

INITIAL STUDY / ENVIRONMENTAL ASSESSMENT

SAFETY IMPROVEMENT PROJECT ON STATE ROUTE 152 IN SANTA CLARA COUNTY

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

-AND-

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
PURSUANT TO: 42 U.S.C. 4332(2)(c)

CALTRANS DISTRICT 4
OFFICE OF ENVIRONMENTAL PLANNING, SOUTH

DECEMBER 1999

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**Safety Improvement Project on State Route 152
in Santa Clara County**

State of California
Department of Transportation
and
U.S. Department of Transportation
Federal Highway Administration

Pursuant to:

Division 13, California Public Resources Code
42 U.S.C. 4332(2)(c)

Darnall W. Reynolds
District Division Chief, Planning
California Department of Transportation
District 4

Date

Jeffrey A. Lindley
Division Administrator
Federal Highway Administration

Date

**NEGATIVE DECLARATION
(CEQA)
for
Safety Improvement Project on
State Route 152 in Santa Clara County**

Pursuant to: Division 13, Public Resources Code

Project Description:

The California Department of Transportation (Caltrans) proposes construction of safety improvements along State Route 152 (Pacheco Pass Highway) between Prunedale Avenue near Gilroy and just west of the Route 152/156 junction in southern Santa Clara County (kiloposts 22.5 to 34.3). This segment of Route 152 is a rural, two-lane, conventional highway that borders the Santa Clara/San Benito County line. The project will add left-turn pockets at Prunedale Avenue (eastbound), Lovers Lane and Dunne Lane (westbound), construct passing lanes (eastbound and westbound) from Bloomfield Avenue to Old Lake Road, and construct a truck climbing lane (eastbound only) from Dunne Lane to 0.8 kilometers west of the Route 152/156 junction.

Determination:

An Initial Study has been prepared by the California Department of Transportation (Caltrans). On the basis of this study it is determined that the proposed action will not have a significant effect on the environment for the following reasons:

1. The project is compatible with local, regional, and state land use planning and will not induce growth in the area.
2. There will be no significant noise or air quality effects. The project will not change the rate of use of any natural resources.
3. The project will have no significant effect on soil and/or groundwater within the project area.
4. The project will have no significant effect on fish and wildlife.
5. No historic or archaeological sites or structures of architectural or engineering significance will be affected.
6. There will be no significant effects to the vegetation, aesthetics or scenic resources of the area.
7. The potential for geologic or seismic hazards will not be increased by the project.
8. The project will not have a significant effect on Prime Farmland.

Darnall W. Reynolds
District Division Chief, Planning
California Department of Transportation, District 4

Date

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1.0 Purpose and Need for Project

1.1 Introduction

State Route 152 (Pacheco Pass Highway) is a vital, heavily-traveled, inter-regional truck route linking the San Joaquin Valley and the southern San Francisco Bay Area. Route 152 is approximately 185 km (115 miles) long. It stretches from Route 1 near Watsonville in Santa Cruz County, easterly through southern Santa Clara County and the Pacheco Pass into Merced and Madera Counties, to State Route 99. The proposed project portion of Route 152 is a two-lane conventional highway bordering the Santa Clara/San Benito County line with a traveled way width of 7.2 meters (24 feet). Shoulders vary from 1.2 to 2.4 meters (4 to 8 feet), some of which are unpaved. State Route 101 and the City of Gilroy are located due west of the project. State Route 156 and Chimney Ridge are located to the east, with the City of Hollister approximately 10 miles to the south. The foothills of the Diablo Mountain Range border the northern areas of the project.

District 4 of the California Department of Transportation (Caltrans) proposes construction of safety improvements along Pacheco Pass Highway, between Prunedale Avenue near Gilroy and just west of the Route 152/156 junction in southern Santa Clara County (kiloposts 22.5 to 34.3). The project will add left-turn pockets at Prunedale Avenue (eastbound), Lovers Lane and Dunne Lane (westbound), construct passing lanes (eastbound and westbound) from Bloomfield Avenue to Old Lake Road, and construct a truck climbing lane (eastbound only) from Dunne Lane to 0.8 kilometers west of the Route 152/156 junction.

All construction will take place on the westbound (north) side of the existing highway except for work along the eastern portion of the truck climbing lane. The three left-turn pockets will be 3.6 meters wide with storage/deceleration lanes 205 meters in length. The eastbound and westbound passing lanes will be 3.6 meters wide, with a 1.8-meter median containing a concrete barrier, and lengths of 1360 meters (westbound) and 805 meters (eastbound). The eastbound truck climbing lane will be 3.6 meters wide and 1980 meters in length. All shoulders will be 2.4 meters wide. Existing bridges along the project limits will not be widened.

1.2 Background

This safety improvement project was initiated in 1988 to address higher than normal accident rates along State Route 152 where it remains a two-lane conventional highway. This portion of Route 152 has high traffic volumes and heavy truck use. The accident data reveals that the accident rate along this section of Route 152 is higher than the statewide average, and attempts have been made to reduce the number of accidents through various safety projects.

A Project Study Report to provide passing lanes and a truck climbing lane was approved in September 1989, but lacked funding. In addition to the proposed passing and truck climbing lanes, former Santa Clara County Supervisor Michael Honda, with the support of former Congressman Norman Mineta, requested the addition of left-turn pockets at three intersections along this segment of 152. The Santa Clara County Transportation Agency also recommended the left-turn pockets. A Supplemental Project Study Report completed in 1993 added left-turn pockets to the project, but the project still had no funding. The project finally received the necessary funding in 1998 for the proposed left-turn pockets, a passing lane and truck climbing lane.

This project was established as a demonstration project under the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991. Federal funding in the amount of \$5.9 million is available for the project under the Federal Demonstration Program. The State will provide

additional funds from the Interregional Transportation Improvement Plan (ITIP). The project is expected to cost approximately \$14 million.

1.3 Purpose and Need for the Project

The two-lane stretch of State Route 152 between State Route 101 and the Route 152/Route 156 junction has experienced increased traffic volumes in recent years. Demands posed by a population and housing explosion in the Bay Area, especially in Santa Clara County, and an increase in commercial traffic, account for the increase. Additional congestion and safety hazards arise from the funnel effect that occurs when westbound traffic on State Route 152 transitions from a four-lane expressway to a two-lane conventional highway beginning at the Route 152/156 junction. The two-lane portion of Pacheco Pass Highway also experiences a higher than normal accident rate for this type of facility.

The purposes of this project are to:

1. reduce accidents on State Route 152 between State Route 101 and Route 152/Route 156 junction
2. facilitate movement of freight between San Joaquin Valley and San Francisco Bay Area
3. improve roadway operations

State Route 152 is an important truck route linking the southern Bay Area and the Salinas Valley to the San Joaquin Valley. Despite the importance of Route 152 as a major corridor for goods movement, only minor improvements have been made on the twelve-mile, two-lane, conventional highway segment of Route 152 between Route 101 in Gilroy to the Route 152/156 junction.

There are few opportunities for vehicles to pass in the opposing traffic lane within the Route 152 project limits. The curvilinear alignment restricts sight distances, making passing movements unsafe. At present, there are no passing lanes within this highway segment. Traffic becomes backed up behind slower moving trucks and farm equipment, especially in the uphill sections. The existing shoulder widths are narrower than current design standards. In 1997, the annual average daily traffic (AADT) for all vehicles along the project portion of Pacheco Pass Highway was 21,700. The above-mentioned problems are amplified by the high percentage of trucks (nearly 20% of traffic is trucks and 75% of all trucks are semi-trucks). Over 4,000 trucks travel daily on this portion of State Route 152. Traffic backs up periodically throughout the day behind slower moving vehicles, indicating a need to provide additional passing opportunities along the highway. A combination of increased commuter trips and increased commercial traffic, coupled with existing road conditions, could have serious implications on the inter-regional movement of freight. Table I describes the truck traffic in 1997 along the project portion of State Route 152.

