects of the Proposed Action

The proposed State Route 84, Niles Canyon Project likely will result in a number of adverse effects to the California red-legged frog and the Alameda whipsnake. There is a likelihood that the animals may be affected by being crushed; entombed in their burrows or cover sites; hit and injured or killed by vehicle strikes; shot; chased and injured or killed by domestic animals; poisoned by chemical agents; trapped in erosion control netting; or harassed by noise and vibration. The proposed project may also adversely affect the California red-legged frog and Alameda whipsnake by blocking movement corridors; interfering with foraging, mating, and/or movement; or by subjecting them to predation that otherwise would not occur. It is highly likely these two listed animals inhabit the action area and surrounding vicinity (for purposes of this biological opinion the surrounding vicinity is described as 1,000 feet [304.8 meters] outside and adjacent to the project footprint), and that they are likely to be subject to indirect effects including loss of habitat, pesticide or chemical poisoning, an influx of exotic predators, increased competition, the intrusion of non-native plants, disease, and a reduction in natural food sources as a result of habitat disturbance and loss.

According to the calculations provided by Caltrans on February 14, 2006, the proposed project will result in the following loss of various habitats other than pre-existing hardscape features, as shown in Table 1.

Table 1. Temporary and permanent effects to non-hardscape habitat types within the proposed action area. (Some of the totals do not appear accurate due to rounding values to the nearest hundredth.)

Habitat Type	**Temporary** acres (hectares)	**Permanent** acres (hectares)	**Total** acres (hectares)
Wetland	0.0 (0)	0.02 (0.01)	0.02 (0.01)
Riparian	1.90 (0.77)	1.01 (0.41)	2.91 (1.18)
Riverine	0.14 (0.06)	0.02 (0.01)	0.16 (0.07)
Oak Woodland	0.03 (0.01)	0.24 (0.10)	0.27 (0.11)
Scrub	0.0 (0)	0.05 (0.02)	0.05 (0.02)
Total	**2.07 (0.84)**	**1.34 (0.54)**	**3.41 (1.39)**

The California red-legged frog would be affected by temporary and permanent loss of wetland, riparian, riverine, and oak woodland habitats within the action area. The Alameda whipsnake would be affected by the loss of oak woodland and scrub habitat within the action area. However, given the proximity of the five habitat types within the action area, it is likely that either species could occur anywhere within the action area. There are no physical barriers that would exclude either species from any of the five habitat types. Both species may use a wide variety of habitat types for activities such as foraging and dispersal. Furthermore, either species may seek retreat in other areas when displaced by activity or disturbance within their more traditionally associated habitat. Therefore, the proposed action could affect the California red-legged frog and the Alameda whipsnake throughout the action area.

Temporary effects are project activities that temporarily remove one or more essential components of a listed species habitat, but can be restored to pre-project conditions of equal or greater habitat value. In order for the effects to be considered temporary, the affected habitat of the listed species must be totally restored within one season. Ground disturbance resulting from the proposed State Route 84, Niles Canyon Project includes substantial grading, excavating, and fill. Caltrans is considering the adverse effects of a significant amount of cut and fill of earth, a maximum of approximately 2.07 acres (0.84 hectares), to be of a temporary nature. This cut and fill has potential to cause injury and mortality to individual California red-legged frogs and Alameda whipsnakes occupying the action area, and these areas likely will not be suitable for use as habitat for foraging, breeding, resting and other essential behaviors by these animals for a significant period of time, almost certainly longer than one season after the construction of the project is completed. Additional harm could be sustained by entanglement with erosion control features, capture or intentional harm by project personnel, or falling or entrapment in trenches or other project-related excavations. As part of the project description, Caltrans has stated upon completion of the project, they will re-contour temporally affected habitat areas if necessary, and revegetate them to promote restoration of the area to pre-project conditions. The temporary effects will result in the permanent loss of the habitat utilized by these listed animal species unless the restoration implemented by Caltrans is adequately planned, utilizes native California plant species collected in the immediate area of the proposed project, and meets specific success criteria.

The proposed project will result in permanent loss of approximately 1.34 acres (0.55 hectares) of habitat that is not occupied by pre-existing hardscape features, such as asphalt and retaining walls. This area of effect will result in the permanent loss of foraging, breeding, resting, or other fundamental habitat for the California red-legged frog and/or the Alameda whipsnake.

The proposed State Route 84, Niles Canyon Project involves the replacement of existing culverts. Project-related improvement of the Stonybrook Creek crossing is designed to enhance fish passage and may improve general wildlife movement under State Route 84. Replacement of existing drainage culverts with larger diameter units may provide additional passage under State Route 84 for small- to medium-sized wildlife species, including California red-legged frog and Alameda whipsnake.

California Red-legged Frog

Individual red-legged frogs may be directly injured, killed, harmed, and harassed by activities that disturb breeding, dispersal, and aestivation habitat. The proposed project will result in the temporary loss of 2.07 acres (0.84 hectares) and the permanent loss of approximately 1.34 acres (0.55 hectares) of habitat for this listed species. The proposed project could (1) result in the death of an unknown number of red-legged frogs; (2) result in construction related harassment, including effects from lights used during nighttime activities, to the surviving red-legged frogs on the site; (3) impede the dispersal of red-legged frogs through the site while the action is in progress; (4) increase the likelihood of predation and the introduction of amphibian disease; and (5) fragment and reduce the amount of red-legged frog habitat in Alameda County.

