Los Banos Bypass

Draft

Environmental Impact Statement/
Environmental Impact Report
and Section 4(f) Evaluation

State Route 152 in Merced County beginning near Volta Road west of Los Banos, bypassing Los Banos, and ending near the Santa Fe Grade Road

10-MER-152-KP 25.8/39.9

(PM 16.0/24.8)

10-419100

February 2005

General Information about This Document

What's in this document?

This document is an Environmental Impact Statement/Environmental Impact Report, which examines the potential environmental impacts of alternatives for the proposed project located in Merced County, California. The document describes why the project is being proposed, alternative methods for constructing the project, the existing environment that could be affected by the project, and potential impacts from each of the alternatives.

What should you do?

Please read this Environmental Impact Statement/Environmental Impact Report. We welcome your comments. If you have any concerns regarding the proposed project, please attend the Public Information Meeting and/or send your written comments to Caltrans by the deadline. Submit comments via regular mail to Caltrans, Attn: Vickie Traxler, San Joaquin Valley Analysis Branch, 2015 E. Shields, Suite 100, Fresno, CA 93726; submit comments via email to vickie_traxler@dot.ca.gov. Submit comments by the deadline: May 6, 2005.

What happens after this?

After comments are received from the public and reviewing agencies, Caltrans may 1) give environmental approval to the proposed project, 2) do additional environmental studies, or 3) abandon the project. If the project were given environmental approval and funding were appropriated, Caltrans could design and construct all or part of the project.

For individuals with sensory disabilities, this document is available in Braille, large print, on audiocassette, or computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: Vickie Traxler, San Joaquin Valley Analysis Branch, 2015 E. Shields, Suite 100, Fresno, CA 93726, (559) 243-8294 Voice, or use the California Relay Service TTY number, 1-800-735-2929.

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10-MER-152-KP 25.8/39.9
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Draft Environmental Impact Statement/Environmental Impact Report and Section 4(f) Evaluation

Submitted Pursuant to: (State) Division 13, Public Resources Code
(Federal) 42 USC 4332(2)(C) and 49 USC 303

U.S. DEPARTMENT OF TRANSPORTATION
Federal Highway Administration, and
THE STATE OF CALIFORNIA
Department of Transportation

10-22-04
Date of Approval

Kome Ajise
Kome Ajise
Director, District 10
California Department of Transportation

2-17-05
Date of Approval

for Gene K. Fong
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Abstract

The California Department of Transportation and the Federal Highway Administration propose to construct a four-lane bypass on a new alignment around the City of Los Banos for State Route 152. Congestion on State Route 152 within Los Banos continues to increase as the city grows and interregional traffic increases. The proposed bypass would facilitate the flow of interregional traffic around Los Banos and improve local traffic circulation within the city. Three build alternatives and a No-Build Alternative have been studied for the proposed bypass. The alignments for Alternatives 1M and 2M are located south of Los Banos, while the alignment for Alternative 3M is north of Los Banos. Potential impacts from the proposed project would include loss of farmland, wetlands, and habitat for sensitive species, and increased noise. Residential and business relocations are expected to be minimal.

Comments on this document are due by May 6, 2005 and should be sent to Vickie Traxler at the above address.

Summary

The California Department of Transportation (Caltrans) and the Federal Highway Administration propose to construct a four-lane freeway bypass on a new alignment for State Route 152 around the City of Los Banos located in Merced County. The purpose of the project is to:

- Relieve congestion in the Los Banos community by reducing the amount of interregional, recreational, and commuter traffic that travels through the center of Los Banos.

- Improve the route continuity of State Route 152 within Merced County. The existing State Route 152 roadway through Los Banos is the only remaining undivided segment of the route between the Merced/Santa Clara county line on the west and State Route 99 on the east.

- Improve safe operation of State Route 152. While the overall accident rate is similar to the state average, 18 intersections within Los Banos have accident rates at least twice the state average.

Commuter, commercial, recreational and agricultural use of State Route 152 continues to increase. The population of Los Banos has grown from approximately 14,800 in 1990 to more than 30,000 in 2004. Planned valleywide growth has also contributed to the increase in regional traffic. Los Banos and other area communities offer affordable housing opportunities for commuters working in the employment centers of Santa Clara and Santa Cruz counties. As a result, State Route 152 serves as the principal commuter corridor between the employment centers and valley communities to the east and south, such as Los Banos, Merced, Atwater, and Fresno.

State Route 152 also provides an important east-west link between north-south highways (U.S. Highway 101, Interstate 5, and State Route 99) for truck travel and goods movement. The Central Valley serves as a major supplier of produce and other agricultural goods and services to the state, nation, and world. With increasing congestion on State Route 152 in Los Banos, efficient movement of agricultural goods and services suffers from interruptions, diversions and increased costs.

The proposed freeway would begin at approximately kilometer post 25.8 (post mile 16.0), west of Volta Road, and end at approximately kilometer post 39.9 (post mile 24.8), east of the Santa Fe Grade Road. Figure 1-1 in Chapter 1 shows the project

vicinity and Figure 1-2 shows the project location in relation to the City of Los Banos.

Three build alternatives (1M, 2M, and 3M) and a No-Build Alternative are under consideration for the proposed bypass. Alternatives 1M and 2M are located south of Los Banos, and Alternative 3M is located north of Los Banos. Interchanges for each alternative would begin west of Los Banos at approximately kilometer post 27.3 (post mile 17.0) near Breunig/Ramos Road, include an interchange at State Route 165, and end with an interchange just west of Santa Fe Grade Road.

Alternative 1M would proceed southeast from a western interchange, crossing Pioneer and Ortigalita Roads, curving east to run parallel to and approximately 525 meters (1,723 feet) north of Copa de Ora Avenue. After crossing Ward Road, the alignment would curve northeast. A proposed interchange would be located near kilometer post 38.5 (post mile 23.9), then the bypass would connect with the existing State Route 152.

Alternative 2M would be similar to Alternative 1M on both the west and east ends with interchanges at the same locations. However, Alternative 2M would run parallel to and north of Copa de Ora Avenue at a distance of approximately 1,127 meters (3,697 feet).

Alternative 3M would proceed northeast from a western interchange and cross Badger Flat Road. The alignment would range from approximately 626 to 995 meters (2,055 to 3,266 feet) south of Henry Miller Road. The alignment then dips southeast to run between the San Luis and Santa Fe canals. An interchange is proposed near Santa Fe Grade Road (kilometer post 37.8 [post mile 23.5]), where the bypass would connect with the existing State Route 152.

The present alignment of State Route 152 is also the main commercial street within the City of Los Banos. The No-Build Alternative would maintain the operation of the existing State Route 152 through Los Banos. The roadway width would remain at five lanes including a continuous left-turn lane. The No-Build Alternative would not meet the purpose and need of the project.

A range of environmental studies was conducted to analyze potential environmental impacts of each alternative. Potential effects of the proposed project include:

- Loss of farmland

  The proposed project would be built on primarily farmland. Farmland impacts (direct conversion to roadway use) would vary from approximately 217 hectares (537 acres) to 280 hectares (691 acres), depending upon the alternative chosen. Additional farmland may be acquired due to access changes. Any build alternative would displace a dairy. Alternative 3M would also affect access to two other dairies.

- Loss of habitat for sensitive wildlife species

  Farmland may also be considered foraging habitat for four special-status species in the area: San Joaquin kit fox, Swainson's hawk, greater sandhill crane and burrowing owl. Habitat loss for these species is estimated to be 161.9 to 212.5 hectares (400 to 525 acres). Giant garter snake habitat would also be lost, from 0.1 hectare (0.2 acre) to 1.3 hectares (3.1 acres) depending upon the alternative chosen. Mitigation for habitat loss would be required.

- Loss of wetland areas

  Alternatives 1M and 2M would affect wetlands on the east end of the project area. Construction of a retaining wall would reduce wetland impacts to 1.2 hectares (2.9 acres). Alternative 3M would not affect wetlands.

- Increased noise

  Construction of a new roadway would increase the noise level in a rural area where residences are few and scattered. Sound barriers were found to be feasible for isolated sensitive receptors, but were not reasonable (cost effective) to construct. Therefore, noise abatement is not proposed.

- Relocations

  Anticipated residential relocations would be 17 each for Alternatives 2M and 3M. Alternative 1M relocations would be more than double, an estimated 37 residences. Business displacements are anticipated to be from one to four, including at least one dairy for any alternative. Alternative 3M would have the greatest number of business relocations.

The Department of Transportation Act Section 4(f) mandates avoidance of parks, historic sites and wildlife refuges. Alternatives 1M and 2M would affect a portion of the Gadwall Unit of the Northern Grasslands Wildlife Area managed by the California Department of Fish and Game. Direct and indirect effects include loss of wildlife habitat, change in and loss of direct access to State Route 152, rerouting of irrigation water and drainage, noise, visual effects, and storm water runoff.

Several permits/agreements would be required for the proposed project, including:

- Section 404 Letter of Permission or Individual Permit from the U.S. Army Corps of Engineers for impacts to the jurisdictional wetlands and waters of the United States.
- Section 401 Water Quality Certification Permit from the California Regional Water Quality Control Board.
- Section 1602, Streambed Alteration Agreement from the California Department of Fish and Game for impacts to the bed, bank, and channel of Los Banos Creek and the drainage canals located in the potential impact area.
- Biological Opinion from the U.S. Fish and Wildlife Service to address impacts to the federally listed "threatened" giant garter snake and the federally listed "endangered" San Joaquin kit fox.
- Freeway Agreement and Relinquishment Agreement between Caltrans, Merced County, and the City of Los Banos for State Route 152. The City of Los Banos would also need to approve modifications to existing local roadways through a Report of Consensus.
- Route Adoption approval from the California Transportation Commission.

Table S.1, Summary of Potential Impacts from Alternatives, compares potential impacts for the three build alternatives and the No-Build Alternative and includes environmental, design, and right-of-way information.

Table S.1 Summary of Potential Impacts from Alternatives

Potential Impact	Alternative 1M	Alternative 2M	Alternative 3M	No-Build Alternative
Estimated Project Cost in 2004 Dollars	$243 million	$234 million	$245 million	0
Project Length	15.9 kilometers (9.4 miles)	14.9 kilometers (9.1 miles)	16.4 kilometers (10.2 miles)	0
Right-of-Way Required	365.9 hectares (901.6 acres)	314.2 hectares (776.3 acres)	439.7 hectares (1,086.5 acres)	0
Farmland Directly Converted	226.9 hectares (560.7 acres)	217.3 hectares (537.1 acres)	279.6 hectares (690.9 acres)	0
Agricultural Business Displacements	1	1	3	0
Business Displacements (other than agricultural)	0	1	1	0
Housing Displacements	37	17	17	0
Estimated Residential/ Business/Farm Tax Revenue Loss (from 2003 total)	Approximately $168,000	Approximately $143,000	Approximately $197,000	0
Right-of-Way Cost Estimate 2004 (rounded)	$43 million	$41 million	$38 million	Not applicable
Railroad Involvement	No	No	Yes	Not applicable
Consistency with *Los Banos General Plan*	Yes	Yes	Yes	No

Potential Impact		Alternative 1M	Alternative 2M	Alternative 3M	No-Build Alternative
Consistency with *Merced County General Plan*		Yes	Yes	Yes	No
Traffic Estimate Annual Average Daily Traffic for 2033 (See below for Segment locations)	**Segment 1* (13.2% heavy truck traffic)**	46,200	47,400	51,400	I-5 to Ortigalita Road 50,500 (Existing is 20,000)
	Segment 2* (9.5% heavy truck traffic)	30,500	35,700	37,100	Ortigalita Road to State Route 165 57,000 (Existing is 26,500)
	Segment 3* (11.3% heavy truck traffic)	27,200	29,000	30,300	State Route 165 to Ward Road 59,000 (Existing is 19,000)
	Segment 4* (11.3% heavy truck traffic)	45,000	46,400	48,400	Ward Road to Dos Palos Wye 47,000 (Existing is 19,000)
Air Quality	**Long-Term Effects**	May provide overall air quality benefit by improving Level of Service and reducing idling time at intersections.	May provide overall air quality benefit by improving Level of Service and reducing idling time at intersections.	May provide overall air quality benefit by improving Level of Service and reducing idling time at intersections.	LOS would continue to deteriorate and overall idling time may increase at intersections, thus reducing air quality.
	Short-Term Effects	Short-term construction impacts to be mitigated by use of Caltrans Best Management Practices.	Short-term construction impacts to be mitigated by use of Caltrans Best Management Practices.	Short-term construction impacts to be mitigated by use of Caltrans Best Management Practices.	None

Potential Impact		Alternative 1M	Alternative 2M	Alternative 3M	No-Build Alternative
Noise	**Number of Homes or Businesses with Noise Greater than or Equal to 66 decibels (2033)**	2 (predicted)	2 (predicted)	0 (predicted)	9 existing (tested)
	Number of Homes or Businesses with Noise Increase Greater than or Equal to 12 decibels (2033)	14 (predicted), Sound barriers feasible, but not reasonable to construct.	11 (predicted) Sound barriers feasible, but not reasonable to construct.	4 (predicted) Sound barriers feasible, but not reasonable to construct.	Not applicable
Water Quality		No long-term impacts. Use of Best Management Practices would mitigate short-term construction impacts.	No long-term impacts. Use of Best Management Practices would mitigate short-term construction impacts.	No long-term impacts. Use of Best Management Practices would mitigate short-term construction impacts.	No impacts
Temporary Impact to Waters of the U.S.		0.2 hectare (0.5 acre)	0.2 hectare (0.5 acre)	0.2 hectare (0.5 acre)	0
Permanent Impacts to Wetlands ** **(earthwork cut/fill limit)**		1.2 hectares (2.9 acres)	1.2 hectares (2.9 acres)	0	0

Potential Impact	Alternative 1M	Alternative 2M	Alternative 3M	No-Build Alternative
Habitat Loss for Special-Status Species	Giant garter snake—1.3 hectares (3.1 acres); San Joaquin kit fox, Swainson's hawk, greater sandhill crane, and burrowing owl—173 hectares (427 acres)	Giant garter snake—1.3 hectares (3.1 acres); San Joaquin kit fox, Swainson's hawk, greater sandhill crane, and burrowing owl—162 hectares (400 acres)	Giant garter snake—0.1 hectare (0.2 acre); San Joaquin kit fox, Swainson's hawk, greater sandhill crane, and burrowing owl—212 hectares (525 acres)	0
Number of Potential Hazardous Waste Sites	0	1 site Possible lead paint and asbestos	2 sites Possible underground storage tank(s) and oil contamination. Possible chromium contamination.	0
Impacts to Section 4(f) Properties-Use of Gadwall Wildlife Area	24 hectares (59 acres)	24 hectares (59 acres)	0	0
Estimated Fill (cubic meters and cubic yards)	4.9 million (5.4 millions)	4.1 million (5.3 millions)	5.3 million (6.9 millions)	0
Estimated Cut (cubic meters and cubic yards)	31,000 (40,546)	30,000 (39,238)	44,000 (57,550)	0
Maximum Projected Cut and Fill Heights	From 1.8 to 10.7 meters (6 to 35 feet)	From 1.8 to 10.7 meters (6 to 35 feet)	From 1.8 to 10.7 meters (6 to 35 feet)	0
Visual Quality	Potential loss of large eucalyptus trees and large oaks. Potential loss of riparian habitat at Los Banos Creek. Retaining wall may be required for east end of project.	Potential loss of large eucalyptus trees and large oaks. Potential loss of riparian habitat at Los Banos Creek. Retaining wall may be required for east end of project.	Potential loss of large eucalyptus trees and large oaks. Potential loss of riparian habitat at Los Banos Creek.	None
Cumulative Impacts	Loss of farmland from bypass project and local development.	Loss of farmland from bypass project and local development.	Loss of farmland from bypass project and local development.	None

Potential Impact	Alternative 1M	Alternative 2M	Alternative 3M	No-Build Alternative
Growth Inducement	Agricultural land is already being converted to other uses by local development.	Agricultural land is already being converted to other uses by local development.	Agricultural land is already being converted to other uses by local development.	No

*Traffic - Segment 1: State Route 152 west of western interchange
Segment 2: Bypass between western interchange and 152/165 interchange
Segment 3: Bypass between 152/165 interchange and eastern interchange
Segment 4: State Route 152 east of eastern interchange

**For Los Banos Creek bridge, abutments can be placed outside the wetland limits. So the area occupied by the abutments is not taken into consideration. Only the area required for the intermediate supports for the bridge is taken into consideration.

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List of Technical Studies that are Bound Separately

Air Quality Assessment (October 2004)
Community Impact Assessment (July 2004)
Draft Relocation Impact Report (March 2004)
Hazardous Waste Reports

- Initial Site Assessment (March 2002, updated June 2004)
- Aerially Deposited Lead Investigation (January 2002)
- Preliminary Site Investigation (April 2004)

Historical Property Survey Reports

- Historic Resource Evaluation Report/Historic Architectural Survey Report (June 2004)
- Archaeological Survey Report (March 2004)

Location Hydraulic Study (March 2004)
Natural Environment Study (July 2004)
Noise Study Report (September 2004)
Preliminary Geotechnical Report (March 2002)
Traffic Study (March 2004)
Visual Impact Assessment (September 2004)
Water Quality Assessment (October 2004)

List of Abbreviated Terms

Caltrans	California Department of Transportation
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
dBA	decibel
FHWA	Federal Highway Administration
ft	foot/feet
KP	kilometer post
m	meters
µg	micrograms
mg	milligram
mph	miles per hour
PIA	Project Impact Area
PM	post mile
PM 10	particulate matter
ppm	parts per million
USFWS	U.S. Fish and Wildlife Service

Chapter 1 Purpose of and Need for Project

The California Department of Transportation (Caltrans) and the Federal Highway Administration propose to construct a four-lane freeway bypass on a new alignment around the City of Los Banos for State Route 152 in Merced County. The proposed bypass area is located in western San Joaquin Valley in central California and is approximately 40 kilometers (25 miles) west of Merced and 66 kilometers (41 miles) east of Gilroy. The new freeway proposed for this project would begin at approximately kilometer post 25.8 (post mile 16.0), west of Volta Road, and end at approximately kilometer post 39.9 (post mile 24.8), east of Santa Fe Grade Road. Figure 1-1 shows the project vicinity, and Figure 1-2 shows the project location in relation to Los Banos.

The proposed project would build a four-lane freeway on a six-lane right-of-way. The proposed project's three build alternatives and the No-Build Alternative are discussed in detail in Chapter 2. Relinquishment of existing State Route 152 would occur after construction of the new roadway. Relinquishment would transfer the State's right-of-way, title, and interest in a section of State Route 152 to the City of Los Banos and Merced County. Relinquishment limits for Alternatives 1M or 2M are anticipated to be from kilometer post 27.2 (post mile 16.9) or about 1.1 kilometer (0.7 mile) east of Volta Road to kilometer post 37.3 (post mile 23.2) or about 1.12 kilometers (0.7 mile) west of the Santa Fe Grade Road. Relinquishment limits for Alternative 3M are anticipated to be from kilometer post 27.2 (post mile 16.9) or about 1.1 kilometer (0.7 mile) east of Volta Road to just east of the Santa Fe Grade Road at kilometer post 38.5 (post mile 23.9).

1.1 Project Purpose

The purpose of the project is to:

- Relieve congestion in the Los Banos community by reducing the amount of interregional, recreational, and commuter traffic that goes through central Los Banos.
- Improve the route continuity of State Route 152 within Merced County. The existing State Route 152 roadway through Los Banos is the only remaining undivided segment of the route between the Merced/Santa Clara county line on the west and State Route 99 on the east.

- Improve the safe operation of State Route 152. While the overall accident rate is similar to the state average, 18 intersections within Los Banos have accident rates at least twice the state average.

1.2 Project Need

1.2.1 Congestion

State Route 152 is a four-lane conventional highway. A continuous left-turn lane, beginning at kilometer post 29.9 (post mile 18.6) west of Badger Flat Road and ending at kilometer post 36.4 (post mile 22.6) east of Ward Road, was added to the route in 1996. The portion of the route within Los Banos is the only segment of the roadway in Merced County that mixes regional through-traffic with local urban traffic, resulting in traffic congestion. Several traffic signals in this portion delay motorists and, during peak travel periods, the ability to make left turns on and off the urban portion of the route is difficult. Traffic flow is further slowed by motorists turning into and out of driveways and local business accesses and by truck traffic from Central Valley farms that must respond to the frequent stops and starts.

Commuter, commercial, recreational and agricultural use of State Route 152 continues to increase. The population of Los Banos has grown from approximately 14,800 in 1990 to more than 30,000 in 2004. By 2010, it is anticipated that the Los Banos population will reach 36,000, contributing to local traffic volume. Planned valleywide growth has also contributed to the increase in regional traffic. Los Banos and other area communities offer affordable housing opportunities for commuters working in the employment centers of Santa Clara and Santa Cruz counties. As a result, State Route 152 serves as the principal commuter corridor between the employment centers and valley communities to the east and south, such as Los Banos, Merced, Atwater, and Fresno.

In addition to congestion from interregional traffic traveling through the center of the city, the intersection of State Routes 152 (Pacheco Boulevard) and 165 (Mercey Springs Road) has delays during peak traffic periods. The high percentage of truck traffic at this intersection compounds the problem. State Route 165 begins south of Los Banos at Interstate 5, passes through the city east of the downtown area, and ends to the north at State Route 99, thus connecting two major roadways for moving goods through the state. Recreational users frequent several state and federal wildlife refuges located north of Los Banos that are accessed primarily by State Route 165.

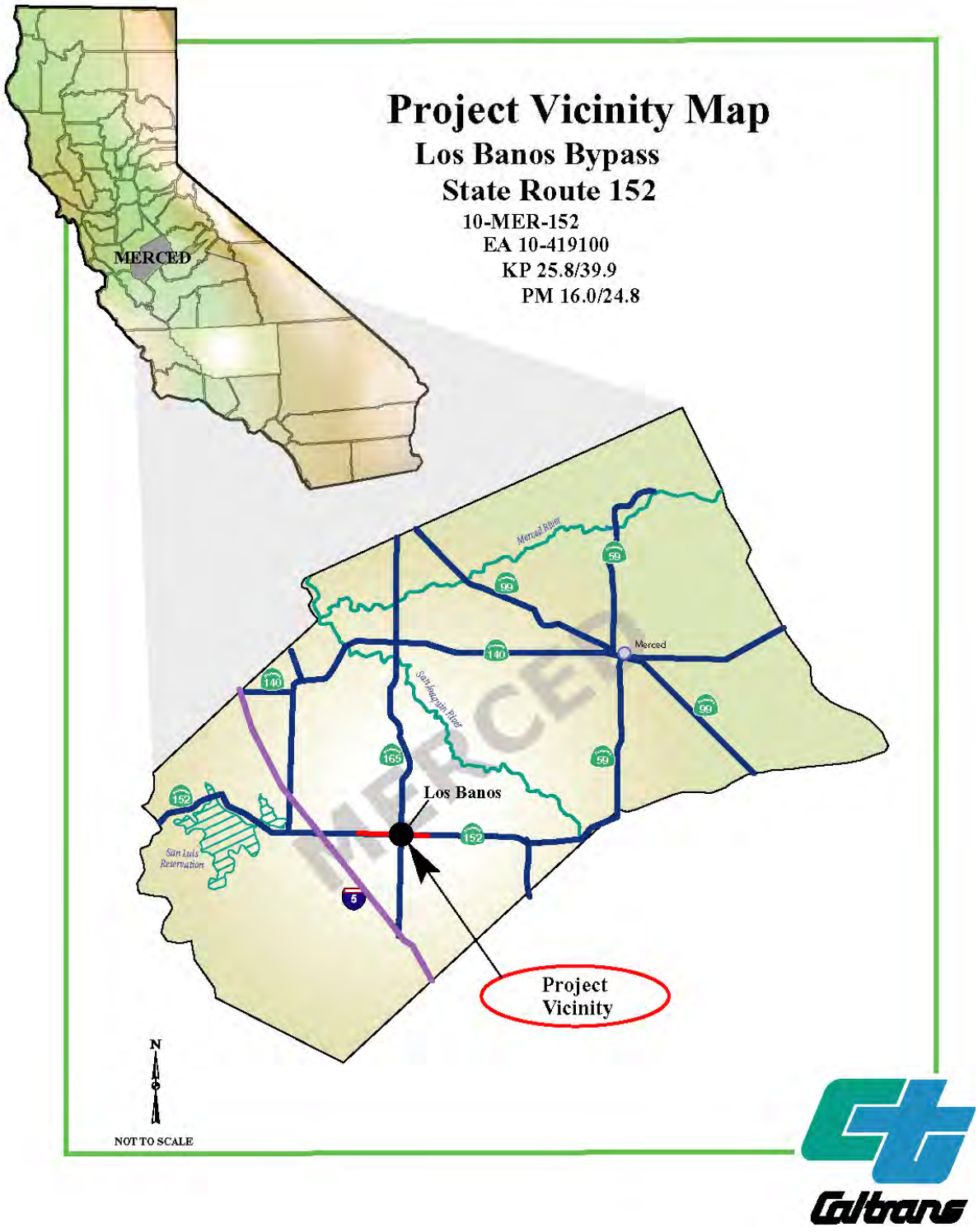


Figure 1-1 Project Vicinity Map

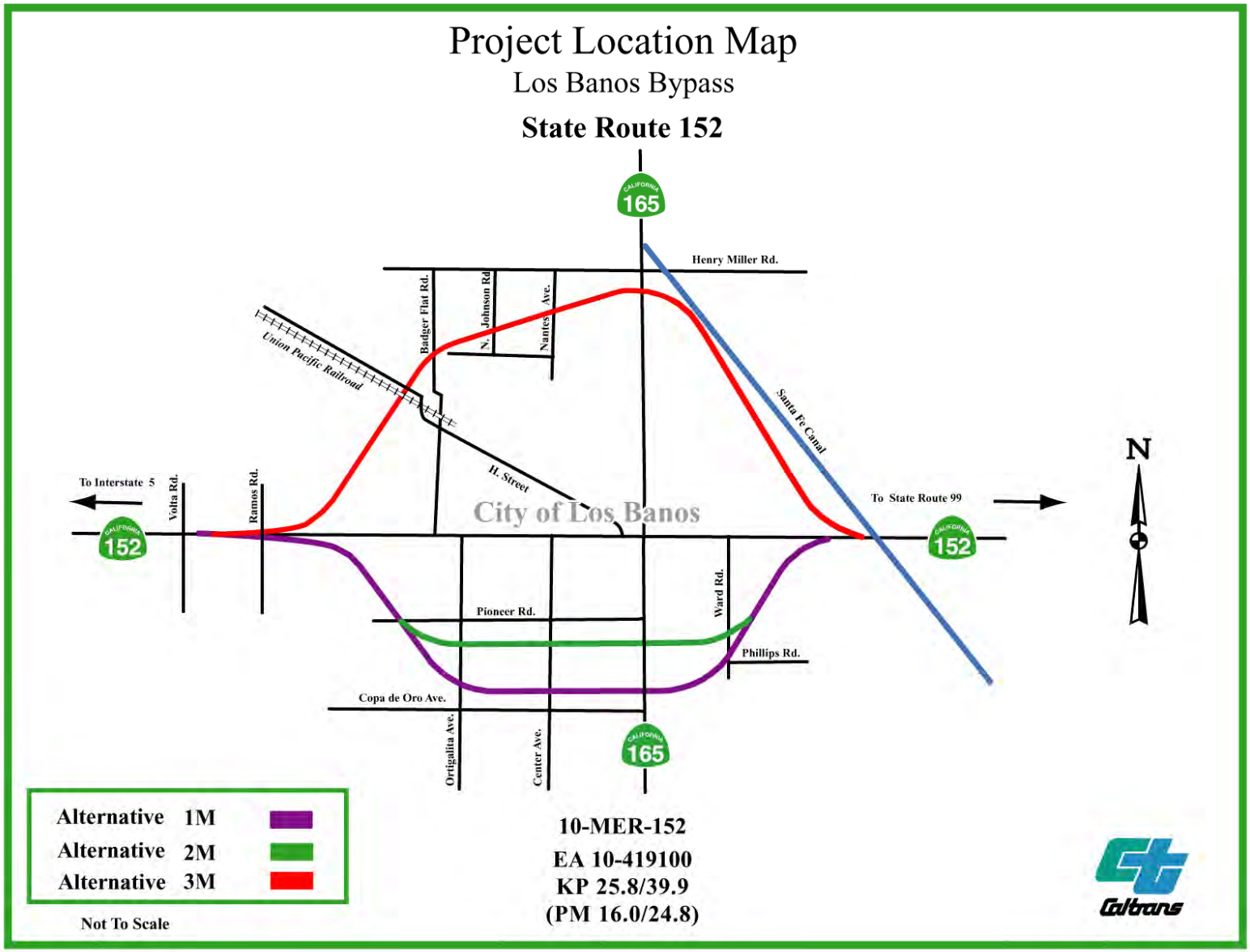


Figure 1-2 Project Location Map

Table 1.1 indicates the anticipated traffic rates for this route when the project is built. Even with through-traffic from State Route 152 diverted away from Los Banos with the bypass, the intersection of State Routes 152 and 165 is expected to experience congestion and a poor Level of Service.

Table 1.1 Existing and Projected Traffic Summary for State Route 165

Traffic Summary	**On State Route 165,** South of State Route 152	**On State Route 165,** North of State Route 152	**On State Route 152,** West of State Route 165	**On State Route 152,** East of State Route 165
2002 Average Daily Traffic	17,500	15,500	Varies*	18,800
Projected Average Daily Traffic 2013 – Alternative 1M	24,800	24,800	30,200	30,500
Projected Average Daily Traffic 2013 – Alternative 2M	23,400	21,300	29,000	30,100
Projected Average Daily Traffic 2013 – Alternative 3M	27,600	24,700	30,400	29,800
Projected Average Daily Traffic 2033 – Alternative 1M	32,900	33,400	44,100	44,500
Projected Average Daily Traffic 2033 – Alternative 2M	37,400	34,600	42,300	43,300
Projected Average Daily Traffic 2033 – Alternative 3M	34,000	28,000	44,700	44,600

** This area includes several segments that vary with an average daily traffic of 22,000 to 29,000 vehicles, with the lower counts west of West I Street and Badger Flat Road and the highest count near the center of Los Banos.*

Under the No-Build Alternative, the section of State Route 152 through Los Banos would be carrying two to three times as much traffic by 2033 (Table 1.2). The average daily traffic count on the Los Banos section would increase from between 19,000 and 26,000 to between 47,000 to 59,000.

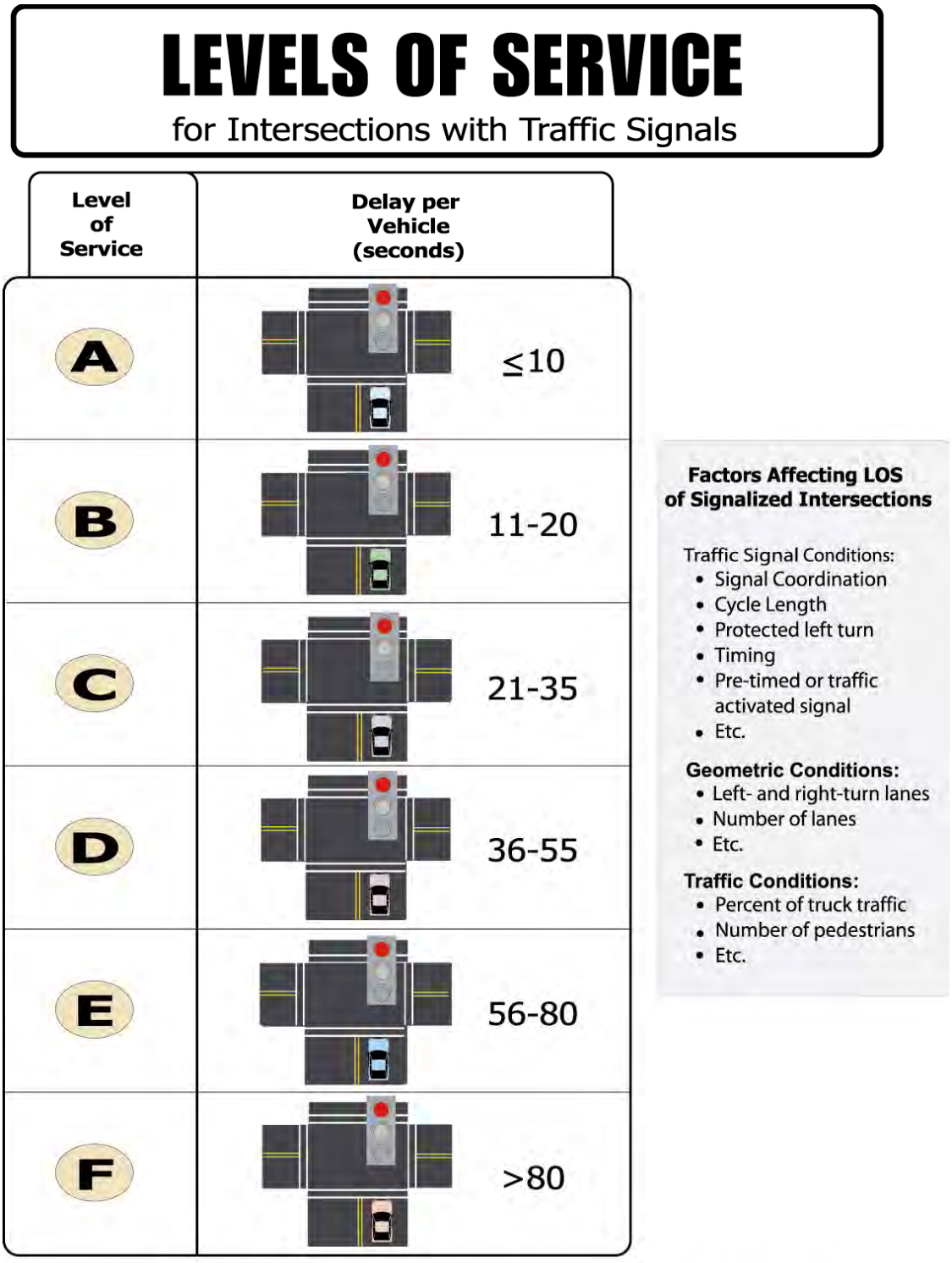
Table 1.2 Traffic Summary for Existing State Route 152

Location	Existing Average Annual Daily Traffic Count	Existing Peak Hour	Projected 2033 Average Annual Daily Traffic Count	Projected 2033 Peak Hour
Segment 1: I-5 to Ortigalita Road	20,000	1,800	50,500	5,300
Segment 2: Ortigalita Road to State Route 165	26,500	2,800	57,000	6,000
Segment 3: State Route 165 to Ward Road	19,000	3,000	59,000	6,200
Segment 4: Ward Road to Dos Palos Wye	19,000	2,300	47,000	4,950

Source: Traffic Summary from Caltrans District 10 Traffic Forecasting and Analysis
Note: Average Annual Daily Traffic (vehicles per day) denotes that the daily traffic is averaged over one calendar year.

Level of Service is an indicator of operating conditions on a roadway or at an intersection and is defined in categories ranging from A to F, with "A" indicating free-flowing conditions and "F" indicating stop-and-go traffic and delay (see Figure 1-3 for Level of Service for intersections). A Level of Service A at an intersection indicates operations with very little delay (equal to or less than 10 seconds per vehicle). Level of Service A occurs when traffic is flowing well, vehicles arrive at the intersection during the traffic signal's "green light" phase, and most vehicles do not have to stop. A Level of Service of F indicates an intersection where motorists are delayed more than 80 seconds per vehicle.

In 2002, the State Route 152 roadway operated at Level of Service C west of West I Street and east of Mercey Springs Road. However, it operated at Level of Service F between West I Street and Mercey Springs Road, in the center of the city. Intersections through Los Banos operated at Level of Service A through C, except at Mercey Springs Road, where Level of Service was E.



Source: 2000 HCM, Exhibit 16-2, Level of Service Criteria for Signalized Intersections

Figure 1-3 Levels of Service for Intersections with Traffic Signals

As shown in Table 1.3, the existing and projected Level of Service at major intersections on State Route 152 through Los Banos would deteriorate to Level of Service F by 2033 under the no-build conditions (leaving the road as it is).

Table 1.3 Existing and Future Level of Service at Intersections with No-Build Alternative

Intersection on State Route 152	2002	2013	2033
Badger Flat Road	C	F	F
West "I" Street	B	E	F
4th Street	B	F	F
6th Street	A	D	F
7th Street	B	E	F
Mercey Springs Road (State Route 165)	E	F	F

Source: Caltrans Traffic Study, February 2004

An acceptable Level of Service is anticipated for the bypass past 2033. The proposed bypass would temporarily relieve congestion and produce an acceptable Level of Service along State Route 152 within Los Banos (Pacheco Boulevard) for several years. However, due to local traffic that is anticipated to increase as Los Banos continues to grow and traffic from State Route 165 continuing to pass through the city, Level of Service F on Pacheco Boulevard would eventually be reached again before 2033. Because of these same conditions, the Level of Service for the intersection of State Route 152 and 165 (Pacheco Boulevard and Mercey Springs Road) is expected to be F even when the bypass is completed. Refer to Section 3.6 for addition discussion of Level of Service with the bypass.

1.2.2 Route Continuity

State Route 152 was designated as a component of the Interregional Road System, identified by statute in 1989, serving interregional travelers and facilitating goods movement. In 1990, the Interregional Road System Plan identified State Route 152 as one of the 13 "High Emphasis" routes that serve the interregional movement of people and goods and are a priority for funding improvements. Currently, there are 87 Interregional Road System routes listed in the state statutes. Of these, 13 routes were designated as High Emphasis routes that were a priority for programming and construction to minimum facility standards.

The 1998 Interregional Transportation Strategic Plan designated State Route 152 as one of 10 corridors that should receive the highest priority for completion to minimum facility standards (in this case, expressway standards). These “focus routes” link state highway routes, giving motorists the ability to make longer interregional trips and access to centers of state, national, or international trade and commerce, goods movement, and intermodal transfer. Completion of these expressways or freeways would assure that a statewide trunk system is in place for higher volume interregional mobility. The proposed Los Banos Bypass project has been included in the 10-year plan of Interregional Road System priority projects. The project is listed in the 2004 Federal Transportation Improvement Program for Merced County as a regionally significant project.

The inclusion of the highway in the High Emphasis and Focus Route category highlights its critical importance to interregional travel and the state as a whole. State Route 152 serves as an important east-west link between the major north-south roadways of U.S. Highway 101, Interstate 5, and State Route 99 (Figure 1-4).

The route serves as a major commuter corridor and a major truck route, linking Central Valley farms and communities with metropolitan areas and other export markets. Efficient goods and people movement is hampered by the lack of continuous access-controlled route that meets state design standards. Economic service providers and trucks carrying agricultural products and other goods must negotiate the local roads and existing State Route 152 (Pacheco Boulevard through town), which have stop signs, stop lights or multiple access points that continually interrupt progress to business and marketing facilities. State Route 152 is also a major recreation travel corridor, linking the coast to the Central Valley and linking the Central Valley to the Sierra Nevada and its several national parks. The existing State Route 152 through Los Banos is the only remaining undivided roadway segment between the Merced/Santa Clara county line on the west and State Route 99 on the east.

1.2.3 Safety

The urban segment of existing State Route 152 has a high concentration of accidents, which could be attributed in part to the high traffic volumes and numerous intersections. During the three-year period from July 1, 2000 to June 30, 2003, there were 422 reported accidents between kilometer post 25.7 (post mile 16.0) west of Volta Road and kilometer post 39.9 (post mile 24.8) east of the Santa Fe Grade Road.

Of the 422 accidents, 145 accidents involved injuries, and two accidents resulted in fatalities. Collision types included:

- 10 head-on collisions
- 69 sideswipe accidents
- 169 rear-end collisions
- 115 broadside collisions
- 30 hit-object accidents
- 8 overturned vehicles
- 9 auto-pedestrian accidents
- 12 other types of accidents

During the three-year reporting period, although there were fewer fatalities and injury accidents on this segment of State Route 152 than the statewide average, the total accident rate was higher than the statewide average (shown in bold type in the Table 1.4).

Table 1.4 Accident Rate Comparison

Accident Rate (accidents per million vehicle kilometers)					
Los Banos Segment Average			*State Average*		
Fatal	**Fatal & Injury**	**Total**	**Fatal**	**Fatal & Injury**	**Total**
0.010	0.74	**2.12**	0.028	0.90	2.04

Source: Traffic Accident Surveillance and Analysis Table B, Caltrans District 10, January 1, 2000 to December 31, 2002

Note: The total accident rate is calculated using a formula based on several accident categories that are not shown in the table above. Therefore, the columns entitled "Fatal" and "Fatal & Injury" will not add together to equal the Total column.

Accident data at specific locations within the project limits indicate that 18 intersections have at least twice the accident rate as similar intersections located throughout the state (shown in bold type in Table 1.5). These 18 intersections accounted for 299 accidents during a three-year period (from July 1, 2000 to June 30, 2003), with 2 fatalities and 103 injuries.

Construction of the bypass would divert interregional traffic from the urban segment of State Route 152, resulting in lower traffic volumes and fewer accidents.

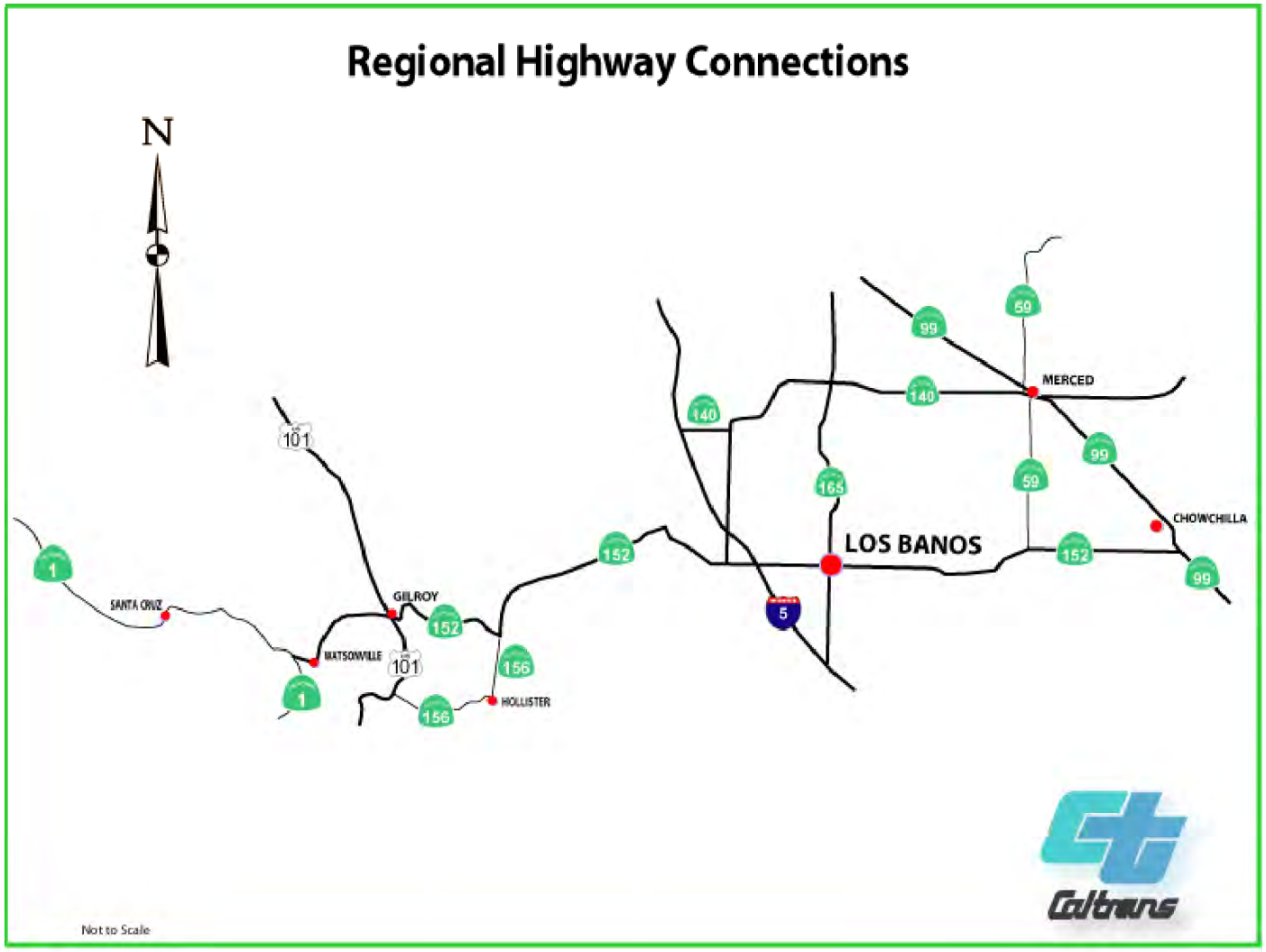


Figure 1-4 Regional Highway Connections

Table 1.5 Accident Rate Comparison for Intersections

Accident Rate (accidents per million vehicle kilometers)						
Intersection	*Los Banos Segment Average*			*State Average*		
	Fatal	Fatal & Injury	Total	Fatal	Fatal & Injury	Total
Volta Road	0.000	0.37	**0.65**	0.008	0.16	0.33
Badger Flat Road	0.000	0.35	**1.04**	0.002	0.19	0.43
West I Street	0.000	0.29	**1.16**	0.002	0.19	0.43
Arizona Avenue	0.000	0.10	**0.23**	0.001	0.06	0.14
Center Avenue	0.000	0.18	**0.31**	0.001	0.06	0.14
6th Street	0.000	0.33	**0.88**	0.002	0.19	0.43
7th Street	0.000	0.28	**0.78**	0.002	0.19	0.43
9th Street	0.000	0.07	**0.27**	0.001	0.06	0.14
10th Street	0.000	0.03	**0.22**	0.001	0.06	0.14
J Street	0.000	0.07	**0.29**	0.001	0.06	0.14
11th Street	0.000	0.15	**0.37**	0.001	0.06	0.14
I & H Streets	0.000	0.19	**0.64**	0.001	0.06	0.14
13th Street	0.000	0.34	**0.82**	0.001	0.04	0.10
Mercey Springs Road	0.031	0.28	**1.26**	0.002	0.19	0.43
Miller Lane	0.000	0.29	**0.64**	0.001	0.06	0.14
Tanner Road	0.050	0.10	**0.30**	0.001	0.06	0.14
Entrance to Stardust Apts.	0.000	0.00	**0.20**	0.001	0.04	0.10
Ward Road	0.000	0.42	**0.61**	0.002	0.09	0.22

Source: Traffic Accident Surveillance and Analysis Table B, Caltrans District 10, January 1, 2000 to December 31, 2002.

1.3 Project Background

1.3.1 Project History

In 1962, long-range planning by Caltrans identified the need to construct a bypass around the city of Los Banos on State Route 152, and route studies were begun. The studies resulted in a "Route Adoption" in 1965. In a Route Adoption, the California Transportation Commission authorizes the planned location of a state highway.

Because of a lack of funding, however, the Route Adoption was rescinded in 1981. By 1987, interest was renewed, and the bypass proposal was considered again. Because of congestion and safety issues in Los Banos, there was consensus by the general public and local agencies that a bypass around Los Banos was needed.

The Merced County Association of Governments completed a Committee Study Report in 1988 for a proposed bypass. The bypass project was included as a standby project in the 1988 and 1989 Route Development Plans. In 1990, the Interregional Road System Plan identified State Route 152, between U.S. Highway 101 and State Route 99, as a "High Emphasis Route" and included the proposed bypass as a standby project (see also Section 1.2.2 Route Continuity).

The 1991 Bypass Specific Plan, completed and adopted by the Merced County Association of Governments, focused on a southern alignment only. After several local meetings, the general public requested an evaluation of a northern alignment as well.

Caltrans completed a Project Study Report for the proposed bypass in 1993. The report included two northern and two southern bypass alternatives. The Merced County Association of Governments completed a Draft Major Investment Study in 1998 to better define alternatives and obtain public input at meetings and workshops. Public comments resulted in the elimination of one northern alternative. The proposed bypass was first included in both the Regional Transportation Plan adopted by the Merced County Association of Governments and the Federal Transportation Improvement Program in 1998.

In 1998, the Interregional Road System Plan also identified State Route 152 as a focus route. Interregional Road System corridors identified as focus routes are corridors that are of the highest priority for completion to minimum facility standards within 20 years.

In 1999, project funding was obtained to conduct environmental studies. All environmental studies have been completed. A Public Information Meeting was held on August 24, 2000 to obtain input from the public. The meeting determined that there was broad public support for a bypass around the city. Details of the meeting are provided in Chapter 6 of this document.

The local need for the State Route 152 bypass is noted in the current general plan for the City of Los Banos. Construction of the bypass is consistent with both the Los

Banos General Plan and the Merced County General Plan. Los Banos is a growing community that is becoming more urbanized, and continued growth is expected.

1.3.2 Related Projects

The City of Los Banos, in collaboration with Merced County and Caltrans, has developed an Access Management Plan to minimize traffic conflicts between vehicles entering and exiting the existing State Route 152. The plan recommended the following access management strategies for State Route 152:

1. Raise the median on State Route 152 from Badger Flat Road to State Route 165.

2. Install traffic signals on State Route 152 at Stonecreek/A Street, H Street, Ortigalita Road, and San Luis Street.

3. Allow right-in and right-out access only on State Route 152 at California Avenue, Center Avenue, I Street, 9th Street, and 13th Street.

1.3.3 Funding and Programming

The project is included in the Merced County Association of Governments' financially-constrained 2004 Federal Transportation Improvement Program. Funds for preliminary design and environmental analysis were allocated in the 2000 State Transportation Improvement Program from the Regional Transportation Improvement Program and the Interregional Transportation Improvement Program.

This project is categorized as an Interregional Road System Project and is eligible for National Highway System and Surface Transportation Program funding under the Transportation Equity Act of 1998. Funding for the final design, right-of-way acquisition, and construction phases would come from a combination of Merced County's Regional Transportation Improvement programs. Construction is anticipated to begin January 2014 and be completed October 2017.

Chapter 2 Project Alternatives

2.1 Alternative Development Process

During development of the Los Banos Bypass project, Caltrans, in coordination with local partners, identified and evaluated alternative solutions that would reduce or avoid adverse environmental effects and address the transportation purpose and need at a reasonable cost. The scope of project alternatives included location, design features (number of lanes), mode (means of transportation), and design variations.

Environmental laws require evaluation of alternatives in the project's environmental document. The purpose and need statement, found in Chapter 1, is used as the basis for evaluating the effectiveness of each alternative. Chapter 2 describes alternatives under consideration and why other alternatives did not meet the project purpose and need and were consequently dropped from further consideration.

Public input is an integral part of the project development process and is essential in understanding the goals and objectives of community interests and determining which alternatives have more potential for successful implementation. Public agencies, local agencies, individuals, and groups who might be interested in or potentially affected by transportation decisions were invited to participate in the process. Public involvement is discussed further in Chapter 6.

Evaluation criteria used to assess proposed alternatives included route continuity, reduction of traffic congestion within Los Banos, route safety, project cost, and environmental impacts. Traffic data included Level of Service, accident information, and operational efficiency. A full range of environmental issues was considered: biological resources (including wetlands and wildlife refuges), cultural resources, air and water quality, noise levels, visual impacts, hazardous waste sites, and community impacts (including farmland, growth inducement, and minority and low-income communities).

Ten alternatives were considered (see Section 2.3, Alternatives Considered and Withdrawn) during the initial stages of project development. After preliminary studies, public participation, and public agency participation, the project development team determined that three build alternatives would meet the project's original purpose and established criteria. During the environmental study period, adjustments were made to the alignment of the build alternatives to accommodate the changing

needs of the community. In 2000, the City of Los Banos asked that Alternative 3 (now 3M) be located farther west of Los Banos Creek to conform with the Los Banos General Plan. In 2002, the interchanges were redesigned to avoid planned development adjacent to existing State Route 152 and the San Luis Canal. Further adjustments have been made to alternatives to avoid wetland areas, properties that appeared historic, and a planned business park.

2.2 Project Alternatives

Figure 2-1 shows the three build alternatives in relation to the existing alignment of State Route 152 and the city of Los Banos. The build alternatives are shown separately in more detail in Figures 2-2, 2-3, and 2-4. A typical cross-section of the proposed bypass is shown in Figure 2-5. This cross-section shows the proposed roadway throughout the project area.

2.2.1 The "Build" Alternatives

All build alternatives would bypass (go around) the city of Los Banos by constructing a new alignment for State Route 152 (Figure 2-1). A typical cross-section of freeway is shown in Figure 2-5. Depending upon the alignment chosen, traffic bypassing Los Banos would be diverted around the city to the south or to the north. All alignments would begin at a western interchange with existing State Route 152, angle either northeast or southeast, run parallel to State Route 152 and then return to the existing alignment via an eastern interchange. All build alternatives would require local road changes, including construction of appropriate frontage roads, overpasses, and undercrossings. At interchanges, local roads would be widened to accommodate freeway traffic transitioning onto the local street and local traffic entering the bypass.

Maintenance vehicle pullouts would be constructed at each interchange. Retention basins adjacent to the roadway and at the three interchanges and cross-culverts would also be constructed to provide storm water containment for the freeway. All alternatives cross the Los Banos Creek, the Main Canal, the San Luis Canal, and the Santa Fe Grade Canal resulting in structures and changes to the facilities. All build alternatives may also require the relocation of utilities (water, sewer, gas, electric, and phone lines) as necessary to accommodate the new freeway, local road changes, and frontage roads. A park and ride facility is proposed at one of the three interchange locations. The location and size would be coordinated with the appropriate local agencies.

Relinquishment of a portion of existing State Route 152 to the City of Los Banos or Merced County (depending on jurisdiction) would occur after construction of the new roadway. Prior to relinquishment, Caltrans must bring the existing state highway into a state of good repair. A cooperative agreement would be prepared among all appropriate parties for the relinquishment. Relinquishment limits would be as follows:

- Alternative 1M or 2M is anticipated to be from kilometer post 27.2 (post mile 16.9) or about 1.1 kilometer (0.7 mile) east of Volta Road to kilometer post 37.3 (post mile 23.2) or about 1.12 kilometers (0.7 mile) west of the Santa Fe Grade Road.
- Alternative 3M is anticipated to be from kilometer post 27.2 (post mile 16.9) or about 1.1 kilometer (0.7 mile) east of Volta Road to just east of the Santa Fe Grade Road at kilometer post 38.5 (post mile 23.9).

Due to the amount of borrow material required for this project, it is anticipated that the contractor would acquire the material from commercial sites or offsite borrow locations. In compliance with the Caltrans policy regarding disposal, staging, and borrow sites, Caltrans specifies that the contractor would be responsible for obtaining environmental clearance from the appropriate local jurisdiction. The contractor, prior to using the commercial site or offsite borrow location, must provide copies of the environmental clearance and any necessary permits to Caltrans.

