STATE ROUTE 120
OAKDALE EXPRESSWAY PROJECT

Draft Environmental Impact Report/ Draft Environmental Impact Statement

On Route 120
From 0.16 kilometer (0.1 mile) west of Valley Home Road
To 4.5 kilometer (2.8 mile) east of Lancaster Road
10-STA-120-KP 4.5/R20.8
(PM 3.0/R12.9)
06241-345400

U.S. Department
of Transportation
Federal Highway
Administration

Caltrans

April 2001

General Information About This Document

What Is In This Document?

- This document is a Draft Environmental Impact Report/Draft Environmental Impact Statement (DEIR/DEIS) which examines the potential environmental impacts of alternative routes for the proposed Oakdale Expressway Project on State Route 120 in Stanislaus County, California.
- The document describes why the project is being undertaken, alternative methods for constructing the project, the current existing environment that could be affected by the project, and potential impacts from each of the alternatives.

What Should You Do?

- Please read the DEIR/DEIS.
- If you have any important information that has not been considered and addressed in the document, please attend the Public Meeting and/or send your written comments to Caltrans by the deadline. Submit comments via regular mail to Caltrans, 2015 East Shields, Suite 100, Fresno, California 93726, Attn.: Jennifer Verrone, Chief, Central Sierra Environmental Analysis Branch. Submit comments via email to jennifer_verrone@dot.ca.gov.

- Deadline for submitting comments: July 6, 2001.

What Happens After This?

- After comments are received from the public and reviewing agencies, Caltrans may (1) environmentally approve the proposed project, (2) undertake additional environmental studies, or (3) abandon the project. When and if the project is environmentally approved and funding is approved, Caltrans can 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 Central Sierra Environmental Analysis Branch, 2015 East Shields, Suite 100, Fresno, CA 93726. (559) 243-8158 Voice, or use the California Relay Service TTY number, 1(800) 735-2929.

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(PM 3.0 / R12.9)
10-345400

State Route 120 from Post Mile 3.0 to Post Mile R12.9
Near Oakdale, Stanislaus County, California

DRAFT
ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL IMPACT STATEMENT

Submitted Pursuant to: (State) Division 13, Public Resources Code
(Federal) 42 U.S.C. 4332(2)(C) and 49 U.S.C. 303
by the
U.S. DEPARTMENT OF TRANSPORTATION
Federal Highway Administration, and
THE STATE OF CALIFORNIA
Department of Transportation

4/18/01
Date of Approval

For
Mark Leja
Director, District 10
California Department of Transportation

4-23-01
Date of Approval

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Abstract

Caltrans proposes to construct the State Route 120 Oakdale Expressway Project, a two-lane expressway with interchanges, to bypass the city of Oakdale in Stanislaus County. Caltrans will also acquire right of way to meet future transportation needs. The purpose of the project is to reduce the congestion on State Route 120, improve safety by reducing the number of accidents, and improve system continuity. Traffic congestion occurs during peak traffic periods on weekends and on weekdays (especially holidays) because of a high volume of recreational travel to Yosemite National Park, the Jamestown and Sonora areas and points east. Five build alternatives and a No Action Alternative are presented. Potential project impacts are described, especially with regard to wetlands, habitat, threatened and endangered species, visual resources, noise, displacement of homes and businesses and changes in land use. However, proper mitigation implemented by Caltrans through ongoing consultation with appropriate agencies would reduce the magnitude of these impacts.

Comments on this document are due by ______________________ and should be sent to Jennifer Verrone at the above address.

Summary

This Draft Environmental Impact Report/Draft Environmental Impact Statement (DEIR/DEIS) assesses the potential environmental impacts of constructing and operating the Oakdale Expressway Project. The purpose of the proposed project is to reduce the traffic congestion on Route 120, improve safety by reducing the number of accidents, and promote the completion of the Route 120 system. This project would be compatible with planned future improvements to Route 120. Traffic congestion occurs on Routes 120 and 120/108 in the Oakdale vicinity during peak periods on weekdays and on weekends (especially during spring and summer holidays) due to recreational vacationers who travel to Yosemite National Park, the Jamestown and Sonora areas, and points eastward. Traffic backs up for several miles on the eastern approaches to Oakdale during major spring and summer holiday weekends. Existing Routes 120 and 120/108 do not provide adequate capacity to carry interregional traffic along with locally generated traffic in this growing city.

Caltrans would acquire the right of way (ROW) (243 ft [70 m] wide) for a future transportation facility (most likely a four-lane freeway) and would construct a two-lane expressway within this ROW. Five alternative alignments are proposed for this project: 1, 2A, 2B, 2C, and 2D, ranging in length from 6.4 mi (10.3 km) to 9.8 mi (15.8 km). These alternatives are illustrated in Figure A. Costs for the alternatives range from $93.4 million to $102.8 million (in 2003/2004 dollars). These alignments were developed after conducting a systematic, interdisciplinary examination of over 60 different alternative alignments for meeting the project's purpose and need. The potential environmental impacts of each of these five alternatives are analyzed in this DEIR/DEIS. Also evaluated in this DEIR/DEIS is the No Action Alternative, which represents continued use of Routes 120 and 108 for interregional travel through Oakdale and its vicinity.

Potential Impacts

The most important potential environmental impacts from the proposed project are in the areas of biological resources, farmland, and community effects. Potential biological impacts would result mainly from acquisition of land for the ultimate four-lane expressway. Some of this land includes wetlands and other possible habitat areas. Likewise, potential impacts to farmland would result from the acquisition of agricultural land for the ultimate four-lane facility. Potential community impacts are primarily due to business and home relocations. No direct use of any section 4(f) resources by any of the build alternatives was identified.

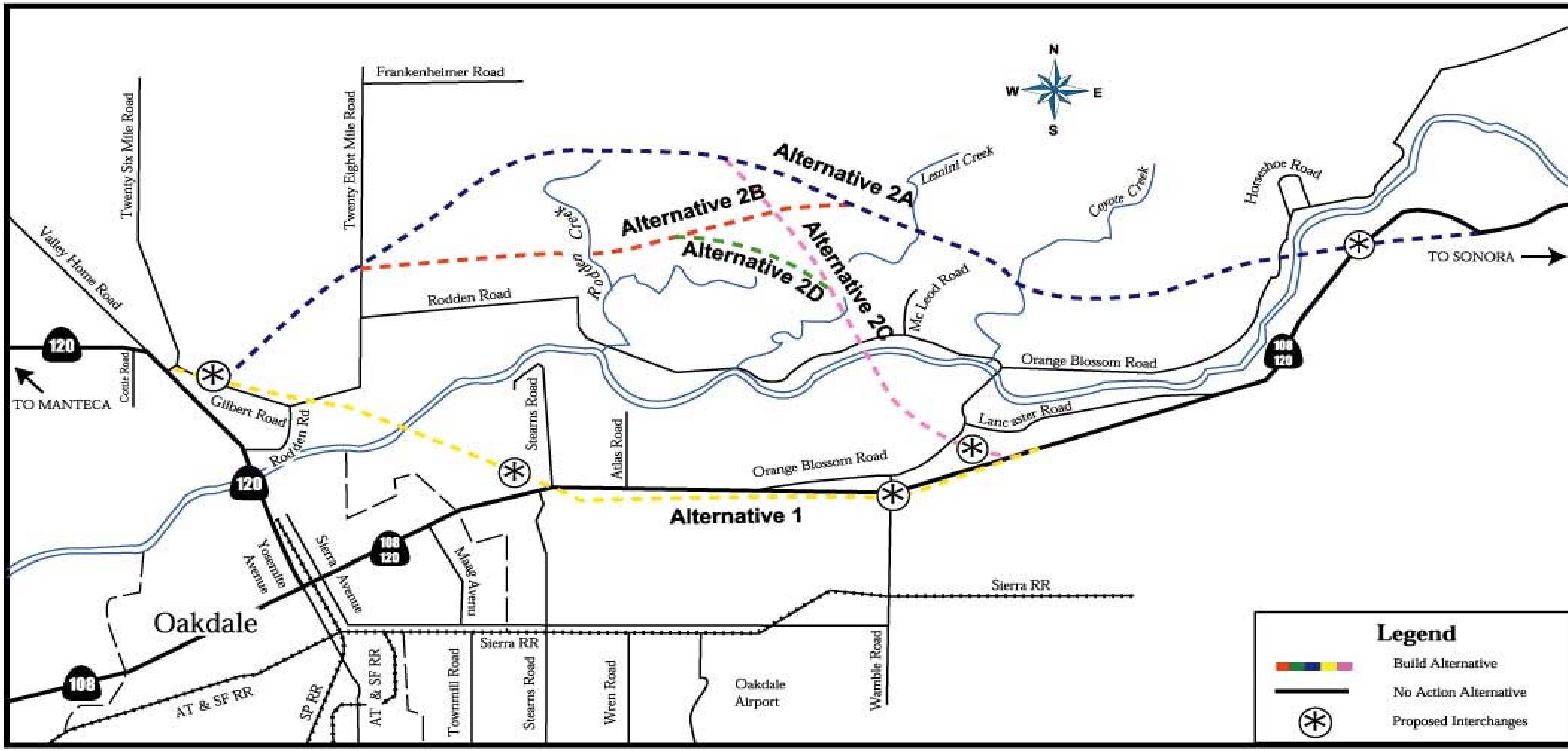
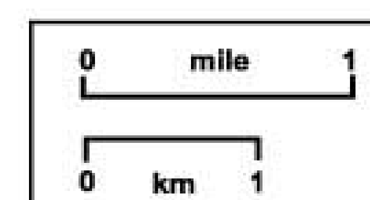


Figure A Locations of Alternatives



Potential impacts from the build alternatives on wetlands and waters include removal and fragmentation of wetland habitats, alteration of wetland hydrology, and changes in wetland species composition. Depending on the alternative, the construction of the expressway would impact as little as 8.13 ac (3.29 ha) or as much as 18.57 ac (7.52 ha) of wetlands and waters. Alternative 1 and Alternatives 2C/2D would affect 0.86 ac (0.35 ha) and 0.42 ac (0.16 ha), respectively, of high-quality riparian areas at their respective crossings of the Stanislaus River. Alternatives 2A/2B would cross the river at a point where the habitat is already degraded, and would impact about 1.4 ac (0.57 ha). For all other categories of wetlands and waters that were examined as part of this study, the potential impacts from the build alternatives are for the most part equal. In addition, most of the affected wetlands/waters have low to moderate probabilities of performing key functions such as flood control, water quality, or habitat.

Principal impacts to threatened and endangered species include habitat loss for the valley elderberry longhorn beetle (VELB), Aleutian Canada goose, anadromous fish, fairy shrimp, and California tiger salamander. In addition, oak woodlands protected by the State of California would be affected. Alternative 2D is the only alternative that would directly affect Aleutian Canada goose sites, and Alternative 1 is the only alternative that would affect spawning gravels (anadromous fish). For VELB habitat, Alternatives 2A/2B clearly have the lowest potential impacts, with only about one-third the number of elderberry stems that would be impacted by Alternatives 2C/2D. Alternatives 2A/2B also have the lowest potential impacts to oak woodlands, with only 0.52 ac (0.21 ha), versus the impacts from the remaining alternatives which are about 8 to 9 times greater. Potential impacts to fairy shrimp sites are similar across all alternatives. Alternative 1 impacts no tiger salamander sites, while Alternative 2B impacts two sites, and Alternatives 2A, 2C, and 2D each impact one site.

Potential prime farmland impacts range from about 60 ac (25 ha) for Alternatives 2A and 2C to 209 ac (85 ha) for Alternative 1. The number of agricultural business displacements ranges from six to nine across all alternatives.

Each of the build alternatives is predicted to result in community impacts, including relocation of homes and businesses. The overall structure of Oakdale businesses would not change, nor would it adversely affect residential areas. Any of the build alternatives would improve access, circulation, emergency response time, and would reduce accident rates. Alternative 2C would impact the most houses (32), whereas Alternative 2B would impact the fewest houses (18). Alternatives 1, 2C and 2D would each displace three businesses, whereas Alternatives 2A and 2B would each displace four.

In terms of balanced earthwork, Alternative 2A would represent the most efficient use of cut and fill, such that potential impacts from cut and fill operations (e.g., fugitive dust, emissions from earth moving equipment, visual impacts, etc.) would be much less for 2A than for the other build alternatives.

Structures associated with Alternatives 1, 2C, and 2D would be noticeable in the visual landscape. Areas of interest include the Stearns Road Interchange and the Stanislaus River crossing for Alternative 1 and north of Rodden Road for Alternatives 2C and 2D. Potential visual impacts of Alternatives 2A and 2B were found to be minimal. Visual impacts from the proposed expressway would largely result from new views of the surrounding countryside from the vantage point of the new expressway, and thus would primarily be beneficial.

Potential impacts to cultural resources from all alternatives are judged to be minimal. Only Alternative 1 has a possible prehistoric site located at the crossing of the Stanislaus River.

For potential floodplain impacts, none of the build alternatives showed a predicted increase in the base flood elevation, and impacts were judged to be minimal. The proposed alternatives do not support incompatible floodplain development.

Water quality impacts from construction would be minimal for all build alternatives due to the mandated use of Best Management Practices (BMPs) during construction. Since predicted traffic levels on each of the build alternatives would be much less than the 30,000 average daily traffic (ADT) cutoff that has been shown to result in minimal impacts to water quality, no adverse water quality effects from expressway operation are anticipated.

Alternative 1 has about three times as many potential hazardous waste sites and impacts as Alternatives 2A, 2B, 2C, or 2D. For hazardous waste, construction would also have beneficial impacts since any hazardous waste discovered during earth moving operations would be cleaned up, thereby removing potential sources of contamination to soil, groundwater, and atmospheric resources in the future.

Potential air quality impacts were found to be in compliance for carbon monoxide (CO) for all Build Alternatives; one CO hotspot was predicted for the No Action Alternative. The project was found to be in conformity with regional plans for attaining the ambient air quality standards. It is also in conformity with the federal CO standard, meaning that it will not lead to any new violation or worsen any existing violation. The project is included in the currently conforming Regional Transportation Plan and the Federal Transportation Improvement Program. A conformity determination was made by the Stanislaus Area Association of Governments (now Stanislaus County Council of Governments) on September 16, 1998 and by the Federal Highway Administration on October 5, 1998.

In terms of potential noise impacts, Alternative 1 has the highest number of receptors (nine) potentially experiencing noise levels greater than or equal to 66 dBA. Alternative 1 has only six receptors with greater-than-12 dBA increases above background noise levels, whereas Alternatives 2A, 2B, 2C, and 2D each have seven. One soundwall was found to be feasible and reasonable; it would be located on the far west end of the project and would be common to all build alternatives.

Construction of the project is expected to result in minimal impacts to air quality, water quality and noise, primarily due to the short-term nature of the construction activities in any one given area.

Cumulative and growth inducing impacts would be similar for all build alternatives. Due to the limited access nature of the expressway, none of the alternatives would encourage unplanned growth. Growth in the rural areas, potentially affected by Alternatives 2A/2B, and to a lesser extent by 2C/2D, would be very limited by the absence of infrastructure (e.g., sewer and water). Alternative 1 would be located closer to infrastructure, but would also affect areas covered by planning documents for the City and County. The proposed expressway would contribute to cumulative impacts in the areas of noise, farmland conversion, and habitat loss.

Mitigation

Proposed mitigation of potential adverse impacts includes the following:

- Impacts on vernal pool habitat, and the species present within that habitat affected by the proposed project, would be mitigated through preservation and enhancement of habitat.
- Mitigation of VELB habitat would be accomplished under the terms of the "Conservation Guidelines for the Valley Elderberry Longhorn Beetle" issued by the U.S. Fish and Wildlife Service (USFWS).
- The total number of oaks removed, whether isolated or in a woodland, would be used to determine the number of oak replacements required, at a ratio of three to one (standard California Department of Fish and Game ratio) for oaks larger than one foot (30 cm) diameter at breast height (dbh). Impacts on riparian habitat would be

mitigated near the Stanislaus River and attempts would be made to combine riparian habitat and oak plantings to restore mixed ecosystem habitat destroyed by earlier land uses, such as gravel mining. Possible sites for mixed ecosystem restoration have been explored with field visits and inspection of aerial photography; these include the U.S. Army Corps of Engineers (COE) Horseshoe Bend Public Recreation Area and other properties adjacent to COE property along the Stanislaus River.

- While only one alternative (2D) has a direct potential impact on Aleutian Canada geese, all alternatives have indirect impacts on grasses and wetlands that could be used by the geese. Therefore, Caltrans proposes to mitigate impacts on these grasses and wetlands by acquiring replacement property, most likely in conjunction with the riparian and oak mitigation described above.
- Mitigation measures for overpass/bridge construction on the Stanislaus River would be necessary to minimize fishery habitat degradation. A construction window would be applied to minimize harm to listed fish species. Construction would be accomplished during low flows in dry summer months (June–September) when adult spawning and fry emergence would not be a critical issue. Use of BMPs during construction, in accordance with Caltrans policies, would minimize sedimentation effects.
- Prior to construction, surveys for bats and nesting migratory birds would be completed to minimize potential adverse effects to these species of concern.
- Displacement of businesses, agricultural operations, and houses would be mitigated through relocation. Adequate resources for all potential displacements (except for possibly one non-profit organization) were found to be available in the Oakdale area. Businesses and non-profit organizations would be offered reestablishment expenses and moving costs. Additional benefits, options, and payments would be determined by the ROW-relocation agent upon meeting with the displacee.
- Results of the noise barrier analysis indicate that mitigation through construction of a soundwall is both reasonable and feasible at one location at the western beginning of the project corridor, adjacent to an existing mobile home park at the northwest corner of Route 120 and Cottle Road (this location is common to all build alternatives). The proposed soundwall would substantially reduce noise levels at existing homes within the mobile home park.
- Mitigation for potential visual impacts includes revegetation and rounding tops of slopes and bottoms of fill slopes to blend with existing terrain.

Permits

Potential permits for this project include section 404 of the Clean Water Act (CWA) and section 1601 of the California Fish and Game Code. A water quality certification required by section 401 of the CWA and a National Pollutant Discharge Elimination System (NPDES) general also apply to this project.

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List of Acronyms and Initialisms

Ac	Acre(s)
acc/mvm	Accidents Per Million Vehicle Miles
ADT	Average Daily Traffic
APE	Area of Potential Effect
API	Area of Potential Impact
AST	Above-Ground Storage Tank
BMPs	Best Management Practices
CAAQS	California Ambient Air Quality Standards
CAC	Citizens Advisory Committee
CARB	California Air Resources Board
CDFG	California Department of Fish and Game
CDOF	California Department of Finance
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Data Base
CO	Carbon Monoxide
COE	U.S. Army Corps. of Engineers
CTC	California Transportation Commission
CWA	Clean Water Act
DBA	Decibels Measured on the A Scale of a Sound Meter
Dbh	Diameter at Breast Height
DED	Draft Environmental Document
DEIR/DEIS	Draft Environmental Impact Report/Draft Environmental Impact Statement
DRIS	Draft Relocation Impact Statement
DWR	Department of Water Resources
EDD	Employment Development Department
EIR	Environmental Impact Report
EIR/EIS	Environmental Impact Report/Environmental Impact Statement
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FHPM	Federal Aid Highway Program Manual
FHWA	Federal Highway Administration
Ft	Feet
FTA	Federal Transit Administration
HASR	Historic Architecture Survey Report
HPSR	Historic Property Survey Report
IRRS	Interregional Route System
ISA	Initial Site Assessment
Km	Kilometer
KP	Kilometer Post
KV	Kilovolt
Leq	Equivalent Steady State Sound Level
LOS	Level of Service
M	Meter
MCE	Maximum Credible Earthquake
Mi	Mile

MIS	Major Investment Study
MOU	Memorandum of Understanding
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NES/BA	Natural Environment Study and Biological Assessment
NFIP	National Flood Insurance Program
NO_2	Nitrogen Dioxide
NOI	Notice of Intent
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O_3	Ozone
OHP	Office of Historic Preservation
OID	Oakdale Irrigation District
Pb	Lead
PDT	Project Development Team
PM	Post Mile
PM-10	Particulate Matter
PM-2.5	Fine Particulate Matter
Ppm	Parts Per Million
PSI	Preliminary Site Investigation
PSR	Project Study Report
RCR	Route Concept Report
ROW	Right of Way
RTIP	Regional Transportation Improvement Program
RTP	Regional Transportation Plan
RTPA	Regional Transportation Planning Agency
SCTCS	Stanislaus County Transportation Corridors Study
SHPO	State Historic Preservation Officer
SHS	State Highway Systems
SIP	State Implementation Plan
SJVAB	San Joaquin Valley Air Basin
SLC	State Lands Commission
SO_2	Sulfur Dioxide
SR	State Route
StanCOG	Stanislaus County Council of Governments
STIP	State Transportation Improvement Program
SWPPP	Storm Water Pollution Prevention Plan
TASAS	Traffic Accident Surveillance and Analysis System
TIP	Federal Transportation Improvement Program
TSM	Transportation Systems Management
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
USTs	underground storage tanks
VE	Value Engineering
VELB	Valley Elderberry Longhorn Beetle
Yd	Yard

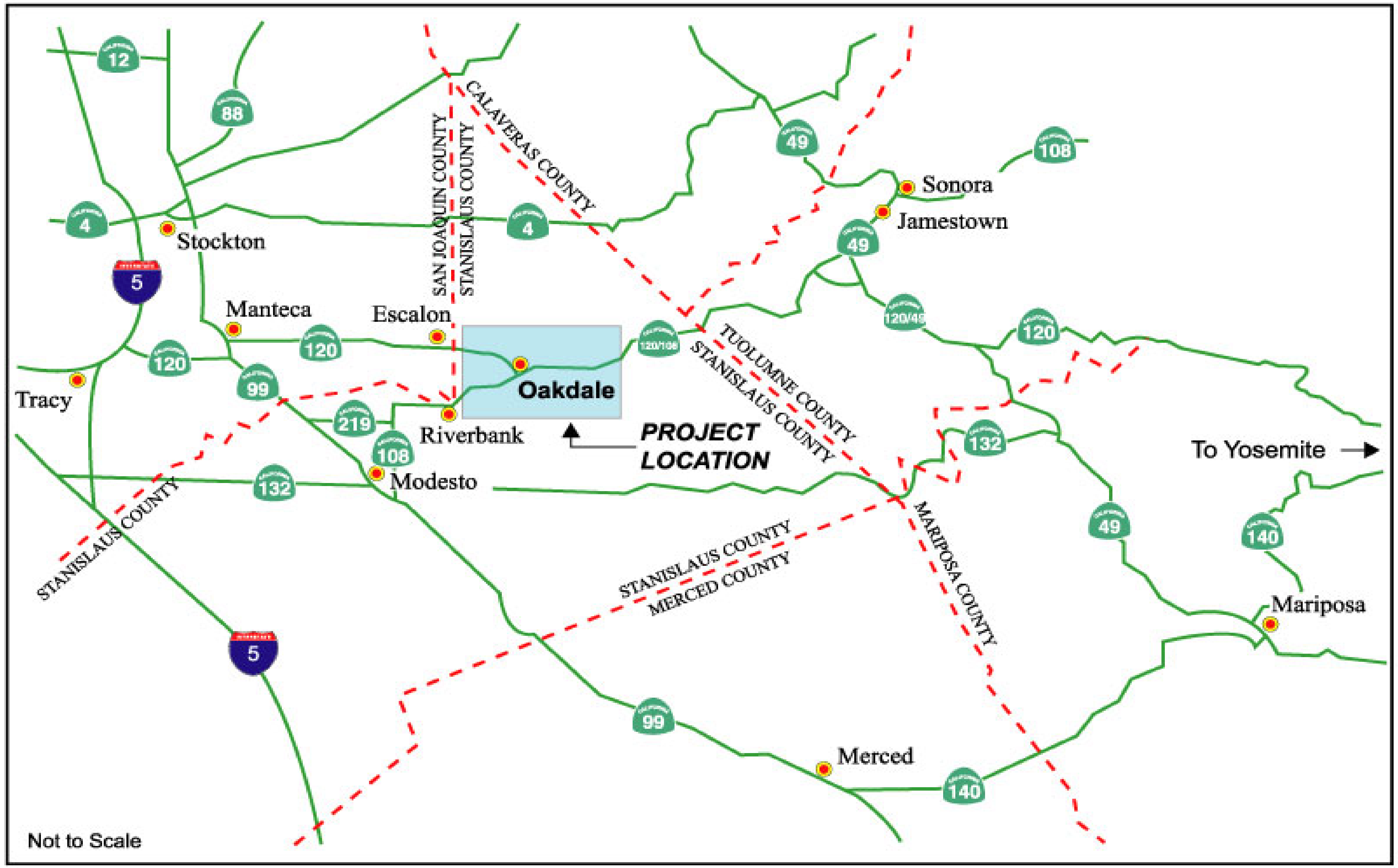
CHAPTER 1 Purpose and Need

1.1 Introduction

Route 120 is a major east/west route that begins east of Tracy at its junction with Route 5. It extends eastward through Manteca, Escalon, Oakdale, and Yosemite National Park and then ends in the community of Benton near the California/Nevada border (Figure 1-1). Route 120 serves as a major recreation route and as a commuter route in the Central Valley and foothills. Route 120 is a highway of statewide significance because it provides interregional and intrastate travel through its connection with Route 5 and Yosemite National Park. Route 120 merges with Route 108 in downtown Oakdale (Figure 1-2). Route 108 begins in Modesto, heads north for about 7 mi (11 km), and then turns east through Riverbank, eventually entering Oakdale from the west. Routes 120 and 108 coincide for approximately 25 mi (40 km) until separating at Route 49 just west of the city of Sonora in Tuolumne County. Thus, Route 120, via its coincident routing and connecting link with Route 108, also serves the fast-growing areas of Sonora and East Sonora along the Route 108 corridor.

Increasing levels of traffic on Routes 120/108 through the Oakdale have led to a growing traffic congestion problem that the California Department of Transportation (Caltrans) and the local community have been addressing for over four decades. At present, Routes 120/108 experience severe traffic congestion during weekends (especially summer holidays) from Route 120 recreational traffic (traveling to Yosemite National Park, the Jamestown and Sonora areas, and points east) and during weekdays from Routes 120/108 commuter traffic. Traffic congestion is most severe at the Route 120/108 junction in downtown Oakdale. The level of service (LOS) in 1990 for this intersection was classified in the range of moderate to high delays, and is projected to degrade to very high delays by the year 2020, if there are no transportation system improvements.

This congestion has led Caltrans to propose construction and operation of a two-lane expressway to bypass Oakdale in Stanislaus County, California. Also as part of this project, Caltrans proposes to acquire additional right of way (ROW) for future transportation improvements. The proposed project involves about 8 to10 mi (13 to16 km) of new expressway bypassing Oakdale, that would be compatible with the planned Escalon Bypass (to the west), and the planned Lovers Leap Bypass (to the east). The purpose of the proposed project is to reduce traffic congestion, enhance continuity, and improve safety on Routes 120/108 in the vicinity of Oakdale.