Table I. Truck Traffic Summary (1997) on State Route 152 within Project Limits

AADT All Vehicles	Truck AADT Total	Truck % of Total Vehicles	Semi-Truck % of Truck Total
21,700	4,036	18.6	74.2

A peak hour average daily traffic (ADT) value is useful in estimating the amount of congestion experienced, and shows how near to capacity the highway is operating. The peak hour normally occurs every weekday during commutes to and from work. The average daily traffic over a period of a year divided by 365 days yields the annual average daily traffic. Table II

shows the various AADT values in 1998 for two locations within the project limits along State Route 152.

Table II. Annual Average Daily Traffic (1998) on State Route 152 within the Project Limits

Location	PM Peak Hour Volumes	AADT
Bloomfield Road	1,200	15,800
Route 152/156 Junction	1,450	19,600

Caltrans calculates the average accident rates annually for various types of highways, intersections, and interchanges. These average rates provide a basis for comparing actual accident data over a given period for a particular highway segment or interchange.

Accident rates along eastbound and westbound State Route 152 in the project area are higher than the average for similar two-lane, conventional highways in California. As described in Table III, during the period from July 1996 to June 1999, there were 19.1% more accidents than the statewide average for this type of facility. There were 1.05 accidents per million vehicle miles (mvm) in the project area within this time period. Of these 136 accidents, 51 involved injury and 7 were fatal. Statewide, the accident rate for a comparable roadway was 0.85 accidents/mvm.

Table III. Accident Summary for State Route 152 in Project Area

Time Period	Number of Accidents	Actual Rate ₁ Fatal+Injury	Average Rate ₁ Fatal+Injury	% Higher/Lower than Average
July 1996- June 1999	136	1.05	0.85	+19.1

Actual Rate₁: Total Accidents/Million Vehicle Miles Traveled

From 1996-98 there were 152 accidents along the project portion of State Route 152. Table IV describes the types of accidents within this three year time period.

Table IV. Types of Accidents (1996-98) on State Route 152 within the Project Limits

Number of Accidents	Percent	Accident Types
67	44.1	hit object
33	21.7	rear end
13	8.6	overturn
12	7.8	side swipe
10	6.5	head-on
10	6.5	other
5	3.0	broadside
2	1.3	auto-pedestrian

The current Level of Service (LOS) is rated as "E" along eastbound State Route 152 within the limits of the proposed truck climbing lane during the afternoon peak hour. The LOS generally measures the operational conditions along a traffic corridor based on factors, such as speed,

travel time, freedom to maneuver, and traffic interruptions. The V/C Ratio signifies the number of vehicles (V) using the roadway compared to the roadway capacity (C). A V/C Ratio of 1.00 indicates the roadway is at capacity. There are six LOS ratings (A through F) with LOS "A" representing the best case scenario with uninterrupted flow and LOS "F" signifying congestion and interrupted flow. Table V describes how the LOS is determined.

Table V. Levels of Service Summary

Level of Service	Maximum Density*	Maximum V/C Ratio	Description
A	10	0.304	Free-flow operations; vehicles unimpeded in ability to maneuver in traffic stream
B	16	0.487	Reasonably free-flow conditions; only slightly restricted ability to maneuver
C	24	0.715	Flows still near free-flow speed but noticeably restricted ability to maneuver
D	32	0.876	Speeds begin to decline; maneuverability limited and queues begin to form
E	40	1.000	Operation at capacity of roadway; maneuverability extremely limited and queues form with any disruption
F	varies	varies	Failure conditions indicating breakdowns in vehicular flow with long queues forming at breakdown points

* Density is the number of passenger car equivalents per mile per lane

1.4 Related Projects

In the early 1990's, Pacheco Pass Highway was upgraded to a four-lane expressway from just east of the Route 152/156 junction to the Santa Clara/Merced County line. A Draft Tier 1 Environmental Impact Report/Statement (EIR/S) entitled "Route 152 Route Adoption and Right of Way Preservation" was prepared in 1994 to select a new location for the portion of Route 152 between Santa Teresa Road and the Route 152/156 junction. The facility would have provided four traffic lanes constructed with standard design features. The Draft EIR/S was never adopted and right of way was not secured for an upgraded alignment.

Three other projects are presently proposed near the project area. Santa Clara County's Measure A/B Program proposes safety improvements at the State Route 101/152 interchange and providing access to some industrial lands located along Route 152. Caltrans District 5 is studying a proposal to widen State Route 25 from a two-lane highway to a four-lane expressway from the City of Hollister to the Route 25/101 interchange. The third proposed project is minor, involves restriping the Route 152/156 junction, and will be completed in 2000.

2.0 Project Description

2.1 Safety Improvement Project

Caltrans is proposing safety improvements along a portion of the two-lane section of State Route 152 between Prunedale Avenue and 0.8 kilometers west of the Route 152/156 junction. The safety improvements consist of providing left-turn pockets at three intersections, constructing eastbound and westbound passing lanes, and adding an eastbound truck climbing lane. The Project Overview (Exhibit II) and Typical Cross-Sections (Exhibit III) show the layout of the project and the proposed work.

A left-turn pocket is proposed at Prunedale Avenue in the eastbound direction. All widening for the left-turn pocket will take place on the north side of the highway. Tapering for the left-turn pocket will begin about 340 meters west of Prunedale and extend another 415 meters east, where it will taper back into the existing highway. The storage/deceleration lane portion of the left-turn pocket will be 3.6 meters wide and 205 meters long. A shoulder 2.4 meters wide will be constructed on the north side of the highway along the entire length of the left-turn pocket. A drainage ditch along the north side of the highway will be relocated further to the north. Culverts will be lengthened to accommodate the new location of the ditch.

Eastbound and westbound passing lanes will be constructed from Bloomfield Avenue to Old Lake Road, with all widening on the north side of the highway. Each passing lane will be 3.6 meters wide with 2.4-meter shoulders. A median 1.8 meters wide, with a concrete barrier will be constructed between the eastbound and westbound lanes. The eastbound passing lane will be 805 meters long and the westbound passing lane will be 1,360 meters in length. A drainage ditch on the north side of the highway will be relocated further north. Culverts will be lengthened to accommodate the new location of the ditch.

A large eucalyptus tree located in the southeast corner of the Route 152/Bloomfield Avenue intersection will be removed as part of the safety improvement project. The tree is located approximately ten feet off the highway pavement, and poses a visual obstacle for vehicles on Bloomfield Avenue making left turns, right turns, or trying to cross Route 152 to the county dump road on the north side.

The second left-turn pocket will be constructed at Lovers Lane in the westbound direction. The tapers for the left-turn pocket will be 240 meters in length. The storage/deceleration lane will be 3.6 meters wide and 205 meters long. The entire left-turn pocket will be 685 meters in length. A 2.4-meter wide shoulder will be constructed along the north side of the highway for the entire length of the left-turn pocket. Soil nail walls, a type of retaining wall, will be used to lessen the effects of cuts along the north side of the highway, where all widening for the left-turn pocket is proposed.

The third left-turn pocket is proposed at Dunne Lane in the westbound direction. Tapers on the east and west side of the left-turn pocket will be 240 meters long. The storage/deceleration lane will be 205 meters long and 3.6 meters wide. The left-turn pocket will have a total length of 685 meters. A 2.4-meter wide shoulder will also be constructed on the north side of the highway for the entire length of the left-turn pocket. A drainage ditch on the north side of the highway will be relocated further north, with all culverts lengthened to accommodate the new ditch location.