In compliance with the Caltrans policy regarding equipment staging areas, or contractor yards, Caltrans would recommend onsite staging areas within the proposed project right-of-way for use by the contractor. If the contractor should choose a non-designated site, the contractor would be responsible for submittal of the same approvals and permits stated for offsite borrow locations.

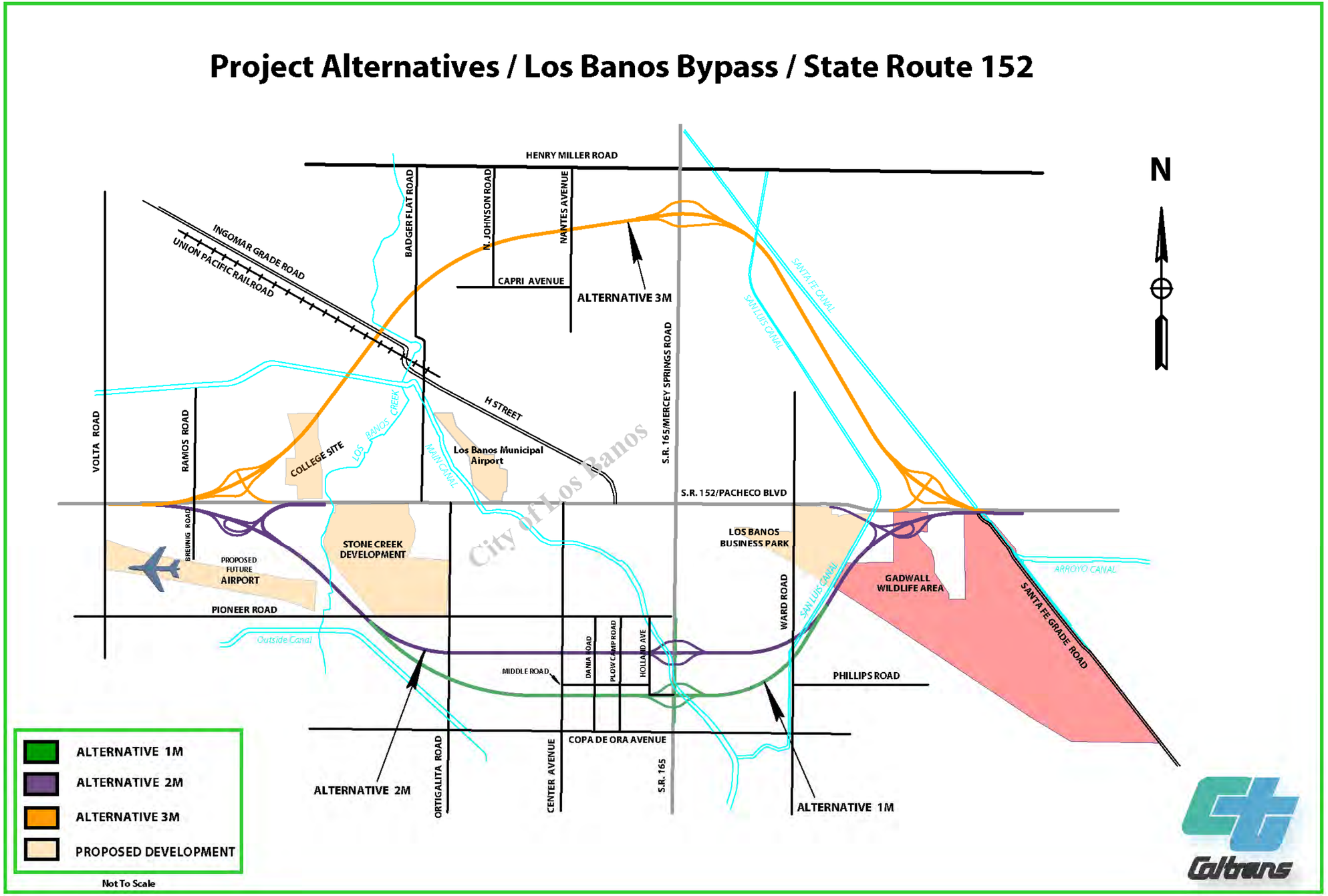


Figure 2-1 Build Alternatives 1M, 2M, and 3M

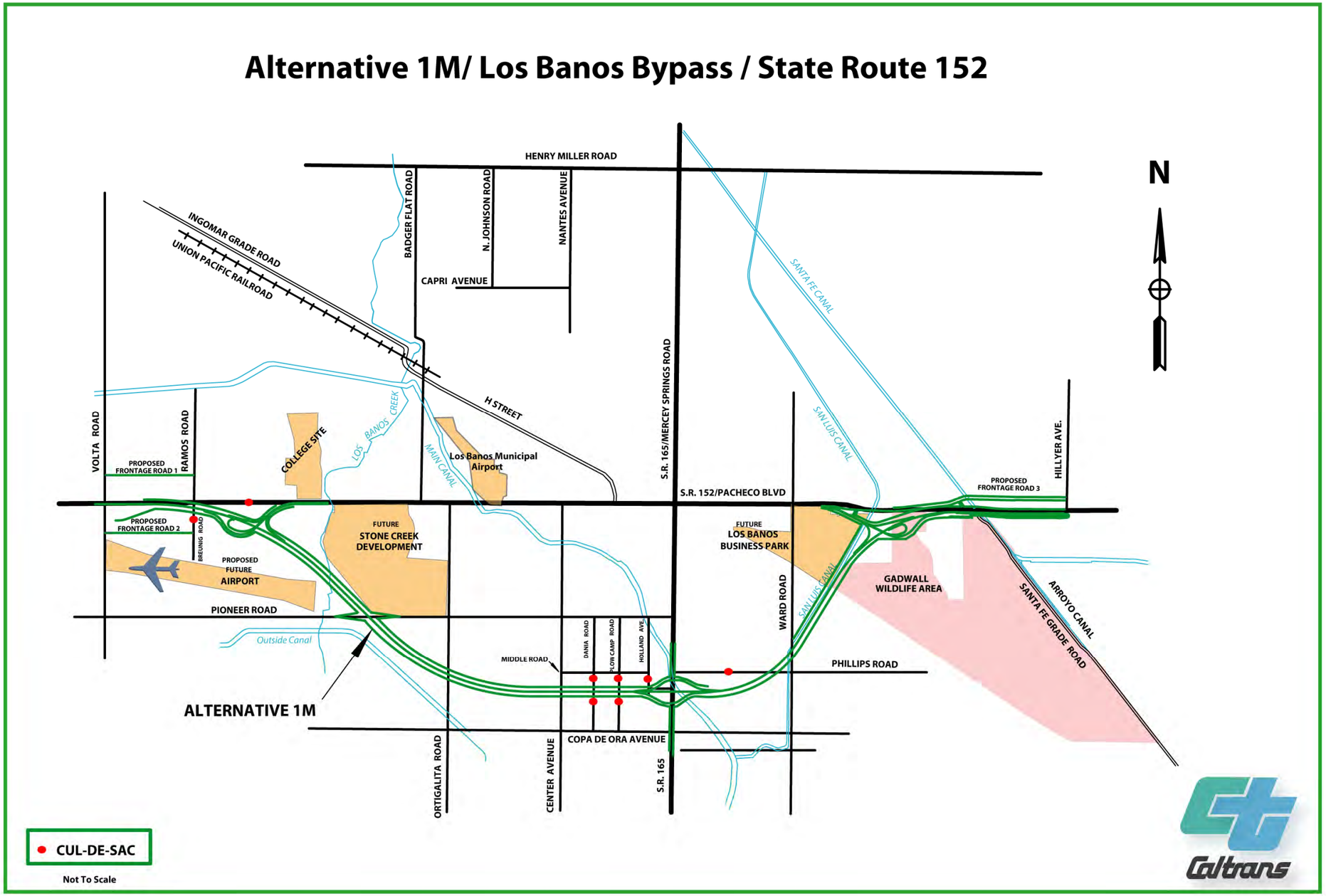


Figure 2-2 Alternative 1M

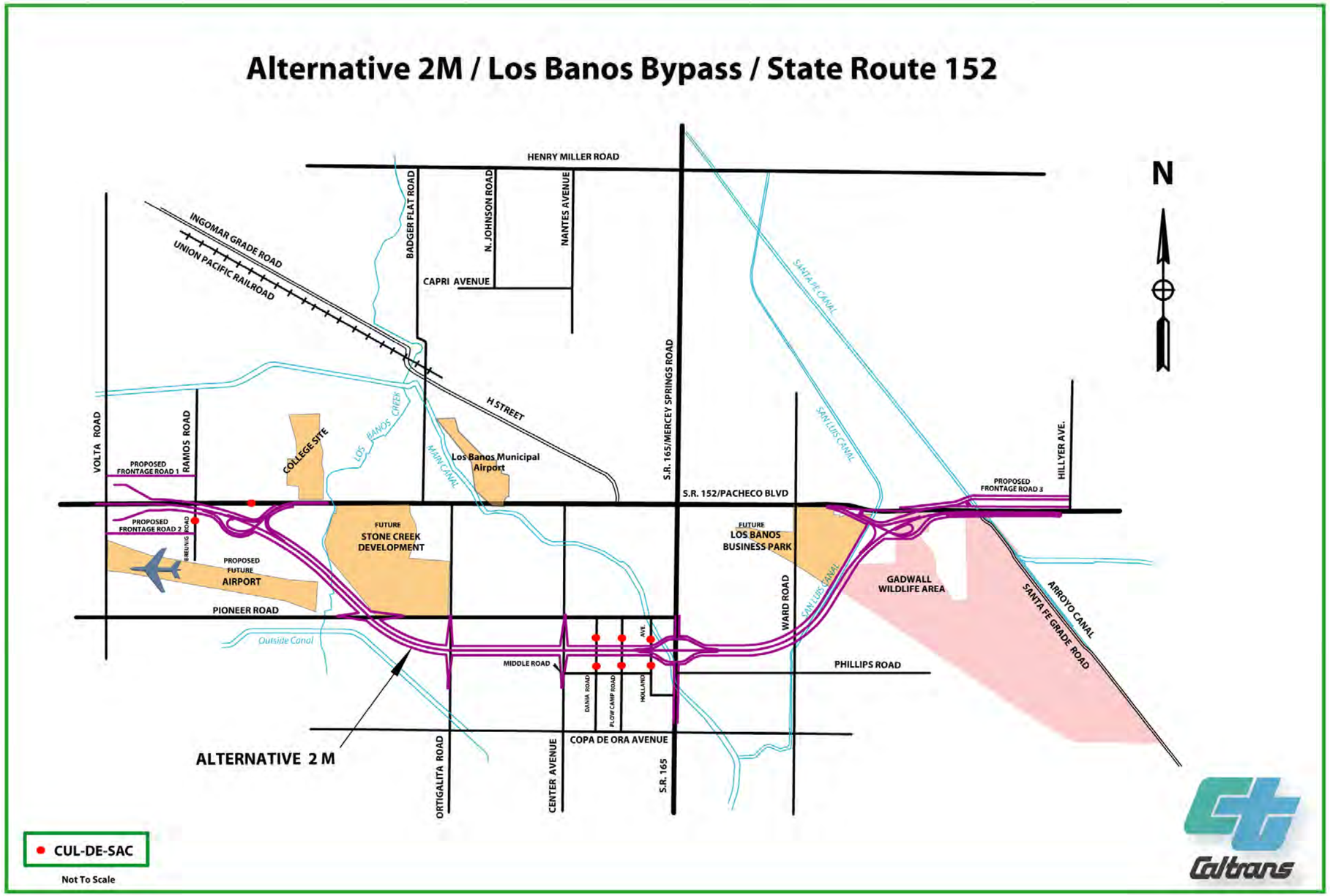


Figure 2-3 Alternative 2M

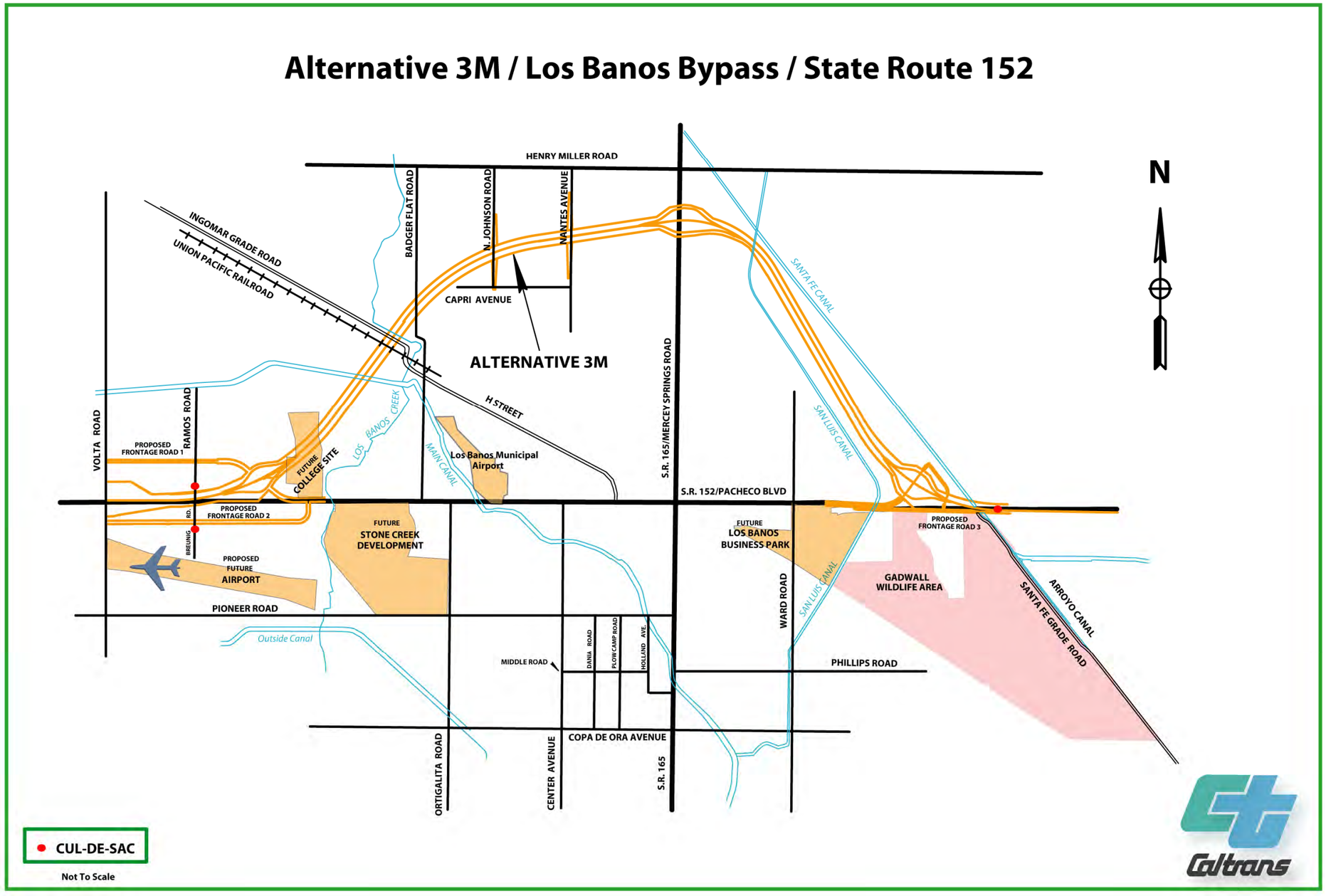
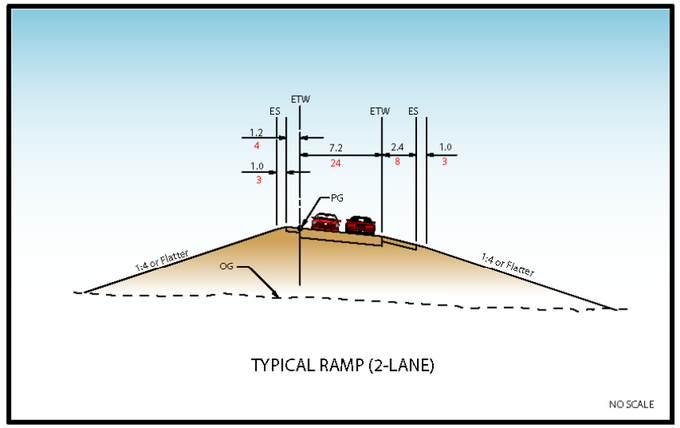
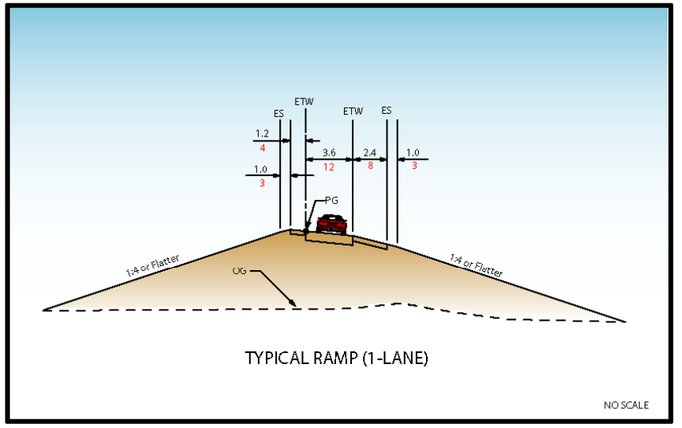


Figure 2-4 Alternative 3M



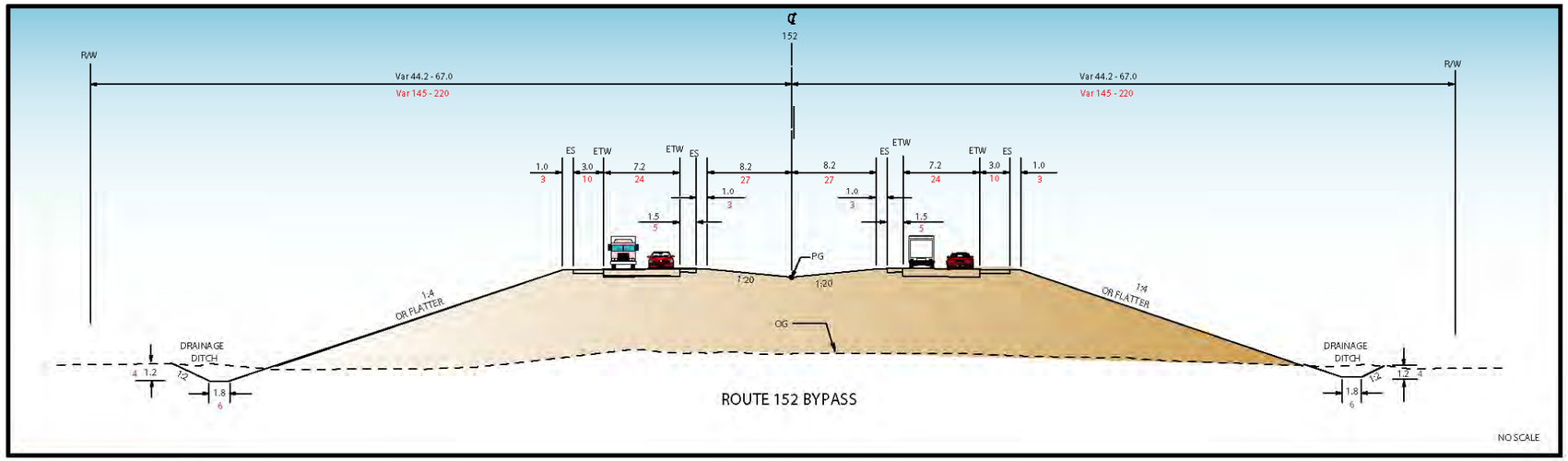
TYPICAL RAMP (2-LANE)

NO SCALE



TYPICAL RAMP (1-LANE)

NO SCALE



ROUTE 152 BYPASS

NO SCALE

KEY

OG - Original Ground
CL - Center Line
ES - Edge of Shoulder
ETW - Edge of Traveled Way
PG - Profile Grade
RW - Right of Way

Dimensions in red are feet
Dimensions in black are meters

TYPICAL CROSS SECTION

Figure 2-5 Typical Cross-Section

2.2.2 Build Alternative 1M

Alternative 1M (former Alternative 1 modified to avoid wetlands and possible historic properties) proposes a State Route 152 bypass south of Los Banos between Volta Road on the west and Santa Fe Grade Road on the east. The bypass would be approximately 15.1 kilometers (9.4 miles) long. Figure 2-2 shows the proposed alignment of Alternative 1M. Alternative 1M would include construction of the following:

- A four-lane freeway approximately 525 meters (1,723 feet) north of Copa de Ora Avenue.
- Two endpoint interchanges: one east of Breunig/Ramos Road at kilometer post 27.3 (post mile 17.0) and one west of the Santa Fe Grade Road at kilometer post 38.5 (post mile 23.9) to connect with existing State Route 152 (Pacheco Boulevard).
- A midpoint interchange to connect with State Route 165 (Mercey Springs Road).
- A retaining wall to the east of the interchange near Santa Fe Grade to protect wetlands located south of State Route 152. The retaining wall would be built in three or four sections and would be approximately 883.9 meters (2,900 feet) long and vary in height from 3.0 to 5.8 meters (10 to 19 feet).
- A new overcrossing (a local road built over the state route) at Pioneer Road.
- New undercrossings (a state route built over a local road) at Ortigalita Road, Center Avenue, Ward Road and Santa Fe Grade Road.
- Cul-de-sacs at Breunig/Ramos Road, Diana Road, Plow Camp Road, Pacheco Boulevard, and Phillips Road.
- Frontage roads, as needed, to provide access to private properties.

Alternative 1M also includes two options at the east end of the project to provide access to private property. Option A would include a retaining wall to protect approximately 0.8 to 1.2 hectares (2 to 3 acres) of wetland (see Section 3.16) and a private road easement requiring an additional 0.3 hectare (0.85 acre). Option B would include a retaining wall and a private driveway undercrossing.

The projected cost of Alternative 1M is approximately $243 million in 2004 dollars.

2.2.3 Build Alternative 2M

Alternative 2M (former Alternative 2 modified to avoid wetlands and possible historic properties) proposes a State Route 152 bypass south of Los Banos between Volta Road on the west and Santa Fe Grade Road on the east. The bypass would be approximately

14.9 kilometers (9.1 miles) long. Figure 2-3 shows the proposed alignment of Alternative 2M. Alternative 2M would include construction of the following:

- A four-lane freeway approximately 1127 meters (3,697 feet) north of Copa de Ora Avenue.
- Two endpoint interchanges: one east of Breunig/Ramos Road at kilometer post 27.3 (post mile 17.0) and one west of the Santa Fe Grade Road at kilometer post 38.5 (post mile 23.9) to connect with existing State Route 152 (Pacheco Boulevard).
- A midpoint interchange to connect with State Route 165 (Mercey Springs Road).
- A retaining wall to the east of the interchange near Santa Fe Grade to protect wetlands located south of State Route 152. The retaining wall would be built in three or four sections and would be approximately 883.9 meters (2,900 feet) long and vary in height from 3.0 to 5.8 meters (10 to 19 feet).
- New overcrossings (a local road built over the state route) at Pioneer Road, Ortigalita Road, and Center Avenue.
- New undercrossings (a state route built over a local road) at Ward Road and Santa Fe Grade Road.
- Cul-de-sacs at Breunig/Ramos Road, Diana Road, Plow Camp Road, Pacheco Boulevard, and Holland Avenue.
- Frontage roads, as needed, to provide access to private properties.

Alternative 2M also includes two options at the east end of the project area to provide access to private property. Option A would include a retaining wall to protect approximately 0.8 to 1.2 hectares (2 to 3 acres) of wetlands (see Section 3.16) and a private road easement requiring an additional 0.3 hectare (0.8 acre). Option B would include a retaining wall and a private driveway undercrossing.

The projected cost of Alternative 2M is approximately $234 million in 2004 dollars.

2.2.4 Build Alternative 3M

Alternative 3M (former Alternative 3 corridor modified to avoid wetlands and possible historic properties) proposes a State Route 152 bypass north of Los Banos between Volta Road on the west and Santa Fe Grade Road on the east. The bypass would be approximately 16.4 kilometers (10.2 miles) long. Figure 2-4 shows the proposed alignment of Alternative 3M. Alternative 3M would include construction of the following:

- A four-lane freeway south of Henry Miller Road. The alignment would range from approximately 626 to 995 meters (2,055 to 3,266 feet) south of Henry Miller Road.
- Two endpoint interchanges: one east of Ramos Road at kilometer post 27.3 (post mile 17.0) and one near the Santa Fe Grade Road at kilometer post 37.8 (post mile 23.5) to connect with existing State Route 152 (Pacheco Boulevard).
- A midpoint interchange to connect with State Route 165 (Mercey Springs Road).
- New undercrossings (a state route built over a local road) at Ingomar Grade Road, the Union Pacific Railroad, and Badger Flat Road.
- New overcrossings (a local road built over the state route) at North Johnson Road and Nantes Avenue.
- Cul-de-sacs at Breunig/Ramos Road and Pacheco Boulevard.
- Frontage roads, as needed, to provide access to private properties.

The projected cost of Alternative 3M is approximately $245 million in 2004 dollars.

2.2.5 No-Build Alternative

The present alignment of State Route 152 is a commercial corridor, known as Pacheco Boulevard, in the city of Los Banos. Development along the corridor limits the maximum roadway width to four traffic lanes and a continuous left-turn lane. The number of city cross streets, as well as the cost for acquisition and demolition of buildings, limits the expansion of the roadway.

The No-Build Alternative would maintain the operation of the existing State Route 152 corridor through Los Banos. State Route 152 would continue to operate with the existing five-lane configuration including traffic signals located at major intersections along the corridor.

State Route 152 was identified as a “High Emphasis Route” and a “Focus Route” in the Interregional Road System Plan (see also Section 1.2.2 Route Continuity). Therefore, the No-Build Alternative would not be consistent with the legislatively mandated Interregional Road System Plan. The plan specifies an “expressway” minimum standard for State Route 152 and includes construction of the Los Banos bypass in the concept for that route.

The No-Build Alternative would not address the long-term traffic growth on the existing alignment and fails to meet the purpose and need criteria. With the No-Build Alternative, regional traffic through Los Banos would continue to be subject to the existing stop-and-

go traffic conditions. Local traffic would continue to increase with development of Los Banos and the surrounding area. The No-Build Alternative and increased traffic volumes would lead to the following conditions along existing State Route 152 in Los Banos:

- Increased traffic congestion
- Greater vehicle exhaust emissions
- Use of neighborhood streets for through-traffic
- Potential increase in accident rate along Pacheco Boulevard

2.2.6 Comparison of Alternatives

Criteria used to evaluate alternatives include project purpose and need issues, project cost, and potential environmental effects of the proposed project. Table 2.1 compares the alternatives using the evaluation criteria.

For many of the evaluation criteria, the three build alternatives are similar. Any of the build alternatives would relieve traffic congestion and increase safety for Los Banos by diverting interregional traffic away from the center of the city. Because interregional traffic would no longer have to reduce speed within the city and stop at stoplights, route continuity would be enhanced for State Route 152. The No-Build Alternative would not meet these criteria.

There is a less than 10 percent cost difference for the build alternatives. Cost reflects the length of the roadway to be built. Any of the build alternatives would require structures (bridges over canals, roadway overcrossing and undercrossings) and imported fill.

- The estimated cost for Alternative 1M would be $243 million for a 15.9-kilometer (9.4-mile) freeway and require 4.8 million cubic meters of fill.
- Alternative 2M would cost approximately $234 million for a 14.9-kilometer (9.1-mile) freeway and 4.1 million cubic meters of fill.
- Cost for Alternatives 1M and 2M include approximately $4 million for a retaining wall at the east end of the project area to minimize impacts to wetlands located south of existing State Route 152.
- Alternative 3M is the longest alternative and thus the most costly. Alternative 3M would require a structure at the railroad crossing. The estimated cost for a 16.4-kilometer (10.2-mile) freeway would be $245 million and would require 5.2 million cubic meters of fill.

Traffic congestion affects the Level of Service (operating conditions) experienced on a roadway. In 2002, intersections on State Route 152 within Los Banos experienced a Level of Service between A and E. (See Section 1.2.1 for a description of Level of Service on city streets.) The State Route 152 roadway operated at Level of Service C west of West I Street and east of Mercey Springs Road. However, the road operated at Level of Service F between West I Street and Mercey Springs Road, the center of the city. It is anticipated that the Level of Service will continue to deteriorate as traffic levels continue to increase. Any of the build alternatives are expected to provide a Level of Service A to C in 2013 and B to C in 2033. An explanation of Level of Service for freeways is shown in Figure 2-6.

The proposed bypass would also temporarily relieve congestion and produce an acceptable Level of Service along State Route 152 (Pacheco Boulevard) within Los Banos for several years. Local traffic is anticipated to increase as Los Banos continues to grow. Traffic from State Route 165 would also continue to pass through the city. Level of Service F along Pacheco Boulevard would eventually be reached again before 2033. Because of these same conditions, the Level of Service for the intersection of State Route 152 and 165 (Pacheco Boulevard and Mercey Springs Road) is expected to be F even when the bypass is completed. See Chapter 3, Section 3.6, for further details.

Compared to the state average, the segment of existing State Route 152 that passes through Los Banos has had a slightly lower accident rate for fatalities and injury accidents for the three-year period from June 1, 2000 to June 30, 2003. Property damage accidents were slightly higher. However, 18 intersections within that area have experienced an accident rate at least double the state average for similar intersections located throughout the state. For at least two of these intersections—West I Street and Mercey Springs Road (State Route 165)—the rate was three times higher than the state average. It is anticipated that accident rates would continue to rise as traffic levels continue to increase within the city.

The build alternatives would have similar environmental impacts on “waters of the U.S.” (temporary only), air quality, water quality, and residential relocations. Impacts to businesses are similar (one to four affected businesses), with Alternative 3M affecting the most businesses. Each alternative would require the relocation of a dairy. The build alternatives are each consistent with the City of Los Banos General Plan and the Merced County General Plan.

Southern Alternatives 1M and 2M would have additional environmental impacts at the eastern end of the project area where the Gadwall Wildlife Area is located south of State Route 152. Wildlife refuges are among the public lands that are subject to protection under the Department of Transportation Act of 1966 unless there is no prudent and feasible alternative to using the land. It is also required that all possible planning be taken to minimize harm (see Appendix C, which addresses compliance with Section 4(f) of the Department of Transportation Act of 1966). Alternatives 1M and 2M would require the use of approximately 24 hectares (59 acres) of wildlife area land on the west and north edges of the Gadwall Wildlife Area. A wetland area that lies on the north end of the Gadwall Wildlife Area would also be affected by these alternatives. To reduce wetland impacts to 1.2 hectares (2.9 acres), it would be necessary to construct a retaining wall at the east end of the project. A retaining wall would introduce a large man-made structure into the visual landscape of the wildlife refuge. However, either alternative would be shorter to build and result in less farmland conversion.

Farmland is also considered habitat for the San Joaquin kit fox, Swainson's hawk, greater sandhill crane, and burrowing owl. If a portion of the Gadwall Wildlife Area were used, this use of Section 4(f) land would be permanently incorporated into a transportation facility. Adjacent areas may also be temporarily affected by construction activities. However, the existing State Route 152 and State Route 165 already bisect the system of state and federal wildlife refuges throughout the general area, as shown in Figure C-2 (Appendix C). Caltrans would work with the California Department of Fish and Game to minimize harm to the refuge and determine appropriate mitigation for any impacts.

Northern Alternative 3M would avoid impacts to Gadwall Wildlife Area and the wetlands. However, Alternative 3M is a longer alternative, thus requiring a greater amount of farmland to be converted for construction of the freeway, approximately 52.6 to 64.7 hectares (130 to 160 acres) more than the southern alternatives. Habitat loss is estimated to be approximately 40.5 hectares (100 acres) more. Currently, State Route 152 is considered the dividing line for Northern Range kit fox and Southern Range kit fox. The U.S. Fish and Wildlife Service has proposed that North Range kit fox habitat be compensated at 1.2 hectares (3 acres) for each 0.40 hectare (1 acre) of habitat loss. Proposed compensation to the south is 0.44 hectare (1.1 acres) for each 0.40 hectare (1 acre) of habitat loss. Alternative 3M would avoid the Gadwall Wildlife Area; Alternatives 1M and 2M would directly affect the Gadwall Wildlife Area.

The final selection of an alternative will not be made until after the consideration of impacts and the public hearing comments and following approval of the final

Environmental Impact Statement/Environmental Impact Report. In accordance with the California Environmental Quality Act, Caltrans will certify that the project complies with the act, prepare findings for all significant impacts identified, prepare a Statement of Overriding Considerations for impacts that will not be mitigated below a level of significance, and certify that the findings and Statement of Overriding Considerations have been considered prior to project approval. Caltrans will then file a Notice of Determination with the State Clearinghouse that will identify whether the project will have significant impacts, mitigation measures were included as conditions of project approval, findings were made, and a Statement of Overriding Considerations was adopted.

2.2.7 Environmentally Superior Alternative

Alternative 3M may be considered the environmentally superior alternative because it would avoid wetlands and the Gadwall Wildlife Area. Wetland areas exist at the north edge of and within the Gadwall Wildlife Area, as well as to the east of the Santa Fe Grade Road. Impacts to approximately 0.8 to 1.2 hectares (2.1 to 2.9 acres) of wetland would be avoided.

The Gadwall Wildlife Area is subject to protection under the Department of Transportation Act of 1966, Section 4(f). Alternative 3M would avoid any use of the Gadwall Wildlife Area property.

Alternative 3M avoids building a retaining wall along the northern edge of the Gadwall Wildlife Area and thereby maintains the visual landscape of the wildlife area. The retaining wall, which would be required by Alternatives 1M and 2M, would be built in three or four sections and would be approximately 883.9 meters (2,900 feet) long and vary in height from 3.0 to 5.8 meters (10 to 19 feet).

While Alternative 3M would convert a greater amount of farmland to a transportation facility, this conversion is addressed in the City of Los Banos General Plan. The bypass would reduce congestion within the city and improve traffic conditions for city residents.

Alternative 3M would result in a greater amount of farmland/habitat loss for special-status species (San Joaquin kit fox, Swainson’s hawk, greater sandhill crane, and burrowing owl). However, habitat loss would be replaced through mitigation compensation measures. Compared to Alternatives 1M and 2M, Alternative 3M would reduce the loss of giant garter snake habitat.

Table 2.1 Comparison of Alternatives

Evaluation Criteria	Alternative 1M	Alternative 2M	Alternative 3M	No-Build Alternative
Reduce Congestion	Yes	Yes	Yes	No
Improve Route Continuity	Yes	Yes	Yes	No
Improve Safety	Yes	Yes	Yes	No
Project Cost	$243 million	$234 million	$254 million	0
Waters of the U.S. - temporary impacts	0.2 hectare (0.5 acre)	0.2 hectare (0.5 acre)	0.2 hectare (0.5 acre)	0
Wetlands - permanent impacts	1.2 hectares (2.9 acres)	1.2 hectares (2.9 acres)	0	0
Sensitive-Species Habitat Loss	Giant garter snake—1.3 hectares (3.1 acres) San Joaquin kit fox, Swainson's hawk, greater sandhill crane, and burrowing owl—173 hectares (427 acres)	Giant garter snake—1.3 hectares (3.1 acres) San Joaquin kit fox, Swainson's hawk, greater sandhill crane, and burrowing owl—162 hectares (400 acres)	Giant garter snake—0.1 hectares (0.2 acre) San Joaquin kit fox, Swainson's hawk, greater sandhill crane, and burrowing owl—212 hectares (525 acres)	0
Biological Mitigation Costs	Estimated $2 million*	Estimated $2 million*	Estimated $6 million*	
Air Quality	May provide overall air quality benefit	May provide overall air quality benefit	May provide overall air quality benefit	May reduce air quality
Water Quality	No long-term impacts	No long-term impacts	No long-term impacts	None
Noise Impacts	14 (predicted) homes or businesses with noise increase by 2033. Sound barriers feasible, but not reasonable to construct.	11 (predicted) homes or businesses with noise increase by 2033. Sound barriers feasible, but not reasonable to construct.	4 (predicted) homes or businesses with noise increase by 2033. Sound barriers feasible, but not reasonable to construct.	0
Visual Impacts	Potential loss of riparian habitat at Los Banos Creek, loss of large eucalyptus trees and oaks. Retaining wall may be required for east end of project.	Potential loss of riparian habitat at Los Banos Creek, loss of large eucalyptus trees and oaks. Retaining wall may be required for east end of project.	Potential loss of riparian habitat at Los Banos Creek, loss of large eucalyptus trees and oaks.	None
Hazardous Waste Sites	0	1	2	0
Farmland Impacts - direct conversion	226.9 hectares (560.7 acres)	217.3 hectares (537.1 acres)	279.6 hectares (690.9 acres)	0
Residential Relocation	37	17	17	0
Business Relocation	1 (dairy relocation)	2 (including 1 dairy relocation)	4 (including 2 dairy relocations)	0
Growth Inducement	No	No	No	No
Cumulative Impacts	No	No	No	No
Section 4(f) Impacts to Gadwall Wildlife Area	24 hectares (59 acres)	24 hectares (59 acres)	0	0
Consistency with City and County General Plans	Yes	Yes	Yes	No

** Estimate is based on mitigation proposed by the U.S. Fish and Wildlife Service, which may require three times as much mitigation for the farmland impacts north of State Route 152 than to the south.*

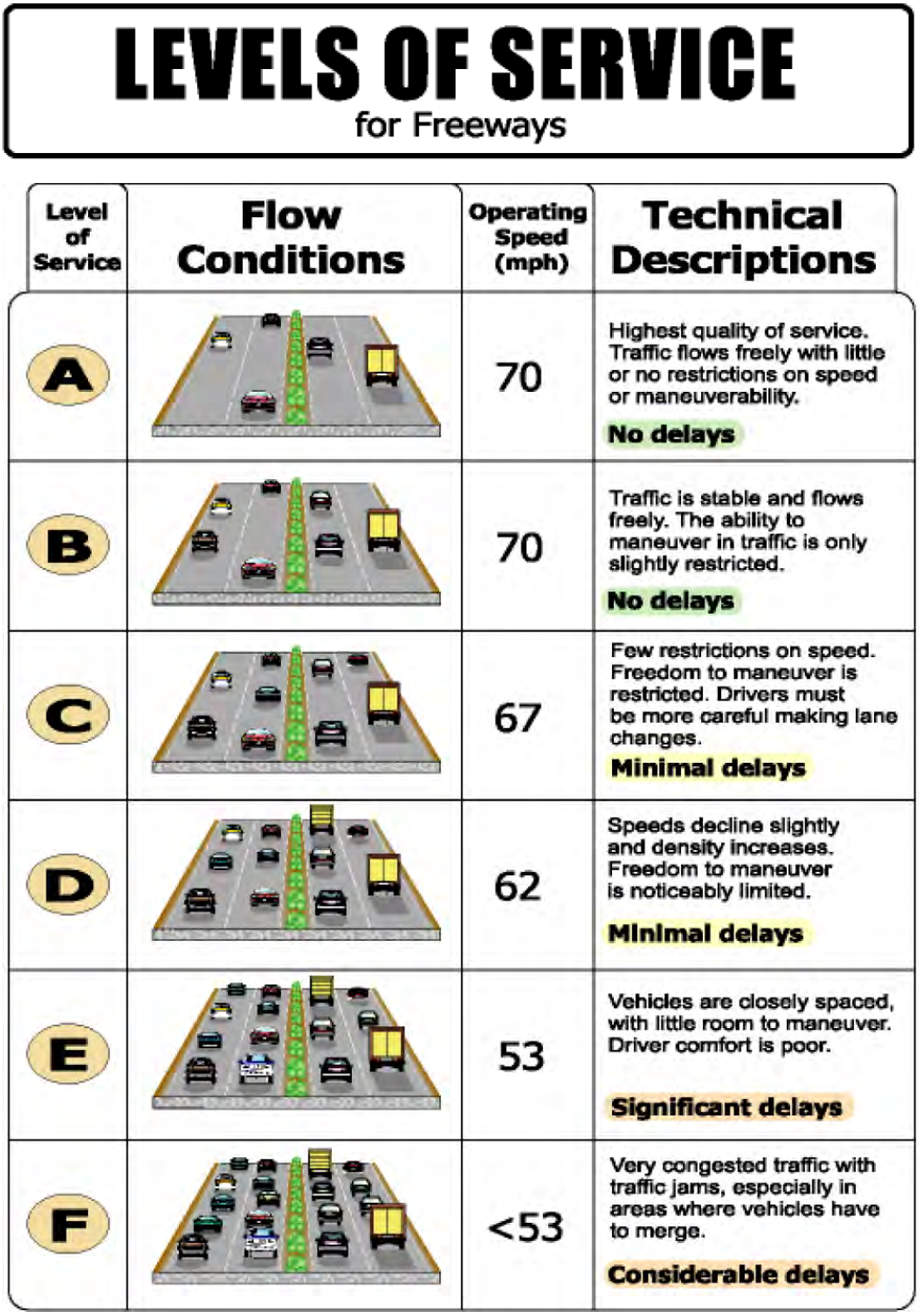


Figure 2-6 Levels of Service for Freeways

2.3 Alternatives Considered and Withdrawn

2.3.1 Transportation Systems Management

Caltrans looks at existing routes to determine if transportation problems can be solved without building additional roadways. Transportation Systems Management (methods such as coordinated traffic signals, re-striping lanes, and changeable message signs) is the traffic operation method used to increase the efficiency of moving vehicles over an existing roadway.

In 1996, a center turn lane was added to the existing State Route 152 to reduce congestion and accidents. As a result, fewer traffic accidents have occurred. Currently, an access management plan is being developed to minimize traffic conflicts between vehicles entering and exiting the existing roadway.

One-way couplets may be used to expand roadway capacity in urban areas. One-way couplets are pairs of one-way streets that function as a single higher-capacity route. Couplets, usually separated by one city block, allow travel in opposite directions. A one-way couplet system would not be feasible in Los Banos. No local streets (north or south) run parallel to State Route 152 for the entire length of the undivided section of the roadway through Los Banos. Construction of a street parallel to State Route 152 approximately one block away would be costly and disruptive to established residential areas and businesses within the city.

Transportation Systems Management may also include Transportation Demand Management, which promotes decreased use of single-occupant vehicles and focuses on altering commuter behavior by encouraging ridesharing, telecommuting, flexible work schedules, bicycling, walking, and transit use. Merced County has had an active Transportation Demand Management program since 1984. One of the primary issues in Merced County that lends itself to Transportation Demand Management is the increasing numbers of west county residents whose daily commute exceeds 100 miles. A vanpool subsidy program was funded until June 2004 by the City of Los Banos and the Merced County Association of Governments' Congestion Mitigation Program.

The congestion in Los Banos is a result of local, commuter, recreational, commercial, and agricultural traffic mixing as the vehicles pass through the city. Drivers must reduce speed and stop at multiple stoplights. Although Transportation Systems Management alone would not solve congestion problems or provide for future traffic needs, its strategies would work in conjunction with the build alternatives to help manage traffic more effectively.

2.3.2 Other Alternatives Considered and Withdrawn

Throughout the project development process, the project development team in consultation with other interested parties evaluated multiple alternative alignments. The discussion below and Table 2.2 provide a summary of the alternative development process.

In 1993, the project development team considered a total of 10 alternatives during the initial stage of Project Study Report preparation. The 10 alternatives included five main alignments and five variations—two southern bypasses (Alternatives 1 and 2) and three northern bypasses (Alternatives 3, 4, and 5). Figure 2-7 shows the 10 conceptual alternatives.

General environmental studies and subsequent site visits were used by the project development team to evaluate conceptual alternatives. The number of alternatives was reduced when minor changes were made to minimize environmental and right-of-way impacts and to take city transportation and land use planning into consideration. The Project Study Report recommended four build alternatives and the No-Build Alternative (Figure 2-8). Northern Alternatives 3 and 4 and variations were combined into one alternative (Alternative 4) to shorten the length of the bypass and to avoid crossing numerous residential and industrial/commercial parcels along North Johnson Road.

The project development team also considered expressway versus freeway construction. The team determined that a freeway with three interchanges for access would be the best investment of public funds for traffic operations over the long term. Traffic studies indicated that an expressway with intersections (rather than interchanges) would result in low levels of service, increased delays, and early failure of the roadway. An access-controlled freeway through farmland would help discourage additional development in farmland areas and better reinforce city land use plans for urban limit demarcation.

By the time a Major Investment Study was begun by the Merced County Association of Governments in 1998, the Study Steering Committee dropped northern Alternative 5 due to limited space for an interchange and to avoid the Los Banos Regional Park Ag Sports Complex, former city landfill, and existing residential areas. The remaining northern alternative, formerly Alternative 4, was renamed Alternative 3.

Caltrans studied the resulting Alternatives 1, 2, and 3, the No-Build Alternative, and a potential Transportation Systems Management Alternative. The project development team determined that the Transportation Systems Management Alternative would not relieve congestion, provide route continuity or improve safety and operations sufficiently to meet the purpose and need and subsequently withdrew it from further consideration.

During environmental studies, Alternative 3 was realigned farther west and interchanges for all the alternatives were redesigned to avoid planned development. In 2003, to avoid wetlands and historically sensitive resources identified during surveys, the alignments of the alternatives were adjusted and renamed Alternatives 1M, 2M, and 3M.

The alternatives are described in Section 2.2, and Figure 2-9 illustrates the changes.

2.3.3 Permits and Approvals Needed

Several permits/agreements would be required for the proposed project, including:

- Section 404 Letter of Permission or Individual Permit from the U.S. Army Corps of Engineers for impacts to the jurisdictional wetlands and waters of the United States
- Section 401 Water Quality Certification Permit from the California Regional Water Quality Control Board
- Section 1602 Streambed Alteration Agreement from the California Department of Fish and Game for impacts to the bed, bank, and channel of Los Banos Creek and the drainage canals located in the potential impact area
- Biological Opinion from the U.S. Fish and Wildlife Service to address impacts to the federally listed “threatened” giant garter snake and the federally listed “endangered” San Joaquin kit fox

- Freeway Agreement and Relinquishment Agreement between Caltrans, Merced County, and the City of Los Banos for State Route 152. The City of Los Banos would also need to approve modifications to existing local roadways through a Report of Consensus.
- Route Adoption approval from the California Transportation Commission

Table 2.2 Alternative Development Process

Conceptual Proposed Alternatives 1993	Project Study Report Alternatives Studied 1993	Major Investment Study Alternatives Studied 1998	Alternatives Studied by Caltrans for Environmental Document 1999	Modified Alternatives Fall 2003
1, 1A, 1B	Alternatives 1A and 1B dropped, and Alternative 1 carried forward.	Alternative 1 carried forward.	Alternative 1– Eastern end segment moved to east side of San Luis Canal.	Alternative 1M – Corridor modified to avoid possible historic properties in south and to avoid airport relocation on west.
2	Eastern end segment moved to east side of San Luis Canal.	Alternative 2 carried forward.	Alternative 2 carried forward.	Alternative 2M – Corridor modified to avoid wetlands in southeast and to avoid airport relocation on west.
3, 3A	Alternatives 3 and 4 combined into Alternative 4 to shorten length, avoid some parcels on N. Johnson Road, and avoid Los Banos Landfill.	Alternative 4 renamed Alternative 3.	Alternative 3 – 2000: Corridor moved farther west of Los Banos Creek to conform to general plan.	Alternative 3M – Corridor modified to avoid wetlands near State Route 165 and possible historic properties in northwest.
4, 4A				
5, 5A	Alternative 5 dropped, and Alternative 5A carried forward.	Alternative 5A dropped due to limited space for interchange design, existing residential areas, park/sports complex and former city landfill.		

Source: Caltrans Project Study Report, 1993; PDT Meeting Minutes, 1992-93; SR 152 Bypass MIS Steering Committee Reports; Merced County Major Investment Study, 1998; City of Los Banos Planning Department, 2003.

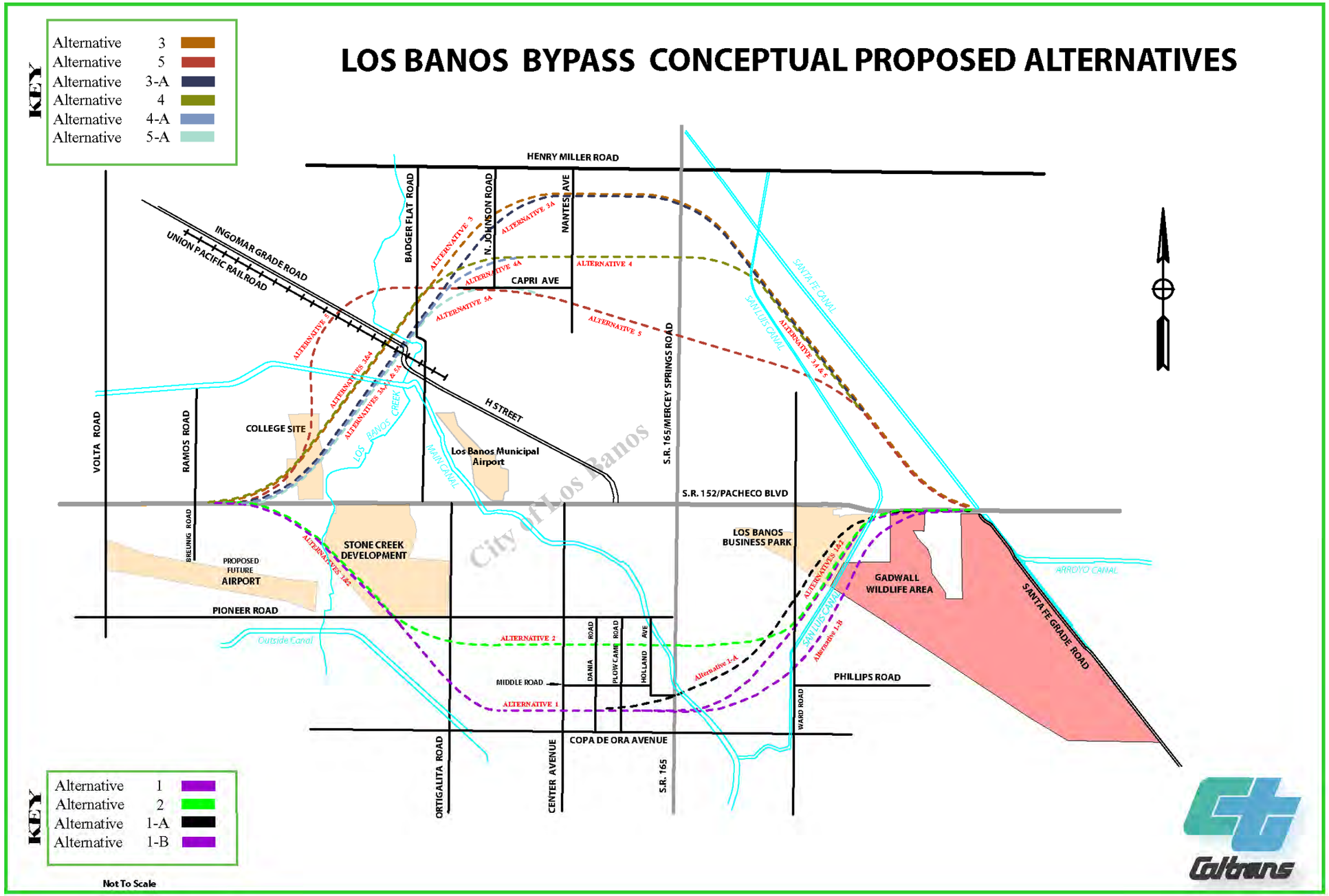


Figure 2-7 Conceptual Alternatives

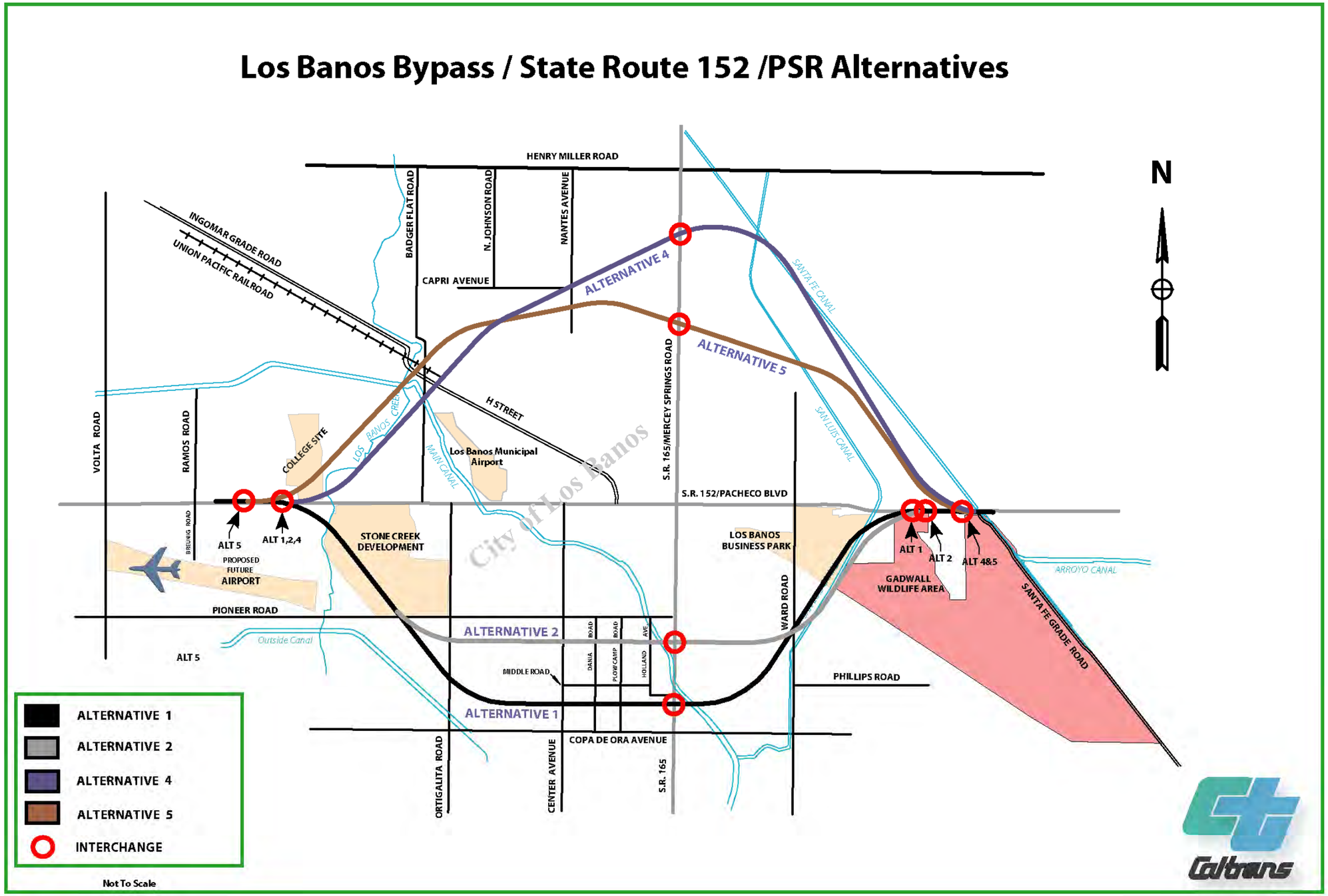


Figure 2-8 Project Study Report Alternatives

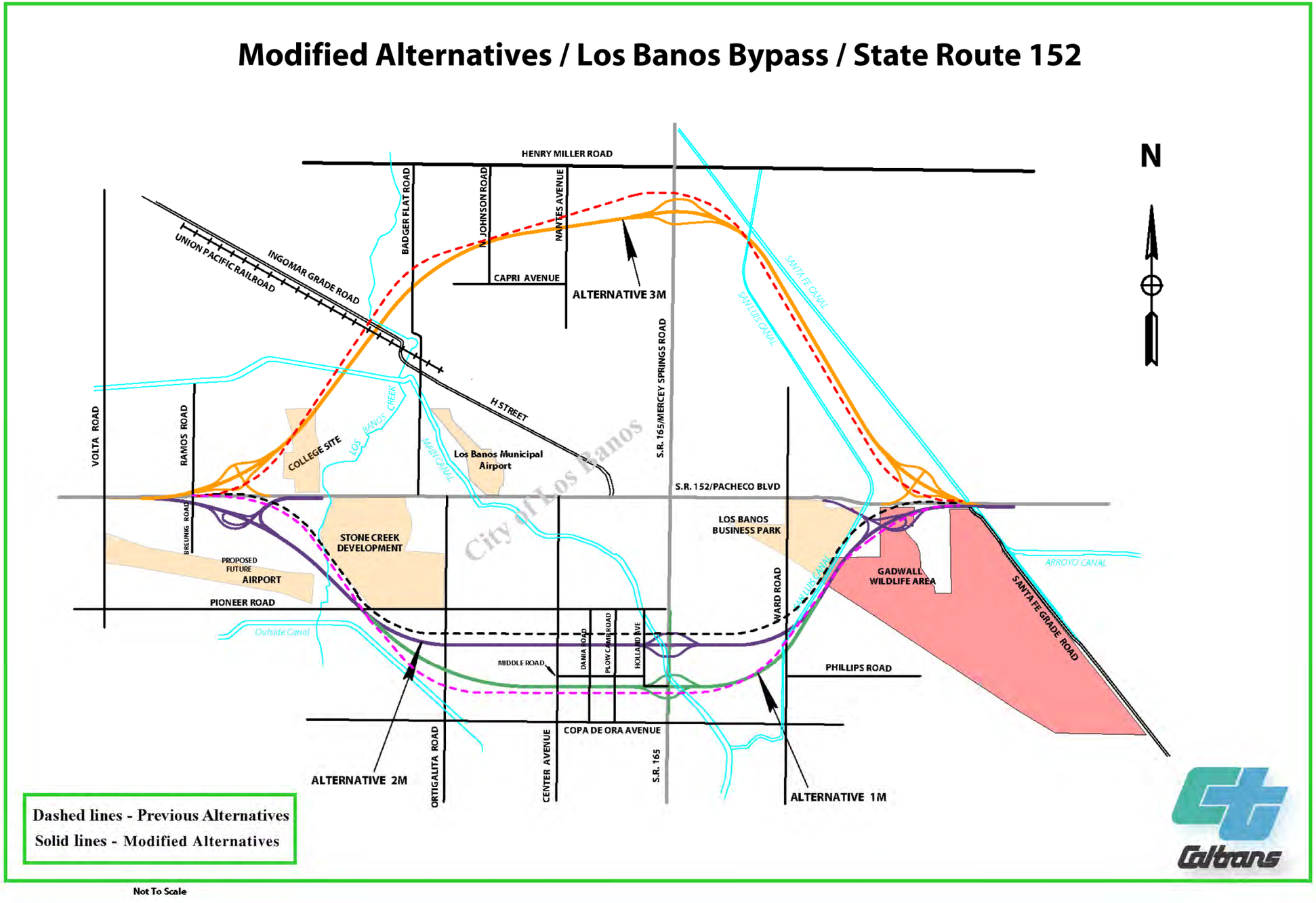


Figure 2-9 Original and Modified Alternatives

Chapter 3 Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures

Chapter 3 describes the current state of the environmental resources in the project area and identifies the likely impacts of implementing the Los Banos Bypass project. The subsections below describe the present conditions, discuss the likely effects of building the bypass, and identify mitigation measures that would reduce effects of the proposed project. Possible cumulative effects are discussed in Chapter 4.