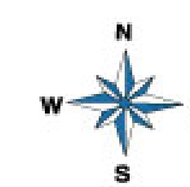


Figure 1-1 Project Vicinity Map

Caltrans

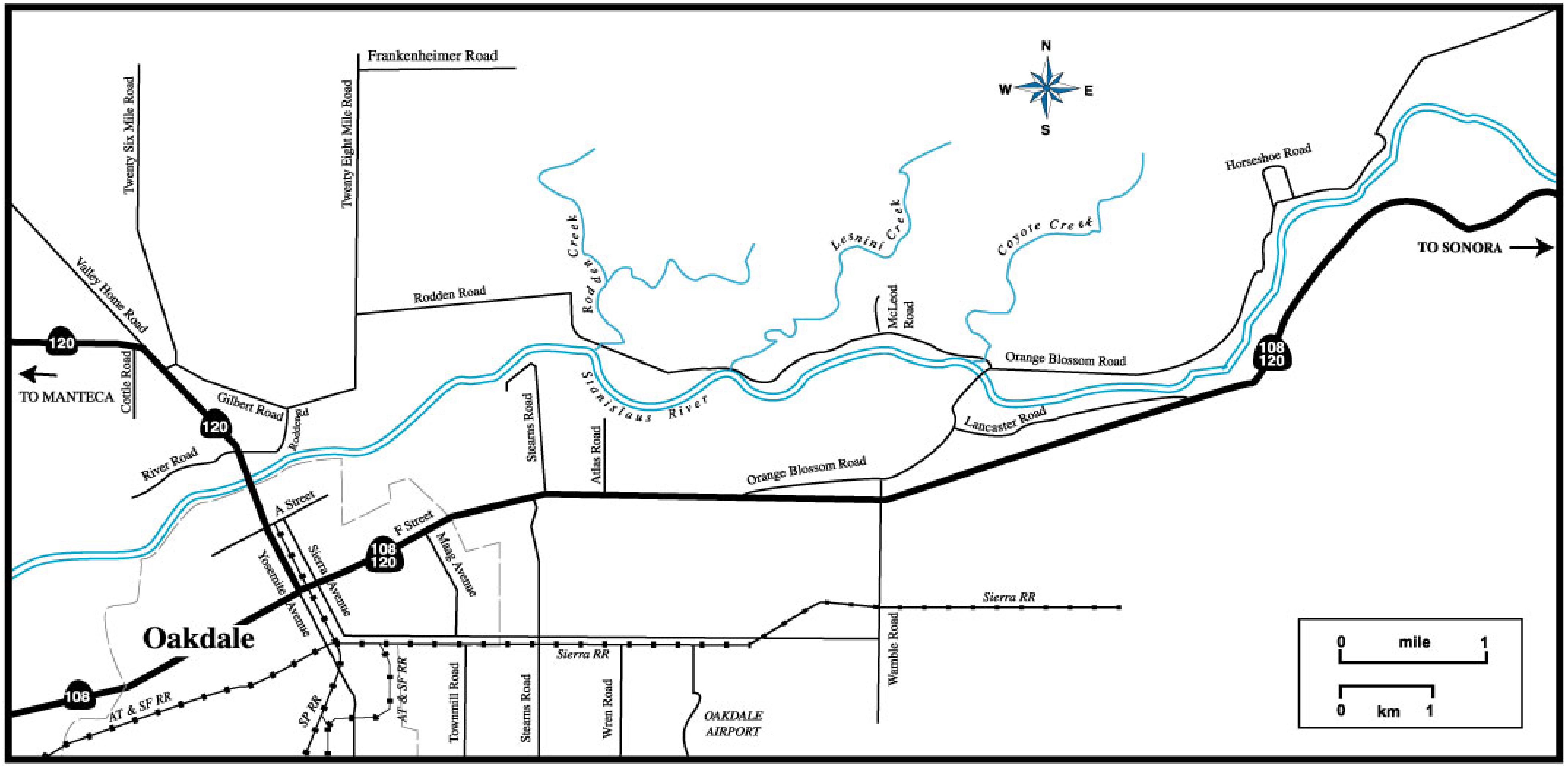


Figure 1-2 Project Location Map

It is recognized that traffic is congested at peak times in and near Oakdale on Route 108. However, analysis of alternatives and impacts of improvements to Route 108 are outside the scope of this project, which is to remove Route 120 interregional traffic from downtown Oakdale. A project to widen Route 108 in and to the west of Oakdale is in the preliminary planning stages. The environmental document for the Route 108 widening project would examine the interregional implications of Route 108 traffic in Oakdale and would analyze alternatives that could connect Route 108 to a new Route 120 expressway. Caltrans expects the environmental document for the Route 108 widening project to be completed in 2004.

1.2 Project Background

The study for an expressway bypassing Oakdale began in the early 1950s as part of a study for an adopted route for Route 120 from Route 5 in San Joaquin County to the existing four-lane expressway section east of Oakdale in Tuolumne County. In 1968, after extensive studies and numerous public meetings, the California Highway Commission (now called the California Transportation Commission [CTC]) adopted this route (Figure 1-3). Freeway agreements were signed with San Joaquin County, Stanislaus County, and the cities of Manteca and Oakdale.

Since then, other projects have been proposed (and some constructed) to improve interregional traffic flow in the vicinity of the adopted route. In 1980, the Manteca Bypass was constructed, thus removing the interregional traffic from the city of Manteca. This bypass was widened to a four-lane freeway in 1995 to meet the increase in traffic on the facility. San Joaquin County, the City of Escalon, and Caltrans are proposing an Escalon Bypass along the adopted route to remove interregional traffic passing through Escalon. Caltrans has also completed a Project Study Report (PSR) for the proposed Lover's Leap Bypass, to improve existing Route 120 east of Oakdale near Lover's Leap.

During the late 1960s and early 1970s, Caltrans planned and designed an expressway from just west of Valley Home Road to just east of Stearns Road, along the adopted alignment. Work was stopped due to funding constraints and the project was deferred until funding became available.

In 1984, in response to local support for a solution to the weekend congestion problem through Oakdale, Caltrans completed a Project Study Report (PSR) for the expressway that examined three build alternatives (Corridors 1, 2, and 3) and the No Action

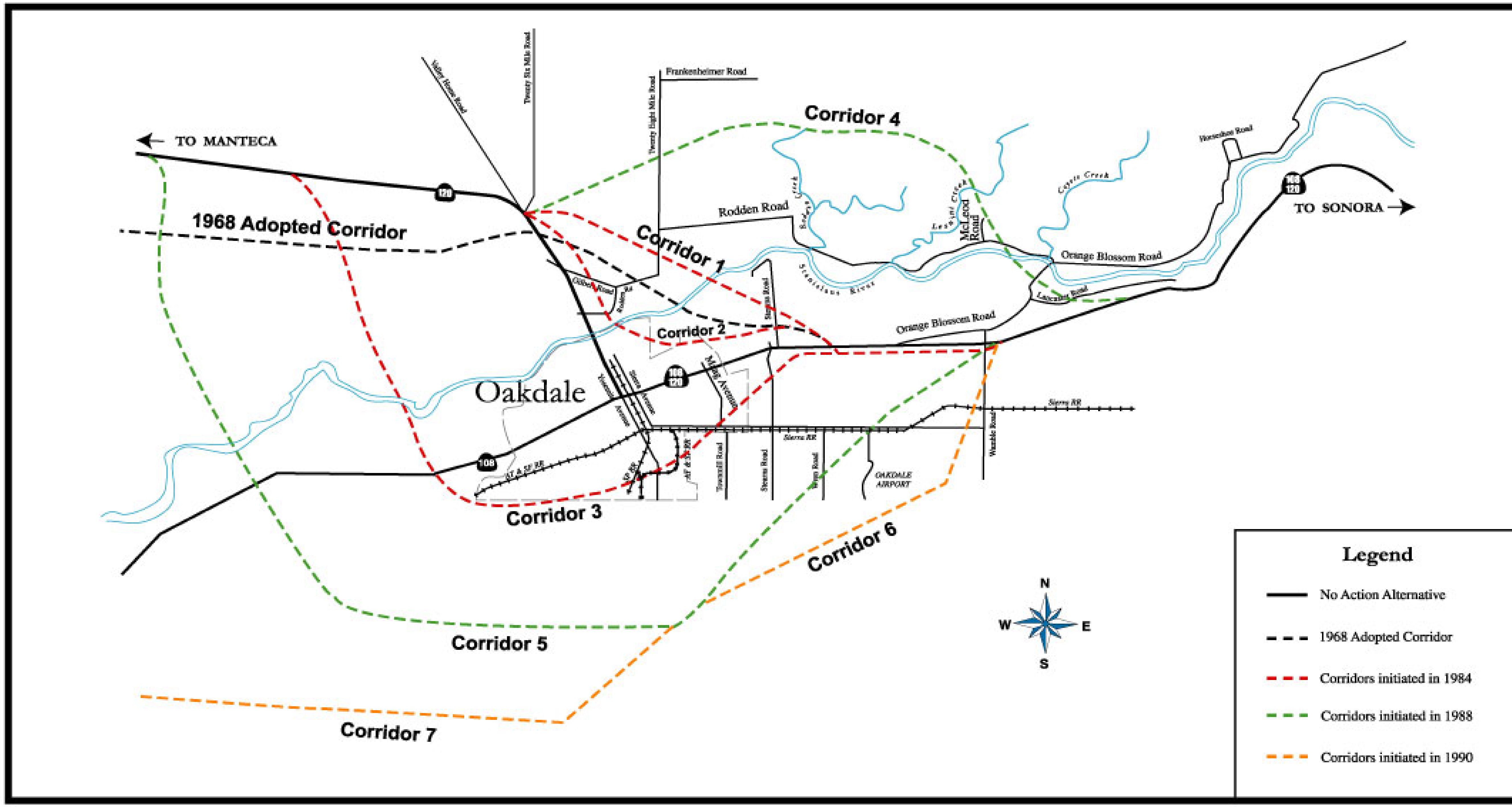


Figure 1-3 Proposed Corridors Studied for the Oakdale Expressway Project (1968-1990)

Alternative (Figure 1-3). The PSR was submitted for funding in the 1984 State Transportation Improvement Program (STIP), with an estimated cost of approximately $14 million, to the CTC and to the Stanislaus County Council of Governments (StanCOG) (formerly Stanislaus Area Association of Governments [SAAG]). However, the project was not funded because of budget constraints and other higher priority projects statewide.

In November of 1988, Caltrans re-initiated formal studies for this project, resulting in the addition of Corridors 4 and 5 (Figure 1-3). These corridors were added to address community concerns that Corridors 1, 2, and 3 would have a substantial impact on existing homes and businesses in Oakdale.

In January of 1990, Caltrans initiated a Value Engineering (VE) study that postulated and then evaluated more than forty potential alternatives and combinations of alternatives. This VE study resulted in a list of seven corridors–the original five, as well as two new alignments (Corridors 6 and 7) shown in Figure 1-3. Further evaluation by the VE team, resulted in the recommendation that Corridor 4 be developed further.

StanCOG identified the Oakdale Expressway as the priority project for Stanislaus County for funding in the 1990 State Transportation Improvement Program (STIP). In November 1990, voter approval of Proposition 111 created funding for State highways in the Interregional Route System (IRRS) Plan. This plan identified Route 120 as an interregional route of statewide significance. Subsequently, the CTC appropriated construction funds for the Oakdale Expressway Project under the IRRS Plan in the 1990 STIP.

Caltrans proceeded with environmental studies for Corridors 1 and 4, renaming them Alternatives 1 and 2. In 1992/1993, Alternative 2 was dropped due to environmental concerns (see Chapter 2) and replaced with four variant alternatives (2A, 2B, 2C, and 2D). Caltrans then conducted detailed technical studies of Alternatives 1, 2A, 2B, 2C, 2D, and the No Action Alternative. Most of these studies were completed in 1994/1995, and were subsequently updated by Caltrans in 1998-1999. These updated studies form the basis of the information in this draft environmental document (DED) (see Chapter 2).

In addition to the build alternatives, Caltrans has considered a number of Transportation Systems Management (TSM) projects for improving traffic flow through Oakdale. Mass transit was not considered feasible for meeting the needs of this project due to the low population density and isolated rural nature of Oakdale and vicinity (see Appendix A).

1.3 Purpose And Need

The purpose of the proposed project is to reduce the traffic congestion on Route 120, improve safety by reducing the number of accidents, and promote the completion of the Route 120 system. Traffic congestion occurs during the peak periods on weekdays and weekends (especially during spring and summer holidays) due to recreational vacationers who travel to Yosemite National Park, the Jamestown and Sonora areas, and points eastwards. Traffic backs up for several miles on the eastern approaches to Oakdale during major spring and summer holiday weekends.

The following project goals and objectives were formulated early in the study in coordination with the Project Development Team (PDT) and the Citizens Advisory Committee (CAC):

- Reduce weekend and weekday congestion in Oakdale on the highway
- Improve safety by reducing accidents
- Accommodate local planning goals within the limits of available funding
- Minimize environmental impacts
- Maximize expressway/freeway aesthetics, and
- Minimize construction impacts

The existing highway does not provide adequate capacity to carry both interregional traffic and locally generated traffic in this growing city. Existing Route 120 through Oakdale provides access to many residential and commercial developments, including the city’s historic district. In addition, Route 120 connects with Route 108 in central Oakdale; the coincident routes are major recreational highways that provide access to the Sonora area, Yosemite National Park, and other forest lands in the Sierras. Hence, Route 120 through Oakdale is severely congested at peak periods during summer weekends.

The October 1986 Route Concept Report (RCR) recommended a two-lane expressway (± 20-year) for Route 120 east of Valley Home Road and north of Oakdale. It would be an initial two-lane expressway bypass within an ultimate four-lane ROW. This concept was recommended in the 1987 and 1989 Route Development Plans, the 1989 System Management Plan, and was subsequently programmed in the 1990 STIP.

In 1989, Stanislaus County contracted with Fehr and Peers Associates to prepare the Stanislaus County Transportation Corridors Study (SCTCS). This study evaluated the county’s transportation needs until 2010. The study showed a need for both the Route 120 Oakdale Expressway and a Route 108 Bypass to handle projected 2010 traffic. The study also projected that Route 120 between D and G Streets in Oakdale would require capacity improvements to meet the forecasted growth in interregional and locally generated traffic.

The proposed Oakdale Expressway Project would be designed to route interregional traffic around Oakdale. The existing Route 108/120 facility varies in lane width from two lanes outside the city to five lanes within the city. Through the central business district, adjacent structures preclude any widening on the existing alignment to increase capacity. The combination of local and recreational traffic results in substantial congestion, becoming particularly severe during peak Friday and Sunday afternoon and evening periods.

A State Highway Systems (SHS) corridor study was completed by the five Regional Transportation Planning Agencies (RTPAs) of Amador, Calaveras, Tuolumne, Stanislaus, and San Joaquin Counties, and by System Planning of Caltrans District 10. The objective of this study was to provide a coordinated analysis of interrelated travel characteristics, in order to project future transportation deficiencies, and to make recommendations for improvements to resolve these deficiencies. This study assumed that Route 120 was a four-lane highway from the western terminus of the Oakdale Expressway to the Tuolumne County line. The recommendations of this study are consistent with long-range System Planning development strategy for Route 120, which includes improvements to the Route 120/108 corridor east of Oakdale.

Route 120 is an IRRS ‘priority’ route. This project is in the 1990, 10-year IRRS Plan, and is consistent with the ‘ultimate’ transportation corridor concept facility. The proposed project is also consistent with the Stanislaus County Regional Transportation Improvement Program (RTIP) and the Regional Transportation Plan (RTP). This project conforms with the *City of Oakdale General Plan* and the *Stanislaus County General Plan*.

Traffic data on which this project is based were compiled from state and local sources, as well as field counts and license plate surveys conducted in 1992 (Caltrans 1998b). The traffic study also obtained data from Yosemite National Park, which provided data that showed that more than 50,000 cars and 600 buses per month enter the park via Route 120.

Average Daily Traffic (ADT) counts range from 39,500 vehicles at the Route 5 Junction in San Joaquin County, to 400 vehicles at its terminus in Benton (Mono County). The ADT on the outskirts of Oakdale is in the middle of this range, at about 19,000 vehicles;

higher volumes were observed within the city. Thirty to fifty percent of the traffic is interregional/recreational, resulting in the highest ADT during the summer.

Summer weekend traffic within the city is 21,000 vehicles per day, with a summer weekend peak-hour volume of 1695 vehicles in both directions. As a result, Route 120 is over capacity during peak periods on weekends, and especially during major holiday weekends. In particular, traffic at the Route 108 Junction was observed to have backed up along Route 120 to Lovers Leap during the Memorial Day weekend in 1989—a distance of about 12 mi (20 km). Numerous intersections without signals are located along Route 120, with signals at River Rodden Road, A Street, Route 108, Johnston Avenue, and Maag Avenue. Vehicles on side streets must wait long periods of time for gaps before they can enter the traffic stream. This has prompted the city to restrict some of the side streets to right-turn only at Route 120 and to place traffic signals at major crossings.

In order to analyze the impacts and operational effects of the project alternatives, a traffic model was developed in March of 1993 to analyze the interregional/recreational traffic traveling through Oakdale. This model was derived from license plate surveys and the Stanislaus County RTP model. The model was further refined by adding the potential impacts of proposed new town developments, more zones and streets and potential transit improvements in San Joaquin County and Yosemite National Park. This improved the model's ability to forecast traffic in the Oakdale area. The study area consisted of Route 120 from Valley Home Road 2.8 mi (4.5 km) east of Lancaster Road, and included a number of major intersecting roads, including: Valley Home Road, Gilbert Road, River/Rodden Road, A Street, F Street (Route 108), Maag Avenue, Stearns Road, and Orange Blossom Road (Figure 1-2). Using this model, traffic volumes were forecast for the years 2000, 2010, and 2020 and were based on land use and population projections obtained from StanCOG and the Stanislaus County Finance Department.

A Traffic Accident Surveillance and Analysis System (TASAS) study was conducted for existing Route 120 within the study area (from PM 3.0 [KP 4.8] to PM 14.1 [KP 22.7] for the period from January 1, 1996 to December 31, 1998. During this period, a total of 381 accidents were recorded, among which 153 were injury accidents (243 people hurt) and six were fatal crashes (nine killed). Route 120 has an actual accident rate of 2.02 accidents per million vehicle miles (acc/mvm) compared to a statewide average rate of 1.60 acc/mvm for similar facilities. However, 62 percent of these collisions occurred within Oakdale between River/Rodden Road (PM 3.79 [KP 6.09]) and Maag Avenue (PM 6.04 [KP 9.72]). The study shows that during this 2-year period, 237 accidents occurred within the city, among which 88 were injury collisions (120 people hurt), and one was a fatal crash (one person dead). The accident rate within the city is 25 percent higher at 4.47 acc/mvm when compared to the statewide average rate of 3.57 acc/mvm for a similar facility. There are 30 listed intersections along the highway within the study limits. Twenty-one of these have accident rates higher than the statewide average rate, and 10 of the 21 have accident rates two times greater than the statewide average rate. The results of this TASAS study show higher accident rates than those from a similar study conducted for the 1992–1994 time frame. The proposed expressway would reduce congestion in the area of high accident rates, thereby reducing accident rates and improving safety.

CHAPTER 2 Alternatives

2.1 Introduction

This chapter describes the alternatives that have been considered to meet the purpose and need for the project, and also summarizes the potential environmental impacts of these alternatives. A range of reasonable alternatives that could potentially meet the stated purpose and need was considered over the course of project development. Alternative alignments were formulated and studied. Some of these have been eliminated, and some have remained viable for detailed study in this Draft Environmental Impact Report/Draft Environmental Impact Statement (DEIR/DEIS). Final selection of an alternative will not be made until environmental impacts and public hearing comments are considered, and until after the final EIS is approved.

2.2 Alternatives Considered and Eliminated

As stated in Chapter 1, the study for an expressway bypassing Oakdale began in the early 1950s. However, due to lack of funding and higher priority projects, the Oakdale Expressway Project was delayed. In November of 1988, Caltrans re-initiated formal studies.

The corridors being considered at the time were Corridors 1, 2, and 3. In response to community concerns that these three corridors would have a substantial impact on existing homes and businesses in Oakdale, Caltrans held meetings with City of Oakdale staff and interested community groups to develop additional corridors for study. These meetings resulted in the addition of Corridors 4 and 5 (refer back to Figure 1-3).

In 1989, Caltrans presented the corridors considered for study in a scoping meeting to obtain community input and to respond to community concerns regarding the alternatives. Studies on Corridors 2 and 3 were stopped as a result of comments received regarding the substantial potential impacts that the corridors could have on existing residential, commercial, and industrial development in and around Oakdale. Corridor 1 was modified to avoid existing residential developments and the bulk of the Oakdale landfill. Further studies continued on Corridors 4 and 5.

In January 1990, Caltrans initiated a VE study that postulated and then evaluated over 40 potential alternatives and combinations of alternatives, ranging from one-way couplets to regional bypasses that would have required multi-agency cooperation and development

(Borden 1990). The VE team (11 people from various disciplines, including representatives from outside of Caltrans) reduced the number of alternatives by combining similar alternatives and by eliminating others through evaluation and comparison of the advantages and disadvantages of the various routes. The resulting list presented seven alternative corridors—the original five, as well as two new alignments (Corridors 6 and 7) (refer back to Figure 1-3).

The VE team then ranked these alternative corridors using the following criteria: ability to implement in stages; ability to complete within 20 years; presence of significant potential environmental impacts; acceptability to local/regional agencies; ability to provide acceptable service; cost effectiveness; extent to which traffic is addressed on Routes 108, 120, and 120/108; extent to which the alternative is a long-term solution to the Route 120/108 traffic problem; user costs; aesthetics; and maintenance costs. Each of these criteria was weighted using a scale from 1 to 10 (1 being minimal significance, 10 being high significance). The VE team then evaluated each of the alternative corridors against the weighted criteria using a scale of 1 to 5, with a 5 representing a superior alternative with respect to a particular criterion and a 1 representing an alternative that is poor with respect to a given criterion.

This evaluation, which was based on a systematic, interdisciplinary approach, resulted in the following recommendations:

- Continue development of Corridor 4
- Continue long-term planning for a Route 108 improvement project, from Route 99 to Route 120 east of Oakdale, and
- Discontinue study of Corridor 5 (Route 120 Bypass to the south of Oakdale) due to its high cost.

Corridors 2 and 3 were dropped again for the same concerns regarding potential impacts on existing residential, commercial and industrial development. Corridor 5 was dropped from further study for the following reasons: higher construction and maintenance cost due to greater length and number of bridges; higher user cost, such as travel time and vehicle operating costs; and greater visual impact, due to the majority of the alignment being elevated. Corridors 6 and 7 were dismissed from further study because they would better meet the needs of a long-term Route 108 improvement project, currently in the planning stages at Caltrans.

Caltrans proceeded with environmental studies for Corridor 1 (renamed Alternative 1) and Corridor 4 (renamed Alternative 2). Field reconnaissance identified substantial potential impact to wetlands and other sensitive natural habitat along Alternative 2 during the winter and spring of 1992/1993. This resulted in its elimination, and the subsequent development of Alternatives 2A, 2B, 2C, and 2D. As a result the project design team, with direction from the Project Development Team (PDT), continued studies of Alternatives 1, 2A, 2B, 2C, 2D, a Transportation Systems Management (TSM) Alternative, and the No Action Alternative.

In 1994, in response to numerous concerns raised by citizens of Oakdale and the CAC, Caltrans conducted an independent evaluation of the previously discontinued Corridor 5 (refer back to Figure 1-3) to update the cost estimate, engineering, and traffic data developed at the PSR stage for the project (Menor 1994). Using updated information, this study identified the advantages and disadvantages of Corridor 5 (seven advantages and thirteen disadvantages were listed), and also documented the advantages and disadvantages of other alternatives considered for the project. No specific recommendations were presented in the report, although the updated analysis confirmed that high costs were the original reasons for dropping Corridor 5.

The TSM Alternative would seek to meet purpose and need by implementing transportation system improvements within the existing ROW of SR 120/108 that would improve traffic flow through Oakdale without building roads on a new ROW. The improvements would include widening the existing highway and implementing traffic measures (e.g., synchronizing signals, prohibiting parking, prohibiting left turns at selected intersections, etc.) to reduce vehicle delays.

ROW and roadway geometric constraints would not allow construction of a facility at the SR120/108 intersection with sufficient capacity to accommodate either weekday or weekend peak traffic volumes. Widening either the existing highway or the SR 120/108 junction would substantially affect businesses located in Oakdale and would require the relocation of commercial and industrial businesses and residences, and potentially affect the city's historic district.

TSM was included in the initial list of alternatives that was developed in the early 1990s, when the DEIR/DEIS was initiated. TSM is not included in the detailed impact assessment in this report because in the intervening years that the DEIR/DEIS has been in preparation, the City of Oakdale has implemented numerous traffic management system changes that are functionally equivalent to TSM as a means of dealing with the growing traffic congestion. These changes have solved short-term traffic problems, but do not serve as a long-term solution. Consequently, the remaining TSM projects that Caltrans could implement in the future for SR 120/108 are very limited in scope, and would be of limited effectiveness in meeting purpose and need. TSM has thus been removed as a practicable alternative, and is not analyzed in detail in this report.

2.3 Alternatives

Alternatives 1, 2A, 2B, 2C, and 2D remained viable through 1994, and were addressed in numerous technical reports supporting the DEIR/DEIS. These reports, which were released to the public in 1994, presented information on the environment that would be affected and the potential environmental impacts of each of the alignments. These technical reports were updated in 1998-1999, and the revised reports form the basis for this draft document.

Five build alternatives are proposed for this project: 1, 2A, 2B, 2C, and 2D (Figure 2-1). Final selection of an alternative will not be made until environmental impacts and public hearing comments are considered, and until after the final EIS is approved. Any of the build alternatives would require a new route adoption and superseding freeway agreement. The initial construction for the selected build alternative would be a two-lane expressway with interchanges, designed in accordance with Caltrans' current Highway Design Manual standards.

The roadway for the expressway would be constructed on the left roadbed (westbound lanes) of the future transportation facility. The typical cross section would consist of two 12-ft (3.6-m) lanes, 10-ft (3.0-m) left (westbound) shoulder, and 8-ft (2.4-m) right (eastbound) shoulder (Figure 2-2). Caltrans would acquire a minimum 234-ft (70-m) wide ROW for a future transportation facility, which would accommodate a four-lane freeway with 61-ft (18.6-m) wide median. The build alternatives would require staged construction and traffic detours at the connections to the existing highway, proposed interchanges, grade separations, and at local road closures or realignments. Table 2.1 summarizes the characteristics of the build alternatives.