Finally, an eastbound truck climbing lane will be constructed from Dunne Lane to about 0.8 kilometers west of the Route 152/156 junction. All widening for the truck climbing lane will take place along the north side of the highway, except for the easternmost portion which will cross over to the south side. The truck climbing lane will be 3.6 meters wide, 1,980 meters long, and have a 2.4-meter wide shoulder. Soil nail walls will be used where there is existing steep topography along this portion of the project. A noise barrier is being considered near the farm residences on the north side of the highway near Dunne Lane.

2.2 No-Project Alternative

Safety improvements, including left-turn pockets, passing lanes, and a truck climbing lane, would not be constructed along State Route 152 under the No-Project Alternative. The existing congestion and safety hazards along this segment of Route 152 would remain.

3.0 Affected Environment, Impacts and Mitigation

The portion of State Route 152 where safety improvements are proposed is located in a rural, agricultural setting, with the Diablo Range foothills to the north, the City of Gilroy to the west, and the San Felipe Valley to the south. Route 152 traverses southern Santa Clara County and parallels the Santa Clara/San Benito County line and Pacheco Creek. The western section of the project between Prunedale Avenue and Old Lake Road is relatively flat. The terrain varies from relatively flat to rolling hills, from Lovers Lane toward the eastern end of the project. The lowest elevation along the project is San Felipe Lake at 42 meters. The truck climbing lane portion of the project reaches an elevation of 133 meters, the highest point along the project.

Farm residences and barns are scattered along both sides of the highway in the project area. San Felipe Lake is located on the south side of Route 152 just east of the terminus of the passing lanes at Old Lake Road. Roadside drainage ditches and various creeks carry drainage from the Diablo Range foothills into San Felipe Lake and the Pajaro River, which empties into the Monterey Bay.

The Mediterranean-type climate in the project area is ideal for agriculture with moderate temperatures and light to moderate annual precipitation. Maximum temperatures in the summer range from 28^o C to 32^o C with winter maximum ranges from 6^o C to 14^o C. The average minimum temperatures are about 10^o C in summer and 2^o C in winter. Temperatures of 0^o C or lower are expected in most years in the project area. Most precipitation occurs between November and April with an annual mean of 350 to 400mm.

3.1 Visual Resources

The proposed project is located within the southern limits of the Santa Clara Valley between the Santa Cruz Mountains to the west and the Diablo Range to the east, providing an aesthetically pleasing viewshed from the State Route 152 corridor. The overall visual quality of the landscape along the Route 152 project is rated as "moderate" in respect to various natural and man-made elements based on an evaluation of the area's vividness, intactness, and unity. Vividness refers to the memorability of the view, intactness refers to the condition of the landscape element/view, and unity refers to how the elements in the view work together to give a quality view.

The character of the landscape within the project area is distinctly rural. Views along this portion of Pacheco Pass Highway are farm-related and include agricultural fields, grazing lands, barns and other farm buildings, and widely scattered rural residences with foothills and mountain ranges as a backdrop. Some sections of the highway have mature trees and shrubs scattered along the shoulders while others are void of vegetation and offer long range views of the rural landscape. State Route 152 is not designated as a State Scenic Highway nor is it

eligible for such a designation. Similarly, it is not designated as a Santa Clara County Scenic Highway.

Widening of the highway for the left-turn pockets, passing lanes, and truck climbing lane will require the removal of 88 trees, 12 different species. Of the 12 species of trees to be removed, 6 are California native species and represent 57 of the 88 trees removed. One mature eucalyptus tree will be removed at the Bloomfield Avenue intersection because it poses a visual obstacle for vehicles on Bloomfield Avenue approaching Route 152 from the south.

Construction of the passing lanes will require the relocation of existing overhead utilities and fences. Grading in areas where widening is proposed will create exposed cut and fill slopes. In areas where the existing topography is steep, cut slopes will be contained with soil nail walls.

The proposed project will result in some measure of change to the existing visual environment. The change will be more noticeable in particular areas along the project. A noise barrier proposed near Dunne Avenue will be the most noticeable feature of the project, since it will introduce a unique element to the rural setting along Route 152. Other project features will be similar in character to existing features along the highway, and the overall magnitude of change created will be relatively small.

The project will not have a substantial adverse effect on scenic vistas, will not substantially damage scenic resources, and will not substantially degrade the existing visual character or quality of the project area. The noise barrier will be a visual contrast to the prevailing rural landscape and will affect visual character in the immediate vicinity of Dunne Lane. The barrier will also reduce and/or block existing views toward the north from the residences located along the noise barrier site. Since the barrier will extend the entire length of the residential property frontages, the existing driveways will need to be relocated to provide access at the western end of the wall.

No aspect of the proposed safety improvement project along Pacheco Pass Highway will create new sources of substantial light or glare.

To minimize the degree of change and reduce the visual impacts associated with the proposed project, mitigation measures including contour grading, slope rounding, top-soiling, and revegetation will be incorporated. A minimum of 176 tree seedlings will be planted to provide a 2:1 replacement ratio for trees removed during project construction. Where setback requirements for safety and maintenance permit, the trees will be planted adjacent to, or as close as possible to, areas where the trees were removed. Screen planting will be installed along the noise barrier to reduce its visual exposure to highway motorists. Soil nail walls placed along the project will be textured and stained to better blend with the surrounding environment.

3.2 Agriculture Resources

Highly productive soils and a mild Mediterranean climate have provided Santa Clara County with a rich history in agriculture. In recent years, many hectares of agricultural lands have been converted to non-agricultural uses even though there are state and federal laws that serve to protect prime farmland from conversion to non-agricultural uses.

The Williamson Act, or California Conservation Act of 1965, provides a property tax incentive to agricultural property owners who keep their land in agricultural use. Federal Agencies are required to consider adverse affects of their projects on farmlands per the implementing regulations (7 CFR Ch. VI part 658) of the Farmland Protection Policy Act (FPPA). The FPPA requires an inventory, description, and classification of any affected agricultural lands to be recorded on a Farmland Conversion Impact Rating.

About 8 hectares (20 acres) of agricultural lands will be directly and permanently affected/converted by the project to a non-agricultural use. Prime Farmland constitutes 2.7 hectares (6.8 acres) of that total, with the remainder affecting Farmland of Local Importance, 2.4 hectares (6.0 acres), and Grazing Land, 3.0 hectares (7.5 acres). Prime Farmland is land with the best combination of physical and chemical features for the production of agricultural crops. Farmland of Local Importance includes small orchards and vineyards located primarily in the foothill areas, and dry cropland for grains and hay. Grazing Land consists of land containing vegetation suitable for grazing livestock.

It is not possible to design the project in a way to avoid the use of agricultural lands. However, steps were taken to minimize the number of hectares of farmland to be affected. Only the fringes of existing agricultural and grazing lands will be affected along the highway, allowing the agriculture operations to remain economically viable.

3.3 Air Quality

The air quality analysis for this project utilizes the Project-Level CO Analysis Protocol developed jointly by Caltrans and the Institute of Transportation Studies and approved by the Environmental Protection Agency (EPA) for use in the Bay Area. This project is located in the San Francisco Bay Area Air Basin (SFBAAB), which is a maintenance area for carbon monoxide (CO). The EPA designated the Bay Area a non-attainment area for the national one-hour ozone standard in August 1998.

The protocol requires that the proposed project and facility be compared with similar facilities within the same air district when analyzing air quality. The safety improvement project along State Route 152 will be of smaller scale and have less congestion than comparable facilities within the SFBAAB. Since the comparable facilities are within a maintenance area, this project will also meet micro-scale air quality requirements. The project will not have an adverse effect on air quality and will not exceed state or federal CO standards.