3.1 Land Use

3.1.1 Affected Environment

Caltrans completed a Community Impact Assessment (July 2004) that analyzed the impacts of the proposed project with respect to land use, farmland, social and economic issues, environmental justice, and utility/emergency services in the community.

The study area included the Los Banos city limits and the city's *Urban Limit Line* (or *Sphere of Influence*) and the *Area of Interest* as described in the Los Banos General Plan. The *Urban Limit Line,* or *Sphere of Influence,* is defined by state law as the projected limits to which a city could extend municipal services. The *Area of Interest* is the area that extends well beyond the potential land needs of the city over the next 20 years. The proposed bypass would be located primarily within the *Area of Interest* except for the southernmost portion of Alternative 1M. Areas within Los Banos were included in the socioeconomic study area because a bypass could potentially affect businesses and other activities throughout the general Los Banos area. The Los Banos General Plan Land Use Map (see Appendix H) shows the city limits, *Urban Limit Line* (or *Sphere of Influence)* and *Area of Interest*.

Existing and Future Land Use

The proposed bypass project would be built around the city of Los Banos on primarily agricultural land. The alignment alternatives are located roughly at the outer edges of the *Urban Limit Line*. The 1999 Los Banos General Plan describes the city

boundaries as including approximately 2207.2 hectares (5,454 acres) or about 22.1 square kilometers (8.5 square miles). The *Urban Limit Line* encloses approximately 4487.6 hectares (11,089 acres) or about 44 square kilometers (17 square miles). The Los Banos General Plan Land Use Map in Appendix H shows the extent of the city limits and *Urban Limit Line*.

As a result of local growth (approximately 4 percent annually), the City of Los Banos has projected that approximately 1174 hectares (2,900 acres) of land within the *Urban Limit Line* may need to be developed over the next 22 years to meet its growing population. The city's population increased by 74.7 percent between 1990 and 2000 (14,806 to 25,869). Within the *Urban Limit Line*, many agricultural areas are already zoned for residential or commercial uses because of anticipated conversion of agriculturally zoned land to meet growth demands.

Most of the land within the project area is zoned for agriculture (refer to Appendix H, City of Los Banos Land Use Map) and is currently in agricultural use with cotton, alfalfa, row crops, walnut orchards, and fruit trees. There are also dairies and associated pastures. Near Alternative 2M is a poultry egg producer.

Parcels on the east end of the proposed project area (east of the San Luis Canal to the north of State Route 152 and west of the San Luis Canal on the south) are zoned as industrial and/or commercial. Within the southern area, the City of Los Banos Industrial Park is under construction at this time. Other commercial development is proposed southwest of Badger Flat Road as part of the Stonecreek development. Construction of a new community college has been proposed west of the Los Banos Creek and north of existing State Route 152. Relocation of the airport to southwest Los Banos is also being studied.

Low-density residential and light-industrial areas also occur within and adjacent to the proposed project area. More residential subdivisions are currently being developed adjacent to the project area.

Farmland is already being converted to other land uses in areas adjacent to the city. Plans are being developed for new residential neighborhoods southwest of the city, in addition to existing development plans for the northeast area. Because the City of Los Banos plans to expand out to the bypass corridor, the bypass could be used as a buffer between urban growth and farmland.

A list of local development projects in the Los Banos area is provided in Table 3.1. The projects are also shown in Figure 3-1. Information on local development was compiled from information from the Los Banos Planning Department, the Los Banos General Plan (1999), Merced County Year 2000 General Plan (1989), and the California Office of Planning and Research. Information on local development is also contained in the Caltrans Community Impact Assessment (May 2004) that was completed for the project.

Consistency with Regional and Local Plans

The study area is under the jurisdiction of the City of Los Banos and Merced County. The proposed project is consistent with the City of Los Banos General Plan (1999) and the Merced County Year 2000 General Plan (1989), which provide public plans and policies guiding land use decisions in the study area of the proposed bypass project.

Land use in the project area is primarily regulated by the City of Los Banos General Plan (1999). Key points in the policies include:

- Growth should occur in an orderly and logical manner.
- Urban development would occur when proper services are available.
- Agricultural operations should not be converted prematurely.

Merced County General Plan goals include cooperation with cities and state and federal transportation agencies to ensure coordination of road systems and county involvement in the annual development of the Regional Transportation Plan. The proposed project is listed in the Merced County 2004 Regional Transportation Plan and the 2004 Federal Transportation Improvement Program. The proposed Los Banos Bypass project is consistent with the plans discussed above.

The Los Banos General Plan and the Merced County Year 2000 General Plan list acceptable Levels of Service (C and D) for this type of roadway. The city plan also stipulates protecting and enhancing the efficiency of Pacheco Boulevard (State Route 152) and Mercey Springs Road (State Route 165), as well as continuing to pursue funding and construction approval of the proposed bypass. The proposed project is intended to meet the existing and/or projected traffic demand based on local land use plans.

Table 3.1 Local Development in the Los Banos Area

Map #	Development	Approx. Acreage (hectares/acres)	Jurisdiction	Proposed Land Use	Status
1	Orchard Terrace II	7.4/18.4	City	Residential	Pending DA approval
2	Village Green	5.9/14.7	City	Residential	Pending approval
3	Vineyard	102.4/253.0	City	Residential	In construction
4	Northgate at Regency Park II	20.5/50.6	City	Residential	In construction
5	Northgate at Regency Park	39.3/97.0	City	Residential	Approved, but pending
6	Mission Village North	19.6/48.5	City	Residential	In construction
7	Somerset Park	6.5/16.0	City	Residential	In construction
8	Mission Village South	32.0/79.9	City	Residential	Approved, but pending
9	Mission Estates	17.0/42.2	City	Residential	In construction
10	Giannone-Verona	23.0/57.0	City	Residential	In construction
11	Jo-Lin Park Manor	15.7/38.9	City	Residential	Built 2001
12	Rancho de Amigos	15.7/38.9	City	Residential	Built 1996
13	Meadowlands (3)	54.2/133.9	City	Residential	Active permits
14	Meadowlands I & II	53.6/132.5	City	Residential	Built 2002
15	Avalon at Meadowlands	6.3/15.7	City	Residential	In construction
16	Los Banos Business Park	112.0/277.0	City	Commercial	Approved
17	Spadafore/Giannoni	14.6/36.0	County	Residential	Pending approval
18	East Mercey Springs Annexation	20.2/50.0	County	Residential	Pending approval
19	Cresthill II	30.8/76.0	City	Residential	Built 1989
20	Quail Hollow	9.9/24.4	County	Residential	Pending approval
21	Villas at South Point	15.8/39.1	City	Residential	Pending approval
22	Cresthill I	7.5/18.6	City	Residential	Built 1989
23	West Center Avenue Annexation	86.0/212.6	County	Residential	Pending approval
24	Los Banos Gardens 5	32.4/80.0	City	Residential	In construction
25	Los Banos Gardens III	11.7/28.9	City	Residential	Built 2001
26	Los Banos Gardens II	17.9/32.0	City	Residential	Built 2000
27	Magnolia Grove	3.4/8.3	City	Residential	In construction
28	The Villages at Stonecreek	18.8/46.4	City	Residential	In construction
29	Stonecreek Development	199.6/493.3	County	Residential/ Commercial	Annexation approved
30	Los Banos Airport	182.0/450.0	County	Commercial	Pending
31	Los Banos Community College	48.6/120.0	County	School	Anticipated start date Spring 2005
	Approximate Total Acreage	1263.9/3123.1			

Sources: Los Banos General Plan, 1999; Office of Planning and Research, CEQAnet database (March 2003); City of Los Banos Planning Department, 2003 and 2004.

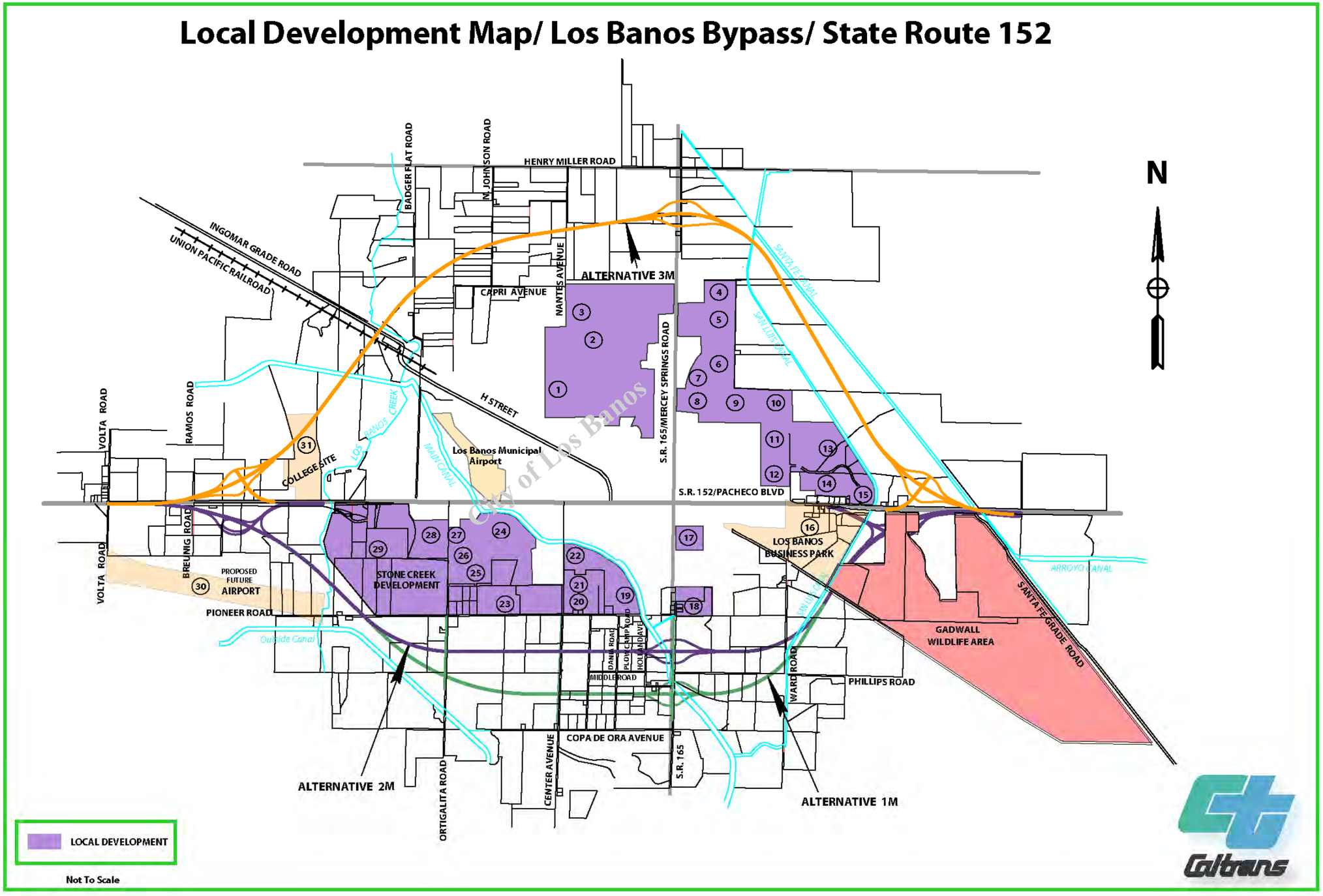


Figure 3-1 Local Development

Parks and Recreation

The Los Banos Regional Park Ag Sports Complex is located on Mercey Springs Road, south of Henry Miller Road. Approximately 4.4 hectares (11 acres) out of a 20.2-hectare (50-acre) parcel have been developed into playing fields. Of the remaining land, the southern half could be developed some time in the future. The northern half was the site of a landfill at one time and cannot be developed. The right-of-way for the bypass may come to the northeast corner of the parcel, an area where the landfill was located. There are other parks (neighborhood, pocket, minor community, and major community parks) within the city, but only the Los Banos Regional Park Ag Sports Complex is close to the project. The project would not encroach on or affect the park.

Within 32 kilometers (20 miles) of Los Banos are five state wildlife areas and six national wildlife refuges that are used for recreation. The state wildlife areas include Mud Slough Wildlife Area, Los Banos Wildlife Area, Volta Wildlife Area, Salt Slough Wildlife Area, Great Valley Grassland State Park, and China Island Wildlife Area. Federal wildlife refuges in the region include the San Luis National Wildlife Refuge and Kesterson National Wildlife Refuge. The wildlife areas and refuges are used by hunters, fishermen, and other users (such as birdwatchers and nature photographers). During the 2003-2004 waterfowl and pheasant-hunting season, 20,478 hunters visited the state wildlife areas and federal wildlife refuges. Recreational tourists often use the Los Banos area for gas, food, and lodging when visiting or traveling through the area.

3.1.2 Impacts

The acreage to be directly converted by the project would be mainly farmland, but would also include land used in other ways. Residential and commercial lands may be acquired for the proposed bypass (see Section 3.4.2 Relocations).

The estimated right-of-way to be acquired (Table 3.2) would also include consideration of impacts to farmland parcels because of segmentation and/or loss of access. Impacts due to segmentation and/or access loss would be minimal due to reconfiguration of excess parcels following right-of-way purchases. For example, if a large parcel is segmented by the proposed project, portions of land on either side of the roadway would be resold as available farmland to adjacent land owners.

The estimated right-of-way figures stated in Table 3.2 are higher than estimated farmland acreage directly converted for the bypass as noted in Section 3.3 Farmlands/Agricultural Lands, because the figures below include other land uses and land that may be needed in excess of the right-of-way.

Table 3.2 Estimated Right-of-Way to be Acquired

Estimates	Alternative 1M	Alternative 2M	Alternative 3M
Right-of-Way	290.4 hectares (717.6 acres)	264.5 hectares (653.6 acres)	349.4 hectares (863.5 acres)
Possible Excess	74.4 hectares (183.9 acres)	49.6 hectares (122.7 acres)	90.2 hectares (223.0 acres)
Estimated Total to be Acquired	364.9 hectares (901.6 acres)	314.2 hectares (776.3 acres)	439.3 hectares (1,085.5 acres)

Source: Caltrans Right-of-Way Data Sheet, March 2004

3.1.3 Avoidance, Minimization, and/or Mitigation Measures

Changes in land use do not require mitigation. For more discussion of mitigation for farmland conversion, see Section 3.3 Farmlands/Agricultural Lands.

3.2 Growth

3.2.1 Regulatory Setting

The Council on Environmental Quality regulations, which implement the National Environmental Policy Act of 1969, require evaluation of the potential environmental consequences of all proposed federal activities and programs. This provision includes a requirement to examine indirect consequences, which may occur in areas beyond the immediate influence of a proposed action and at some time in the future. The Council on Environmental Quality regulations, 40 Code of Federal Regulations 1508.8, refers to these consequences as secondary impacts. Secondary impacts may include changes in land use, economic vitality, and population density, which are all elements of growth.

The California Environmental Quality Act also requires the analysis of a project's potential to induce growth. California Environmental Quality Act guidelines, Section 15126.2 (d), require that environmental documents "discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment."

3.2.2 Affected Environment

Residential development in the Los Banos area has increased as people working outside of Merced County have chosen to live in the Los Banos area. Approximately 45 percent of the workers who live in the Los Banos area now work outside of Merced County. New residential and commercial developments are planned in various parts of Los Banos. Residential developments may also include plans for public facilities such as schools, parks, drainage basins, and retail centers. Residential and commercial developments that have been recently built, are in progress, or are planned are listed in Table 3.1 and shown in Figure 3-1.

The City of Los Banos plans to continue residential development at a rate of approximately 4 percent per year to accommodate anticipated growth. Caltrans assessed local and regional development in the Community Impact Assessment prepared in 2004. Growth is discussed in both the city and county general plans (refer to Section 3.1 of this document). The Los Banos General Plan Land Use Map in Appendix H shows the extent of the city limits and *Urban Limit Line*. The city's General Plan directs growth away from existing land uses that are considered incompatible with urban uses and suggests the following limits:

- On the north, growth is discouraged beyond one-half mile south of Henry Miller Road.
- On the south, growth is discouraged beyond one-quarter mile south of Pioneer Road, a designated arterial.
- On the west, growth is encouraged up to the Los Banos Creek.
- On the east, intensive growth to the east of the San Luis Canal is discouraged.

These policy limitations recognize the importance of agricultural land and sensitive biotic areas in the Los Banos area.

3.2.3 Impacts

The relationship between the proposed project and growth in the Los Banos area is expected to be one of accommodating planned growth, rather than growth inducement.

Local developments are outside the study area of the proposed bypass. However, a number of developments are or will be located within a quarter- to half-mile of the

bypass. The local development conforms with existing city and county plans. Some development is taking place in areas currently designated as agricultural reserves, but that is intended for future urbanization. Residential developments recently built, in progress, or planned include approximately 868.1 hectares (2,145.2 acres) for residences and approximately 231.3 hectares (571.5 acres) for public use (Table 3.1). An additional 164.5 hectares (406.4 acres) have been planned for commercial development.

The City of Los Banos considers local growth to be market driven, with people moving to Los Banos for affordable housing but commuting elsewhere for work. Planned residential development will continue in order to meet the demands of the growing population of the city whether the bypass is built or not. Expected and approved annexations will provide for development over the next 10 to 15 years. Growth management plans are in place to accommodate the expected 4 percent growth.

Although the amount of growth is not expected to change, minor changes in the distribution of that growth may be planned to fine-tune the relationship of land use plans to the final location of the bypass. For example, city planners indicate that should Alternative 1M or 2M be selected, the urban boundary might be changed to use the freeway as the boundary between urban development and farmland. Although city planners consider Alternative 3M to be too far north to serve as an urban-rural boundary, adjustments to the general plan could be considered to allow roadside-related commercial zoning at key intersections such as the junction of State Routes 152 and 165.

A Caltrans Growth Inducement Checklist (for a copy of the checklist, refer to the July 2004 Community Impact Assessment) was used to analyze the proposed project for growth inducement. The checklist was completed in cooperation with the City of Los Banos Planning Department and information from the Merced County Association of Governments urban growth model. The proposed project was not found to be growth inducing.

The Merced County Association of Governments evaluated changes in travel time and potential for growth inducement due to major planned transportation projects, including the Los Banos bypass. Areas within Merced County, including the Los Banos area, which had the potential for residential growth inducement due to

decreased home-to-work travel times, were evaluated. A countywide assessment of the potential for growth inducement included the following areas:

- West County: along Highway 152 and Interstate 5, near Los Banos, Santa Nella, and Gustine (but outside their planned growth boundaries)
- North 99: near State Route 99 and the communities of Delhi, Hilmar, and Livingston (but outside their growth boundaries)
- Outside of Franklin: between Atwater and Merced
- East Merced: south of the University of California at Merced, east of Merced
- South 99: southeast of Merced, along State Route 99

Travel time from these areas to job centers, both internal and external to the county, was evaluated to see if travel time savings would be sufficient to increase growth. The project list used for this analysis included the Los Banos bypass. Table 3.3 shows the results of the analysis.

Table 3.3 Travel Time Savings (in minutes)

Job Centers	Potential Residential Growth-Inducement Areas				
	West County	North 99	Franklin	East Merced	South 99
Livingston	2	0	1	1	7
Castle	4	6	3	6	4
South Atwater	1	1	1	7	3
West Merced	1	2	1	3	2
Central Merced	1	4	2	1	1
Southeast Merced	5	6	3	8	0
UC	7	1	9	4	6
Los Banos	3	2	2	9	5
West-Santa Clara County	7	N/A	N/A	N/A	N/A
North-Stanislaus County	N/A	3	6	12	9
South-Fresno	0	9	6	11	2

Source: Merced County Association of Governments Regional Transportation Plan and Environmental Impact Report, 2004

Travel time savings of under 15 minutes between these areas would not be sufficient to induce growth. Additional constraints to induced growth in these areas include lack of sewer, water, and other urban services, and policies protecting farmland and biological habitat. These constraints would more than offset minimal growth pressure created by changes in travel times. These conclusions are consistent with the Merced County Association of Governments urban growth model, which indicates that the major planned road projects, including the Los Banos bypass, support planned growth and reduce land-use-related environmental impacts. An ad hoc advisory committee consisting of local planners from the cities of Merced, Atwater, and Los Banos, and the County of Merced reviewed these results and found them to be reasonable and consistent with their experiences.

3.2.4 Avoidance, Minimization, and/or Mitigation Measures

No mitigation would be necessary.

3.3 Farmlands/Agricultural Lands

3.3.1 Regulatory Setting

The National Environmental Policy Act and the Farmland Protection Policy Act U.S. Code 4201-4209 (and its regulations, 7 Code of Federal Regulations Chapter VI Part 658) require federal agencies, such as the Federal Highway Administration, to coordinate with the Natural Resources Conservation Service if their activities may irreversibly convert farmland (directly or indirectly) to nonagricultural use. For purposes of the Farmland Protection Policy Act, farmland includes Prime Farmland, Unique Farmland, and Farmland of Statewide or Local Importance. The land does not currently have to be used for cropland.

The California Environmental Quality Act requires the review of projects that would convert Williamson Act contract land to non-agricultural uses. The main purpose of the Williamson Act is to preserve agricultural land and to encourage open space preservation and efficient urban growth. The Williamson Act provides incentives to landowners through reduced property taxes to deter the early conversion of agricultural and open space lands to other uses.

3.3.2 Affected Environment

The City of Los Banos considers agricultural land an important resource and agriculture, as an industry, an essential component of the economic base of the city. In 1997, the Census of Agriculture reported 218 farms in the 93635 zip code, an area that includes Los Banos and approximately five to 10 miles surrounding the city (Table 3.4). The area surrounding Los Banos has a greater percentage of farms (67.4 percent) that are 50 acres or more in size compared to Merced County as a whole (47.6 percent of all farms). Almost three-quarters (71.6 percent) of farm operators in the Los Banos area make farming their principal occupation compared to 61.9 percent of Merced County farmers.

Farms in the Los Banos area with milk cows make up 10.3 percent (35 farms) of the county total, while cotton farms make up 40.7 percent (75 farms). Cropland was harvested at 161 farms in the Los Banos area, and 39 farms used cropland for pasture or grazing. Twenty-four (approximately 11.0 percent) of the 218 farms in the Los Banos area had cropland that was idle in 1997.

Table 3.4 Farms in the Los Banos Area and Merced County

Topic	Los Banos Area (zip code 93635)		Merced County	
Total Number of Farms (1997)	218	100%	2,831	100%
Farm size of 1-49 acres	71	32.6%	1,485	52.5%
Farm size of 50-999 acres	106	48.6%	1,174	41.5%
Farm size of 1,000 acres of more	41	18.8%	172	6.1%
Sold less than $10,000 market value agricultural products	35	16.0%	785	27.7%
Sold $10,000-99,999 market value agricultural products	63	28.9%	953	33.7%
Sold $100,000 or more market value agricultural products	120	55.0%	1,093	38.6%
Farm operator with principal occupation as farming	156	71.6%	1,752	61.9%

Source: Census of Agriculture, 1997

Although Merced County provides only a small percentage (approximately 3%) of all California farmland, it ranked fifth in agricultural production among California counties in 1997 and 1998. The top five crops in Merced County in 1997 were:

Milk	$440.88 million
Almonds	$178.64 million
Chicken	$158.02 million
Cotton	$86.92 million
Alfalfa	$76.63 million

Agricultural land makes up 93 percent of Merced County acreage, and approximately 50 percent of that total is considered Important Farmland.

The importance of agriculture as an industry in the Los Banos area is also reflected in the market value of the agricultural products sold. Fifty-five percent of the Los Banos area farms sell $100,000 or more of agricultural products annually, while only 38.6 percent of all Merced County farms do the same. The major agricultural commodities produced in the Los Banos area are milk products, tomatoes, dried fruit, nuts, cotton, melons, and meat. Field crops are a primary use of agricultural land, however there is a substantial amount of grazing land to the north and west of the city. In addition, several dairies are currently in operation within or adjacent to the study area.

An estimated 2276.8 hectares (5,626 acres) of farmland and rural area lie between the existing city limits and the proposed General Plan *Urban Limit Line*. Of that total, an estimated 1722.7 hectares (4,257 acres) are considered Prime Farmland and 220.5 hectares (545 acres) are considered Farmland of Statewide Importance.

As of September 2003, nine parcels within the study area are under Williamson Act contract. Two-thirds of these parcels are located in or near Alternative 3M in the north.

Agricultural Development Trends

The California Farmland Conversion Report 1998-2000 documented a net loss of 1038.4 hectares (2,566 acres) of agricultural land in Merced County (Table 3.5), although there was a gain of 226.2 hectares (559 acres) of Important Farmland. At less than 0.2 percent, however, the loss at the county level could be considered quite small.

Conversions between Important Farmland categories were primarily due to corrections made to soil unit identification in the county. Conversions to Unique Farmland primarily were due to orchards and cropland development on former pastures scattered throughout the county.

Table 3.5 Merced County Land Inventory

Category	Hectares (Acres) in 1998	Hectares (Acres) in 2000	Hectares (Acres) Gained	Hectares (Acres) Lost
Important Farmland Prime	116,978 (289,056)	116,115 (286,924)		-862.8 (-2,132)
Important Farmland Statewide	64,776.7 (160,065)	64,157.9 (158,536)		-618.8 (-1,529)
Important Farmland Unique	39,087 (96,585)	40,050.1 (98,965)	963.2 (2,380)	
Important Farmland Local	19,397.6 (47,932)	18,651.4 (46,088)		-746.2 (-1,844)
Grazing Land	235,101 (580,942)	235,328 (581,501)	226.2 (559)	
Total Agricultural Land	475,341 (1,174,580)	474,302 (1,172,014)		-1,038.4 (-2,566)

Source: California Farmland Conversion Report 1998-2000, California Department of Conservation

In the vicinity of southern Alternatives 1M and 2M, urban developments are planned north of Pioneer Road adjacent to the central portion of the study area (Figure 3-1). Developments include the nearly 202-hectare (500-acre) Stonecreek development located north of Pioneer Road (between the Los Banos Creek and Ortigalita Road). A new airport has also been proposed southwest of the southern corridors that would convert approximately 182 hectares (450 acres) of farmland to other uses. The city has planned a business park (112.1 hectares or 277 acres) in an area zoned for commercial and industrial use just west of the San Luis Canal and at the east end of the project.

A new community college is proposed just west of Los Banos Creek in the vicinity of Alternative 3M. Urban growth has occurred in the northeast area of Los Banos, primarily between Mercey Springs Road and the San Luis Canal, an area outside of the northern corridor. On the east end of the bypass study area, only those parcels adjacent to the existing highway are expected to be developed as industrial uses.

The Los Banos Planning Department has indicated that it expects the *City Limit Line* to be adjusted to meet the bypass right-of-way line if a southern alternative is chosen. However, if Alternative 3M were chosen, the *City Limit Line* would not be extended to meet it. According to the Los Banos General Plan, the freeway could be used as a buffer between urban development and existing, continued agricultural use.

Farmland Protection

Farmland preservation is considered a local issue and is managed at the county and city levels. The City of Los Banos uses an "avoid and buffer" policy to protect agricultural lands:

- Avoid designating or rezoning land sharing a boundary with an existing agricultural use for residential use.
- Avoid designating or rezoning land outside of the area intended for urban growth (*Urban Limit Line*) for residential use.
- Buffer agricultural land with physical barriers such as freeways, creeks, and canals.
- Require proposed residential use to demonstrate that it would not conflict with normal agricultural practices, that a sufficient physical buffer could be provided, and that funding is available to maintain the buffer area.

The Williamson Act (California Land Conservation Act of 1965) gives local government the opportunity to offer landowners in developing areas a means of maintaining their land in agricultural production and is the state's principal policy for the preservation of agricultural and open-space land. Land enrolled in Williamson Act contracts are assessed for property taxes at a rate consistent with its actual use, rather than the potential value of the land. Merced County began participating in the Williamson Act in July 2000.

For the purpose of farmland impacts, the study area included those farmland parcels that would be directly or indirectly affected by the bypass. Caltrans' farmland assessment is included within the Community Impact Assessment Report (July 2004).

3.3.3 Impacts

Based on the California Department of Conservation, Office of Land Conservation's Farmland Mapping and Monitoring Program, the City of Los Banos is nearly surrounded by Prime Farmland or Farmland of Statewide Importance. While any build alternative for the project would convert farmland to non-agricultural uses, the project would not be the driving force for continued development of the area between the bypass and the existing urbanized area.

According to the Los Banos General Plan and the City Planning Office, the city will continue to expand out to the proposed corridors because of anticipated growth and

development. By 2004, the population had grown to more than 30,000. Because the city is growing rapidly, it is expected that the city will continue to develop and fill in the areas adjacent to the proposed bypass. The bypass could then serve as a buffer between development and remaining farmland. The project would build a four-lane road on a six-lane right-of-way. This would enable Caltrans to expand State Route 152, by adding lanes in the state-owned right-of-way, when needed in the future, without further disturbance to farmland or the community.

Estimated right-of-way and farmland acquisitions for each build alternative are shown in Table 3.6, and the estimated number of parcels affected are compared. This estimate is for land that would be directly converted by the project. Additional land may need to be acquired due to segmentation of parcels and loss of access. Farmland parcels that may be affected by the project are also shown in Figure 3-2. Alternative 3M would affect the least number of total parcels, but the largest acreage of farmland. More parcels over 40.5 hectares (100 acres) would be affected by Alternative 3M than by Alternative 1M or 2M.

Additional land, other than that directly required, may need to be purchased for the project due to segmentation of parcels and/or loss of access. Upon completion of bypass construction, some of the land may become excess land that could then be resold to adjacent property owners. The following are estimated additional acquisitions if entire parcels are purchased rather than just the portions required:

- Alternative 1M – 138 hectares (340 acres)
- Alternative 2M – 97 hectares (239 acres)
- Alternative 3M – 159 hectares (395 acres)

Nevertheless, converting up to 383.3 to 404.3 hectares (700 to 1,000 acres) of farmland to construct a bypass would still convert less than 0.1 percent (0.06 to 0.08 percent) of Merced County's 475,337 hectares (1,172,014 acres) of farmland.

Table 3.6 Estimated Right-of-Way and Farmland Acquisition

Farmland Breakdown	Alternative 1M	Alternative 2M	Alternative 3M
Total right-of-way acquisition hectares (acres)	365.9 (901.6)	314.2 (776.3)	439.7 (1,086.5)
Farmland directly converted hectares (acres)	226.5 (560.7)	217.0 (537.1)	279.1 (690.9)
Total parcels affected	83	88	73
Farmland parcels affected	56	55	60
0-8.1 hectares (0-20 acres)	21	14	18
8.6-20.2 hectares (21-50 acres)	16	23	19
20.6-40.5 hectares (51-100 acres)	14	14	13
more than 40.5 hectares (100 acres)	5	4	10

Source: Caltrans Design, 2003

A Farmland Conversion Impact Rating Form for Alternatives 1M, 2M, and 3M was completed in consultation with the Natural Resources Conservation Service. The results of the Farmland Conversion Impact Rating are shown in Table 3.7. The Land Evaluation Points and Site Assessment Criteria combine soil productivity, water conditions, proximity to other urban and rural land uses, impacts on remaining farmland after the conversion, indirect or secondary effects of the project on agricultural land, and other local factors to arrive at a weighted score. If the score reaches the threshold of 160 points under the Farmland Protection Policy Act, consideration must be given to alternatives that avoid or minimize farmland impacts. Alternatives 1M and 3M had scores of 160 points, and Alternative 2M was slightly lower with 157 points.

Table 3.7 Farmland Conversion Impact Rating Summary

Summarized Issues	Alternative 1M	Alternative 2M	Alternative 3M
Direct Farmland Conversion in Hectares (Acres)	226.9 (560.7)	217.3 (537.1)	279.6 (690.9)
Prime and Unique	186.9 (462.0)	166.7 (413.0)	198.7 (491.0)
Statewide/Local Importance	19.0 (47.0)	19.0 (47.0)	36.4 (90.0)
Land Evaluation Points*	74	74	77
Corridor/Site Assessment Criteria Points**	86	83	83
Total Points	160	157	160

Source: Farmland Conversion Impact Rating, Form AD-1006
**Based on a scale of 1 to 100*
***Based on the 12 criteria shown on Form AD-1006 in Appendix F*

The creation of non-farmable farmland and other secondary impacts to farmland would also be a consideration for the project. Farmland not directly affected by the bypass could be affected by:

- Segmentation that may create small and/or irregular parcels that are not practical to farm by the current property owner. However, it may be possible that such parcels may be absorbed into neighboring farm parcels for continued production after the completion of construction.
- Local roads that become cul-de-sacs, thus reducing access to roads used to transport goods or produce to market.
- Bypass roadway and associated overcrossings/undercrossings of local roads by increasing the footprint required for the roadway may reduce, change, or eliminate access to some farm parcels. It may become necessary in some cases to drive much farther in order to access all parts of property when farming.

Williamson Act

Table 3.8 lists the nine parcels under Williamson Act contracts that may be affected by the bypass and the estimated number of hectares/acres that may be acquired.

Table 3.8 Williamson Act Properties and Potential Impacts

Assessor's Parcel Number	Hectares (Acres) per Parcel	Estimated Acquisition Hectares (Acres)		
		Alternative 1M	Alternative 2M	Alternative 3M
84010059	61.9 (153.0)	11.7 (29.0)	11.7 (29.0)	1.6 (4.1)
83150023	15.4 (38.0)	2.7 (6.7)	0	0
83170033	3.9 (9.6)	0.1 (0.2)	0	0
83150013	5.7 (14.0)	0	1.7 (4.3)	
81050008	31.1 (77.0)	0	0	7.5 (18.6)
81070023	26.3 (65.0)	0	0	5.2 (12.9)
81070024	2.4 (6.0)	0	0	2.4 (6.0)
81080020	42.9 (106.0)	0	0	11.2 (27.6)
81080022	17.4 (43.0)	0	0	5.4 (13.4)
	TOTAL	**14.5 (35.9)**	**13.5 (33.3)**	**33.5 (82.9)**

Source: Merced County Assessor Records, 2003; Caltrans Design

Under the California Environmental Quality Act Guidelines, cancellation of Williamson Act contracts for parcels exceeding 40.5 hectares (100 acres) is an action considered to be "of statewide, regional, or area-wide significance." Right-of-way may be acquired from two parcels that exceed 40.5 hectares (100 acres). Alternative

1M and 2M would require approximately 11.7 hectares (29.0 acres) from parcel number 84010059. Alternative 3M would require approximately 1.6 hectares (4.1 acres) of the same parcel and 11.2 hectares (13.4 acres) of parcel number 81080020. However, only that portion of the parcels that are acquired for the proposed project would be taken out of Williamson Act contract. The parcel size reduction would not cause cancellation of the Williamson Act contract.

Access issues and potential fragmentation may require more Williamson Act acreage than shown in Table 3.8 to be acquired for the bypass. Alternative 3M would affect twice as much Williamson Act acreage than either Alternative 1M or 2M. Table 3.9 shows a comparison of the impacts to farmland by each build alternative.

Table 3.9 Farmland Impacts Summary Comparison

Impacts	Alternative 1M	Alternative 2M	Alternative 3M
Total farmland and non-farmland parcels affected*	83	88	73
Farmland parcels affected*	56	55	60
0-8.1 hectares (0-20 acres)	21	14	18
8.6-20.2 hectares (21-50 acres)	16	23	19
20.6-40.5 hectares (51-100 acres)	14	14	13
more than 40.5 hectares (more than 100 acres)	5	4	10
Number of Williamson Act parcels affected*	3	2	6
Estimated hectares (acres) to be directly converted*	285.1 (704.4)	270.7 (669.0)	331.0 (817.9)
Estimated farmland hectares (acres) to be directly converted*	226.9 (560.7)	214.4 (537.1)	279.6 (690.9)
Estimated Prime Farmland hectares (acres) to be directly converted*	191.8 (474.0)	169.5 (418.0)	187.0 (464.0)
Estimated Williamson Act hectares (acres) to be directly converted*	14.5 (35.9)	13.4 (33.3)	33.4 (82.9)

Source: Caltrans Design
** Final total may be higher due to excess lands and access issues*

While the project results in the conversion of agricultural land, the bypass would provide two improvements to existing and future agricultural operations:

- Improved farm-to-market goods transport
- A defined border to future development in Los Banos (on the south as an urban limit; on the north as a limit to interchange development)

The bypass would provide more efficient movement of agricultural goods and services. Each day, trucks carrying agricultural produce must negotiate local roads and existing State Route 152 with stop signs or stop lights that continually interrupt progress to marketing facilities. The bypass would allow unhindered agricultural vehicle movement around the urban Los Banos area and facilitate connections with other state routes. Intersections would have left-turn lanes and adequate turning radii to accommodate turns made by large farm equipment. Expanded shoulder widths would allow agricultural vehicles to pull off the travel lane in an emergency. A freeway would enhance the economic viability of Merced County farms that use State Routes 152 and 165 to transport equipment, services and products.

In addition, the proposed alternative corridors would be far enough from the city to reduce congestion within the city, but close enough to not substantially increase out-of-direction travel.

Los Banos has grown rapidly in recent years and will continue to do so, resulting in continuing loss of agricultural land from the immediate area around the city. The bypass, whether it be constructed to the north or the south of Los Banos, could provide a defined asphalt border for urban development, thereby limiting further agricultural land conversion. The city's General Plan supports the bypass as a barrier between continuing local development and land that would remain in agricultural production.

3.3.4 Avoidance, Minimization, and/or Mitigation Measures

Measures were considered to avoid farmland altogether, convert fewer acres of farmland, or use farmland with a lower relative value. Due to the rural nature of the entire area around Los Banos, it would not be possible to build the bypass without converting farmland. The only options that would avoid this loss of farmland would be the No-Build Alternative or to widen the existing State Route 152 as it passes through the city. There is extensive commercial activity and two schools along the existing State Route 152 roadway within Los Banos. Therefore, widening the existing highway would be very disruptive to the community as a whole, the business community, schools, and local traffic circulation. Moreover, neither of these options would fully relieve the traffic congestion and operational problems that currently

exist, so the purpose and need of the project would not be met. The social and economic factors stated above do not make it feasible to mitigate the conversion of farmland by avoiding the area.

Providing overcrossings and/or undercrossings at local roads to maintain access and movement to remaining farmland is a mitigation measure proposed by Caltrans. Proposed local road crossings and cul-de-sacs are shown in Tables 3.21 and 3.22 in Section 3.6. There are relatively few roads located in the agricultural areas around the city. While a few roads would become cul-de-sacs, three to five roads would have overcrossings or undercrossings that would help maintain farm access.

As part of the right-of-way process for purchasing land, Caltrans tries to negotiate parcel exchanges with neighboring farmers to reconfigure split farmland parcels for resale so that the parcels would continue to be farmed and not contribute further to the segmentation and conversion of farmland.

No known conservation easement programs exist in Merced County for farmland mitigation at this time.

3.4 Community Impacts

For the purpose of discussing the three subsections of Community Impacts—Community Character and Cohesion, Relocations, and Environmental Justice—the project area is defined by the *Urban Limit Line* for the City of Los Banos and any additional parcels beyond that line directly affected by the proposed build alignments. A more detailed discussion of Community Impacts, as well as impacts to Farmland and Growth issues, is contained in the Los Banos Community Impact Assessment (July 2004).

3.4.1 Community Character and Cohesion

3.4.1.1 Regulatory Setting

The National Environmental Policy Act of 1969 as amended established that the federal government use all practicable means to ensure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings [42 U.S. Code 4331(b)(2)].

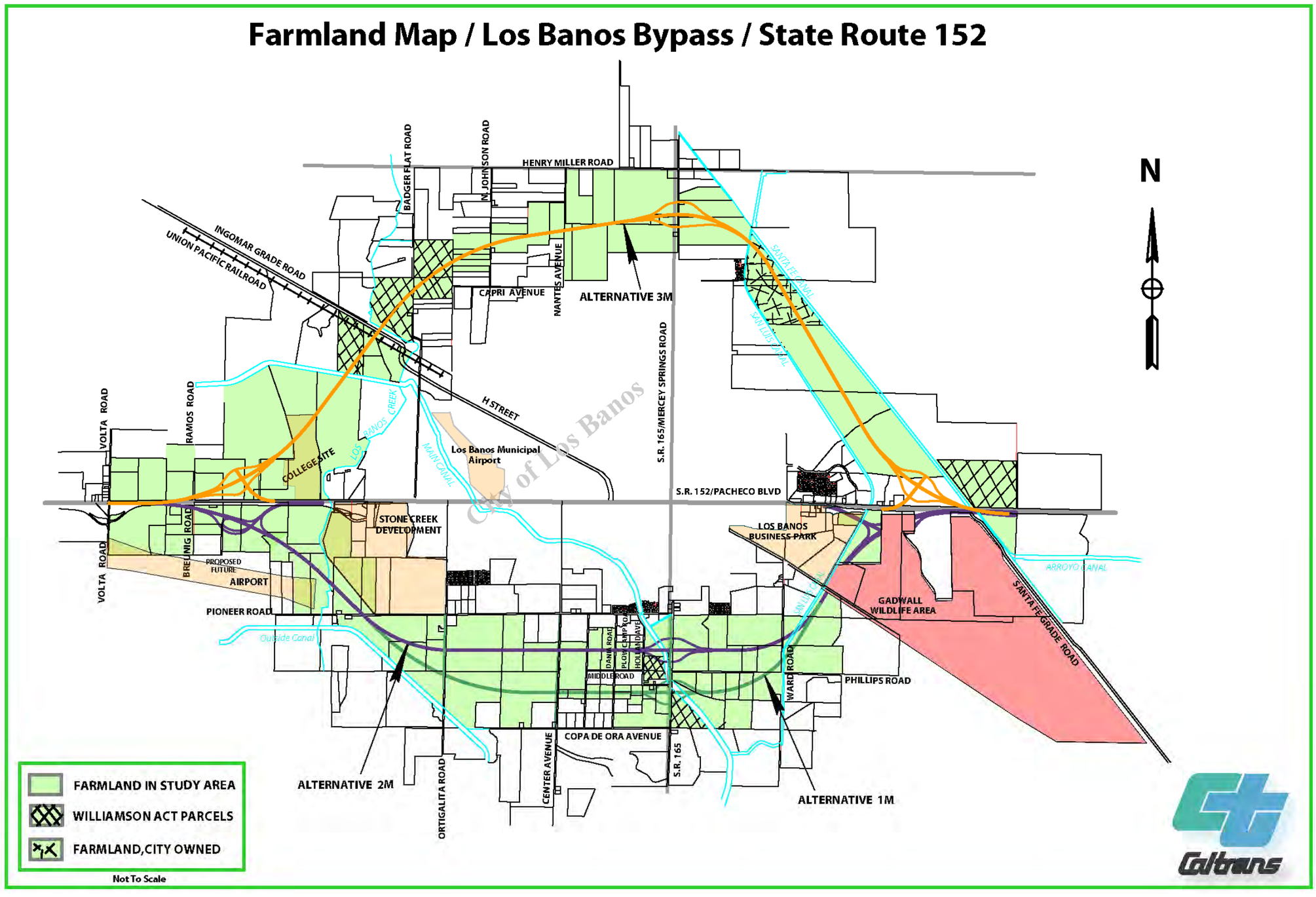


Figure 3-2 Farmland Parcels and Williamson Act Contract Parcels in Project Area

Federal law requires that final decisions regarding projects be made in the overall best public interest [23 U.S. Code 109(h)]. This requires taking into account adverse environmental impacts, such as destruction or disruption of human-made resources, community cohesion and the availability of public facilities and services.

Under the California Environmental Quality Act, an economic or social change by itself is not to be considered a significant effect on the environment. However, if a social or economic change is related to a physical change, then social or economic change may be considered in a physical change to the environment; it is appropriate to consider changes to community character and cohesion in assessing the significance of the project's effects.

3.4.1.2 Affected Environment

The affected environment of the community includes several elements. The population of an area involves not only how many people live in a given area, but also information on the community's racial and ethnic profile, economic conditions, and established neighborhoods.

Demographics

Los Banos is a growing community that has increased from 14,806 people in 1990 to 25,869 in 2000 (a 74.7 percent increase). By 2004, the population had grown to more than 30,000, and it is projected to reach 36,000 by 2010. By contrast, the Merced County population increased only 18 percent between 1990 and 2000. As housing costs have increased in the Bay Area and other urban centers, people have looked elsewhere for affordable housing. Los Banos has become home to an estimated 5,000 people who work outside of Merced County.

Population within the study area of the proposed alternative corridors has changed little in the past 10 years because the city and county have not encouraged development within those areas in anticipation of the bypass project. There are areas near the project, however, that have been or will be developed (Section 3.1).

Race, Ethnicity, and Age of Population

In the 2000 Census, seven categories of race were recognized. The seven race categories add up to the total population. People who identified their origins as Spanish, Hispanic, or Latino (ethnicity) may be of any race and, therefore, may be

listed in any of the seven categories under race in Table 3.10. The concept of ethnicity (Hispanic) is separate from the concept of race. People who listed Hispanic ethnicity are described separately at the bottom of Table 3.10.

The race and ethnicity of both Merced County and Los Banos is predominately White and Hispanic. Hispanic (of any race) accounted for 45.3 percent of the population in Merced County and 49.9 percent in Los Banos. According to census block data, Alternatives 1M and 2M have Hispanic populations similar to the City of Los Banos. Alternative 3M, however, has a lower percentage of Hispanic residents, just 37 percent of the total.

There are no more than four individuals of any individual minority race for any of the alternatives (Table 3.10). Typical of the rural nature of the study area, out of 43 census blocks, 16 blocks had no residents and 16 blocks have 25 or fewer residents each.

The population, when broken down by age, is similar for Alternatives 1M and 2M, Los Banos, and Merced County (see Table 3.11). Slightly more than 9 percent of the population is 65 years of age or older. In the vicinity of Alternative 3M, 16.6 percent of the population is 65 years or older. The percentage of population under age 18 is slightly lower for Alternative 3M compared to the other categories. Between 1990 and 2000, the City of Los Banos experienced an increase in the number of individuals under age 18—31.9 percent in 1990 to 35.1 percent in 2000. The percentage of the population over age 65 was 12.7 percent in 1990, falling to 9.2 percent in 2000.

Table 3.10 U.S. 2000 Census: Racial and Ethnic Profile

		Merced County		City of Los Banos		Alternative 1M		Alternative 2M		Alternative 3M	
		Population	% of Total	Population	% of Total	Population	% of Total	Population	% of Total	Population	% of Total
Race	White	118,350	56.3	15,129	58.5	221	61.7	192	62.7	283	80.0
	Black/African American	8,064	4.0	1,086	4.2	0	0	0	0	2	0.6
	American Indian/Alaska Native	2,510	11.9	235	0.9	4	1.1	4	1.3	0	0
	Asian	14,321	6.8	685	2.6	4	1.1	4	1.3	1	0.3
	Native Hawaiian/Other Pacific Islander	396	0.2	52	0.2	1	0.2	1	0.3	0	0
	Some Other Race	55,013	26.1	6,708	25.9	106	29.6	88	28.7	51	14.4
	Two or More Races	11,900	5.6	1,983	7.7	22	6.1	17	5.5	17	4.8
	Total Population	210,554	100	25,878	100	358	100	306	100	354	100
	Hispanic/Latino (of any race)	95,466	45.3	12,904	49.9	187	52.2	153	50.0	131	37.0

Source: 2000 U.S. Census
Please note: Percent figures for total population and population may add up to more than 100% because individuals may report more than one racial background.

Table 3.11 U.S. 2000 Census: Age

Age	Merced County		City of Los Banos		Alternative 1M		Alternative 2M		Alternative 3M	
	Pop.	% of Total	Pop.	% of Total	Pop.	% of Total	Pop.	% of Total	Pop.	% of Total
Under 18	72,684	34.5	9,089	35.1	119	33.2	99	32.3	102	28.8
18–64	117,866	55.9	14,385	55.6	206	57.5	178	58.2	193	54.5
65 and Over	20,004	9.5	2,395	9.2	33	9.2	29	9.4	59	16.6

Source: U.S. Census Bureau, Census 2000

Income and Poverty

At $45,304, the median income for the City of Los Banos (Table 3.12) is higher than the median income for Merced County ($38,009) and lower than the estimated median income for California ($53,025). In 2000, the Department of Health and Human Services' poverty threshold was set at $17,050 for a family of four. In Los Banos, an estimated 9.8 percent of families live in poverty, compared with 16.9 percent in Merced County.

Table 3.12 Poverty and Income

Poverty and Income Breakdown	Merced County	City of Los Banos
% of Families Living in Poverty	16.9%	9.8%
% of Families with Children Living in Poverty	22.8%	11.9%
Median Income 2000	$38,009	$45,304

Source: U.S. Census Bureau, Census 2000; California Department of Finance, California Economic Indicators; and California Employment Development Department

Using block group data, the smallest unit for which data is available, rough estimates were developed for each alternative by multiplying the population below the poverty level in affected block groups by the known percentage of affected census blocks population within those block groups (Table 3.13).

Alternative 1M has an estimated poverty level of 21.8 percent, which is higher than levels for both Merced County and Los Banos. At 14.8 percent, Alternative 2M has higher poverty levels than Los Banos, but lower poverty levels than Merced County. Alternative 3M has a poverty level similar to Los Banos (10.4 percent), but lower than Merced County. In general, however, few people live in the actual study area because the largest part of the land use is farmland. Section 3.4.2, Relocations, discusses the number of potential displacements that are expected.

Table 3.13 Estimated Population Below Poverty Level within Study Area

	Alternative 1M	Alternative 2M	Alternative 3M
Total Population for Block Groups	3,746	6,977	6,538
Population below Poverty Level*	818	1,036	681
Population for Blocks in Study Area	358	306	354
Percentage of Population in Study Area**	9.5	4.4	5.4
Estimated Population below Poverty Level***	78	45	37
Estimated Poverty Level Percent***	21.8	14.8	10.4

Source: U.S. Census Bureau, Census 2000
** For the block groups that the alternative passes through*
*** Percentage of population in blocks of study area from the block group*
**** Within study area only for each alternative*

Neighborhoods

None of the proposed alternatives would go through any current, established neighborhoods. Both the northern and southern alternatives encompass rural residential and agricultural residential uses, with a few commercial businesses and dairy farms. To avoid increased cost and complexity of right-of-way acquisition once an alternative is selected, the City of Los Banos has not allowed residential developments within the potential bypass corridors.

Several new developments have been planned for the northeast and southwest areas of the city. While these are not within the potential corridor, they would be closer than other existing urban areas when built. However, no existing urban neighborhoods would be affected.