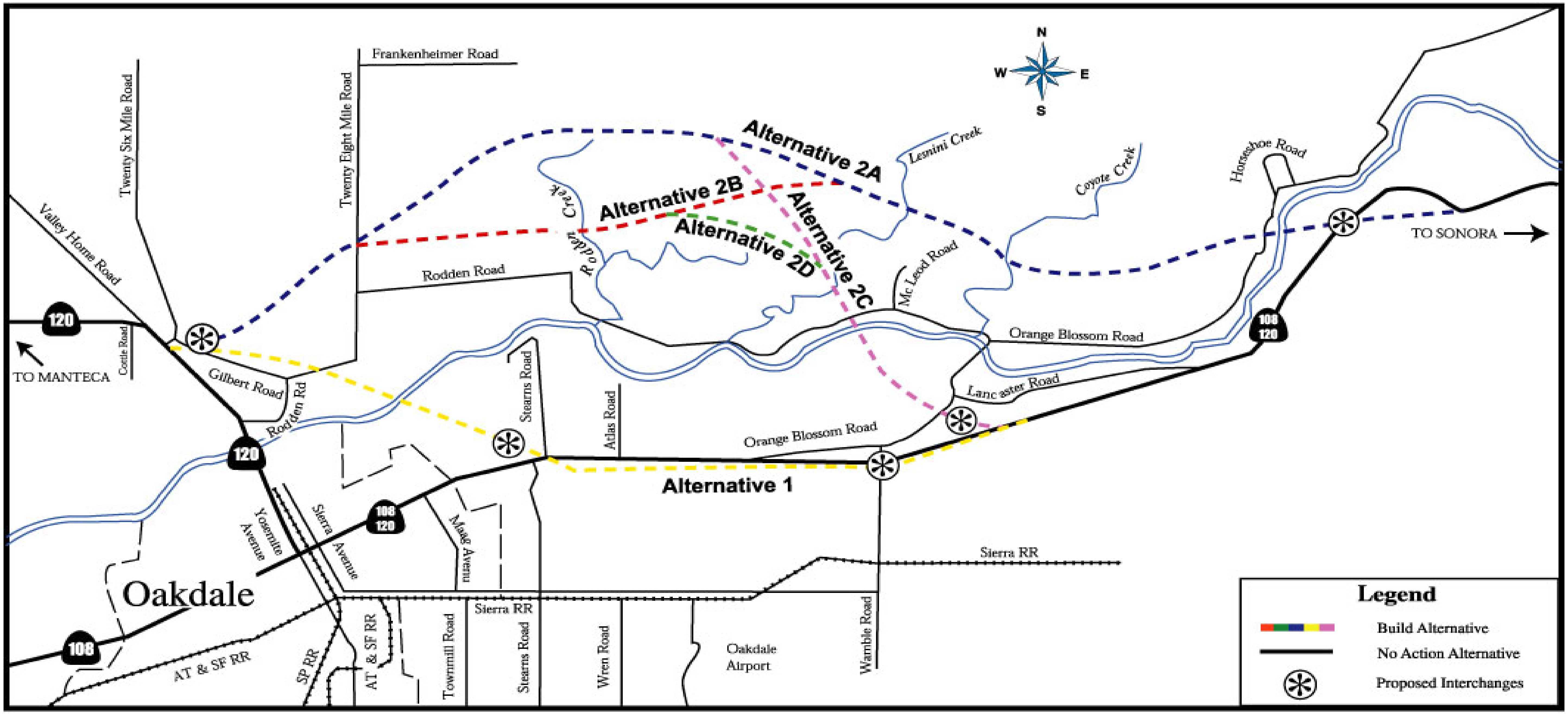


Figure 2-1 Locations of Alternatives

Caltrans

0	mile	1
0	km	1

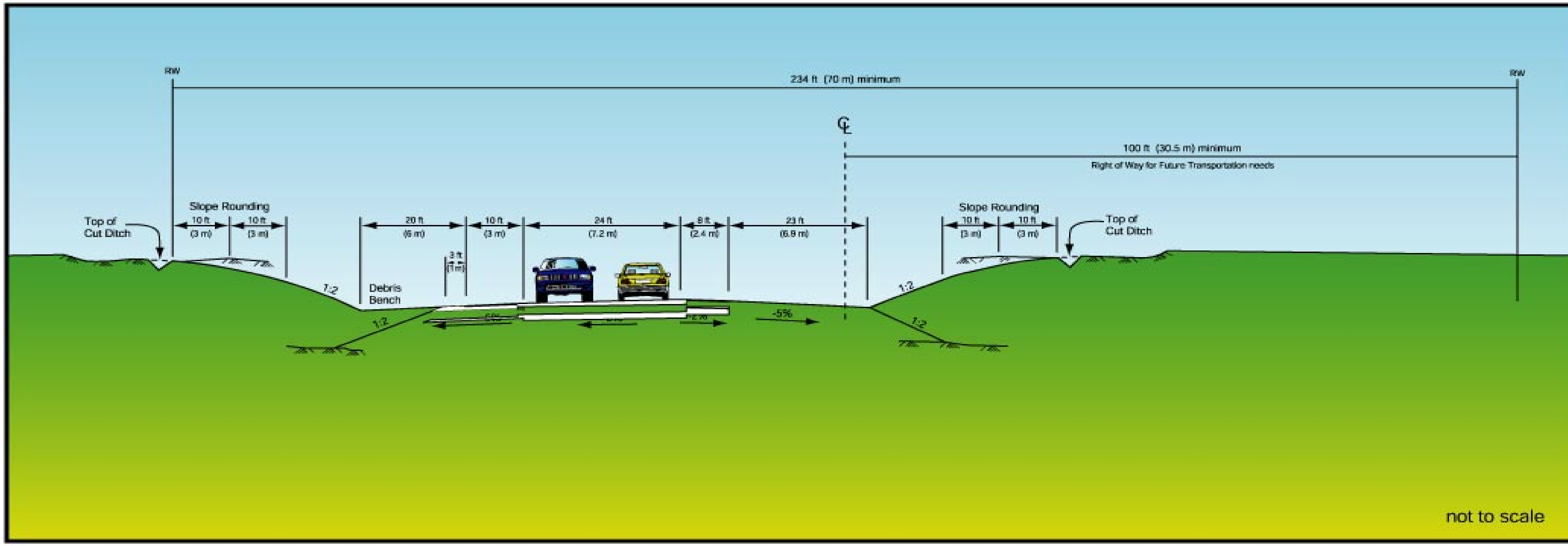


Figure 2-2 Typical Cross Section of the Two-Lane Expressway

Table 2.1 Comparison of Characteristics of Alternatives

Alternative	Length	Total Estimated Cost [a]	Number of Interchanges	Projected 2020 Traffic Level[b]	Projected Peak Travel Time Through Oakdale[c]	Projected LOS in 2020[d]
1	6.4 mi (10.31 km)	95.7	3	16–21	9 min	E
2A	9.8 mi (15.8 km)	102.8	2	11	13 min	E
2B	9.5 mi (15.3 km)	101.4	2	11	13 min	E
2C	7.9 mi (12.7 km)	94.8	2	13	10 min	E
2D	7.3 mi (11.8 km)	93.4	2	13	10 min	E
No Action	11.1 mi (19.9 km)	0	0	22–38	60+ min	F

[a]Estimated 2003/2004 total cost, in millions of dollars.
[b]Summer weekday traffic volumes in thousands of vehicles per day. The higher end of the range for Alternative 1 is predicted to occur west of Stearns Road; the higher end of the range for No Action is predicted for Route 108 coming into Oakdale; and the low end is predicted for Route 120 near Valley Home Road.
[c]Travel times on each alternative (summer weekend), except for No Action, which reflects travel time on Route 120/108.
[d]Projected for summer weekend. See Figure 2-3 for definition of "Level of Service."

The existing highway portion to be relinquished to the local agency would be brought to a state of good repair (as defined in section 73 of the State Streets and Highway Code, and per chapter 3 through 100 of the Caltrans Project Development Procedures Manual) prior to its relinquishment. The nature and extent of relinquishment activities vary with each one. At this time, it is premature to develop specific relinquishment details for each build alternative. Upon selection of a preferred alternative, further relinquishment details will be examined. Regardless of the alternative preferred, all costs for relinquishment come out of the total funds available for the project.

In 1995, the CAC for this project formally adopted Alternative 2A as the their preferred alternative. This conclusion was reached after systematic consideration of all five build alternatives (Appendix A).

On October 27, 1994, the PDT met to discuss the need for a Major Investment Study (MIS) for the project. The purpose of an MIS is to coordinate the planning and financial development of major transportation projects among transportation and resource agencies. As noted in federal regulations governing the preparation of an MIS (23 CFR 450.318) for projects where the environmental process has been initiated but not completed (as is the case here), the Federal Highway Administration (FHWA) and the

Federal Transit Administration (FTA) shall be consulted on appropriate modifications to meet the requirements of this chapter. StanCOG, in consultation with the FTA, concluded that an MIS would not be required because Caltrans had adequately considered and analyzed all reasonable alternatives for this project. Appendix A contains the relevant MIS correspondence.

2.3.1 Build Alternative 1

This alternative is 6.4 mi (10.3 km) long. It begins at 0.1 mi (0.16 km) west of Valley Home Road at station 909+45. It follows a southeasterly alignment for about 2 mi (3.2 km) to station 1010+00, where it crosses the Stanislaus River just east of the Oakdale landfill. The alignment continues southeasterly for about 1 mi (1.6 km) to station 1070+00, crosses existing Route 120 west of Stearns Road, and curves left. The alternative then continues easterly adjacent to the existing Route 120 for 3.3 mi (5.4 km) to station 1248+00, 1.0 mi (1.6 km) east of Wamble Road (PM R9.4 = PM 10.2 [KP R15.1]), where it conforms to the existing highway. The estimated cost breakdown (in escalated 2003/2004 dollars) for this alternative is shown in Table 2.2.

Access is proposed at interchange locations at Twenty-Six Mile Road, Stearns Road, and Wamble Road. The interchanges would be designed as conventional spread diamond interchanges with loop ramps to accommodate heavy traffic movements entering and exiting the new highway at Twenty-Six Mile Road and Stearns Road. A new bridge would be constructed at the crossing of the Stanislaus River. Overcrossings are proposed at Rodden Road and Atlas Road to facilitate local traffic circulation. Local road improvements would be made at Twenty-Six Mile, Rodden, Lundy, Stearns North, Atlas, Dillwood, Orange Blossom, and Wamble Roads. In addition, a frontage road system would be constructed to provide access to impacted properties along both sides. Existing canals impacted would be realigned or piped.

This alternative is forecasted to carry between 16,000 and 21,000 vehicles per day at build-out year 2020 (summer weekday traffic). The higher ADT would occur at the western section of the expressway between Twenty-Six Mile Road and Stearns Road Interchange due to local traffic using the expressway to avoid congested areas within the city. Travel time through Oakdale in the year 2020 is estimated at nine minutes, compared to 60+ minutes on existing Route 120/108 for the No Action Alternative in 2020 (summer weekend). The expressway would operate at an LOS E in 2020 (summer weekend). Figure 2-3 illustrates traffic conditions at various LOS designations.

Table 2.2 Estimated Project Costs

	Alternative 1	Alternative 2A	Alternative 2B	Alternative 2C	Alternative 2D
Roadway[a]	$34,800,000	$50,400,000	$49,200,000	$46,600,000	$46,500,000
Structures	$13,300,000	$13,600,000	$13,600,000	$12,000,000	$12,000,000
Right of way[b]	$29,111,000	$19,027,000	$19,027,000	$17,953,000	$16,971,000
Support	$10,313,800	$10,806,000	$10,665,100	$10,041,500	$9,878,300
Total current cost	$87,524,800	$93,833,000	$92,492,100	$86,594,500	$85,349,300
Total escalated cost (2003/2004)	$95,713,800	$102,806,000	$101,365,100	$94,841,500	$93,378,300

[a]Roadway costs include relinquishment costs, potential expenses for hazardous waste remediation, and environmental mitigation costs.
[b]Right of way costs include the purchase of land for the future transportation facility.

In general, traffic on the existing highway is forecasted to increase substantially by the year 2020 due to planned growth in Oakdale. This alternative would reduce traffic through Oakdale by removing interregional/recreational through-traffic from the city. As a result, major signalized intersections in Oakdale such as Maag Avenue and the Route 108 junction would operate at LOS D and E, respectively, in the year 2020. However, both intersections would operate at LOS F without the expressway in the year 2020.

2.3.2 Build Alternative 2A

Alternative 2A is about 9.8 mi (15.8 km) long. It begins 0.1 mi (0.16 km) west of Valley Home Road at station 831+38 (PM 3.0 [KP 4.8]) and ends 2.8 mi (4.5 km) east of Lancaster Road at station 1356+59 (PM R12.8=PM 14.1 [KP R20.8]). From Valley Home Road, the alternative follows a northeasterly alignment (2.8 mi [4.5 km]) to station 980+00, where it curves right and traverses southeasterly (2.7 mi [4.2 km]) to station 1190+00. It then curves left and traverses easterly (3.2 mi [5.0 km]) to station 1356+59, where it meets existing Route 120. The estimated cost breakdown (in escalated 2003/2004 dollars) for this alternative is shown in Table 2.2.

Access is proposed at interchange locations at Twenty-Six Mile Road and existing Route 120, referred to as the East Interchange. The Twenty-Six Mile Road Interchange is the

LEVELS OF SERVICE

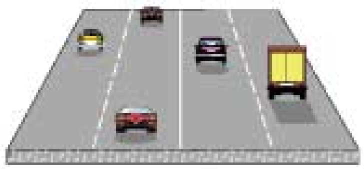
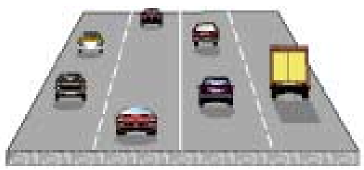
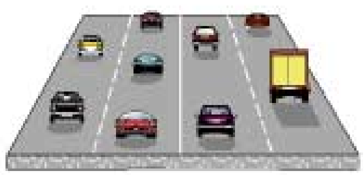
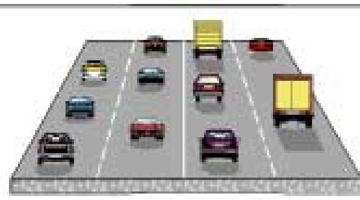
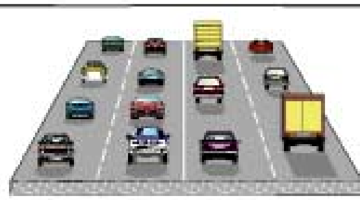
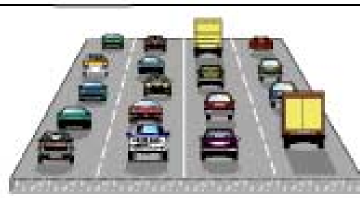
Level of Service	Flow Conditions	Operating Speed (mph)	Technical Descriptors
A		55+	Highest quality of service. Free traffic flow, low volumes and densities. Little or no restriction on maneuverability or speed. **No delays.**
B		50	Stable traffic flow, speed becoming slightly restricted. Low restriction on maneuverability. **No delays.**
C		45	Stable traffic flow, but less freedom to select speed, change lanes, or pass. Density increasing. **Minimal delays.**
D		40	Approaching unstable flow. Speeds tolerable, but subject to sudden and considerable variation. Less maneuverability and driver comfort. **Minimal delays.**
E		35	Unstable traffic flow with rapidly fluctuating speeds and flow rates. Short headways, low maneuverability and low driver comfort. **Significant delays.**
F		25	Forced traffic flow. Speed and flow may drop to zero with high densities. **Considerable delays.**

Figure 2-3 Pictorial of the Six Levels for Traffic Conditions

same as Alternative 1, except that it is rotated northeasterly to account for the more northerly alignment of this alternative. The East Interchange is a spread diamond with no loop ramps. No other public access road connections are proposed. Grade separations would be provided at Twenty-Eight Mile Road and Orange Blossom Road. Private driveways and cattle undercrossings would be provided to perpetuate existing access to the local roadway system. A bridge is proposed at the Stanislaus River. Local road improvements are proposed at Valley Home, Twenty-Six Mile, River, Rodden, Gilbert, and Londale Roads. A frontage road system would be constructed between Twenty-Eight Mile Road and the Gilbert Lateral to provide access to impacted properties north of the expressway. Existing canals that are impacted would be realigned or piped.

This alternative is forecasted to carry 11,000 vehicles per day (summer weekday) and would operate at LOS E in 2020 (summer weekends). Travel time through Oakdale in the year 2020 is estimated at 13 minutes, compared to 60+ minutes on existing Route 120/108 for the No Action Alternative in 2020 (summer weekend).

In general, traffic on the existing highway and city streets is forecasted to increase substantially due to planned growth in Oakdale by 2020. The alternative would reduce traffic through Oakdale by removing interregional/recreational through-traffic from the city. As a result, major signalized intersections in Oakdale such as Maag Avenue and the Route 108 junction are predicted to operate at LOS D and F, respectively, in the year 2020. However, both intersections would operate at LOS F without the expressway in the year 2020.

2.3.3 Build Alternative 2B

Alternative 2B is identical to Alternative 2A except in alignment between station 930+00 (Twenty-Eight Mile Road) and station 1120+00 (just west of Lesnini Creek). This alternative traverses about 3000 ft (914 m) south of Alternative 2A. The alternative is about 9.5 mi (15.3 km) long. It begins 0.1 mi (0.16 km) west of Valley Home Road at station 831+38 (PM 3.0 [KP 4.8]) and ends 2.8 mi (4.5 km) east of Lancaster Road at station 1341+35 (PM R12.5=PM 14.1 [KP R20.3]). The estimated cost breakdown (in escalated 2003/2004 dollars) for this alternative is shown in Table 2.2.

This alternative would have the same interchange locations (Twenty-Six Mile Road and existing Route 120), grade separations (Twenty-Eight Mile Road and Orange Blossom Road), and bridge crossing as proposed in Alternative 2A. Alternative 2B would also provide private cattle and driveway undercrossings to perpetuate existing private access to the local roadway system. Local road improvements are also proposed at Valley

Home, Twenty-Six Mile, River, Rodden, Gilbert, and Londale Roads. A frontage road system would be constructed to provide access to impacted properties on the north side between Twenty-Eight Mile Road and the Gilbert Lateral. Existing canals impacted by the alternative would be realigned or piped.

The alternative is forecasted to carry 11,000 vehicles per day (summer weekday) and would operate at LOS E in 2020. Travel time through Oakdale in the year 2020 is estimated at 13 minutes, compared to 60+ minutes on existing Route 120/108 for the No Action Alternative in 2020 (summer weekend).

In general, traffic on the existing highway and on city streets is forecasted to increase substantially, due to planned growth in Oakdale by 2020. This alternative would reduce traffic through Oakdale by removing interregional/recreational through-traffic from the city. As a result, major signalized intersections in Oakdale such as Maag Avenue and the Route 108 junction would operate at LOS D and F, respectively, in the year 2020. However, both intersections would operate at LOS F without the expressway in the year 2020.

2.3.4 Build Alternative 2C

Alternative 2C is 7.9 mi (12.7 km) long and begins 0.1 mi (0.16 km) west of Valley Home Road (PM 3.0 [KP 4.8]) and ends 1.0 mi (1.6 km) east of Wamble Road (PM R10.9 = 10.2 [KP R17.5]). This alternative begins at station 831+38 and traverses the same northeasterly alignment as Alternative 2A to station 980+00 (1.3 mi [4.5 km]). The alternative then curves right and traverses southeasterly to station 1180+00 (2.5 mi [4.0 km]) where it curves left and traverses easterly for 1.3 mi (2.1 km) and meets existing Route 120 at station 1248+00. The estimated cost breakdown (in escalated 2003/2004 dollars) for this alternative is shown in Table 2.2.

Access is proposed at interchange locations at Twenty-Six Mile Road and Orange Blossom Road. The Twenty-Six Mile Road Interchange is the same as for Alternative 2A and 2B. The Orange Blossom Road Interchange would be designed as a spread diamond with loop ramps to accommodate heavy traffic movements. No other public road connections are proposed. A bridge is proposed at the Stanislaus River. Grade separations are proposed at Twenty-Eight Mile Road and Rodden Road.

Local road improvements are proposed at Valley Home, Twenty-Six Mile, River, Rodden, Gilbert, Orange Blossom, Londale, and Lancaster Roads. A frontage road system would be constructed to connect impacted properties to the existing local road system. Private cattle and driveway undercrossings would also be constructed to perpetuate existing private access to the local roadway system. Existing canals impacted by the alternative would be realigned or piped.

This alternative is forecasted to carry 13,000 vehicles per day (summer weekday) and would operate at LOS E in 2020 (summer weekends). Travel time through Oakdale in the year 2020 is estimated at 10 minutes, compared to 60+ minutes on existing Route 120/108 for the No Action Alternative in 2020.

In general, traffic on existing Route 120 and on city streets is forecasted to substantially increase due to planned growth in Oakdale by 2020. The alternative would reduce traffic through Oakdale by removing interregional/recreational through-traffic from the city. As a result, major signalized intersections in Oakdale such as Maag Avenue and the Route 108 junction would operate at LOS D and F, respectively, in the year 2020. However, both intersections would operate at LOS F without the expressway in the year 2020.

2.3.5 Build Alternative 2D

Alternative 2D is 7.3 mi (11.8 km) long and begins 0.1 mi (0.16 km) west of Valley Home Road (PM 3.0 [KP 4.8]) and ends 1.0 mi (1.6 km) east of Wamble Road (PM R10.3 = PM 10.2 [KP R16.6]). This alternative is identical to Alternative 2C in alignment except between station 930+00 (just west of Twenty-Eight Mile Road) and station 1140+00 (just west of Lesnini Creek), a distance of 4.0 mi (6.4 km), where Alternative 2D is 3000 ft (914 m) south of Alternative 2C. The estimated cost breakdown (in escalated 2003/2004 dollars) for this alternative is shown in Table 2.2.

Access to this alternative and proposed local road improvements at Valley Home, Twenty-Six Mile, River, Rodden, Gilbert, Orange Blossom, Londale, and Lancaster Roads are the same as for Alternative 2C. A bridge is proposed at the Stanislaus River. Grade separations are also proposed at Twenty-Eight Mile Road and Rodden Road.

This alternative is forecasted to carry 13,000 vehicles per day (summer weekday) and would operate at LOS E in 2020 (summer weekends). Travel time through Oakdale in the year 2020 is estimated at 10 minutes, compared to 60+ minutes on existing Route 120/108 for the No Action Alternative in 2020.

In general, traffic on existing Route 120 and on city streets is forecasted to increase substantially due to planned growth in Oakdale by 2020. The alternative would reduce traffic through Oakdale by removing interregional/recreational through-traffic from the city. As a result, major signalized intersections in Oakdale such as Maag Avenue and the Route 108 junction would operate at LOS D and F, respectively, in the year 2020. However, both intersections would operate at LOS F without the expressway in the year 2020.

2.3.6 The No Action Alternative

The No Action Alternative assumes that no improvements would be made to existing Route 120 through Oakdale. The No Action Alternative is provided as a basis for comparison to the build alternatives. Growth assumptions are based on the latest regional growth forecasts for population, housing, and employment as identified in the StanCOG and the *City of Oakdale General Plan.*

Local intersections in the study area are forecast to experience severe traffic congestion and to operate at LOS F in 2020 (summer weekends). Stop-and-go traffic can be expected during peak hours with long queues, and motorists would be delayed for one or more signal cycles at most intersections. As traffic volumes increase and LOS degrades, motorists are likely to use alternative routes to avoid traffic congestion and delays. Travel times through Oakdale between Valley Home Road (PM 3.0 [KP 4.8]) and the eastern limit of the project (PM 14.1 [KP 22.7]), a distance of 11.1 mi (19.9 km), are estimated to take 60+ minutes in 2020 (summer weekends).

2.4 Comparison of Potential Environmental Impacts

In accordance with 23 CFR 771.101, 40 CFR 1502.14, and the FHWA California Division Checklist for DEDs (section V.G) this chapter summarizes, in comparative form, the potential environmental impacts from the five proposed build alternatives, as well as the No Action Alternative (Table 2.3).

2.4.1 Potential Impacts

The most important potential environmental impacts of the proposed project are in the areas of biological resources, farmland, and community effects. Other potential impacts analyzed in detail in this DEIR/DEIS include geology (cut and fill), noise, air quality,

Table 2.3 Summary of Major Potential Impacts From Alternatives

Potential Impact	Alt. 1	Alt. 2A	Alt. 2B	Alt. 2C	Alt. 2D	No Action
Total wetland area[a]	10.4 ac (4.22 ha)	11.4 ac (4.63 ha)	16.0 ac (6.49 ha)	7.0 ac (2.82 ha)	11.6 ac (4.71 ha)	0
Degree of impact[b]	Substantial-minimal	Moderate-minimal	Moderate-minimal	Substantial-minimal	Substantial-minimal	
Total waters area[a]	0.22 ac (0.09 ha)	1.57 ac (0.64 ha)	2.54 ac (1.03 ha)	1.16 ac (0.47 ha)	2.07 ac (0.84 ha)	0
Degree of impact[b]	Minimal	Minimal	Minimal	Minimal	Minimal	N/A
Total area, wetlands + waters[a]	10.6 ac (4.31 ha)	13.0 ac (5.27 ha)	18.6 ac (7.52 ha)	8.1 ac (3.29 ha)	13.7 ac (5.55 ha)	0
VELB habitat removed (# elderberry stems[c])	134	99	104	452[d]	457 [d]	0
Aleutian Canada Geese sites directly impacted[a]	0	0	0	0	1	0
Spawning gravels modified[a]	1	0	0	0	0	0
Fairy & Tadpole Shrimp sites removed	3	5	4	4	3	0
Area of fairy shrimp habitat removed	1.0 ac (0.43 ha)	1.2 ac (0.50 ha)	1.1 ac (0.43 ha)	1.4 ac (0.55 ha)	1.1 ac (0.43 ha)	0
Oak woodland areas disturbed[a]	4.45 ac (1.8 ha)	0.52 ac (0.21 ha)	0.52 ac (0.21 ha)	3.95 ac (1.6 ha)	4.0 ac (1.6 ha)	0
California Tiger Salamander breeding sites removed[a]	0	1	2	1	1	0
Agricultural displacements[a]	8	6	8	7	9	0
Farmland converted: **Prime** **Unique**	 209 ac (84.6 ha) 24 ac (9.7 ha)	 62 ac (25.1 ha) 35 ac (14.2 ha)	 71 ac (28.7 ha) 25 ac (10.1 ha)	 60 ac (24.3 ha) 22 ac (8.9 ha)	 71 ac (28.7 ha) 14 ac (5.7 ha)	0
Annual Agricultural revenue loss (1998)	$6.7 million	$1.4 million	$1.3 million	$2.4 million	$2.2 million	0
Business displacements[a]	2	3	3	2	2	0
Housing displacements[a]	30	19	18	32	31	0
Utility service relocation	220 kV power line over Stanislaus River; power lines on 120/108; irrig. canals	Electric power lines to individual residences; irrigation canals	Electric power lines to individual residences; irrigation canals	Electric power lines to individual residences; irrigation canals	Electric power lines to individual residences; irrigation canals	No impact
Consistency with the Oakdale G*eneral Plan*	Consistent; recognizes West, Stearns Rd. and Wamble Rd Interchanges (IC)	Consistent; recognizes East and West ICs	Consistent; recognizes East and West ICs	Consistent; recognizes West and Orange Blossom Road ICs	Consistent; recognizes West and Orange Blossom Road ICs	Consist-ent

Table 2.3 Continued

Potential Impact	Alt. 1	Alt. 2A	Alt. 2B	Alt. 2C	Alt. 2D	No Action
Consistency with the Stanislaus County *General Plan*	No substantial differences	No substantial differences	No substantial differences	No substantial differences	No substantial differences	Consist-ent
Annual Residential Revenue loss (1992)	$22.9 million	$18.3 million	$16.3 million	$27.6 million	$25.6 million	0
Volume of fill imported as % of total cut & fill volume	10%	0.6%	20%	15%	42%	0
Maximum projected cut and fill heights	Cut = 37 ft (11.2 m) Fill = 36 ft (11.0 m)	Cut = 63 ft (19.2 m) Fill = 54 ft (16.5 m)	Cut = 67 ft (20.4 m) Fill = 88 ft (26.8 m)	Cut = 40 ft (12.2 m) Fill = 75 ft (22.9 m)	Cut = 88 ft (26.8 m) Fill = 75 ft (22.9 m)	0
Visual Quality	Noticeable structures at Stanislaus River crossing and Stearns Road Interchange	Negligible impact	Negligible impact	Noticeable structures north of Rodden Road	Noticeable structures north of Rodden Road	None
Cultural resources	Possible impact to one known prehistoric resource	No Impacts	No Impacts	No Impacts	No Impacts	No Impacts
Floodplain (Stanislaus River)	No predicted increase in base flood elevation	No predicted increase in base flood elevation	No predicted increase in base flood elevation	No predicted increase in base flood elevation	No predicted increase in base flood elevation	No Impacts
Air Quality[f]	No CO hotspots predicted; regional conformity projected	No CO hotspots predicted; regional conformity projected	No CO hotspots predicted; regional conformity projected	No CO hotspots predicted; regional conformity projected	No CO hotspots predicted; regional conformity projected	Predicted CO hotspot in Oakdale; regional conform-ity projected
Water Quality[f]	Negligible impacts from construction and operation (runoff)	Negligible impacts from construction and operation (runoff)	Negligible impacts from construction and operation (runoff)	Negligible impacts from construction and operation (runoff)	Negligible impacts from construction and operation (runoff)	None
Noise **# receptors $\geq$ 66 Leq** **# increases $\geq$ 12 dBA**	 9 6	 5 7	 5 7	 4 7	 4 7	 0 0
Number of Potential Hazardous Waste Sites[e]	19	5	5	6	6	0

Table 2.3 Continued

Potential Impact	Alt. 1	Alt. 2A	Alt. 2B	Alt. 2C	Alt. 2D	No Action
Cumulative	Contributes to noise impacts; minor contri-Bution to farm-land conversion, and minor contri-bution to habitat loss (with mitigation)	Contributes to noise impacts; minor contri-bution to farm-land conversion, and minor contri-bution to habitat loss (with mitigation)	Contributes to noise impacts; minor contri-bution to farm-land conversion, and minor contri-bution to habitat loss (with mitigation)	Contributes to noise impacts; minor contri-bution to farm-land conversion, and minor contri-bution to habitat loss (with mitigation)	Contributes to noise impacts; minor contri-bution to farm-land conversion, and minor contri-bution to habitat loss (with mitigation)	Poss-ible contri-bution to adverse air quality
Growth Inducement	Limited growth inducement potential; supports planned growth at West IC	Limited growth inducement potential	Limited growth inducement potential	Limited growth inducement potential; supports planned growth at West IC	Limited growth inducement potential; supports planned growth at West IC	Minimal Impact

[a]Potential construction impacts are based on cut line to cut line for the proposed expressway and the future transportation facitlity.
[b]Overall degree of impact is based on the assessment of functions and values of the affected wetlands and waters, the area affected, and importance of each of the wetland and waters areas potentially affected by the build alternatives. Range across wetland types is given for each alternative. Total range is minimal to substantial.
[c]Valley Elderberry Longhorn Beetle (VELB) habitat.
[d]Exit hole characteristics of VELB were observed.
[e]These sites were identified by agency file review, photographic review, or field reconnaissance as having some potential for soil and/or groundwater contamination, and thus are recommended for further study to determine the existence and extent of contamination. The numbers of sites represent an area within 100 ft (30 m) of the Area of Potential Impacts (API). The total number of sites within this area for all alternatives is 20; all five build alternatives share some of the potential sites.
[f]Potential water quality impacts from expressway operation (runoff) were judged to be negligible based on projected future traffic loads that are much less than the 30,000 Average Daily Traffic levels used as a cutoff for impacts that warrant detailed study.

floodplains, water quality, hazardous waste, cultural resources, and visual resources. These specific impacts and others are briefly summarized below.