Air pollutants will be generated during construction of the project. Construction equipment and vehicles emit hydrocarbons, oxides of nitrogen, CO, and particulates. Dust generated by excavation, grading, hauling, and other activities will account for most of the air pollution during construction. Requirements to minimize or eliminate dust through the application of water or dust palliatives during construction will be included in the "Special Provisions and Standard Specifications" for the project.

This project is included in the 1998 Regional Transportation Plan (RTP) and 1999 Transportation Improvement Program (TIP) which were approved by FHWA and Federal Transit Administration (FTA) on October 5, 1998. The design concept and scope of the work has not changed.

3.4 Biological Resources

The State Route 152 corridor is a rural highway dominated by farming and grazing lands. Pacheco and Holstein creeks, the Pajaro River, and San Felipe Lake are the major waterways located along the project limits. Riparian and wetland areas have developed within the various drainage ditches along Route 152 that provide habitat and movement corridors for wildlife. Even smaller strips of riparian habitat located along the project limits are vital for wildlife to move through the agricultural lands between water bodies and forested areas when foraging. The riparian areas along the project consist mostly of willow, elderberry, blackberry, and poison oak. Some of the drainage ditches and wetland areas contain suitable habitat for two sensitive species known to occur in the vicinity of the project: the California red-legged frog (*Rana aurora draytonii*) and the California tiger salamander (*Ambystoma tigrinum*)

californiense). The California elderberry beetle (Desmocerus californicus dimorphus) is another sensitive species with potential to occur on elderberry trees found in riparian areas along the project.

Non-native grasslands dominate much of the project area that will be affected by cuts, fills, and widening needed for the safety improvements. Most of the grasslands are associated with the oak woodlands, valley hayfields, and pastures, which are presently grazed by cattle. Foothill and valley grasslands have diverse plant communities that include coast live oak, valley oak, coyote brush, blue elderberry, and poison oak. There are several species of native and introduced grasses in foothill and valley grasslands: wild oats, fennel, bermuda, red brome, and barley. Forbs associated with the grasslands include yellow star thistle, horseweed, shooting star, California poppy, fennel and mustard.

Grasslands provide habitat for small mammals, such as ground squirrels, hares, and cottontails. They also provide foraging habitat for raptors, coyote, red fox, raccoon and striped skunk. Ruderal areas are common along the Route 152 shoulders and contain disturbed soils with non-native weedy plants. Ruderal habitat usually does not have a high wildlife habitat value and is not favored by wildlife as a food source.

3.4.1 Sensitive Species

A formal request for a sensitive species list was submitted to the U. S. Fish and Wildlife Service (USFWS) in May 1998 pursuant to Section 7 (c) of the Endangered Species Act of 1973. A list was also requested from the California Department of Fish and Game (CDFG). A sensitive species list was received from the USFWS, but the CDFG did not respond or provide a sensitive species list for the project area. Tables VI and VII provide a summary of the sensitive wildlife and plant species with potential to occur in the project area.

Table VI. Status of Sensitive Wildlife Species in the Project Vicinity

Common Name	Scientific Name	State Status	Federal Status
California tiger salamander	<u>Ambystoma tigrinum californiense</u>	none	Candidate
San Joaquin kit fox	<u>Vulpes macrotis mutica</u>	Threatened	Endangered
Western burrowing owl	<u>Athene cunicularia</u>	Species of Special Concern	None
California red-legged frog	<u>Rana aurora draytonii</u>	None	Threatened
Western pond turtle	<u>Clemmys marmorata</u>	None	Species of Concern
Southwestern pond turtle	<u>Clemmys marmorata pallida</u>	None	Species of Concern
Tri-colored blackbird	<u>Agelaius tricolor</u>	None	Species of Concern
Redwood shoulderband (snail)	<u>Helminthoglypta sequoicola consors</u>	None	Species of Concern
Giant garter snake	<u>Thamnophis couchi gigas</u>	None	Threatened

Western spadefoot	<u>Scaphiopus hammondii</u>	None	Species of Concern
Bank swallow	<u>Riparia riparia</u>	Threatened	None
San Joaquin whipsnake	<u>Masticophis flagellum ruddocki</u>	None	Species of Concern
Valley elderberry longhorn beetle	<u>Desmocerus californicus dimorphus</u>	None	Threatened
Bay checkerspot butterfly	<u>Euphydryas editha bayensis</u>	None	Threatened

Table VII. Status of Sensitive Plant Species in the Project Vicinity

Common Name	Scientific Name	State Status	Federal Status
Coyote California lilac	<u>Ceanothus ferrisae</u>	None	Threatened
Santa Clara Valley dudleya	<u>Dudleya setchellii</u>	None	Threatened
Congdon's tarplant	<u>Hemizonia parryi</u> ssp. <u>congdonii</u>	None	Species of Concern
Smooth lessingia	<u>Lessingia micradenia</u> var. <u>glabrata</u>	None	Species of Concern
Most beautiful jewelflower	<u>Streptanthus albidus</u> ssp. <u>peramoenus</u>	None	Species of Concern
Metcalf Canyon jewelflower	<u>Streptanthus albidus</u> ssp. <u>albidus</u> (C2)	None	Threatened
San Joaquin saltbush	<u>Atriplex joaquiniana</u>	None	Species of Concern
Mt. Hamilton thistle	<u>Cirsium fontinale</u> var. <u>campylon</u>	None	Candidate
Hoover's button celery	<u>Eryngium eristulatum</u> var. <u>hooveri</u>	None	Candidate
Pajaro Manzanita	<u>Actostaphylos pajaroensis</u>	None	Species of Concern
Mt. Hamilton jewelflower	<u>Streptanthus callistus</u>	None	Candidate
Showy Indian clover	<u>Trifolium amoenum</u>	None	Candidate

Surveys were conducted along the project limits to determine if any of the sensitive species listed above were present. Those surveys revealed the presence of three sensitive species in the project vicinity.

A stock pond located 70 meters (225 feet) east of the terminus of the truck climbing lane on the north side of the highway has been determined to be occupied habitat for both the California red-legged frog and the California tiger salamander. Two red-legged frog egg masses were observed at the stockpond in the spring of 1999. The tiger salamander was not observed during surveys in 1998-99, but has been observed by biologists doing survey work along Route 152 for other projects in the past.

The California red-legged frog is protected under the Federal Endangered Species Act (FESA) and listed as a "threatened" species. The California tiger salamander is a "candidate" species for protection under FESA, meaning that if the species' numbers continue to fall, the tiger salamander will become fully protected under FESA as a listed species.

The Western burrowing owl (*Athene cunicularia hypergea*), which is a "Species of Concern" under the California Endangered Species Act, was observed along the project limits on grassland shoulder slopes. The burrowing owl uses habitat characterized by low-growing grasslands containing ground squirrel burrows, below elevations of 400 feet. The burrowing owl rarely digs its own burrow in the ground in which it lives, instead will take residence in a burrow previously occupied by ground squirrels.

The Southwestern pond turtle (*Clemmys marmorata pallida*) and the Western pond turtle (*Clemmys marmorata*) inhabit streams and ponds throughout California but were not observed along the project site. The Tri-colored blackbird (*Agelaius tricolor*) uses riparian habitat for nesting and foraging, and also was not observed within the projects limits. The giant garter snake (*Thamnophis couchi gigas*) is found mostly in the Central Valley, as far west as Los Banos. None were observed during field surveys at the site.