Schools

The Los Banos Unified School District provides elementary and secondary public education to children in Los Banos and an area on the west side of Merced County. The Los Banos Unified School District boundaries encompass a total of 1657.6 square kilometers (640 square miles), although most of the students and school facilities are located in the City of Los Banos. The district currently operates five elementary schools, the Los Banos Junior High School, Los Banos High School, and the San Luis Continuation School.

Two schools, each with about 750 students, are adjacent to Pacheco Boulevard (State Route 152). Other schools in the area are no more than six blocks from the highway. At the two schools located along the highway, traffic backs up onto Pacheco Boulevard

when parents and buses drop off students, adding to the congestion. With school enrollment up 7 percent in 2001, the situation is expected to worsen.

Existing school facilities are overcrowded, and new growth in the area will continue to affect the facilities. The Los Banos School District has provided the City of Los Banos with a conceptual plan for the location of future schools within its jurisdiction based on a total population of more than 40,000 people.

The Merced Community College Los Banos campus serves students on the west side of the Merced Community College District. The campus, located on Mercey Springs Road within the City of Los Banos, had a 2000/2001 full-time equivalent enrollment of 638 students, with 16 staff. Some of the buildings used on campus are portable buildings.

A new campus for the Merced Community College Los Banos is planned west of Los Banos Creek on the north side of State Route 152. The 48.6-hectare (120-acre) site is within the *Urban Limit Line* for the city and is currently used for agricultural crops. The campus is expected to be in operation by 2007 and would be located at the southern end of the site near the existing State Route 152.

Parks

Several community parks and recreational areas lie throughout the Los Banos area. Alternative 3M would run next to the Los Banos Regional Park Ag Sports Complex located on Mercey Springs Road (State Route 165), but would not affect the park.

Employment

From early settlement through the Mexican Land Grants in the 1840s and California statehood in 1850, the project area has been primarily agricultural, with ranching first and farming and dairies after irrigation was developed in the late 1800s. Agriculture is still an important part of the local economy, but Los Banos is undergoing change. Many of the farm operations are small. Agriculture employs no more than 5.4 percent of the total work force, and therefore is not a major employer in the area (see Table 3.14). Within the area directly affected by the three build alternatives, the percent of the potential work force in agriculture is considerably higher due to the rural nature of the area (see Table 3.15).

Table 3.14 City of Los Banos: Types of Occupations

Occupation	Percentage of Total Workforce
Management, Professional, and Related Occupations	27.0
Service	17.2
Sales and Office	21.6
Farming, Fishing and Forestry	5.4
Construction, Extraction and Maintenance	12.9
Production, Transportation and Material-moving	15.8

Source: U.S. Census Bureau, Census 2000

Table 3.15 Workers in Farm-Related Occupations

Build Alternative	Estimated Percentage of Workers in Farm-Related Occupations
Alternative 1M	15.9
Alternative 2M	12.2
Alternative 3M	7.5

Source: U.S. Census Bureau, Census 2000; Caltrans Community Impact Assessment, May 2004

The City of Los Banos had a workforce of 10,745 people at the time of the 2000 Census. Of these, 9,290 were employed and 1,455 were unemployed. Of the Los Banos residents employed in 2000, 42.3 percent were women. Table 3.16 shows the unemployment rates for Merced County and the City of Los Banos in 2000, 2002, and 2003. Although the rates are high, at least double that for California statewide, they have remained relatively stable for the last three years. Estimates by the California Employment Development Department for February 2004, however, indicate a substantial rise in the unemployment rate to 18.0 percent for Merced County and 17.3 percent for Los Banos. Based on information from the 2000 Census block group data for unemployment, the unemployment rate for the general area of the bypass alternative corridors is lower than the rate for the county or city, averaging 9.0 to 9.7 percent.

Table 3.16 Unemployment Rates: Merced County and the City of Los Banos

Year	Merced County Unemployment Rate	City of Los Banos Unemployment Rate
2000	14.5%	13.9%
2002	14.5%	13.9%
2003	14.8%	14.2%
Feb. 2004 (Estimated)	18.0%	17.3%

Source: California Employment Development Department

Economics

Commercial land use is located primarily within the City of Los Banos and not along the proposed alternative corridors. The City of Los Banos has four major neighborhood shopping centers and an historic downtown shopping district. Businesses line both sides of the existing State Route 152 that passes through Los Banos. Many of these businesses currently benefit from the recreational, commuter, and commercial traffic that travels through Los Banos on State Route 152.

Property tax that is currently paid on residential and commercial properties within the alternative corridors was estimated to be approximately $143,000 to $197,000, depending upon the alternative chosen. The taxable value of locally assessed property in Merced County (2003-2004) was $11.84 billion. For Los Banos, the taxable value was $1.5 billion.

3.4.1.3 Impacts

Because the proposed project would be built mostly on rural land, few people would be directly affected. No established neighborhoods would be affected by the proposed project. Impacts to community character and cohesion would be minor. Community cohesion could benefit from the relocation of interregional traffic on the existing State Route 152.

Schools

The proposed bypass would eliminate regional traffic on existing State Route 152, therefore easing congestion through town, and would improve traffic conditions at some

schools along the route. Future development for the school district is focused north of State Route 152 (Pacheco Boulevard) and east of State Route 165 (Mercey Springs Road). A new elementary school and a new high school are planned for that area. As development occurs, additional facilities may be considered west and south. The bypass is not expected to affect any of the current school plans.

The three build alternatives would begin west of the proposed community college site. If northern Alternative 3M were chosen for construction, right-of-way would be required from the northwest portion of the campus property. Most buildings are planned for the south area of campus and would be built as part of Phase I of the community college project. The 2040 Master Plan map designates the area to be acquired for the bypass as a 4.0-hectare (10-acre) outdoor teaching area. Full build-out of the Master Plan has not been funded and is conceptual and subject to change.

Caltrans met with Merced Community College District officials, City of Los Banos staff, and Stonecreek Properties Incorporated in April, May, June, October and December of 2002 and March and May of 2004. The meetings discussed the access for the community college in relation with the proposed bypass project and focused on finding solutions to potential access and traffic issues. In August 2004, Merced College provided intersection design for Caltrans review. As a result, a Project Study Report will be developed for the State Route 152/Merced College Entrance Intersection project with controlled right-in/right-out access.

Employment

All three build alternatives would convert a substantial amount of farmland to highway use (discussion on impacts to farmland is contained in Section 3.3). Because the alternatives would affect mainly farmland, some agricultural jobs may be affected. Many farm operations are small, with few or only seasonal employees, making such employment hard to track. Overall, Los Banos does not expect any real change in employment as a result of the project.

Economics

Property tax would be lost from property acquired for the project. However, the estimated amount would be only about 0.00013 percent of the total property tax for Los Banos and 0.000017 percent for Merced County. Less than 60 percent of the property tax lost would be from agricultural use parcels for Alternatives 1M and 2M, but just over 80 percent for Alternative 3M.

The City of Los Banos (personal contact with the City Planning Department) expects there may be an initial loss of tax revenue due to less traffic entering the city once the proposed bypass is built. However, it is expected that as congestion eases within the city, local people would be drawn back to businesses that they may now avoid when congestion on State Route 152 is heavy.

In addition to businesses directly affected, a few businesses may potentially be indirectly affected regardless of which alternative is chosen. Traffic diversion away from the city's commercial district could reduce customer traffic to businesses that rely on pass-through traffic from State Route 152. However, Los Banos growth (anticipated at 4 percent per year) may offset loss of business from diverted traffic. The city currently has more than 30,000 residents and expects to grow to 36,000 residents by 2010, requiring more local goods and services.

Also, the project is not likely to affect businesses used by recreational tourists visiting several state and federal wildlife areas near Los Banos. These tourists include an estimated 20,000 or more hunters per year to the area, in addition to birdwatchers, fisherman, and nature photographers. Recreational tourists often use the Los Banos area for gas, food, and lodging when visiting or traveling through the area.

The extent to which a bypass would affect commercial uses along existing State Route 152 would depend on variables such as marketing and promotional efforts for downtown businesses, an economic revitalization strategy to support existing businesses, and whether development is allowed to occur near interchanges. Businesses that are typically traffic-dependent include gas stations, roadside vegetable stands, and eateries (restaurants and delicatessens, drive-through fast-food places, and coffee, ice cream and donut shops). Businesses that are typically not traffic-dependant are banks, industries, realty companies, laundries, insurance companies, law firms, mortuaries, appliance repair shops, veterinarians, auto sales, and computer sales.

Of the 186 businesses located along existing State Route 152 (or nearby on State Route 165), 34% could be considered to have some reliance on through-traffic. When a bypass is built, towns of less than 5,000 residents usually experience a greater impact to the economic base of the community than do larger communities like Los Banos with more than 30,000 residents.

Commercial development at interchanges may occur, providing services such as food and gasoline for travelers. According to the Los Banos Planning Department, the City of Los Banos would prefer to keep the development of commercial establishments on the city

side of the interchanges. The City of Los Banos would work with the county since the interchanges would probably be located outside the city limits.

3.4.1.4 Avoidance, Minimization, and/or Mitigation Measures

To minimize the loss to businesses (primarily gas stations and food establishments) that may rely on pass-through traffic, signs along State Route 152 would be used to inform drivers of the goods and services available in Los Banos. Caltrans would develop and install the following types of standard freeway signs before opening the Los Banos bypass:

- State Route 152 Los Banos business loop directional signs
- Next Services – X kilometers (miles) signs
- State Route 152 signs displaying the distance to Los Banos

3.4.2 Relocations

3.4.2.1 Regulatory Setting

The Caltrans Relocation Assistance Program is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended) and Title 49 Code of Federal Regulations Part 24. The purpose of the Relocation Assistance Program is to ensure that persons displaced as a result of a transportation project are treated fairly, consistently, and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. See Appendix D for a summary of the Relocation Assistance Program. All relocation services and benefits are administered without regard to race, color, national origin, or sex in compliance with Title VI of the Civil Rights Act (42 U. S. Code 2000d, et seq.). See Appendix B for a copy of the Caltrans Title VI Policy Statement.

3.4.2.2 Affected Environment

There are approximately 6,000 housing units in Los Banos, and another 5,000 single-family units are planned over the next 10 years. Residences in the project area are:

- mostly rural and agricultural
- varied in age, size, quality, condition, and design
- supplied with public power, septic tanks, and well water
- mostly owner-occupied

The study area for the project also contains agricultural businesses and a few commercial businesses. Dairies, feed lots, and other agricultural operations are located both north and south of the city. An abandoned, non-operational desalinization plant, north of State Route 152 and west of Santa Fe Grade, was once owned by the California Water Department, but is now privately owned. No development plans for the property are known at this time. Most commercial land use is located within the city and not along the proposed corridors. Approximately 70 percent of the parcels for Alternatives 1M and 2M and approximately 90 percent of the parcels for Alternative 3M are used for agriculture. The remaining parcels are residential, minor commercial, government land use, or vacant at this time.

3.4.2.3 Impacts

Residential Relocations

There would be approximately 17 to 37 residential displacements, depending on the build alternative. Table 3.17 shows the estimated number of residential displacement units for each alternative as reported in the Draft Relocation Impact Study (March 2004). All are single-family residential units, including the mobile homes. Most units are owner-occupied, with only a few tenants. No multi-family residences would be affected by any of the three build alternatives.

Table 3.17 Estimated Residential Units Affected by Alternative

Residential Data	Alternative 1M	Alternative 2M	Alternative 3M
Single-Family Residences	35	16	14
Mobile Homes	2	1	3
Total Residential Units	37	17	17
Total Persons (average number per household = 2.992)	110	54	54

Source: Department of Transportation Draft Relocation Impact Report, 2004

Adequate relocation resources are available for any of the three build alternatives because the number of anticipated displacements would be relatively low. The City of Los Banos would be used for the residential tenants and some owners. The surrounding area of the city and within a 16.1 kilometer (10-mile) radius would be used as a replacement area for rural housing. Low- or moderate-income housing stock would not be appreciably affected.

Business Relocations

Businesses directly affected by the proposed project vary according to build alternative.

Potential displacements by Alternative 1M:

- Nunes Dairy Farms Inc. at Pioneer Road. This would be a full acquisition that would require extensive time and effort to relocate.

Potential displacements by Alternative 2M:

- Nunes Dairy Farms Inc. at Pioneer Road (same as for Alternative 1M)
- Home-based taxidermy business on Mercey Springs Road

Potential business displacements or businesses otherwise affected by Alternative 3M:

- A tractor parts business at the east end of the project
- A dairy owned by Henry Mello on Mercey Springs Road
- The BJP Ranch operation, west of Los Banos on the north side of existing State Route 152
- The Soares/Nunes Brothers Dairy operation, west of Los Banos and north of existing State Route 152 (the dairy would be provided new access via frontage roads and/or private vehicle easements to Ramos Road)

Relocating the affected businesses, particularly the dairies, would be more difficult and could require as long as four years to complete the process. According to the Merced County Planning Department, regulations require a separate Environmental Impact Report before any dairy can be relocated and/or damages mitigated. Businesses displaced by the project would be relocated within Los Banos and the surrounding area.

3.4.2.4 Avoidance, Minimization, and/or Mitigation Measures

The California Department of Transportation would provide relocation advisory assistance to any person, business, farm or non-profit organization displaced as a result of Caltrans' acquisition of real property for public use. Caltrans would assist residential displacees in obtaining comparable decent, safe and sanitary replacement housing by providing current and continuing information on sale price and rental rates of available housing. Non-residential displacees would receive information on comparable properties for lease or purchase.

Residential replacement dwellings would be in equal or better neighborhoods, at prices within the financial means of the individuals and families displaced, and reasonably accessible to their places of employment. Before any displacement occurs, displacees would be offered comparable replacement dwellings that are open to all persons regardless of race, color, religion, sex or national origin, and are consistent with the requirements of Title VIII of the Civil Rights Act of 1968. This assistance would also include supplying information concerning federal- and state-assisted housing programs, and any other known services being offered by public and private agencies in the area. A summary of relocation benefits is found in Appendix D.

3.4.3 Environmental Justice

3.4.3.1 Regulatory Setting

All projects involving a federal action (funding, permit, or land) must comply with Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, signed by President Bill Clinton on February 11, 1994. This Executive Order directs federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority populations and low-income populations to the greatest extent practicable and permitted by law. In 2000, the Department of Health and Human Services poverty guideline for a family of four was $17,050. However, statistical data for poverty levels for specific communities was not available from the Department of Health and Human Services, therefore poverty data was obtained from the U.S. Census Bureau.

All considerations under Title VI of the Civil Rights Act of 1964 and related statutes have also been included in this project. Caltrans' commitment to upholding the mandates of Title VI is evidenced by its Title VI Policy Statement, which can be found in Appendix B of this document.

3.4.3.2 Affected Environment

All categories of race and ethnicity are represented in the City of Los Banos and Merced County. With a combined total of over two-thirds of the population, White and Hispanic individuals clearly dominate. Other than Hispanic, however, no single minority population accounts for more than 11.9 percent of the total population in the county, 4.2 percent in the city, or 1.3 percent within any alternative corridor. Table 3.10 in Section 3.4 compares the racial and ethnic profiles of Merced County, Los Banos, and the three

build alternatives for the project. Only Alternative 3M differs significantly from the other categories, with a higher population of Whites (80 percent) and a lower population of Hispanics (37 percent). Hispanics may be of any race, including White. In addition, population figures shown on the table may add up to more than 100 percent because individuals may report more than one racial background.

Los Banos and Merced County differ in terms of income. In 2000, the most recent year for which data was available, it was estimated that approximately 10.6 percent of the families in California and 15.3 percent of the families with children under age 18 years old lived below the 2000 U.S. Census Bureau poverty threshold of $17,463 for a family of four. Los Banos experienced a lower percentage of the population living below the poverty threshold: 9.8 percent of families and 11.9 percent of the families with children under age 18 years. Using U.S. Census block group data, rough estimates of poverty level were developed for the alternatives: Alternative 1M – 21.8 percent; Alternative 2M – 14.8 percent; and Alternative 3M – 10.4 percent. In general, however, few people live in the actual corridor where a bypass would be built because the largest part of the land use is farmland. Section 3.4.2, Relocations, discussed the number of potential displacements that are expected. The median income for the City of Los Banos ($45,304) is higher than that for Merced County ($38,009).

3.4.3.3 Impacts

A comparison of the minority populations of the project alternatives with those of Merced County and the City of Los Banos indicates no significant differences. That is also true for low-income populations. Because the population of the study area is dispersed throughout a rural area, there are no identifiable minority or low-income neighborhoods. The study area population may be considered homogeneous. No group of persons would experience a disproportionate impact. The completed bypass is expected to have a positive impact on the general community. By reducing congestion within the city, residents would be able to travel (either by vehicle or as pedestrians) within the community more easily. Accidents may be reduced due to fewer vehicles on the road.

No minority or low-income populations have been identified that would be disproportionately affected by the proposed project as specifically required by Executive Order 12898 regarding environmental justice.

3.4.3.4 Avoidance, Minimization, and/or Mitigation Measures

No mitigation measures would be required.

3.5 Utilities/Emergency Services

Personal contacts were made with the Los Banos Police Department, Fire Department, Merced County Sheriff's Department, and California Highway Patrol to determine impacts to community facilities and services.

3.5.1 Affected Environment

Police and Fire Protection

The Los Banos Police Department is responsible for law enforcement in the City of Los Banos and dispatches for both police and fire services. The Merced County Sheriff's Department is responsible for law enforcement in the unincorporated areas surrounding Los Banos. There are typically two to three officers for an approximately 1554-square-kilometer (600-square-mile) area.

The California Highway Patrol is responsible for traffic enforcement in unincorporated areas of the county. The California Highway Patrol has stated that traffic diversions from Interstate 5 due to accidents can be a major problem. Although traffic diversions occur infrequently (four diversions in 2001), sometimes traffic is diverted north on State Route 165 directly into Los Banos.

The City of Los Banos currently has two fire stations that allow for an approximate response time of five to six minutes to developed areas, a standard response time the fire department has established in placing fire stations relative to existing and future growth. This ratio equates to approximately a 2.4-kilometer (1.5-mile) radius between stations with overlapping response time contours.

The Merced County Fire Department provides services to the unincorporated area surrounding Los Banos. The Merced County Fire Department Los Banos Station is located in the city.

3.5.2 Impacts

Police and Fire Protection

Local law enforcement agencies and the fire department have all expressed concern over the high level of traffic congestion on existing State Route 152 in Los Banos, especially from Friday through Sunday. This should be taken into consideration during construction. Currently, it is also very difficult to make a left turn out of driveways onto State Route

152. Overall, these agencies see the bypass as beneficial because of reduced congestion within the city.

Except for temporary congestion during construction, the Los Banos Police Department does not expect to be affected by the bypass, as all the proposed alignments would be outside its jurisdiction. The sheriff's department expects construction impacts on its department to depend on the route chosen. These temporary impacts could affect response time because of the large geographical area the department covers, especially in the area near the proposed east interchange where there are fewer roads. However, the department noted that response time might improve once the bypass is in place.

The California Highway Patrol would have more highway miles to patrol because it currently does not patrol the portion of the highway within the city. This may require additional personnel. The fire department may see an increase in response time to outlying areas. An additional fire station is planned for the city when resources become available.

Utilities

All alternatives cross the Main Canal, the San Luis Canal and the Santa Fe Grade Canal. Alternatives 1M and 2M would require major realignment of the Main Canal with a combination of open channel and reinforced concrete boxes. Other canals would be spanned by structures and/or reinforced concrete boxes. The Central California Irrigation District and San Luis Water District would be involved in irrigation canal structures.

Alternative 3M would cross the Union Pacific Railroad. A grade separation (overhead) structure would be required. A Construction and Maintenance Agreement with the Union Pacific Railroad Company and a formal application to the Public Utility Commission for a permanent aerial easement from Union Pacific would require additional agreements.

Construction of any alternative and the acquisition of right-of-way for the proposed project would require that various utility facilities be relocated within the project limits. Utilities that are located in the project area include Pacific Gas and Electric, Pacific Bell, AT&T, and City of Los Banos Water and Sewer lines. Relocating utilities may require temporary construction easements and permanent easements.

3.5.3 Avoidance, Minimization and/or Mitigation Measures

Construction of any of the alternatives and the acquisition of right-of-way would require that utility facilities within the project limits be relocated. A more detailed study would

be conducted during the design phase of the project. Estimated utility relocation costs (year 2004) are shown in Table 3.18. Two-thirds of the utility relocation cost is due to the relocation and undergrounding of irrigation facilities. The Main Canal may be placed underground at the proposed State Routes 152/165 interchange for Alternatives 1M and 2M. The utility owner, however, would determine the ultimate relocation of the canal. Alternative 3M would also cross the Main Canal. A bridge structure over the railroad line is planned for Alternative 3M.

Table 3.18 Estimated Utility Relocation Costs (Year 2004)

Type of Relocation	Alternative 1M	Alternative 2M	Alternative 3M
Utility Relocation (State Share)	$11,900,000	$7,894,000	$11,963,000

Source: Caltrans Right-of-Way Data Sheet, March 2004

3.6 Traffic and Transportation

3.6.1 Regulatory Setting

The Federal Highway Administration directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of federal-aid highway projects (23 Code of Federal Regulations 652). It further directs that the special needs of the elderly and the disabled must be considered in all federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

3.6.2 Affected Environment

State Route 152 links to State Route 99 east of Los Banos, and links to State Route 1, U.S. Highway 101, and Interstate 5 to the west. Within Los Banos, commuter, commercial, recreational, and agricultural use of the roadway mixes regional through-traffic and local traffic. State Route 152 serves as a major commuter corridor and a major truck route, connecting Central Valley communities with metropolitan areas and other export markets. The route is also used for farm-to-market goods transport. State Route 152 is also a major recreational travel corridor, linking the coast to the Central Valley, and linking the Central Valley to the Sierra Nevada Mountains and several national parks.

The City of Los Banos General Plan and the Merced County Year 2000 General Plan recognize the importance of automobile and truck transportation. The plans also recognize that as city and county populations continue to grow, traffic will increase, making it important to properly improve and maintain the transportation system.

In 2002, the Level of Service for existing State Route 152 within the City of Los Banos varied from C to F depending upon the travel segment. Specific intersections have a Level of Service ranging from A to E (Table 3.20).

In addition to congestion from interregional traffic traveling through the center of the city, the intersection of State Routes 152 (Pacheco Boulevard) and 165 (Mercey Springs Road) has delays during peak traffic periods. A high percentage of truck traffic at this intersection compounds the problem. State Route 165 begins south of Los Banos at Interstate 5, passes through the city east of the downtown area, and ends to the north at State Route 99, thus connecting two major roadways for the state. In addition, recreational users visit several state and federal wildlife refuges located north of Los Banos that are accessed primarily by State Route 165.

During the three-year period from July 1, 2000 to June 30, 2003, there were 422 reported accidents between kilometer post 25.7 (post mile 16.0) west of Volta Road and kilometer post 39.9 (post mile 24.8) east of the Santa Fe Grade Road. Of the 422 accidents, 145 accidents involved injuries and two accidents resulted in fatalities. Collision types included:

- 10 head-on collisions
- 69 sideswipe accidents
- 169 rear-end collisions
- 115 broadside collisions
- 30 hit-object accidents
- 8 overturned vehicles
- 9 auto-pedestrian accidents
- 12 other types of accidents

Although there were fewer fatalities and injury accidents on this segment of State Route 152 than the statewide average, the total accident rate that includes property damage was higher than the statewide average (see Chapter 1, Table 1.3). Analysis of accident data at specific locations within the project limits showed that 18 intersections have at least twice the accident rate as similar intersections located throughout the state (see Chapter 1,

Table 1.4). These 18 intersections accounted for 299 accidents during a three-year period (from July 1, 2000 to June 30, 2003), with two fatalities and 103 injuries. For example, the intersection at West I Street and State Route 152 and the intersection at Mercey Springs Road and State Route 152 had three times as many accidents as similar intersections located throughout the state.

Local arterial and collector road circulation for the Los Banos area is described in the city's General Plan and listed in Table 3.19. Arterial roads are generally four- to five-lane roads that join major traffic generators such as other arterial streets and freeways. Collectors are typically two-lane roads with a center left-turn lane at intersections with major streets. They connect local streets to the arterial road system. Both types of streets in Los Banos are designated as the result of function rather than physical size. Both arterial and collector streets are typically two-lane streets, except for Pacheco Boulevard (State Route 152). No collector streets listed in the Los Banos General Plan are within the proposed project study area. All other roads within the study area would be considered local roads.

Table 3.19 Los Banos Area Arterial and Collector Streets

Street	Type	Area
Pacheco Boulevard (State Route 152)	Arterial	Through Los Banos
Mercey Springs Road (State Route 165)	Arterial	North/South connection between State Route 99 and Interstate 5
Ingomar Grade Road	Arterial	West of Seventh Street
Ward Road	Arterial	Pioneer Road to past B Street (approximately to Willmott Road with plans to extend to Henry Miller Road)
Pioneer Road	Arterial	From Los Banos Creek to Ward Road
Nantes Avenue	Collector	From Overland to future Capri Avenue
Ortigalita Road	Collector	Pioneer to Airport to Badger Flat
Center Avenue	Collector	Pioneer to Pacheco Boulevard
San Luis Street	Collector	State Route 165 to State Route 152

Source: Los Banos General Plan

3.6.3 Impacts

By 2033, the average daily traffic count is estimated to double and, in some cases, triple from the current levels. The average daily traffic count on the Los Banos section would increase from between 19,000 and 26,000 vehicles to between 47,000 and 59,000 vehicles. As a result, the Level of Service, without the project, is expected to worsen.

Table 3.20 shows both existing and future (for the No-Build Alternative) Levels of Service for intersections within the City of Los Banos. Levels of Service at the intersections indicate the Level of Service for the roadway. Anticipated Levels of Service for the proposed bypass are shown in Table 3.21.

An acceptable Level of Service is anticipated for the bypass past 2033. The Build Alternatives would meet or exceed the Levels of Service (C and D) mentioned in Los Banos and Merced County general plans. The proposed bypass would also temporarily relieve congestion and produce an acceptable Level of Service along State Route 152 within Los Banos (Pacheco Boulevard) for several years. However, local traffic is anticipated to increase as Los Banos continues to grow. The population of Los Banos has grown from approximately 14,800 in 1990 to more than 30,000 in 2004. By 2010, it is anticipated that the Los Banos population will reach 36,000, adding to the local traffic count. Traffic from State Route 165 is also anticipated to increase and would still continue to pass through the city. Level of Service F along Pacheco Boulevard would eventually be reached again before 2033. Because of these conditions, Level of Service for the intersection of State Routes 152 and 165 is expected to be F even when the bypass is completed.

Table 3.20 Existing and Future Level of Service at Intersections

Intersection on Existing State Route 152	Existing	2013				2033			
		No-Build	Alt. 1M	Alt. 2M	Alt. 3M	No-Build	Alt. 1M	Alt. 2M	Alt. 3M
Badger Flat Road	C	F	F	F	F	F	F	F	F
West "I" Street	B	E	D	D	D	F	F	F	F
4th Street	B	F	D	D	D	F	F	F	F
6th Street	A	D	B	B	B	F	F	E	E
7th Street	B	E	C	C	C	F	F	F	F
Mercey Springs Road (State Route 165)	E	F	F	F	F	F	F	F	F

Table 3.21 Anticipated Levels of Service for Bypass Alternatives

Bypass Alternative	2013 Level of Service	2033 Level of Service
Alternative 1M	A to C	B to D
Alternative 2M	A to C	B to D
Alternative 3M	A to C	B to D

Estimates of the number of accidents that would occur between 2013 and 2033 under the No-Build Alternative and the proposed project are provided in Tables 3.22 and 3.23, respectively. Table 3.23 includes data for both the proposed bypass and Pacheco Boulevard. These estimates were made based on accident statistics for similar roads in California and traffic volumes projected by the Merced County Association of Governments Transportation Model.

Based on statistics compiled by Caltrans (2002), the cost of an accident is approximately:

- Property Damage Only Accidents $4,000
- Injury $52,200
- Fatality $3,500,000

Per these estimated cost rates, accidents on State Route 152 over the 20-year period from 2013 to 2033 under the No-Build Alternative would cost approximately $435.4 million. The proposed project is expected to reduce accidents by approximately 30 percent for a total accident cost savings of about $130 million by reducing the number of accidents. A statewide average accident rate for facilities like the proposed bypass was used to compare the Build Alternatives to the No-Build Alternative. Expressway facilities with restricted access, such as the proposed bypass, have lower accident rates than conventional highways under similar conditions. Expressways limit the number of roads accessing the highway and do not allow driveways, thereby minimizing points of conflicting movements. Fewer points of conflict result in fewer collisions. This minimization of points of conflicting movement also allows for smoother traffic flow, reducing delays.

Table 3.22 Estimated Accidents from 2013 to 2033 for the No-Build Alternative

No-Build Alternative	Property Damage Accidents	Injury Accidents	Fatality Accidents
Total Number of Estimated Accidents from 2013 to 2033	5,947	4,398	52

Source: Caltrans Design, 2004

Table 3.23 Estimated Accidents from 2013 to 2033 with Proposed Project

With Proposed Project	Property Damage Accidents	Injury Accidents	Fatality Accidents
Bypass	541	303	9
Pacheco Boulevard	1,063	786	30
Total Number of Estimated Accidents from 2013 to 2033	1,604	1,089	39

Source: Caltrans Design, 2004

Delays along roadway segments were estimated by comparing free-flow travel speed with calculated travel speeds under congested conditions. Both intersection and roadway segment delays may contribute to congested conditions. Assuming a delay cost to motorists of $0.14 per minute for an automobile and $0.46 per minute for a truck, the project would result in a delay savings of $83 million over a 20-year period.

The proposed project would have an effect on local streets that intersect with the State Route 152 bypass by the creation of cul-de-sacs, undercrossings, and overcrossings. At interchanges, local roads would be widened to accommodate freeway traffic transitioning onto the local street. Because the project area is primarily agricultural land, the number of streets affected is limited, as shown in Tables 3.24 and 3.25. Local streets and a portion of Pacheco Boulevard would also become cul-de-sacs if the proposed project were constructed. Approximate cul-de-sac locations are shown in Figures 2-2, 2-3, and 2-4.

State Route 152/Pacheco Boulevard would no longer continue directly through Los Banos. Instead, interchanges on the State Route 152 bypass would provide access to the bypass and to the City of Los Banos and Pacheco Boulevard. A park-and-ride facility is proposed at one of the three interchange locations. The location and size would be coordinated with the appropriate local agencies.

Frontage roads have been included in the current bypass design to provide access to private property. Merced County and the City of Los Banos have concurred with the location of frontage road systems. Minor changes may occur during final design to accommodate local access needs.

Table 3.24 Proposed Local Road Crossings

Local Road	Alternative 1M	Alternative 2M	Alternative 3M
Pioneer Road	Overcrossing	Overcrossing	N/A
Ortigalita Road	Undercrossing	Overcrossing	N/A
Center Road	Undercrossing	Overcrossing	N/A
Ward Road	Undercrossing	Undercrossing	N/A
Ingomar Grade Road/ Union Pacific Railroad	N/A	N/A	Overhead
Santa Fe Grade Road	Undercrossing	Undercrossing	N/A
Badger Flat Road	N/A	N/A	Undercrossing
N. Johnson Road	N/A	N/A	Overcrossing
Nantes Avenue	N/A	N/A	Overcrossing

Source: Caltrans Design
N/A is Not Applicable
Overcrossing is a local road built over state roadway
Undercrossing is a local road built under state roadway
Overhead is a state roadway built over railroad tracks

Table 3.25 Proposed Local Road Cul-de-sacs

Local Road	Alternative 1M	Alternative 2M	Alternative 3M
Pacheco Boulevard	Cul-de-sac	Cul-de-sac	Cul-de-sac
Breunig/Ramos Road	Cul-de-sac	Cul-de-sac	Cul-de-sac
Diana Road	Cul-de-sac	Cul-de-sac	N/A
Plow Camp Road	Cul-de-sac	Cul-de-sac	N/A
Holland Avenue	Cul-de-sac	Cul-de-sac	N/A
Phillips Road	Cul-de-sac	N/A	N/A

Source: Caltrans Design
N/A is Not Applicable

When freeways or expressways are constructed, road overcrossings and undercrossings are provided to maintain local traffic circulation. The bypass and local road overcrossings/undercrossings would require a larger footprint than the existing roadway and result in changes to local property access. Alternative access or compensation would be provided.

During environmental studies, information on pedestrian and bicycle facilities in the Los Banos area was obtained from the Los Banos General Plan (1999) and the City of Los Banos Commuter Bike Plan (2002). It is not anticipated that the proposed project would affect existing or future pedestrian or bicycle facilities. Sidewalks are proposed on local

facilities at undercrossings/overcrossings and interchanges. Caltrans and the Federal Highway Administration are committed to carrying out the 1990 Americans with Disabilities Act by building transportation facilities that provide equal access for all persons. The same degree of convenience, accessibility, and safety available to the general public would be provided to persons with disabilities.

Parking in commercial areas in Los Banos would not be affected because all alternatives would follow an alignment through what is now primarily agricultural land.

3.6.4 Avoidance, Minimization, and/or Mitigation Measures

By building the proposed project in construction stages, disruption to local and regional traffic would be minimized. The major section of the bypass (beginning at and including the west interchange up to and including the east interchange) would be constructed with little or no effect to traffic along existing State Route 152 through Los Banos. Traffic on local rural roads would be rerouted. Detour systems in the median on the west end and use of proposed frontage roads (for Alternatives 1M and 2M only at the east end) would be required to temporarily allow traffic movement with minor delays. The detours would allow for the construction of the bypass tie-ins to existing State Route 152 at the west and east ends of the project.

During construction, a Traffic Management Plan would be developed to accommodate local traffic patterns and reduce delay, congestion, and accidents. Standard Caltrans construction practices include information on roadway conditions, portable changeable message signs, lane and road closures, advance warning signs, alternate routes, reverse and alternate traffic control, and a traffic contingency plan for unforeseen circumstances and emergencies. Prior to construction, Caltrans would meet with local public officials to review the plan as well as publicize plan details. Construction may be scheduled to avoid areas that need access during certain seasons, such as harvest season.

3.7 Visual/Aesthetics

3.7.1 Regulatory Setting

The National Environmental Policy Act of 1969 as amended establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and *aesthetically* and culturally pleasing surroundings [42 U.S. Code 4331(b)(2)]. In addition, federal law requires that final decisions regarding projects be made in the overall best public interest (23 U.S. Code 109(h)).

Likewise, the California Environmental Quality Act establishes that it is the policy of the state to take all action necessary to provide the people of the state "with . . . enjoyment of aesthetic, natural, scenic and historic environmental qualities." [California Public Resources Code Section 21001(b)]

3.7.2 Affected Environment

State Route 152 is a four-lane conventional highway. Within Los Banos, the roadway is undivided with a center left-turn lane, numerous intersections, and traffic signals. Businesses line both sides of the roadway through the city, but only a few rural businesses exist along the divided highway outside of the city. Expansive fields with an occasional farm or ranch house also line the divided highway portions to the east and west of the city. Homes on city-sized lots are rapidly being built on the outer edges of the city. A few new homes are being built to the south on large lots.

The project area is a region located on the western side of the San Joaquin Valley, with the coastal Diablo Mountain Range to the west contrasting with the flat valley. The project area consists mainly of agricultural land. The area is relatively flat with an occasional tree, such as oak or eucalyptus. All build alternatives would cross the Los Banos Creek, the only riparian corridor found within the project limits.

A Visual Impact Assessment was conducted in September 2004. The assessment established key views, evaluated the effects of the project on existing visual resources and identified methods to avoid, minimize and mitigate adverse visual impacts. The assessment also considered two viewer groups—those with views from the roadway (highway users) and those with views of the roadway (those who can see the roadway from offsite locations).

The proposed alternatives would go through more rural properties, allowing for potential views to the road from much farther distances. Los Banos is growing rapidly, and major development is anticipated.

The Visual Impact Assessment included a Visual Quality Evaluation that compared the visual quality of both the existing and proposed conditions of the study area. Six viewpoints—one for the existing State Route 152 and five for various viewpoints representing approximate interchange locations—within the proposed project area were evaluated and assigned a numerical rating from 1 to 7, with 1 having the lowest value and 7 the highest. The evaluation criteria used, defined by the Federal Highway Administration, are described as follows:

- **Vividness** is the visual power or memorability of the landscape components as they combine in striking and distinctive visual pattern.
- **Intactness** is the visual integrity of the landscape and its freedom from non-typical encroaching elements. If all the various elements of a landscape seem to "belong" together, there will be a high level of intactness.
- **Unity** is the visual harmony of the landscape considered as a whole. Unity represents the degree to which the visual elements maintain a coherent visual pattern.

3.7.3 Impacts

Table 3.26 summarizes the overall rating assigned to each of six viewpoints. Photographs of existing and proposed views are shown in Figures 3-3 through 3-8. Overall, the existing visual quality of State Route 152 throughout the length of the project area is moderately low to moderate. The view quality is due primarily to the overall rural character, the flat topography, agricultural vegetative patterns, and the visibility of human-made elements.

Table 3.26 Potential Visual Impacts of Build Alternatives

Viewpoint and Figure Numbers	Viewpoint Description	Existing Visual Quality	Proposed Visual Quality		Degree of Visual Quality Change	
			View from Roadway	View of Roadway	View from Roadway	View of Roadway
1 Fig. 3-3	Existing roadway through Los Banos	2.0 – Low	N/A	N/A	N/A	N/A
2 Fig. 3-4	Near eastern interchange for Alts. 1M and 2M	3.3 – moderately low	3.7	2.7	+0.4	-0.6
3 Fig. 3-5	Near eastern interchange for Alt. 3M	3.3 – moderately low	3.7	2.7	+0.4	-0.6
4 Fig. 3-6	Near western interchange; Alt. 3M is shown, but Alts. 1M and 2M are similar	3.7 – moderate	4.0	3.0	+0.3	-0.7
5 Fig. 3-7	Near proposed State Route 152/165 interchange for Alt. 3M	2.3 – moderately low	3.0	2.5	+0.7	+0.2
6 Fig. 3-8	Near proposed State Route 152/165 interchange for Alt. 2M	2.8 – moderately low	3.3	2.5	+0.5	-0.3

Changes to the view from the roadway (for highway users) include the following:

- There would be a moderate increase in the scenic quality of the route due to the elevated view, both of the surrounding area and long distance views.
- The normal traveler would experience less of the "built" environment by traveling around, rather than through, the city.
- The new roadway would be within the traveling viewers' expectation because it would be similar to the roadway east and west of Los Banos.

Changes to the view of the roadway from offsite locations would include:

- A slight decrease of intactness, unity and vividness because the roadway would bisect agricultural and other land uses.
- The elevated roadway would cause a slight decrease in mid- to long-range views.
- Viewers would notice barren side slopes and have an increased visibility of the roadway and vehicular traffic.

3.7.4 Avoidance, Minimization, and/or Mitigation Measures

The proposed project would have the greatest effect on the visual environment at the previously listed Viewpoints 2 through 6 due to the elevations of the interchanges and the retaining wall at the east end of the Alternatives 1M and 2M. The following mitigation is recommended for all alternatives:

- Build with 1:3 or flatter slopes.
- Incorporate slope-rounding on all slopes to help transition from elevated to flat.
- Apply erosion control to all disturbed slopes to prevent erosion.
- Provide landscaping and irrigation of proposed interchanges and other areas as warranted along both sides of the new highway.

In addition, the following mitigation is recommended for Alternatives 1M and 2M:

- Provide irrigated landscaping for retaining walls.
- Provide aesthetic finish/texture to retaining walls.
- Provide vines on retaining walls to discourage graffiti and soften visual impact.

Figure 3-3 Viewpoint 1

Before

After

Figure 3-4 Viewpoint 2

Before

After

Figure 3-5 Viewpoint 3

Before

After

Figure 3-6 Viewpoint 4

Before

After

Figure 3-7 Viewpoint 5

Figure 3-8 Viewpoint 6

3.8 Cultural Resources

3.8.1 Regulatory Setting

The term "cultural resources" as used in this document refers to all historical and archaeological resources, regardless of significance. The National Historic Preservation Act of 1966, as amended, sets forth national policy and procedures regarding historic properties, defined as districts, sites, buildings, structures and objects included in or eligible for the National Register of Historic Places. Section 106 of the act requires federal agencies to take into account the effects of their undertakings on such properties and to allow the Advisory Council on Historic Preservation the opportunity to comment on those undertakings.

3.8.2 Affected Environment

Cultural studies for the proposed project were initiated prior to the delineation of the Area of Potential Effects. Because of this, a broad study area was defined and investigated, with the knowledge that the final Area of Potential Effects would be a subset of the larger study area.

Architectural Resources

A Historic Resource Evaluation Report/Historic Architectural Survey Report (June 2004) was prepared for the proposed Los Banos Bypass project. The architectural Area of Potential Effects was defined. Research data was acquired from state, regional, and local libraries, databases, and archives. Additional information was gathered during formal and informal taped interviews with local residents, water district personnel, and Los Banos State Wildlife Refuge staff.

Following research and fieldwork, properties were evaluated per National Register of Historic Places criteria. Evaluations also took into account the three overlapping historic contexts listed below:

- Historic Context I: Changing Patterns in Los Banos Agriculture and Land Use 1842-1951
- Historic Context II: The Miller-Lux Empire in Los Banos 1863-1931
- Historic Context III: Los Banos Area Water Management 1866-1985

In 2003, the proposed project alternatives were modified to avoid properties within the project study area that appeared to be historically important. The location of the

original Alternatives 1 and 3 (see Figure 2-9) could have affected these properties. The redesigned alternatives, now identified as 1M, 2M, and 3M, avoid all properties that appeared to be historically important.

The architectural survey identified 51 properties 45 years of age or older within the 2004 Area of Potential Effects, requiring formal evaluation for the National Register of Historic Places. All properties are described in the Historic Resource Evaluation Report/Historic Architectural Survey Report. None of the properties were found to be eligible. On September 16, 2004, the State Historic Preservation Officer concurred with these findings (see Figure 6-2).

Archaeological Resources

Between December 1999 and February 2004, an archaeological investigation and Archaeology Survey Report (March 2004) were completed for the proposed Los Banos Bypass project area in compliance with Section 106 of the National Historic Preservation Act of 1966 as amended (36 Code of Federal Regulations 800). The purpose of the investigation was to identify and describe any potentially significant archaeological resources that may be affected as a result of project implementation. In addition to a field survey of the area, Native American coordination and a records and literature search were completed.

Field surveys of the larger study area identified two prehistoric archaeological sites, one historic archaeological site, and 13 prehistoric isolated artifacts. However, these sites lie outside of the Area of Potential Effects of the project as currently defined.

Five landowners within the Area of Potential Effects declined to give permission for a survey crew to enter their properties. These parcels, which comprise less than one percent of the Area of Potential Effects, have not been surveyed for cultural resources. Once a preferred alternative is selected, Caltrans would again survey unsurveyed parcels that could not be avoided by the proposed project. Site sensitivity for cultural resources in the unsurveyed parcels is believed to be low, based on the low number of sites in the surrounding area.

3.8.3 Impacts

Caltrans archaeologists and architectural historians evaluated the known cultural resources within the study area. No historic properties were identified within the Area of Potential Effects for the proposed project. Cultural resources identified early in the

project development process were avoided by slight adjustments of the proposed alternative alignments.

Caltrans submitted a Historic Property Survey Report, Historic Resources Evaluation Report, Archaeological Survey Report, and Historic Architecture Survey Report for review and comment on July 16, 2004. The State Historic Preservation Officer concurred with the report findings on September 16, 2004 (Figure 6-2 in Chapter 6).

3.8.4 Avoidance, Minimization, and/or Mitigation Measures

If cultural materials were discovered during construction, all earth-moving activity within and around the immediate discovery area would be diverted until a qualified archaeologist can assess the nature and significance of the find.

If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the county coroner contacted. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner would notify the Native American Heritage Commission, who would then notify the Most Likely Descendent. At this time, the person who discovered the remains would contact the Caltrans Central Region Environmental Division, whose staff would work with the Most Likely Descendent on the respectful treatment and disposition of the remains.

3.9 Hydrology and Floodplains

3.9.1 Regulatory Setting

Executive Order 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. The Federal Highway Administration requirements for compliance are outlined in 23 Code of Federal Regulations 650 Subpart A. To comply, the following must be analyzed:

- The practicability of alternatives to any longitudinal encroachments
- Risks of the action
- Impacts to natural and beneficial floodplain values
- Support of incompatible floodplain development

- Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values affected by the project

The 100-year floodplain is defined as "the area subject to the flood or tide having a one percent chance of being exceeded in any given year." An encroachment is defined as "an action within the limits of the 100-year floodplain."

3.9.2 Affected Environment

The project is located in Merced County, adjacent to and around the City of Los Banos. The land consists of flat land primarily used for agriculture, with limited commercial and residential use. Due to the flat topography, the local drainage basins are small, channels are fairly steep and well defined, and runoff storage is limited.

A Location Hydraulic Study and Floodplain Analysis (March 2004) of the three alternatives was conducted using Federal Emergency Management Agency maps. The maps designated most of the unincorporated area around Los Banos as Zone X, an area determined to be outside the 500-year floodplain. An area in the vicinity of Volta Road is designated Zone D, an area where flood hazards are undetermined.

3.9.3 Impacts

No major floodplain impacts were associated with any of the proposed alternatives. The project would not substantially increase the base flood elevations. There would be no longitudinal encroachments on the base floodplain of Main Canal and Los Banos Creek. There are no substantial risks to the floodplain associated with the implementation of the project. The project would not support probable incompatible floodplain development, and there would be no substantial impacts on natural and beneficial floodplain values.

3.9.4 Avoidance, Minimization, and/or Mitigation Measures

Because it was determined that there would be no major floodplain impacts associated with the project, no mitigation measures would be required.

3.10 Water Quality and Storm Water Runoff

3.10.1 Regulatory Setting

The primary federal law regulating water quality is the Clean Water Act. Section 401 of the act requires a water quality certification from the State Board or Regional Board when a project:

- requires a federal license or permit (a Section 404 permit is the most common federal permit for Caltrans projects), and
- will result in a discharge to waters of the United States

Section 402 of the act establishes the National Pollutant Discharge Elimination System permit system for the discharge of any pollutant (except dredge or fill material) into waters of the United States. To ensure compliance with Clean Water Act Section 402, the State Water Resources Control Board has issued a National Pollutant Discharge Elimination System Statewide Storm Water Permit to regulate storm water discharges from Caltrans facilities. The permit regulates storm water discharges from the Caltrans right-of-way both during and after construction, as well as from existing facilities and operations.

Section 404 of the Clean Water Act established a permit program to regulate the discharge of dredged material into waters of the United States. The program's scope also includes the regulation of dredge or fill material into wetlands adjacent to national waters. The permit program is administered by the Secretary of the Army through the U.S. Army Corps of Engineers.

In addition, the State Water Resources Control Board has issued a construction general permit for most construction activities covering greater than 0.40 hectare (1 acre), that are part of a Common Plan of Development exceeding 0.40 hectare (1 acre) or that have the potential to significantly impair water quality which is determined by the Regional Board. All Caltrans projects that must comply with the construction general permit require a Storm Water Pollution Prevention Plan, while all other projects require a Water Pollution Control Program. Subject to Caltrans' review and approval, the contractor prepares both the Storm Water Pollution Prevention Plan and the Water Pollution Control Program. The Water Pollution Control Program and Storm Water Pollution Prevention Plan identify construction activities that may cause pollutants in storm water and measures to control these pollutants. Since neither the Water Pollution Control Program nor the Storm Water

Pollution Prevention Plan is prepared at this time, the following discussion focuses on anticipated pollution controls.

Additional laws regulating water quality include the Porter-Cologne Water Quality Act, Safe Drinking Water Act, and Pollution Prevention Act. State water quality laws are codified in the California Water Code.

A Water Quality Assessment (October 2004) determined whether induced effects of the project would have a significant impact on water quality, including surface water and groundwater resources. Significance is based on whether discharges to receiving waters would meet water quality objectives or have an adverse impact to the beneficial uses identified by the State of California. Avoidance and minimization measures, if necessary to reduce any significant impacts to less than significant levels, are described as required by the California Environmental Quality Act (1970).

3.10.2 Affected Environment

The project area is located in the lowlands of the Great Valley geomorphic province, along the western side of the San Joaquin Valley. The area is characterized by alluvial, flood, and delta plains composed of recently deposited unconsolidated sediments.

Surface Water

The project lies within the Middle San Joaquin-Lower Chowchilla watershed in the San Joaquin River Hydrologic Region. Primary surface waters in the project area include the Main Canal, San Luis Canal, and the Santa Fe Canal. The Los Banos Creek, a seasonal watercourse, is also in the project limits.

The topography of Los Banos and the surrounding farming area is relatively flat, with the ground surface sloping from southwest to northeast. Los Banos Creek intercepts surface water runoff from the area immediately west of the city. The Main Canal, a Central California Irrigation District irrigation canal, crosses the area from southeast to northwest. The area northeast of the Main Canal is generally drained into the San Luis Canal, which flows through the Los Banos State Wildlife Area, northeast of the city.

The surface water quality in area canals ranges from good to poor, with high specific conductance (the ease with which the water conducts electricity) and boron

concentrations. Available data indicates that surface water quality in Los Banos Creek, when flowing, is good.

Groundwater

The project area is located in the Delta-Mendota Groundwater Basin of the San Joaquin River Hydrologic Region. Groundwater occurs in aquifers consisting of unconsolidated alluvium and consolidated rocks with unconfined and confined groundwater conditions. Groundwater in the vicinity of the project is approximately 3 meters (10 feet) below the ground surface.

Groundwater quality throughout the region is suitable for most urban and agricultural uses with only local impairments. Areas of high Total Dissolved Solids (minerals that are easily dissolved in water) are primarily along the west side of the San Joaquin Valley, including the Los Banos area. The high Total Dissolved Solids content of westside groundwater is due to recharge of stream flow originating from marine sediments in the Coast Range. It also is the result of concentrations of salts due to evaporation and poor drainage. Boron and chloride are likely a result of concentration from evaporation. The Initial Site Assessment conducted for the project did not find any pollution of groundwater (Section 3.12, Hazardous Waste/Materials).

3.10.3 Impacts

Because storm water runoff would not be discharged to a receiving water, the Water Quality Assessment (July 2004) for the proposed project indicated that short-term and long-term impacts to surface water quality would not be expected from construction of the proposed project. In addition, because storm water runoff would likely be of better quality than groundwater underlying the project area, short-term and long-term impacts to groundwater would also not be expected.

Total approximate acreage of new impervious (paved) surfaces as a result of the proposed bypass is described for each alternative in Table 3.27.

Table 3.27 Anticipated Paved Acreage and Storm Water Volumes

Alternative	Total Length in Kilometers (Miles)	Total Paved Area	Approximate Water Runoff Volume in Cubic Meters (Cubic Feet)	Approximate Storm Water Runoff Generated in a 25-year Storm in Cubic Meters/Second (Cubic Feet/Second)
Alternative 1M	15.1 (9.4)	62.2 hectares (153.6 acres)	6033 (213,035)	8.4 (295.9)
Alternative 2M	14.6 (9.1)	66.4 hectares (164.1 acres)	6440 (227,426)	8.9 (315.4)
Alternative 3M	16.4 (10.2)	59.4 hectares (146.7 acres)	5761 (203,448)	8.0 (282.5)

3.10.4 Avoidance, Minimization, and/or Mitigation Measures

While it was determined that short-term and long-term impacts to surface water and groundwater resources in the area would not occur during construction of the proposed project, the project is expected to disturb more than 0.40 hectare (1 acre) of soil, and the following would be required:

- A Notification of Construction would be submitted to the appropriate Regional Water Quality Control Board at least 30 days before the start of construction. The Notification of Construction form requires the tentative start date and duration, location description of project, estimate of affected area, and name of the resident engineer (or other construction contact) with telephone number, etc.
- A Storm Water Pollution Prevention Plan is to be prepared and implemented during construction to the satisfaction of the resident engineer.
- A Notice of Construction Completion is to be submitted to the Regional Water Quality Control Board upon completion of the construction and stabilization of the site. A project will be considered complete when the criteria for final stabilization in the State General Construction Permit are met.

Caltrans currently has implemented a statewide Storm Water Management Plan. Requirements of permits and plans would be followed in accordance with the Caltrans Storm Water Management Plan addressing erosion control and sediment control management. This project would require submittal of a Storm Water Pollution Prevention Plan from the construction contractor before the start of construction activities. The plan would address water pollution controls during construction and

specifies measures to prevent soil, sediments, construction materials, and fluids from being carried off the site by storm water. Such measures typically include erosion protection, limitations on disturbance of land areas and natural drainage features, proper material storage, appropriate structure placement, wind erosion prevention, and pollution prevention procedures.

Under the Clean Water Act, the following permits would be required for the proposed project:

- Section 401 – Regional Water Quality Control Board Water Quality Certification: Caltrans Storm Water Division would request water quality certification due to presence of wetlands.
- Section 402 – Regional Water Quality Control Board National Pollutant Discharge Elimination System Permit: All Caltrans projects are covered by the Caltrans Statewide National Pollutant Discharge Elimination System Permit. Under the permit, the Statewide Storm Water Management Plan directs that potential impacts to water quality (erosion, discharges of hazardous material, disruption of natural drainage patterns, etc.) be addressed in the planning, design, and construction phases.
- Section 404 – Dredge/Fill Permit: A Letter of Permission or an Individual Permit may be required for this project.

3.11 Geology/Soils/Seismic/Paleontology/Topography

3.11.1 Regulatory Setting

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects "outstanding examples of major geological features." Topographic and geologic features are also protected under the California Environmental Quality Act.

3.11.2 Affected Environment

A Preliminary Geotechnical Report, completed in March 2002, provided geologic considerations, foundation analysis, and geotechnical engineering recommendations for the proposed project area.

The proposed project area lies within the southern portion of the Central Valley geomorphic province of California. The ground elevation descends gradually from the west-end to the east-end by 9 meters (29.5 feet) with an elevation of 38 meters (124.7 feet) on the western side to an elevation of 29 meters (95.1 feet) on the eastern side.

The proposed project area is located in an area of relatively deep alluvial deposits, with most of the alignment areas situated in Quaternary (Pleistocene and Holocene) age fine- to medium-grained fan deposits (clay, silt, and sand) of San Luis Ranch Alluvium. The depth to "bedrock-like" material was estimated to be greater than 20 meters (65.6 feet). The project study area was found to have a low sensitivity for paleontology using geological data available for State Routes 165 and 152.

Groundwater within the proposed project area originates from infiltration of rainwater and canal water through the alluvial fans that abut the eastern flank of the Coast Range and Santa Clara Mountains adjacent to the San Luis Reservoir. Groundwater elevations at irrigation wells in the proposed project area vary between 28 and 40 meters (91.9 and 131.2 feet).

Soil within and around the project area is alluvial and appears to consist mostly of silty clay and sand, which is more susceptible to erosion.