Changes in light level may disrupt orientation in nocturnal animals. The range of anatomical adaptations to allow night vision is broad (Park 1940), and rapid increases in light can blind animals. For frogs, a quick increase in illumination causes a reduction in visual capability from which the recovery time may be minutes to hours (Buchanan 1993). After becoming adjusted to a light, frogs may be attracted to it as well (Jaeger and Hailman 1973). Laboratory experiments have demonstrated that dark-adapted frog species exposed to rapid increases in illumination may be temporarily "blinded" and unable to gather visual information on prey, predators, or conspecifics until their eyes adapt to the new illumination. Foraging may be facilitated in frog species that hunt around lights because the ambient illumination is increased to a level that allows the frogs to see prey or because lights attract relatively larger numbers of insects and other invertebrate prey. Experiments and anecdotal evidence indicates that both temporary and permanent changes to the night time illumination of an area may affect the reproduction, foraging, predator avoidance, and social interactions of frog species (Buchanan 2002). Artificial lighting may alter reproductive behaviors by inhibiting frog species that normally only reproduce at very low illuminations. For instance, female Tungara frogs (*Physalaemus pustulosus*) are less selective about mate choice when light levels are increased, evidently preferring to mate quickly and avoid the increased predation risk of mating activity (Rand *et al.* 1997). Longcore and Rich (2004) reported that frogs in an experimental enclosure stopped mating activity during night football games, when lights from a nearby stadium increased sky glow. Mating choruses only resumes when the enclosure was covered to shield the frogs from light. Increased illumination may allow predators to see frogs they otherwise would be unable to detect. Circadian rhythms, activity patterns, and intra-specific visual communication also may be affected by increased illuminations.

Summer cover and foraging habitat along Alameda Creek and Stonybrook Creek will be temporarily and permanently eliminated by the proposed project. Individual frogs occupying the affected habitat run the risk of being crushed or buried by earth moving activities. Those that do survive will suffer permanent and temporary loss of habitat, and harassment from increased human activity. Construction of an unspecified duration and location will occur at night and the associated lighting may increase predation because frogs will lose the cover of darkness. Construction activities will likely impede the movement of adult frogs from unspecified breeding

habitat to summer habitat within the action area, and visa versa. Temporary loss of dispersal habitat for the project duration increases intra-and inter-specific competition for food and living space for red-legged frogs in the action area vicinity.

The proposed action is likely to result in indirect effects to the red-legged frog that will extend beyond the completion of the proposed action. The action would (1) result in permanent and temporal loss of aestivation habitat; (2) reduce water quality in the action area; (3) result in higher mortality of red-legged frogs in the action area; and (4) increase fragmentation of remaining red-legged frog habitat over the longer term.

Removal of vegetation will likely increase exposure to introduced non-native and/or urban-adapted predators due to the permanent and temporary loss of cover for dispersing red-legged frogs.

Roads have been documented as barriers to movements by a diversity of species, and this effect varies with road size and traffic volume. Most of the available data is associated with large mammals such as mountain lions (*Felis concolor*) (Van Dyke *et al.* 1986) and black bears (*Ursus americanus*) (Brody and Pelton 1989). Amphibians, such as the California red-legged frog likely process and relate to their environment and perception of potential threats in much different ways than large mammals and other more well-studied taxa. Therefore, although red-legged frogs may exhibit less reluctance to cross a road than a lynx (*Lynx lynx*) (Barnum 1999), roads pose an increased risk of mortality for any species. Furthermore, traffic frequency and road expansion likely corresponds with increased mortality, decreased gene flow, and increased fragmentation of habitats and populations (Joly and Morand 1997).

Roads were found to be significant barriers to gene flow among common frogs (*Rana temporaria*) in Germany and have resulted in genetic differentiation among populations separated by roads (Reh and Seitz 1990). Similarly, significant genetic subdivision was detected in bank voles (*Clethrionomys glarelous*) populations separated by a 164 foot (50-meter) wide highway in Germany (Gerlach and Musolf 2000). In California, local extirpations of mountain lions has occurred when roads and other development fragmented habitat into small patches and blocked movement corridors, thereby isolating the patches and preventing recolonization (Beier 1993). Adequately sized culverts or undercrossings, with suitable habitat at each side of the passage, significantly increases the ability of animals to cross highways (Ng *et al.* 2003).

California red-legged frog mortality and injury occurs when the animals attempt to cross roads and are hit by cars, trucks, or motorcycles. The majority of strikes likely occur on rainy nights when the animals are most active. Driver visibility is also lower at night and in inclement weather, increasing the potential for strikes. Such strikes are usually fatal for an animal the size of a red-legged frog. Thus, vehicle strikes are a direct source of mortality for this listed amphibian. If vehicle strikes are sufficiently frequent in a given locality, they could result in reduced California red-legged frog abundance. The death of animals during the breeding season could result in reduced reproductive success.

The local and range-wide effects of vehicle strikes on California red-legged frogs have not been adequately assessed. Vehicle strikes appear to occur most frequently where roads transverse areas where the animals are abundant. However, the linear quantity of roads in a given area may not be directly related to the number of associated vehicle strikes, as has been shown in San Joaquin kit fox (*Vulpes macrotis mutica*) studies (Cypher *et al.* 2000; U.S. Department of Energy 1993; Spiegel and Disney 1996; Ralls and White 1995). The type of road (*e.g.*, number of lanes), traffic volume, and average speed of vehicles likely all influence the number of California red-legged frog/vehicle strikes. The number of strikes likely increases with road size, traffic volume, and average speed (Clevenger and Waltho 1999). Another factor influencing the number of vehicles striking this threatened amphibian, but for which little data is available, is the frequency with which the animals cross roads and are therefore at risk. The proportion of successful road crossings by these animals likely declines with increasing road size, traffic volume and density, and vehicle speeds. It is unlikely that California red-legged frogs are able to become more successful in crossing roads with increased experience.