State Route 152 is located along the northernmost range boundary of the San Joaquin kit fox (*Vulpes macrotis mutica*) which has been known to occupy habitat in areas just east of the project. Even though the San Joaquin kit fox has not been observed in the project area, a kit fox carcass was discovered in 1998 on Old Lake Road just south of the project limits.

All of the other sensitive plant and wildlife species on the list were surveyed for, but not observed, along the project limits.

Section 7 of the Federal Endangered Species Act states that any federally funded project which would affect a federally listed flora or fauna species must consult with the USFWS to determine if the project will jeopardize the sensitive species' continued existence. Since this safety improvement project will not directly affect any federally listed species, only an informal consultation with USFWS was necessary. Avoidance of the sensitive species and establishment of Environmentally Sensitive Areas (ESA) will protect the species during construction. The USFWS issued a letter of concurrence stating that the continued existence of the sensitive species located along the project is not jeopardized by the project (see Appendix C).

Additional burrowing owl surveys will be conducted along the project limits to determine if owls are using any lands within the project boundaries. If owls are using habitat within the proposed project, Caltrans will work with the CDFG on a relocation plan for the owls prior to construction.

A biologist will monitor the project site on a regular basis throughout the construction period to ensure the protection of the California red-legged frog, California tiger salamander, burrowing owl, San Joaquin kit fox, and their respective habitats along the project limits.

The red-tailed hawks will not be disturbed between March and August when they are nesting. The eucalyptus tree will be removed between September and February to avoid disturbing the hawks during the nesting season.

The USFWS is currently reviewing the biological studies that were conducted for the safety improvement project along State Route 152. A Letter of Concurrence from USFWS will be issued prior to approval of the Negative Declaration/Finding of No Significant Impact (ND/FONSI).

3.4.2 Wetlands

Wetlands are defined by the Army Corps of Engineers (COE) and EPA as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.” Wetlands generally include marshes, bogs, swamps, and similar areas, and provide habitat for many sensitive plant and animal species.

Wetland identification and delineation was conducted in October 1998, March 1999, and August 1999 to determine areas under jurisdiction of the COE. The delineations were based on a three-parameter methodology consisting of hydrology, hydrophytic vegetation, and hydric soils as described in the 1987 COE Wetlands Delineation Manual. A meeting was held at the project site with the COE on September 23, 1999 to verify the wetland and jurisdictional waters determinations.

Wetland vegetation within the project area consists primarily of willows and cattails. Other species include rush, sedge, cyperus, and poison hemlock. All wetland habitat affected by the project is considered degraded, with sparse vegetation and continuous disturbance by grazing cattle.

Caltrans Biologists, in coordination with personnel from the US Army Corps of Engineers, determined there are 0.12 hectares (0.34 acres) of wetlands and 0.004 hectares (0.01 acres) of jurisdictional “waters of the US” that will be directly affected by the project.

A Nationwide Permit will be issued by the COE for project effects on wetlands and jurisdictional waters located along the project. The California Regional Water Quality Board will issue a 401 waiver signifying concurrence with COE’s opinion that the project will not have adverse effects on wetlands or water quality. The CDFG also holds jurisdiction on streams/wetlands in the state and will be notified per a Streambed Alteration Agreement approximately six months before construction begins on the project.

Mitigation for the 0.12 hectares of wetlands directly affected by the project will consist of one or more of the following:

- enhancement of degraded wetland/riparian habitat located along State Route 152 in the project area
- enhancement of degraded wetland/riparian habitat located farther east along State Route 152 and Pacheco Creek
- creation of wetland/riparian habitat on Caltrans’ 52-acre upland mitigation site farther east along State Route 152 in Santa Clara County

Since the wetland habitat affected by the project is degraded, a replacement/enhancement ratio of 2:1 will be used for the mitigation efforts. Wetlands and “waters of the US” that will be temporarily affected by project construction will be revegetated and enhanced upon project completion. All other wetlands and “waters of the US” located along the project that will not be affected by the project are to be protected as ESA’s, with temporary barriers around each.

3.5 Cultural Resources

Section 106 of the National Historic Preservation Act (NHPA) of 1966 requires federally funded projects to consider the project’s effects on historic properties determined eligible for, or listed in, the National Register of Historic Places. The purpose of this law is to avoid unnecessary harm to historic properties from federal, federally assisted, or federally-licensed projects. If the proposed action will have an effect on a historical resource, the federal agency (FHWA) is required to consult with the State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation.

The California Register of Historical Resources includes properties listed on or determined eligible for the National Register of Historic Places and State Historical Landmarks (from number 770 on).

Cultural resource surveys were conducted along State Route 152 in 1991-92 for previously proposed projects along the highway. Additional surveys were conducted in 1998-99 to verify previous findings.

The SHPO is currently reviewing the Section 106 reports for this safety improvement project. A Letter of Concurrence from the SHPO will be included in this document once it becomes available.

3.5.1 Archaeology

The Area of Potential Effect (APE) for archaeological studies was set at the maximum limits of work proposed on the project plans. The APE includes the properties along and adjacent to the proposed project that may be somehow affected, temporarily or permanently, by the project.

A single archaeological site, outside the APE, in the vicinity of San Felipe Lake and east of Old Lake Road has been identified as eligible for listing on the National Register of Historic Places. The site is located near the central portion of the project area where no work is proposed and, therefore, will not be affected by the project. No other archaeological resources have been identified along the project APE.

An ESA will be established at the single known archaeological site. The contractor and Caltrans Resident Engineer will be advised of its location and prohibited from working or storing equipment/materials near the site. A Caltrans archaeologist will monitor the project during the construction period.

3.5.2 Historic Properties

An APE was established in consultation with FHWA in order to evaluate historic properties within the project area. The APE generally extends 60 meters from the proposed limit of work. There are two non-contiguous sections of the APE for this project. The first section of the APE begins approximately 750 meters west of Prunedale Road and continues to just east of Old Lake Road. Only properties on the north side of Route 152 are included in the APE since work is not proposed along the south side of the highway, except for the removal of a large eucalyptus tree at the Bloomfield Avenue intersection. The second section of the APE begins 480 meters west of the Lovers Lane intersection and extends easterly to 1,020 meters west of the Route 152/156 junction. Properties on the north and south sides of the highway are included in this portion of the APE, with the exception of approximately 750 meters on the south side of the highway, west of Dunne Lane.

A field survey for properties constructed before 1956 within the APE was conducted along Route 152, and the properties surveyed in 1992 were re-examined. Historical research was conducted at local and regional libraries and the Santa Clara County Assessor's office to determine the potential for architectural and/or historical significance according to National Register criteria. Many of the properties in the APE have been altered or are of recent construction and were, therefore, dismissed from further evaluation.

A search was also conducted for properties in the APE which have been designated on state or local landmark lists, such as the inventories maintained by the SHPO and the county planning

departments of Santa Clara and San Benito. There are no State Historical Landmarks in the APE. Three locally-recognized historical sites listed in the DRAFT Historical Inventory of San Benito County may be located within the APE. These are the sites of the former town of Pacheco/San Felipe and the former post office and former school at San Felipe. No historic buildings on these sites exist, and none of the post-1955 buildings on the sites today are eligible as historic, built resources for the National Register, nor are they considered to be historical resources for the purposes of CEQA (California Environmental Quality Act). (There is also no indication of any related historic archaeological features within the APE for archaeological studies.) In addition, Pacheco Pass Highway/Butterfield Stage Route is locally recognized as a potential historic resource. While the route is an old one, the actual roadbed has been straightened, widened, and otherwise improved numerous times. The current highway cannot be considered eligible for the National Register nor is it a historical resource for the purposes of CEQA.