Potential biological impacts would result mainly from acquisition of land for the ultimate four-lane expressway; some of this land includes wetlands and other possible habitat areas. Potential impacts from the build alternatives on wetlands and waters include removal and fragmentation of wetland habitats, alteration of wetland hydrology, and changes in species composition.

Overall, minimal impacts to wetlands/waters are expected from the build alternatives (between 8.12–18.6 ac [3.79–7.52 ha]). The principal exception is that Alternative 1 and Alternatives 2C/2D would affect 0.86 ac (0.35 ha) and 0.40 ac (0.16 ha), respectively, of high-quality riparian areas at their respective crossings of the Stanislaus River, whereas Alternatives 2A/2B would cross the river at a point where the habitat is already degraded, and would impact about 1.4 ac (0.57 ha). For these reasons, potential impacts for Alternatives 2A/2B range from minimal to moderate, whereas impacts for Alternatives 1, 2C, and 2D range from minimal to substantial (degree of impact reflects the area of wetlands impacted, their functions and values, and their importance).

For all other categories of wetlands and waters that were examined as part of this study, potential impacts from the build alternatives are for the most part equal. In addition, most of the affected wetlands/waters have low to moderate probabilities of performing key functions (e.g., flood control and habitat).

Principal impacts to threatened and endangered species include habitat loss for the valley elderberry longhorn beetle (VELB), Aleutian Canada goose, anadromous fish, fairy shrimp, and California tiger salamander. Furthermore, oak woodlands, protected by the State of California, would be affected. Alternative 2D is the only alternative with the potential to directly affect Aleutian Canada goose sites, and Alternative 1 is the only alternative with the potential to directly affect spawning gravels (for anadromous fish). For VELB habitat, Alternatives 2A/2B clearly have the lowest potential impacts, with almost one-third the number of elderberry stems that would be impacted by Alternatives 2C/2D. Similarly, Alternatives 2A/2B have the lowest potential impacts to oak woodlands, with only 0.52 ac (0.21 ha), versus the impacts from the remaining alternatives that are about eight to nine times greater. Potential impacts to fairy shrimp sites are similar for all alternatives, ranging from three to five sites. Alternatives 2A, 2C, and 2D would each impact one tiger salamander site, whereas Alternative 2B would impact two sites and Alternative 1 would not impact any sites.

Potential prime farmland impacts range from about 60 ac (25 ha) for Alternatives 2A and 2C to 209 ac (85 ha) for Alternative 1. The number of projected agricultural business displacements ranges from six to nine across all alternatives. The annual agricultural revenue loss is estimated to range from $1.3 million for Alternative 2B to $6.7 million for Alternative 1.

Each of the build alternatives is predicted to result in community impacts, including the relocation of houses and businesses. The impact of these changes would not change the overall structure of Oakdale businesses nor would it adversely affect residential areas. Any of the build alternatives would improve access, circulation, and emergency response time, as well as reduce accident rates. Alternative 2C would impact the most houses (32), whereas Alternative 2B would impact the fewest houses (18). Alternatives 1, 2C, and 2D would each displace three businesses, whereas Alternatives 2A and 2B would each displace four. All of the build alternatives would impact a non-profit organization. Only Alternative 1 would result in a major utility relocation.

In terms of balanced earthwork, Alternative 2A would represent the most efficient use of cut and fill, such that potential impacts from cut and fill operations (e.g., fugitive dust, emissions from earth moving equipment, visual impacts, etc.) would be much less for 2A than for the other build alternatives.

Structures associated with Alternatives 1, 2C, and 2D were found to be noticeable in the visual landscape (views of the facility). Areas of interest include the Stearns Road Interchange and the Stanislaus River crossing for Alternative 1 and north of Rodden Road for Alternatives 2C and 2D. Potential visual impacts of Alternatives 2A and 2B were found to be minimal. Visual impacts stemming from operation of the proposed expressway would largely result from new views of the surrounding countryside from the vantage point of the new expressway, and thus would primarily be beneficial.

Potential impacts to cultural resources are judged to be minimal. Only Alternative 1 has a possible prehistoric site located at the crossing of the Stanislaus River.

For potential floodplain impacts, none of the build alternatives showed a predicted increase in the base flood elevation, and impacts were judged to be minimal. None of the proposed build alternatives support incompatible floodplain development.

Potential air quality impacts were found to be in compliance for carbon monoxide (CO) for all build alternatives. One CO hotspot was predicted for the No Action Alternative. The project was found to be in conformance with regional plans for attaining ambient air quality standards.

Water quality impacts from construction were found to be minimal for all build alternatives, due to the mandated use of Best Management Practices (BMPs) during construction. Because predicted traffic levels on each of the build alternatives would be much less than the 30,000 ADT cutoff that has been shown to result in minimal impacts, no adverse effects from expressway operation are anticipated.

In terms of potential noise impacts, Alternative 1 has the highest number of receptors (nine) potentially experiencing noise levels greater than or equal to an equivalent steady state sound level (Leq) of 66. Alternative 1 has only six receptors with greater-than-12 dBA increases above background noise levels, whereas Alternatives 2A, 2B, 2C, and 2D each have seven. One soundwall was found to be feasible and reasonable at the far west end of the project at a location common to all build alternatives.

A total of 19 potential hazardous waste sites are located within 100 ft (30 m) of Alternative 1. There are five potential sites within the study area for Alternatives 2A and 2B, and six within the study are for Alternatives 2C and 2D.

Construction is expected to result in minimal air quality, water quality, and noise impacts for all build alternatives. Potential impacts in these areas would be temporary in nature. Given the expected magnitude of the impacts and their relatively short duration, any adverse impacts to the physical environment are expected to be minimal.

Cumulative and growth inducing impacts would be similar for all build alternatives. Due to the limited access nature of the expressway, none of the alternatives would encourage unplanned growth. Growth in the rural areas, potentially affected by Alternatives 2A/2B, and to a lesser extent by 2C/2D, would be very limited by the absence of infrastructure (e.g., sewer and water). Alternative 1 would be located closer to infrastructure, but would also affect areas covered by planning documents for the City and County. The proposed expressway would contribute to cumulative impacts in the areas of noise, farmland conversion, wetlands, and habitat loss.

All alternatives cross the Stanislaus River once; for the purpose of section 4(f) of the 1966 Department of Transportation Act, the Stanislaus River in the project area is considered to be a recreational trail. In addition, Alternatives 2A and 2B cross the Honolulu Bar Recreation Area (operated by the U.S. Army Corps of Engineers [COE]) at the Stanislaus River. No direct use of any of these protected section 4(f) resources by any of the build alternatives was identified. Indirect effects were also found to be minimal, so no constructive use was identified either. Appendix E contains additional information on section 4(f) and on the project's impacts on section 4(f) resources.

2.4.2 Mitigation

Proposed mitigation of potential adverse impacts includes the following:

- Impacts on vernal pool habitat, and the species present within that habitat affected by the proposed project, would be mitigated through preservation and enhancement of habitat (e.g., use of Vernal Pool Fund Account or established vernal pool bank).
- Mitigation of VELB habitat would be accomplished under the terms of the "Conservation Guidelines for the Valley Elderberry Longhorn Beetle" issued by the U.S. Fish and Wildlife Service (USFWS). These guidelines are included in Appendix C.
- The total number of oaks removed, whether isolated or in a woodland, would determine the number of oak replacements required, at a ratio of three to one (standard California Department of Fish and Game (CDFG) ratio) for oaks larger than one foot (30 cm) diameter at breast height (dbh). Impacts on riparian habitat would be mitigated near the Stanislaus River and attempts would be made to combine riparian

habitat with the oak plantings to restore mixed ecosystem habitat destroyed by earlier land uses such as gravel mining. Possible sites for mixed ecosystem restoration have been explored with field visits and inspection of aerial photography. These include the COE Horseshoe Bend Public Recreation Area and other properties adjacent to COE property along the Stanislaus River.

- While only one alternative (2D) has a direct potential impact on Aleutian Canada geese, all alternatives have indirect impacts on grasses and wetlands that could be used by the geese. Therefore Caltrans proposes to mitigate impacts on these grasses and wetlands by acquiring replacement property, most likely in conjunction with the riparian and oak mitigation described above.
- Fairy shrimp and Tiger Salamander mitigation would be done during mitigation for vernal pools.
- Swainson's Hawk mitigation would include preservation and enhancement of habitat management lands.
- Mitigation measures for overpass/bridge construction on the Stanislaus River would be necessary to minimize fishery habitat degradation. A construction window would be applied to minimize harm to listed fish species. Construction most likely would be accomplished during low flows in dry summer months, when adult spawning and fry emergence would not be a critical issue. Use of BMPs during construction, in accordance with Caltrans policies, would minimize sedimentation effects.
- Prior to construction, surveys for bats and nesting migratory birds would be completed to minimize potential adverse affects to these species of concern.
- Displacement of businesses, agricultural operations, and houses would be mitigated through relocation. Adequate resources for all potential displacements (except for possibly one non-profit organization) were found to be available in the Oakdale area. To minimize displacement of agricultural operations, undercrossings for cattle and equipment would be provided. Businesses and non-profit organizations would be offered reestablishment expenses and moving costs. Additional benefits, options, and payments would be determined by the ROW-relocation agent upon meeting with the displacee.
- Results of the noise barrier analysis indicates that mitigation through construction of a soundwall is both reasonable and feasible at one location at the western beginning of the project corridor, adjacent to an existing mobile home park at the northwest corner of Route 120 and Cottle Road (this location is common to all build alternatives). The proposed wall would substantially reduce noise levels at existing homes within the mobile home park.

- Mitigation for potential visual impacts includes revegetation, and rounding tops of slopes and bottoms of fill slopes to blend with existing terrain.

CHAPTER 3 Affected Environment

3.1 Land Use

The project study area is located in Stanislaus County, California. The western portion of the project area includes Oakdale, while the northern and eastern portions of the project study area are located within unincorporated Stanislaus County. The Stanislaus River transverses the southern portion of the project study area.

Land use patterns within the project area vary from agricultural to urban, rural residential, and commercial. Land north of the Stanislaus River is used primarily for agriculture or ranching. South of the river, land use is urban/rural residential and commercial. Land use along the Stanislaus River is primarily orchard, agricultural, or recreational, with limited residential use. The northern alignments (Alternative 2 variations) traverse agricultural land except at their termini where they bisect rural residential neighborhoods. The southern alignment (Alternative 1), that parallels existing Route 120/108 approximately 50 percent of its length, traverses rural or urban residential and commercial neighborhoods. Figure 3-1 illustrates project area land use.

Agricultural land use in Stanislaus County includes approximately 170,048 ac (68,845 ha) of Prime Farmland; 27,831 ac (11,267 ha) of Farmland of Statewide Importance; 49,042 ac (19,855 ha) of Unique Farmland; and 38,139 ac (15,440 ha) of Farmland of Local Importance (CDC 1996). Agricultural land uses also consist of livestock grazing, hay production, and dairies. Walnut, almond, and various fruit orchards, as well as nurseries are other agricultural land uses in the project area.

Stanislaus County is one of the largest counties in the San Joaquin Valley, surpassed in size by only Kern, Fresno, and San Joaquin counties. Population growth in Riverbank and Modesto, cities near Oakdale, has paralleled population growth in Oakdale. The increase in housing developments in Riverbank and Modesto has pushed the cities' boundaries closer to Oakdale. The City of Oakdale has responded by including a Green Belt land use designation in the *1994 Oakdale General Plan*, shielding Oakdale from the encroaching growth of Riverbank and Modesto, and limiting the area of growth within Oakdale and its sphere of influence.

Multiple plans and policies govern land use decisions in the project area. The *1994 Oakdale General Plan* and the *Stanislaus County General Plan* provide general guidance,

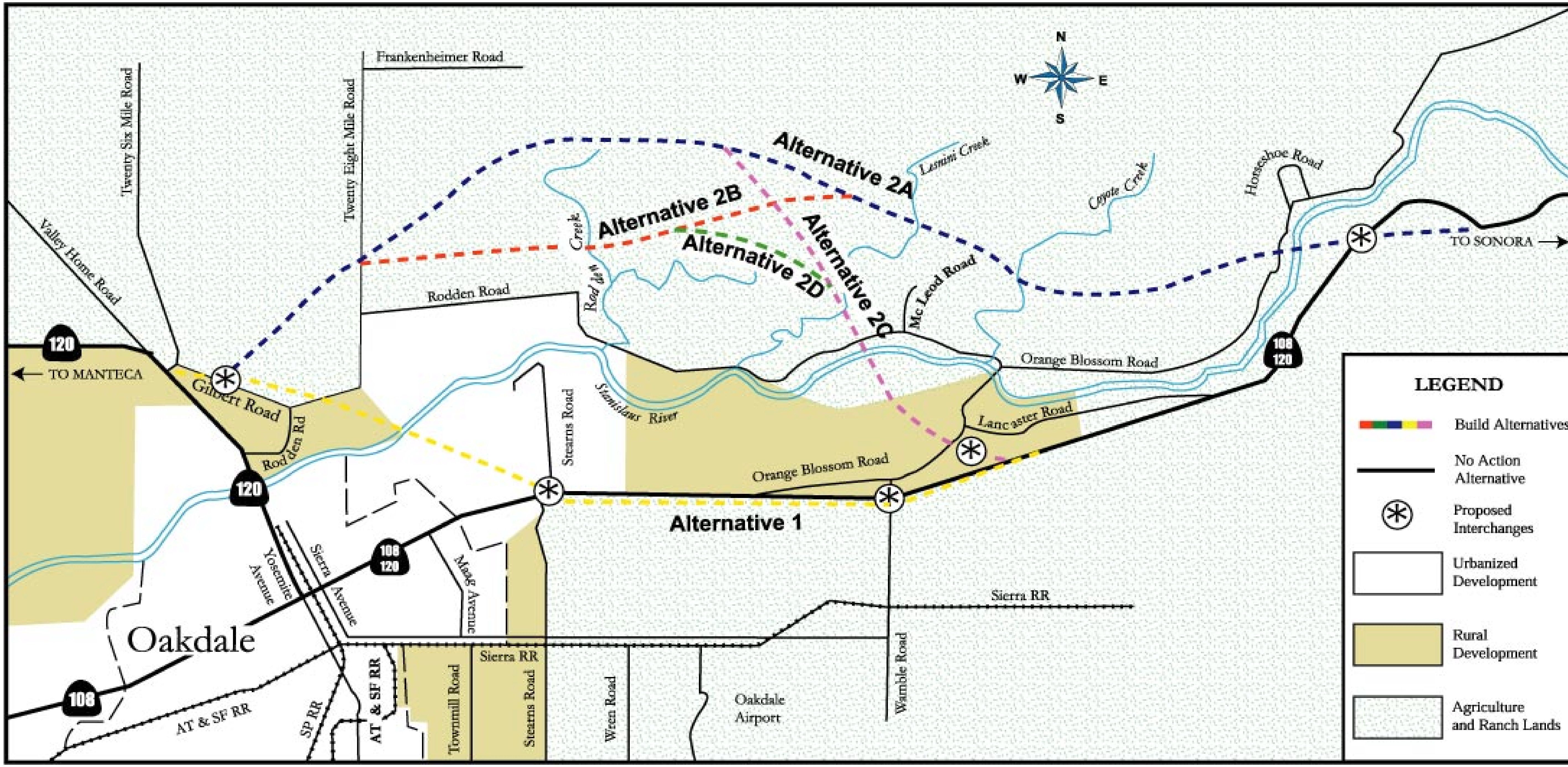


Figure 3-1 Land Uses in Vicinity of Build Alternatives

Caltrans

0 mile 1

0 km 1

while proposed community plans or case study areas provide more specific guidance for land use in the project area. The *North Oakdale Specific Plan* provides for planned growth along the Stanislaus River at the convergence of Route 120 and Valley View Road, and is expected to generate approximately one third of the tax revenues for Oakdale. Land uses outlined in the *North Oakdale Specific Plan* include commercial, estate and rural residential, and agricultural. The *Burchell Hill Specific Plan* provides for low density and estate residential development, and a public/semi-public area within the northeast section of Oakdale. The *Bridle Ridge Specific Plan* is located in southwest Oakdale and includes land use designations for estate, low density, medium density, and high density residential. It would also accommodate a fire station, elementary school, parks, and commercial properties.

3.2 Community Impacts

3.2.1 Population

The population estimates in this document are based on data from the 1990 U.S. Census; Census 2000 data has not yet been released. All population figures given within this section, for any year after 1990, are estimates. The most recent estimates available are used.

With a projected population of 709,000 by the year 2020, Stanislaus County is one of the fastest growing counties in California. The population is expected to grow by more than 54 percent over the next 20 years (EDD 1999). The county had an estimated 441,364 people in 2000. Oakdale had an estimated 14,952 (CDOF 2000b). The project study area had an estimated 2000 population of 17,052 (Sellers 2001), with the highest concentration of people living within the Oakdale city limits.

A 1998 CDOF report, projected that 10.6 percent of individuals in Stanislaus County were 65 years and older in 2000. This is a slight decrease from the 11.8 percent in 1990 (CDOF 1998). Compared to the county, Oakdale had a higher percentage of individuals 65 years and older in 1990, at 14.5 percent (U.S. Census 1991).

Stanislaus County has a diverse population, with many racial and ethnic groups represented (Table 3.1). The 2000 California Department of Finance (CDOF) official state estimates for 1998 identify 66 percent of the county population as non-hispanic white, which is a decrease from the 1990 census count of 71 percent (CDOF 2000d). Compared to the county, Oakdale has a larger percentage of non-hispanic whites (about

81 percent in 1990) and a smaller percentage of hispanics (about 17 percent in 1990) (U.S. Census 1991).

Because there are no racial and ethnic profile estimates done at the city level, the 1998 estimates for Oakdale (in Table 3.2) are based on countywide trends. The percent of change in all of Stanislaus County between 1990 and 1998 was used to calculate 1998 estimates for Oakdale. These estimates can be considered a maximum change in the ethnic profile of Oakdale, since the city has historically been less ethnically diverse than the county. Ethnic diversity in Oakdale has remained relatively constant since 1980.

Table 3.1 Stanislaus County Racial and Ethnic Profile, 1990 and 1998

	1990 U.S. Census		**1998[a] Estimates**		
Race/Ethnicity	**Population**	**% of Total**	**Population**	**% of Total**	**% Change**
Non-Hispanic White	261,323	70.5%	283,467	65.8%	- 4.7%
Hispanic (of any race)	80,897	21.8%	107,576	25.0%	+ 3.2%
Asian/Pacific Islander	18,146	4.9%	26,783	6.2%	+ 1.3%
Black	6109	1.7%	8251	1.9%	+ 0.2%
Native American	3474	0.9%	4158	0.9%	0%
Other	573	0.2%	862	0.2%	0%
TOTAL	**370,522**	**100%**	**431,097**	**100%**	

Source: California Department of Finance (CDOF), *Race/Ethnic Population Estimates: Components of Change for California Counties, April 1990 to July 1998.* Sacramento, California, May 2000.
Source: U.S. Department of Commerce, Bureau of the Census, *Census of Population and Housing, 1990.* Summary Tape File 1, 1991.
[a]These figures are the most current CDOF estimates, based on 1990 U.S. Census data.

Table 3.2 Oakdale Racial and Ethnic Profile, 1990 and 1998

	1990 U.S. Census		**Countywide % Change**	**1998 Estimates[a]**	
Race/Ethnicity	**Population**	**% of Total**		Population	**% of Total**
Non-Hispanic White	9656	80.7%	- 4.7%	11,123	76.0%
Hispanic (of any race)	2038	17.0%	+ 3.2%	2956	20.2%
Asian/Pacific Islander	116	1.0%	+ 1.3%	337	2.3%
Black	26	0.2%	+ 0.2%	58	0.4%
Native American	100	0.9%	0%	132	0.9%
Other	25	0.2%	0%	30	0.2%
TOTAL	**11,961**	**100%**		**14,636[b]**	**100%**

[a]These projections are based on the percent change from Table 3.7. No CDOF racial and ethnic profile estimates or projections at the city level are available.
[b]This total city population is a CDOF 1998 estimate.

3.2.2 Housing

In 2000, there were an estimated 144,368 occupied households in Stanislaus County, each averaging 3.01 persons. This represents an increase of 15.1 percent over the number of occupied households in 1990. From 1990 to 2000, single-family housing in Stanislaus County increased by 17.7 percent to 115,126. Estimates also report 27,197 housing units with two or more units per building, as well as 9700 mobile homes. This equals a total of 152,023 housing units. An estimated 144,368 of these were occupied, equaling a vacancy of roughly 5 percent (CDOF 2000b).

The estimated number of occupied households in Oakdale for 2000 is 5443. Households within the project study area have characteristics similar to those in Oakdale, averaging 2.71 persons per household (CDOF 2000b). The study area includes primarily single-family detached housing with a mobile home park located just west of the Twenty-Six Mile Road Interchange. Residences within the Oakdale city limits would not be impacted by any of the expressway alternatives.

3.2.3 Economic Characteristics

The economic base of Stanislaus County has been, and continues to be, agriculture; it contributed more than $1.3 billion in revenue in 1998. Livestock and poultry products are large sources of revenue at nearly $703.5 million in 1998, and fruit and nut crops contributed $357.6 million (CDOF 2000).

The 2000 annual average statistics show the civilian labor force for the county to be 204,000 with an unemployment rate of 10.4 percent. The unemployment rate has been steadily decreasing from a decade high of 16.7 percent in 1993. The current rate is still substantially higher than the state's 2000 unemployment rate of 4.9 percent, but the county's labor market conditions have been steadily improving and continue to show job growth and progressively lower unemployment rates (EDD 1999; 2001a; 2001c). Similarly, Oakdale had a 2000 unemployment rate of 10.7 percent, with 5930 people employed out of a labor force of 6640 people (EDD 2001b).

The estimated median family income for Stanislaus County in 1998 was $43,632 (CDOF 2000c); in 1989 it was $32,923 (CDOF 2000a). This 32 percent increase is statistically similar to the change in the Oakdale. Persons in Stanislaus County living at or below poverty level in 1990 totaled 51,337 (CDOF 2000c). More detailed employment data at the city level for 2000 is currently unavailable (Census 2000 data has not yet been released), but Oakdale has historically followed county employment trends.

The *1994 Oakdale General Plan* shows that the labor-shed population is predominantly white (92 percent) with a high school education and a median age of 32.7 years. The age breakdown of the labor force is approximately one-third below the age of 24, one-third between 25 and 44 years old, and one-third above the age of 45. Twenty-one percent of the labor-shed population has some college education, while 14 percent are college graduates (Oakdale 1994). Based on 1990 Census data, minorities constitute 28 percent of services employment, 55 percent of the farming employment, and 38 percent of operator and laborer employment countywide (EDD 2001d).

3.2.4 Travel Patterns

Travel patterns are discussed in Chapters 1 and 2 of this document. Route 120 serves both as a commuter route in the Central Valley/foothills and as a major recreation route. Trips to and from the Yosemite and Sonora areas account for most of the recreational trips on Route 120 during summer weekends. Within Oakdale, Route 120 is a four-lane arterial with peak weekend traffic loads approaching 20,000 trips per day. Major signalized intersections at River Road/Rodden Road, A Street/Route 108 junction, Johnston Avenue, and Maag Avenue become bottlenecks for weekend recreational traffic.

3.2.5 Community Cohesion

Community cohesion is a sense of belonging to a neighborhood or a strong attachment to neighbors, groups, and institutions as a result of continued association over time. Individuals with strong community cohesion include senior citizens that depend on many social services and peer support groups. These support networks can be severed upon relocation. Additionally, handicapped people and those without automobile transportation would have special relocation problems. Community connectivity with the center of town is affected by all alternatives at the Twenty-Six Mile Road Interchange.

3.2.6 Community Resources

Public service facilities within the project study area include a police station, fire stations, a hospital, and recreational parks (managed by the COE as part of the Stanislaus River Parks). Utilities within the project limits include pole lines and underground cable serving power, telephone, and TV cable; water and sewer lines; irrigation canals and pipelines; and domestic water lines.

3.3 Air Quality

3.3.1 Regulatory Setting

As required by the Federal Clean Air Act Amendments, National Ambient Air Quality Standards (NAAQS) have been established for seven major air pollutants: CO, ozone (O_3), nitrogen dioxide (NO_2), particulate matter less than 10 micrometers in diameter

(PM-10), fine particulate matter less than 2.5 micrometers in diameter (PM-2.5), sulfur dioxide (SO_2) and lead (Pb). These pollutants are often referred to as “criteria pollutants.” The California Clean Air Act also established standards for these pollutants.

Both the State and Federal Standards are shown in Table 3.3. The primary standards have been established to protect the public health with an adequate margin of safety. The secondary standards are intended to protect the nation's welfare and account for air-pollutant effects on soil, water, visibility, vegetation, and other aspects of the general welfare.

The EPA designates all areas of the country as “attainment” or “nonattainment” as to whether or not ambient air quality meets the NAAQS. The State of California, through the California Air Resources Board (CARB), also classifies each district as "attainment," "nonattainment", or "unclassified" with respect to the California Ambient Air Quality Standards (CAAQS). State and federal laws require all nonattainment areas to be brought into compliance with applicable ambient air quality standards. Air quality management districts with nonattainment areas must adopt and enforce rules and regulations to achieve and maintain the CAAQS and NAAQS in all areas affected by emission sources under their jurisdiction. As stipulated in the federal regulations, districts are required to develop attainment plans and regulations to achieve the objective of attaining and maintaining the state standards by the "earliest practicable date."

In conjunction with the requirements to develop plans for bringing nonattainment areas into compliance with CAAQS and NAAQS, the Federal Clean Air Act Amendments require that individual projects be assessed in terms of conformity with the State Implementation Plan (SIP) for achieving clean air. More specifically, a provision of the amendments states: "No Federal agency may approve, accept or fund any transportation plan, program or project unless such plan, program or project has been found to conform to any applicable implementation plan [SIP] in effect under this Act” (42 USC 7506[c]).

A project’s conformity is defined as follows:

- Project operates in accordance with an SIP’s purpose of eliminating or reducing the severity and number of violations of the NAAQS.
- Project activities will not cause or contribute to any new violation.
- Project activities will not cause an increase in the frequency or severity of any existing violation.