3.11.3 Impacts

The Caltrans California Seismic Hazard Map (1996) indicates that the controlling fault for the proposed project area is the San Joaquin/S fault located approximately 5 to 12 kilometers (3.1 to 7.5 miles) west of the project area. The maximum credible earthquake that could affect the project area would be a magnitude 6.5 (Richter scale) earthquake. The peak bedrock acceleration at the project site is estimated to be 0.4g (acceleration of gravity) to 0.5g. The granular material found in the proposed project area could liquefy during a seismic event. Improvements to the foundation material underlying the embankments is not likely to be economically feasible.

Construction of any of the build alternatives would involve grading and topographic alteration within the proposed right-of-way limits. Table 3.28 shows the length of the project and the estimated cut and fill that may be needed for construction of the bypass, as well as the anticipated height of the project. Due to the presence of shallow ground water within the area, the profile grade (height) of the bypass is planned to be on an embankment of 1.8 to 10.7 meters (6 to 35 feet) above the existing ground

elevation. Raising the profile grade would require the use of 4.9 to 5.3 million cubic meters (5.3 to 6.9 million cubic yards) of fill materials along the length of the project.

Table 3.28 Proposed Bypass Length, Cut, and Fill

Proposed Bypass Length, Cut and Fill	Alternative 1M	Alternative 2M	Alternative 3M
Project Length	15.9 kilometers (9.4 miles)	14.9 kilometers (9.1 miles)	16.4 kilometers (10.2 miles)
Maximum Projected Cut and Fill Heights	From 1.8 to 10.7 meters (6 to 35 feet)	From 1.8 to 10.7 meters (6 to 35 feet)	From 1.8 to 10.7 meters (6 to 35 feet)
Estimated Fill in cubic meters (cubic yards)	4.9 million (5.4 million)	4.1 million (5.3 million)	5.3 million (6.9 million)
Estimated Cut in cubic meters (cubic yards)	31,000 (40,546)	30,000 (39,238)	44,000 (57,550)

3.11.4 Avoidance, Minimization and/or Mitigation Measures

The following avoidance and minimization measures are proposed:

- If material similar to the alluvial material observed in the proposed project area is used to construct the embankments of the roadway, drainage would need to be controlled to minimize erosion. Asphalt concrete dikes, down-drains, and landscaping would help to minimize erosion of the proposed embankments.
- Local borrow excavation sites should be chosen with caution, as the high groundwater would likely make excavation difficult and may make necessary compaction for the roadway difficult to achieve without additional drying effort.
- Drainage basins (longitudinal and retention) should be less than that 2 meters (6.6 feet) or greater in depth to avoid unknown paleontological resources.
- Embankment foundation preparation for the non-wetland areas should be limited to clearing and grubbing, and surface ripping, watering, and compaction to avoid difficulties caused by high groundwater levels.
- Embankments should be constructed with 1:2 slopes or flatter, with appropriate erosion preventative landscaping that will eliminate any stability concerns.

- Compressible materials would need to be improved to function as adequate foundation material in the wetland areas.
- Embankment settlement would be allowed to occur before the new pavement is placed to avoid settlement-induced damage to the structural section. A six-month settlement period is recommended for embankments constructed within the wetland area. Alternative 3M would avoid wetland areas.
- All structural foundations should be designed for the effects of liquefaction.

3.12 Hazardous Waste/Materials

3.12.1 Regulatory Setting

Hazardous wastes and hazardous materials are regulated by many state and federal laws. These include not only specific statutes governing hazardous waste, but also a variety of laws regulating air and water quality, human health, and land use.

The primary federal laws regulating hazardous wastes/materials are the Resource Conservation and Recovery Act of 1976 and the Comprehensive Environmental Response, Compensation and Liability Act of 1980. The purpose of the latter act, often referred to as Superfund, is to clean up contaminated sites so that public health and welfare are not compromised. The Resource Conservation and Recovery Act provides for "cradle to grave" regulation of hazardous wastes. Other federal laws include the following:

- Community Environmental Response Facilitation Act of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety & Health Act
- Atomic Energy Act
- Toxic Substances Control Act
- Federal Insecticide, Fungicide, and Rodenticide Act

In addition to the acts listed above, Executive Order 12088, Federal Compliance with Pollution Control, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

In California, hazardous waste is regulated mainly under the authority of the federal Resource Conservation and Recovery Act of 1976 and the California Health and Safety Code. Other California laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

Worker health and safety and public safety are key issues when dealing with hazardous materials that may affect human health and the environment. Proper disposal of hazardous material is vital if it is disturbed during project construction.

3.12.2 Affected Environment

The project alternatives are located within a rural area in the jurisdiction of Merced County. Most of the land use consists of agriculture, including dairies. In general, these properties do not have access to centralized water, gas, or sewer systems. Most parcels could be described as having a well, a propane tank, and a septic tank. Many of the structures in the area were built during the time when lead paint and asbestos were accepted building materials. Few commercial establishments lie within the study area.

Dairies may generate contaminants that fall into the class of environmental contamination known as designated wastes. However, the issue of designated waste is still a gray area when considering hazardous waste concerns. Designated waste is defined as all non-hazardous putrescible (in the process of decay) solid, semi-solid, and liquid wastes that exceed applicable water quality objectives, or could cause degradation of waters of the state, provided that such waste does not contain wastes that must be managed as hazardous wastes, or wastes that contain soluble pollutants in concentrations. Examples of designated waste that might be found at agricultural operations include manure, and vegetable or animal solid and semi-solid wastes. Of concern to the State Water Quality Control Board is the excess generation of nitrates and salts that, when exceeding the maximum contaminant level, become designated waste and can occur in both surface and groundwater. All of the alternatives would affect one or more dairies.

3.12.3 Impacts

Hazardous Waste Findings

Caltrans staff performed an Initial Site Assessment to evaluate potential effects of hazardous waste and environmental contamination on project feasibility. Field

evaluations were performed in March, April, and June 2000, and November 2001. The Initial Site Assessment included a list of properties that may present a potential hazardous waste risk (Table 3.29 and Figure 3-9). A Preliminary Site Investigation (2004) was conducted at the former water treatment plant at the northeast end of the project study area. After the selection of a preferred alternative, an additional Preliminary Site Investigation would be conducted, if necessary, at the remaining potential sites along the preferred alternative.

Table 3.29 Hazardous Waste Parcels

Parcel	Alternative	Map Location	Findings
83-150-57	2	1	Historic-era farm with possible lead-based paint and asbestos in building materials.
81-030-12	3	2	Trucking firm equipment yard and office with potential of contamination of soil from underground storage tanks, waste oil spills, and fuel leakage and spillage. Possibly extends to adjacent parcel. A Preliminary Site Investigation* is recommended.
84-010-77	3	3	Abandoned experimental water treatment plant. A Preliminary Site Investigation for pesticides and metal contamination found no soil constituent to be above levels of concern for industrial standards (industrial non-cancer endpoint).

Source: Initial Site Assessment, March 2002; Preliminary Site Investigation, 2004

** The Preliminary Site Investigation that was done in 2004 was for the water treatment plant only (parcel 84-010-77). The other parcels were included in the initial site investigation only and may still require a Preliminary Site Investigation prior to acquisition.*

During the Preliminary Site Investigation at the former water treatment plant, soil samples were collected to determine if the ponding basins at the site had collected hazardous concentrations of pesticide, herbicide, or heavy metal through treatment or evaporation. Chromium and arsenic were present in all samples, including background samples taken away from the ponding basins. This suggests that mechanical concentration of chromium and arsenic did not occur in the ponding basins, but that chromium and arsenic may occur naturally in the soil. The results of the investigation, along with historical data, indicate that additional subsurface assessment is not warranted at this time.

Past land use does not appear to have affected soil within the potential right-of-way for the project. However, construction health and safety precautions related to potential chemical exposure would be recommended during construction activities.

Any of the build alternatives would require the relocation of at least one dairy (see Section 3.4.2, Relocations). Relocations of dairies would entail acquiring farmland for designated waste disposal based on herd size. The State Water Quality Control Board would determine if dairy farmland acquired for construction would require clean-up of designated waste.

Aerially Deposited Lead Findings

Soil investigations of shallow-soil aerially deposited lead was conducted in February and November 2001 along State Routes 152 and 165 where the proposed bypass would tie into the existing right-of-way.

The investigation was conducted in the unpaved portion of the median and shoulders. Borings in the median were alternately placed at the edges of the eastbound and westbound lanes of State Route 152. The investigations included 341 soil borings. Lead analyses were conducted on 1,013 soil samples, and 131 soil samples were further analyzed for soluble lead concentrations by the Waste Extraction Test method. Statistical analysis of samples indicated that soils disturbed by the project would be safe for re-use without restriction.

The three build alternatives tie into the existing right-of-way in six locations that overlap the lead investigations. Therefore, major portions of each alternative alignment have been specifically investigated for lead contamination at locations where the highest traffic volumes occur and thus expected to contain the highest concentrations of aerially deposited lead. Although it has been found that non-hazardous levels of lead are present along the alignments studied, the three build alternatives cross other streets, where aerially deposited lead may be present in unpaved sections of roadways. A Lead Compliance Plan as part of the California Code of Regulations, Title 8, Construction Safety Orders, section 1532.1, “Lead” should be approved by the contractor’s Certified Industrial Hygienist prior to construction in these areas.

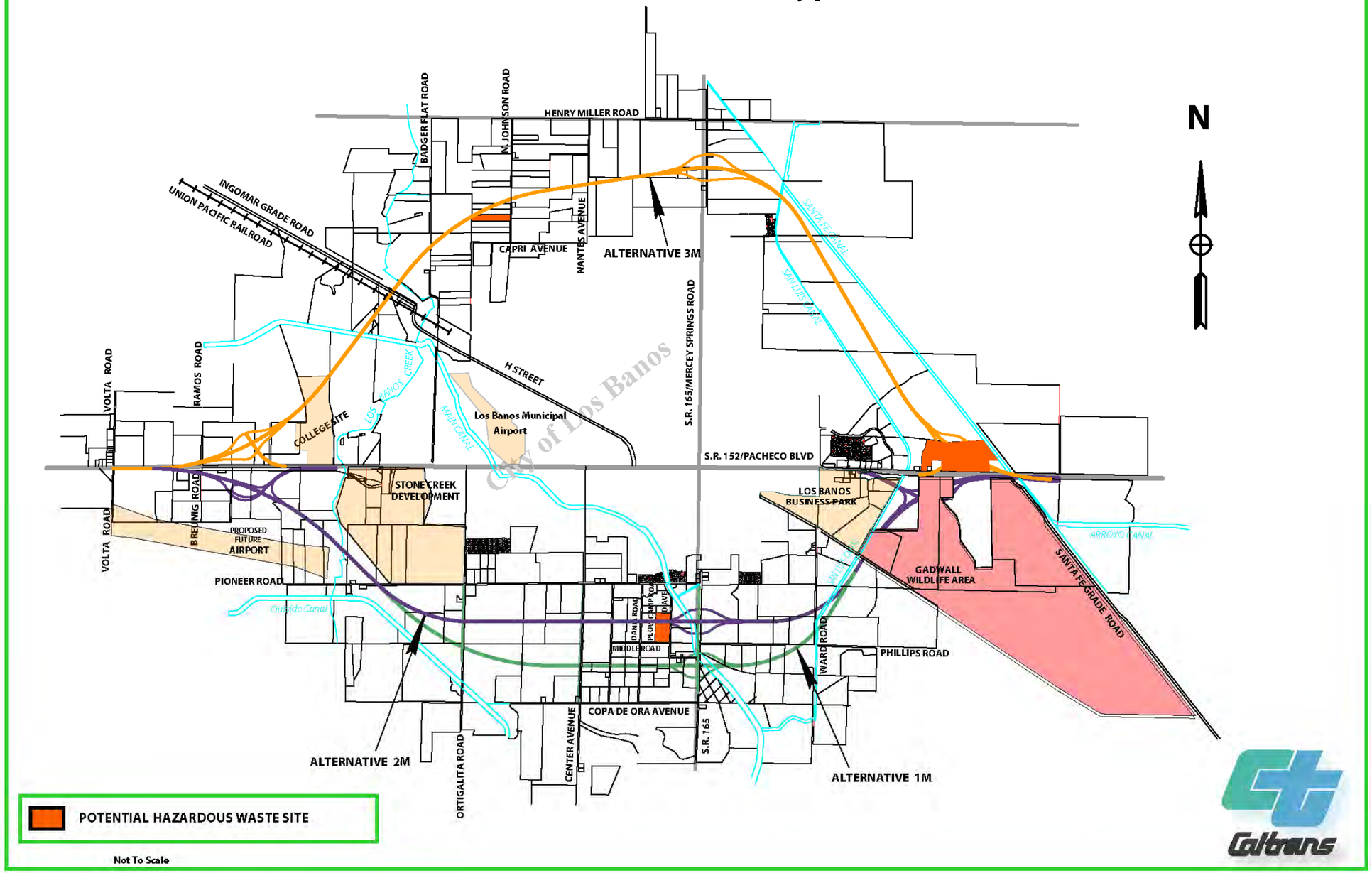


Figure 3-9 Potential Hazardous Waste Sites

Construction Phase Impacts

Soils in the San Joaquin Valley are known to contain naturally occurring metals found to be toxic. The construction of the bypass may cause soil particles to become mobilized. Soils in the project area where tests were conducted were found to contain lead levels below the regulatory limits and may be reused without restriction.

Construction contracts must contain a Special Standard Provision for a lead/arsenic health and safety plan. Once the preferred alignment is chosen, further studies would determine the potential project costs of mitigation or other hazardous waste impacts.

3.12.4 Avoidance, Minimization, and/or Mitigation Measures

Caltrans would consult with the State Water Quality Control Board to determine the necessity for any removal and/or mitigation of designated waste from any dairy that is relocated.

Any one of the listed properties (see Table 3.29) may present a potential hazardous waste risk. Therefore, practical application of existing standard provisions and best management practices during construction would minimize the risk to worker and public safety. The most significant potential for risk from hazardous waste was from soil contamination in the form of hydrocarbon, pesticide, or heavy metal contaminants. Recommendations include special provisions to be required in the construction contract for dust control, handling, and disposal of contaminated soils. Construction contracts must contain a Special Standard Provision lead/arsenic health and safety plan.

3.13 Air Quality

3.13.1 Regulatory Setting

The Clean Air Act as amended in 1990 is the federal law that governs air quality. Its counterpart in California is the California Clean Air Act of 1988. These laws set standards for the quantity of pollutants that can be in the air. At the federal level, these standards are called National Ambient Air Quality Standards. Standards have been established for carbon monoxide, nitrogen dioxide, ozone, and particulate matter that is 10 microns in diameter or smaller (PM_{10}).

Under the 1990 Clean Air Act Amendments, the U.S. Department of Transportation cannot fund, authorize, or approve federal actions to support programs or projects that

are not first found to conform to the Clean Air Act requirements. Conformity with the Clean Air Act takes place at two levels—first, at the regional level and, second, at the project level. The project must conform at both levels to be approved.

Regional level conformity is concerned with how well the region is meeting the standards set for the pollutants listed above. At the regional level, Regional Transportation Plans are developed to include all of the transportation projects planned for a region over a period of years, usually 20. Based on the projects included in the Regional Transportation Plan, an air quality model is run to determine whether or not the implementation of those projects would result in a violation of the Clean Air Act. If no violations would occur, then the regional planning organization, such as the Merced County Association of Governments and the appropriate federal agencies, such as the Federal Highway Administration, make the determination that the Regional Transportation Plan is in conformity with the applicable State Implementation Plan. Otherwise, the projects in the Regional Transportation Plan must be modified until conformity is attained. If the design and scope of the proposed transportation project are the same as described in the Regional Transportation Plan, then the proposed project is deemed to be in conformity at the regional level.

Conformity at the project level is also required. If a region is meeting the standard for a given pollutant, then the region is said to be in “attainment” for that pollutant. If the region is not meeting the standard, then it is designated a “non-attainment” area for that pollutant. Areas that were previously designated as non-attainment areas but have recently met the standard are called “maintenance” areas. If a project is located in a non-attainment or maintenance area for a given pollutant, then additional air quality analysis and reduction measures in regard to that pollutant are required. This is most frequently done for carbon monoxide and PM_{10}.

3.13.2 Affected Environment

The project is located in the San Joaquin Valley Air Basin (administered by the San Joaquin Valley Unified Air Pollution Control District), which is relatively flat. Mountain ranges bordering the air basin channel winds through the valley and affect both the climate and the dispersion of air pollutants.

The mountain ranges also contribute to temperature inversions in the valley. Inversions occur when the upper air becomes warmer than the air beneath it and traps pollutants near the earth’s surface before they can disperse upward. Although they are

more prevalent and of a greater magnitude in late summer and fall, inversions occur frequently throughout the year in the San Joaquin Valley.

To satisfy the requirements of both the California Environmental Quality Act and the National Environmental Policy Act, an Air Quality Analysis (June 2004) was conducted for the project. Because the proposed project would increase traffic capacity, a conformity determination must be made. Ozone is considered a regional pollutant rather than a project-level pollutant, and Merced County is considered non-attainment/severe with respect to federal ozone standards and non-attainment with respect to state ozone standards. Project evaluation for ozone is incorporated into the conformity analysis in the Regional Transportation Plan.

The 2004 Merced County Regional Transportation Plan was found to conform to the Clean Air Act requirements by the Merced County Association of Governments on August 19, 2004. The Federal Highway Administration and Federal Transit Administration adopted the air quality conformity finding on September 22, 2004. The project is included in the 2004 Merced County Regional Transportation Plan. The project is also included in the Merced County Association of Governments' financially constrained 2004 Federal Transportation Improvement Program that was approved by the Federal Highway Administration on October 4, 2004.

Because the project is included in a conforming Merced County Regional Transportation Plan that contributes to ozone emissions reduction in the San Joaquin Valley Air Basin, the project should have no substantial adverse impact regarding ozone and ozone precursors. The U.S. Environmental Protection Agency on April 15, 2004 designated the San Joaquin Valley Air Basin, including Merced County, as non-attainment for the new federal 8-hour ozone standard, with a "Subpart 2/Serious" classification. Conformity requirements associated with the 8-hour ozone standard will become effective on June 15, 2005, due to a one-year grace period.

The Federal Transportation Improvement Program was adopted by the Merced County Association of Governments on August 19, 2004 and was found to conform by the Federal Highway Administration and the Federal Transit Administration on September 22, 2004. The design concept and scope of the project is consistent with the project description in the 2004 Regional Transportation Plan, the 2004 Federal Transportation Improvement Program, and the assumptions in the Merced County Association of Governments' regional emissions analysis.

Table 3.30 lists the federal and state standards and Merced County's attainment status with respect to regional pollutants of concern.

Table 3.30 Pollutants of Concern

Criteria Pollutant	Federal Standard	Federal Attainment Status	State Standard	State Attainment Status
Carbon Monoxide	35 ppm (1-hour average) 9 ppm (8-hour average)	Attainment/ Unclassified	20 ppm (1-hour average) 9 ppm (8-hour average)	Attainment/ unclassified
Nitrogen Dioxide	0.053 ppm (1-hour annual average)	Attainment/ Unclassified	0.25 ppm (1-hour annual average)	Attainment
Ozone	0.12 ppm (1-hour average)	Severe	0.09 ppm (1-hour average)	Non-attainment
Particulate Matter (PM_{10})	150 $\mu g/m^3$ (annual arithmetic mean)	Serious	50 $\mu g/m^3$ (annual arithmetic mean)	Non-attainment
Particulate Matter ($PM_{2.5}$)	15 $\mu g/m^3$ (annual arithmetic mean)	Non-attainment	12 $\mu g/m^3$ (annual arithmetic mean)	Non-attainment

Source: Air Quality Analysis, March 2004
ppm = parts per million
$\mu g/m^3$ = micrograms per cubic meter

Carbon Monoxide Analysis

Historical air quality data shows that existing carbon monoxide levels in the project area and general vicinity do not exceed either state or federal ambient air quality standards. The Carbon Monoxide Protocol of the University of California at Davis was used for the carbon monoxide hot spot analysis with results indicating that the project passed the screening without needing further modeling analysis.

Particulate Matter Analysis

The project is located in a non-attainment area for federal and state particulate matter standards. (Non-attainment areas are those areas where the pollutant level is higher than the level allowed by federal or state standards.) Therefore, the project is subject to hot spot analysis requirements for PM_{10} for the purpose of transportation conformity.

No violations of the national daily standard for PM_{10} were recorded at the Merced Station in the last three years (Table 3.31), and all readings have been below 80 percent of the national daily standard.

Table 3.31 Monitored PM_{10} Concentration at Merced Station

Year	Maximum PM_{10} Concentration (in micrograms per cubic meter)	Percent of National Standard
2002	69	46.0%
2001	113	75.3%
2000	104	69.3%

Source: Caltrans Air Quality Study and San Joaquin Valley Unified Air Pollution Control District Monitoring Station.

The monitor station also indicated that the 3-Year Annual Average (2000 to 2002) of $PM_{2.5}$ is 16.6 micrograms per cubic meter (standard is 15.0 micrograms per cubic meter). For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. The 3-Year Average 24-Hour 98th percentile concentration was 55 micrograms per cubic meter, which is less than the standard of 65 micrograms per cubic meter.

According to state and federal standards, Merced County is considered non-attainment with respect to $PM_{2.5}$. However, because the federal standard is exceeded across the basin and population and emission densities are considered, $PM_{2.5}$ is treated as a regional pollutant and the entire basin is considered non-attainment.

Asbestos

The California Environmental Quality Act requires that environmental documents address human exposure to both naturally occurring and structural airborne asbestos. The U.S. Environmental Protection Agency, the California Air Resources Board, and most air pollution control districts regulate asbestos as an airborne toxic material. Airborne asbestos may be encountered under the following conditions:

- Building demolition/renovation and removal or renovation of roofing materials
- Highway structure demolition/renovation (such as bridges and pump stations)
- Utility and similar facility relocations
- Naturally occurring asbestos in soil and serpentine rock

Merced County is not among the counties listed as containing serpentine and ultramafic rock (rocks with naturally occurring asbestos). Therefore, the effects from naturally occurring asbestos should be minimal to none.

3.13.3 Impacts

The project would not create a new violation or worsen an existing violation of the federal or state standards for carbon monoxide.

The proposed Los Banos Bypass project design concept and scope assumed in the regional emissions analysis is consistent with the alternatives being considered in this environmental document. Project conformity is demonstrated by showing that a project comes from a conforming plan and program, with substantially the same "design concept and scope" that was used for the regional conformity analysis, that it will not cause localized exceedances of standards, and that it will not interfere with "timely implementation" of Transportation Control Measures called out in the State Implementation Plan for each pollutant.

Caltrans' air quality studies concluded that the proposed project is unlikely to cause or experience a localized PM_{10} problem. Studies by the University of California-Davis for Caltrans, indicate that, absent of unusual circumstances or existing conditions (monitored) that are above or within 80 percent of the federal PM_{10} standard, a transportation facility is unlikely to cause or experience a localized PM_{10} problem, unless the immediate vicinity is already at or above standard.

Concentrations of PM_{10} (on a daily basis) in the project area are currently within federal standards. Future emissions that may result from the project would probably be low enough that they would not introduce a PM_{10} problem.

In comparing the build and no-build alternatives, the existing State Route 152 has seven traffic lights, and two additional signal lights are planned. These signal lights would remain in place with the No-Build Alternative, thus creating long idling time, high emissions, and traffic congestion as the number of vehicles traveling the roadway increases. The existing roadway is also in an area considered to be high silt loaded (amount of dirt that may be stirred up into the air). The build alternatives would provide a roadway without traffic lights, resulting in less idling time and lower emissions. The proposed freeway would be considered to have a low silt load, due to restricted access from local streets and roads. Based on this, the proposed project would not create a new violation or worsen an existing violation of the PM_{10} standards of the National Ambient Air Quality Standard.

Construction Phase Impacts

During construction, the project would temporarily generate air pollutants. The exhaust from construction equipment contains hydrocarbons, oxides of nitrogen, carbon monoxide, suspended particulate matter, and odors. However, the largest percentage of pollutants would be windblown dust generated during excavation, grading, hauling, and various other activities. The impacts of these activities would vary each day as construction progresses. Dust and odors near residences very close to the right-of-way may cause occasional annoyance and complaints.

Houses and other buildings lie within the proposed right-of-way for all build alternatives and would need to be demolished before construction of the expressway. Structures may be demolished at the San Luis Canal, Santa Fe Canal, and Main Canal as part of this project. Utility structures would also be relocated. During demolition, there is a potential for asbestos to become airborne and inhaled.

3.13.4 Avoidance, Minimization, and/or Mitigation Measures

Mitigation for potential PM_{10} sources of fugitive dust during construction would include measures such as the following:

- Enforcement of truck cover laws
- A street cleaning program, including vacuuming and flushing
- A site watering program to reduce dust
- Street and shoulder paving
- Runoff and/or erosion control

Caltrans Standard Specifications pertaining to dust control and dust palliative requirements are a required part of all construction contracts and should effectively reduce and control emission impacts during construction. The provisions of Caltrans Standard Specifications, Section 7-1/0F “Air Pollution Control” and Section 10 “Dust Control,” require the contractor to comply with the San Joaquin Valley Unified Air Pollution Control District’s rules, ordinances, and regulations.

The San Joaquin Valley Unified Air Pollution Control District has determined that compliance with its regulations constitutes sufficient mitigation to minimize construction-related air quality impacts. Standard right-of-way specifications, permits, and notifications would be required for demolition of residential, roadway, and utility structures. Caltrans contractors would conduct an asbestos study of the

structures and comply with all asbestos-related regulations of the San Joaquin Valley Unified Air Pollution Control District.

3.14 Noise

3.14.1 Regulatory Setting

The National Environmental Policy Act of 1969 and the California Environmental Quality Act provide the basis for analyzing and abating highway traffic noise. The intent of these laws is to promote the general welfare and to foster a healthy environment. Caltrans evaluated potential project noise impacts and identified noise abatement measures to comply with state and federal noise abatement/mitigation requirements.

For highway transportation projects with Federal Highway Administration involvement, the Federal-Aid Highway Act of 1970 and the associated implementing regulations (23 Code of Federal Regulations 772) govern the analysis and abatement of traffic noise impacts. The regulations require the identification of potential noise impacts in areas of frequent human use during the planning and design of a highway project. The regulations contain noise abatement criteria used to determine when a noise impact would occur.

The noise abatement criteria differ depending on the type of land use under analysis (Table 3.32). For example, the noise abatement criteria for residences are lower than the noise abatement criteria for commercial areas.

According to the Caltrans' Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, October 1998, a noise impact occurs when the future noise level with the project results in a substantial increase in noise level (defined as an increase of 12 dBA or more) or when the future noise level with the project approaches or exceeds the noise abatement criteria. Approaching the noise abatement criteria is defined as coming within 1 dBA of the noise abatement criteria. If it is determined that the project will have noise impacts, then potential abatement measures must be considered.

Table 3.32 Noise Abatement Criteria

Activity Category	Noise Abatement Criteria, Hourly A-weighted Noise Level, dBA L_{eq}	Description of Activities
A	57 Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need, and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 Exterior	Picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries and hospitals.
C	72 Exterior	Developed lands, properties, or activities not included in categories A or B above.
D	---------	Undeveloped lands.
E	52 Interior	Residences, motels, hotels, public meeting rooms, libraries, hospitals, and auditoriums.

Source: Caltrans Traffic Noise Analysis Manual, 1998

Noise abatement measures that are determined to be reasonable and feasible at the time of final design are incorporated into the project plans and specifications. Caltrans' Traffic Noise Analysis Protocol sets forth the criteria for determining when an abatement measure is reasonable and feasible. A minimum 5 dBA reduction in the future noise level must be achieved for an abatement measure to be considered feasible. Other factors include topography, access requirements, other noise sources, and safety considerations. The reasonableness determination is basically a cost-benefit analysis. Factors used in determining whether a proposed noise abatement measure is reasonable include: residents' acceptance, the absolute noise level, build alternative noise versus existing noise, environmental impacts of abatement, public and local agency input, newly constructed development versus development pre-dating 1978, and the cost per benefited residence.

3.14.2 Affected Environment

The existing State Route 152 (Pacheco Boulevard) runs through areas of commercial developments and small businesses, areas with very few residences. There is a school and a public park set back approximately 152 meters (500 feet) and 49 meters (160 feet), respectively, from the edge of the travel lanes. Streets and business driveways intersect State Route 152 throughout the city.

The general area of the bypass alignments is mostly rural, with agriculture and scattered residences, including individual farmhouses, farmworker housing, and other single-family residences. The density of new homes increases closer to the city.

A Noise Study Report (June 2004) evaluated potential project noise impacts and identified noise abatement measures to comply with state and federal noise abatement/mitigation requirements. The noise study identified nine noise receptors for the No-Build Alternative. Receptors are locations, such as homes, parks, or businesses, where frequent human use occurs or is likely to occur in the foreseeable future. Table 3.33 shows the receptors and the existing noise levels.

The noise study identified 87 receptors for the bypass Alternatives 1M and 2M combined. Existing noise levels for Alternatives 1M and 2M are shown in Tables 3.34 and 3.35, respectively. The 87 receptors include locations in the vicinity of the future Stonecreek Development and Merced Community College. Seven receptors were identified for Alternative 3M. The Alternative 3M receptors and the noise levels are shown in Table 3.36.

3.14.3 Impacts

Most receptors along State Route 152 (Table 3.33) are currently at or above the 72 decibels threshold. By the year 2033, all receptors are expected to exceed the threshold. However, the increases would all be below 12 decibels. The increase in noise levels would be due to the projected increase in traffic volumes.

Tables 3.34, 3.35, and 3.36 show the existing and predicted noise levels for the three build alternatives at existing and future sensitive receptors in the project area (see Figure 3-10). Future developments include the Stonecreek Development and Merced Community College. Development is considered planned on the date that a noise-sensitive land use (subdivision, residences, schools, churches, hospitals, libraries, etc.) has received final development approval from the local agency with jurisdiction. Planned use at the proposed Merced College site assumed several classroom and office structures located along the southernmost border of the site as indicated in preliminary mapping. Therefore, sensitive receptors were modeled at the southern edge of the site, and a barrier for the college was considered for Alternatives 1M and 2M during the noise studies.

Noise conditions were simulated with various heights of sound-blocking walls for sensitive receptors with a substantial noise increase (at least 12 decibels) or when the

predicted noise levels would approach or exceed the Noise Abatement Criteria. Feasibility and reasonability of abatement measures were also determined for those particular sensitive receptors. With the project, noise levels at most of the existing residential receptors, adjacent to the project limits, would approach the Noise Abatement Criteria of 67 decibels. Noise levels would drop as the distance from the bypass increases.

For Alternative 1M, noise conditions were simulated for 15 out of 65 identified sensitive receptors (see Table 3.34). The noise study indicated that the15 receptors would experience a noise increase approaching, equal to, or greater than 12 decibels in 2033, including two receptors that would experience a noise level greater than 66 decibels. While abatement was feasible for the 15 receptors, no abatement measures were found to be reasonable.

For Alternative 2M, noise conditions for 12 out of 66 sensitive receptors were simulated (see Table 3.35). The study found that all 12 receptors would experience a noise increase approaching, equal to, or greater than 12 decibels in 2033, including two receptors that would experience a noise level greater than 66 decibels. While abatement was feasible for the 12 receptors, no abatement measures were found to be reasonable.

Table 3.33 State Route 152 Existing and Predicted Noise Levels

Receptor Number	Type Location or Address	Existing Noise Level, Leq (h) dBA	Predicted Noise Level (2033)	Noise Increase	Activity Category and Noise Abatement Criteria, Leq (h)
1	Payless Shoe at the corner of Badger Road and State Route 152	69	73	+4	*C (72)
2	Ryan's Place Restaurant at 955 State Route 152	74	76	+2	C (72)
3	Baskin Robbins 31 at 325 State Route 152	72	80	+8	C (72)
4	Taco Bell at 503 State Route 152	76	82	+6	C (72)
5	NAPA Auto Parts at 931 State Route 152	76	79	+3	C (72)
6	California Dairy Inc. near State Route 152 and 11th Street	74	78	+4	C (72)
7	Jo Bones Restaurant near Miller Lane and State Route 152	76	79	+3	C (72)
8	A&A Storage business office near Nickel Street and State Route 152	72	82	+10	C (72)
9	2509 State Route 152 (near Los Banos Hotel)	69	78	+9	C (72)

Source: Caltrans Noise Study, March 2004
**Noise Abatement Criteria: C – Commercial Activity Category*
Leq – a measure of the average noise level during a specific period of time
Leq(h), dBA – equivalent or average noise level for the noisiest hour, expressed in A-weighted decibels
A-weighted sound levels – approximate way humans interpret sound

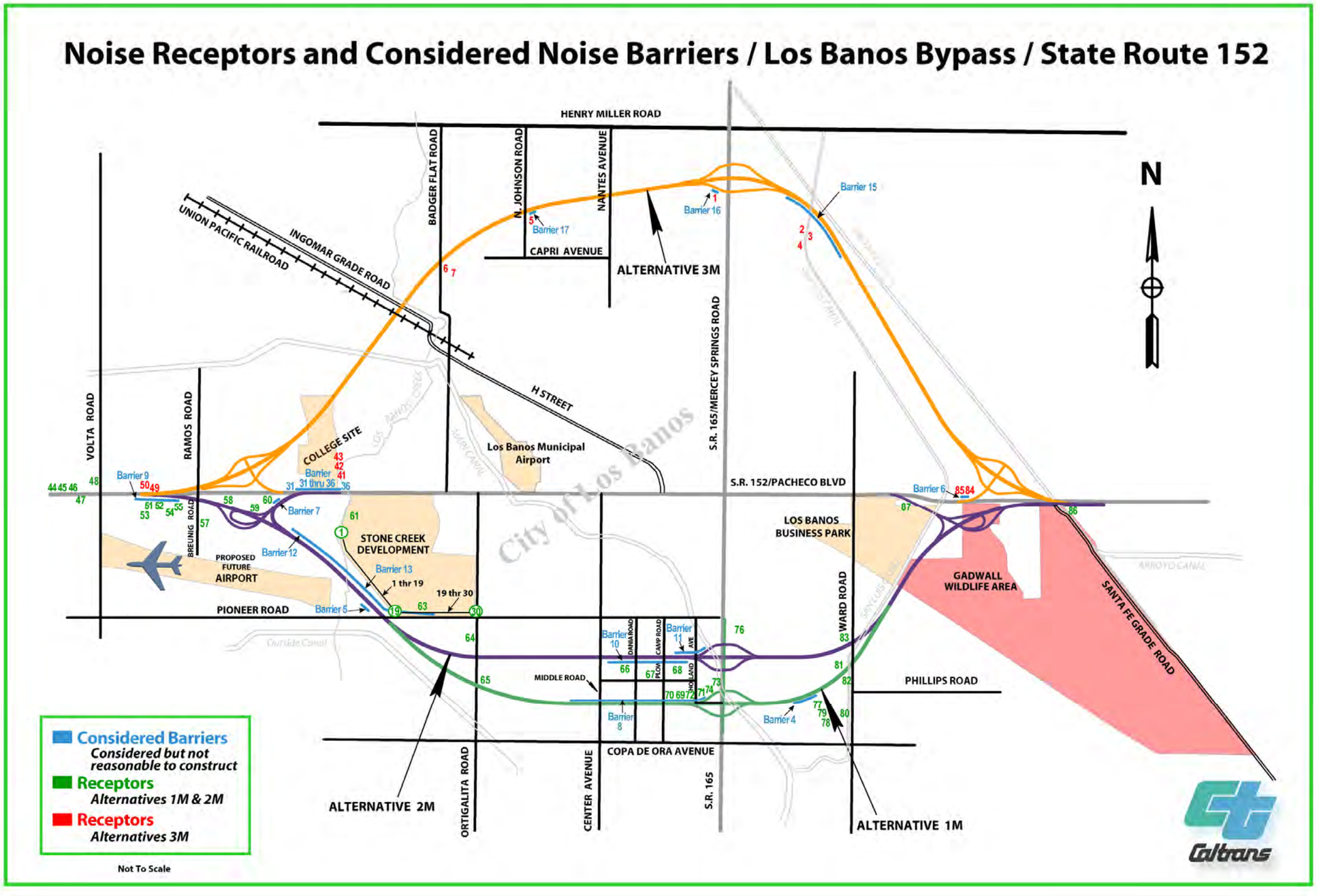


Figure 3-10 Sensitive Noise Receptors

For Alternative 3M, seven sensitive receptors were identified (see Table 3.36). No receptors would experience a noise level greater than 66 decibels in 2033. Four receptors, however, would experience a substantial noise increase (at least 12 decibels) by 2033 if the bypass were built. The four receptors were included in model simulations with abatement. No abatement measures were found to be either feasible or reasonable for receptors adjacent to Alternative 3M.

Table 3.34 Noise Level Comparisons — Alternative 1M

Receptor Number	Existing Noise Level (dBA)	Predicted Noise Level with Project (dBA)	Predicted Noise Level with Abatement (dBA)			Feasible	Reasonable
			1.8 m** wall	3.0 m** wall	4.3 m** wall		
1	46.1	47.2	*	*	*	N/A	N/A
2	46.1	48.6	*	*	*	N/A	N/A
3	46.1	50.4	*	*	*	N/A	N/A
4	46.1	50.6	*	*	*	N/A	N/A
5	46.1	51.0	*	*	*	N/A	N/A
6	46.1	51.4	*	*	*	N/A	N/A
7	46.1	51.8	*	*	*	N/A	N/A
8	46.1	52.1	*	*	*	N/A	N/A
9	46.1	52.3	*	*	*	N/A	N/A
10	46.1	52.6	*	*	*	N/A	N/A
11	46.1	52.9	*	*	*	N/A	N/A
12	46.1	53.4	*	*	*	N/A	N/A
13	46.1	53.5	*	*	*	N/A	N/A
14	46.1	54.2	*	*	*	N/A	N/A
15	46.1	54.4	*	*	*	N/A	N/A
16	46.1	54.7	*	*	*	N/A	N/A
17	46.1	55.2	*	*	*	N/A	N/A
18	46.1	55.8	*	*	*	N/A	N/A
19	46.1	56.2	*	*	*	N/A	N/A
20	46.1	52.8	*	*	*	N/A	N/A
21	46.1	50.3	*	*	*	N/A	N/A
22	46.1	48.2	*	*	*	N/A	N/A
31	46.1	56.7	*	*	*	N/A	N/A
32	46.1	57.8	46.6	46.5	46.5	Yes	No
33	46.1	60.2	48.2	48.2	48.2	Yes	No
34	46.1	63.0	50.1	50.1	50.1	Yes	No
35	46.1	65.5	51.8	51.8	51.8	Yes	No
36	46.1	66.0	51.6	51.6	51.6	Yes	No
41	46.1	45.1	*	*	*	N/A	N/A
42	46.1	44.8	*	*	*	N/A	N/A
43	46.1	44.0	*	*	*	N/A	N/A
44	46.1	43.2	*	*	*	N/A	N/A
45	46.1	44.2	*	*	*	N/A	N/A
46	46.1	46.0	*	*	*	N/A	N/A
47	46.1	46.0	*	*	*	N/A	N/A
48	46.1	48.2	*	*	*	N/A	N/A

			Predicted Noise Level with Abatement (dBA)				
49	50.8	61.4	*	*	*	N/A	N/A
50	50.8	58.7	*	*	*	N/A	N/A
51	50.8	57.1	*	*	*	N/A	N/A
52	50.8	57.2	*	*	*	N/A	N/A
53	50.8	50.6	*	*	*	N/A	N/A
54	50.8	55.1	*	*	*	N/A	N/A
55	50.8	58.9	*	*	*	N/A	N/A
57	50.8	52.4	*	*	*	N/A	N/A
61	46.1	43.9	*	*	*	N/A	N/A
62	46.1	56.3	*	*	*	N/A	N/A
63	46.1	45.8	*	*	*	N/A	N/A
64	55.0	58.4	*	*	*	N/A	N/A
66	38.4	44.9	*	*	*	N/A	N/A
67	37.6	46.9	*	*	*	N/A	N/A
68	40.3	47.0	*	*	*	N/A	N/A
69	40.3	56.9	46.2	46.0	45.9	Yes	No
70	40.3	56.1	45.9	45.7	45.5	Yes	No
71	43.1	60.2	50.6	50.5	50.5	Yes	No
73	43.1	63.0	55.6	55.6	55.6	Yes	No
75	40.3	43.0	*	*	*	N/A	N/A
76	40.3	40.9	*	*	*	N/A	N/A
77	34.7	57.3	44.9	44.9	44.9	Yes	No
78	34.7	53.7	48.6	48.6	48.6	Yes	No
79	34.7	55.0	48.2	48.2	48.2	Yes	No
80	34.7	51.5	49.0	49.0	49.0	Yes	No
84	50.8	71.9	59.0	59.0	59.0	Yes	No
85	50.8	65.6	60.4	60.4	60.4	Yes	No
86	61.1	59.3	*	*	*	N/A	N/A
87	59.0	62.3	*	*	*	N/A	N/A

Source: Caltrans Noise Impact Technical Report, March 2004
** Sensitive receptor was not modeled because receptor would not have a substantial noise increase (at least 12 decibels) or a predicted noise level that would approach or exceed the Noise Abatement Criteria*
*** m = meter*

Table 3.35 Noise Level Comparisons — Alternative 2M

Receptor Number	Existing Noise Level (dBA)	Predicted Noise Level with Project (dBA)	Predicted Noise Level with Abatement (dBA)			Feasible	Reasonable
			1.8 m** wall	3.0 m** wall	4.3 m** wall		
1	46.1	47.1	*	*	*	N/A	N/A
2	46.1	48.6	*	*	*	N/A	N/A
3	46.1	50.4	*	*	*	N/A	N/A
4	46.1	50.6	*	*	*	N/A	N/A
5	46.1	50.9	*	*	*	N/A	N/A
6	46.1	51.4	*	*	*	N/A	N/A
7	46.1	51.7	*	*	*	N/A	N/A

			Predicted Noise Level with Abatement (dBA)				
8	46.1	52.0	*	*	*	N/A	N/A
9	46.1	52.3	*	*	*	N/A	N/A
10	46.1	52.6	*	*	*	N/A	N/A
11	46.1	52.9	*	*	*	N/A	N/A
12	46.1	53.4	*	*	*	N/A	N/A
13	46.1	53.5	*	*	*	N/A	N/A
14	46.1	54.2	*	*	*	N/A	N/A
15	46.1	54.4	*	*	*	N/A	N/A
16	46.1	54.8	*	*	*	N/A	N/A
17	46.1	55.3	*	*	*	N/A	N/A
18	46.1	56.0	*	*	*	N/A	N/A
19	46.1	56.7	*	*	*	N/A	N/A
20	46.1	53.6	*	*	*	N/A	N/A
21	46.1	51.4	*	*	*	N/A	N/A
22	46.1	49.5	*	*	*	N/A	N/A
31	46.1	56.7	*	*	*	N/A	N/A
32	46.1	57.8	46.6	46.5	46.5	Yes	No
33	46.1	60.3	48.2	48.2	48.2	Yes	No
34	46.1	63.1	50.1	50.1	50.1	Yes	No
35	46.1	65.7	51.8	51.8	51.8	Yes	No
36	46.1	66.3	51.6	51.6	51.6	Yes	No
41	46.1	45.1	*	*	*	N/A	N/A
42	46.1	44.8	*	*	*	N/A	N/A
43	46.1	44.0	*	*	*	N/A	N/A
44	46.1	43.2	*	*	*	N/A	N/A
45	46.1	44.2	*	*	*	N/A	N/A
46	46.1	46.0	*	*	*	N/A	N/A
47	46.1	46.0	*	*	*	N/A	N/A
48	46.1	48.2	*	*	*	N/A	N/A
49	50.8	61.4	*	*	*	N/A	N/A
50	50.8	58.8	*	*	*	N/A	N/A
51	50.8	57.1	*	*	*	N/A	N/A
52	50.8	57.2	*	*	*	N/A	N/A
53	50.8	50.6	*	*	*	N/A	N/A
54	50.8	55.1	*	*	*	N/A	N/A

			Predicted Noise Level with Abatement (dBA)				
55	50.8	59.0	*	*	*	N/A	N/A
57	50.8	52.4	*	*	*	N/A	N/A
61	46.1	43.9	*	*	*	N/A	N/A
62	46.1	56.3	*	*	*	N/A	N/A
63	46.1	47.5	*	*	*	N/A	N/A
64	55.0	48.8	*	*	*	N/A	N/A
65	55.0	48.4	*	*	*	N/A	N/A
66	38.4	53.4	53.4	53.4	53.4	Yes	No
67	37.6	51.9	51.9	51.9	51.9	Yes	No
68	40.3	56.7	56.7	56.7	56.7	Yes	No
69	40.3	47.1	*	*	*	N/A	N/A
70	40.3	46.9	*	*	*	N/A	N/A
71	43.1	49.8	*	*	*	N/A	N/A
73	43.1	50.4	*	*	*	N/A	N/A
74	43.1	48.7	*	*	*	N/A	N/A
75	40.3	58.4	58.4	58.4	58.4	Yes	No
76	40.3	54.7	54.7	54.7	54.7	Yes	No
77	34.7	43.3	*	*	*	N/A	N/A
78	34.7	42.2	*	*	*	N/A	N/A
79	34.7	42.6	*	*	*	N/A	N/A
84	50.8	72.3	71.7	70.6	68.5	Yes	No
85	50.8	65.7	65.4	64.6	63.7	Yes	No
86	61.1	59.6	*	*	*	N/A	N/A
87	59.0	53.4	*	*	*	N/A	N/A

Source: Caltrans Noise Impact Technical Report, March 2004
Sensitive receptor was not modeled because receptor would not have a substantial noise increase (at least 12 decibels) or a predicted noise level that would approach or exceed the Noise Abatement Criteria
*** m = meter*

Table 3.36 Noise Level Comparisons — Alternative 3M

Receptor Number	Existing Noise Level (dBA)	Predicted Noise Level with Project (dBA)	Predicted Noise Level with Abatement (dBA)			Feasible	Reasonable
			1.8 m** wall	3.0 m** wall	4.3 m** wall		
1	63.4	57.0	*	*	*	N/A	N/A
2	38.1	56.9	56.2	55.7	55.2	No	No
3	38.1	58.9	58.9	58.9	58.9	No	No
4	38.1	51.3	51.3	51.2	51.2	No	No
5	38.1	53.2	53.2	53.2	53.2	No	No
6	41.6	47.8	*	*	*	N/A	N/A
7	41.6	51.2	*	*	*	N/A	N/A

Source: Caltrans Noise Impact Technical Report, March 2004
**Sensitive receptor was not modeled because receptor would not have a substantial noise increase (at least 12 decibels) or a predicted noise level that would approach or exceed the Noise Abatement Criteria*
*** m = meter*

3.14.4 Avoidance, Minimization, and/or Abatement Measures

Standard Provision Section 7-1.01I of the Standard Specifications would be included in the construction contract to minimize noise impacts. The provision includes the following abatement measures for construction noises:

- Use newer, quieter equipment.
- Ensure that all equipment items have the manufacturer's recommended noise abatement measures, such as mufflers, engine covers, and engine vibration insulators.
- Plan the duration and time of day that construction activities take place to minimize the noise impact on exposed individuals.
- Choose routes for dump trucks on local roads to minimize noise impacts.
- Notify residents, in advance, of the scheduling and the importance of the highway construction project.

Although sound barriers would be feasible for a few isolated receptors within the project limits, they are not considered reasonable based on the results of a cost-benefit analysis.

Section 5.6 of the Caltrans Traffic Noise Analysis Manual allows consideration of extraordinary abatement measures (such as insulation of a public or private residence) on a case-by-case basis under only two criteria:

- An increase of 30 dBA at a sensitive receptor
- After-project noise levels are 75 dBA or higher

Neither criterion for a severe noise increase was found during the noise studies. For the above reasons, noise abatement measures, other than those recommended for construction noise, are not recommended for this project.

3.15 Natural Communities

3.15.1 Regulatory Setting

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. This section also includes information on wildlife corridors and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value.

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed in Threatened and Endangered Species, Section 3.19. Wetlands and other waters are discussed in Section 3.16.

3.15.2 Affected Environment

Habitats within the potential impact area include five vegetative communities or land uses that could be defined primarily as agriculture with interspersed pockets of alkaline playa, ruderal vegetation, jurisdictional wetlands including alkaline marsh, and waters of the United States. Project construction, depending on the alternative chosen, would affect approximately 161.9 hectares (400 acres) to 212.5 hectares (525 acres) of potential habitat. The following vegetative communities or land uses were observed within the study area:

Agricultural Land

Agricultural land consists of vegetation planted and cultivated to yield food, livestock feed, fiber, or to provide medicinal or industrial ingredients, typically for economic profit. Within the study area, primary agricultural crops include alfalfa (*Medicago sativa*), cotton (*Gossypium* ssp.), tomatoes (*Lycopersicon esculentum*), and corn (*Zea mays*). Agricultural land covers approximately 90 percent of the study area.

Disturbed Alkaline Playa

A playa is a large shallow basin that temporarily fills with water. Alkaline soil has a high salt content. Disturbed alkaline playa habitat is located north of Phillips Road about 0.4 kilometer (0.25 mile) west of Ward Road near Alternatives 1M and 2M. Several plowed and leveled parcels in this area showed vegetative, soil, and hydrological evidence of alkaline playa habitat. Currently, these areas support many remnant native alkaline species as well as many non-native or "weedy" species that have colonized the disturbed sites. The dominant plants present in these described areas include loosestrife (*Lythrum hyssopifolia*), salt grass (*Distichlis spicata*), alkali heath (*Frankenia salina*), alkali mallow (*Malva leprosa*), suaeda (*Suaeda moquinii*), Russian thistle (*Salsola tragus*), and alkali weed (*Cressa truxilensis*).

The same habitat is present near Alternative 3M, north of the proposed interchange with State Route 165. The alkaline playa habitat in this area is less degraded than habitat identified near Alternatives 1M and 2M. Alkaline playa habitat near all alternatives supports the sensitive plant species known as heartscale (*Atriplex cordulata*). Disturbed alkaline playa covers less than 1 percent of the study area.

Ruderal Habitat

Ruderal habitat refers to non-native vegetation associated with areas periodically disturbed by humans. Ruderal vegetation in the study area includes fallow fields that have been altered mechanically or chemically by agricultural practices and are left unmanaged. Ruderal vegetation is characterized by weedy species such as Johnsongrass (*Sorghum halepense*), common sunflower (*Helianthus annua*), bromes (*Bromus* spp.), milk thistle (*Silybum marianum*), stinging nettle (*Urtica dioica* ssp. *Holosericea*), and Bermuda grass (*Cynodon dactylon*). Ruderal vegetation typically sprouts during the wet winter months, flowers in the spring, and then sets seed and dies in early to mid-summer. Ruderal vegetation provides suitable habitat for small mammals and ground-nesting birds as well as foraging habitat for raptors and canids, such as foxes and coyotes. Ruderal habitat covers approximately 6 percent of the study area.

Waters of the United States including Jurisdictional Wetlands

"Waters of the United States" are defined in Section 3.16, Jurisdictional Wetlands and Other Waters of the United States. Jurisdictional wetlands consist of areas containing vegetation typically adapted for life in saturated soil conditions. Characteristic species of emergent herbaceous vegetation (plants with upper parts above water) include rush

(*Juncus* sp.), California blackberry (*Rubus ursinus*), cocklebur (*Xanthium strumarium*), Johnsongrass (*Sourghum halepense*), poison hemlock (*Conium maculatum*), hoary nettle (*Urtica Dioica*), willow (*Salix* sp.), and cottonwood (*Populus fremontii*). Waters of the United States and jurisdictional wetlands cover approximately 3 percent of the study area.

Alkaline Marsh

Alkaline marsh is a type of jurisdictional wetland. The alkaline marsh habitat is present in a limited area at the eastern end of Alternatives 1M and 2M, immediately south of the existing State Route 152 right-of-way. Alkaline marsh habitat in the project area has been altered/disturbed by the construction and operation of the nearby duck club canal and runoff from adjacent land uses. Dominant species observed include alkali heath (*Frankenia salina*) and iodine bush (*Allenrolfea occidentalis*).

3.15.3 Impacts

Agricultural land would be affected by any of the build alternatives. Alternative 2M would also affect alkaline playa. These natural communities are considered to be foraging habitat for the San Joaquin kit fox and Swainson's hawk, as well as foraging and nesting habitat for the greater sandhill crane and burrowing owl. Table 3.37 shows the anticipated impacts to natural communities.

Table 3.37 Impacts to Natural Communities

Habitat Affected	Alternative 1M hectares/acres	Alternative 2M hectares/acres	Alternative 3M hectares/acres
Agricultural Land (Temporary)	64.7/160	62.3/154	70.0/173
Agricultural Land (Permanent)	172.8/427	158.1/390.7	212.5/525
Alkaline Playa (Temporary)	0	0	0
Alkaline Playa (Permanent)	0	3.8/9.2	0

Source: Caltrans Natural Environmental Study, June 2004

3.15.4 Avoidance, Minimization, and/or Mitigation Measures

Mitigation for impacts to natural communities that are considered habitat for special-status species (San Joaquin kit fox, Swainson's hawk, greater sandhill crane, and

burrowing owl) has been proposed. Table 3.38 summarizes the proposed compensation for agricultural land and alkaline playa that would temporarily or permanently be affected. This is the same (not additional) mitigation that is proposed for the above special-status species and is also discussed in Threatened and Endangered Species, Section 3.19.

Table 3.38 Proposed Compensation for Impacts to Natural Communities

Habitat Affected	Alternative 1M hectares/acres	Alternative 2M hectares/acres	Alternative 3M hectares/acres
Agricultural Land (Temporary)	19.4/48.0	18.7/46.2	21.0/51.9
Agricultural Land (Permanent)	190.1/489.7	178.1/440	233.7/577.5
Alkaline Playa (Temporary)	0	0	0
Alkaline Playa (Permanent)	0	11.3/27.9	0

Source: Caltrans Natural Environmental Study, June 2004

3.16 Jurisdictional Wetlands and Other Waters of the United States

3.16.1 Regulatory Setting

Wetlands and "other waters" are protected under a number of laws and regulations. The Clean Water Act (33 U.S.Code 1344) is the main federal law regulating wetlands and waters. The Clean Water Act regulates the discharge of dredged or fill material into waters of the United States, including wetlands. Waters of the United States include navigable waters, interstate waters, territorial seas and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the Clean Water Act, a three-parameter approach is used involving the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils subject to saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the Clean Water Act.

Section 404 of the Clean Water Act establishes a regulatory program that provides that no discharge of dredged or fill material can be permitted if a practicable

alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers with oversight by the Environmental Protection Agency.

The Executive Order for the Protection of Wetlands (Executive Order 11990) also regulates the activities of federal agencies with regard to wetlands. The executive order states that a federal agency, such as the Federal Highway Administration, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds:

- that there is no practicable alternative to the construction, and
- the project includes all practicable measures to minimize harm.

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

The Regional Water Quality Control Boards were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The Regional Water Quality Control Boards also issue water quality certifications in compliance with Section 401 of the Clean Water Act (see also Water Quality, Section 3.10).