Vehicle-related mortality has significantly affected other listed or rare species. Vehicles caused 49 percent of the mortality documented among endangered Florida panthers (*Felis concolor coryi*) (Maehr *et al.* 1991). With a small remaining population, the loss of any individuals to vehicles could constitute a significant population effect. Similarly, at least 15 percent of the remaining 250-300 key deer (*Odocileus virginianus clavium*) are killed annually by vehicles (Tubak 1999), and this mortality is considered to be a limiting factor in the recovery of this endangered species (Service 1985). Mortality from vehicles was the primary source of mortality for endangered ocelots (*Felis pardalis*) in Texas (Tubak 1999), and also contributed to the failure of a lynx reintroduction project in New York (Aubrey *et al.* 1999). Rudolph *et al.* (1999) estimated that road-associated mortality may have depressed populations of Louisiana pine snakes (*Pituophis ruthveni*) and timber rattlesnakes (*Crotalus horridus*) by over 50 percent in eastern Texas, and this mortality may be a primary factor in local extirpations of timber rattlesnakes (Rudolph *et al.* 1998). Mortality from vehicles is also contributing to the reduction in the status of the prairie garter snake (*Thamnophis radix radix*) in Ohio (Dalrymple and Reichenbach 1984), and was a limiting factor in the recovery of the endangered American crocodile (*Crocodylus acutus*) in Florida (Kushland 1988). In Florida, threatened Florida scrub-jays (*Aphelocoma coerulescens*) suffered higher mortality in territories near roads, as well as reduced productivity due to vehicle strikes of both young and breeding adults (Mumme *et al.* 1999).

The presence of roads in an area could result in the local introduction of chemical contaminants. Contaminants could be introduced in several ways. Substances used in road building materials or to recondition roads can leach out or wash off roads into adjacent habitat. Vehicle exhaust emissions include hazardous substances which may become concentrated in road-side soils. Heavy metals such as lead, aluminum, iron, cadmium, copper, manganese, titanium, nickel, zinc, and boron are all emitted in vehicle exhaust (Trombulak and Frissell 2000). Concentrations of organic pollutants (e.g., dioxins, polychlorinated biphenyls) are higher in soils along roads (Benfenati *et al.* 1992) and ozone levels are higher in the air near roads (Trombulak and Frissell

2000). Vehicles may leak hazardous substances such as motor oil and antifreeze. Although the quantity leaked by a given vehicle may be minute, these substances can accumulate on roads and then get washed into the adjacent environment by storm water runoff. An immense variety of substances could be introduced during accidental materials spills. Such spills can result from small containers falling off passing vehicles to large material spills from traffic accidents. Depending on the substance, large spills may be partially or completely mitigated with clean-up efforts.

California red-legged frogs could be exposed to contaminants if using habitat adjacent to roads or downstream of associated stormwater runoff. Exposure pathways could include inhalation, dermal contact, direct ingestion, ingestion of contaminated soil or plants, or consumption of contaminated prey. Exposure to contaminants could cause short- or long-term morbidity, possibly resulting in reduced productivity or mortality. Carcinogenic substances could cause genetic damage resulting in sterility, reduced productivity, or reduced fitness among progeny. Contaminants may also have a negative effect on red-legged frog prey species. This could result in reduced prey abundance and diminished local carrying capacity for the red-legged frog.

Construction of roads can facilitate the invasion and establishment of non-native species. Disturbance and alteration of habitat adjacent to roads may create favorable conditions for non-native plants and animals. These exotic species can spread along roadsides and then into adjacent habitat. Modified road-side habitat may be more conducive to the dispersal of non-native species into red-legged frog habitat. Non-native wildlife could compete with red-legged frogs for resources such as food, or cause direct injury or frog mortality. Non-native plants and animals may also reduce habitat quality for the listed amphibian or their prey, and reduce the productivity or the local carrying capacity for the threatened species. As has been shown for San Joaquin kit foxes, introductions of non-native species could cause California red-legged frogs to alter behavioral patterns by avoiding or abandoning areas near roads (Cypher 2000).

Negative effects to wildlife populations from roads may extend some distance from the actual road. The phenomenon can result from any of the effects already described in this biological opinion (*e.g.*, vehicle-related mortality, habitat degradation, invasive exotic species, *etc.*). Forman and Alexander (1998) described the area affected as the "road effect" zone. Along a 4-lane road in Massachusetts, they determined that this zone extend for an average of approximately 980 feet (298.7 meters) to either side of the road for an average total zone width of approximately 1970 feet (600.5 meters). However, in places they detected an effect greater than 0.6 mile (1.0 kilometers) from the road. Rudolph *et al.* (1999) detected reduced snake abundance up to 2790 feet (850.4 meters) from roads in Texas. Extrapolating to a landscape scale, they concluded that roads likely have a significant effect on Texas snake populations, given that approximately 79 percent of the state is within 1640 feet (499.9 meters) of a road "road-zone" effects can be subtle. Van der Zandt *et al.* (1980) reported that lapwings (*Vanellus vanellus*) and black-tailed godwits (*Limosa limosa*) feeding at 1575-6560 feet (480-2000 meters) from roads were disturbed by passing vehicles. The heart rate, metabolic rate and energy expenditure of female bighorn sheep (*Ovis canadensis*) increases near roads (MacArthur *et al.* 1979).