Project achieves expeditious attainment of these standards.

Table 3.3 State and National Ambient Air Quality Standards

Pollutant[a]	Averaging Time	California Standards[b] Concentration	National Standards[c] Primary	National Standards[c] Secondary
O_3	1 Hour	0.09 ppm (180 µg/m^3)	0.12 ppm (235 µg/m^3)	Same as Primary Standard
	8 Hour	—	0.08 ppm (157 µg/m^3)	
PM-10	Annual Geometric Mean	30 µg/m^3	—	Same as Primary Standard
	24 Hour	50 µg/m^3	150 µg/m^3	
	Annual Arithmetic mean	—	50 µg/m^3	
PM-2.5	24 Hour	None	65 µg/m^3	Same as Primary Standard
	Annual Arithmetic Mean		15 µg/m^3	
CO	8 Hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	None
	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)	—	
NO_2	Annual Arithmetic Mean	—	0.053 ppm (80 µg/m^3)	Same as Primary Standard
	1 Hour	0.25 ppm (470 µg/m^3)	—	
Pb	30 days average	1.5 µg/m^3	—	—
	Calendar Quarter	—	1.5 µg/m^3	Same as Primary Standard
SO_2	Annual Arithmetic Mean	—	0.03 ppm (80 µg/m^3)	—
	24 Hour	0.04 ppm (105 µg/m^3)	0.14 ppm (365 µg/m^3)	—
	3 Hour	—	—	0.5 (1300 µg/m^3)
	1 Hour	0.25 ppm (665 µg/m^3)	—	—
Visibility Reducing Particles	8 Hour (10 am to 6 pm, PST)	Sufficient to produce extinction coefficient of 0.23 per km; visibility of 10 mi or more (except Lake Tahoe) due to particles with relative humidity < 70%	None	None
Sulfates	24 Hour	25 µg/m^3	None	None
H_2S	1 Hour	0.03 ppm (42 µg/m^3)	None	None

Source: California Air Resources Board. *Ambient Air Quality Standards*. Accessed 1/24/01, <http://www.arb.ca.gov/aqs/aqshtr> Posted January 25, 1999.

[a] O_3=ozone; PM-10=particulate matter less than 10 micrometers in diameter; PM-2.5=particulate matter less than 2.5 micrometers in diameter; CO=carbon monoxide; NO_2=nitrogen dioxide; Pb=lead; SO_2=sulfur dioxide; H_2S=hydrogen sulfide.

[b] California standards for O_3, CO (except Lake Tahoe), SO_2 (1 and 24 hour), NO_2, suspended particulate matter—PM-10, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. See Section 70200 of Title 17 of the California Code of Regulations.

[c] National standards (other than O3, PM-10, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The O3 standard is attained when the fourth highest 8-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM-10, the 24-hour standard is attained when 99 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. For PM-2.5, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal or less than the standard. Primary standards protect public health, and secondary standards protect public welfare (e.g., crops, materials, etc.). New federal 8-hour O3 standards were promulgated on 7/18/97. The federal 1-hour standard continues to apply in areas that violated that standard. See 40 CFR Part 50.

The determination of conformity for this project is to be based on the most recent estimates of pollutant emissions, population, employment, travel and congestion estimates as determined by StanCOG.

3.3.2 Regional Air Quality Influences

Activities associated with air pollution in the San Joaquin Valley Air Basin (SJVAB) include population growth, urbanization, mobile sources, oil production, and agriculture. The most significant factors accelerating the decline of air quality in the basin are the valley's rapid population growth and associated increases in traffic, urbanization, and industrial activity.

Air movements in the San Joaquin Valley are influenced by the regional geography, which in turn affects the ambient air quality characteristics throughout the air basin. The air basin is bounded by the Sierra Nevada to the east, the Coastal Ranges to the west, the Tehachapi mountains in the south, and the Consumnes River to the north. Thus the San Joaquin Valley is considered a "bowl," open only to the north. Marine air generally flows into the basin from the San Joaquin River Delta, but the region's topographic features restrict air movement through and out of the basin, resulting in weak airflow that becomes blocked vertically by high barometric pressure over the valley. As a result, the basin is highly susceptible to pollutant accumulation over time.

3.3.3 Existing Ambient Air Quality

Air pollutant levels in the air basin are monitored by a network of sampling stations operated under the supervision of the CARB. Air quality monitoring data were analyzed to assess existing concentrations of CO and particulate matter in the project area. The nearest monitoring locations are the Modesto stations located approximately 12 mi (19 km) southwest of Oakdale: one on 14th Street, and another on I Street. The I Street Station monitors only for PM-10. The 1994–1996 air quality data from these stations are summarized in Table 3.4.

The basin is designated on both the federal and state level as in attainment for CO under the provisions established by the new Clean Air Act and the California Clean Air Act. This project falls outside the Modesto urbanized area, which is a maintenance area for CO. The air basin is federally and state designated as a serious nonattainment area for O_3, and a state plan has been prepared to achieve clean air standards. The air basin is also designated on the federal and state level as a serious non-attainment area for PM-10. The San Joaquin Valley Unified Air Pollution Control District has prepared a plan for

Table 3.4 1994–1996 Ambient Air Quality Data from Key Locations in the Oakdale Vicinity

Air Pollutant[a]	Standard/ Exceedance	Modesto (814 14th St)			Modesto (1100 I Street)		
		1994	1995	1996	1994	1995	1996
CO	Max. 1-hr Concentration (ppm)	10	11	9	NM[b]	NM	NM
	Max. 8-hr Concentration (ppm)	6.5	5.9	6.5	NM	NM	NM
	# Days > Federal 1-hr Std. Of > 35 ppm	0	0	0	NM	NM	NM
	# Days > Federal 8-hr Std. Of > 9 ppm	0	0	0	NM	NM	NM
	# Days > Calif. 1-hr Std. Of > 20 ppm	0	0	0	NM	NM	NM
	# Days > Calif. 8-hr Std. Of > 9 ppm	0	0	0	NM	NM	NM
O_3	Max. 1-hr Concentration (ppm)	0.12	0.13	0.13	NM	NM	NM
	# Days > Federal 1-hr Std. Of > 0.12 ppm	0	2	2	NM	NM	NM
	# Days > Calif. 1-hr Std. Of > 0.09 ppm	24	19	24	NM	NM	NM
NO_2	Max. 1-hr Concentration (ppm)	0.09	0.09	0.09	NM	NM	NM
	Annual Arithmetic Mean [AAM] (ppm)	0.023	0.022	0.022	NM	NM	NM
	% AAM Exceeded (Federal)	0	0	0	NM	NM	NM
	# Days > Calif. 24-hr Std. Of > 0.25 ppm	0	0	0	NM	NM	NM
SO_2	Max. 1-hr Concentration (ppm)	NM	NM	NM	NM	NM	NM
	Annual Arithmetic Mean (ppm)	NM	NM	NM	NM	NM	NM
	# Days > Federal 24-hr Std. Of> 0.14 ppm	NM	NM	NM	NM	NM	NM
	# Days > Calif. 24-hr Std. Of > 0.05 ppm	NM	NM	NM	NM	NM	NM
PM-10[c]	Number of Samples	NM	NM	22	61	61	62
	Max. 24-hr Concentration ($\mu g/m^3$) [d]	NM	NM	74	160	115	133
	# Samples > Fed. 24-hr Std. Of > 150 $\mu g/m^3$	NM	NM	0	1	0	0
	# Samples > Calif. 24-hr Std. Of > 50 $\mu g/m^3$	NM	NM	2	11	14	3
	Annual Arithmetic Mean ($\mu g/m.^3$)	NM	NM	29.7	33.9	31.1	29.6
Pb	Maximum Monthly Concentration ($\mu g/m^3$)	NM	NM	NM	NM	NM	NM
	# Months Exceeding Federal Std.	NM	NM	NM	NM	NM	NM
	# Months Exceeding California Std.	NM	NM	NM	NM	NM	NM

Source: Resources Board, California Air Quality Data Summaries 1994, 1995, & 1996. California Air Resources Board, Sacramento, California

[a]CO=carbon monoxide; O_3=ozone; NO_2=nitrogen dioxide; SO_2=sulfur dioxide; PM-10=particulate matter less that 10 micrometers in diameter; Pb=lead.

[b]NM: Pollutant not monitored

[c]PM-10: particulate matter > 10 micrometers aerodynamic diameter

[d]$\mu g/m^3$: Micrograms per cubic meter

attainment on the state level for PM-10. A conformity determination was made by StanCOG on the current RTP and federal TIP; the proposed Oakdale Expressway Project is included in transportation plans that conform to state plans for improving ambient air quality.

Pollutant concentrations for SO_2, Pb, and sulfates were not measured at either of the Modesto monitoring stations. However, ambient concentrations of these pollutants are considered low throughout the state, and are not likely to exceed standards in the region.

3.3.4 Local (Microscale) Air Quality

Ten locations in the project area were selected for review using models that incorporate traffic data, land use patterns, and sensitive receptor locations such as residences and recreation facilities. The locations of the 10 receptor sites are shown on Figure 3-2.

Based on 1993 traffic data, including data for peak travel periods such as Sunday afternoons in summer, model results indicate that existing CO concentrations at all of the receptor locations do not exceed the state and federal one hour CO standards of 20 ppm and 35 ppm, respectively.

However, two intersections were analyzed and estimated to have CO levels in excess of the state and federal eight hour standard (9 ppm) under existing conditions: Yosemite Avenue/F Street (existing peak eight hour CO concentration is estimated to be up to 10.6 ppm) and Maag Avenue/Route 120/108 (up to 9.5 ppm). These violations are the result of traffic backups along Route 120.

3.4 Noise

3.4.1 Caltrans Noise Policy

Caltrans noise policies fulfill the highway noise analysis and abatement mitigation requirements. Where the peak hour noise level approaches or exceeds an Leq of 67 dBA or where the increase in predicted noise level in the design year exceeds 12 dBA, noise mitigation must be considered. A change in the peak hour noise level of greater than 12 dBA from existing conditions is considered to be a substantial increase. Noise mitigation measures must be implemented if it is shown that such measures can substantially reduce the noise levels at sensitive receptors and the measures are reasonable and feasible.

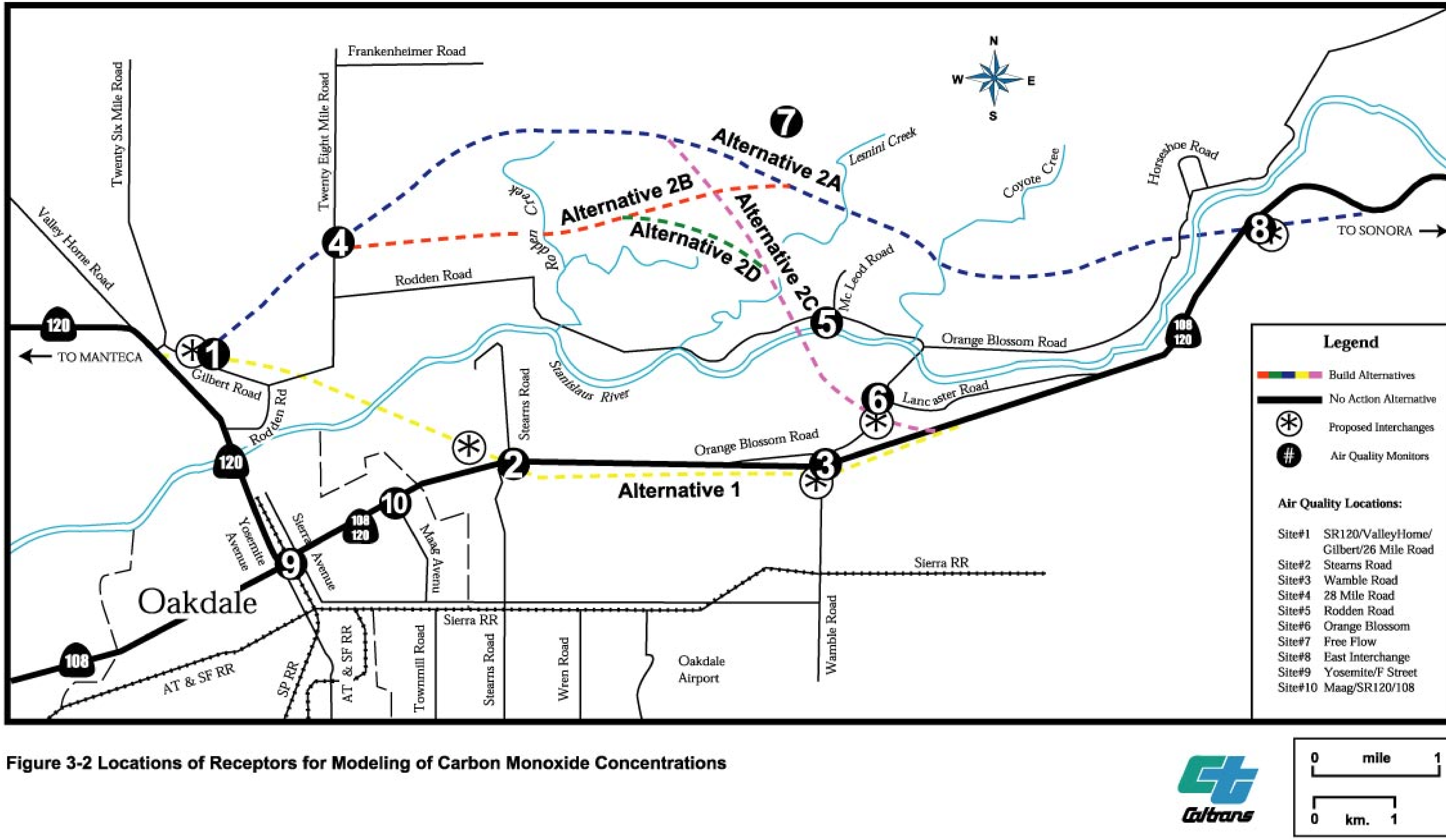


Figure 3-2 Locations of Receptors for Modeling of Carbon Monoxide Concentrations

3.4.2 Federal Noise Abatement Criteria

The FHWA Noise Abatement Criteria (NAC) (Table 3.5) lists developed land use types as Categories A, B, C, D, or E. In this study, Category B represents the majority of sensitive receptors near the proposed project corridors; this includes residences, parks, outdoor recreational facilities, and schools and churches. The FHWA NAC for Category B is 67 Leq; if noise levels in these areas approach within one dBA of 67 Leq, noise abatement must be considered.

3.4.3 Noise Sensitive Land Uses

Existing noise sensitive land uses along the project corridors were identified from site inspection, aerial photography, and land use maps. Within each land use category, sensitive receptors were identified. Single-family residences and parks are the only uses along the proposed corridors considered to be sensitive to noise under the NAC.

In addition to residential land uses, three existing outdoor recreation areas are located near the proposed corridor alignments. The Honolulu Bar and Horseshoe Bend public access areas lie adjacent to the Stanislaus River. Alternative 2A and 2B cross near the intersection of Orange Blossom and Horseshoe Roads, potentially impacting the parks, which are considered Category B noise sensitive. The third recreational use is the Oakdale Golf Course, located near the proposed Alternative 1 Stearns Road Interchange. The highway expansion is not expected to produce a substantial noise increase on the golf course.

3.4.4 Noise Measurement Program

A noise analysis, conducted in 1993, identified potential noise receptors in the project area. The study area was reinspected on January 11, 2001, to identify any new receivers, including commercial sites, which were not included in the original study. There is substantial new construction in the project area. However, no new potential noise receptors were identified, because post-1993 construction adjacent to the alignment alternatives included the use of soundwalls.

Thirteen sites were chosen to be representative of noise sensitive land uses located along the proposed project alternatives (Figure 3-3). Measurements were taken during weekday daytime hours within the week of March 5–9, 1993. Noise measurements were taken for

Table 3.5 Activity Categories and Noise Abatement Criteria

Activity Category	Leq[a] for Noisiest Traffic Hour	Description of Activity
A	57 (Exterior)	Land 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 sports 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.
D	---	Undeveloped lands.
E	52 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals and auditoriums.

[a]Leq(h) is the one-hour energy equivalent sound level.
[b]The interior noise levels (activity) apply to: (1) indoor activities for those parcels where no exterior noise-sensitive land use or activities have been identified; and (2) those situations where the exterior activities are either remote from the highway or shielded in some manner so that the exterior activities will not be affected by the noise but the interior activities will.

a period of 20 minutes at each receptor. At Location 6, an additional measurement was taken for a period of 24 hours to determine the weekday, peak noise hour along existing Route 120/108.

3.4.5 Existing Noise Levels

Results of the noise measurement survey are listed in Table 3.6. The receptor numbers in Column 1 correspond to the graphical locations shown on Figure 3-3. The last column of the table lists the alignment alternative(s) nearest to the measurement location.

The existing noise environment in the project area varies from 40 to 60 dBA because of the rural nature of the area. The majority of measured locations experience levels from 40 to 50 dBA, which is representative of a rural environment (Locations 1, 3, 4, 5, 10, 11, 12). Residences near existing arterial roadways and Route 120/108 experience noise levels from 51 to 67 dBA Range (Locations 2, 6, 7, 8, 9, 13). Under current conditions, the FHWA NAC of 67 dBA is approached or exceeded at Location 6.

Table 3.6 Existing Noise Level Summary

Location Number	Daytime Land Use	Leq (dBA)	Distance to Roadway[a]	Alternatives
1	Single-Family House	46	650 ft (198 m)	1
2	Single-Family House	51	NA	1
3	Single-Family House	46	NA	1
4	Ranch House	40	NA	1
5	Ranch House	49	NA	2A-D
6	Single-Family House	67	120 ft (37 m)	1
7	Ranch House	64	135 ft (41 m)	1
8	Ranch House	58	130 ft (40 m)	1,2C-D
9	Single-Family House	61	130 ft (40 m)	1
10	Ranch House	49	NA	2C-D
11	Single-Family House	47	700 ft (214 m)	1
12	Single-Family House	45	NA	2A-B
13	Grazing Land	65	240 ft (73 m)	2A-B

Note: Noise measurement survey was taken for a 20-minute time period. NA = Not Applicable; No substantial nearby roadway noise source.
[a]Represents approximate distance between nearest substantial roadway noise source and measurement location.

3.5 Water Quality

The *Water Quality Control Plan for the Central Valley Region (*CRWQCB 1998*)* identifies various water quality objectives to protect beneficial uses of the surface water and groundwater within the basin. Existing beneficial uses in the project area of the Stanislaus River are agricultural supply, industrial supply, water and non-water contact recreation, warm and cold freshwater habitat, cold water migration, warm and cold water spawning, and wildlife habitat.

Key agencies contacted to determine the existing water quality for the Stanislaus River include California Regional Water Quality Control Board, CDWR, U.S. Geological Survey (USGS), Stanislaus County Environmental Health and Oakdale Irrigation District (OID). None of these agencies perform regular water quality sampling on the Stanislaus River for the Oakdale area.

3.5.1 Surface Waters

The Stanislaus River is the major surface water feature flowing through the proposed project area (from east to west). The Stanislaus River is approximately 161 mi (260 km) long and is segmented by the New Melones Dam into the upper reach (113 mi [182 km] long) and lower reach (48 mi [77 km] long). Two smaller dams (the Tulloch Dam and the Goodwin Diversion Dam) are located 7 mi (11 km) and 10 mi (16 km), respectively, downstream of the New Melones Dam. These smaller dams are used as reservoirs for hydropower releases. The Goodwin Diversion Dam also diverts water to two irrigation canals. Oakdale is located in the lower reach of the Stanislaus River approximately 29 river mi (48 river km) upstream from the juncture of the Stanislaus and San Joaquin Rivers and 18 river mi (29 river km) downstream from the New Melones Dam.

The California Water Resources Control Board classifies the water quality of the lower segment of the Stanislaus River as impaired. Non-point source pesticide contamination is the reason for the impaired classification.

Four creeks flow within the project area: Rodden Creek, Lesnini Creek, Coyote Creek and an unnamed creek near Orange Blossom Road. Rodden Creek is a tributary to the Stanislaus River and is located approximately 3 mi (4.8 km) upstream from Oakdale. The creek splits into two forks approximately 0.5 mi (0.8 km) north of the Stanislaus River. The westerly fork runs in a north-south direction crossing the Alternative 2B and 2D alignments. Lesnini Creek is located toward the eastern portion of the project area. The creek originates just below Rodden Lake; however, it does not normally receive flow from the lake. The creek runs in a northeast-southwest direction and crosses all alternatives. Coyote Creek is located east of Lesnini Creek and crosses the Alternative 2A and 2B alignments. The creek runs in a north-south direction and flows into the Stanislaus River near the intersection of Rodden and Orange Blossom Roads. An unnamed creek is located east of Coyote Creek and crosses Alternatives 2A and 2B near the intersection of Horseshoe and Orange Blossom Roads. The unnamed creek enters the Stanislaus River just after the proposed alignment crossings.

3.5.2 Groundwater

Groundwater is the only source of domestic water for the City of Oakdale. Records of six monitoring wells owned by the OID indicate that the depth of groundwater ranges from 8 to 74 ft (2.4 to 23 m). Data from these monitoring wells show that the groundwater quality within the project area is within established state and local Regional Water Quality Control Board standards.

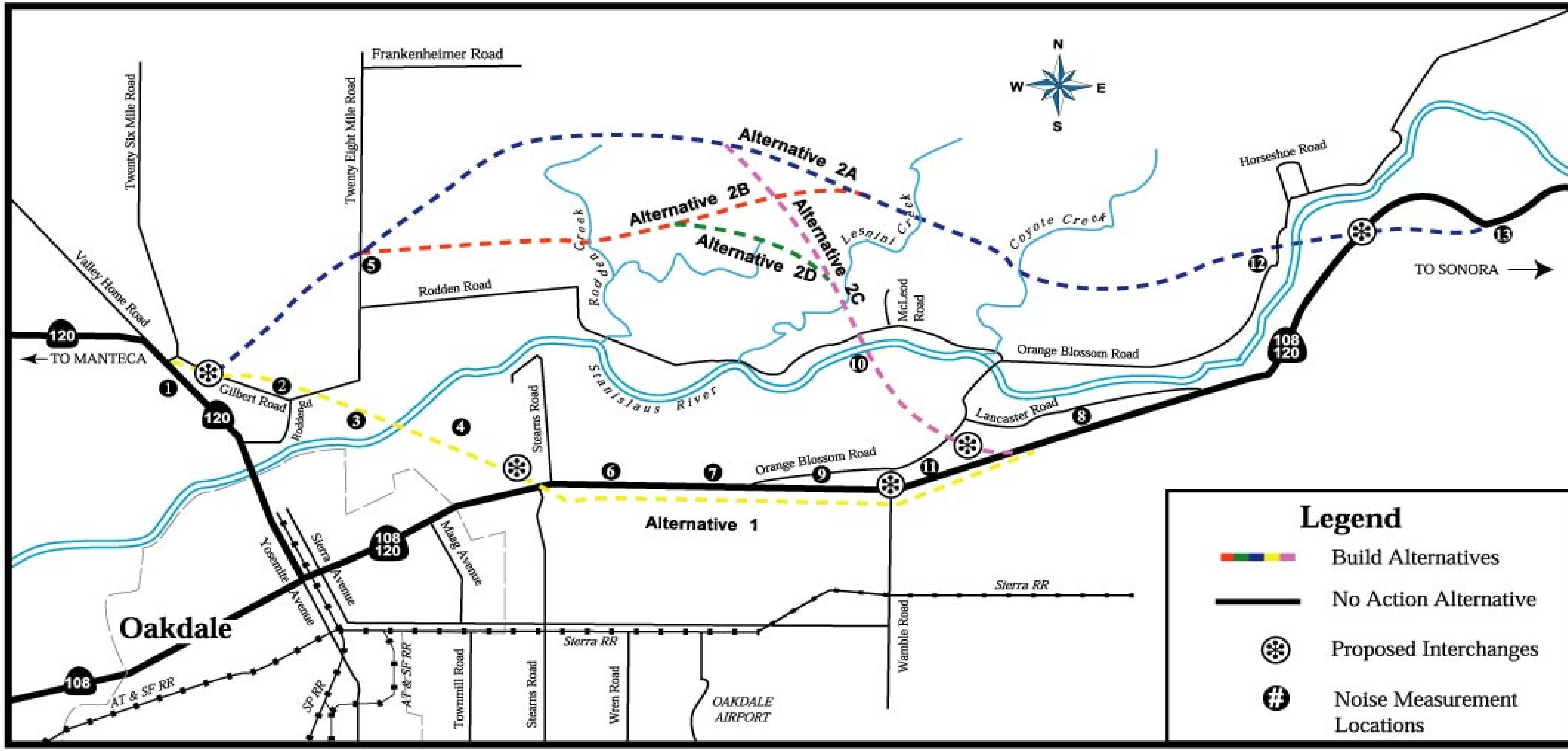
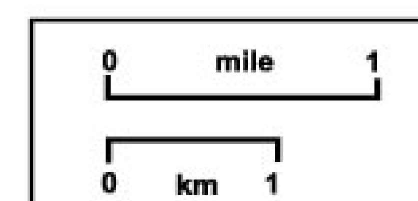


Figure 3-3 Locations of Noise Receptors Along Build Alternatives



Oakdale is located in the center of a 10-mi^2 (26-km^2) groundwater recharge zone. The zone extends for approximately 8 mi (13 km) along the southern bank of the Stanislaus River and approximately 2 mi (3.2 km) south of the river. The groundwater is recharged from water percolating through the gravel of the river, seepage from reservoirs, irrigation and, to a limited extent, rainfall. Only about half of the rainfall each year recharges the aquifer. The groundwater table generally follows a westerly gradient. Similarly, groundwater flows are generally towards the west. Groundwater levels in the project area are relatively deep and range from approximately 98 to 164 ft (30 to 50 m) below ground surface, with decreasing depths near the Stanislaus River.

The aquifer from which Oakdale draws is not recognized by the Environmental Protection Agency (EPA) as a “sole source aquifer,” and therefore section 1424(e) of the Safe Drinking Water Act does not apply. The closest sole source aquifer registered with the EPA is for the City of Fresno, approximately 120 mi (193 km) to the south.

3.6 Geology, Soils, and Geohydrology

3.6.1 Topography

Regionally, the project area is located in the Great Valley geomorphic province of California between the Sierra Nevada mountains to the east and the Coastal Ranges to the west. Uplift of the mountains to either side forms a structural trough that underlies the Great Valley. Subsequently, material derived from both marine and non-marine sources has accumulated in the valley to create approximately 3300 ft (1000 m) of sediments overlying the granite and metamorphic rock basement.

South of the Stanislaus River, the topography is relatively flat, sloping gently to the west. The river’s floodplain is generally at an elevation of 130 to 150 ft (40 to 46 m) above sea level. The topography is relatively flat with a few minor hills rising 30 to 40 ft (9 to 12 m) above the adjacent areas. North of the Stanislaus River, the topography consists of gently rolling hills with small peaks, ridges, and valleys. Some peaks are as high as 300 to 320 ft (91 to 98 m) above sea level. In general, ridges and valleys are oriented from the north to the south within the study area, presenting natural barriers to the path of proposed highway alignments. No feasible corridors were identified during the preliminary engineering design process that could follow naturally occurring terrain. In some areas, drainages have incised channels to depths of 40 to 50 ft (12 to15 m) below the surrounding ground. Elevations north of the river vary from 110 ft (34 m) above sea level on the Stanislaus River floodplain to 320 ft (98 m) above sea level at the peaks.