Within the APE, only the Eschenburg-Silva Barn at 3665 Pacheco Pass Highway is eligible for the National Register of Historic Places. A Letter of Concurrence from the SHPO will be issued prior to approval of the ND/FONSI. The historic barn is also a historical resource for the purposes of CEQA. No road widening is proposed adjacent to the Eschenburg-Silva Barn.

The proposed project will have no effect on historic buildings or resources eligible for the National Register of Historic Places, nor will it affect properties that qualify as historical resources under CEQA.

3.6 Energy

The safety improvements proposed along State Route 152 will not increase the capacity of the highway nor will there be an increase in energy consumption. However, energy resources will be utilized during construction of the left-turn pockets, passing lanes, and truck climbing lane.

3.7 Geology, Soils and Seismicity

The project lies in the Central Coast Range geomorphic province, at the base of the Diablo Range and bordering the Santa Clara Valley. The Diablo Range is an uplifted mass of Mesozoic sedimentary rocks. The Santa Clara Valley is characterized as a basin filled with Cenozoic sediments.

The Calaveras fault, which is a branch of the San Andreas Fault system, separates the Diablo Range from the Santa Clara Valley and crosses Route 152 near Old Lake Road. Geologic structure and distribution of

bedrock units are controlled by the Calaveras fault zone. East of the Calaveras fault zone are sedimentary rocks characteristic of the late Cretaceous and early Tertiary periods, while sedimentary rocks of the late Tertiary to early Quaternary are found west of the fault. Alluvial fan and flood plain deposits of the late Quaternary are present in the Santa Clara Valley floor south of the bedrock hills.

The soils are primarily deep, well-drained clays and loams between Prunedale Avenue and Old Lake Road. From Lover's Lane to the eastern terminus of the project, the soils are well-drained San Benito clay loam.

No springs, artesian conditions, or perched water tables were observed along the project limits. Ground water levels within the valley alluvium may be relatively high, but not likely to be affected by shallow cuts proposed along the project.

The existing horizontal alignment and vertical profile will be nearly unchanged upon completion of the proposed safety improvements. The terrain is relatively flat between Prunedale Avenue and Bloomfield Avenue with minor cuts and fills (less than 2 meters in height). From Lover's Lane to the eastern terminus of the project the terrain varies from relatively flat to rolling. Existing cut slopes along this portion of the project are 1 meter vertical to 1 meter horizontal (1V:1H) with a maximum height of 14 meters. The fill slopes are mostly 2V:3H with a maximum height of 18 meters.

The cut slopes along the project are in good condition and are vegetated. There are indications of minor surface sloughing, sliding, and rockfall in certain areas, but there is no sign of slope instability along the project limits. Cut slopes appear to be weathered sandstone and siltstone. Some sloughing is evident in the more heavily weathered rocky slopes. There is apparent rockfall and rock outcropping at the Lover's Lane cut slope. One of the shorter cut slopes at Lover's Lane consists of sandstone in a poorly cemented sandy clay matrix and appears to be quite erosive. A few slopes show sign of shallow sloughing (less than 0.6 meters). Fills along the eastern portion of the project appear to consist of native materials and are in good condition with no indication of slope instability, settlement or erosion. The asphalt concrete along the entire length of the project limits appears to be in good condition.

In locations where existing fills are to be widened, the new fill areas will be notched into the existing embankment. Soil nail walls will be used on a majority of the cut slopes to ensure stability and less erosion. Soil nail walls use steel rods (nails) that are closely grouped and drilled into the face of a cut for anchoring. The nails allow the earthen material on the face to be retained. Placement of nails is conducted from the top of the slope down to minimize excavation. Soil nail walls allow for steeper cuts and less excavation, and have less effect on lands adjacent to the cut areas. Erosion control blankets and hydroseeding will also be used to minimize erosion.

The Calaveras fault is a major branch of the San Andreas Fault system. The Calaveras fault diverges from the San Andreas Fault south of Hollister and extends north to San Ramon. Movement along the fault is recorded as right-lateral strike-slip with a creep documented at 2 to 3mm per year at Sunol. An earthquake of magnitude 5.9 on the Richter scale occurred along the Calaveras fault in 1979 and a 6.2 earthquake was recorded in 1984 with epicenters in Anderson Lake and Morgan Hill, respectively. Table VIII summarizes the seismic faults within the project vicinity.

Table VIII. Seismic Faults in the Project Vicinity

Name of Fault	Type of Fault	Distance from Project	Maximum Credible Event
Calaveras-Pacines-San Benito	Strike Slip	0 km	7.5
Quien Sabe	Strike Slip	6 km	6.5
Sargent	Strike Slip	9 km	6.75
San Andreas (Santa Cruz Mtns.)	Strike Slip	15 km	7.0
San Andreas (north)	Strike Slip	15 km	7.9
Zayante-Vergales	Strike Slip	20 km	7.25
Ortigalita	Strike Slip	28 km	6.9
Monterey Bay	Reverse	50 km	6.5

The California Division of Mines and Geology has classified the area between Prunedale Avenue and Old Lake Road as having a high potential for liquefaction, lurching, and lateral spreading, as the water table is 3 to 6 meters below the ground surface.

Near Lover's Lane and the proposed truck climbing lane portion of the project, there is a moderate potential for earthquake-induced landslides. The entire eastern end of the project has a high potential for ground displacement along fault traces.

Areas of potential liquefaction along the project will be treated with ground improvements, such as dynamic compaction or stone columns. Dynamic compaction involves use of heavy equipment to compact the layers of sand below the ground surface. Stone columns are constructed by filling drilled holes in the ground with rock that is compacted into the holes. Seismic forces will be included in all slope stability analyses.

3.8 Hazardous Materials

An Initial Site Assessment (ISA) was conducted for the State Route 152 project site in May 1998. The ISA serves to identify potentially hazardous materials that may be present within the project area. A field inspection was conducted at the site, as well as research of federal, state, and local records. Based on the ISA, there are no hazardous materials within the project area, but further investigation will be conducted during the Plans, Specifications and Estimates (PS&E) phase of the project. Preliminary site investigations (soil sampling for aerial deposited lead and other potential contaminants of concern) will also be conducted during the PS&E phase. The Porter Cologne Water Quality Act, the Hazardous Substances Control Act, and other provisions of the Health and Safety Code contain regulations governing hazardous materials in California.

Any hazardous materials, with the exception of aerial deposited lead (ADL), found along the footprint of the project will be cleaned up and disposed of at an appropriate permitted disposal facility. The disposal and reuse of ADL in the soil will be consistent with the disposal variance issued to Caltrans by the Department of Toxic Substance Control. Regulatory procedures governing hazardous site remediation and waste disposal shall be in accordance with all rules and regulations of agencies including, but not limited to, the following:

- U.S. Department of Transportation (USDOT)
- U.S. Environmental Protection Agency (USEPA)
- California Department of Health Services (CDHS)
- California Environmental Protection Agency (Cal/EPA)
- California Department of Toxic Substances Control (DTSC), Region 2
- California Integrated Waste Management Board (CIWMB)
- California Air Resources Board (CARB)
- California Water Resources Control Board (CWRCB)
- California Division of Occupational Safety and Health Administration (Cal-OSHA)
- San Francisco Bay Regional Water Quality Control Board (SFRWQCB)
- Bay Area Air Quality Management District (BAAQMD)
- County of Santa Clara

3.9 Hydrology

Surface drainage along the project limits is generally from the Diablo Range, north of the project site, to the Santa Clara Valley, south and west of the site. The eastern portions of the project drain into Ortega and Pacheco Creeks and their tributaries, which flow into San Felipe Lake. San Felipe Lake, which is approximately midpoint of the project, drains into the Pajaro

River via Millers Canal. The Pajaro River flows westerly, then southerly into Monterey Bay. Western portions of the project drain into the Pajaro River and San Ysidro Creek.