Trombulak and Frossell (2000) described another type of "road-zone' effect. Heavy metal concentrations from vehicle exhaust were greatest within 66 feet (20 meters) of roads, and elevated levels of metals in both soil and plants were found at least 660 feet (201 meters) of roads. The "road-zone" apparently varies with habitat type and traffic volume. Based on bird responses, Forman *et al.* (2000) estimated primary road zones of 1,000 feet (305 meters) in woodlands, 1,197 feet (365 meters) in grasslands, and 2657 feet (810 meters) in natural lands near urban areas. The effect zone was 656 feet (200 meters) along secondary roads with lower traffic volumes.

Various other work activities associated with the proposed project also may adversely affect California red-legged frogs. Trash left during or after project activities could attract predators to work sites, which could subsequently harass or prey on the animals. For example, raccoons, crows, and ravens are attracted to trash and also prey opportunistically on amphibians. Construction equipment that has been used in different areas and with different species of amphibians, including the California red-legged frog, may transmit diseases by introducing contaminated soil and other foreign material brought in by equipment. There is also a possibility that people working on the site, particularly the onsite biologists could introduce amphibian disease to habitat used by California red-legged frogs. Recently, the probability of encountering and spreading a disease to previously unaffected amphibian populations has dramatically increased throughout the United States. It is possible that chytrid fungus may exacerbate the effects of other diseases on amphibians or increase the sensitivity of the amphibian to environmental changes (*e.g.*, water pH) that reduce normal immune response capabilities (Bosch *et al.* 2000).

Alameda Whipsnake

Individual Alameda whipsnakes may be directly injured or killed by activities that disturb feeding, sheltering, and dispersal habitat. The proposed project will result in the temporary loss of 2.07 acres (0.84 hectares) and the permanent loss of approximately 1.34 acres (0.55 hectares) of habitat for this listed species. The proposed project could (1) result in the injury and death of an unknown number of Alameda whipsnakes; (2) result in construction-related harassment to the surviving Alameda whipsnakes in the area; (3) partially impede the dispersal of Alameda whipsnakes through the area while the action is in progress; (4) increase the likelihood of predation on Alameda whipsnakes; and (5) fragment and reduce the amount of Alameda whipsnake habitat.

Construction related activities may cause disruption of foraging, harassment from increased human activity, and permanent and temporary loss of shelter. Because Alameda whipsnakes are diurnal, they will be active while construction is performed. Individuals that avoid construction activities may become displaced into adjacent areas where they may be vulnerable to increased predation, exposure, starvation, or stress through disorientation, loss of shelter, and intraspecific and inter-specific aggression (Grigione 2002).

The proposed construction may temporarily affect Alameda whipsnake dispersal due to activities that produce high levels of noise and vibration. State Route 84 road widening and realignment of the Palomares Road intersection includes activities that cause barriers or deterrents to dispersal activities.

The addition of impermeable surfaces resulting from the widened roadway and realignment will likely be accompanied by an increase in chemical runoff, higher road-kill, and the introduced of non-native and/or introduction of non-native species. These factors may affect the Alameda whipsnake in ways similar to those discussed for the California red-legged frog.

Alameda Whipsnake Proposed Critical Habitat

This conference opinion on the proposed critical habitat for the Alameda whipsnake does not rely on the regulatory definition of "destruction or adverse modification" of critical habitat at 50 CFR § 402.02. Instead, we have relied upon the statute and the August 6, 2004, Ninth Circuit Court of Appeals decision in *Gifford Pinchot Task Force v. U.S. Fish and Wildlife Service* (No. 03-35279) to complete the following analysis with respect to the proposed critical habitat.

The proposed action is not expected to appreciably diminish the value of the proposed critical habitat for the Alameda whipsnake, or prevent proposed critical habitat from sustaining its role in the conservation and recovery of the species. Caltrans is proposing to implement measures to restore areas of temporary effects subject to a significant amount of cut and fill to pre-project conditions. Currently, there is an existing highway within the action area, and, due to the proposed restoration activities, widening a section of that highway will not significantly interfere with the current capability of the proposed critical habitat unit to satisfy essential requirements of the species. Constituent elements for the Alameda whipsnake will remain intact during and after project completion, or will be restored, and will continue to provide habitat essential for species recovery.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

From 1995 to 2020, the human population is projected to increase by 18 percent for the San Francisco Bay hydrologic region; while at the same time agricultural crop land use in the region is projected to remain around 65,000 acres (California Department of Water Resources 1998). According to the California Department of Forestry, from 2000 to 2020, the human population in the Bay Area region is expected to grow by 29 percent (5.3 million people to 6.8 million people), and by 60 percent from 2000 to 2040 (5.3 million people to 8.4 million people) (California Department of Forestry 1998). There will likely be many other development projects that occur

during this timeframe due to increases in human population growth that will continue to imperil the California red-legged frog and the Alameda whipsnake.