3.16.2 Affected Environment

During the spring and summer of 2001, initial wetland and botanical surveys were conducted to identify potential waters of the United States, including jurisdictional wetlands. The altered nature of the lands in many areas complicated the task of

delineation, but the availability of reliable published soils data allowed for definitive determinations. Further wetland delineation studies in 2003 (Preliminary Wetland Delineation, August 2003, and an Amendment to that Delineation, November 2003) determined that the project study area included the following waters of the United States and wetlands:

- Wetland 1 (located within an irrigated pasture east of State Route 165 and south of Henry Miller Road)
- Wetland 2 (located within the Gadwall Wildlife Area)
- Wetland 3 (located within agricultural land west of Ward Road and north of Phillips Road)
- Wetland 4 (located within agricultural land west of Ward Road and south of Wetland 3). Later investigation found that this wetland no longer exists.
- Los Banos Creek (waters of the United States)
- San Luis Canal (potential waters of the United States)
- Main Canal (potential waters of the United States)

Table 3.39 provides additional details, including function and value, regarding the wetlands and waters of the United States. Figure 3-11 shows the locations.

Only Wetland 2, located near the proposed eastern interchange within the boundary of the Gadwall Unit of the Northern Grasslands Wildlife Area, lies within the current proposed corridor for Alternatives 1M and 2M. The dominant vegetation within this wetland is saltgrass (*Distichilis spicata*), Baltic rush (*juncus balticus*), alkali heath (*Frankenia salina*), alkali pepperweed (*Lepidium dictyotum*), iodine bush (*Allenroflea occidentalis*), Bermada grass (*Cynodon dacylon*), bird's foot trefoil (*Lotus corniculatus*), perennial ryegrass (*Lolium perenne*), cattalil (*Typha latifolia*), swamp sedge (*Carex senta*), curlydock (*Rumex crispus*), and foxtail barley (*Hordeum murinum*). Wildlife species such as California ground squirrels (*Spermophilus beecheyi*), migratory birds, and raptors were identified within this area.

The function/value of this wetland is ranked high to medium based on the following:

- Seasonality (i.e., area is dry during the summer)
- Adjacent to other wetlands associated with the area
- Vegetation diversity is moderate to high
- Wildlife diversity is moderate to high

- A large number of wetland obligates (i.e., plants adapted for life in saturated soil conditions)
- One permanent and one intermittent outlet (i.e., the wetland drains into a seasonal or perennial waterway)
- No special-status species, but located within an area created or classified for conservation (Northern Grasslands Wildlife Area, Gadwall Unit).

3.16.3 Impacts

Construction of Alternative 1M or 2M could permanently affect jurisdictional wetlands by the construction of a retaining wall and frontage roads at the east end of the project area. The retaining wall would be built in three or four sections and would be approximately 883.9 meters (2,900 feet) long and vary in height from 3.0 to 5.8 meters (10 to 19 feet). The absence of a retaining wall for either of these alternatives, however, would result in even greater impacts to the wetlands. A retaining wall would not be required for Alternative 3M because that alternative avoids jurisdictional wetlands. There would be no permanent impacts to Los Banos Creek (waters of the United States) because current design plans call for a bridge that spans across the creek without structural supports in the creek bed. Figure 3-12 shows a map of the wetlands that would be affected by Alternative 1M or 2M.

Each alternative would propose construction of two structures, an eastbound and a westbound structure, to span across the Los Banos Creek. The proposed width of each structure would be 12.7 meters (42 feet).

For Alternatives 1M and 2M, the proposed State Route 152 alignment would span over the Los Banos Creek at approximately 538 meters (1,765 feet) north of Pioneer Road and 1709 meters (5,607 feet) west of Ortigalita Road. The proposed alternatives would cross the creek at 46 degrees from the creek alignment. The structure length would be approximately 67 meters (220 feet).

For Alternative 3M, the proposed State Route 152 alignment would span over the Los Banos Creek at approximately 2634 meters (8,642 feet) north of existing State Route 152 and 518 meters (1,700 feet) west of Badger Flat Road. The proposed alternative would cross the creek perpendicular to the creek alignment. The minimum length required to span the creek from top of bank to top of bank would be approximately 25 meters (82 feet), and the proposed structure would be approximately 65 meters (213 feet) long.

Table 3.39 Wetlands and Waters of the United States

Wetland Number	Site Location	Description	Function and Value of Jurisdictional Wetlands
Wetland 1	Within irrigated pasture east of State Route 165, south of Henry Miller Road	Seasonally inundated wetland (i.e., dry during summer), appears isolated	Wetland ranked medium to high. Vegetation diversity is low and includes estimated 300 heartscale (*Atriplex cordulata*) plants, a special-status species. Wildlife diversity is low to moderate. Groundwater recharge is moderate due to extremely high water table. Nutrient removal/transformation is moderate because area is isolated alkaline marsh wetland.
Wetland 2	Within boundary of Gadwall Wildlife Area	Seasonally inundated and adjacent to other wetlands associated with the area	Serves primarily as a catch basin for agricultural land runoff during normal irrigation practices and high rainfall events. Groundwater recharge is moderate due to extremely high water table. Vegetation diversity is moderate to high and contains a high amount of wetland obligates. Wildlife diversity is moderate to high.
Wetland 3	Within manipulated or managed agricultural land west of Ward Road and north of Phillips Road	Seasonally inundated, appears isolated	Vegetation and wildlife diversity is low because area is dry during the summer and appears isolated. Approximately 5 percent of vegetation is wetland obligates. Wetland contained no permanent or intermittent outlets for drainage.
Wetland 4	Was within a manipulated or managed alkaline playa west of Ward Road and south of Wetland 3	Wetland no longer exists	N/A
Waters of the United States	**Site Location**	**Description**	**Additional Information**
Los Banos Creek	Alternatives 1M and 2M: Approximately 538 meters (1,765 feet) north of Pioneer Road. Alternative 3M: Approximately 2634 meters (8,642 feet) north of State Route 152.	Creek is predominate hydrologic feature in project area	Riparian vegetation
San Luis Canal (various locations depending on alternative)	Location where Alternative 3M would cross San Luis Canal near Los Banos Regional Park Ag Sports Complex. Alternatives 1M and 2M would cross at eastern interchange. Alternative 1M would also cross the canal where it parallels Ward Road. Alternative 2M would cross the canal farther north.	Canal is an unlined 27.3-kilometer (17-mile) conveyance canal	Wetland herbaceous vegetation dominates inner banks and streambed of canal. Ruderal vegetation dominates tops of canal banks. Portions provide suitable habitat for giant garter snake.
Main Canal	Alternatives 1M and 2M would cross Main Canal in the vicinity of the interchange with State Route 165. Alternative 3M would cross Main Canal on the north west (south of the railroad)	Canal is an unlined 107.8-kilometer (67-mile) conveyance canal that distributes water from the San Joaquin River to adjoining lateral canals, surrounding agricultural lands, and private waterfowl hunting clubs	Bare ground dominated the inner and upper banks of the canal. An access road runs on the tops of the canal banks.

Source: Preliminary Wetland Delineation Verification and Amendment, 2003, and Natural Environment Study, 2004

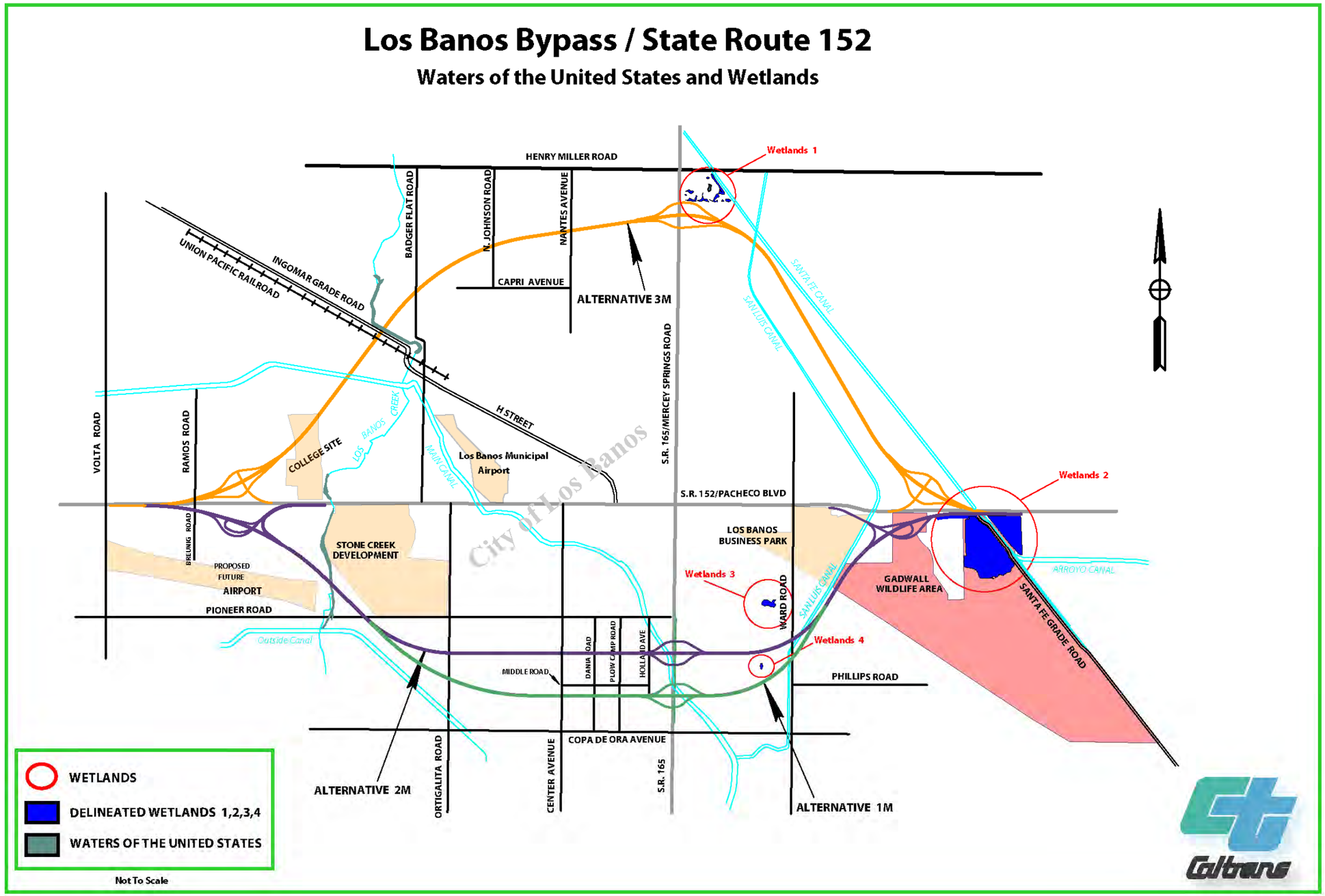


Figure 3-11 Wetlands and Waters of the United States

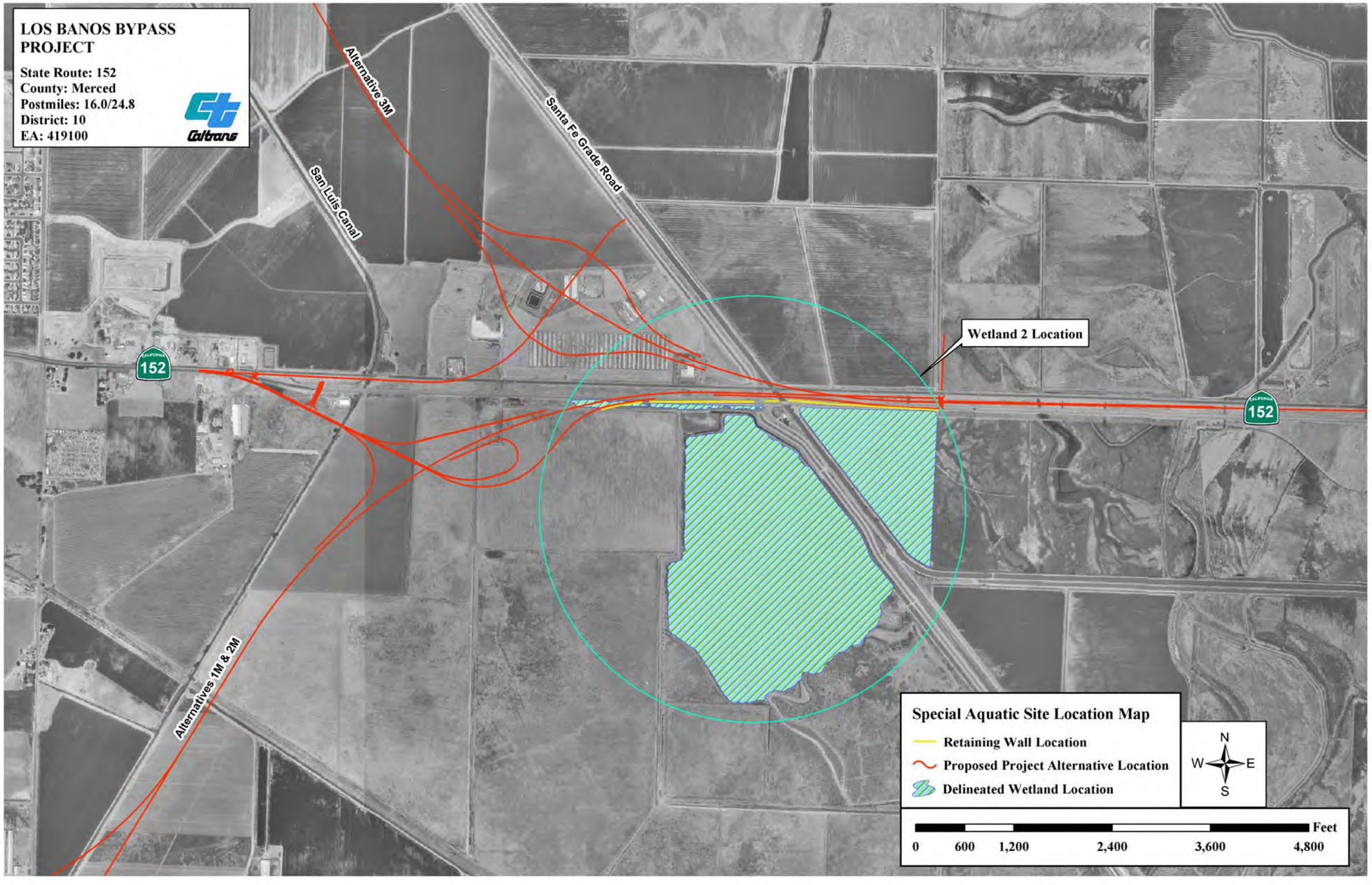


Figure 3-12 1:1200 Map of Affected Wetland

Table 3.40 shows the possible temporary and permanent impacts to waters of the United States and wetlands. Bridge construction over Los Banos Creek is anticipated to temporarily affect 0.2 hectare (0.5 acre) of waters of the United States. Temporary impacts may include, but are not limited to, disturbance of the bed, bank, or channel by contractor's vehicles and equipment, supporting bridge falsework, and framing construction, etc. Temporary effects to waters of the United States during construction would be similar for all alternatives. The project would not cause temporary effects to jurisdictional wetlands.

Table 3.40 Delineated Wetlands and Possible Direct Impacts

Impact Analysis		Alternative 1M hectares (acres)		Alternative 2M hectares (acres)		Alternative 3M hectares (acres)
		Access Option A	Access Option B	Access Option A	Access Option B	
Waters of the United States	Temporary	0.2 (0.5)	0.2 (0.5)	0.2 (0.5)	0.2 (0.5)	0.2 (0.5)
	Permanent	0	0	0	0	0
Jurisdictional Wetlands	Temporary	0	0	0	0	0
	Permanent	1.2 (2.9)	0.8 (2.1)	1.2 (2.9)	0.8 (2.1)	0

Sources: Natural Environment Study, February 2004

Project construction may cause indirect impacts (changes in hydrology, topography, etc.) to waters of the United States located along each of the alternatives. A potential indirect impact to the area's hydrological features caused by construction may occur if an irrigation/drainage canal located at the east interchange of Alternative 1M and 2M is relocated outside of the proposed Caltrans right-of-way. No other indirect impacts to waters of the United States, including wetland habitat, are anticipated to result from the construction of the project if environmentally friendly structures (spanning structures, retaining walls, large culverts, etc.) are incorporated into the project description.

The California Department of Fish and Game receives water for the Gadwall Wildlife Area from several diversions of the San Luis Canal. Water supplies to the unit must be maintained so that no loss to the existing wetland resources occurs. Alternatives 1M and 2M could affect the diversion and their associated water delivery systems unless the bypass is designed to allow continued water delivery from the San Luis Canal. The California Department of Fish and Game has requested mitigation for water delivery-related effects. Wetlands and associated linkages are present on Los Banos Creek and on some canals within the proposed project area. Wetlands also

exist adjacent to the existing highway on the east end of the project area. The integrity of wetlands, canals, and linkages to provide migratory and incidental pathways for various types of wildlife needs to be maintained. Water supply and proper drainage patterns in these areas also need to be maintained to safeguard the biological integrity of the area and avoid wetland fragmentation. To continue water delivery, cross culverts and/or drainage structures would be incorporated in the project. Alternatives 1M and 2M would require planning and coordination to maintain water supplies and drainage.

3.16.4 Avoidance, Minimization, and/or Mitigation Measures

The following consultation and letters with U.S. Army Corps of Engineers have taken place for the project:

- May 1, 2003 – Pre-application meeting
- August 18, 2003 – Preliminary Wetland Delineation Verification Request submitted
- September 2, 2003 – Site visit
- November 10, 2003 – Amendment to the Preliminary Wetland Delineation Verification Request submitted

The following permits and agreements spell out specific mitigation measures that relate to disturbance of wetlands and stream channels, replacement plantings, etc.:

- Section 404 – A U.S. Army Corps of Engineers' Section 404 Letter of Permission or Individual Permit would be required for impacts to jurisdictional wetlands and waters of the United States.
- Section 401 Water Quality Certification Permit – A Section 401 Water Quality Certification Permit from the California Regional Water Quality Control Board would be required for impacts to jurisdictional wetlands and waters of the United States.
- California Fish and Game Code Section 1600 et. sec, Streambed Alteration Agreement – Section 1600 et. sec. requirements would be determined by the California Department of Fish and Game for any impacts to the bed, bank, and channel of Los Banos Creek and the dewatering (drainage) canals located within the potential impact area.

Impacts to jurisdictional wetlands by Alternative 1M or 2M would require mitigation. Caltrans would compensate for affected jurisdictional wetlands with replacement at a 3:1 ratio. At a 3:1 ratio, the project would require the replacement of 3.5 hectares (8.7 acres) for Alternative 1M or 2M, Option A, and 2.5 hectares (6.3 acres) for Option B. No wetland mitigation would be required for Alternative 3M because wetlands are avoided.

Final mitigation plans would be agreed to by the Federal Highway Administration, U.S. Army Corps of Engineers, and Caltrans. Negotiations would include the type of wetlands to be replaced and the location of the mitigation site or bank. All wetland areas that are disturbed during construction would be re-vegetated and monitored according to the Section 1602 Streambed Alteration Agreement issued by the California Department of Fish and Game and the Section 404 (Clean Water Act) permit issued by the U.S. Army Corps of Engineers. For those jurisdictional areas not affected by the project but adjacent to the perimeter of the impact area, Environmentally Sensitive Area fencing would be installed to act as a barrier between the resource and construction.

During environmental studies, wetlands and resources that appeared to be historic were identified within the build alternative corridors. In 2003, to avoid the resources identified, the alignments of the alternatives were adjusted and renamed Alternatives 1M, 2M, and 3M. Changes were made to Alternative 1M to avoid historic resources. Changes were made to Alternative 2M to avoid Wetland 3. Changes were made to Alternative 3M to avoid Wetland 1. The former alternatives are described in Section 2.3, Alternatives Considered and Withdrawn.

Alternative 3M avoids Wetland 2 (north edge of the Gadwall Wildlife Area), but Alternatives 1M and 2M would affect wetlands in that area. Alternative 3M is longer than the other alternatives and would require more farmland to be converted to highway use. Farmland is also considered habitat for some species (see Section 3.3), thus resulting is additional loss of habitat as well.

It is not possible to avoid waters of the United States (Los Banos Creek, Main Canal, and San Luis Canal) because these features run north to south throughout the area. Spanning the creek would minimize impacts to Los Banos Creek.

3.17 Plant Species

3.17.1 Regulatory Setting

The U.S. Fish and Wildlife Service and California Department of Fish and Game share regulatory responsibility for the protection of special-status plant species. "Special-status" species are selected for protection because they are rare and/or subject to population and habitat declines. Plant species that are formally listed or proposed for listing as endangered or threatened are given protection under the Federal Endangered Species Act and/or the California Endangered Species Act.

3.17.2 Affected Environment

A Botanical Survey was completed for the proposed project in April 2002. The study assessed the status of 12 special-status plant species in the project vicinity. A complete list of plant species and a summary of status, habitat, potential for occurrence, and actual field observation are provided in the 2004 Natural Environmental Study.

Of the 12 sensitive plant species surveyed during the study, only heartscale (*Atriplex cordulata*) was found in the vicinity of the project area. Heartscale is an annual plant found in cheopod and atriplex scrub and low-lying valleys and grasslands that are salty or alkaline. It is threatened by habitat destruction. Heartscale was observed at two locations adjacent to the proposed project area during the summer months of 2001. One small population of three plants was present north of Phillips Road and west of Ward Road south of Los Banos. This small population is probably a remnant of a once larger population of plants that has been severely affected by agricultural activities. Another population consisting of about 300 plants was present approximately 100 meters (328 feet) south of Henry Miller Road and 20 meters (65.5 feet) west of the Santa Fe Grade Canal. This population is adjacent to the potential impact area for the proposed State Route 152/165 interchange.

3.17.3 Impacts

No impacts are expected to heartscale plants because all alternatives avoid the areas where the plants are located.

3.17.4 Avoidance, Minimization, and/or Mitigation Measures

Caltrans would place Environmentally Sensitive Area fencing around individual heartscale plants or populations of heartscale, where needed to protect plants during construction activities.

3.18 Animal Species

3.18.1 Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service, National Oceanographic and Atmospheric Administration Fisheries, and the California Department of Fish and Game are responsible for implementing these laws. This section discusses potential impacts and permit/consultation requirements associated with wildlife not listed or proposed for listing under state or federal Endangered Species Acts. Species listed or proposed for listing as threatened or endangered are discussed in Section 3.19. All other special-status animal species are discussed here, including California Department of Fish and Game fully protected species and species of special concern, and U.S. Fish and Wildlife Service or National Oceanographic and Atmospheric Administration Fisheries candidate species.

3.18.2 Affected Environment

During biological surveys in the general Los Banos area, several common wildlife species and special-status species and/or their habitat were observed. These are discussed in detail in the 2004 Natural Environmental Study. Common wildlife species observed included seven mammals (dog, cat, coyote, opossum, California ground squirrel, striped skink, and red fox), one amphibian (the Pacific tree frog), and numerous bird species.

Species of concern (Table 3.41, Section 3.19) with potential to occur in the project area include the following: western burrowing owl, tricolored blackbird, and loggerhead shrike. Habitat for the tricolored blackbird and the loggerhead shrike was identified within the potential impact area for the project. No tricolored blackbirds or shrikes were observed in the area; therefore, there is no further discussion of those species.

The western burrowing owl is a federal and state species of concern. Burrowing owls were observed in the agricultural fields located within the project impact area during field surveys. This owl, found in western North America from Canada to Mexico and

east to Texas and Louisiana, is a small ground-dwelling owl with a round head that lacks ear feather tufts. Burrowing owls prefer open dry grasslands, agricultural and range lands, and desert habitats often associated with species living underground. They tend to be opportunistic feeders, eating insects, small mammals, reptiles and amphibians.

3.18.3 Impacts

Potential impacts to the burrowing owl could include direct and indirect effects. Examples of direct impacts include loss or degradation of suitable foraging habitat for the species or temporary displacement of the species from an area due to roadway construction. For the proposed project, direct impacts to suitable foraging and nesting habitat would be the same as that for the San Joaquin kit fox (Table 3.42, Section 3.19). Indirect impacts could include altered hydrology affecting habitat quality, introduction of predator species to the area, and a reduction of the quality of foraging habitat. Indirect impacts to the burrowing owl are not anticipated as a result of project construction.

3.18.4 Avoidance, Minimization, and/or Mitigation Measures

Caltrans proposes the following as mitigation for potential project impacts to the burrowing owl:

- Pre-construction surveys would be conducted in all areas within the potential impact area to determine the presence of burrowing owls.

- Measures will be taken during construction to prevent impacts to or cause the destruction of migratory birds, their nests, or eggs. It may be necessary to prevent nesting in vegetation or on structures within Caltrans' right-of-way between February 15 and September 1.

- Mitigation for foraging habitat loss would occur under the California Environmental Quality Act. Compensation for San Joaquin kit fox foraging habitat loss would include lands suitable as foraging and nesting habitat for the burrowing owl.

No burrowing owl mortality is expected to result from project construction. Burrowing owl foraging and nesting habitat would be set aside in perpetuity as a result of mitigation for impacts to the San Joaquin kit fox (Table 3.44, Section 3.19).

The required acres of mitigation would be determined through coordination with the California Department of Fish and Game.

3.19 Threatened and Endangered Species

3.19.1 Regulatory Setting

The federal Endangered Species Act [Title 16 U.S. Code, Section 1531, et seq. (see also 50 Code of Federal Regulation Part 402)] and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of the act, federal agencies such as the Federal Highway Administration are required to consult with the U.S. Fish and Wildlife Service and the National Oceanographic and Atmospheric Administration Fisheries to ensure that they are not undertaking, funding, permitting or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 is a Biological Opinion or an incidental take permit. Section 3 of the Federal Endangered Species Act defines "take" as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law. The California Endangered Species Act (California Fish and Game Code, Section 2050, et seq.) emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. The California Department of Fish and Game is the agency responsible for implementing California Endangered Species Act. Section 2081 of the Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. "Take" is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch capture, or kill." The act allows for take incidental to otherwise lawful development projects. For these actions, an incidental take permit is issued by the California Department of Fish and Game. For projects requiring a Biological Opinion under Section 7 of the Federal Endangered Species Act, the California Department of Fish and Game may also authorize impacts to California Endangered Species Act species by issuing a Consistency Determination under Section 2080.1 of the Fish and Game Code.

3.19.2 Affected Environment

A Natural Environment Study (July 2004) was conducted for the bypass project. Study methods included both database queries and field surveys. A list of special-status species that have the potential to occur within the project area was produced from data obtained from the California Natural Diversity Database, relevant literature, and a U.S. Fish and Wildlife Service species list for the Los Banos and Volta Quadrangles.

Agricultural fields consisting of mainly alfalfa and row crops encompass most of the study area. In addition, fallow areas containing non-native, weedy vegetation were identified within the southern portion of the study area. The study identified seasonally managed irrigation ditches and modified alkaline marsh within the cultivated and fallow agricultural fields as well as adjacent to farm access roads.

See Natural Communities, Section 3.15, for a discussion on typical biological communities.

Special-Status Species

Federally listed and state listed special-status species have the potential to occur in the project area (see Table 3.41). Special-status species include five species of plants, 12 species of mammals, four species of amphibians, seven species of reptiles, 24 species of birds, six species of invertebrates, and seven species of fish.

Suitable habitat for most of these species was not found in the potential impact area, and there were no documented California Natural Diversity Database occurrences of these species in the project area. Special-status wildlife species surveys were conducted between January 2000 and May 2004 in accordance with established guidelines and protocols and in consultation with the U.S. Fish and Wildlife Service and the California Department of Fish and Game. Figure 3-13 provides a California Natural Diversity Database query depicting the special-status species locations within an 8.05-kilometer (5-mile) radius of the potential impact area.

The special-status wildlife species that have the potential to occur within the project impact area and for which mitigation may be required are the giant garter snake, San Joaquin kit fox, greater sandhill crane, vernal pool fairy shrimp, vernal pool tadpole shrimp, longhorn fairy shrimp, and Swainson’s hawk. The following list provides a general description of each species and results of project surveys.

Giant Garter Snake

Giant garter snake, federally and state listed as threatened, prefers the soft muddy bottom of sloughs, irrigation ditches, marshes, and seasonal wetlands of the Central Valley in California. The giant garter snake is active mainly during the day, retreating to burrows, crevices, or pockets of dense vegetation at night. The snake eats aquatic prey such as fish and amphibians.

There are 13 recognized populations of giant garter snake throughout the Central Valley, including the North and South Grasslands near the project area. Merced County is one of 11 counties where this snake is still presumed to occur. There are 10 California Natural Diversity Database occurrences within the biological study area. The closest sighting was approximately 450 meters (1,476.4 feet) northeast of the eastern interchange of Alternative 3M. During surveys of the project impact area, approximately 6.6 hectares (16.2 acres) of suitable giant garter snake habitat was identified within Los Banos Creek and three irrigation/drainage canals.

San Joaquin Kit Fox

The San Joaquin kit fox, federally listed as endangered and state listed as threatened, inhabits grasslands and scrublands, many of which have been extensively modified. Oak woodland, alkali-sink scrubland, vernal pool, and alkali meadow communities also provide habitat for kit fox.

Kit foxes are active year-round and are primarily nocturnal, although they are commonly seen during the day in the late spring and early summer. Kit foxes construct their own dens, but they can also enlarge or modify burrows constructed by other animals, such as ground squirrels, badgers, and coyotes. Kit foxes also den in human-made structures such as culverts, abandoned pipes, and banks in roadbeds.

Caltrans biologists did not find kit fox denning habitat or other refuge during field studies. Evidence of San Joaquin kit fox presence (scat, dens, tracks, etc.) was not found during field surveys. One documented San Joaquin kit fox sighting exists within a 8.0-kilometer (5-mile) radius of the potential impact area.

Greater Sandhill Crane

The sandhill crane is state listed as threatened and as fully protected by the California Department of Fish and Game. Fully protected status means that the Department of Fish and Game cannot issue an incidental take permit for the species and that the

proposed project must take all measures to avoid harm or take of the species, thus giving greater protection than the state threatened status alone.

The crane grows to 104 centimeters (41 inches) in length with a wingspan of 185.4 centimeters (73 inches). Large groups of the crane, 50 to 80 individuals, gather in fields and ponds to pair up, often for life. Sandhill cranes breed and spend their summers from Alaska and northern Canada, down to the Great Lakes region, and west to northeastern California. They winter in California's Central Valley, southern Arizona, New Mexico, Texas, and south through Central America. Sandhill cranes typically roost in large flocks located in moist fields or standing water as well as fields or meadows where they feed. During field surveys, sandhill cranes were observed in the agricultural fields within the project impact area.

Table 3.41 Special-Status Species with Potential to Occur

Common Name	Scientific Name	Status	Specific Habitat Present/Absent in or near Proposed Project Impact Area (PIA)	Species Present/ Absent	Rationale
PLANTS					
Heartscale	*Atriplex cordulata*	FSC, CNPS 1B	Present	Present	A population of approximately 300 individuals was identified adjacent to Alternative 3M. Three individuals were identified adjacent to Alternative 2M.
MAMMALS					
San Joaquin kit fox	*Vulpes macrotis mutica*	FE, ST	Marginal to poor foraging habitat exists within the agricultural fields associated with the PIA. Per conversation with regulatory staff from the FWS, suitable migration corridors exist with the PIA.	Absent, but has the potential to occur.	No species observed during the seven nights of spotlighting surveys, however one documented CNDDB occurrence was identified within an 8.0-kilometer (5-mile) radius of the PIA.
REPTILES					
Giant garter snake	*Thamnophis gigas*	FT, ST	Present	Present	There were 9 documented CNDDB occurrences within an 8.0-kilometer (5-mile) radius of the PIA. The closest occurrence is located approximately 1.6-kilometer (1 mile) southeast of the eastern State Route 152 interchange.
BIRDS					
Greater sandhill crane	*Grus canadensis tabida*	ST	Marginal roosting and nesting habitat was identified near the PIA.	Present	Identified in the agricultural fields of the PIA during wildlife surveys.
Loggerhead shrike	*Lanius ludovianus*	FSC	Suitable roosting, nesting, and foraging habitat was identified adjacent to the PIA.	Absent	Species identified east of Alternative 3M, however no suitable habitat was identified within the PIA.
Swainson's hawk	*Buteo swainsoni*	ST	Marginal roosting and nesting habitat was identified near the PIA.	Present (Soaring)	Identified soaring above the alfalfa fields associated with the northern alignment of the PIA.
Tricolored blackbird	*Agelaius tricolor*	FSC, CSC	Marginal nesting and roosting habitat was identified in the PIA's large unmanaged irrigation canals and portions of Los Banos Creek.	Absent	The CNDDB documents two occurrences approximately 7.2 kilometers (4.5 miles) northeast of Alternative 3M. The species was not observed during special surveys. Habitat

Common Name	Scientific Name	Status	Specific Habitat Present/Absent in or near Proposed Project Impact Area (PIA)	Species Present/ Absent	Rationale
					is severely managed through normal agricultural practice.
Western burrowing owl	*Athene cunicularia*	FSC, CSC	Marginal roosting and nesting habitat was identified near the PIA.	Present	Burrowing owls were identified during San Joaquin kit fox surveys conducted 10/22/02 and 10/23/02.
INVERTEBRATES					
Vernal pool fairy shrimp	*Branchinecta lynchi*	FE	Poor habitat was identified within seasonally flooded pools of the PIA.	Absent	Wet season protocol surveys were conducted.
Vernal pool tadpole shrimp	*Lepidurus packardi*	FE	Poor habitat exists within the flooded pools associated with the PIA.	Absent within PIA, Present outside of buffer area	Wet season protocol surveys were conducted. No vernal pool tadpole shrimp were identified within or adjacent to PIA, but shrimp were identified at the intersection of the Santa Fe Grade Canal and the San Luis Canal.
Longhorn fairy shrimp	*Branchinecta longiantenna*	FE	Poor habitat was identified within flooded pockets of the PIA.	Absent within PIA, Present outside of buffer area	Wet season protocol surveys were conducted. No longhorn fairy shrimp were identified within or adjacent to PIA, but shrimp were identified along Henry Miller Road.

Source: Caltrans Draft Natural Environmental Study, February 2004

PIA – potential impact area
FWS – U.S. Fish and Wildlife Service
CNDDB – California Natural Diversity Database

Federal Listings:
FE – Federally Endangered
FT – Federally Threatened
FSC – Federal Species of Concern

State Listings:
SE – State Endangered
ST – State Threatened
CSC – CDFG Species of Concern

California Native Plant Society Listing:
CNPS 1B – California Native Plant Society's listing plants rare, threatened, or endangered in California or elsewhere

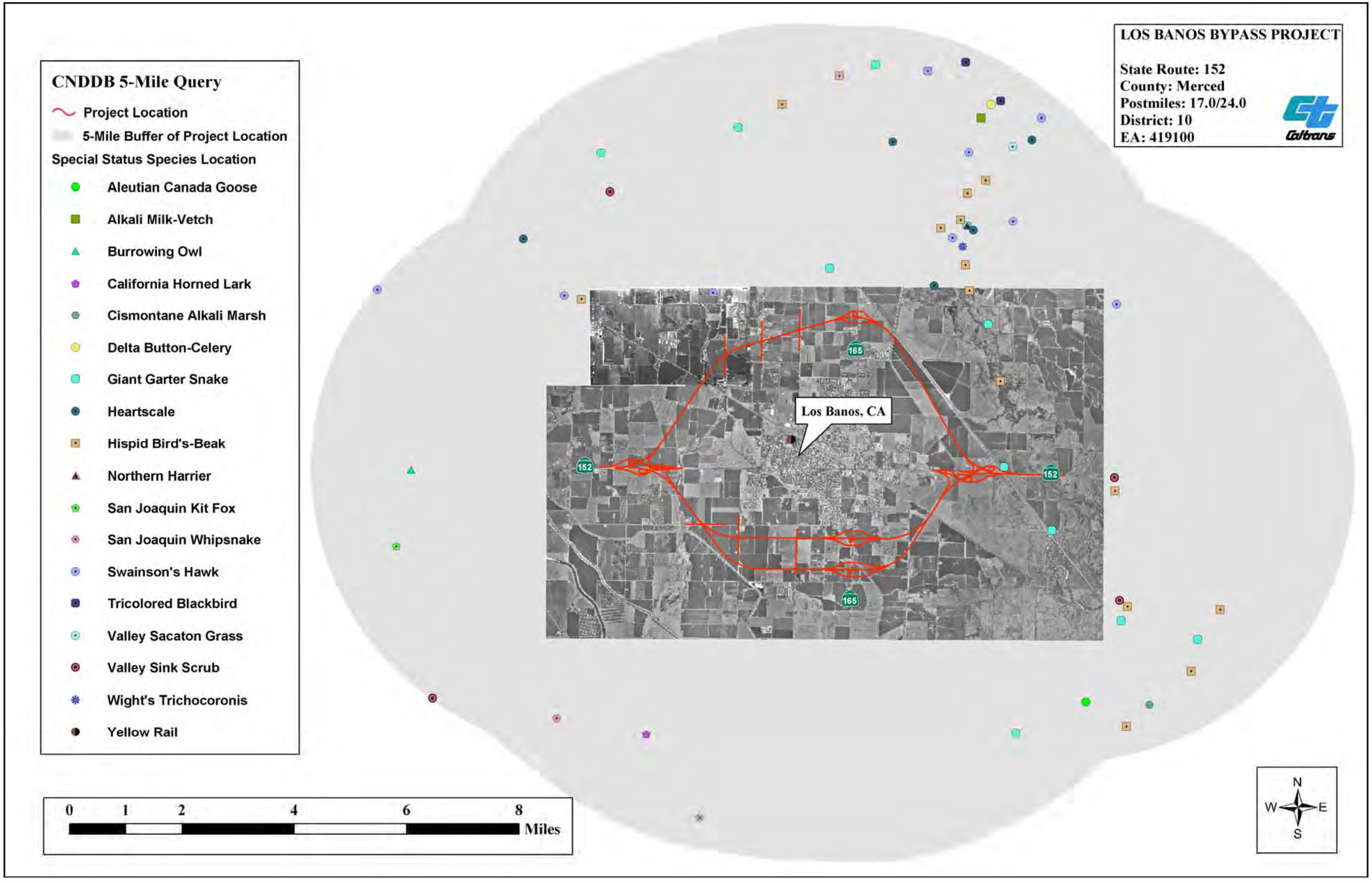


Figure 3-13 California Natural Diversity Database Query

Vernal Pool Fairy Shrimp

The vernal pool fairy shrimp is federally listed as endangered. It is a small crustacean ranging in size from 10.2 to 25.4 millimeters (0.4 to 1.0 inch) long. Its habitat consists of small pools with clear to tea-colored water, most commonly in grass or mud-bottomed swales, or basalt flow depression pools in unplowed grasslands. Vernal pool fairy shrimp eat algae, bacteria, protozoa (single-celled organisms), and rotifers (microscopic, wormlike organisms).

The life of the adult vernal pool fairy shrimp exists solely during the wet period of the vernal pool or seasonal pond. During the wet season, eggs are deposited into the mud and remain dormant until the next season's rain. Eggs may remain dormant up to seven years during times of drought.

There are 32 known populations of vernal pool fairy shrimp extending from Stillwater Plain in Shasta County through most of the length of the Central Valley to Pixley in Tulare County, and along the central Coast Range from northern Solano County to Pinnacles National Monument in San Benito County.

No listed vernal pool fairy shrimp were found in the seasonal pools located within or adjacent to (within 72.6 meters or 250 feet of) the potential impact area. Data obtained from the California Natural Diversity Database 8.0-kilometer (5-mile) query revealed no previous sightings of vernal pool fairy shrimp within or adjacent to the potential impact area.

Vernal Pool Tadpole Shrimp

The vernal pool tadpole shrimp, federally listed as endangered, is a small crustacean with about 35 pairs of legs and two long cercopods (appendages). Adults reach a length of 51 millimeters (2 inches). The vernal pool tadpole shrimp's diet consists of organic debris and living organisms, such as fairy shrimp and other invertebrates. The life history of the vernal pool tadpole shrimp is linked to the seasonal cycle of vernal and seasonal pools. The tadpole shrimp population is re-established in the wet season from cysts (eggs) that lie dormant in the dry sediments the rest of the year.

The vernal pool tadpole shrimp is known from 18 populations in the Central Valley, ranging from east of Redding (Shasta County) south to the San Luis National Wildlife Refuge (Merced County). There is also a single vernal pool complex on the San Francisco Bay National Wildlife Refuge in Fremont in Alameda County.

No listed vernal pool tadpole shrimp have been identified in the seasonal pools located within or adjacent to (within 72.6 meters or 250 feet of) the potential impact area. Data obtained from the 8.0-kilometer (5-mile) California Natural Diversity Database query revealed no previous sightings of vernal pool tadpole shrimp within or adjacent to the potential impact area.

On January 17, 2003, vernal pool tadpole shrimp were identified outside of the project area approximately 78 meters (256 feet) east of Alternative 3M at the intersection of the Santa Fe Grade and San Luis canals.

Longhorn Fairy Shrimp

The longhorn fairy shrimp, federally listed as endangered, is a small crustacean ranging in sized from 1.3 to 2.0 centimeters (0.5 to 0.8 inch) long. Longhorn fairy shrimp have delicate elongate bodies, large stalked compound eyes, no carapaces, and 11 pairs of swimming legs. They eat algae, bacteria, protozoa, and rotifers (microscopic, wormlike organisms).

Longhorn fairy shrimp inhabit rather turbid vernal pools. These include clear-water depressions in sandstone outcroppings near Tracy, grass-bottomed pools in Merced County, and claypan pools around Soda Lake in San Luis Obispo County. The distribution of the longhorn fairy shrimp is known only from isolated populations along the eastern margin of the central Coast Range from Concord in Contra Costa County south to Soda Lake in San Luis Obispo County.

No listed longhorn fairy shrimp have been identified in the seasonal pools located within or adjacent to (within 72.6 meters or 250 feet of) the potential impact area. Data obtained from the 8.0-kilometer (5-mile) California Natural Diversity Database query revealed no previous sightings of longhorn fairy shrimp within or adjacent to the potential impact area. Longhorn fairy shrimp were identified outside the project area approximately 121.9 meters (400 feet) along Henry Miller Road north of the proposed Alternative 3M.

Swainson's Hawk

The Swainson's hawk, listed as a state threatened species, is a summer migrant to the Central Valley. Individuals migrate south through the southern and central interior of California in September and October and return in March through May. The hawk breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak

savannah in the Central Valley. The hawk forages in adjacent grasslands, suitable grain or alfalfa fields, or livestock pastures.

The Swainson's hawk eats mice, gophers, ground squirrels, rabbits, large insects, amphibians, reptiles, birds, and, rarely, fish. The hawk roosts in large trees, but will roost on the ground if no trees are available. While formerly abundant in California, the population has declined from the loss of nesting habitat.

Nine documented Swainson's hawk nests were recorded within an 8.05-kilometer (5-mile) radius of the potential impact area. Suitable foraging habitat for the hawk exists within the agricultural lands associated with the area.

3.19.3 Impacts

An impact assessment was completed for the following special-status wildlife species:

Giant Garter Snake

The U.S. Fish and Wildlife Service has determined that the giant garter snake has the potential to inhabit portions of the canals and irrigation ditches associated with the potential impact area. Caltrans identified approximately 6.6 hectares (16.2 acres) of suitable giant garter snake habitat within Los Banos Creek and three irrigation/drainage canals associated with the potential impact area.

Project construction is estimated to remove the following amounts of suitable giant garter snake aquatic habitat:

Alternative 1M –	Option A: 1.3 hectares (3.1 acres)
	Option B: 0.9 hectare (2.3 acres)
Alternative 2M –	Option A: 1.3 hectares (3.1 acres)
	Option B: 0.9 hectare (2.3 acres)
Alternative 3M –	0.1 hectare (0.2 acre)

Informal consultation between Caltrans and U.S. Fish and Wildlife Service resulted in a "may affect, likely to adversely affect" determination for the giant garter snake.

San Joaquin Kit Fox

During informal consultation, the U.S. Fish and Wildlife Service stated that project construction could create a permanent barrier to San Joaquin kit fox migration corridors. Therefore, a "may affect, likely to adversely affect" determination was

made. Each of the build alternatives encompassing the potential impact area provides suitable foraging and migration habitat for the San Joaquin kit fox. Table 3.42 shows the estimated permanent and temporary impacts to suitable foraging and migration corridor habitat for each of the build alternatives. Estimated impacts to habitat are lower than impacts to farmland because only those areas that would be covered by fill material are considered impacts to habitat rather than the full right-of-way impact (fence line to fence line) considered for farmland.

Table 3.42 Estimated Impacts to San Joaquin Kit Fox Habitat

Alternatives	Permanent Impacts hectares (acres)	Temporary Impacts hectares (acres)
Alternative 1M: Option A	172.8 (427)	64.7 (160)
Alternative 1M: Option B	172.8 (427)	64.7 (160)
Alternative 2M: Option A	161.9 (400)	62.3 (154)
Alternative 2M: Option B	161.9 (400)	62.3 (154)
Alternative 3M	212.5 (525)	70.0 (173)

Source: Caltrans Draft Natural Environment Study, February 2004

With guidance and cooperation from the U.S. Fish and Wildlife Service, the Merced County Association of Governments identified north-south animal migration corridors along the east and west portions of Merced County in its 2004 Regional Transportation Plan. The plan also identified proposed east-west habitat linkages that would connect suitable habitat on the east and west sides of the county. Merced County has identified these areas to develop Habitat Conservation Plans and facilitate preservation of potential habitat linkages. The proposed bypass is not located within these identified linkages or animal migration corridors.

Greater Sandhill Crane

Potential impacts to the greater sandhill crane could include direct and indirect effects. Examples of direct impacts include loss or degradation of suitable foraging habitat for the species or temporary displacement of the species from an area due to roadway construction. For the proposed project, direct impacts to suitable foraging

and nesting habitat would be the same as that for the San Joaquin kit fox (Table 3.42). Indirect impacts could include altered hydrology affecting habitat quality, introduction of predator species to the area, and a reduction of the quality of foraging habitat. Indirect impacts to the greater sandhill crane are not anticipated as a result of project construction.

Swainson's Hawk

The estimated acreage of Swainson's hawk foraging habitat to be permanently removed by the proposed project would be finalized during final design.

No Swainson's hawk mortality is expected to result from project construction activities. Swainson's hawk foraging habitat would be set aside in perpetuity as a result of habitat mitigation for San Joaquin kit fox (Section 3.19.4, Mitigation Measures). Although the Swainson's hawk is not a federally listed species, the number of mitigation acres would be determined in coordination with both the U.S. Fish and Wildlife Service and the California Department of Fish and Game. Caltrans made a determination of "not likely to further jeopardize the existence of the species" for the Swainson's hawk.

3.19.4 Avoidance, Minimization, and/or Mitigation Measures

Proposed mitigation has been determined for special-status wildlife species within the potential impact area. Avoidance and minimization measures for each species are described below:

Giant Garter Snake

Avoidance and minimization measures would include, but are not limited to, the following:

- Conduct construction activity within suitable giant garter snake habitat between May 1 and November 1 (the active period for giant garter snakes when snakes are expected to actively move, avoid danger, and direct mortality is lessened).
- Confine clearing to the minimal area necessary to facilitate construction activities.
- Mark designated areas of suitable giant garter snake habitat within the potential impact area as Environmentally Sensitive Areas (all construction personnel should avoid these designated areas).
- Train construction personnel to recognize a giant garter snake and/or its habitat.

- Survey the project area for giant garter snakes 24 hours before construction activities. The survey should be repeated if a lapse in construction activity of two weeks or greater has occurred.
- Stop construction activities if a snake is encountered until appropriate corrective measures have been completed or it has been determined that the snake will not be harmed. Report any sightings and any incidental take to the U.S. Fish and Wildlife Service immediately by telephone at (916) 414-6600.
- Keep any dewatered habitat dry for at least 15 consecutive days after April 15 and prior to excavating or filling of the dewatered habitat.
- Construct all new ditches prior to filling the existing ditches. Silt fencing or quarter-inch wire mesh shall be installed to a depth of three inches and shall span between the construction area and any canals deemed suitable habitat to exclude snakes from the area.
- If practical, install Environmentally Sensitive Area fencing between the potential impact area and any adjacent areas with the potential to be giant garter snake habitat. The fencing would act as a barrier between the resource and construction activities.

Proposed compensation for permanent loss of giant garter snake habitat shall include the following and is further detailed in Table 3.43:

- Replace affected giant garter snake aquatic habitat at a proposed ratio of 3:1 (three times the affected aquatic habitat).
- Replace upland habitat associated with aquatic habitat at a proposed ratio of 2:1 (two times the affected aquatic habitat acreage).

Table 3.43 Proposed Compensation for Impacts to Giant Garter Snake Habitat

Habitat Type	Proposed Mitigation Ratio	Alt. 1M Option A hectares (acres)	Alt. 1M Option B hectares (acres)	Alt. 2M Option A hectares (acres)	Alt. 2M Option B hectares (acres)	Alt. 3M hectares (acres)
Aquatic Habitat Affected		1.3 (3.1)	0.9 (2.3)	1.3 (3.1)	0.9 (2.3)	0.1 (0.2)
Aquatic Habitat Replaced	3:1	3.8 (9.3)	2.8 (6.9)	3.8 (9.3)	2.8 (6.9)	0.2 (0.6)
Upland Habitat Replaced	2:1 of Affected Aquatic Habitat	7.5 (18.6)	5.6 (13.8)	7.5 (18.6)	5.6 (13.8)	0.5 (1.2)

Source: Caltrans Draft Natural Environment Study, February 2004
Note: Some numbers have been rounded, and therefore some numbers may appear not to total correctly.

San Joaquin Kit Fox

Caltrans proposes the following mitigation for potential impacts to the San Joaquin kit fox:

- Prior to ground disturbance, pre-construction surveys for kit fox dens would be conducted within the potential impact area.
- If a kit fox den is discovered, all construction activity within a 46-meter (150-foot) radius of the den will be halted while the state consults with the U.S. Fish and Wildlife Service and California Department of Fish and Game. An Environmentally Sensitive Area will be established and entry restricted.
- All employees, subcontractors, and contractor's representatives on the project site shall receive a one-hour kit fox-specific training provided by the state prior to performing onsite work.
- If Caltrans determines that necessary project actions are likely to result in incidental take of kit foxes, Caltrans will cease work immediately and consult with the U.S. Fish and Wildlife Service for further guidance.
- If a dead, injured or entrapped kit fox is found, work in the immediate area may be temporarily halted to consult with the U.S. Fish and Wildlife Service and California Department of Fish and Game. Entrapped kit fox shall be permitted to escape.
- The contractor shall take measures to prevent entrapment of kit foxes in excavated holes or trenches more than 0.6 meter (2 feet) and inspect all pipes and culverts

greater than or equal to 100 millimeters (4 inches) before burying, capping, or other use. Kit fox must be allowed to escape before proceeding with work.

Proposed compensation for the permanent loss of San Joaquin kit fox migration or foraging habitat would be set at a replacement ratio of 1.1:1 for agricultural land and 3:1 for alkali playa. Lands would be purchased at a suitable mitigation bank (Agua Fria Multi-Species Conservation Bank) or at a site agreed to by the Federal Highway Administration, the U.S. Fish and Wildlife Service, and Caltrans.

If practical, Environmentally Sensitive Area fencing would be installed around identified San Joaquin kit fox active dens. The fencing would act as a barrier between the resource and construction activities.

Proposed mitigation compensation (see Table 3.44) includes lands suitable for kit fox, Swainson's hawk, greater sandhill crane and burrowing owl foraging habitat. Estimated habitat impacts include only those areas that would be covered by fill material, while estimated farmland impacts include the full right-of-way from fence line to fence line.

Table 3.44 Proposed Mitigation Ratios for Protected Mammals and Birds

Habitat Affected	Proposed Mitigation Ratio	Alt. 1M Option A hectares (acres)	Alt. 1M Option B hectares (acres)	Alt. 2M Option A hectares (acres)	Alt. 2M Option B hectares (acres)	Alt. 3M hectares (acres)
Agricultural Land (Temporary)	0.3:1	19.4 (48.0)	19.4 (48.0)	18.7 (46.2)	18.7 (46.2)	21.0 (51.9)
Agricultural Land (Permanent)	1.1:1	190.1 (469.7)	190.1 (469.7)	178.1 (440)	178.1 (440)	233.7 (577.5)
Alkaline Playa (Temporary)	1.1:1	0	0	0	0	0
Alkaline Playa (Permanent)	3:1	0	0	11.3 (27.90)	11.3 (27.90)	0

Source: Caltrans Draft Natural Environment Study, February 2004

Greater Sandhill Crane

Caltrans proposes the following mitigation for potential project impacts to the greater sandhill crane:

- Pre-construction surveys would be conducted in all areas within the potential impact area to determine the presence of greater sandhill cranes.

- Measures will be taken during construction to prevent impacts to or cause the destruction of migratory birds, their nests, or eggs. It may be necessary to prevent nesting in vegetation or on structures within Caltrans' right-of-way between February 15 and September 1.

- Mitigation for foraging habitat loss would occur under the California Environmental Quality Act. Compensation for San Joaquin kit fox foraging habitat loss would include lands suitable as foraging habitat for the greater sandhill crane.

No greater sandhill crane mortality is expected to result from project construction. Greater sandhill crane foraging habitat would be set aside in perpetuity as a result of mitigation for impacts to the San Joaquin kit fox (Table 3.44). The required acres of mitigation would be determined through coordination with the California Department of Fish and Game.

Vernal Pool Fairy Shrimp, Vernal Pool Tadpole Shrimp, and Longhorn Fairy Shrimp

Vernal pool fairy shrimp, vernal pool tadpole shrimp, and longhorn fairy shrimp were not identified within or adjacent to the potential impact area. Therefore, compensation for direct and/or indirect take of the species should not be required. Caltrans would provide environmental awareness training describing the species' natural history, including a habitat description for all construction personnel. Pre-construction surveys would be conducted to identify areas that contain the characteristics needed for suitable brachiopod habitat. If suitable habitat were observed, Caltrans would inform the proper regulatory agencies and implement the recommended conservation measures.

Swainson's Hawk

Caltrans proposes the following mitigation for potential project impacts to the Swainson's hawk:

- Pre-construction surveys would be conducted in all areas within 0.8 kilometer (0.5 mile) of the potential impact area to determine the locations of Swainson's hawk nests.

- Measures would be taken during construction to prevent impacts to or cause the destruction of migratory birds, their nests, or eggs. It may be necessary to prevent nesting in vegetation or on structures within Caltrans' right-of-way between February 15 and September 1.
- Construction would be limited in areas that fall within an 0.8-kilometer (0.5-mile) buffer of an active Swainson's hawk nest. "Active" is defined as a nest that is occupied, presumed occupied, or one that is under construction.
- If construction must occur within 0.4 kilometer (0.25 mile) of an active nest, a qualified biologist would monitor the nest to determine whether project disturbance would result in nest abandonment and/or mortality.
- Mitigation for foraging habitat loss would occur under the California Environmental Quality Act. Although the Swainson's hawk and the greater sandhill crane are not federally listed species, compensation for San Joaquin kit fox foraging habitat loss would include lands suitable as foraging and nesting habitat for the Swainson's hawk and the greater sandhill crane, as well as for the federal species of concern burrowing owl (see Table 3.44).