The project as proposed is not within a floodplain. The lowest elevation along the project is 153.3 feet compared to the floodplain elevation of 146.5 feet. San Felipe Lake, located just east of Old Lake Road and the terminus of the passing lane, was recorded with an elevation of 150.84 feet during the flooding in April 1958, which was considerably greater than a 100-year event. (A 100-year event is a flood that usually occurs about once every 100 years.)

Only a slight increase in runoff along the highway is expected with no substantial effect on the performance of cross-culverts located along the project. Existing culverts located along the project will be extended and some repositioning of end sections may be required; however, all work will take place outside of the floodplain. A culvert located along the truck climbing lane portion of the project is bent and rusted and will be replaced. There will be no impacts to the floodplain or its natural, beneficial floodplain values.

There are no observed earth settling problems along the project limits. However, there is potential for settlement within the alluvial areas where fills are proposed.

Standard permeable blankets and underdrains will be placed beneath pavement sections in areas where the roadway will be constructed into a cut slope. The potential for settlement within the alluvial areas can be mitigated by use of waiting periods, surcharging, and lightweight fill.

3.10 Land Use

The current land-uses along the State Route 152 project area are agricultural and residential. The General Plan designation within the specific project portion of the highway is large-scale agriculture.

According to the Santa Clara County Trails Master Plan (1995), Santa Clara County has proposed a segment of the Monterey-Yosemite Trail, a multi-use trail, along a portion of Route 152 within the project limits. However, the proposed trail currently has no established right of way along Route 152. The County is proposing to use the cattle undercrossing located east of Dunne Lane as a connector for the Monterey-Yosemite and Benito-Clara Trails.

Caltrans' proposed safety improvements along Route 152 will not preclude a trail or bike lanes proposed by Santa Clara County.

3.11 Noise

Existing noise levels were determined using field measurements and computer modeling, and were adjusted to reflect the noisiest hour of the day. Measurements were conducted at six exterior locations fronting residences that face the Pacheco Pass Highway. In locations where noise levels were determined to be at or below 62 dBA, Leq (h), no further studies were conducted.

Measurements were conducted using FHWA's Traffic Noise Model (TNM) Version 1.0 that was approved in March 1998 for highway traffic noise prediction and analysis. TNM predicts highway traffic noise at nearby receivers and aids in the design of highway noise barriers. It includes the 1994-95 noise emission levels for automobiles, medium trucks, heavy trucks, buses, and motorcycles. Noise emission levels consist of A-weighted sound levels. In addition, TNM includes full-throttle noise emission levels for vehicles on upgrades and vehicles accelerating away from traffic-control devices such as stop signs, toll booths, traffic signals, and on-ramps. TNM combines these full-throttle emission levels with its internal speed

computations to account for the full effect (noise emissions plus speed) of roadway grades and traffic-control devices.

A traffic noise impact occurs when future predicted noise levels, as a result of the project, approach or exceed the noise abatement criteria (NAC) of 67 dBa, Leq(h) for activity category "B". Activity category "B" refers to hospitals, libraries, churches, schools, hotels, motels, residences, parks, active sports areas, playgrounds, recreation areas, and picnic areas.

Although the proposed project will have a negligible impact on future noise levels, existing noise levels along the project limits generally exceeded the noise abatement criteria of 67 dBa, Leq(h) for residential areas at certain locations. The existing noise levels ranged between 71 and 74 dBa, Leq(h). Table IX summarizes the results of the noise analysis for the project.

Table IX. State Route 152 Noise Study Summary within Project Area

Study Location	Existing Peak Level Noise (dBa)	Projected Peak Level Noise (dBa)
Between Bloomfield Ave. and Old Lake Rd. (westbound) Station 129+00 to 130+10	73	74
Between Bloomfield Ave. and Old Lake Rd. (westbound) Station 131+60 to 133+40	74	75
Between Bloomfield Ave. and Old Lake Rd. (eastbound) Station 136+80 to 140+00	71	72
West of Old Lake Road (eastbound) Station 142+00 to 146+00	71	72
Dunne Lane (westbound) Station 203+00 to 203+85	74	75

Where feasible, noise abatement in the form of noise barriers have been considered for locations where noise levels approach or exceed the noise abatement criteria. A potential location for a noise barrier (3.6 meters high and 85 meters long) exists at one location along the project limits to abate the effects of noise from the highway. The site is near farm residences on the north side of State Route 152 at the eastern end of the project near Dunne Lane (Station 203+00 to 204+00). Noise barriers are not included at other study locations since they did not prove to be cost-effective considering the number of residences affected.

Where mitigation is warranted, the cost-effectiveness of abatement for this project was determined by applying the "Traffic Noise Analysis Protocol" (TNAP) for new highway

construction and reconstruction projects, dated October 1998. The following factors briefly described below determine the maximum reasonable allowance for each noise barrier.

For each noise abatement facility, the base allowance of \$15,000 (based on calendar year 1998) per benefited residence is adjusted upwards by the following reasonableness factors:

- Absolute noise levels. These are predicted future noise levels at the critical design receiver without noise abatement.
- The increase of future predicted noise levels with project over existing noise levels.
- Achievable noise reduction provided by the proposed noise abatement.
- Majority of benefited residences (more than 50%) in existence before January 1, 1978 or new highway construction.

In addition, total noise abatement costs cannot exceed \$45,000 per residence or 50% of total project construction costs, abatement costs not included.

Traffic control requirements, utility relocations, drainage provisions, special foundation designs, and poor soil conditions greatly influence barrier cost and are determined during the detail design phase.

Noise levels from construction-related activities will be higher at times than current roadway noise levels along the project area.

3.12 Socio-Economics

Santa Clara County has a population of almost 1.6 million and is the most populous county in the San Francisco Bay Area. Santa Clara County leads the Bay Area in absolute population and household growth in short and long-term projections. About 2.0 million people are projected to live in Santa Clara County by 2010. Most of the growth is expected to occur in San Jose and the southern portions of the county.

The City of Gilroy, which is located just west of the project, surged from a population of 21,641 in 1980 to 31,487 in 1990, a 45% increase. Gilroy's population in 1997 was 36,550 and continues to grow since it is one of the few remaining areas in Santa Clara County with relatively affordable housing (average home price \$235,000 in 1998). Morgan Hill, located just north of Gilroy along State Route 101, increased its population by 40% from 1980 to 1990, and is the proposed site of a new Cisco Systems manufacturing plant expected to employ 20,000. The average household income in Gilroy was just over \$40,000 in 1990, compared to incomes between \$45,000 and \$110,000 in northern Santa Clara County cities.

Northern Santa Clara County or "Silicon Valley" has an economy quite distinct to the agricultural setting in southern Santa Clara County. The rural, agricultural character was quickly changed beginning in the 1960's when electronics, defense, and aerospace industries fueled the population and employment growth in the Silicon Valley. Farming and food processing still remain as vital economic elements in southern Santa Clara County. However, agricultural employment has declined and continues to decline in Santa Clara County as a whole.

3.13 Water Quality

Caltrans continually monitors storm water runoff along highways and construction sites throughout the state. Other than vehicular traffic-related sources on State Route 152, there are no other major sources of storm water pollution in the project vicinity. Based on the available monitoring data, project purview, and proper implementation of the Storm Water

Pollution Prevention Plan (SWPPP), it is anticipated that there will be no substantial effect on the water bodies located within the project area.