Within this region of Alameda County, there is a continued demand for new housing, vineyards, and recreation opportunities. Considering this, the remaining open space adjacent to the State Route 84, Niles Canyon Project is likely threatened by increased activity and habitat loss due to road, residential, and commercial development. The development of adjacent wildlife habitat will continue to result in the loss of not only breeding, resting, and foraging habitat, but the loss of dispersal corridors between breeding populations, thereby further isolating and fragmenting wildlife populations. Additionally, potential development of small reservoirs or water bodies, such as golf course hazards, and water diversions may pose further threats such as disruption of dispersal corridors for terrestrial species, and competition or predation from non-native species such as bullfrogs for aquatic species.

CONCLUSION

After reviewing the current status of the California red-legged frog and the Alameda whipsnake; the environmental baseline for the action area; the effects of the proposed action and the cumulative effects, it is the Service's biological opinion that the State Route 84, Niles Canyon Project is not likely to jeopardize the continued existence of these two listed species. Critical habitat was proposed for the Alameda whipsnake in the action area in October 2005 and will be adversely modified and destroyed as a result of the Niles Canyon Project. The Service reached the conclusion on the effects on the proposed critical habitat of the Alameda whipsnake because the effects of the project will be offset by the conservation measures in the project description, including the successful restoration of areas subject to the temporary effects of cut and fill to pre-project conditions.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by impairing behavioral patterns including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not

intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with this incidental take statement.

The measures described below are non-discretionary, and FHWA must ensure Caltrans requires that they become binding conditions of project authorization for the exemption under 7(o)(2) to apply. FHWA through Caltrans has a continuing duty to regulate the activity that is covered by this incidental take statement. If FHWA through Caltrans (1) fails to adhere to the terms and conditions of the incidental take statement through enforceable terms, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of 7(o)(2) may lapse.

Amount or Extent of Take

The Service anticipates that incidental take of the California red-legged frog will be difficult to detect because when this amphibian is not in their breeding ponds, it inhabits rodent burrows or inconspicuous cover sites, or may be difficult to locate due to their cryptic appearance and behavior; the sub-adult and adult animals may be located a distance from the breeding ponds; the migrations occur on a limited period during rainy nights in the fall, winter, or spring; and the finding of an injured or dead individual is unlikely because of their relatively small body size. Losses of this species may also be difficult to quantify due to seasonal fluctuations in their numbers, random environmental events, changes in water regime at their breeding ponds, or additional environmental disturbances. Therefore, the Service is estimating that all California red-legged frogs inhabiting 3.41 acres (1.39 hectares) (2.07 acres [0.84 hectares] of temporary habitat effects and 1.34 acres [0.55 hectares] of permanent effects to the habitat for this species) will be subject to incidental take. Upon implementation of the Reasonable and Prudent Measures, incidental take associated with the State Route 84, Niles Canyon Project in the form of harm, harassment, capture, injury, and death of the California red-legged frog caused by habitat loss and construction activities will become exempt from the prohibitions described under section 9 of the Act.

The Service expects that incidental take of the Alameda whipsnake will be difficult to detect or quantify because this animal may range over a large territory and the finding of an injured or dead individual is unlikely because of their relatively small body size and conspicuous coloration. Therefore, the Service is estimating that all of the Alameda whipsnakes inhabiting 3.41 acres (1.39 hectares) (2.07 acres [0.84 hectares] of temporary habitat effects and 1.34 acres [0.55 hectares] of permanent effects to the habitat for this species) may be subject to incidental take. Upon implementation of the Reasonable and Prudent Measures, incidental take associated with the State Route 84, Niles Canyon Project in the form of harm, harassment, capture, injury, and death of the Alameda whipsnake caused by habitat loss and construction activities will become exempt from the prohibitions described under section 9 of the Act.

As stated in the California Department of Fish and Game Code Section 2080.1, FHWA is advised to submit this incidental take statement for the Alameda whipsnake to the Director of

Fish and Game for a consistency determination. FHWA may be required to apply for a State Incidental Take Permit for the Alameda whipsnake under section 2081(b) of the Fish and Game Code if the California Department of Fish and Game determines that this Federal document is not consistent with the California Endangered Species Act.

Effect of the Take

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the California red-legged frog or the Alameda whipsnake. Critical habitat has been proposed for the Alameda whipsnake and is located within the action area. However only a small amount will be adversely modified or destroyed based on the proposed restoration of the areas subject to temporary disturbance.

Reasonable and Prudent Measures

The following reasonable and prudent measures are necessary and appropriate to minimize the effects of the State Route 84, Niles Canyon Project on the California red-legged frog and the Alameda whipsnake:

1. Caltrans will implement the project as described in the June 2005 Technical Memorandum and this biological opinion.

2. Reduce effects to the California red-legged frog and the Alameda whipsnake.

3. Caltrans shall ensure their compliance with this biological opinion.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, FHWA shall ensure compliance with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are nondiscretionary.

1. The following Terms and Conditions implement Reasonable and Prudent Measure one (1):

    a. Caltrans shall minimize the potential for harm, harassment, or killing of federally listed wildlife species resulting from project related activities by implementation of the conservation measures as described in the June 2005 Technical Memorandum, and appearing in the Project Description of this biological opinion.

    b. Caltrans shall make the terms and conditions in this biological opinion a required term in all contracts for the project that are issued by them to all contractors.