3.20 Invasive Species

3.20.1 Regulatory Setting

Executive Order 13112 (1999) requires federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." The Federal Highway Administration guidance (1999) directs the use of the state's noxious weed list to define the invasive plants that must be considered as part of the National Environmental Policy Act analysis for a proposed project.

3.20.2 Affected Environment/Impacts

The Natural Environmental Study provided a list of invasive plant species identified within the potential impact area. Project construction is not expected to increase the spread of noxious weeds. In compliance with the Executive Order on Invasive Species and subsequent guidance from the Federal Highway Administration, the landscaping and erosion control included in the project would not use species listed as noxious weeds. In areas of particular sensitivity, extra precautions would be taken if

invasive species are found in or adjacent to the construction areas. These include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur.

3.21 The Relationship Between Local Short-Term Uses of the Human Environment and the Maintenance and Enhancement of Long-Term Productivity

The Los Banos bypass project would meet the long-term planning goals and objectives of the 1999 City of Los Banos General Plan and the 2004 Merced County Regional Transportation Plan. It is also included in the 2004 Federal Transportation Improvement Program.

The proposed project would have both positive and negative long-term effects. There could be an increase of noise, reduction of sensitive species habitat, and a loss of farmland in the project area. Regional air quality, safety, and interregional travel times would be improved. The long-term productivity of western Merced County would be enhanced by an adequate transportation system to move goods, services, and people. In addition to serving local needs and reducing congestion in Los Banos, the proposed bypass would improve interregional commercial, agricultural, and recreational mobility.

Short-term use of the surrounding environment during construction of a bypass would result in noise from heavy equipment, dust from earth movement, changes to the visual environment, and additional traffic congestion due to traffic detours during construction. Additional short-term impacts would include the dislocation of approximately 17 to 37 residences and one to four businesses, including the relocation of at least one dairy for any of the alternatives.

A permanent loss of approximately 161.9 to 212.5 hectares (400 to 525 acres) of habitat for San Joaquin kit fox, Swainson’s hawk, greater sandhill crane, and burrowing owl would be a long-term effect of the project when farmland (potential foraging habitat) is converted to a highway use. Estimated habitat impacts include only those areas that would be covered by fill material, while estimated farmland impacts include the full right-of-way from fence line to fence line.

Giant garter snake habitat in the project area is approximately 6.6 hectares (16.2 acres). An estimated 0.1 to 1.3 hectares (0.2 to 3.1 acres) of the habitat area would be converted by the proposed project. Alternatives 1M and 2M would also permanently

affect 0.8 to 2.1 hectares (2.1 to 2.9 acres) of wetland area on the east side of the project. Mitigation has been proposed for habitat and wetland losses to lessen the long-term impact to the environment.

One of the major long-term effects of the project would be the removal of agricultural land from production. The California Department of Conservation 1998-2000 Land Use Conversion Report inventoried 510,484 hectares (1,261,420 acres) of land in Merced County, of which 384,663 hectares (950,513 acres) were found to be important farmland. The estimated amount of farmland that would be removed from production because of the proposed bypass is approximately 217 to 280 hectares (537 to 691 acres), or less than 0.1 percent of the important farmland within Merced County in 2000.

While the project results in the conversion of agricultural land, the bypass would provide two improvements to existing and future agricultural operations. The bypass would result in 1) improved farm-to-market goods transport and 2) a defined border (either north or south) to future development in Los Banos.

The bypass would provide more efficient movement of agricultural goods and services. Each day, trucks carrying agricultural produce must negotiate local roads and/or existing State Route 152 with stop signs or stop lights that continually interrupt progress to market destinations. The bypass would allow free agricultural vehicle movement around the urban Los Banos area and facilitate connections with other state routes. Intersections would have left-turn lanes and adequate turning radii to accommodate turns made by large farm equipment. Expanded shoulder widths would allow agricultural vehicles to move off the road should an emergency arise. A freeway would enhance the economic viability of Merced County farms using State Routes 152 and 165 to transport equipment, services and products.

Los Banos has grown rapidly in recent years and will continue to do so, resulting in a continuing loss of agricultural land from the immediate area around the city. The bypass, whether it be constructed to the north or to the south of Los Banos, could act as a defined limit for urban development. The city’s General Plan supports the bypass as a barrier between continuing local development and land that would remain in agricultural production.

The urban growth model from the Merced County Association of Governments demonstrates that land use and transportation planning can have a positive effect on reducing or eliminating cumulative impacts. It was found that growth-related impacts

of Regional Transportation Plan Scenarios (all include the Los Banos bypass) would reduce the cumulative impact on farmland conversion in Merced County from 14.2 to 57.1 hectares (35 to 141 acres) when compared to the No-Build Alternative, which does not include the proposed bypass (Section 4.2, Table 4.4). While the proposed project would convert farmland, the overall effect is reduced due to good planning in city and county general plans and the Regional Transportation Plan, all of which include the Los Banos bypass.

3.22 Irreversible and Irretrievable Commitments of Resources Which Would be Involved in the Proposed Action

Implementation of the proposed action involves a commitment of a range of natural, physical, human, and fiscal resources. Land used in the construction of the proposed roadway is considered an irreversible commitment during the time period that the land is used for a highway. However, if a greater need arises for use of the land or if the highway is no longer needed, the land can be converted to another use.

Considerable amounts of fossil fuels, labor, and highway construction materials such as cement, aggregate, and bituminous material would be expended in the construction of a highway. Additionally, large amounts of labor and natural resources would be used in the fabrication and preparation of construction materials. These materials are generally not retrievable. However, they are not in short supply and their use would not have an adverse effect on continued availability of these resources. Any construction would also require a substantial one-time expenditure of both state and federal funds, which are not retrievable.

If a build alternative is chosen, approximately 217 to 280 hectares (537 to 690 acres) of farmland would be converted to highway, and an estimated 17 to 37 residential units, one to three agricultural businesses, and one commercial business would be displaced. Fill material needed to construct the bypass is estimated at between 4.1 to 5.3 million cubic meters (5.4 to 6.9 million cubic yards). Water would be required to produce construction materials, keep down dust, and irrigate landscaping. The proposed project cost of $234 to $245 million (2004 dollars) would be committed.

The commitment of these resources is based on the concept that residents in the immediate area, state, and region would benefit from the improved quality of the transportation system. These benefits would consist of improved accessibility and

safety, savings in time, and greater availability of services, which would be anticipated to outweigh the commitment of these resources.

Chapter 4 Cumulative Impacts

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of this project. A cumulative effect assessment looks at the collective impacts posed by the individual land use plans and projects. Cumulative impacts can result from individually minor, but collectively substantial, impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway developments, as well as from agricultural development and the conversion to more intensive types of agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

The California Environmental Quality Act Guidelines, Section 15130, describe when a cumulative impact analysis is warranted and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts, under California Environmental Quality Act, can be found in Section 15355 of the California Environmental Quality Act Guidelines. A definition of cumulative impacts, under National Environmental Policy Act, can be found in 40 Code of Federal Regulations, Section 1508.7 of the Council on Environmental Quality Regulations.

4.1 Resources

The resources that warrant a cumulative impact analysis for this project are farmland and habitat for special-status species. Field crops are a primary use of agricultural land in the project area. However, there is a substantial amount of grazing land to the north and west of the city. Several dairies are currently in operation within or adjacent to the study area.

In 1997, the Census of Agriculture reported 218 farms in the 93635 zip code, an area that includes Los Banos and approximately five to 10 miles surrounding the city

(Table 3.4, Section 3.3). Farms in the Los Banos area with milk cows make up 10.3 percent (35 farms) of the county total, but cotton farms make up 40.7 percent (75 farms). Cropland was harvested at 161 farms in the Los Banos area, and 39 used cropland for pasture or grazing.

Habitat for special-status species within the potential impact area consists of agricultural fields, disturbed alkaline playa, upland habitat dominated by non-native vegetation, and waters of the United States, including jurisdictional wetlands (alkaline marsh). Approximately 90 percent of the potential impact area is within areas characterized as agricultural land.

4.2 Traditional and Urban Growth Model Methods

4.2.1 Traditional Method

The traditional method of cumulative impact analysis involved identification of resources, the study area, Caltrans projects, other projects, and impacts of Caltrans and other projects, followed by environmental analysis and development of mitigation concepts.

4.2.1.1 Study Area for Each Resource Addressed

Farmland: An estimated 2276.8 hectares (5,626 acres) of farmland and rural area lie between the existing city limits and the proposed General Plan *Urban Limit Line* (Los Banos General Plan). There are an estimated 1722.7 hectares (4,257 acres) of Prime Farmland and 220.5 hectares (545 acres) of Farmland of Statewide Importance between the current city limits and the General Plan *Urban Limit Line*.

Wildlife habitat: The biological study area includes the area within an 8.0-kilometer (5-mile) radius of each of the proposed alternatives.

4.2.1.2 Caltrans Projects

Several Caltrans projects are located within or near the City of Los Banos. Most projects consist of repair and rehabilitation of existing roadways. Such projects have minimal economic, social, or environmental significance, and individually or cumulatively do not have a major environmental effect.

The following Caltrans' projects are planned for or have been completed in and near Los Banos:

- Storm water pump repair at the San Luis Canal and State Route 152.
- Two curbed median projects on State Route 152: one at State Route 152 and Center Avenue and one at State Route 152 and 13th Street.
- Installation of signals at two intersections: at State Route 152 and H/I Streets; and at State Route 152 and Miller Lane. Environmental studies are in progress.
- Intersection constructed in 1997 near Los Banos at the west junction of State Routes 33 and 152.
- Project to strengthen piers of eastside bypass channel bridge on State Route 152 (2000).
- Vertical clearance work completed in 2002 at Interstate 5 and State Route 152.
- Roadway rehabilitation work from the San Luis Canal to the junction of State Route 59 near the Merced/Madera county line. Construction planned for 2005.
- Roadway rehabilitation for two sections of State Route 165: 1) Interstate 5 to Henry Miller Road; and 2) Henry Miller Road to State Route 140. The latter would include replacement of the San Joaquin River Bridge.
- Access management study along the existing State Route 152 (Pacheco Boulevard) and 165 corridors through Los Banos.

4.2.1.3 Other Development Projects

According to the Los Banos General Plan, with an average annual growth rate of approximately 4 percent, the city will need to develop approximately 1174 hectares (2,900 acres) of land by the year 2020.

Within Los Banos, several residential and commercial developments are in progress or planned for the near future. Residential developments may also include plans for public facilities such as schools, parks, and drainage basins. Commercial lots may also be included in residential developments. Residential developments in progress or planned (Table 4.1) include approximately 868.1 hectares (2,145.2 acres) for residences and approximately 231.3 hectares (571.5 acres) for public uses. An additional 164.5 hectares (406.4 acres) have been planned for other commercial developments. Figure 3-1 shows local development projects.

4.2.1.4 Impacts from Other Projects

Proposed and recent developments, including residential, industrial, commercial, and public facilities, will result in or have resulted in a change in land use of approximately 1263.9 hectares (3,123.1 acres) to urban development (Table 4.1). Caltrans repair and rehabilitation projects either have not required (projects already

constructed) or would not require (projects planned) acquisition of farmland for right-of-way.

Table 4.1 Local Development in the Los Banos Area

Map #	Development	Approx. Acreage (hectares/acres)	Jurisdiction	Proposed Land Use	Status
1	Orchard Terrace II	7.4/18.4	City	Residential	Pending DA approval
2	Village Green	5.9/14.7	City	Residential	Pending approval
3	Vineyard	102.4/253.0	City	Residential	In construction
4	Northgate at Regency Park II	20.5/50.6	City	Residential	In construction
5	Northgate at Regency Park	39.3/97.0	City	Residential	Approved, but pending
6	Mission Village North	19.6/48.5	City	Residential	In construction
7	Somerset Park	6.5/16.0	City	Residential	In construction
8	Mission Village South	32.0/79.9	City	Residential	Approved, but pending
9	Mission Estates	17.0/42.2	City	Residential	In construction
10	Giannone-Verona	23.0/57.0	City	Residential	In construction
11	Jo-Lin Park Manor	15.7/38.9	City	Residential	Built 2001
12	Rancho de Amigos	15.7/38.9	City	Residential	Built 1996
13	Meadowlands (3)	54.2/133.9	City	Residential	Active permits
14	Meadowlands I & II	53.6/132.5	City	Residential	Built 2002
15	Avalon at Meadowlands	6.3/15.7	City	Residential	In construction
16	Los Banos Business Park	112.0/277.0	City	Commercial	Approved
17	Spadafore/Giannoni	14.6/36.0	County	Residential	Pending approval
18	East Mercey Springs Annexation	20.2/50.0	County	Residential	Pending approval
19	Cresthill II	30.8/76.0	City	Residential	Built 1989
20	Quail Hollow	9.9/24.4	County	Residential	Pending approval
21	Villas at South Point	15.8/39.1	City	Residential	Pending approval
22	Cresthill I	7.5/18.6	City	Residential	Built 1989
23	West Center Avenue Annexation	86.0/212.6	County	Residential	Pending approval
24	Los Banos Gardens 5	32.4/80.0	City	Residential	In construction
25	Los Banos Gardens III	11.7/28.9	City	Residential	Built 2001
26	Los Banos Gardens II	17.9/32.0	City	Residential	Built 2000
27	Magnolia Grove	3.4/8.3	City	Residential	In construction
28	The Villages at Stonecreek	18.8/46.4	City	Residential	In construction
29	Stonecreek Development	199.6/493.3	County	Residential/ Commercial	Annexation approved
30	Los Banos Airport	182.0/450.0	County	Commercial	Pending
31	Los Banos Community College	48.6/120.0	County	School	Anticipated start date Spring 2005
	Approximate Total Acreage	1263.9/3123.1			

Sources: Los Banos General Plan, 1999; Office of Planning and Research, CEQAnet database (March 2003); City of Los Banos Planning Department, 2003 and 2004.

4.2.1.5 Impacts from the Los Banos Bypass Project

The build alternatives of the Los Banos Bypass project would result in the direct conversion of farmland. Since agricultural land provides some foraging habitat for wildlife, including kit foxes, Swainson's hawks, greater sandhill cranes, and

burrowing owls, there would be a corresponding loss of wildlife habitat (see Table 4.2). Estimated impacts to habitat are lower than impacts to farmland because only those areas that would be covered by fill material are considered impacts to habitat rather than the full right-of-way acquisition (fence line to fence line) considered for farmland.

Table 4.2 Impacts to Habitats

Habitat Impacts	Alternative 1M	Alternative 2M	Alternative 3M
Farmland Loss	226.9 hectares (560.7 acres)	214.4 hectares (537.1 acres)	279.6 hectares (690.9 acres)
Garter Snake Habitat Loss	1.3 hectares (3.1 acres)	1.3 hectares (3.1 acres)	0.1 hectare (0.2 acre)
Foraging Habitat Loss (kit fox, Swainson's hawk, greater sandhill crane, and burrowing owl)	172.8 hectares (427 acres)	161.9 hectares (400 acres)	215.5 hectares (525 acres)

4.2.2 Urban Growth Model Method

Merced County is expected to double in population by 2030. To accommodate this growth, land conversion would be necessary to meet the need for new businesses, residences, industry, and transportation infrastructure. A growth model, which incorporates Geographic Information System mapping and city and county general plans, was used to determine where growth would likely occur. With the assistance of the model, the Merced County Association of Governments developed a Regional Transportation Plan that would reduce land conversion, while meeting the needs of the county's population.

An urban growth model developed by the University of California at Davis and maintained by the Merced County Association of Governments was used to quantify cumulative impacts of transportation projects in Merced County. The urban growth model projected the distribution of future growth and used Geographic Information System mapping of known resources to quantify impacts on each resource under consideration. The model covered all of Merced County. Major transportation projects (including the Los Banos bypass) and all other growth expected to occur in the county in the next 25 years were analyzed.

For the purpose of this cumulative impact analysis, the urban growth model focused on farmland. Farmland is often considered as foraging area for animal species. For this proposed project, the farmland to be converted also serves as potential habitat for threatened and endangered species (the San Joaquin kit fox, Swainson's hawk, greater sandhill crane, and burrowing owl).

County and city general plans, which are incorporated in the urban growth model, include measures to protect resources. For example, land use elements (sections) of the general plans include measures such as directing growth away from prime farmland and consolidating growth in cities as opposed to leapfrog or sprawling development patterns. The transportation elements of general plans identify future transportation projects that would support the land use elements. The Regional Transportation Plan is based in large part on the goals, policies, and projects identified in the county and city general plans. The urban growth model captures the interaction between these transportation and land use plans.

By using the urban growth model, the Merced County Association of Governments was able to develop a Regional Transportation Plan that would reinforce the benefits of county and city general plans and reduce impacts on resources.

4.2.2.2 Impacts

Table 4.3 shows that the Merced County Association of Governments Regional Transportation Plan, which includes the Los Banos Bypass project, would result in the conversion of 6036.4 hectares (14,916 acres) of farmland (or potential habitat) as compared to 6093.4 hectares (15,057 acres) of farmland if no plan were in place. The greater impacts without the Regional Transportation Plan projects would occur because the transportation infrastructure that is needed to support planned growth would not be provided. Congestion would increase in some areas that are most desirable for growth. To escape congested areas, some developments would shift to areas where greater impacts would occur to resources. Table 4.3 demonstrates that one of the consequences of not providing planned transportation infrastructure, including the Los Banos bypass, would be increased farmland conversion.

Table 4.3 Potential Farmland Conversion with and without Regional Transportation Plan

Farmland hectares (acres)	Total County Acreage	Potential Impacts Associated with the Merced County Regional Transportation Plan (Countywide)		Potential Impacts to Farmland without the Merced County Regional Transportation Plan	
		Direct Acres Converted	Percent County Converted	Countywide Conversion (acres)	Percent County Converted
	474,372 (1,172,187)	6036.4 (14,916)	1.27%	6093.4 (15,057)	1.28%

Table 4.4 refines the analysis in Table 4.3 by showing the differences in the amount of farmland conversion associated with Alternatives 1M, 2M, and 3M. (Table 4.3 used Alternative 3M to represent the worst case.) Alternatives 1M and 2M would result in additional reduction of farmland conversion. Table 4.4 also shows the potential countywide cumulative impact on farmland (based on the growth model). The growth model shows that the potential cumulative effects of the project would be 5,983.7 hectares (14,785.8 acres), 5,974.1 hectares (14,762.2 acres), and 6,036.4 hectares (14,916.0 acres) for Alternatives 1M, 2M, and 3M, respectively. Alternatives 1M, 2M, and 3M all would result in fewer acres of farmland being converted than not building Regional Transportation Plan projects, including the Los Banos bypass.

Table 4.4 Cumulative Impacts Associated with the Los Banos Bypass

Farmland Hectares (Acres)	Alternative 1M			Alternative 2M			Alternative 3M		
	Direct Acres Converted	Acres Converted: Growth Model Plus Direct	Percent County Converted	Direct Acres Converted	Acres Converted: Growth Model Plus Direct	Percent County Converted	Direct Acres Converted	Acres Converted: Growth Model Plus Direct	Percent County Converted
	226.9 (560.7)	5983.7 (14,785.8)	1.26%	217.4 (537.1)	5974.1 (14,762.2)	1.26%	279.6 (690.9)	6036.4 (14,916.0)	1.27%

4.3 Environmental Analysis and Mitigation Measures

Environmental analysis based on the traditional and urban growth model methods is included in this section.

4.3.1 Traditional Method

Cumulative impacts to farmland are expected from the proposed project and local development. It is expected that the city will continue to develop and fill in the areas between the current city limits and the proposed alternative corridors. Land that would be converted to other uses is now primarily farmland. Farmland conversion may result in habitat loss for the San Joaquin kit fox, Swainson's hawk, greater sandhill crane, and burrowing owl. Habitat for the giant garter snake may also be lost. Caltrans has proposed, in consultation with the U.S. Fish and Wildlife Service, replacement habitat as mitigation for removal of habitat (Section 3.15.4).

While the proposed project would result in a loss of habitat, the presence of many wildlife refuges in the project area provides additional protection of habitat for the local area. In the Los Banos area, the land preserved for wildlife use in wildlife refuges exceeds many areas in the region. The Northern Grassland Wildlife Area, located just north and east of Los Banos, consists of approximately 2832.8 hectares (7,000 acres) of permanent and seasonal marshes, riparian corridors, shrublands, and grasslands. The state wildlife areas provide habitat for various species of birds, mammals, reptiles, amphibians, and fish. Federal wildlife refuges are also located within 32.2 kilometers (20 miles) of Los Banos, providing habitat as well. Mitigation for habitat loss directly caused by the proposed project (in coordination with the U.S. Fish and Wildlife Service) may also protect additional habitat in the Los Banos area.

4.3.2 Urban Growth Model

When cumulative impacts within Merced County are examined with the urban growth model (as opposed to the traditional method, which examines only the Los Banos area), the cumulative impact on farmland is positive. This means that fewer hectares/acres of farmland would be converted as compared to the No-Build Alternative in the Regional Transportation Plan:

- 110 fewer hectares (272 acres) with Alternative 1M
- 119 fewer hectares (295 acres) with Alternative 2M
- 57 fewer hectares (141 acres) with Alternative 3M

Because the Los Banos bypass, as part of the Regional Transportation Plan, supports planned growth, it would contribute to a reduction of farmland conversion over the next 25 years.

An ad hoc advisory committee of local planners from Merced County and the cities of Merced, Atwater, and Los Banos reviewed these results and found them to be reasonable and consistent with their experiences.

Chapter 5 California Environmental Quality Act Evaluation

5.1 Determining Significance Under CEQA

The proposed project is a joint project by Caltrans and the Federal Highway Administration and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act and the National Environmental Policy Act. Caltrans is the lead agency under the California Environmental Quality Act. The Federal Highway Administration is the lead agency under the National Environmental Policy Act.

One of the primary differences between the National Environmental Policy Act and the California Environmental Quality Act is the way significance is determined. Under the national act, significance is used to determine whether an environmental impact statement or some lower level of documentation will be required. The national act requires that an environmental impact statement be prepared when the proposed federal action (project) *as a whole* has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. Some impacts determined to be significant under the California Environmental Quality Act may not be of sufficient magnitude to be determined significant under the National Environmental Policy Act. Under the National Environmental Policy Act, once a decision is made regarding the need for an environmental impact statement, it is the magnitude of the impact that is evaluated and no judgment of its individual significance is deemed important for the text. The National Environmental Policy Act does not require that a determination of significant impacts be stated in the environmental documents.

The California Environmental Quality Act, on the other hand, does require Caltrans to identify each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an environmental impact report must be prepared. Each and every significant effect on the environment must be disclosed in the environmental impact report and mitigated if feasible. In addition, the California Environmental Quality Act Guidelines list a number of mandatory findings of significance, which also require the preparation of an environmental impact report.

There are no types of actions under the National Environmental Policy Act that parallel the finding of mandatory significance of the California Environmental Quality Act. This chapter discusses the effects of this project and California Environmental Quality Act significance (see also Appendix A, which contains the California Environmental Quality Act checklist).

According to Title 14 California Code of Regulations, Section 15382, "Significant effect on the environment means substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant."

5.2 Discussion of Significant Impacts

5.2.1 Significant Environmental Effects of the Proposed Project

The following impacts would have a significant effect on the environment:

- Loss of farmland
- Increased noise

For a full discussion of significant effects for the above issues, please see Chapter 3, Section 3.3 Farmlands/Agricultural Lands and Section 3.14 Noise.

5.2.2 Unavoidable Significant Environmental Effects

Farmland

The proposed project would contribute to a loss of farmland. However, this is an unavoidable impact because Los Banos is surrounded by farmland. The project would be built on rural land that is primarily zoned for agricultural use. If the proposed project is constructed, farmland would be taken out of production for highway right-of-way use. Farmland that would be converted to highway is mostly classified as Prime Farmland by the National Resources Conservation Service.

The amount of farmland converted would depend on the build alternative, if selected. Alternative 3M could have the greatest impact on farmland. Although farmland would be converted, the City of Los Banos General Plan addresses the need for a bypass. Farmland conversion is already taking place in areas adjacent to the proposed corridors as Los Banos continues to grow. Future developments include new residential areas, a new airport, a new business park, and a new community college.

Noise

The project would be built in a rural area. Noise studies determined that sensitive receptors, while few in number, would experience an increase in noise levels in excess of 12 decibels, which more than doubles the noise level. The increase would be due to traffic noise from the bypass. Soundwalls are typically used for noise abatement for sensitive receptors along freeways. However, in this case, soundwalls were not recommended. Receptors are few and scattered throughout the area, and the cost allowance for soundwalls would be exceeded; consequently, soundwalls were not considered to be reasonable. For example, if $30,000 were allowed per receptor and a proposed sound barrier would cover 10 receptors, the total allowed cost for the barrier would be $300,000. However, if construction costs, maintenance costs, and other life cycle costs for the sound barrier were found to total $400,000, then the sound barrier would not be considered reasonable because of the high cost and should not be constructed. Typically, a soundwall allowance is not enough to build a wall for a single residence. A few receptors were commercial, but noise abatement is not normally considered reasonable for commercial areas, according to Caltrans protocol.

5.3 Mitigation Measures for Significant Impacts Under CEQA

Agricultural Resources

Due to the rural nature of the area around Los Banos, it would not be possible to build the proposed bypass without affecting farmland. The only options that would avoid loss of farmland would be the No-Build Alternative or to widen the existing State Route 152 as it passes through the city. Due to extensive commercial activity along the existing freeway and nearby schools, widening the existing roadway would be very disruptive to the community as a whole, the business community, schools, and traffic patterns during construction. The No-Build Alternative would not meet the purpose and need of the project. Social and economic factors stated above do not make it feasible to mitigate the conversion of farmland by avoiding the area.

The city is expected to develop and fill in the areas adjacent to the proposed bypass. Urban growth—even compact urban growth—would require farmland conversion. Countywide planning by the county and cities would reduce cumulative impacts on farmland conversion in Merced County by 14.2 to 57.1 hectares (35 to 141 acres) compared to the No-Build Alternative. The combined effect of city and county general plans and the Regional Transportation Plan would conserve farmland/habitat. The proposed bypass could also serve as a buffer between development and remaining farmland.

Noise

While noise abatement measures were feasible at some locations, these measures were not recommended because sensitive receptors are few and scattered, so cost would exceed what is reasonable.

Chapter 6 Summary of Public/Agency Involvement Process/Tribal Coordination

Early and continuing coordination with the general public and appropriate public agencies was an essential part of the environmental process to determine the scope of environmental documentation, the level of analysis, potential impacts and mitigation measures and related environmental requirements. Agency consultation and public participation for this project were accomplished through a variety of formal and informal methods, including project development team meetings, interagency coordination meetings, and public contact. Below is a summary of the efforts to fully identify, address and resolve project-related issues through early and continuing coordination. Also discussed are public involvement and tribal coordination efforts.

6.1 Scoping

Public Information Meeting/Open House

A public information meeting/open house was held at the Los Banos Junior High School in Los Banos on August 24, 2000. The purpose of the meeting was to provide the public and all interested parties with information regarding the status of the project and to gain public input on the project alternatives prior to Caltrans preparing the draft environmental document.

Letters of invitation to the meeting were sent to federal, state, and local officials. Newsletter invitations were sent to property owners within the study area and to businesses located along State Route 152 within the City of Los Banos. The meeting was also announced to the general public by advertisements in the two local newspapers. An informal open house format was used, and the public was invited to attend any time from 5:00 p.m. to 9:00 p.m.

Attendees received an information sheet (with a project map showing the location) detailing project purpose, background, description, cost, funding source, project timeline, and contact information. Attendees were encouraged to visit the information stations located around the room and view maps, graphics, and display boards. Caltrans Project Development Team staff members were available at each station to explain maps, displays, answer questions, and receive public input. Attendees were

encouraged to submit written comments either on forms provided that night or by mailing the forms after the meeting. A court reporter was also available at the meeting to take comments. An email address and a toll-free telephone number were also provided for comments.

After the meeting, a website was set up to allow the public to view information presented at the meeting. The site was available through Caltrans District 10 and included Frequently Asked Questions, photos, and links to information on project background, design, environment, schedule, and other projects in the area.

Approximately 178 residents and interested parties attended the meeting. Residents and interested parties submitted 88 written comments during the meeting or mailed them to Caltrans shortly afterward. A court reporter took comments from 32 attendees. Eight comments were received by email before and after the meeting. Six letters and one package of information were received from the public. A total of 128 comments were received.

Although comments favored either the northern or southern alternatives, a few more were in favor of a southern route. The main concerns were loss of farmland, impacts to dairies, impacts to wildlife, and pollution being blown into the city from the north. Few people were against the project. Most commented on the need for a bypass, but were concerned about where the project would be built (i.e., a northern or southern alignment).

Approximately 100 businesses, located along State Route 152, were sent invitations to the meeting. Representatives of only two businesses attended (signed in as representing a business). The representatives were from a McDonald's Restaurant and the Islander Motel. Only the motel representative submitted a comment stating a preference for the No-Build Alternative.

Notice of Intent

A Notice of Intent was published in the Federal Register on April 5, 2001 (see Figure 6-1 at end of chapter). The following agencies were also notified:

- Environmental Protection Agency
- U.S. Fish and Wildlife Service, Department of the Interior (Los Banos office)
- Federal Emergency Management Agency, Region 9
- U.S. Department of Energy, Office of Environmental Compliance
- U.S. Department of Agriculture, Office of the Secretary
- U.S. Department of the Interior, Office of Environmental Policy and Compliance
- Defenders of Wildlife, Patricia White

Notice of Preparation

A Notice of Preparation of an Environmental Impact Report was sent to the State Clearinghouse on July 27, 2001. The following agencies and interested parties were also notified:

- California Transportation Commission
- California Department of Conservation
- California Regional Water Quality Control Board, Region 5
- Merced County Association of Governments
- San Joaquin Valley Unified Air Pollution Control District
- Merced County Planning Department
- San Luis Canal Company
- Grasslands Water District
- San Luis and Delta-Mendota Water Authority
- Merced County Local Agency Formation Commission (LAFCO)

A public hearing will be held in Los Banos when the draft environmental document is released. Letters of invitation to the public hearing will be sent to federal, state, and local officials; property owners in the study area; and to businesses located along State Route 152 in Los Banos. The public hearing will also be announced to the general public by advertisements in local newspapers. Public comments will be requested again at that time.

6.2 Coordination with Public Agencies

Native American Governments

The Native American Heritage Commission was contacted by letter in February 2000. A review of the Sacred Lands files for any Native American cultural resources or

other areas of concern in the project study area was requested. A list of Native American individuals/organizations that may have knowledge of cultural resources or other areas of concern was also requested.

With the list provided by the Native American Heritage Commission, additional letters were submitted requesting information regarding cultural resources or other areas of concern in the study area. The following individuals/organizations were sent letters:

- Jay Johnson, Chair, American Indian Council of Mariposa, Mariposa, California
- Lorrie Planas, Clovis, California
- Vernon Castro, Chair, Table Mountain Rancheria, Friant, California

No responses to the letters were received.

U.S. Fish and Wildlife Service

The following consultation took place for biological issues:

November 27, 2002

Caltrans staff requested an updated species list from the U.S. Fish and Wildlife Service for the proposed Los Banos Bypass project located in Merced County.

December 5, 2002

Caltrans informed Ms. Maryanne Owens, Mr. Gary Burton, and Ms. Karen Harvey of the U.S. Fish and Wildlife Service of the current status of the proposed Los Banos Bypass project. Caltrans biology staff indicated that a protocol level wet season survey for listed fairy shrimp was in process. Ms. Harvey explained that if no listed shrimp were identified, then a protocol level dry season survey would need to be conducted to get concurrence on a "no effect" determination for listed fairy shrimp.

Ms. Susan Jones, San Joaquin Valley Branch Chief of the U.S. Fish and Wildlife Service, explained that all alternatives would have an adverse effect on the San Joaquin kit fox. The rationale being that project construction would take foraging habitat (including farmland) and could hinder the migration of kit fox through the valley.

December 20, 2002

Caltrans spoke with Ms. Karen Harvey of the U.S. Fish and Wildlife Service regarding possible mitigation strategies for impacts to the San Joaquin kit fox. Ms. Harvey recommended that Caltrans propose a mitigation ratio based on previous projects located near the proposed project. Ms. Harvey stated that she would keep Caltrans updated on any current changes regarding San Joaquin kit fox mitigation. Ms. Harvey recommended Agua Fria Multi-Species Conservation Bank as a suitable mitigation bank to compensate for impacts to federally listed species.

U.S. Army Corps of Engineers

The following consultation took place for wetland issues:

May 1, 2003

A pre-application meeting was held.

August 18, 2003

A Preliminary Wetland Delineation Verification Request was submitted.

September 2, 2003

A site visit to the proposed project area with U.S. Army Corps of Engineers staff was conducted.

November 10, 2003

An amendment to the Preliminary Wetland Delineation Verification Request was submitted.

U.S. Department of Agriculture, Natural Resources Conservation Service

Farmland Conversion Rating Form AD-1006 and mapping were submitted to the Natural Resources Conservation Service, Merced Office, in August 2001, October 2001, and March 2004. As modifications were made to the proposed project, it was necessary to update the form. The final results were received June 14, 2004.

California Department of Fish and Game

The following consultation took place for biological issues:

March 24, 2000

A field meeting was held to discuss concerns the California Department of Fish and Game may have in connection with the proposed bypass project. The issues discussed were drainage and public access. Mr. Greg Gerstenberg, biologist, Bill Cook, and Mr. Les Howard represented the California Department of Fish and Game.

July 18, 2001

A field meeting was held with Mr. Greg Gerstenberg to discuss the California Department of Fish and Game's needs for parcels in and near the proposed project area in relation to the proposed build alternatives.

December 24, 2001

Correspondence was received providing comments, concerns and mitigation measures for loss of California Department of Fish and Game-owned land.

November 4, 2002

A field meeting was held to further discuss issues and concerns identified in previous correspondence.

December 15, 2002

Caltrans contacted Mr. Clarence Mayott of the California Department of Fish and Game to discuss impacts to the state listed threatened Swainson's hawk. Mr. Mayott stated that suitable foraging habitat (including farmland) would be lost due to project construction. Caltrans proposed a mitigation strategy that would link the compensation land purchased for impacts to the San Joaquin kit fox with the compensation that would be required for loss of Swainson's hawk foraging habitat. The result: land purchased to mitigate for impacts to the San Joaquin kit fox would also provide suitable foraging habitat for the Swainson's hawk, greater sandhill crane, and burrowing owl (compensation land would cover impacts to the San Joaquin kit fox, Swainson's hawk, greater sandhill crane, and burrowing owl).

October 30, 2003

Caltrans staff met with Jeff Single, Regional Manager, Department of Fish and Game, and John Beam, Senior Biologist, Lands and Facilities, Department of Fish and Game. Issues discussed included the function of the Gadwall Wildlife Area, future

development plans for the Gadwall Wildlife Area, the college-owned parcel, access issues, and the proposed retaining wall for Alternatives 1M and 2M.

November 17, 2003

Caltrans staff met with Bill Cook and Steve Miyamoto, Department of Fish and Game. Issues discussed included the function of the Gadwall Wildlife Area, future development plans for the Gadwall Wildlife Area, the college-owned parcel, access issues, and the proposed retaining wall for Alternatives 1M and 2M.

California Department of Conservation

In response to the State Route 152 Bypass Notice of Preparation, the Department of Conservation sent a letter discussing possible direct and indirect effects to farmland in the proposed project area and the Williamson Act program.

California Regional Water Quality Control Board

In response to the State Route 152 Bypass Notice of Preparation, the California Regional Water Quality Control Board sent a letter discussing potential effects to water quality that should be addressed in the environmental document.

State of California Office of Historical Preservation

Caltrans submitted a Historic Property Survey Report and Historic Resources Evaluation Report/Historic Architecture Survey Report for review and comment on July 16, 2004. The State Historic Preservation Officer concurred with Caltrans' findings on September 16, 2004. The letter has been incorporated into this document as Figure 6.2.

Local Agencies

Throughout the environmental study period, Caltrans staff had ongoing coordination with the City of Los Banos, Merced County, and the Merced County Association of Governments. Coordination included Project Development Team meetings, interagency coordination meetings, and personal contacts.

Grasslands Water District

The Grasslands Water District was notified of the proposed project in a Notice of Preparation letter in 2000.

Caltrans staff met with Grasslands Water District staff on August 12, 2004. Proposed build alternatives were explained as were potential environmental impacts from the project. Grasslands Water District provided information on the history of the Grasslands Water District and expressed its concerns regarding potential impacts to the Gadwall Wildlife Area from Alternatives 1M and 2M.

Los Banos Community College

A representative of Los Banos Community College attended the public information meeting for the proposed project held in August 2000. Caltrans met with Merced Community College District officials, City of Los Banos staff, and Stonecreek Properties Incorporated in April, May, June, October and December of 2002 and March and May of 2004. The meetings discussed the access for the community college in relation with the proposed bypass project and focused on finding solutions to potential access and traffic issues. In August 2004, Merced College provided an intersection design, with sufficient storage lengths and turning movements, for Caltrans review. As a result, a Project Study Report will be developed for the State Route 152/Merced College Entrance Intersection project, with right-in/right-out access controlled by a median in front of the proposed Merced College.

merpac.htm.) The measures proposed here, again, are available on the Internet at *http://dms.dot.gov*. They are also available from Mr. Gould where indicated under **ADDRESSES.** If you submit written comments please include—

- Your name and address;
- The docket number for this Notice [USCG 2001–9269];
- The specific section of the performance measures to which each comment applies; and
- The reason for each comment.

You may mail, deliver, fax, or electronically submit your comments and related material to the Docket Management Facility, using an address or fax number listed in **ADDRESSES.** Please do not submit the same comment or material more than once. If you mail or deliver your comments and material, they must be on 8½-by-11-inch paper, and the quality of the copy should be clear enough for copying and scanning. If you mail your comments and material and would like to know whether the Facility received them, please enclose a stamped, self-addressed postcard or envelope. The Coast Guard will consider all comments and material received during the 60-day comment period.

Once we have considered all comments and related material, we will publish a final version of the national performance measures for use as guidelines by the general public. Individuals and institutions assessing the competence of mariners may refine the final version of these measures and develop innovative alternatives. If you vary from the final version of these measures, however, you must submit your alternative to the National Maritime Center for approval by the Coast Guard under 46 CFR 10.303(e) before you use it as part of an approved course or training program.

Dated: March 28, 2001.

Howard L Hime,

Acting Director of Standards.

[FR Doc. 01–8313 Filed 4–4–01; 8:45 am]

BILLING CODE 4910–15–U

DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

Environmental Impact Statement; Merced County, CA

AGENCY: Federal Highway Administration (FHWA) DOT.

ACTION: Notice of intent.

SUMMARY: The FHWA is issuing this notice to advise the public that an environmental impact statement will be prepared for a proposed highway project in Merced County, California.

FOR FURTHER INFORMATION CONTACT: Glenn Clinton, Team Leader, Program Delivery Team—North, California Division, Federal Highway Administration, 980 9th Street, Suite 400, Sacramento, CA 95814–2724.

SUPPLEMENTARY INFORMATION: The Federal Highways Administration, in coordination with the California Department of Transportation (Caltrans), will prepare an Environmental Impact Statement (EIS) on a proposal to build a bypass in the vicinity of the City of Los Banos in Merced County, California, in order to improve the flow of traffic on State Route 152 and reduce congestion within the city. This bypass would begin at Post Mile 16, east of Volta Road, and end approximately at Post Mile 25. State Route 152 serves as a major east-west link between the major north-south roadways of State Route 99, State Route 101, and Interstate 5. Currently the flow of traffic along State Route 152 must slow as it enters the City of Los Banos. Because State Route 152 currently passes through the center of the City of Los Banos, considerable traffic congestion would be relieved by construction of a bypass around the City. The proposed project is a 4-lane freeway on a 6-lane alignment.

Four alternatives are being considered at this time: three build alternatives and a No Action Alternative (Alternative 4). All build alternatives would realign State Route 152 so that the route would bypass the City of Los Banos. Alternatives 1 and 2 would follow an alignment south of the City of Los Banos. Alternative 1 would parallel north of Copa De Ora Avenue and Alternative 2 would parallel south of Pioneer Road. Alternative 3 would follow an alignment to the north of the City of Los Banos.

Letters describing the proposed action and soliciting comments were sent to the appropriate Federal, State, and local agencies, and to private organizations and citizens who have expressed or are known to have interest in this proposal. The Public Participation Program for this study includes community information meetings (the first was held August 24, 2000), and a formal Public Hearing in the summer of 2002.

To ensure that the full range of issues related to this proposed action is addressed, and all significant issues identified, comments and suggestions are invited from all interested parties. If you have any information regarding historic resources, endangered species, or other sensitive issues, which could be affected by this project, please notify this office. Comments or questions concerning this proposed action and the EIS should be directed to the FHWA at the address provided above. (Catalog of Federal Domestic Assistance Program Number 20.205, Highway Research, Planning, and Construction. The regulations implementing Executive Order 12372 regarding intergovernmental consultation on Federal programs and activities apply to this program.)

Issued on: March 29, 2001.

Glenn Clinton,

Team Leader, Program Delivery Team—North, Sacramento, California.

[FR Doc. 01–8412 Filed 4–4–01; 8:45 am]

BILLING CODE 4910–22–M

DEPARTMENT OF THE TREASURY

Submission for OMB Review; Comment Request

March 29, 2001.

The Department of Treasury has submitted the following public information collection requirement(s) to OMB for review and clearance under the Paperwork Reduction Act of 1995, Public Law 104–13. Copies of the submission(s) may be obtained by calling the Treasury Bureau Clearance Officer listed. Comments regarding this information collection should be addressed to the OMB reviewer listed and to the Treasury Department Clearance Officer, Department of the Treasury, Room 2110, 1425 New York Avenue, NW., Washington, DC 20220.

DATES: Written comments should be received on or before May 7, 2001 to be assured of consideration.

Internal Revenue Service (IRS)

OMB Number: 1545–0004.
Form Number: IRS Form SS–8.
Type of Review: Extension.
Title: Determination of Worker Status for Purposes of Federal Employment Taxes and Income Tax Withholding.
Description: Form SS–8 is used by employers and workers to furnish information to IRS in order to obtain a determination as to whether a worker is an employee for purposes of Federal employment taxes and income tax withholding. IRS uses this information to make the determination.
Respondents: Business or other for-profit; Individuals or households, Not-for-profit institutions, Farms, Federal Government, State, Local or Tribal Government.
Estimated Number of Respondents/ Recordkeeper: 69,000.

Figure 6-1 Notice of Intent

STATE OF CALIFORNIA – THE RESOURCES AGENCY ARNOLD SCHWARZENEGGER, *Governor*

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
P.O. BOX 942896
SACRAMENTO, CA 94296-0001
(916) 653-6624 Fax: (916) 653-9824
calshpo@ohp.parks.ca.gov
www.ohp.parks.ca.gov

September 16, 2004

REPLY TO: FHWA040722B

Lynne Faraone, Chief, California Heritage Resources Branch
California Department of Transportation, District 6
2015 East Shields Avenue, Suite A-100
FRESNO CA 93726-5428

Re: Los Banos Bypass Project, State Route 152, Los Banos, Merced County.

Dear Ms. Binning:

Thank you for submitting to our office your July 16, 2004 letter and Historic Property Survey Report (HPSR), Historic Resources Evaluation Report (HRER), and Historic Architecture Survey Report (HASR), regarding the proposed construction of the Los Banos Bypass on State Route (SR) 152 in the City of Los Banos in Merced County. The proposed project would construct a four-lane bypass for SR 152 around the City of Los Banos from Post Mile (PM) 16.0 to PM 24.8 east of the Santa Fe Grade. Four alternatives have been proposed for the project, including two alternatives for a southern bypass, one alternative for a northern bypass, and a No-Build alternative. A detailed description of the proposed alternatives is contained on Page 1 of the HPSR. The Areas of Potential Effects (APEs) for the proposed project alternatives appear adequate and meet the definition set forth in 36 CFR 800.16(d).

An archeological resources record search conducted at the Central California Information Center at California State University, Stanislaus and a pedestrian survey conducted by qualified archeologists revealed the presence of two prehistoric archeological sites (CA-MER-369 and CA-MER-370) and one historic archeological site (CA-MER-371H) within the project study area but outside the boundaries of the proposed project APEs. Due to the fact that several landowners denied access to California State Department of Transportation (Caltrans) surveyors, Caltrans will make another attempt to survey those parcels and complete identification efforts. Based on evidence compiled thus far, Caltrans staff believes that site sensitivity in the excluded parcels is low due to the low number of sites in the surrounding area.

Pursuant to stipulation VIII.C.5. of *the "Programmatic Agreement (PA) among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California"* (PA), Caltrans is seeking my comments on its determination of the eligibility of 51 pre-1957 architectural properties located within the project APEs for inclusion on the National Register of Historic Places (NRHP). Two properties, the Phillips Dairy and the Main Canal Bridge, were previously determined, by consensus, to be ineligible for inclusion on the NRHP. A review of the submitted HPSR ,

Figure 6-2 State Historic Preservation Officer Concurrence Letter (2 pages)

HRER, and HASR lead me to concur with Caltran's determination that none of the aforementioned pre-1957 architectural properties are eligible for inclusion on the NRHP under any of the criteria established by 36 CFR 60.4. The properties have no strong associations with significant historical events or persons and are not examples of outstanding architectural design or function.

Thank you again for seeking our comments on your project. If you have any questions, please contact staff historian Clarence Caesar by phone at (916) 653-8902, or by e-mail at ccaes@ohp.parks.ca.gov.

Sincerely,

Milford Wayne Donaldson, FAIA
State Historic Preservation Officer

Chapter 7 List of Preparers

This Environmental Impact Study/Environmental Impact Report was prepared by the following Central Region staff of the California Department of Transportation:

Afzal, Rohullah, Transportation Engineer (T.E.). B.S., Civil Engineering, California State University, Sacramento; 4 years transportation experience with Caltrans. Contribution: Performed the Location Hydraulic Study of the project alternatives.

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Brewer, Chris, Associate Environmental Planner. PQS Principal Architectural Historian – MPA, California State University, Bakersfield; 27 years experience in cultural resources. Contribution: Evaluated water conveyance systems.

Chafi, Abdulrahim, Transportation Engineer. Ph.D., Engineering Management, California Coast University; B.S. and M.S., Chemistry, and M.S., Civil Engineering, California State University, Fresno; 1 year as Air Quality Engineer at San Joaquin Valley Unified Air Pollution Control District and 7 years as Environmental Engineer at Caltrans. Contribution: Air Quality Report and Noise.

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Hibbs, Edward A., Associate Landscape Architect. B.S., Landscape Architecture, California Polytechnic State University, San Luis Obispo; A.A., Architecture, Rio Hondo College; licensed landscape architect and licensed landscape contractor; 28 years experience, including 5 years with Caltrans. Contribution: Visual Resources Study and Erosion Control and Landscape Architectural recommendations.

Naing, Myo, Engineering Geologist. B.S., Geology (specialty: Engineering Geology), University of Rangoon, Burma; over 20 years experience in project and technical support/management for engineering structures and groundwater development in the private sector and with Caltrans. Contribution: Prepared Preliminary Geotechnical Report and Preliminary Foundation Report.

Narayan, Ram, Project Manager. M.B.A., University of Nevada-Reno; B.S., Civil Engineering, Indian Institute of Technology in New Delhi; 16 years experience in project management, contract administration, construction management, bridge design and analysis, development of technical and business reports, and teaching. Contribution: Project management for project.

Nishikawa, Marissa L., Transportation Engineer (P.E.). B.S., Civil Engineering, California State University, Fresno; 13 years of transportation experience with Caltrans. Contribution: Engineering studies for the project alternatives.

Sawtell, Kimely, Associate Environmental Planner. B.A. and M.A., Geography, California State University, Fresno; 5 years experience with Caltrans. Contribution: Coordination of environmental studies and writing of Community Impact Assessment and Environmental Impact Study/Environmental Impact Report.

Sellers, Jane, Research Writer. B.A., Journalism, California State University, Fresno; 20 years writing/editing experience. Contribution: Edited Environmental Impact Study/Environmental Impact Report.

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Walker, Jack, Design Manager. B.S., Civil Engineering, California State University, Fresno; 19 years engineering experience with Caltrans. Contribution: Design manager for project.

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Whitehouse, John, Associate Environmental Planner (Archaeology). Undergraduate studies at San Diego State University and University of California, San Diego; 18 years experience in California archaeology, including three years with Caltrans. Contribution: Archaeological Survey Report and Historic Properties Survey Report.

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San Francisco, CA 94103

Chapter 9 References

California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program. *California Farmland Conversion Report 1996-98*. Sacramento, California. June 2000.

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Chapter 10 Index

Appendix A CEQA Checklist

This checklist identifies physical, biological, social and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included in Section VI following the checklist. The words "significant" and "significance" used throughout the following checklist are related to California Environmental Quality Act, not National Environmental Policy Act, impacts.

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
AESTHETICS - Would the project:				
Have a substantial adverse effect on a scenic vista?				X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?			X	
c) Substantially degrade the existing visual character or quality of the site and its surroundings?				X
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				X
AGRICULTURE RESOURCES - In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	X			
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?			X	
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	X			
AIR QUALITY - Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?				X
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?				X

	CEQA			
	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	X
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	X
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	X
BIOLOGICAL RESOURCES - Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	X	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	X	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	X	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	X	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	X	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	X
COMMUNITY RESOURCES - Would the project:				
Cause disruption of orderly planned development?	☐	☐	☐	X

	CEQA			
	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
Be inconsistent with a Coastal Zone Management Plan?				X
Affect life-styles, or neighborhood character or stability?				X
Physically divide an established community?				X
Affect minority, low-income, elderly, disabled, transit-dependent, or other specific interest group?				X
Affect employment, industry, or commerce, or require the displacement of businesses or farms?		X		
Affect property values or the local tax base?			X	
Affect any community facilities (including medical, educational, scientific, or religious institutions, ceremonial sites or sacred shrines?				X
Result in alterations to waterborne, rail, or air traffic?				X
Support large commercial or residential development?				X
Affect wild or scenic rivers or natural landmarks?				X
Result in substantial impacts associated with construction activities (e.g., noise, dust, temporary drainage, traffic detours and temporary access, etc.)?		X		
CULTURAL RESOURCES - Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?				X
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?				X
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X
d) Disturb any human remains, including those interred outside of formal cemeteries?				X
GEOLOGY AND SOILS - Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				X

	CEQA			
	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				**X**
ii) Strong seismic ground shaking?				**X**
iii) Seismic-related ground failure, including liquefaction?		X		
iv) Landslides?				**X**
b) Result in substantial soil erosion or the loss of topsoil?		**X**		
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?				**X**
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?				**X**
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				**X**
HAZARDS AND HAZARDOUS MATERIALS - Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?				**X**
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?				**X**
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				**X**
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				**X**
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the				**X**

	CEQA			
	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
project result in a safety hazard for people residing or working in the project area?				
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	**X**
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	**X**
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	**X**
HYDROLOGY AND WATER QUALITY - Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	**X**
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	**X**
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	**X**
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	**X**	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	**X**	☐
f) Otherwise substantially degrade water quality?	☐	☐	☐	**X**
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	**X**
h) Place within a 100-year flood hazard area structures	☐	☐	☐	**X**

	CEQA			
	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
which would impede or redirect flood flows?				
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?				X
j) Inundation by seiche, tsunami, or mudflow?				X
LAND USE AND PLANNING - Would the project:				
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, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				X
Conflict with any applicable habitat conservation plan or natural community conservation plan?				X
MINERAL RESOURCES - Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?				X
NOISE - Would the project 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?	X			
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			X	
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	X			
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project				X

	CEQA			
	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
area to excessive noise levels?				
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	**X**
POPULATION AND HOUSING - Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	**X**
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	**X**
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	**X**
PUBLIC SERVICES -				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☐	**X**
Police protection?	☐	☐	☐	**X**
Schools?	☐	☐	☐	**X**
Parks?	☐	☐	☐	**X**
Other public facilities?	☐	☐	☐	**X**
RECREATION -				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	**X**
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	**X**

	CEQA			
	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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)?				X
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?				X
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
e) Result in inadequate emergency access?			X	
f) Result in inadequate parking capacity?				X
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?				X
UTILITIES AND SERVICE SYSTEMS - Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				X
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			X	
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?				X
e) Result in 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?				X

	CEQA			
	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	X
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	X

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?	☐	X	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	X	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	X	☐

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

DEPARTMENT OF TRANSPORTATION
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Be energy efficient!

January 14, 2005

TITLE VI
POLICY STATEMENT

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

WILL KEMPTON
Director

"Caltrans improves mobility across California"

Appendix C Section 4(f) Evaluation

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 USC §303, declares "it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl, and historic sites."

Section 4(f) specifies "[t]he Secretary [of Transportation] may approve a transportation program or project . . . requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if—

1) there is no prudent and feasible alternative to using that land; and

2) the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use."

Section 4(f) further requires consultation with the Department of the Interior and, as appropriate, the involved offices of the Departments of Agriculture and Housing and Urban Development in developing transportation projects and programs that use lands protected by Section 4(f). If historic sites are involved, then coordination with the State Historic Preservation Officer is also needed.

In general, a Section 4(f) "use" occurs with a Department of Transportation-approved project or program:

1) when Section 4(f) land is permanently incorporated into a transportation facility;

2) when there is a temporary occupancy of Section 4(f) land that is adverse in terms of the Section 4(f) preservationist purposes as determined by specified criteria (23 Code of Federal Regulations Section 771.135[p][7]); and

3) when Section 4(f) land is not incorporated into the transportation project, but the project's proximity impacts are so severe that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are substantially impaired (constructive use) (23 Code of Federal Regulations Section 771.135[p][1] and [2]).

C.1 Proposed Action

Caltrans and the Federal Highway Administration propose to construct a four-lane freeway bypass on a new alignment around the City of Los Banos for State Route 152. For more detailed information, refer to the Draft Environmental Impact Statement/Environmental Impact Report.

The purpose of the project is to:

- Reduce congestion in the City of Los Banos
- Improve the route continuity of State Route 152 within Merced County
- Improve safety and operation of existing State Route 152

State Route 152 within Los Banos is a four-lane conventional highway with a continuous left-turn lane that was added in 1996. State Route 152 is an important east-west link between the major north-south roadways of U.S. Highway 101, Interstate 5, and State Route 99. The portion of the route within the City of Los Banos is the only segment of the roadway in Merced County that mixes regional through-traffic with local traffic. It is also the only remaining undivided segment between the Merced/Santa Clara county line on the west and State Route 99 on the east. Average daily traffic on the Los Banos section of State Route 152 is expected to at least double during the next 20 years, further reducing the Level of Service in the area.