3.6.2 Geologic Units and Paleontological Sensitivity

Geologic units exposed in the project area range in age from Tertiary to Holocene and are nonmarine. Older geologic units (Miocene, Eocene, and Cretaceous) underlie the area. Tertiary rocks outcrop near Knights Ferry, approximately ten miles east of Oakdale. The Mehrten Formation (Tertiary in age) is the oldest geologic unit exposed in the project area. It is composed of siltstone, sandstone, clay, and breccia. The Laguna Formation (Pliocene in age) lies above the Mehrten Formation. It is composed of alluvial conglomerate, sandstone, siltstone, metamorphic rock, and some volcanic detritus. The Turlock Lake Formation (Plio-Pleistocene in age) is composed of alluvial fan deposits of sand, silt, and gravel. The Riverbank Formation (also Pleistocene in age) lies above the Turlock Lake Formation. It consists of stream-deposited sand, silt, and gravel. The Modesto Formation is the youngest of the Pleistocene formations in the project area, and consists of gravel, sand, and silt deposited as thin, coalescing alluvial fans. Holocene alluvium occurs in the active channel and floodplain of the Stanislaus River. The alluvium consists of unweathered gravel, sand, and silt deposited by the river (Hall 1960).

Fossils are a nonrenewable, relatively scarce resource. Therefore, a study was conducted by the Department of Geology at California State University, Fresno (CSUF), within a one-mile corridor of existing and proposed state highways, to designate paleontological resources as areas of “no sensitivity,” “low sensitivity,” and “high sensitivity.” The Tertiary deposits (Laguna and Mehrten Formations) are the only formations in the project area designated as high sensitivity (CSUF 2000).

3.6.3 Faults and Seismicity

No faults have been mapped in the immediate project area. The nearest faults of concern are: the Bear Mountains Fault Zone, located about 10 to 12 miles (16 to 20 km) northeast of the project area; and the Melones Fault Zone, located about 16 to 17 miles (25 to 28 km) northeast of the project area. Other faults that could affect the project include the Ortigalita, Calaveras, San Andreas, and Hayward Faults. Moderate to strong shaking could occur in the project area from a large earthquake on any of these faults. Possible effects of such shaking could include settlements of fills, distress of cut slopes, and liquefaction.

The maximum credible earthquake (MCE) is defined as the largest earthquake that a given fault is considered capable of generating. The MCE that could affect the project site would be a magnitude 6.5 (Richter scale) earthquake, occurring on the potentially active Bear Mountains/Melones Fault Zones (CDMG 1979). Such an event would result in peak bedrock acceleration on the order of 0.3 times the acceleration of gravity (g)

(Seed 1982). The Caltrans recommended peak ground surface and bedrock acceleration, at the site for use in seismic design considerations, is 0.25 g to 0.30 g.

3.6.4 Soils and Mineral Resources

South of the Stanislaus River, there are two dominant soil associations: the Snelling and the Hanford-Tujunga. The Snelling association soils were formed from coarse sandy loam alluvium. They are deep, well-drained, moderately permeable and have slow to medium runoff characteristics. This soil is found on low terraces along the southern boundary of the Stanislaus River east of Oakdale. The Hanford-Tujunga soils are sands and loamy sands and occur along the floodplain of the Stanislaus River and on low alluvial fans. This association has somewhat excessive drainage, very rapid permeability, and very slow runoff (NRCS 1964).

North of the Stanislaus River, there is one dominant soil association and another dominant soil type: the Redding-Pentz-Peters association and the Cometa soil type. The Redding-Pentz-Peters association occurs on high terraces and on sloping terrace sides. More specifically, the Pentz soil has moderate to excessive drainage, moderate to very slow permeability, and generally rapid runoff, while the Peters series has good drainage, slow permeability, and very slow to slow runoff. The Cometa soil has moderate to very low permeability (NRCS 1951).

The potential for erosion is dependent upon how well the soil "holds together," otherwise known as its cohesiveness. In the project area, the erosion soil cohesiveness is high, so the erosion potential is considered to be low.

Several mineral resource areas are located adjacent to or near the project area, mainly north of the Stanislaus River, and include both an active sand quarry and an inactive gravel quarry. In addition, an active gravel quarry is located in the east-central portion of the project area, and potential gravel deposits are located in the central portion of the project area.

3.6.5 Geohydrology

Subsurface migration of contaminants could occur within the sediments zone and would not likely be impeded by bedrock. At lower elevations in the project area, such as along the Stanislaus River floodplain, unconsolidated sediments would exhibit high conductivity for the movement of groundwater and the migration of contaminants. At higher elevations in the project area, hardened rock would exhibit low conductivity for the movement of groundwater and the migration of contaminants.

The geologic units in the project area dip gently to the west, toward the basin axis (i.e., general subsurface hydrology is likely to flow towards the west). The nearest major structural feature is the north-south trending Foothills Fault System (Bear Mountain Fault Zone) approximately 12 mi (20 km) east of the project area. Consequently, subsurface migration is not likely to be substantially influenced by active faults.

3.7 Biological Resources

Biological resources potentially affected by this project include wetlands and other waters of the United States, and species listed as threatened or endangered under the Federal and/or California Endangered Species Acts. Biologists conducted a detailed assessment of resources potentially affected by the project. The assessment included field surveys, review of reports and agency records, and coordination with the resource agencies (Caltrans 1999). Appendix A contains correspondence with USFWS and the COE regarding these resources. Figure 3-4 illustrates locations of biological resources in the project area.

The study area includes the Stanislaus River; Lesnini, Rodden and Coyote/Aroila Creeks; several unnamed creeks; ponds; and numerous irrigation canals. Elevations range from 180 to 298 ft (55 to 91 m). Due to irrigation, surface water is abundant in the area. Ranchers have used natural drainages and canals to irrigate fields as well as to create ponds for watering cattle and for recreation.

3.7.1 Wetlands and Waters of the U.S.

Wetlands are regulated under Section 404 of the federal Clean Water Act (CWA) and Executive Order 11990 (Protection of Wetlands) mandates avoidance of wetlands where possible. In addition, most wetland habitat types recognized by Holland (1986), such as fresh water seep, coastal and valley fresh-water marsh, and vernal marsh are identified as "high priority" habitats by the California Natural Diversity Data Base (CNDDB).

Most of the wetlands in the study area are small. While vernal pools and swales are wetland habitats, they are also identified as a separate habitat type because of their characteristic ecology and flora. Most of the remaining wetlands are small seeps and ephemeral streams in non-native grassland habitat. They occur largely in the central and east-central portions of the study area, north of the Stanislaus River. Some seep areas are artificial and are fed by leakage from irrigation canals. These areas are classifiable as freshwater seep or vernal marsh (Holland 1986). A letter from the COE, verifying Caltrans' delineation of wetlands and waters of the U.S., is included in Appendix A.

The species composition of these areas varies, depending on conditions, but species characteristic of wet or seasonably wet habitats are usually present: for example, the popcorn flower (*Plagiobothrys stipitata*), common monkeyflower (*Mimulus guttatus*), toad rush (*Juncus bufonius*), and creeping spikerush (*Eleocharis macrostachya*). A few small freshwater marshes within the survey corridors are dominated by cattails (*Typha species* [spp]). These are sites with a longer seasonal period of inundation (sometimes year-round), and a more permanent groundwater supply close to the soil surface, than other wetland areas within the study.

FHWA's approach for wetland assessment is based on ratings of wetland functions and values (Appendix B). Functions are specific activities conducted by wetlands (e.g., flood control), and values refer to the probability that a particular wetland is performing the listed function. Probabilities range from high to low. Table B.1 in Appendix B summarizes the five key functions and values ratings relevant to this project. Table B.2 presents the rating for each function, of each type of wetland or waters of the U.S., by alternative. Potential jurisdictional wetlands are classified into the following habitat types: riparian forest, herbaceous marsh, vernal pool/swale, seasonally wet meadow, and disturbed seasonally wet meadow. Vernal pools are one of only a few valley habitats that are dominated by native species. Non-wetland waters of the U.S. are classified into the following habitat types: perennial river/stream, intermittent stream, lake/pond, and irrigation ditch. Figure 3-4 illustrates wetland locations.

3.7.1.1 Riparian Forest

Riparian forests occur on sites where groundwater is permanently available to tree roots; however, the surface soil is dry for much of the year. They are best developed on the floodplains of rivers and streams, where they are subject to both scouring action and deposition of silt from periodic floods. Riparian forests are generally recognized as sensitive, "high priority" habitats by the CNDDB.

Within the survey corridors, the largest and best-developed riparian forest areas are at the Stanislaus River crossings for the five build alternatives. Smaller areas occur at the Alternative 2C/2D crossing of Lesnini Creek and at the Alternative 2A/2B crossing of an unnamed creek adjacent to Orange Blossom Road.

3.7.1.2 Herbaceous Marsh

Herbaceous marsh wetlands occur in some streams, lakes, ponds and irrigation ditches, as well as in a few shallow, low-lying depressions. These marshes are sites with ponded surface water, usually more than several inches deep but less than about one yard deep

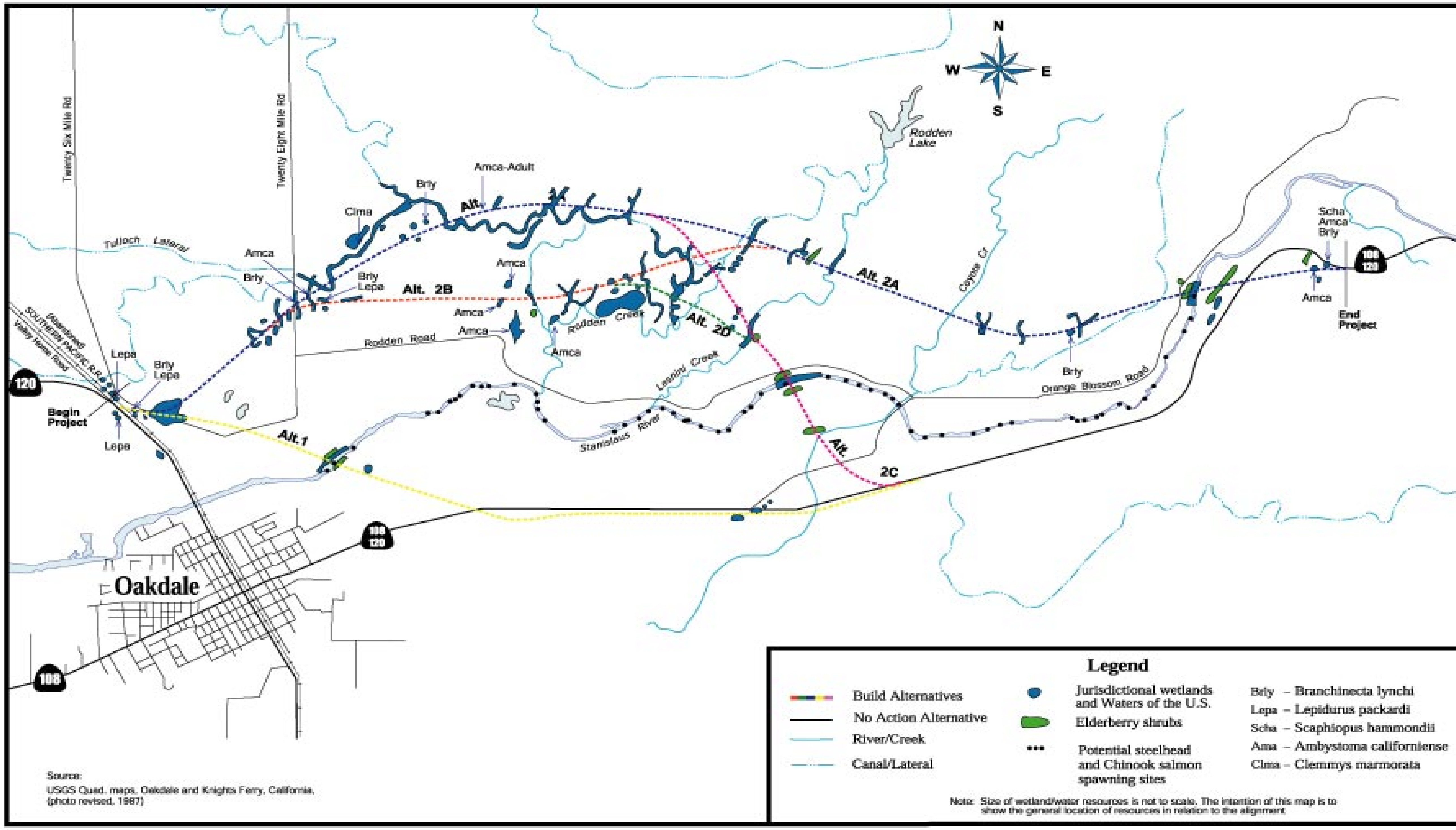
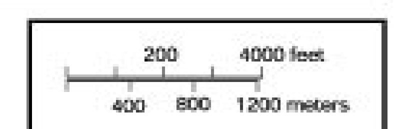


Figure 3-4 Biological Resources in the Project Vicinity



during some period of the year. The dominant vegetation is cattail (*Typha* spp), smartweed (*Polygonum* spp), nutsedge (*Cyperus eragrostis*), spikerush (*Eleocharis palustris*), and other herbaceous plants. Ponded surface water and/or saturated soil conditions are present for a long duration during much or all of the year.

3.7.1.3 Vernal Pool/Swale

Vernal pools are shallow depressions or small shallow ponds that fill with water during the rainy winter season. They dry out during the spring, becoming completely dry by late spring or early summer. Vernal pools are typically underlain by a claypan or hardpan layer, or by impermeable bedrock, which restricts percolation into the soil. A highly distinctive flora, largely composed of annual species, is associated with vernal pools and other related vernally wet habitats in California. Vernal pools are recognized as sensitive, “high priority” habitats by the CNDDB.

Vernal pools and swales were identified at a number of locations within the survey area. Pools were identified based upon hydrology and flora; swales were identified based upon hydrology and the presence of one or more vernal pool/swale indicator species. Vernal pools/swales are located on all of the build alternatives. Pools within the survey corridors occupy a variety of topographic locations ranging from floodplains to nearly level ridge tops, and are relatively small (approximately 3 to 9 m in diameter) and shallow. These pools are isolated or in small groups. The study area does not support extensive complexes of interconnected or closely related pools as seen elsewhere in California.

3.7.1.4 Seasonally Wet Meadow

Seasonally wet meadows occur in low-lying swales and shallow depressions throughout the study area on all alternatives. They show indicators of seasonally ponded water, flowing surface water, and/or saturated soils due to groundwater levels at or near the surface sometime during the year. Some of the swales have narrow channels eroded into the ground and are tributary waters. Others show no eroded channel or drainage patterns. The dominant plants present are: toad rush (*Juncus bufonius*), curly dock (*Rumex crispus*), Indian sweet clover (*Melilotus indica*), English plantain (*Plantago lanceolata*), spiny buttercup, annual bluegrass (*Poa annua*), Bermuda grass (*Cynodon dactylon*), and perennial ryegrass (*Lolium perenne*).

3.7.1.5 Disturbed Seasonally Wet Meadows

Two areas of this wetland type were identified; both are relatively large fields. The first area is a low-lying field east of Gilbert Lateral and north of Gilbert Road within the project area on the west end. The second area is a low-lying field east of Collins Lateral and west of Rodden Creek.

The distinguishing features of this habitat type are that they are regularly, although not annually, disked and cultivated; support wetlands when not in cultivation; and would most likely remain wetlands if not actively farmed. The dominant plant species in these areas is spikerush (*E. palustris* and *E. parishii*), although other wetland species are present, including rice (*Oryza sativa*), western mannagrass, curly dock, smartweed, buttercup, plantain, and bluegrass. They contain clayey soils and reveal gleyed soils and oxidized root zones, indicating that they are inundated and/or saturated for a prolonged period during the year.

3.7.1.6 Perennial River/Stream

The Stanislaus River is a perennial river that flows in a westerly direction to the north of Route 120 within the study area. It is one of the major rivers of the Sierra Nevada/Central Valley, and has a total watershed area at Oakdale of approximately 1088 mi^2 (2,720 km^2). The river is considered by the COE to be navigable up to the existing Route 120 crossing (Caltrans 1994a). This is near but outside the project study area.

Three major, named creeks are located within the study area: Rodden, Lesnini and Coyote (also known as Aroila) Creeks. They are all tributary streams to the Stanislaus River and are considered waters of the U.S. The lower segments of all these creeks are most likely perennial streams, but the headwater segments, where some alternative crossings are proposed, are intermittent.

Rodden Creek originates from headwaters above and below North Main Canal and water from the canal is sometimes discharged into the creek. Lesnini Creek originates just below Rodden Lake, but only occasionally receives water from the lake (the lake flows are normally diverted into irrigation ditches). Coyote Creek originates from headwaters and its flow is not augmented.

3.7.1.7 Intermittent Streams

Portions of the three named creeks, several unnamed creeks, and some drainage swales are intermittent streams that were delineated as potential jurisdictional waters because they are tributaries to downstream waters. They have eroded channels with defined bed and bank, although the channels are generally narrow and shallow (less than 3.3 ft [1 m] wide and less than 2 ft [0.6 m] deep). Some, but not all, of these waters support wetlands within the ordinary high water mark of the channel.

3.7.1.8 Lakes/Ponds

Eight unnamed lakes and ponds were identified within or adjacent to the study area boundaries on all the alternatives; only one pond occurs within the potential ROW. These waters occur in natural low-lying depressions or drainages, but all are either man-made or have been altered by human activities. All contain areas of open water that are not vegetated. They are potential jurisdictional waters of the U.S. The perimeters of most of the lakes and ponds are bordered by vegetated wetlands.

3.7.1.9 Irrigation Ditches

Three of the irrigation ditches (Gilbert Lateral, Dorsey Lateral, and Old Tulloch Drain) were delineated as potential jurisdictional waters. While all of these irrigation ditches are artificially created, the delineated segments lie within natural low-lying fields and drainage swales that may have supported streams prior to the creation of the ditches. The ditches also convey water diverted from jurisdictional waters such as the Stanislaus River.

3.7.2 Upland Habitat

The study area is within the northern San Joaquin Valley portion of the Californian floristic province (Hickman 1993). Annual grassland, largely dominated by non-native grasses and herbs, and grazed by cattle, is the most common vegetation type. Substantial portions of the study area are used for intensive agriculture (irrigated pastures and orchards) and homes. Small areas of woodland occur, composed of several species of oak, including Valley oak.

The study area interfaces the Sierra Nevada foothills and the northern San Joaquin Valley. It is a transition zone between the foothill plateaus and the stream corridor floodplains, and does not present strong topographic relief or unusual substrates.

Four distinct physiographic types with different soil associations occur in the study area: recent alluvial floodplains (Grangeville-Tujunga association); young alluvial fans (Hanford [Ripperdan]-Tujunga association); low alluvial terraces and moderately old fans (Snelling association); high alluvial terraces partially eroded to rolling hills (Redding-Pentz-Peters and Montpelier-Whitney associations). The first three types are located along the Stanislaus River, while the fourth occurs on the adjoining hills. The Redding-Pentz-Peters association includes hardpan soils on high terraces that support vernal pools.

Five upland habitat types were documented within the alternative corridors in the study area: non-native grasslands, ruderal sites, developed sites, mixed oak woodlands, orchards and other intensive agriculture areas. Human activity and land use have altered much of the native habitat of the study area. Much of the study area is used for orchards or other intensive agriculture. In portions of the study area not subject to recent or intensive human disturbance, the non-native grassland occupies the largest area and constitutes a matrix within which all other habitat types occur. Mixed oak woodland occurs in relatively small, discontinuous patches in the eastern portion of the study area.

Surveys revealed that wildlife species diversity was relatively high in the study area. The most common species adapt well to living near humans in rural/urban settings: for example, raccoons, finches, scrub jays, striped skunks, opossums, sparrows, turkey vultures, northern orioles, and California mule deer. The abundance of many animals (e.g., mice, ground squirrels, skunks, grassland birds, ducks and raptors) was noticeably low in many parts of the study area, possibly due to the use of rodenticides and other poisons by local agencies and landowners. Lower abundance would be caused directly by deaths of prey and predators, and indirectly by reduced prey availability. It was noted that the abundance and species diversity of raptors were higher in the winter than in spring or summer. Migration patterns, as well as the availability of nesting habitat, may be the limiting factors in spring and summer.

Grasslands in some parts of the project area had extremely low numbers of small mammals, as indicated by a scarcity of burrows and of observations. This scarcity of small mammals, which normally support predators (e.g., foxes and coyotes, bobcats, hawks and eagles) may be one reason why surprisingly few raptors were seen during spring and summer wildlife surveys.

The abundant surface water in the Oakdale area provides potential breeding, nesting, and foraging habitat for amphibians, reptiles, waterfowl, and various mammal species. Islands and uplands associated with ponds also provide potential nesting habitat for turtles and groundnesting birds. Three ponds in the project vicinity support nesting western Canada geese.

Many of the ponds, creeks and canals have been moderately to severely disturbed by cattle trampling, runoff from cattle pens, use of pesticides and herbicides, changes in water flow, removal of bank vegetation and introduction of non-native predators such as bullfrogs and fish. These and other human activities have decreased the habitat quality for many native species.

The Stanislaus River significantly affects wildlife diversity. Riparian habitats are among the most critical wildlife resources in California, providing food, cover, nesting habitat and travel corridors for a wide variety of birds, mammals, reptiles and amphibians. The valley portion of the river is a warm-water fishery because of the slow movement and relative shallowness of the water. Water in the project area is cooler than in downstream reaches.

The native fish that occur in the project area include anadromous steelhead (*Oncorhynchus mykiss*), prickly sculpin (*Cottus asper*), rainbow trout (*Oncorhynchus mykiss*) and Chinook salmon. Introduced fish include largemouth bass (*Micropterus salmoides*), smallmouth bass (*Micropterus dolomieu*), brown trout (*Salmo trutta*) and carp (*Cyprinus carpio*). An unpublished survey conducted in the late 1980s near the Oakdale Recreation Area identified a wide range of warm-water fish in the area. The survey collected many species of the sunfish (centrarchids) family; none of these species are native to California.

Many species are dependent on riparian systems during some or all stages of their life cycle. In addition to trees in the riparian system, large trees in rural/urban areas support a variety of nesting birds. Within the project area, isolated trees along the North Main Canal support roosting bald eagles, rough-legged hawks, and other raptors during the winter. During the spring and summer, they support roosting and nesting great horned owls, red-tailed hawks and American kestrels. A red-tailed hawk nest was found in one of these trees in the early spring of 1994.

Orchards also provide habitat for some birds, although nests built in orchards may not be successful in producing young due to agricultural practices or other forms of disturbance. Finches, orioles, flickers, and robins, as well as a Cooper’s hawk were observed in orchards in the project area. Large numbers of ground squirrels were also found in many of these orchards.

Trees within the rural/urban area of the project, which support raptors, occur in disturbed areas. Therefore, mitigation is not necessary for raptors in this habitat. Other trees found within the project area include “mixed oak woodlands,” which are composed of blue or valley oaks, and are protected under State Senate Concurrent Resolution 17. Oak woodlands occur along the Stanislaus River at the eastern end of the project area, and along Lesnini Creek. Isolated oaks and interior live oaks occur throughout the project area.

Other habitat features important to wildlife exist in the project area (Mayer 1988). There are bridges, which support roosting bats and nesting swallows; brush piles that provide shelter for snakes, lizards, cottontails, jackrabbits, and other animals; hundreds of miles of fence that provide hunting, feeding and resting perches for owls and hawks, and lookout points for ground squirrels; barns and other out-buildings used by bats, snakes, and salamanders; irrigation canal tunnels which could support bats; a variety of nest boxes and platforms occupied by species such as raccoons, starlings, barn owls, Canada geese, and American kestrels.

The presence of riparian habitat in association with ponds, barns, canals, bridges, tunnels, wetlands, grasslands, vernal pools, and other habitat features makes the project area diverse. Thus, the project area is capable of supporting a greater variety of wildlife species than areas containing fewer of these features.

3.7.3 Threatened and Endangered Species

Prior to conducting surveys for any threatened or endangered species, a species list was obtained from the USFWS; an updated list was requested and received from USFWS as well (Appendix A). A comprehensive list of special status species with the potential to be in the study area was compiled from literature reviews, a search of the CNDDB, and the USFWS species list. Reconnaissance-level field surveys were then conducted to evaluate the suitability of the study area to support the identified wildlife species (see Tables B.3 and B.4 in Appendix B).

Based upon the results of the reconnaissance, the following were targeted for focused surveys: one insect species (VELB); four amphibian species (California tiger salamander, western spadefoot toad, California red-legged frog and foothill yellow-legged frog); two reptile species (giant garter snake and western pond turtle); five mammal species (San Joaquin kit fox, pallid bat, pale big-eared bat, Townsend’s big-eared bat and the mastiff bat); two bird species (Aleutian Canada goose and Swainson’s hawk); three anadromous fish species (Sacramento splittail, Central Valley steelhead and fall-run Chinook salmon). Surveys were conducted in accordance with protocols that have been established, accepted or proposed by the USFWS.

3.8 Floodplains

3.8.1 Stanislaus River

Major flooding in the Oakdale area has generally been associated with high flows in the Stanislaus River. Major floods in the area occurred in 1950, 1955, 1964, and 1969. Most of the flood damage was limited to agricultural land and crops. Today, the Stanislaus River is a flood controlled watercourse through the New Melones Dam Project. The facility became operational in 1978. No significant flooding has occurred on the Stanislaus River since that time. The peak regulated flow of the river is 8000 cubic feet per second (cfs) (227 cubic meters per second [cms]). Peak-flow data available from the USGS between 1979 and 1998 indicate that the average annual peak flow is 3200 cfs (90.62 cms) at the Ripon gauge station, approximately 20 mi (32 km) west of Oakdale. During the very strong El Nino year of 1997-1998, the peak flow in the Stanislaus River at the Ripon gauge station was 7320 cfs (207.3 cms). The Reclamation Board controls water releases into the Stanislaus River. The COE controls river flow by maintaining the river channel. The COE has purchased a combination of easements and fee properties along the entire reach of the river for the purposes of maintaining the river channel, retaining riparian habitat, providing public access, and providing public use facilities.

3.8.2 Creeks

Four major creeks exist within the study area: Lesnini, Rodden, Coyote Creeks and an unnamed creek (west of Horseshoe Road). Flows in both Rodden and Lesnini Creeks are controlled by dam structures. During the wet season, storm water runoff is discharged from the North Main Canal into Rodden Creek. This creek flows through a steep sided valley and has a well defined channel. Lesnini Creek follows a meandering alignment and Coyote Creek has a poorly defined channel at the Alternatives 2A and 2B crossings. Flows on the unnamed creek (west of Horseshoe Road) are from a lake located approximately 0.4 mi (0.6 km) from the Expressway crossing.

3.8.3 Other Drainage Characteristics

The existing irrigation system provides water for the late-spring to early-fall growing season. During the rest of the year, water supply is curtailed and the only water present in the canals is from storm water runoff. The existing storm drainage system is limited to downtown Oakdale, and commercial developments along Route 120.

To provide a uniform national standard without regional discrimination, the 100-year flood has been adopted by the Federal Emergency Management Agency (FEMA) as the base flood for floodplain management and flood insurance purposes.

Encroachments on floodplains are likely to reduce flood carrying capacity, and increase flood elevations that may result in flood hazards and accidents. One of the objectives of floodplain management includes balancing the economic gain from floodplain development against the resulting damage due to an increase in flood hazard. The

National Flood Insurance Program (NFIP) has introduced the concept of floodways and floodplains to assist local communities in floodplain management.

Detailed hydrologic and hydraulic analyses for the Stanislaus River were evaluated as part of a Flood Insurance Study in 1989, by the USGS and the COE for FEMA (FEMA 1989). The results of this study indicate that the reach of the river, within the project study limits, is not subject to flooding during a 100-year flood. The reach of the Stanislaus River within the project study limits has a regulated floodway (under FEMA jurisdiction) and a designated floodway (under California Department of Water Resources [CDWR] jurisdiction). No indication of prior flooding was observed during site reconnaissance at the affected locations.

3.9 Cultural Resources

Cultural resource surveys were completed for this project. The survey area, or area of potential effect (APE), encompassed an 820-ft (250-m) wide corridor, which includes 410 ft (125 m) on each side of the centerline of each alternative alignment. The APE area is enlarged in the vicinity of proposed interchanges and road overcrossings. The cultural resource surveys were designed to locate and document previously recorded and undiscovered historic, ethnographic, and prehistoric archaeological sites. Architectural evaluations were conducted and are included in the Historic Architecture Survey Report (HASR).