2. The following Terms and Conditions implement Reasonable and Prudent Measure two (2):

   a. The Resident Engineer or their designee shall be responsible for implementing the conservation measures and Terms and Conditions of this biological opinion and shall be the point of contact for the project. The Resident Engineer or their designee shall maintain a copy of this biological opinion onsite whenever construction is taking place. Their name and telephone number shall be provided to the Service at least thirty (30) calendar days prior to groundbreaking at the project. Prior to ground breaking, the Resident Engineer must submit a letter to the Service verifying that they posses a copy of this biological opinion and have read the Terms and Conditions.

   b. A qualified biologist(s) shall be onsite during all activities that may result in the take of the California red-legged frog and/or the Alameda whipsnake. The qualifications of the biologist(s) must be presented to the Service for review and written approval prior to ground-breaking at the project site. Prior to approval, the biologist(s) must submit a letter to the Service verifying that they posses a copy of this biological opinion and understand its Terms and Conditions.

   c. The Caltrans biologist shall have oversight over implementation of all the Terms and Conditions in this biological opinion, and shall have the authority to stop project activities, through communication with the Resident Engineer or their designee, if any of the requirements associated with these Terms and Conditions are not being fulfilled. If biologist/construction liaison has requested a stop work due to take of any of the listed species the Service and the California Department of Fish and Game will be notified within one (1) working day via email or telephone. The Service contact is Chris Nagano, Deputy Assistant Field Supervisor, Endangered Species Program at the Sacramento Fish and Wildlife Office at telephone (916) 414-6600.

   d. Prior to any ground disturbance, pre-construction surveys shall be conducted by a Service-approved biologist for the California red-legged frog and the Alameda whipsnake. These surveys shall consist of walking surveys of the project limits and adjacent areas accessible to the public to determine presence of the species.

   e. Only Service-approved biologist(s) who are familiar with the biology and ecology of the California red-legged frog and the Alameda whipsnake shall capture or handle theses listed species.

   f. Biologists shall take precautions to prevent introduction of amphibian diseases to the action area by disinfecting equipment and clothing as directed in the recommended equipment decontamination procedures within the Service's California Red-Legged Frog Survey Guidance. This document is available at the Service's Sacramento office

website (http://www.fws.gov/sacramento/es/protocol.htm). Disinfecting equipment and clothing is especially important when biologists are coming to the action area to handle frogs after working in other aquatic habitats.

g. An employee education program covering the California red-legged frog and the Alameda whipsnake must be conducted before groundbreaking for the State Route 84, Niles Canyon Safety Widening Project. The program should consist of a brief presentation by the on-site biologist to explain listed species concerns to all contractors, their employees, and agency personnel involved in the project. The program should include a description of the California red-legged frog and the Alameda whipsnake and their habitat needs; an explanation of the status of these species and their protection under the Endangered Species Act; associated consequences of noncompliance with this opinion; and a description of the measures being taken to reduce effects to these species during project construction and implementation. An outline of the training program shall be submitted to the Deputy Assistant Field Supervisor for the Endangered Species Program at the Sacramento Fish and Wildlife Office at least twenty (20) working days prior to the start of construction. Documentation of the training, including individual signed affidavits, will be kept of file and available on request.

h. Project employees shall be provided with written guidance governing vehicle use, speed limits on unpaved roads, fire prevention, and other hazards.

i. Permanent and temporary disturbances and other types of project-related disturbance to the habitats of the California red-legged frog and the Alameda whipsnake shall be minimized to the maximum extent practicable by Caltrans. To minimize temporary disturbances, all project-related vehicle traffic shall be restricted to established roads, construction areas, and other designated areas. These areas also should be included in pre-construction surveys and, to the maximum extent possible, should be established in locations disturbed by previous activities to prevent further adverse effects.

j. The construction area shall be delineated with high visibility temporary fencing at least 4 feet (1.2 meters) in height, flagging, or other barrier to prevent encroachment of construction personnel and equipment onto any sensitive areas during project work activities. Such fencing shall be inspected and maintained daily until completion of the project. The fencing will be removed only when all construction equipment is removed from the site. Actions within the project area shall be limited to vehicle and equipment operation on existing roads. No project activities will occur outside the delineated project construction area.

k. To prevent inadvertent entrapment of California red-legged frogs and Alameda whipsnakes during construction, all excavated, steep-walled holes or trenches more than 2 feet (0.61 meters) deep shall be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed

of earth fill or wooden planks. Before such holes or trenches are filled, they must be thoroughly inspected for trapped animals. If at any time a trapped listed animal is discovered, the on-site biologist should immediately place escape ramps or other appropriate structures to allow the animal to escape, or the Service and/or California Department of Fish and Game shall be contacted by telephone for guidance. The Service shall be notified of the incident by telephone and electronic mail within one working day.

l. Project-related vehicles shall observe a 20-mile (32-kilometer) per hour speed limit within construction areas, except on County roads, and State and Federal highways; this is particularly important at night when the California red-legged frog is most active. To the maximum extent possible, night-time construction should be minimized. Off-road traffic outside of designated project areas shall be prohibited.

m. Except when necessary for construction, driver or pedestrian safety, lighting of the State Route 84, Niles Canyon Project site by artificial lighting during night time hours should be minimized to the maximum extent practicable.

n. All grindings and asphaltic-concrete waste shall be stored within previously disturbed areas absent of habitat and at a minimum of 150 feet (45.7 meters) from any culvert, or drainage feature.

o. To eliminate an attraction to predators of the California red-legged frog and/or Alameda whipsnake all food-related trash items such as wrappers, cans, bottles, and food scraps must be disposed of in closed containers and removed at least once every day from the entire project site.

p. To avoid injury or death of the California red-legged frog and/or Alameda whipsnake, no firearms shall be allowed on the project site except for those carried by authorized security personnel, or local, State, or Federal law enforcement officials.