This safety improvement project is located within the jurisdiction of the Central Coast Regional Water Quality Control Board. Since proposed construction activities for the project involve earthwork and drainage improvements in an area greater than 5 acres, the project must comply with the conditions of the National Pollutant Discharge Elimination System (NPDES) Permit Order #99-06-DWQ CAS000003 issued by the State Water Resources Control Board. A SWPPP is required and will be prepared and implemented by the contractor to reduce the discharge of pollutants associated with the project during construction.

Permanent Control Measures are required as part of the NPDES Permit to reduce the discharge of pollutants into storm water after project construction is complete. Pollutant deposition on the roadway accounts for nearly all storm water pollutants along highways, and is directly proportional to traffic volumes and LOS. Since the proposed project will reduce periodic congestion, improve traffic operations, and enhance safety by reducing the risk of accidents, the level of pollutant deposition on the highway should be reduced. Based on the Preliminary Drainage Review, there will be no substantial increase in runoff along the project area. However, devices to reduce the velocity/energy of water flow in newly extended culverts will be considered for incorporation into the project, which will control erosion and scour along the project.

4.0 Environmental Evaluation

4.1 List of Technical Studies and Reports

Several technical studies/reports were prepared for the environmental evaluation of this safety improvement project. The following studies/reports are available for review at Caltrans-District 4, 111 Grand Avenue, Oakland, California:

Historic Property Survey Report, December 1999

Archaeological Survey Report, December 1999

Floodplain Evaluation Report, March 1998

Traffic Study, January 1996 and October 1999

Project Study Report for Route 152, September 1989

Supplemental Project Study Report for Route 152, June 1993

Preliminary Geotechnical Report, August 1999

Natural Environment Survey Report, December 1999

Visual Analysis, December 1999

Draft Traffic Noise Impact Report, October 1999

Draft Air Quality Impact Report, October 1999

Initial Site Assessment, May 1998
Hazardous Waste Review, August 1999
Water Quality Report, August 1999

4.2 Other Sources Consulted

1998 Regional Transportation Plan for the San Francisco Bay Area
1998 California Transportation Plan, Statewide Goods Movement Strategy
U.S. Department of Agriculture, September 1999

5.0 Consultation and Coordination

The following agencies were involved in consultation and coordination with the State Route 152 Safety Improvement Project:

California Department of Fish and Game
California Regional Water Quality Control Board
California State Historic Preservation Officer
Federal Highway Administration
Metropolitan Transportation Commission
San Benito County Planning Department
Santa Clara County Planning Department
Santa Clara County Parks and Recreation
Santa Clara County Public Works
Santa Clara Valley Transportation Authority

Santa Clara County Roads and Airports Commission

US Army Corps of Engineers

US Fish and Wildlife Service

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B.S. in Civil Engineering
25 years experience in environmental studies, water quality, biology

AIR, NOISE, ENERGY, HAZARDOUS MATERIALS

Chris Corwin
Assistant Transportation Engineer
B.A. in Math, English; M.A. in Linguistics; PhD in Religion
19 years experience in environmental engineering

Romy Fuentes
Transportation Engineer
B.S. in Mineral Engineering
11 years experience in environmental engineering/hazardous waste management

Hardeep Takhar
Transportation Engineer
M.S. in Civil Engineering
2½ years experience in environmental engineering/water quality

Subhash Agarwal
Senior Transportation Engineer
B.S. in Civil Engineering
8 years experience in environmental engineering

Tim Mehta
Senior Transportation Engineer
M.S. in Civil Engineering
7 years experience in environmental engineering/water quality

Victor Zeuzem
Senior Transportation Engineer
M.S. in Civil Engineering
7 years experience in environmental engineering

RIGHT-OF-WAY

Edgar Velez
Right of Way Agent
B.A. in Management
12 years experience in right of way

HYDRAULICS

Aman Zareai
Transportation Engineer
B.S. in Civil Engineering
10 years experience in hydraulics

Thomas J. Arneson
Transportation Engineer
7 years experience in hydraulics

ADMINISTRATIVE ASSISTANCE

Merilee Colton
Associate Administrator
B.A. in Anthropology, B.A. in Religious Studies
12 years experience in administration

7.0 Environmental Determination

Based on the environmental analysis, it is determined that the appropriate environmental document for the proposed project is a Negative Declaration. The proposed project could not have a significant effect on the environment.

Robert Gross, Office Chief
Office of Environmental Planning South
Caltrans District 4

Date

Paul Ward, Project Manager
Caltrans District 4

Appendix A
Environmental Significance Checklist

Less Than

	Potentially Significant Impact	Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
I. AESTHETICS -- Would the project:				
a) Have a substantial adverse effect on a scenic vista? (see Section 3.1 of IS/EA)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and Historic buildings within a state scenic highway? (see Section 3.1 of IS/EA)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings? (see Section 3.1 of IS/EA)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? (see Section 3.1 of IS/EA)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? (see Section 3.2 of IS/EA)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use? (see Section 3.2 of IS/EA)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less Than

	Potentially Significant Impact	Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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III. AIR QUALITY -- Where available, the Significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

Would the project:

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

IV. BIOLOGICAL RESOURCES -- Would the project:

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?
(see Section 3.4 of IS/EA) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 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 US Fish and Wildlife Service?
(see Section 3.4 of IS/EA) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 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?
(see Section 3.4.2 of IS/EA) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?
(see Section 3.4 of IS/EA) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
V. CULTURAL RESOURCES -- Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in \S 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to \S 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
VI. GEOLOGY AND SOILS -- Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: (see Section 3.7 of IS/EA)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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. (see Section 3.7 of IS/EA)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking? (see Section 3.7 of IS/EA)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction? (see Section 3.7 of IS/EA)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides? (see Section 3.7 of IS/EA)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil? (see Section 3.7 of IS/EA)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? (see Section 3.7 of IS/EA)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

VII. HAZARDS AND HAZARDOUS MATERIALS --

Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? (see Section 3.8 of IS/EA)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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? (see Section 3.8 of IS/EA)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
VIII. HYDROLOGY AND WATER QUALITY –				
Would the project:				
a) Violate any water quality standards or waste discharge requirements? (see Section 3.13 of IS/EA)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? (see Section 3.9, 3.13 of IS/EA)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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? (see Section 3.9, 3.13 of IS/EA)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? (see Section 3.13 of IS/EA)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality? (see Section 3.13 of IS/EA)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
IX. LAND USE AND PLANNING - Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XI. NOISE --Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? (see Section 3.11 of IS/EA)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? (see Section 3.11 of IS/EA)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? (see Section 3.11 of IS/EA)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? (see Section 3.11 of IS/EA)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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XII. POPULATION AND HOUSING -- Would the project:

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

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

XIV. RECREATION --

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

XV. TRANSPORTATION/TRAFFIC -- Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XVI. UTILITIES AND SERVICE SYSTEMS --

Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XVII. MANDATORY FINDINGS OF SIGNIFICANCE --

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or 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? (see Section 3.14 of IS/EA)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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)? (see Section ____ of IS/EA)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? (see Section 3.14 of IS/EA)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

APPENDIX B

Farmland Conversion Impact Rating

**PROPOSED
FEDERAL HIGHWAY ADMINISTRATION
FINDING OF NO SIGNIFICANT IMPACT**

FOR

Safety Improvement Project on State Route 152

The FHWA has determined that this project will not have any significant impact on the human environment. This Finding of No Significant Impact is based on the attached Environmental Assessment, which has been adequately evaluated by the FHWA and determined to adequately and accurately discuss the environmental issues and impacts of the proposed project. It provides sufficient evidence and analysis for determining that an Environmental Impact Statement is not required. The FHWA assumes responsibility for the accuracy, scope, and content of the attached Environmental Assessment.

Jeffrey A. Lindley
Division Administrator
Federal Highway Administration

Date