The documentation of cultural resources began with literature reviews. The initial assessment of historic architecture was conducted in 1992 and 1993, and was updated in January 2001.

3.9.1 Archaeological Resources

The literature search revealed no previously recorded archaeological sites within the project's APE. Archaeological reconnaissance within the APE resulted in the discovery of four historic sites and one prehistoric site. Each site was mapped relative to the alignments and the APE. The newly discovered sites are CA-STA-346, CA-STA-347H, CA-STA-348H, CA-STA-349H, and CA-STA-350H. Site CA-STA-346 will remain unevaluated until the preferred alternative is chosen. The remaining four sites have been evaluated for National Register Criteria eligibility. The State Historic Preservation Officer (SHPO) concurs that no sites are eligible (Appendix A). To protect the integrity of the resources, exact locations of archaeological resources are not provided in this DEIR/DEIS. Table 3.7 summarizes the findings at each site.

Table 3.7 Cultural Resources in the Vicinity of the Oakdale Expressway Project

Site Number	Description of Materials Found	Alternative Affecting Site	NRHP Status
CA-STA-346	Dark sandy midden containing chipped stone, faunal shell and bone, and fire cracked rock. Site may extend to a depth of one yard (0.9m).	1	Not Evaluated
CA-STA-347H	A concentration of household debris and building materials dating to the early 1900s, including fragments and intact specimens of glass bottles, dishes, utensils, bricks and buttons. Materials found between one to three ft (0.3 to 0.9m) below the surface.	1, 2A, 2B, 2C and 2D	Not Eligible
CA-STA-348H	Approximately 570 gravel and earth piles. Piles represent tailing from gold mining activities possibly dating back to the 1930s.	2A and 2B	Not Eligible
CA-STA-350H	Remains of a section of the old Stockton and Visalia Railroad (formerly Stockton and Copperopolis). No features or artifacts were noted.	1, 2A, 2B, 2C AND 2D	Not Eligible
CA-STA-349H	Remains of placer mining activities dating from the 1850s through the early 1940s. Features include placer pits, hand stacked waste rocks, dredge tailings, a dredge channel, and a gravel pit. Estimated size is 130ac (52.6 ha).	2A AND 2B	Not Eligible

Source: California Department of Transportation (Caltrans), Oakdale Expressway Historic Property Survey Report, Fresno, California, January 1994.

3.9.2 Historical Sites

Oakdale area landowners were contacted by Caltrans to describe cultural resources that might be in the project's APE. Following receipt of this information, interviews with the landowners as well as archival and field reviews were undertaken. During the field reviews, no surface evidence of several mentioned resources was detected: including the 1849 Miller Army Camp, the 1806 Moraga and Munoz Route, the 1844 John C. Fremont Route Campsite, and the 1850–1851 Mariposa Military Road. On August 16, 1995, the SHPO concurred that studies conducted to date were adequate.

The historic architecture survey evaluated 203 farmsteads and residences, and an irrigation canal system operated by the OID. The survey identified the following as pre-1955 structures: 37 farmsteads and residences and the OID canal system, which consists of 32 canals. None of these structures and canals appear to meet the criteria for eligibility for the National Register.

The disrupted railroad bed of the defunct Copperopolis Railroad Line, and the mine tailings at the East Interchange area of the project, were also evaluated. Both were determined to be ineligible.

3.10 Hazardous Waste

The project area extends primarily through river bottomlands, farmlands, rural residential development and open rangeland. Agriculture is the main industry in the region, with livestock (dairy and beef cattle), fruit/nut orchards, and poultry production predominating in the project area. The land uses that occurred historically in the area and continue to exist today, have relatively low association with the use of hazardous material. In general, notable sources of hazardous material/waste within agricultural communities include the following: (1) underground storage tanks (USTs) for local gas stations or for fueling farm equipment; (2) agricultural facilities where farm equipment maintenance materials such as oils, solvents, paints, and agricultural chemicals pose the potential for spills and contamination; and (3) unregulated refuse sites, such as local dumping areas. These general sources of contamination are in addition to any specific use that may pose the potential for contamination (e.g., a factory that occurs in, but is not characteristic of, a local agricultural community, a major mining operation, etc.).

Parcels located within 100 ft (30 m) of the areas of potential impacts (API) (see Chapter 4) for alternatives 1, 2A, 2B, 2C, and 2D were examined for the presence of potential sources of hazardous waste and are noted in the (ISA). These sites were identified by agency file review, photographic review, or field reconnaissance as having some potential for soil and/or groundwater contamination. Consequently, this list of sites is recommended for a Preliminary Site Investigation (PSI). A PSI involves field sampling to confirm whether hazardous waste is present and to what extent the contamination has affected the environment. File searches were conducted at both the California Regional Water Resources Control Board in Sacramento, and the Stanislaus County Environmental Health Services. A VISTA search was performed to identify possible hazardous waste spills and USTs. Local government officials were interviewed, and photographs from the Department of Agriculture for 1950, 1970, 1987, 1989, 1993, and 1998 were reviewed.

Based on agency records and field reconnaissance, 20 potential hazardous waste sites (Table 3.8) were identified within 100 ft (30 m) of the study area (Figure 3-5). A total of 19 of the sites are located within 100 ft (30 m) of the study area for Alternative 1 (Sites 1-8 and 10-20), and are recommended for a future PSI. There are 5 sites within 100 ft (30 m) of Alternatives 2A and 2B that could contain hazardous waste (1, 2, 14, 15, and 16).

Alternatives 2C and 2D share the same 6 potential hazardous waste sites (1, 2, 9, 14, 15, and 16) within 100 ft (30 m) of their impact area. Five of the sites are common to all five build alternatives (1, 2, 14, 15, and 16), and thus are not relevant in the selection of an alternative with respect to hazardous waste. The highest potential for hazardous waste within 100 ft (30 m) of the build alternatives is from leaking USTs. All of the sites listed in Table 3.8 are associated with hazardous waste material.

3.11 Visual Quality

3.11.1 Existing Visual Environment

Visual quality is a measure of the excellence of a view. For example, buildings encroaching on the natural environment, where the buildings are of no particular coherent quality and appear out of place, were rated very low. By comparison, unspoiled rolling pasturelands received a very high rating. The vividness, intactness, and unity of a view must be high to indicate high visual quality. Existing visual conditions within the project limits receive an overall rating of medium for visual quality, even though the visual quality in some areas is rated very high (Table 3.9).

The project area is made up of four landscape units: (1) *open agriculture*, (2) *intensive agriculture*, (3) *rural residential*, and (4) *riparian*. Each landscape unit exhibits similar general patterns of land use, and provides views with similar characteristics. Landscape units provide a framework for comparing the visual effects of highway project alternatives. Figure 3-6 illustrates the distribution of the four landscape units in relation to project alternatives.

The *open agriculture* landscape unit covers the largest area. It is characterized by rolling pasturelands with little encroachment by roads or manmade structures. The *intensive agriculture* landscape unit typically encompasses orchards and smaller farms, as in much of the southern portion of the project area. The *rural residential* landscape unit contains still smaller agricultural holdings, and is in the most developed area traversed by the project. Finally, small amounts of the *riparian* landscape unit occur at the points where the proposed roadways cross the Stanislaus River and Lesnini Creek.

Rolling hills and plains provide visual character, which varies with the seasons. During the winter and spring the oak-covered hillsides and grasslands are green and heavily vegetated with scrub and wildflowers. In the summer and fall they are golden and brown

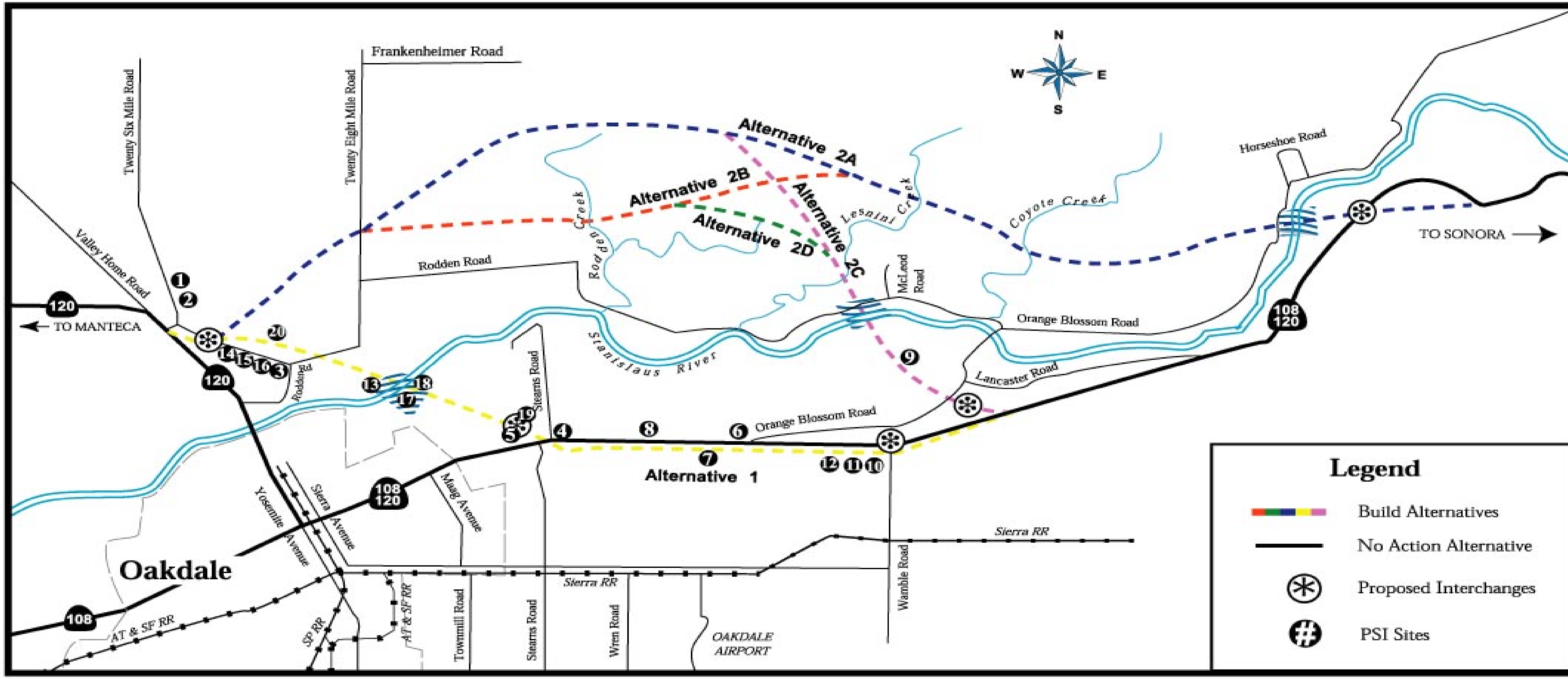


Figure 3-5 Locations of Potential Hazardous Waste Sites Along Build Alternatives

Table 3.8 Potential Hazardous Waste Sites Located Within 100 ft (30 m) of the API

Site Number	Site Owner	Type of Potential Hazardous Waste Source[a]	Chemicals or Materials Handled, Stored or Disposed	Alternative
1	Starlight Ranch/John Cooper 10519 26 Mile Oakdale, CA 95361	1. UST[b] 2. AST	1. Fuels 2. Solvents 3. Ag. Chemicals	1, 2A, 2B, 2C, 2D
2	Russell F. Douma 10439 26 Mile Oakdale, CA 95361	1. UST[b]	1. Fuels	1, 2A, 2B, 2C, 2D
3	George H. Wright 7742 Gilbert Oakdale, CA 95361	1. (2) USTs[b] 2. AST	1. Fuels	1
4	Oakdale Golf and Country Club 243 N Stearns Oakdale, CA 95361	1. UST[b]	1. Fuels 2. Fertilizers	1
5	Pruits Repair Service 2107 E 'F' Oakdale, CA 95361	1. UST[b]	1. Fuels	1
6	Edward F. Viohl 9530 Dillwood Oakdale, CA 95361	1. UST[b]	1. Fuels	1
7	Bloomingcamp Bros. Ranch 10528 Highway 120 Oakdale, CA 95361	1. UST[b] 2. (2) ASTs 3. Ag. Facilities	1. Fuels 2. Solvents 3. Ag. Chemicals	1
8	Raymond Nikolauson Sr. 9525 Atlas Oakdale, CA 95361	1. UST 2. AST	1. Fuels 2. Solvents 3. Ag. Chemicals	1
9	K. Michael Erat 10048 Wamble Oakdale, CA 95361	1. (3) USTs[b] 2. AST	1. Fuels 2. Solvents 3. Ag. Chemicals	2C, 2D
10	Anthony P. Souza 11718 Highway 120 Oakdale, CA 95361	1. UST[b] 2. Ag. Facilities 3. Refuse Site(s)	1.Fuels 2.Solvents 3.Ag. Chemicals	1
11	Camille Parker 11506 Highway 120 Oakdale, CA 95361	1. UST[b]	1. Fuels 2. Solvents 3. Ag. Chemicals	1
12	James H Codoni 11212 Highway 120 Oakdale, CA 95361	1. UST 2. Ag Facilities 3. Refuse Site(s)	1. Fuels	1
13	Stan and Joyce Gladys 8260 Rodden Road Oakdale, CA 95361	1. Ag, Facilities 2. Refuse Site(s) 3. Former Chemical Site 4. ERNS	1.Fuels 2.Solvents 3.Ag. Chemicals 4.Unknown	1
14	Rose & Marmon Partnership 460 N. Yosemite Ave., Ste. 10 Oakdale, CA 95361	1. Former Box Factory 2. Former Feed Store	1. Fuels 2. Solvents 3. Ag. Chemicals 4. Unknown	1,2A,2B,2C,2D
15	Jehovas Witness 7466 Gilbert Road Oakdale, CA 95361	1. Ag. Facilities 2. Refuse Site(s)	1. Fuels 2. Solvents 3. Ag. Chemicals 4. Unknown	1,2A,2B,2C,2D
16	Bob Watson 7537 Gilbert Road Oakdale, CA 95361	1. UST[b] 2. Refuse Site(s)	1.Fuels 2.Solvents 3.Ag. Chemicals 4.Unknown	1,2A,2B,2C,2D
17	City of Oakdale Department of Public Works Oakdale, CA 95361	1. Unregulated Landfill	1. Unknown Materials 2. Leachate	1
18	Ernest Waggoner 1500 Valley View Drive Oakdale, CA 95361	1. Ag. Facilities 2. UST[b] 3. AST	1. Fuels 2. Solvents 3. Ag. Chemicals	1
19	Gilbert and Kimberly Wymond P.O. Box 696 Riverbank, CA 95367	1. Vehicle Maintenance Facilities	1. Fuels 2. Solvents 3. Paints	1
20	Phil and Lois Stadtler 7967 Gilbert Road Oakdale, CA 95361	1. Ag. Facilities 2. UST[b] 3. Refuse Site(s)	1.Fuels 2.Solvents 3.Ag. Chemicals 4.Unknown	1

[a]UST = underground storage tank; AST= above-ground storage tank; ERNS = Emergency Response Notification System.
[b]The site was listed in the VISTA search as having one or more USTs, but field reconnaissance and interviews with property owners did not confirm the existence of the tank(s). The tanks were apparently removed by the owner/resident with or without county oversight and associated documentation.

Table 3.9 Baseline Visual Quality Conditions

Viewpoint	Existing Visual Quality[a]
Alternative 1	
1. Western Terminus	M
2. Rodden Road Crossing	M
3. Stanislaus River Bridge	H
4. Steams Road Interchange	M
5. Wamble Road Interchange	M
Alternative 2A	
Western Terminus (same as 1)	M
6. Twenty-Eight Mile Road	M
7. Ranchlands	M
8. Honolulu Bar	M
9. East Interchange	M
Alternative 2B	
Western Terminus (same as 1)	M
Twenty-Eight Mile Road (same as 6)	M
10. Ranchlands	M
Honolulu Bar (same as 8)	M
East Interchange (same as 9)	M
Alternative 2C	
Western Terminus (same as 1)	M
11. Lesnini Creek	H
12. Rodden Road Crossing	H
13. Stanislaus River Bridge	H
14. Orange Blossom Road Interchange	M
Alternative 2D	
Western Terminus (same as 1)	M
15. Eaton Lateral	M
Lesnini Creek (same as 11)	H
Rodden Road Crossing (same as 12)	H
Stanislaus River Bridge (same as 13)	H

Note: H=High; M=Medium; L=Low
[a]The visual quality rating for each viewpoint was determined by combining the ratings for vividness, intactness, and unity *of* and *from* the road, using the FHWA process for visual quality assessment (U.S. Department of Transportation, Federal Highway Administration, *Visual Impact Assessment for Highway Projects*, Publication No. FHWA-HI-88-054, Washington, DC, 1983).

with dry grasses and trees. The Stanislaus River, heavily lined with riparian vegetation, is a major visual feature winding through the area in a westerly direction. Many irrigation canals (also known as laterals) and small lakes and ponds influence the visual environment of the project area. Views of farms, fields, pastures, orchards, and small wetlands are important visual assets in Oakdale. Views of mountain ranges to the east and west of Oakdale are another visual resource in the project area.

The visual environment is discussed in several Oakdale and Stanislaus County planning documents. Major vehicular corridors have been identified as design corridors and important visual resources in the *Oakdale General Plan*.

3.11.2 Viewshed

A viewshed is defined as all surface areas visible from an observer's viewpoint. Topography, existing vegetation, and structures define the limits of the viewshed. Views along the study area vary from tightly enclosed areas to large open vistas. Table 3.9 illustrates the visual quality ratings of viewpoints as identified by build alternative. Figure 3-6 illustrates the viewsheds and project alternatives.

The viewsheds for the five build alternatives are described as follows:

Alternative 1. The most southerly of the five alternatives, this has the most constrained viewshed due to the concentrations of development and intensive agriculture in Oakdale. Between Valley Home Road and Rodden Road, the viewshed is expansive to the north and fairly open to the south. East of Rodden Road, orchards and dense riparian vegetation along the Stanislaus River limit the viewshed. Around North Stearns Road the flat topography and low-lying agricultural fields open the viewshed to the north. The North Stearns Road area is designated in the *Oakdale General Plan* as “low density residential,” with potential school and park sites. The viewshed is again constrained by development and orchards until Wamble Road.

Alternative 2A. The viewshed for Alternative 2A, the most northerly of the five alternatives, is controlled to the south by a strong variable ridgeline, creating a contracting and expanding viewshed. On the north side, the views over plains and rolling hills are more expansive. The viewshed expands east of the proposed crossing of Alternatives 2A/2B in the large flat area around Lesnini Creek. Views are limited east of Lesnini Creek, because of peaks in the topography, then reopen to rolling hillsides. As the alignment approaches the Stanislaus River, the viewshed is constrained by riparian

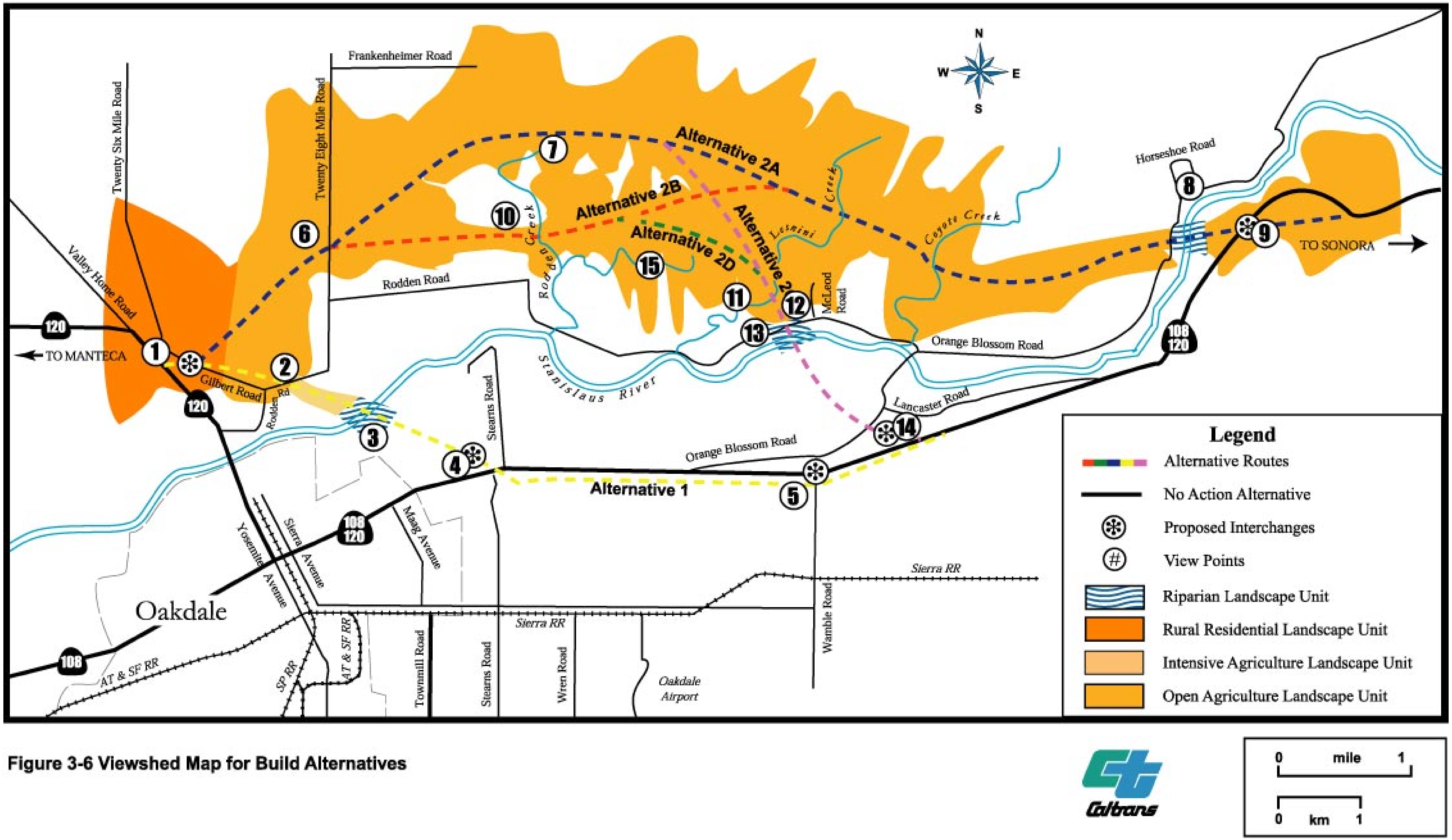


Figure 3-6 Viewshed Map for Build Alternatives

vegetation, adjacent orchards, and topographical features associated with the abandoned gravel quarry.

Alternative 2B. This alternative is very similar to Alternative 2A, sharing much of the same alignment. Controlled by strong ridgelines, the viewshed area exclusive to Alternative 2B narrows and widens along the corridor. Variable high points create dramatic views.

Alternative 2C. Alternative 2C continues south from the common alignment of Alternatives 2A/2C, crosses the Stanislaus River where the viewshed contracts, and terminates at existing Route 120/108 one mile east of Wamble Road. The viewshed area exclusive to Alternative 2C varies greatly due to the bisecting nature of the corridor along the ridgelines and the changes in elevation, particularly through the northern area of the corridor.

Alternative 2D. This alternative generally follows the same alignment as Alternatives 2B/2C. The unique portion of the Alternative 2D viewshed, between Twenty-Eight Mile Road and its junction with Alternative 2C north of the Stanislaus River, is generally constrained by orchards and hills up to Rodden Creek. From Rodden Creek, the viewshed is generally open, encompassing rolling grasslands.

CHAPTER 4 Environmental Consequences

Potential environmental consequences of the project stem from the acquisition of land for the ultimate four-lane expressway, the construction of the two-lane expressway within the four-lane ROW, and the operation of the two-lane expressway. The assessment of potential impacts from land acquisition is based on cut-line to cut-line for the full transportation facility. Potential impacts from construction activities (e.g., grading, concrete pouring, etc.) are based on a two-lane expressway. Potential operational impacts are tied to the operation of motor vehicles on the two-lane expressway.

Various widths were used for impact assessment for these alternatives, depending on the resource under evaluation. Surveys for biological and archeological resources were conducted within the API of each corridor (the terms “study area” and “API” are used synonymously). The API is generally 400 ft (122 m) wide, although the width is greater at certain locations, such as proposed interchanges. In general, potential impacts to biological resources were evaluated for the cut and fill limits of the future transportation facility, which is a variable width located within the API boundaries. Surveys for cultural resources were done within the APE, which includes 410 ft (125 m) on both sides of the center line (wider at interchanges and overcrossings). Surveys for potential hazardous waste sites were conducted initially to a distance of 2640 ft (800 m) from centerline, followed by a second level of more detailed surveys within 1000 ft (300 m) of the centerline; detailed studies of potential hazardous waste sites were recommended for all sites within 100 ft (30 m) of the API boundary. The study of potential relocations of residences and businesses was done using the ROW. Within the API are contained the limits for the ROW, future transportation facility, and expressway. The ROW occupies a 234-ft (70-m) width within the 400-ft (122-m) average width of the API. The expressway and future transportation facility are both found within the ROW; and the future transportation facility limits are slightly wider than the expressway limits (Figure 4-1).

4.1 Land Use

4.1.1 Land Use Plans and Patterns Impacts

The project would introduce a major transportation facility through primarily agricultural and residential land areas, taking approximately 155.1 ac (62.8 ha) of land for Alternative

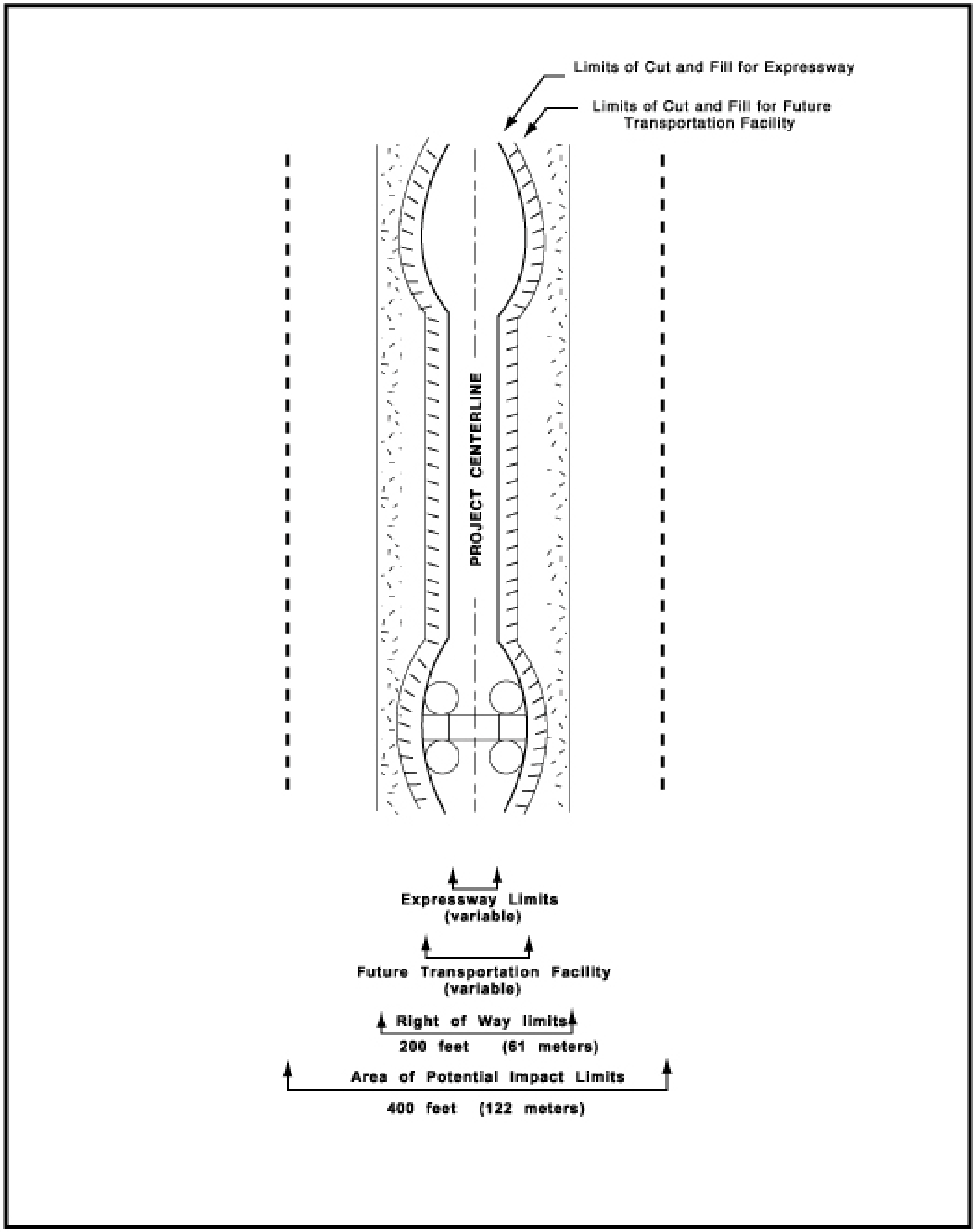


Figure 4-1 Conceptual Illustration of Project Study Area Limits

1. Alternatives 2A and 2B would take approximately 238.1 ac (96.4 ha) and 230.5 ac (93.3 ha) of land, respectively. Alternatives 2C and 2D would take 191.4 ac (77.5 ha)

and 176.4 ac (71.4 ha) of land, respectively. The expressway has been proposed for more than ten years, and is reflected in both the City of Oakdale and Stanislaus County general plans and associated planning documents. Therefore, the expressway would not cause major changes in current land use plans or land use patterns. The adoption of any alternative alignment would result in indirect changes to land use as a result of the expressway supporting planned growth projected to occur within the project area.