q. To prevent harassment, injury or mortality of California red-legged frog and/or Alameda whipsnake or destruction of their refugia by dogs or cats, no canine or feline pets shall be permitted in the action area.

r. Use of rodenticides and herbicides on the State Route 84, Niles Canyon Project shall be utilized in such a manner to prevent primary or secondary poisoning of listed species, and depletion of prey populations on which they depend. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Pesticide Regulation, and other appropriate State and Federal regulations, as well as additional project-related restrictions deemed necessary by the Service or the California Department of Fish and Game.

s. Plastic mono-filament netting (erosion control matting) or similar material shall not be used at the project site because California red-legged frogs may become entangled or trapped in it. Acceptable substitutes include coconut coir matting or tackified hydro-seeding compounds.

t. The following Term and Condition shall be implemented for borrow sites associated with the State Route 84, Niles Canyon Project:

1. As part of the construction contract, Caltrans shall require that all contractors comply with the Act in the performance of work necessary for project completion inside and outside the project right-of-way.

2. Caltrans shall require documentation from the contractor ensuring that aggregate, fill, or borrow material provided for the project was obtained in compliance with the Act. Evidence of compliance with the Act shall be demonstrated by providing the Resident Engineer any one of the following:

i. a letter from the Service stating use of the borrow pit area will not result in the incidental take of listed species;

ii. an incidental take permit for contractor-related activities issued by the Service pursuant to section 10(a)(1)(B) of the Act;

iii. a biological opinion or a letter concurring with a "not likely to adversely affect" determination issued by the Service to the Federal agency having jurisdiction over contractor-related activities;

iv. letter from the Service concurring with the "no effect" determination for contractor-related activities; or

v. Contractor submittal of information to the Caltrans Resident Engineer indicating compliance with the State Mining and Reclamation Act (SMARA) and provide the County land use permits and California Quality Act (CEQA) clearance.

3. If a borrow site that is in compliance with the Act is not available, Caltrans shall either:

i. identify/select a site that the Service has concurred with the "no effect" determination, or;

ii. request reinitiation of formal consultation on the action considered herein based on new information.

u. Upon completion of the proposed action, all California red-legged frog and Alameda whipsnake habitat subject to temporary ground disturbances, including storage and staging areas, temporary roads, *etc.* must be re-contoured, if appropriate, and revegetated with seeds and/or cuttings of appropriate plant species to promote restoration of the area to pre-project conditions. Areas of temporary disturbance are expected to be returned to pre-project conditions within one season following construction. An area subject to "temporary" disturbance means any area that is disturbed during the project, but that after project completion will not be subject to further disturbance and has the potential to be revegetated. Caltrans shall submit to the Service their draft proposal for the restoration and revegetation plan at least sixty (60) calendar days prior to the date of initial ground breaking; the final plan shall be submitted for approval by the Service prior to ground breaking at the proposed project. To the maximum extent practicable (*i.e.*, presence of natural lands), topsoil shall be removed, cached, and returned to the site according to successful restoration protocols. Loss of soil from run-off or erosion shall be prevented with straw bales, straw wattles, or similar means provided they do not entangle, block escape or dispersal routes of listed animal species. The draft and final plan shall contain specific quantifiable criteria to evaluate the success of the restoration. A biologist shall ensure that areas subject to temporary disturbance have been adequately restored, and this information is included under the final reports described in the Reporting Requirements of this biological opinion.

v. As described in the May 16, 2006, electronic mail from Caltrans, the permanent effects to 1.34 acres (0.55 hectares) of California red-legged frog habitat shall be compensated at 3:1 (3.99 acres [1.61 hectares]) with occupied California red-legged frog habitat. The permanent effects to 1.34 acres (0.55 hectares) of Alameda whipsnake habitat shall be compensated at 3:1 (3.99 acres [1.61 hectares]) with occupied Alameda whipsnake habitat. As described in the May 16, 2006, email from Caltrans to the Service, this compensation will be satisfied through the purchase of 3.99 acres (1.61 hectares) of occupied habitat shared by the California red-legged frog and the Alameda whipsnake at the Ohlone Preserve Conservation Bank.

w. Documentation of this purchase must be submitted to the Service a minimum of 60 calendar days prior to the date if initial ground breaking at the project site.

x. As described in the May 16, 2006, electronic mail from Caltrans, the temporary effects to 2.07 acres (0.84 hectares) of California red-legged frog habitat shall be compensated at 1.1:1 (2.28 acres [0.92 hectares]) with occupied California red-legged frog habitat. The temporary effects to 2.07 acres (0.84 hectares) of Alameda whipsnake habitat shall be compensated at 1.1:1 (2.28 acres [0.92 hectares]) with occupied Alameda whipsnake habitat. Caltrans will receive a 1:1 credit (2.07 acres [0.84 hectares]) for temporary effects compensation through adequate on-site restoration of California red-legged frog and Alameda whipsnake habitat. In such an

event, Caltrans will need to satisfy the remaining 0.1:1 (0.21 acres [0.08 hectares]) compensation with the purchase of appropriate credits at the Ohlone Preserve Conservation Bank. Documentation of this purchase must be submitted to the Service a minimum of 60 calendar days prior to the date of initial ground breaking at the project site.

B. The following Terms and Conditions implement Reasonable and Prudent Measure two (2):

1. If requested, during or upon completion of construction activities, the on-site biologist, and/or a representative from Caltrans shall accompany Service or California Department of Fish and Game personnel on an on-site inspection of the site to review project effects to the California red-legged frog, the Alameda whipsnake, and their habitats.