The project would be a four-lane freeway built on a six-lane right-of-way. Three build alternatives are under consideration: 1M, 2M and 3M. All build alternatives would bypass Los Banos by constructing a new State Route 152 alignment. The alignment would start at a western interchange with existing State Route 152, angle either northeast or southeast, run parallel to State Route 152 and then return to the existing alignment via an eastern interchange. All build alternatives would require local road changes, including construction of appropriate frontage roads, overpasses, undercrossings, etc. All build alternatives may require the relocation of utilities (water, sewer, gas, electric, and phone lines) as necessary to accommodate the new freeway, local road changes, and frontage roads.

Alternative 1M

Alternative 1M proposes to bypass Los Banos to the south by constructing a new four-lane freeway alignment between Volta Road on the west and Santa Fe Grade Road on the east. The bypass would be approximately 15.1 kilometers (9.4 miles) long. Figure 2-2 (in

Chapter 2 of this environmental document) shows the proposed alignment of Alternative 1M, which would construct the following:

- A four-lane freeway approximately 525 meters (1,723 feet) north of Copa de Ora Avenue.
- Two endpoint interchanges: one east of Breunig/Ramos Road at kilometer post 27.3 (post mile 17.0) and one west of the Santa Fe Grade Road at kilometer post 38.5 (post mile 23.9) to connect with existing State Route 152 (Pacheco Boulevard).
- One midpoint interchange along the new alignment to connect with State Route 165 (Mercey Springs Road).
- An overcrossing (a local road built over the State Route) at Pioneer Road.
- Undercrossings (a State Route built over a local road) at Ortigalita Road, Center Avenue, Ward Road and Santa Fe Grade Road.
- Cul-de-sacs at Diana Road, Plow Camp Road, Breunig/Ramos, Pacheco Boulevard, and Phillips Road.
- Frontage roads as needed to provide access to private properties.
- Alternative 1M also includes two options at the east end of the project area to provide access to private property. Option A would include a retaining wall to protect 0.8 to 1.2 hectares (2 to 3 acres) of wetland (see Section 3.16 in this environmental document) and a private road easement requiring an additional 0.3 hectare (0.85 acre). Option B would include a retaining wall and a private driveway undercrossing.

The projected cost of Alternative 1M is approximately $243 million in 2004 dollars.

Alternative 2M

Alternative 2M proposes to bypass Los Banos to the south by constructing a new four-lane freeway alignment for State Route 152 between Volta Road on the west and Santa Fe Grade Road on the east. The bypass would be approximately 14.9 kilometers (9.1 miles) long. Figure 2-3 (in Chapter 2 of this environmental document) shows the proposed alignment of Alternative 2M, which would construct the following:

- A four-lane freeway approximately 1127 meters (3,697 feet) north of Copa de Ora Avenue.
- Two endpoint interchanges: one east of Breunig/Ramos Road at kilometer post 27.3 (post mile 17.0) and one west of the Santa Fe Grade Road at kilometer post 38.5 (post mile 23.9) to connect with existing State Route 152 (Pacheco Boulevard).
- One midpoint interchange along the new alignment to connect with State Route 165 (Mercey Springs Road).

- Overcrossings (a local road built over the State Route) at Pioneer Road, Ortigalita Road, and Center Avenue.
- An undercrossing (State Route built over a local road) at Ward Road and Santa Fe Grade Road.
- Cul-de-sacs at Diana Road, Plow Camp Road, Breunig/Ramos, Pacheco Boulevard, and Holland Avenue.
- Frontage roads as needed to provide access to private properties.
- Alternative 2M also includes two options at the east end of the project area to provide access to private property. Option A would include a retaining wall to protect 0.8 to 1.2 hectares (2 to 3 acres) of wetland (see Section 3.16 in this environmental document) and a private road easement requiring an additional 0.3 hectare (0.85 acre). Option B would include a retaining wall and a private driveway undercrossing.

The projected cost of Alternative 2M is approximately $234 million in 2004 dollars.

Alternative 3M

Alternative 3M proposes to bypass Los Banos to the north by constructing a new four-lane freeway alignment for State Route 152 between Volta Road on the west and Santa Fe Grade Road on the east. The bypass would be approximately 16.4 kilometers (10.2 miles) long. Figure 2-4 (in Chapter 2 of this environmental document) shows the proposed alignment of Alternative 3M, which would construct the following:

- A four-lane freeway south of Henry Miller Road. The alignment would range from approximately 626 to 995 meters (2,055 to 3,266 feet) south of Henry Miller Road.
- Two endpoint interchanges: one east of Ramos Road at kilometer post 27.3 (post mile 17.0) and one near the Santa Fe Grade Road at kilometer post 37.8 (post mile 23.5) to connect with existing State Route 152 (Pacheco Boulevard).
- One midpoint interchange along the new alignment to contact with State Route 165 (Mercey Springs Road).
- Undercrossings (a State Route built over a local road) at Ingomar Grade Road, the Southern Pacific Railroad and Badger Flat Road.
- Overcrossings (a local road built over the State Route) at North Johnson Road and Nantes Avenue.
- Cul-de-sacs at Breunig/Ramos Road and Pacheco Boulevard.
- Frontage roads as needed to provide access to private properties.

The projected cost of Alternative 3M is approximately $245 million in 2004 dollars.

C.2 Gadwall Wildlife Area

The Section 4(f) resource that may be affected by the project is the Gadwall Wildlife Area, a unit of the Northern Grasslands Wildlife Area (see Figure C-1), which is a state-owned wildlife refuge consisting of approximately 7,000 acres of permanent and seasonal marshes, riparian corridors, shrublands, and grasslands. The refuge provides habitat for various species of birds, mammals, reptiles, amphibians, and fish. The Northern Grasslands Wildlife Area consists of three separate units. Along with the Gadwall Wildlife Area (located south of State Route 152, east of the Santa Fe Grade Road), the Northern Grasslands also encompasses the China Island Wildlife Area (located north of State Route 140, west of State Route 165) and the Salt Slough Wildlife Area (located adjacent to State Route 165, north of Wolfsen Road). China Island and Salt Slough lie outside the project study area.

The Gadwall Wildlife Area is managed by the California Department of Fish and Game. No federal funds were used in the purchase of land for this unit. The area is part of the Pacific Flyway, the most western flyway for migrating birds. A portion of the area is a waterfowl "closed" zone where no hunting is allowed. The area provides wetland and upland habitat.

The Gadwall Wildlife Area spans approximately 607 hectares (1,500 acres), with parking and access provided from Santa Fe Grade Road. Of this area, approximately 222 hectares (550 acres) on the east side are open for waterfowl and pheasant hunting. During the 2003-2004 hunting season, 798 hunters visited Gadwall Wildlife Area. Other users include bird watchers, nature photographers, and walkers. While no records are kept of these users, it is estimated that 350 to 750 people per year may visit for activities other than hunting.

The California Department of Fish and Game plans to rehabilitate approximately 242.8 hectares (600 acres) within the Gadwall Wildlife Area. Work would include restoration and enhancement of wetlands in various areas to be done in phases. A rehabilitation project in the southern area of the unit has been completed. An infrastructure project that was planned for the summer of 2004 will improve the water delivery and drainage system of the area in order to handle additional wetland acreage for a future wetland restoration project.

Other state wildlife areas and federal wildlife refuges within 32.2 kilometers (20 miles) of the project area are shown in Figure C-1. The state wildlife areas include Mud Slough Wildlife Area, Los Banos Wildlife Area, Volta Wildlife Area, Salt Slough Wildlife Area,

Great Valley Grassland State Park, and China Island Wildlife Area. Federal wildlife refuges in the region include San Luis National Wildlife Refuge and Kesterson National Wildlife Refuge. However, none of the other wildlife refuges, except Mud Slough, are located within 0.8 kilometer (one-half mile) of the project.

C.3 Impacts on the Section 4(f) Property

Two project alternatives would affect the Gadwall Wildlife Area by acquiring land that would be converted to freeway right-of-way (see Figure C-2). Alternatives 1M and 2M would affect the Gadwall Wildlife Area by taking land from the unit, changing access, and affecting the waterfowl "closed" zone. Alternative 3M would result in only an access change, with access to the wildlife area from local frontage roads. Table C.1 shows a summary of the anticipated impacts.

Table C.1 Impact Summary Table for Gadwall Wildlife Area

Issue	Alternative 1M	Alternative 2M	Alternative 3M	No-Build Alternative
Estimated Hectares (Acres) to be Acquired	Up to 24 hectares (56-59 acres)	Up to 24 hectares (56-59 acres)	0 hectares (0 acres)	0 hectares (0 acres)
Waterfowl Protection Zone	In vicinity; mitigation suggested	In vicinity; mitigation suggested	No effect	No effect
Water Supplies/ Water Delivery/ Wetlands	Cross culverts and/or drainage structures to be included to continue water delivery	Cross culverts and/or drainage structures to be included to continue water delivery	No effect	No effect
Access from Santa Fe Grade Road to State Route 152	Access changed/ use of frontage roads*	Access changed/ use of frontage roads*	Access changed/ use of frontage roads*	No effect

**Access from Santa Fe Grade Road for all three alternatives requires the use of the frontage road system to connect to the bypass. The effect would be relatively the same for all three alternatives.*

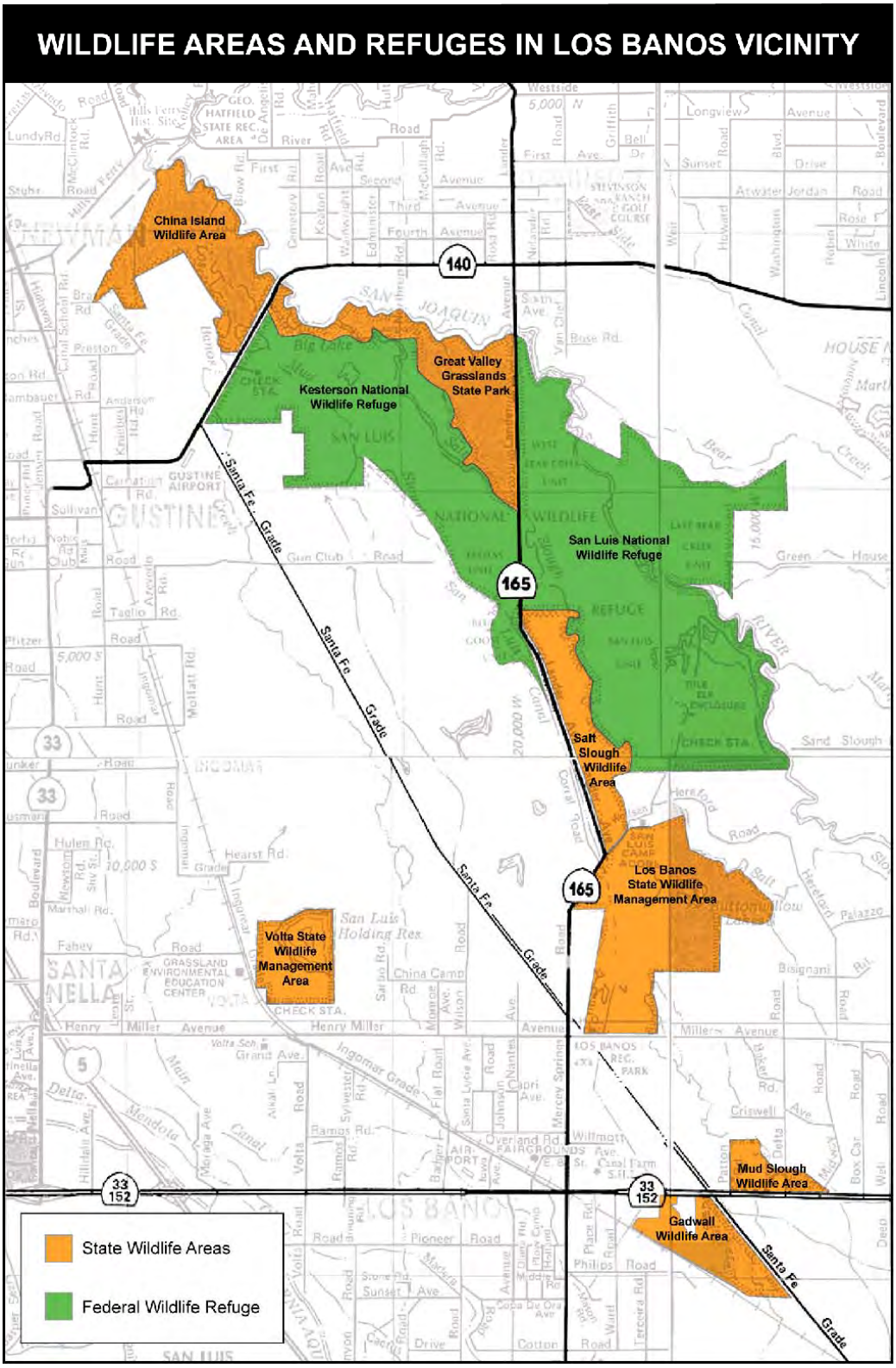


Figure C-1 State Wildlife Areas and Federal Wildlife Refuges near Los Banos

Alternatives 1M and 2M would convert land used for habitat for various species of birds, mammals, reptiles, amphibians, and fish to freeway use. Within the Gadwall Wildlife Area, a protected zone for waterfowl is adjacent to the proposed construction at the eastern end of Alternatives 1M and 2M. The temporary operation of heavy equipment, artificial lighting, noise, and general activities would likely affect waterfowl use in this area. Other than the access change, Alternative 3M would avoid the Gadwall Wildlife Area.

All three build alternatives would sever the continuity of the Santa Fe Grade Road, a county road south of State Route 152, and a private road to the north along the canal. California Department of Fish and Game staff currently transport maintenance equipment across State Route 152 using Santa Fe Grade Road. Hunters, other users (bird watchers, walkers, etc.) and California Department of Fish and Game staff frequently use the Santa Fe Grade Road to travel between wildlife refuges in the vicinity of Los Banos. Parking (two existing lots) for the Gadwall Wildlife Area is south of the existing State Route 152 on the Santa Fe Grade Road. If the project were constructed, access to the wildlife area would require the use of a frontage road system. Access effects would be similar for all three build alternatives.

The No-Build Alternative would not affect the refuge property, but also would not meet the purpose and need of the bypass project.

C.4 Avoiding the Gadwall Wildlife Area

The Project Development Team studied options that would avoid the Gadwall Wildlife Area. Moving the alignment farther west would encroach into the Los Banos Business/Industrial Park. The city has committed infrastructure improvements for current and future occupants of the park. Moving the bypass even farther west to avoid the wildlife refuge and the business park would encroach into the established residential and commercial core of Los Banos.

Topographic maps and field surveys indicated that to avoid the Gadwall Wildlife Area by moving the alignment south would affect large wetland resources and cause out-of-direction travel. In addition, the construction cost would increase by approximately $27 million due to the increased length of the project and the additional grade separations that would be needed. The project length would increase by 6.9 kilometers (4.3 miles) over Alternative 2M and 8.7 kilometers (5.4 miles) over Alternative 3M. Additional right-of-way cost was not included.

Moving the alignment to the north would encroach upon the Mud Slough Wildlife Refuge and still require acquisition of some portion of the Gadwall Wildlife Area. The interchange would require up to 8.7 hectares (21.5 acres) of right-of-way from the Gadwall Wildlife Area and up to 34.4 hectares (85 acres) of the Mud Slough Wildlife Area, which is located north of State Route 152 and east of the Santa Fe Grade Canal. The design would also result in a reverse curve that would meet state design standards but require more complex traffic maneuvers. Evidence indicates archaeological resources in the vicinity could also be affected by an alternative with this configuration.

The No-Build Alternative would avoid potential 4(f) issues. However, the No-Build Alternative would not meet the purpose and need of the proposed project as discussed in Chapter 2, Project Alternatives, of this environmental document.

Alternative 3M is the only build alternative that avoids the wildlife refuge. Alternative 3M avoids the Gadwall Wildlife Area because no land would be used and water supplies would not be affected. Alternative 3M would also avoid impact to wetlands located on the north edge of the wildlife area. Indirect effects to noise and view would be avoided because the roadway would be no closer than the existing roadway. Access would still be altered, requiring use of a frontage road.

C.5 Measures to Minimize Harm

Under Section 4(f), it must be determined that: 1) there is no prudent and feasible alternative to using the land, and 2) the project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

An option considered to minimize impacts was to eliminate the east interchange. This would reduce impacts to the Gadwall Wildlife Area to approximately 14.6 hectares (36 acres), rather than the 24.2 hectares (60 acres) required under the current design. Access to Los Banos would be from the State Route 152/165 interchange. Eliminating the east interchange would not affect the Los Banos Business/Industrial Park, but would not provide good local traffic circulation. By not providing direct access to the eastern quadrant of Los Banos and requiring circuitous travel, the no-interchange option only meets portions of the purpose and need of the project. Less right-of-way acquisition would be required and elimination of ramps and structures at the interchange would reduce project costs. However, Pacheco Boulevard would end with a cul-de-sac just east

of San Luis Street with no connection to the new State Route 152, which would disrupt local traffic circulation.

If Alternative 1M or 2M were selected as the preferred alternative, a possible measure to minimize harm to the Gadwall Wildlife Area would be to purchase adjacent private properties to exchange with the California Department of Fish and Game so that the total acreage of the wildlife refuge would remain the same or larger. Meetings with the California Department of Fish and Game indicated the agency would be interested in adjacent properties due to their high-value habitat that could benefit the refuge system. The Merced Community College District currently owns a parcel (approximately 56.2 hectares [139 acres]) that is bordered on three sides by the Gadwall Wildlife Area. Exchange of the parcel would avoid affecting 22.7 to 23.8 hectares (56 to 59 acres) of the Gadwall site. If a southern alternative were selected, Caltrans would work with the California Department of Fish and Game to minimize harm to Gadwall and to determine appropriate mitigation of any impacts.

C.6 Resources Evaluated Relative to the Requirements of Section 4(f)

This section discusses the parks, recreational facilities, wildlife refuges and historic properties found within or adjacent to the project area that do not trigger Section 4(f) protection because:

- they are not publicly owned,
- they are not open to the public,
- they are not eligible historic properties,
- the project does not permanently use the property and does not hinder the preservation of the property, or
- the proximity impacts do not result in constructive use.

While the project is near the Mud Slough Wildlife Area, project alternatives would not permanently or temporarily use, or indirectly affect, the property. Therefore, the provisions of Section 4(f) are not triggered.

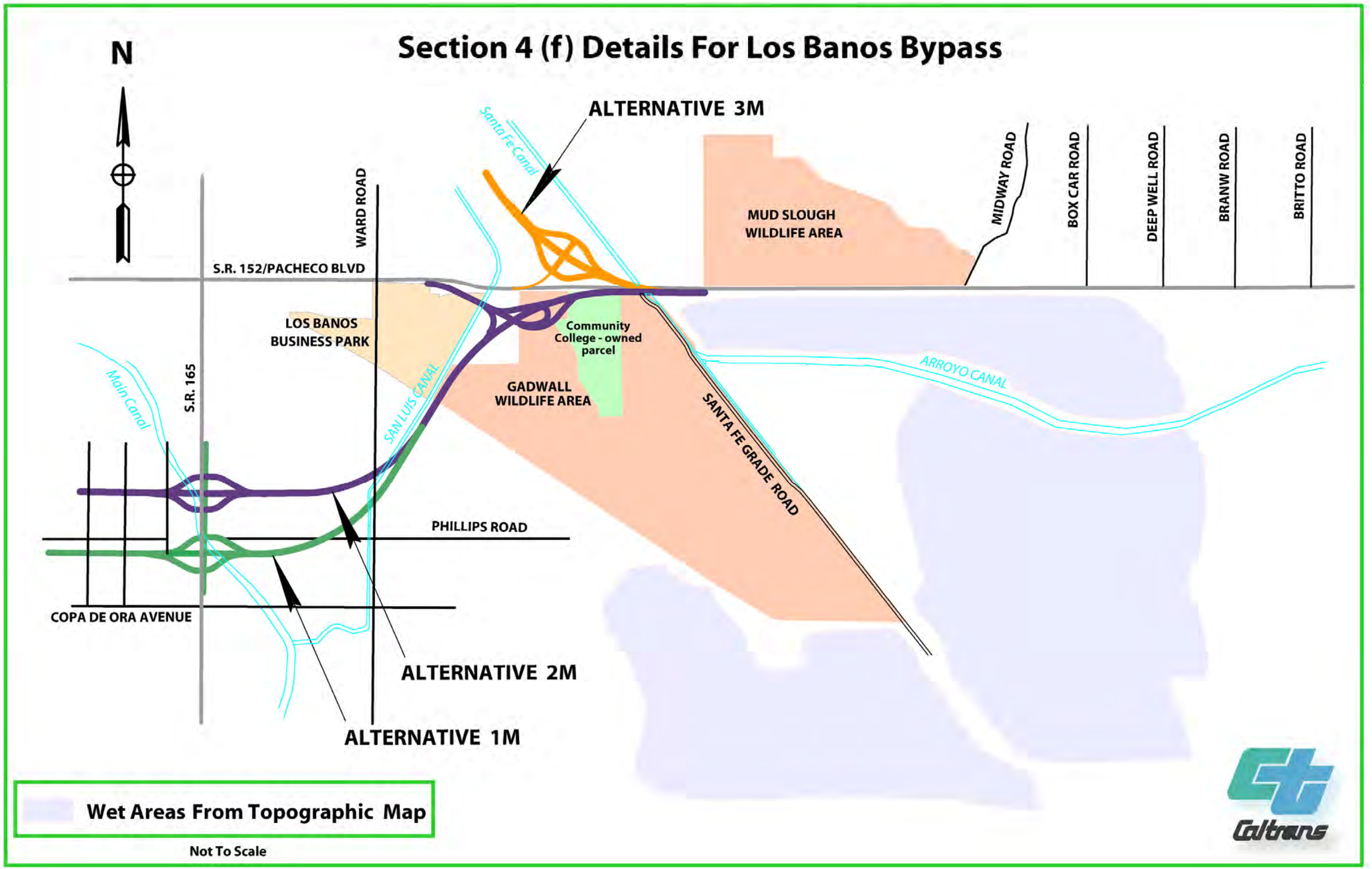


Figure C-2 Section 4(f)/Gadwall

The Los Banos Regional Park Ag Sports Complex is located on a 20.2-hectare (50-acre) parcel owned by the City of Los Banos. The parcel lies between Mercey Springs Road on the west and the San Luis Canal on the east, south of Henry Miller Road. Approximately 4.4 hectares (11 acres) adjacent to Mercey Springs Road has been developed with playing fields. Of the remaining land, the southern half could be developed some time in the future. The northern half was the site of an old landfill that has since been closed but not remediated.

The Noise Impact Study included sites north and east of the park (see Section 3.10). Site 1 was located approximately 457 meters (1,500 feet) north of the park on State Route 165 in the vicinity of the proposed interchange. At this location, it was predicted that the noise level would slightly decrease over existing levels to 57.0 dBA. Three more sites (2, 3, and 4) to the east of the park were also analyzed for noise. These sites were at least 609 to 762 meters (2,000 to 2,500 feet) east of the developed park portion of the parcel. A noise increase greater than 12 dBA was anticipated for these three sites; however, the predicted noise levels ranged from 51.3 to 58.9 dBA, lower than the federal abatement criteria of 67 dBA for land use in that area. Sound barriers for the area were not feasible or reasonable.

The Visual Impact Assessment for the proposed project (see Section 3.7) found that there would be a moderate increase in the scenic quality from the roadway due to the elevated view. The view of the roadway from offsite locations would be slightly decreased because the roadway would bisect agricultural and other land use. The elevation of the roadway east of the park would be lower than at the interchange to the north where State Routes 152 and 165 cross. The view of the roadway would be approximately 457 to 762 meters (1,500 to 2,500 feet) from the developed park portion of the parcel.

This portion of the parcel is located adjacent to the proposed alignment for Alternative 3M but would be avoided. It is not anticipated that noise or visual effects would cause constructive use of the parcel due to the distance of the proposed project to the developed Los Banos Regional Park Ag Sports Complex. The proposed project would not encroach on or affect the park or the city-owned parcel on which it is located.

Because all alternatives avoid this property, the project does not permanently use the property and does not hinder the preservation of the property. Therefore, the provisions of Section 4(f) are not triggered.

C.7 Coordination

With California Department of Fish and Game

March 24, 2000 – Field meeting with Caltrans staff to discuss concerns for the Gadwall Wildlife Area in relation to the bypass project.

December 24, 2001 – Caltrans received an early consultation letter describing California Department of Fish and Game comments and concerns regarding impacts to the Gadwall Wildlife Area.

November 4, 2002 – Meeting to discuss drainage and public access issues, restoration plans for the Gadwall Wildlife Area.

December 15, 2002 – Telephone conversation. Mr. Mayott discussing impacts to the state listed threatened Swainson's hawk.

October 30, 2003 – Meeting with Jeff Single, Regional Manager, and John Beam, Senior Biologist, to discuss functions of Gadwall Wildlife Area, access issues, college-owned parcel, and future plans.

November 17, 2003 – Bill Cook and Steve Miyamoto, Fish and Game, met with Caltrans staff to discuss project alternatives, access, and impact at the Gadwall Wildlife Area.

February 4, 2005 – Memorandum from Clarence Mayott, Environmental Scientist for the California Department of Fish and Game, stating that no federal funds where used to purchase land for the Gadwall Unit of the North Grasslands Wildlife Area in Merced County.

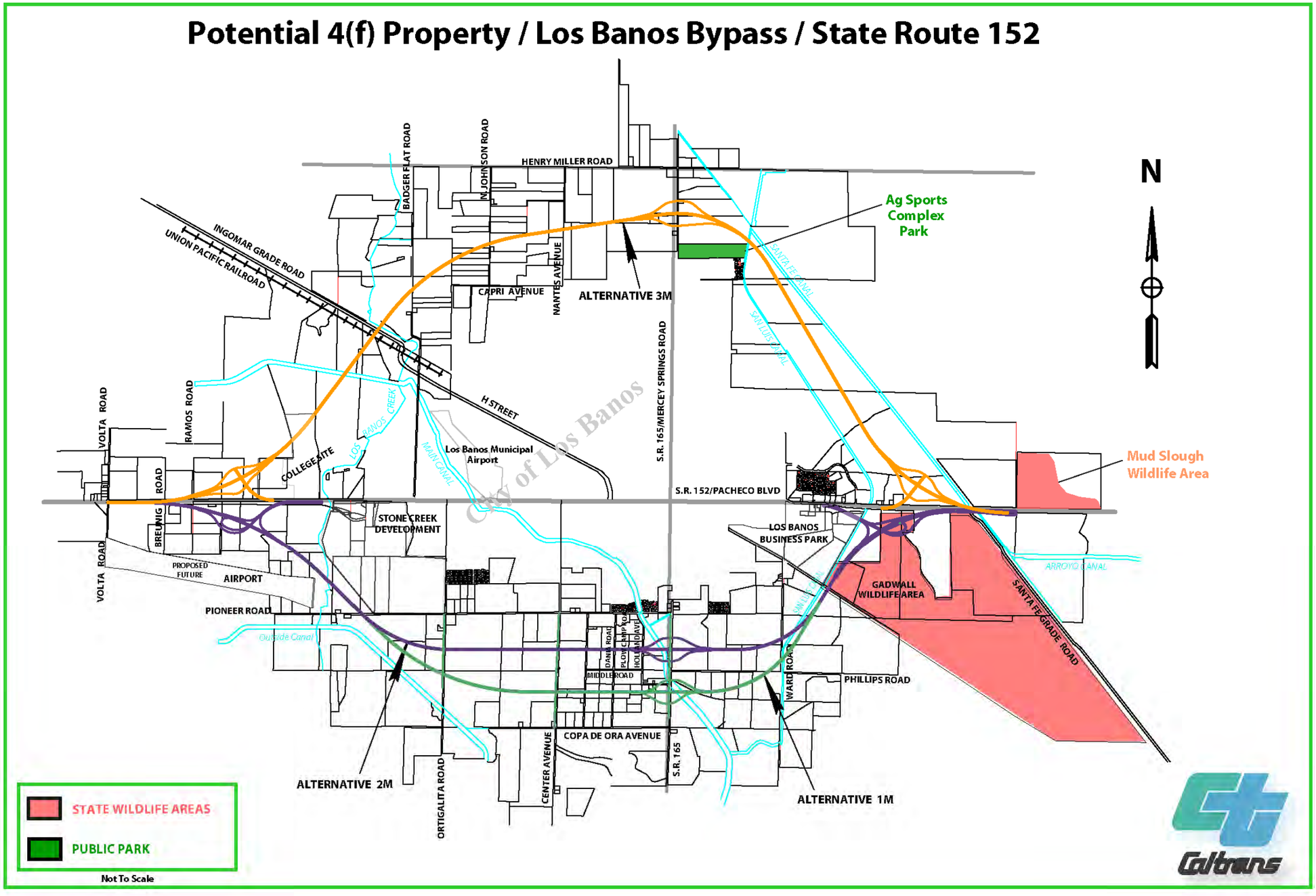


Figure C-3 Section 4(f) Property Location Map

Appendix D Summary of Relocation Benefits

Relocation Assistance Advisory Services

The California Department of Transportation will provide relocation advisory assistance to any person, business, farm or non-profit organization displaced as a result of Caltrans' acquisition of real property for public use. Caltrans will assist residential displacees in obtaining comparable decent, safe and sanitary replacement housing by providing current and continuing information on sales price and rental rates of available housing. Non-residential displacees will receive information on comparable properties for lease or purchase.

Residential replacement dwellings will be in equal or better neighborhoods, at prices within the financial means of the individuals and families displaced, and reasonably accessible to their places of employment. Before any displacement occurs, displacees will be offered comparable replacement dwellings that are open to all persons regardless of race, color, religion, sex or national origin, and are consistent with the requirements of Title VIII of the Civil Rights Act of 1968. This assistance will also include supplying information concerning federal and state assisted housing programs, and any other known services being offered by public and private agencies in the area.

Residential Relocation Payments Program

The Relocation Payment Program will assist eligible residential occupants by paying certain costs and expenses. These costs are limited to those necessary for, or incidental to, purchasing or renting a replacement dwelling, and actual reasonable expenses incurred in moving to a new location within 80 kilometers (50 miles) of displacee's property. Any actual moving costs in excess of 80 kilometers (50 miles) are the responsibility of the displacee. The Residential Relocation Program can be summarized as follows:

Moving Costs: Any displaced person who was "lawfully" in occupancy of the acquired property, regardless of the length of occupancy in the property acquired, will be eligible for reimbursement of moving costs. Displacees will receive either the actual reasonable costs involved in moving themselves and personal property up to a maximum of 80 kilometers (50 miles), or a fixed payment based on a fixed moving cost schedule that is determined by the number of furnished or unfurnished rooms of the displacement dwelling.

Purchase Supplement: In addition to moving and related expense payments, fully eligible homeowners may be entitled to payments for increased costs of replacement housing. Homeowners who have owned and occupied their property for 180 days or more prior to date of the first written offer to purchase the property, may qualify to receive a price differential payment equal to the difference between the Caltrans' offer to purchase their property and the price of a comparable replacement dwelling, and may qualify to receive reimbursement for certain nonrecurring costs incidental to the purchase of the replacement property. An interest differential payment is also available if the loan rate for the mortgage on the replacement dwelling is higher than the loan rate on the displacement dwelling, subject to certain limitations on reimbursement based upon the replacement property interest rate. Also the interest differential must be based upon the "lesser of" either the loan on the displacement property or the loan on the replacement property. The maximum combination of these three payments that the owner-occupant can receive is $22,500. If the calculated total entitlement (without moving payments) is in excess of $22,500, the displacee may quality for the Last Resort Housing described below.

Rental Supplement: Tenants who have occupied the property to be acquired by Caltrans for 90 days or more and owner-occupants who have occupied the property 90 to 180 days prior to the date of the first written offer to purchase may qualify to receive a rental differential payment. This payment is made when Caltrans determines that the cost to rent a comparable and "decent, safe and sanitary" replacement dwelling will be more than the present rent of the displacement dwelling. As an alternative, the eligible occupant may qualify for a down payment benefit designed to assist in the purchase of a replacement property and the payment of certain costs incidental to the purchase, subject to certain limitations noted below under the "Down Payment" section (see below). The maximum amount of payment to any tenant of 90 days or more and any owner-occupant of 90 to 179 days, in addition to moving expenses, will be $5,250. If the calculated total entitlement for rental supplement exceeds $5,250, the displacee may qualify for the Last Resort Housing Program described below.

The rental supplement of $7,500 or less will be paid in a lump sum, unless the displacee requests that it be paid in installments. The displaced person must rent and occupy a "decent, safe and sanitary" replacement dwelling within one year from the date Caltrans takes legal possession of the property, or from the date the displacee vacates the Caltrans-acquired property, whichever is later.

Down Payment: Displacees eligible to receive a rental differential payment may elect to apply it to a down payment for the purchase of a comparable replacement dwelling. The down payment and incidental expenses cannot exceed the maximum payment of $5,250, unless the Last Resort Housing Program is indicated. The one-year eligibility period in which to purchase and occupy a "decent, safe and sanitary" replacement dwelling will apply.

Last Resort Housing: Federal regulations (49 Code of Federal Regulations 24) contain the policy and procedure for implementing the Last Resort Housing Program on federal-aid projects. To maintain uniformity in the program, Caltrans has also adopted these federal guidelines on non-federal-aid projects. Except for the amounts of payments and the methods in making them, last resort housing benefits are the same as those benefits for standard residential relocation, as explained above. Last resort housing has been designed primarily to cover situations where an available comparable replacement housing, or when their anticipated replacement housing payments, exceed the $5,250 and $22,500 limits of the standard relocation procedures. In certain exceptional situations, Last Resort Housing may also be used for tenants of less than 90 days. After the first written offer to acquire the property has been made, Caltrans will, within a reasonable length of time, personally contact the displacees to gather important information relating to:

- Preferences in area of relocation.
- Number of people to be displaced and the distribution of adults and children according to age and sex.
- Location of school and employment.
- Special arrangements to accommodate any handicapped member of the family.
- Financial ability to relocate into comparable replacement dwelling, which will house all members of the family decently.

The above explanation is general in nature and is not intended to be a complete explanation of relocation regulations. Any questions concerning relocation should be addressed to the Caltrans Right-of-Way Division. Any persons to be displaced will be assigned a relocation advisor who will work closely with each displacee to see that all payments and benefits are fully used, and that all regulations are observed, thereby avoiding the possibility of displacees jeopardizing or forfeiting any of their benefits or payments.

Business and Farm Relocation Assistance Program

The Business and Farm Relocation Assistance Program provides aid in locating suitable replacement property for the displacee's farm or business, including, when requested, a current list of properties offered for sale or rent. In addition, certain types of payments are available to businesses, farms, and non-profit organizations. These payments may be summarized as follows:

- Reimbursement for the actual direct loss of tangible personal property incurred as a result of moving or discontinuing the business in an amount not greater than the reasonable cost of relocating the property.
- Reimbursement up to $1,000 of actual reasonable expenses in searching for a new business site.
- Reimbursement up to $10,000 of actual reasonable expenses related to re-establishment of the business at the new location.
- Reimbursement of the actual reasonable cost of moving inventory, machinery, office equipment and similar business-related personal property, including dismantling, disconnecting, crating, packing, loading, insuring, transporting, unloading, unpacking, and reconnecting personal property.

Payment "in lieu" of moving expense is available to businesses that are expected to suffer a substantial loss of existing patronage as a result of the displacement, or if certain other requirements such as inability to find a suitable relocation site are met. This payment is an amount equal to the average annual net earnings for the last two taxable years prior to relocation. Such payments may not be less than $1,000 and not more than $20,000.

Additional Information

No relocation payment received will be considered as income for the purpose of the Internal Revenue Code of 1954 or for the purposes of determining eligibility or the extent of eligibility of any person for assistance under the Social Security Act or any other federal law (except for any federal law providing low-income housing assistance).

Persons who are eligible for relocation payments and who are legally occupying the property required for the project will not be asked to move without being given at least 90 days advance notice, in writing. Occupants of any type of dwelling eligible for relocation payments will not be required to move unless at least one comparable

"decent, safe and sanitary" replacement residence, open to all persons regardless of race, color, religion, sex or national origin, is available or has been made available to them by the state.

Any person, business, farm or non-profit organization that has been refused a relocation payment by Caltrans, or believes that the payments are inadequate may appeal for a hearing before a hearing officer or the Caltrans' Relocation Assistance Appeals Board. No legal assistance is required; however, the displacee may choose to obtain legal council at his/her expense. Information about the appeal procedure is available from the Caltrans' Relocation Advisors.

The information above is not intended to be a complete statement of all the Department of Transportation's laws and regulations. At the time of the first written offer to purchase, owner-occupants are given a more detailed explanation of the state's relocation services. Tenant occupants of properties to be acquired are contacted immediately after the first written offer to purchase and also given a more detailed explanation of the Caltrans relocation programs.

Important Notice

To avoid loss of possible benefits, no individual, family, business, farm or non-profit organization should commit to purchase or rent a replacement property without first contacting a Department of Transportation relocation advisor at:

State of California
Department of Transportation, District #10
1976 East Charter Way
Post Office Box 2048
Stockton, CA 95201

Appendix E Glossary of Technical Terms

Technical Term	Explanation of Term
Abatement	Mitigation of noise.
Ambient Noise Level	The noise levels existing in an area before introduction of the proposed roadway. The quantity is measured in "dBA" and expressed as "Leq" ambient noise levels.
Aquifer	Water-bearing geologic formation that permits the movement of groundwater.
At-grade roadway	A roadway that is level with the immediate surrounding terrain.
Average Annual Daily Traffic (AADT)	Denotes that the daily traffic is averaged over one calendar year.
Average Daily Traffic (ADT)	The number of vehicles that pass over a given roadway during a one-day period. The average daily traffic count is calculated by determining the total number of vehicles during a given period in whole days and dividing by the number of days in the period.
A-weighted sound level	The most generally used measure of the magnitude of traffic noise. It is defined as the sound level, in decibels, measured with a sound-level meter having the metering characteristics and a frequency weighting specified in American National Standard Specifications for Sound Level Meters. It is common practice to refer to the numerical units of an A-weighted sound level as "dBA." The A-weighting tends to de-emphasize lower-frequency sounds.
A-weighted sound levels	Approximate way humans interpret sound.
Barrier	A solid wall or earth berm, located between the roadway and noise receiver location, that breaks the line-of-sight between the receiver and the roadway sources.
California Transportation Commission (CTC)	A body established by Assembly Bill 402 and appointed by the governor to advise and assist the Secretary of the Business, Transportation and Housing Agency and the legislature in formulating and evaluating state policies and plans for transportation.
Cumulative impacts	As defined by the California Environmental Quality Act, two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. As defined by National Environmental Policy Act, impacts on the environment that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions.

Decibel (dBA)	A logarithmic "unit" that indicates the ratio between two powers. A ratio of 10 in power corresponds to differences of 10 decibels.
Design Noise Level	Noise levels, for various activities or land uses, that represent the upper limit of acceptable traffic noise conditions. These levels are used to determine the degree of impact of traffic noise on human activities.
Design Year	The future year used to estimate the probable traffic volume for which a highway is designed. A period of 10 to 20 years from the end of construction is usually used.
Dewatering	The process of removing water from an area or element.
Direct effects	Those effects that are caused by the action and occur at the same time and place.
Emergent	Arising naturally.
Environmental Justice	Identifying and addressing disproportionately high and adverse human health or environmental effects of programs, policies, and activities on minority populations and low-income populations.
Existing Noise Levels	The noise resulting from the natural and mechanical sources and human activity usually present in a particular area.
Groundwater	Free water occurring in a zone of saturation below the ground surface.
Growth inducement	The relationship between the proposed transportation project and growth within the project area.
Habitat	An area where plants or animals naturally occur.
Herbaceous	Having little or no woody tissue and persisting usually for a single growing season.
Indirect effects	Those effects that are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.
L_{eq}	The equivalent steady-state A-weighted sound level, which in a stated period of time would contain the same acoustical energy as the time-varying sound during the same period.
$L_{eq(h)}$	The energy-average of the A-weighted sound levels occurring during a one-hour period.
Level of Service (LOS)	A rating used to characterize the quality of operating conditions within a traffic stream and their perception by motorists and passengers.
Major Investment Study (MIS)	Evaluation of alternatives for their ability to solve transportation problems within a study area.
Peak hour	The period during which the maximum amount of traffic occurs.
Peak hour directional split	Amount of peak hour traffic traveling in the major direction.

Prime farmland	Rural land with the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops.
Project Study Report	The pre-programming document required before a project may be included in the State Transportation Improvement Program.
Receivers	The location at which noise levels are computed and analyzed. Also referred to as the observer.
Regional Transportation Improvement Program (RTIP)	A list of proposed transportation projects submitted to the California Transportation Commission by the regional transportation agency, as a request for state funding through the Flexible Congestion Relief and Urban and Commuter Rail Programs. The individual projects are first proposed by local jurisdictions, then evaluated and prioritized by the Regional Transportation Planning Agency for submission to the California Transportation Commission. The Regional Transportation Improvement Program has a seven-year planning horizon and is updated every two years.
Regional Transportation Planning Agency (RTPA)	The agency responsible for the preparation of Regional Transportation Plans (RTP) and Regional Transportation Improvement Programs (RTIP) and designated by the State Business Transportation and Housing Agency to allocate transit funds. Regional Transportation Planning Agencies can be local transportation commissions, Councils of Government (COGs), Metropolitan Planning Organizations (MPOs), or statutorily created agencies.
Right-of-way	A general term denoting land, property, or an interest therein, usually in a strip, acquired for or devoted to transportation services.
Riparian	Relating to or living or located on the banks of a natural watercourse, lake, or tidewater.
Roadway	Used to designate any arterial highway, expressway, freeway, or parkway.
Ruderal	A weedy and commonly introduced plant growing where the vegetation cover has been interrupted.
Senate Bill 45	The bill that consolidated various funding programs into the State Transportation Improvement Program and created more accountability for programming and delivery of State Transportation Improvement Program projects to the regions around the state and the various Caltrans districts.
Sound Level (Noise Level)	Weighted sound level measured with a sound-level meter having metering characteristics and a frequency-weighting network as specified in the sound-level meter standard.
Sphere of Influence	The projected limits to which a city could extend municipal services.

State Transportation Improvement Program (STIP)	A list of transportation projects proposed in Regional Transportation Improvement Programs (RTIP) that are approved for funding by the California Transportation Commission. The State Transportation Improvement Program has two main funding components: the Regional Improvement Program and the Interregional Improvement Program. After Senate Bill 45, the State Transportation Improvement Program was changed from a seven-year action plan to an interim six-year plan. Since 2000, the State Transportation Improvement Program has been a four-year plan with updates every two years.
Traffic Noise Impacts	Impacts occur when the predicted traffic noise level equals or exceeds the noise abatement criteria level, or when the predicted levels exceed the existing levels by 12 dBA and are at least 65 dBA.
Transportation Systems Management	Actions that improve the operation and coordination of transportation services and facilities to realize the most efficient use of the existing transportation system.
Type 1 project	A proposed federal or federal-aid highway project for the construction of a highway on a new location or the physical alteration of an existing highway that significantly changes either the horizontal or vertical alignment or increases the number of through-traffic lanes (23 Code of Federal Regulations 772).
Urban Limit Line	The future extent of urban development and services, similar to the Merced County designation of the Specific Urban Development Plan boundary.
Weir	A dam in a stream to raise the water level or divert its flow.
Wildlife corridor	A large patch of habitat connecting two or more larger areas of habitat, which is essentially free of physical barriers such as fences, walls, and developed areas.

Appendix F Farmland Conversion Form

U.S. DEPARTMENT OF AGRICULTURE **Form AD-1006**

FARMLAND CONVERSION IMPACT RATING

PART 1 ***(To be completed by Federal Agency)***	1. Date of Land Evaluation Request 3/1/04	2. Sheet _1___ of __1___
3. Name of Project Los Banos Bypass, Merced 152-16.0/R24.8	4. Federal Agency Involved Caltrans/FHWA	
5. Proposed Land Use 4-lane expressway on new alignment	6. County and State Merced County, California	7. Type of Project: Corridor **X** Other ☐
PART II ***(To be completed by NRCS)***	1. Date Request Received by NRCS 3/8/04	2. Person Completing the NRCS parts of this form Jennifer Foster
3. Does the site or corridor contain prime, unique ,statewide or local important farmland? Yes ☒ No ☐ (If no, the FPPA does not apply - Do not complete additional parts of this form)		4. Acres Irrigated 493,072 / 5. Average Farm Size 311
6. Major Crop(s) Almonds, Tomatoes, Alfalfa	7. Farmable Land in Government Jurisdiction Acres: 532,327 % 43.1	8. Amount of Farmland As Defined in FPPA Acres: 544,425 % 44.1
9. Name of Land Evaluation System Used California Storie Index	10. Name of Local Site Assessment System None	11. Date Land Evaluation Returned by NRCS 6/8/04

PART III ***(To be completed by Federal Agency)***	**Alternative Site Rating**			
	Site A	**Site B**	**Site C**	**Site D**
A. Total Acres To Be Converted Directly	560.7	537.1	690.9	
B. Total Acres To Be Converted Indirectly, Or To Receive Services				
C. Total Acres in Site	560.7	537.1	690.9	
PART IV ***(To be completed by NRCS) Land Evaluation Information***				
A. Total Acres Prime and Unique Farmland	462	413	491	
B. Total Acres Statewide and Local Important Farmland	47	47	90	
C. Percentage of Farmland in County or Local Govt. Unit to be Converted	<1%	<1%	<1%	
D. Percentage of Farmland in Govt. Jurisdiction with Same or Higher Relative Value	Data	not	available	
PART V ***(To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland to be Serviced or Converted (Scale of 0 - 100 Points)***	74	74	77	

PART VI ***(To be completed by Federal Agency) Corridor or Site Assessment Criteria (These criteria are explained in*** **7 CFR 658.5(b &**	**Max. Points Corridor**	**Other**				
1. Area in Nonurban Use	15	15	10	8	10	
2. Perimeter in Nonurban Use	10	10	10	10	10	
3. Percent of Site Being Farmed	20	20	17	16	14	
4. Protection Provided by State and Local Government	20	20	20	20	20	
5. Distance from Urban Built-up area	0	15	N/A	N/A	N/A	
6. Distance to Urban Support Services	0	15	N/A	N/A	N/A	
7. Size of Present Farm Unit Compared to Average	10	10	10	10	10	
8. Creation of Non-Farmable Farmland	25	10	0	0	0	
9. Availability of Farm Support Services	5	5	5	5	5	
10. On-Farm Investments	20	20	10	10	10	
11. Effects of Conversion on Farm Support Services	25	10	1	1	1	
12. Compatibility with Existing Agricultural Use	10	10	3	3	3	
TOTAL CORRIDOR OR SITE ASSESSMENT POINTS	160		86	83	83	
PART VII ***(To be completed by Federal Agency)***						
Relative Value of Farmland (from Part V above)	100		74	74	77	
Total Corridor or Site Assessment (From Part VI above or a local site assessment)	160		86	83	83	
TOTAL POINTS ***(Total of above 2 lines)***	260		160	157	160	

PART VIII ***(To be completed by Federal Agency after final alternative is chosen)***

1. Corridor or Site Selected:	2. Date of Selection:	3. Was A Local Site Assessment Used? Yes ☐ No ☐

4. Reason For Selection:

Signature of person completing the Federal Agency parts of this form:	DATE

Wisconsin substitute form AD-1006 6-9-97 Completion instructions: http://www.wi.nrcs.usda.gov/soil/prime/prinotes.html

Appendix G Mitigation and Minimization Summary

The conversion of farmland and increases in noise associated with the proposed project are considered significant impacts under the California Environmental Quality Act. No mitigation would be done for these impacts for the following reasons:

- The proposed project would be built primarily on farmland that surrounds the city of Los Banos. Only the No-Build Alternative would avoid converting farmland for the project, but it would not meet the purpose and need of the project. Farmland conversion for the bypass is addressed in the city's General Plan. At this time, no known conservation easement programs exist in Merced County for farmland mitigation (see Section 3.3 for further details on farmland).

- The proposed project would be built in a rural area where sensitive noise receptors are few and scattered. Noise abatement was considered to be feasible, but not reasonable based on the results of a cost-benefit analysis. Therefore, noise abatement measures, other than those recommended for construction noise, were not recommended for the proposed project (see Section 3.12 for further details on noise).

Summary of Mitigation

Area	Impact	Mitigation
Biological Resources	Wetland impacts	Wetland and waters of the U.S. compensation, and construction monitoring. Use of Best Management Practices during construction.
	Sensitive species habitat	Special-status species habitat compensation, pre-construction surveys, a pre-construction educational meeting, avoidance and minimization, and construction contract special provisions.
Community Impacts	Displace residences and businesses	Relocation assistance and real property acquisition policies.

Summary of Minimization and Monitoring

Area	Impact	Mitigation
Hydrology and Water Quality	Storm water runoff	Implement a Storm Water Pollution Prevention Plan during construction and a Storm Water Management Plan after construction.
Air Quality	PM_{10} emissions during construction	Implement Caltrans Standard Specifications that require the contractor to comply with the San Joaquin Valley Unified Air Pollution Control District's rules, ordinances, and regulations.
Visual Resources	Possible loss of large oak or large eucalyptus trees	Mitigation to be determined if trees are removed.

Please see Chapter 3, Affected Environment, Environmental Consequences, and Mitigation Measures, for more detailed information on mitigation, minimization, and monitoring commitments.

Appendix H Los Banos Land Use Map

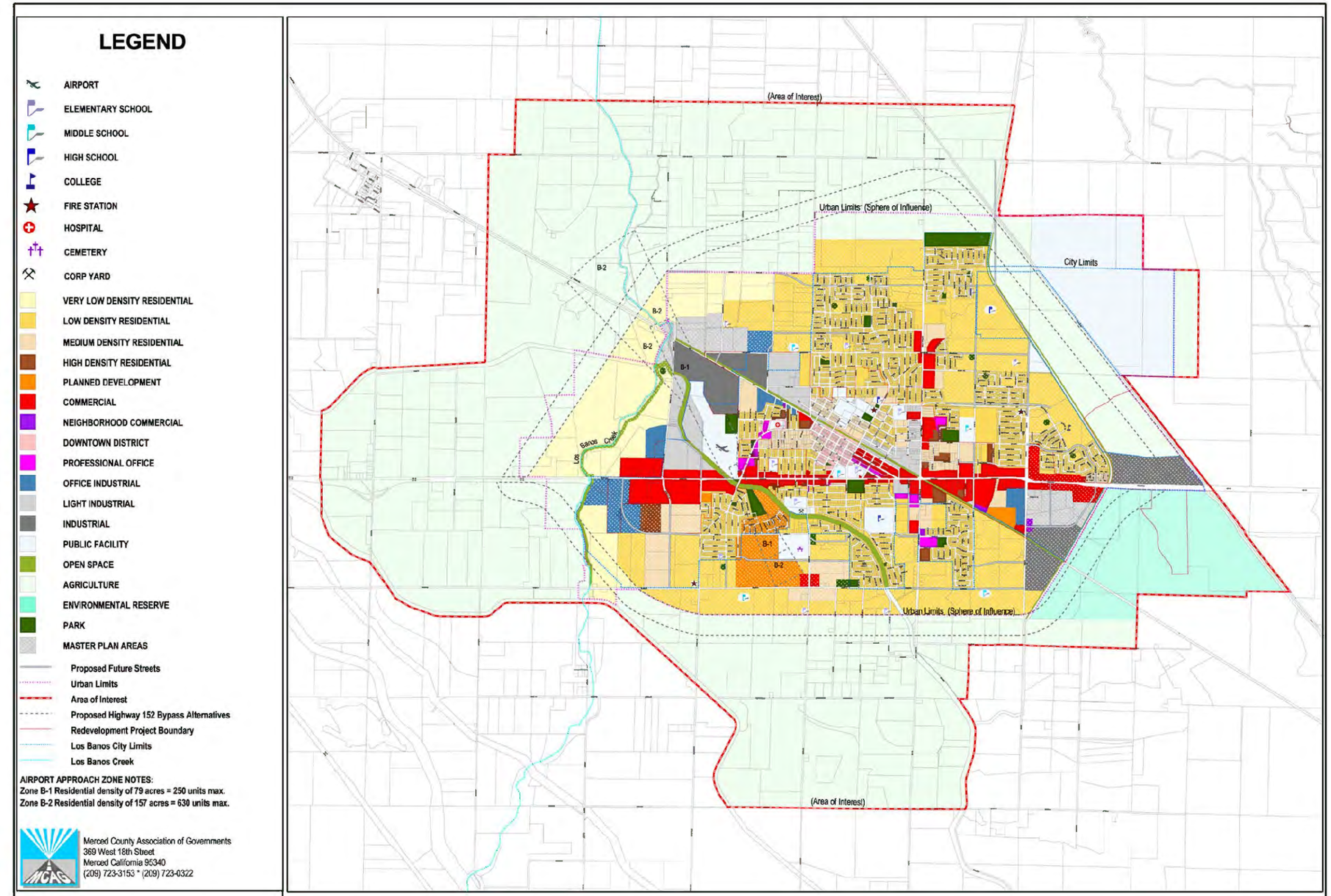
The following land use map was provided by the Merced County Association of Governments.

LEGEND

- AIRPORT
- ELEMENTARY SCHOOL
- MIDDLE SCHOOL
- HIGH SCHOOL
- COLLEGE
- FIRE STATION
- HOSPITAL
- CEMETERY
- CORP YARD
- VERY LOW DENSITY RESIDENTIAL
- LOW DENSITY RESIDENTIAL
- MEDIUM DENSITY RESIDENTIAL
- HIGH DENSITY RESIDENTIAL
- PLANNED DEVELOPMENT
- COMMERCIAL
- NEIGHBORHOOD COMMERCIAL
- DOWNTOWN DISTRICT
- PROFESSIONAL OFFICE
- OFFICE INDUSTRIAL
- LIGHT INDUSTRIAL
- INDUSTRIAL
- PUBLIC FACILITY
- OPEN SPACE
- AGRICULTURE
- ENVIRONMENTAL RESERVE
- PARK
- MASTER PLAN AREAS
- Proposed Future Streets
- Urban Limits
- Area of Interest
- Proposed Highway 152 Bypass Alternatives
- Redevelopment Project Boundary
- Los Banos City Limits
- Los Banos Creek

AIRPORT APPROACH ZONE NOTES:
Zone B-1 Residential density of 79 acres = 250 units max.
Zone B-2 Residential density of 157 acres = 630 units max.

Merced County Association of Governments
369 West 18th Street
Merced California 95340
(209) 723-3153 * (209) 723-0322



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Revised: December 9, 2004

MICHAEL S. AMABILE
MAYOR FOR THE CITY OF LOS BANOS

CITY OF LOS BANOS

GENERAL PLAN LAND USE MAP

ADOPTED: MAY 19, 1999

Project Location Map

Los Banos Bypass

State Route 152

Alternative 1M	
Alternative 2M	
Alternative 3M	

Not To Scale

10-MER-152
EA 10-419100
KP 25.8/39.9
(PM 16.0/24.8)

Caltrans