2 The Federal Highway Administration shall ensure Caltrans complies with the Reporting Requirements of this biological opinion.

3. If requested, before, during, or upon completion of ground breaking and construction activities, Caltrans shall allow access by Service and California Department of Fish and Game personnel to the project site to inspect project effects to the California red-legged frog and the Alameda whipsnake, and their habitats.

Reporting Requirements

Injured California red-legged frogs and Alameda whipsnakes must be cared for by a licensed veterinarian or other qualified person such as the on-site biologist; dead individuals of any of these listed species must be preserved according to standard museum techniques and held in a secure location. The Service and the California Department of Fish and Game must be notified within one (1) working day of the discovery of death or injury to a California red-legged frog or an Alameda whipsnake that occurs due to project related activities or is observed at the project site. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal clearly indicated on a USGS 7.5 minute quadrangle and other maps at a finer scale, as requested by the Service, and any other pertinent information. The Service contacts are Chris Nagano, Deputy Assistant Field Supervisor, Endangered Species Program at the Sacramento Fish and Wildlife Office (916)414-6600), and Scott Heard, Resident Agent-in-Charge of the Service's Law Enforcement Division at (916)414-6660. The California Department of Fish and Game contact is Mr. Ron Schlorff at 1416 9th Street, Sacramento, California 95814, (916) 654-4262.

Caltrans shall submit a post-construction compliance report prepared by the on-site biologist to the Sacramento Fish and Wildlife Office within sixty (60) calendar days after the date of the completion of construction activity. This report shall detail (i) dates that construction occurred;

(ii) pertinent information concerning the success of the project in meeting compensation and other conservation measures; (iii) an explanation of failure to meet such measures, if any; (iv) known project effects on the California red-legged frog and the Alameda whipsnake, if any; (v) occurrences of incidental take of any of these listed species, if any; (vi) documentation of employee environmental education; and (vii) other pertinent information.

CONSERVATION RECOMMENDATIONS

Section 7(a) (1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to implement recovery actions, to help implement recovery plans, to develop information, or otherwise further the purposes of the Act.

The Service requests notification of the implementation of any conservation recommendations in order to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats. We propose the following conservation recommendations:

1. Caltrans should assist the Service in implementing recovery actions identified in the *Recovery Plan for the California red-legged Frog* (Service 2002b).

2. Caltrans should assist the Service in developing and implementing recovery actions identified in the *Draft Recovery Plan for Chaparral and Scrub Community Species East of San Francisco Bay, California* (Service 2002a).

3. Caltrans should incorporate culverts, tunnels, or bridges on highways and other roadways that allow safe passage for the California red-legged frogs, Alameda whipsnake, other listed animals, and native wildlife. Caltrans should include photographs, plans, and other information in their biological assessments if they incorporate "wildlife friendly" crossings into their projects.

4. FHWA and Caltrans should consider participating in the planning for a regional habitat conservation plan for the California red-legged frog, Alameda whipsnake, and other listed or otherwise special-status species.

5. Caltrans should consider establishing functioning preservation and creation conservation banking systems to further the conservation of the California red-legged frog, Alameda whipsnake, and other appropriate species. Such banking systems also could be utilized for other required mitigation (*i.e.*, seasonal wetlands, riparian habitats, *etc.*) where appropriate.

6. Sightings of any listed or sensitive animal species should be reported to the California Natural Diversity Database of the California Department of Fish and Game. A copy of

the reporting form and a topographic map, clearly marked with the location the animals were observed, should also be provided to the Service.

7. Caltrans should provide habitat for bats, including surfaces for bat roosts on the underside of bridges and other structures whenever possible.

REINITIATION - CLOSING STATEMENT

This concludes the conference for effects of the proposed Niles Canyon Project in Alameda County, California, on the critical habitat for the Alameda whipsnake. You may ask the Service to confirm the conference opinion as a biological opinion issued through formal consultation if this critical habitat is designated. The request must be in writing. If the Service reviews the proposed action and finds that there have been no significant changes in the action as planned or in the information used during the conference, the Service will confirm the conference opinion as the biological opinion on the project and no further section 7 consultation will be necessary.

This concludes formal consultation on the proposed State Route 84, Niles Canyon Project, in Alameda County, California. As provided in 50 CFR §402.16 and in the terms and conditions of this biological opinion, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

If you have any questions regarding this biological opinion on the State Route 94, Niles Canyon Project, please contact John Cleckler or Chris Nagano at the letterhead address or at telephone (916) 414-6625.

Sincerely,

Chris Nagano

for Cay C. Goude
Acting Field Supervisor

cc:
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Appendix H Hydraulic Evaluation Stationing Map

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10 March 2011

Appendix I List of Technical Studies

Archaeological Survey Report, October 2004

Biological Evaluation, September 2004

Ground Penetrating Radar Report, October 2004

Historical Property Survey Report, November 2004

Historical Resources Evaluation Report, November 2004

Draft Hydraulic Evaluation, December 2004

- Final Hydraulic Study, April 2006

Natural Environment Study Report, September 2004

- Addendum to Natural Environment Study Report, May 2006

Stonybrook Creek Crossing Fish Passage Draft Mitigation Report, February 2005

- Stonybrook Creek at SR 84 Culvert Replacement Hydraulic Report (WRECO 2006)

Visual Impact Assessment Summary, June 2004

Water Quality Report, November 2004