The alternative alignments do not traverse the Oakdale city limits; however, all the alternatives cross the Primary and/or Secondary Study Areas of the *1994 Oakdale General Plan*. Between the Twenty-Six Mile Road Interchange and the Stearns Road Interchange (Alternative 1), designated land use that would be converted to ROW includes open space, cattle and horse ranches, orchards, the Stanislaus River, a plant nursery, a dairy, residences, and businesses. Additional land uses that would be converted to a transportation facility include an aggregate quarry site (Alternatives 2A and 2B), and COE properties (including easements) at the Stanislaus River (all build alternatives).

The No Action Alternative would result in some redevelopment opportunities along existing Route 120/108. Otherwise, the No Action Alternative would have no impact on land uses in Oakdale or Stanislaus County. The No Action Alternative would have little effect on the projected direction or pace of residential development in the project area. Residential growth is based on key factors such as ease of land assembly, favorable planning policies, and land use controls. This issue is discussed further in Section 4.13, Cumulative and Growth Inducing Impacts.

Land Use Plans and Policies. All build alternatives are consistent with plans and policies in the project area. More detailed discussion of land use plans is provided in the *Socioeconomic Impact Report*. The *1994 Oakdale General Plan* recognizes all the alternatives and provides some type of contingency if the expressway is not built. Accordingly, the *1994 Oakdale General Plan* recognizes dual land use designations in the area of the Stearns Road Interchange. The *North Oakdale Specific Plan* also recognized the project, planning commercial and residential communities around the Twenty-Six Mile Road Interchange. Thus, the expressway is consistent with either plan.

Mitigation. The alternatives would be compatible with county and local land use plans. No mitigation is proposed.

4.1.2 Agricultural Lands

Potential Impacts: Caltrans consulted with the U.S. Natural Resources Conservation Service (NRCS) concerning potential farmland impacts associated with this project. The NRCS determined that the acquisition of ROW for the future transportation facility, which includes the two-lane expressway for any of the build alternatives, would convert between 82 and 223 ac (33.2 and 90.2 ha) of prime and unique farmland, and between 57 and 88 ac (23.1 and 35.6 ha) of farmland of statewide and local importance to nonagricultural uses (Appendix G).

The direct conversion of 270 ac (109.3 ha) represents approximately 1.2 percent of the farmland in the project area. In addition to the direct loss of agricultural lands, construction of a transportation facility on any of the Alternative 2 variations would result in split or remnant parcels that might decrease their economic viability.

To minimize the indirect conversion of agricultural lands, under-crossings for cattle and farm equipment would be provided for the Alternative 2 variations. Indirect conversions of agricultural land due to induced growth, resulting from any alternative, would also occur. The *1994 Oakdale General Plan* identifies dual land use designations to promote orderly, phased development over a period of time. These locations include the Twenty-Six Mile Road Interchange and Stearns Road Interchange.

Based on the Farmland Conversion Impact Rating system developed by the U.S. Department of Agriculture (Appendix F), the project's impact on farmland for Alternative 1 scored 171 on a scale of 0 (least impact) to 260 (greatest impact). Alternative 2B scored the lowest with 139 points, followed by Alternative 2A with 141 points. Alternative 2D scored 143 and Alternative 2C scored 148. Sites with scores above 160 points are afforded increasingly higher levels of consideration for farmland protection. The criteria used to estimate farmland impacts include farmland classification, farming practices and services, and regional urban development. This evaluation is done pursuant to the Farmland Protection Policy Act (7 USC 4201-4209).

The No Action Alternative would not directly impact farmland. Indirect effects could occur due to air pollutants emitted by vehicles in heavy traffic congestion along existing Route 120/108 in the vicinity of farmlands.

Mitigation: Undercrossings will be provided for the preferred expressway alternative. During construction of the expressway, access to residual parcels would be maintained for farmers and ranchers in the vicinity of all planned undercrossings and overcrossings. Farm relocations would be handled as discussed in the following section below. No additional mitigation is necessary.

4.2 Community Impacts

4.2.1 Relocation

Potential Residential Impacts. The build alternatives would displace an estimated 18 (Alternative 2B), 19 (Alternative 2A), 30 (Alternative 1), 31 (Alternative 2D), or 32 (Alternative 2C) residences. Approximately 90 percent of the homes are single-family residences. Additionally, each alternative would displace approximately three mobile homes, which are located on private lots rather than in a mobile home park. The mobile homes would be treated as single-family units upon relocation. The Draft Relocation Impact Statement (DRIS) states that the relocation of these mobile homes to other parcels is possible.

Assuming the average household size is 2.71 persons, the displacement of these residential units would directly affect an estimated 49 (Alternative 2B), 52 (Alternative 2A), 81 (Alternative 1), 84 (Alternative 2D), or 87 (Alternative 2C) people. The majority of single-family residences are two to three bedroom units and are 80 percent owner occupied. The current assessed values (or the values on which property taxes are based) of the displacement units range between $40,000 and $600,000, while the median value of housing is $180,900. Two-bedroom units in the displacement area typically rent for around $560 per month, while three bedroom units rent for approximately $780 per month. The average income in the project study area is $32,000 (Oakdale 1994).

The homes that would be displaced by the various alignments range in quality, with approximately 60 percent in average condition. The level of maintenance varies and includes well-maintained structures, structures in disrepair, and abandoned structures. None of the homes that would be displaced are located in homogenous neighborhoods, or are multi-family residences or apartments. None of the residential relocations involve elderly people. Furthermore, neither minorities nor persons of special needs would be disproportionately affected by displacements.

The DRIS states that the availability and mix of housing units in Stanislaus County and Oakdale is adequate to meet the physical needs of homeowners and renters displaced by the proposed project. Caltrans conducted a survey of Oakdale realtors, identifying 114 units available for approximately 21 displaced homeowners. Likewise, 14 replacement units were available for the 11 displaced renters. However, if there is a situation where a suitable replacement does not exist at the time of displacement, adequate resources for owners and renters exist in the area of Riverbank, located three miles west of the study area. Renters of single-family dwellings on large tracts may need to be relocated to an area outside of the primary study area, due to a shortage of functionally equal units.

Table 4.1 compares the age and ethnic characteristics of the people in the census tracts crossed by the proposed expressway. Census Tract 2.03 and Block 8 of Census Tract 1 are directly impacted by the alternatives. A majority of persons within these tracts are non-hispanic white, and are between 18 and 64 years of age. Thirteen percent of persons in Block 8 are of hispanic origin, while 22 percent of persons in Census Tract 2.03 are of hispanic origin. Approximately 12 percent of individuals in the displacement area are 65 years old or older. Housing vacancy rates in the two tracts are the same as the housing vacancy rate for the whole area. Therefore, replacement housing would be available in the immediate area.

Neighborhoods directly affected by residential displacements include the Stearns, Cleveland and Gilbert neighborhoods. The Stearns neighborhood is located within Census Tract 2.03 and would be impacted by an Alternative 1 interchange. The Cleveland and Gilbert neighborhoods are within Census Tract 1; displacements would be caused by all build alternatives. Displacements caused by Alternatives 2C and 2D at the Orange Blossom Road Interchange also occur within Census Tract 1. Houses within these neighborhoods are primarily single-family units on rural estate lots or in subdivisions.

The proposed project would impact the residential areas of Rodden, Kerr Park, Cleveland, Gilbert, Country Club, Stearns, and Sierra (each borders one or more of the alternatives). Because most of these areas are rural residential, agricultural or estate developments, and because the number of projected displacements is small, projected impacts to neighborhood and community cohesion are expected to be minimal.

Potential Business Impacts. The proposed project would displace between two (Alternatives 1, 2C and 2D) and three (Alternatives 2A and 2B) commercial and industrial businesses. All alternatives would displace a construction business that has been operating for approximately 8 to 15 years. Alternatives 2A and 2B would displace a manufacturing business (an inactive quarry). All businesses employ between 4 and 20 employees. Adequate resources for all potential displacements (except for possibly one non-profit organization) were found to be available in the Oakdale area. Businesses and non-profit organizations would be offered reestablishment expenses and moving costs. Additional benefits, options, and payments would be determined by the ROW-relocation agent upon meeting with the displacee.

Agricultural operations displaced by the proposed project are estimated to be six (Alternative 2A), seven (Alternative 2C), eight (Alternatives 1 and 2B) or nine (Alternative 2D). Agricultural businesses displaced by the project include two dairies, orchards or row crops, trees, and livestock. In addition, the proposed project would

Table 4.1 Age, Racial and Ethnic Profile of Displacement Area Residents (1990)

			Project Study Area						
			Census Tract 1				CT 2.01	CT 2.02	CT 2.03
Age Breakdown	**Stanislaus County**	**Oakdale City**	**Block 2**	**Block 3**	**Block 6**	**Block 8**			
0 – 17	113,371	3334	507	566	392	48	1252	822	1498
18 – 64	217,057	6886	1200	1290	870	145	2730	1832	2867
65 +	40,094	1741	200	287	163	24	815	465	609
Race/Ethnicity									
Non-Hispanic White	261,323	9656	1772	1880	1310	182	4249	2422	3854
Hispanic of any race)	80,897	2038	102	210	84	33	477	613	985
Asian/Pacific Islander	18,146	116	20	19	17	0	30	16	73
Black	6109	26	5	10	7	0	4	9	13
Native American	3474	100	8	22	7	2	30	50	40
Other	573	25	0	2	0	0	7	9	9

Source: United States Department of Commerce, Bureau of the Census. *Census of Population and Housing, 1990*. Summary Tape File 1. 1991a.
Note: This data comes from the 1990 U.S. Census, and is the most recent available. Census 2000 data has not yet been released.

require full purchase of 20 parcels for Alternatives 2A and 2B, 33 parcels for Alternative 1, or 37 parcels for Alternatives 2C and 2D. Other agricultural businesses that would not be physically displaced by the proposed project, would be affected by having the parcels of land on which they are located reduced in size through ROW acquisition.

Community Facilities Impacts. All alternatives would require the acquisition of a Jehovah's Witness church on the western end of the proposed expressway, causing a unique relocation situation. The church, a nonprofit organization, would be treated as a business since start-up costs would be similar to a business after relocation. No replacement for the church was identified in the field survey and interviews conducted in the displacement area concluded that a new church would need to be constructed.

No direct effects would be experienced by households, neighborhoods, or businesses located along the adopted freeway alignment under the No Action Alternative. However, indirect effects including noise and congestion would be experienced.

Relocation Assistance. All relocated households, businesses, and farms would receive fair treatment as required by law and according to the Relocation Assistance Program as specified under Public Law 91-646, Uniform Relocation Assistance, and Real Property Acquisition Policies Act of 1970, as amended. The Relocation Assistance Program was developed to help displaced individuals move with as little inconvenience and expense as possible. All rights and services provided under Public Law 91-646, Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, would be strictly adhered to by Caltrans. Caltrans relocation programs are sensitive to the special needs of the handicapped, elderly, and other special groups (e.g., non-English speaking people) to ensure that their relocation needs are met.

Programs implemented by Caltrans to meet special needs include the following: bilingual brochures on relocation services, interpreters, determination of people's needs and preferences through interviews with displaced individuals, transportation services for those who do not own personal transportation or who cannot drive, information on other state and federal assistance programs, and counseling to minimize hardships.

The Fair Housing Law (Title VIII of the Civil Rights Act of 1968) sets forth the policy of the United States to provide, within constitutional limitations, for fair housing throughout the United States. This act and later acts and amendments make discriminatory practices in the purchase and rental of most residential units illegal if based on race, color, religion, sex, national origin, age, or handicap. Caltrans has similar directives against discrimination in its Director's Title VI Policy Statement (Appendix H).

Mitigation. A planned overcrossing near Twenty-Eight Mile Road would continue connectivity of the communities in the area. An additional factor reducing community separation impacts for Alternative 1 is a depressed design profile for a small section of the alignment. Alternative 1 is below grade from the south bank of the Stanislaus River to just west of Wamble Road. Other portions of Alternative 1 are generally at or slightly above existing grades. Alternatives 2A and 2B are located away from more urbanized areas, and without depressed sections. Alternatives 2C and 2D are generally below grade between Lesnini Creek and the Stanislaus River; from the Stanislaus River to the Orange Blossom Road Interchange, the alignment is generally above grade.

4.2.2 Economic Effects

Potential Impacts. Potential removal of productive agricultural lands by each of the expressway alternatives was calculated based on agricultural uses. The total annual estimated revenue losses (1998) range from a low of $1.3 million for Alternative 2A and $1.4 million for Alternative 2B, and a high of $6.7 million for Alternative 1. Revenue reductions would be approximately $2.4 million for Alternative 2C, and $2.2 million for

Alternative 2D. Alternative 1 has the greatest annual revenue loss due to its removal of high-value nut orchards and nursery crops crossed by the proposed alignment.

Cumulative estimates in the loss of crop values for 1998 and 2000 are $20.6 million (Alternative 1), $7.5 million (Alternative 2C), $6.8 million (Alternative 2D), or $4.1 million (Alternatives 2A and 2B). For 1998 through 2020 estimated loss of crop values are $217.4 million (Alternative 1), $79.6 million (Alternative 2C), $71.7 million (Alternative 2D), or $43.8 million (Alternatives 2A and 2B). The estimated loss in annual agricultural revenues would occur before other economic impacts are experienced. No provisions for leaseback to owners during design finalization or during construction staging were assumed. Forecasted revenue losses for each alternative are calculated using simple compounding. The three percent annual rate of increase was derived from total county revenues for the years 1981 through 1992.

Indirect economic impacts would result due to a change in sales revenues. This would mostly affect travel-related commercial enterprises including hotels, restaurants, service stations, and produce markets. These businesses are highly dependent upon highway location for profitability.

A qualitative assessment was made of the economic benefits to non-tourist related businesses in the project study area. Predicted reduced congestion on the existing highway, due to the expressway, could reduce business costs, improve access for suppliers, and decrease accidents.

Temporal effects of business downturns experienced by gasoline stations and restaurants are expected to last approximately four years since local growth would offset the short-term loss in revenues. Interviews with owners in retail sales after an expressway had been constructed indicated that the actual loss in sales was less than anticipated, and that local business picked up due to the reduced congestion in town (Chamber of Commerce 1972). Traffic studies for this project indicate that limited changes in forecasted traffic volumes would reduce the impact on retail sales in the existing highway corridor (Caltrans 1993).

Agricultural businesses relying on Orange Blossom and Rodden Roads for delivery of goods to market places would experience improvements in traffic flow resulting from the expressway. Businesses with truck deliveries of supplies and finished products, such as the Hershey Chocolate Company, Hunt-Wesson Foods, Burchell Nursery, and A.L. Gilbert, would benefit from the reduced congestion.

Planned industrial and commercial growth in the area of the Twenty-Six Mile Road Interchange would be facilitated by any of the alternatives. Alternative 1 would also facilitate the planned industrial and commercial growth in the vicinity of the Stearns Road Interchange.

Economic impacts on local tax revenues result from the displacement of residential properties from the property tax roles. A net loss of property tax revenue to the County is predicted as all expected displacements are within tax code area 084, the unincorporated areas outside Oakdale. Revenue loss would be approximately $2.3 million for Alternative 1, $1.8 million for Alternative 2A, $1.6 million for Alternative 2B, $2.76 million for Alternative 2C, or $2.56 million for Alternative 2D. Property values reflect both land and improvement values and are from the 1991 tax roles. These numbers reflect the units predicted for removal and are subject to change with route refinement and final relocation determinations (Caltrans 1998a).

Increases in property tax revenues can be expected from the number of homes planned in the case study areas of the *1994 Oakdale General Plan* and *Draft Environmental Impact Report* (Oakdale 1992b). According to the *Oakdale General Plan*, the growth in residential units would be facilitated by the expressway alternatives. Estimated tax revenues resulting from planned residential growth in the case study area range from $14.9 million (Alternative 1) to $13.2 million (Alternative 2 variations).

The No Action Alternative would be expected to slow planned growth, as described in the *1994 Oakdale General Plan*. The No Action Alternative would not have an economic impact on agricultural revenues. The No Action Alternative would not displace commercial properties. Mitigation measures are not required.

Mitigation. The proposed build alternatives would have no substantial adverse economic impacts. Therefore, no mitigation measures are required.

4.2.3 Travel Patterns

In the year 2000, travel time on Alternative 1 was estimated to take 13 minutes, with approximately 15,000 average daily vehicle trips. Average travel time for the Alternative 2 variations would take an estimated 13 minutes, with approximately 18,000 average daily vehicle trips. In the year 2020, travel time on Alternative 1 would remain at 13 minutes, with approximately 25,000 average daily vehicle trips. Average travel time for the Alternative 2 variations would be 14 minutes, with approximately 30,000 average daily vehicle trips. Travel time savings for Alternative 2 variations would occur annually from the year the expressway opens through 2020 and possibly for the life of the facility (Dowling 1993).

4.2.4 Community Cohesion

Concerns regarding impacts on quality of life and community character have been raised in the area of the Twenty-Six Mile Road Interchange. The design of the Twenty-Six Mile Road Interchange would include an overcrossing that connects with North Yosemite Avenue, ensuring community connectivity with the center of town. The *1994 Oakdale General Plan* incorporates all five expressway build alternatives in its long range vision of the city, including dual land use plans for the Stearns Road Interchange area which anticipate either the Alternative 1 or the Alternative 2 alignments. The *1994 Oakdale General Plan* addresses the potential for change in the nature of the area, and anticipates a larger amount of commercial and multi-family land uses in the vicinity of the proposed Stearns Road Interchange.

4.2.5 Community Resources

Potential Impacts. Alternatives 1, 2A and 2B would impact the police department, fire stations, and hospital by reducing response times, which is a beneficial impact. Alternatives 2C and 2D would adversely affect emergency vehicle response times, possibly requiring additional police and fire stations to be constructed.

The alternatives would not encroach on any existing or proposed parks or recreational facilities in Oakdale or Stanislaus County, with the exception of Alternative 2A and property affiliated with the Honolulu Bar Recreation Area managed by the COE as part of the Stanislaus River Parks. However, the COE manages the property in question as habitat and open space and as a result, no use of recreational land would occur from Alternative 2A. Indirect effects (constructive use) would not occur under any of the alternatives, as discussed in Appendix E.

Utilities would need to be modified or relocated to positions compatible with the expressway design. Where applicable, companies would be advised to avoid unnecessary tree trimming, as well as any environmentally sensitive areas, as directed by Caltrans.

Alternative 1 would require the relocation of a Pacific Gas and Electric 220-kilovolt (kV) transmission tower located on the southern bank of the Stanislaus River near the abandoned city dump.

Other above-ground power lines impacted are west of the Stearns Road Interchange and extend to the end of Alternative 1 east of Wamble Road. Further relocations would occur near the Twenty-Six Mile Road Interchange. Alternative 1 would also impact telephone lines at the Stearns Road Interchange, requiring relocation.

Alternative 1 would require coordination with the OID for relocation of irrigation canals. Sewer lines located along Alternative 1 would also require relocation and coordination for any additional sewer lines placed to sustain growth (Oakdale 1998). Impacts to proposed utility services are minimal.

Alternative 2 variations would impact power lines near the Twenty-Six Mile Road Interchange. Alternatives 2C and 2D would impact power lines near the Orange Blossom Road Interchange. Impacts to telephone lines by Alternative 2 variations would be minimal, requiring relocation where the alignment crosses existing roads with telephone service in the area. Alternative 2 variations would require coordination with the OID for impacts to irrigation canals. Alternative 2A would cost an estimated $1.6 million dollars for relocation of canals (Oakdale 1998).

The No Action Alternative would not impact any public utilities. However, continued congestion problems along existing Route 120/108 would result in increased emergency response times.

Mitigation. Caltrans would coordinate with the Oakdale Rural Fire District and Police Department regarding the necessary improvements to facilitate acceptable response times to all build alternatives. Crash gates, firebreak clearance areas and fencing are potential measures to provide access onto the expressway to facilitate response times to wildland fires. Prior to project construction, Caltrans would coordinate with all public utility agencies, including Pacific Gas and Electric and the OID, for the relocation of service lines and irrigation canals.

4.2.6 Environmental Justice

In accordance with the provisions of Executive Order (E.O.) 12989, *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations*, minority groups and low-income households in the project area were identified from projections based on 1990 Census data and CDOF population estimates (see Section 3.2.1). For Alternative 1, an estimated 27 homes may require relocation; about one percent of these are occupied by minority households. For Alternatives 2A/2B, no minority or low-income groups would be impacted by the 19 (Alt. 2A) or 18 (Alt. 2B) relocations. For Alternatives 2C/2D, residential relocations totaled 32 and 31 respectively; of these, none were minority owned and one unit (assumed to consist of three individuals) was identified as low income, which represents much less than 0.01 percent of the county population.

The No Action Alternative would not result in any displacements, and as a result would not have any direct environmental justice impacts; indirect effects may occur due to air pollutants emitted by vehicles in traffic congestion along existing roads in the Oakdale vicinity. In the areas affected by the build alternatives (Census Tract 2.03 and Block 8 of Census Tract 1) less than 20 percent of people are minorities. About three percent of people are living below the poverty level in both Stanislaus County and in Oakdale. Thus, the percentages of minority groups and low-income households affected by the build alternatives for the project are much lower than the percentages of these groups in the affected census tracts and county areas.

Based on the above analysis, none of the proposed build alternatives for the Oakdale Expressway Project would cause disproportionately high and adverse effects on any minority or low-income populations as discussed in E.O. 12898 regarding environmental justice.

4.3 Air Quality

An air quality impact would be considered substantial if the proposed project were found inconsistent with the SIP and related documents (such as the StanCOG RTP and RTIP). Impacts would also be considered substantial if project-generated CO levels caused CO concentrations to exceed NAAQS (35 ppm [one-hour] and 9 ppm [eight-hour]) and CAAQS (20 ppm [one-hour] and 9 ppm [eight-hour]).

4.3.1 Regional Impacts

Regional pollutant burdens for this project are not quantified herein. Instead, the potential for air quality impacts from a regional perspective are assessed in terms of each alternative's conformity with existing RTPs based on current planning assumptions.

As discussed in Chapter 3, the Federal Clean Air Act Amendments require that individual projects be assessed in terms of conformity with the SIP. For transportation projects, a conformity determination is often considered in terms of whether the specific project is included within a larger transportation plan or program that is in conformity with the SIP.

In the case of this project, two regional plans relate to the conformity analysis: the StanCOG RTP, and the StanCOG FY 1998/99-2003/04 RTIP. The relevant portions of each are summarized below.

StanCOG RTP: The 1998 StanCOG RTP includes, as its highest priority highway project, the construction of the Oakdale Expressway on Route 120, and notes that the project was first adopted by the California Highway Commission under freeway agreements signed in 1968. It has been part of StanCOG's long-range plan for over ten years. Traffic congestion continues to worsen in Oakdale with local traffic severely impacted on weekends and holidays. The StanCOG RTP conformity assessment was reaffirmed on February 18, 1998; the FHWA/FTA conformity determination was made on January 8, 1999.

StanCOG RTIP: The StanCOG FY 1998/99-2003/04 RTIP identifies the Route 120 Oakdale Expressway as the interregional Priority #1B and indicates KP locations, cost and schedule estimates, and roadway configurations. The latest StanCOG RTIP conformity determination was made on July 12, 2000, and includes all alternatives of this project; the FHWA/FTA conformity determination was made on October 6, 2000.

4.3.2 PM-10 Hotspot Analysis

Caltrans does not believe that this project would contribute to a PM-10 hotspot that would cause or contribute to violations of the PM-10 NAAQS.

At the regional scale, this project is included in the approved RTP and TIP. Regional PM-10 SIP budget compliance was accounted for during the RTP and TIP conformity determination. No violations of the PM-10 NAAQS have been recorded at monitoring sites near the project, and the monitored concentrations are well below the standards. The PM-10 “Air Quality Summaries” for the years 1993-1997 (published by the Air Resources Board and the San Joaquin Valley Unified Air Pollution Control District for Modesto’s I Street PM-10 monitoring station) showed that no violations occurred at or near the project location. PM-10 concentrations were well below the standard. For example, CARB’s 1997 data show a maximum 24-hour concentration of 119 $\mu g/m^3$, approximately 80 percent of the federal standard.

Recent work by U.C. Davis and others suggests that project-level PM-10 impacts are insignificant beginning a short distance downwind of the project. These studies document that unless background conditions already exceed or are close to the NAAQS threshold, project impacts will be negligible.

4.3.3 Local CO Impacts

CO concentrations have the potential to "build up" in close proximity to major streets and intersections, and both the concentration levels and the dispersion characteristics are highly influenced by roadway/intersection characteristics and vehicle traffic patterns.

Moreover, the Federal Clean Air Act Amendments require that a CO analysis be completed as part of the conformity analyses. The intent is to determine within a conformity analysis whether a project would increase any existing CO levels.

The project level analysis procedure outlined in Section 4 of the Transportation Project-Level Carbon Monoxide Protocol (herein referred to as the CO Protocol) was followed for the Qualitative Analysis application. Specifically, Figure 3 of the CO Protocol was used to determine that a qualitative analysis was warranted (Caltrans 1997).

The qualitative analysis described in Level 7 in Figure 3 of the CO Protocol was used to analyze the project. Only project level CO impacts were considered, as regional air quality issues are addressed in the RTP and RTIP.

4.3.3.1 Factors In the Microscale Air Quality Analysis

The following sections describe the components of microscale CO analysis used in this study. The evaluation model's receptor locations, model inputs, and analysis years are described. Traffic data used in this analysis are derived from the Existing Conditions Report (Caltrans 1998b); predicted traffic levels used in this analysis were derived from the Future Traffic Forecast Report (Caltrans 1998c). Project-related CO concentrations resulting from motor vehicles have been estimated at four locations using the CO Protocol.

Peak eight-hour concentrations were obtained by applying a persistence factor of 0.7 to the maximum predicted one-hour values. This persistence factor takes account of the fact that for periods over eight hours (as distinct from a single hour), vehicle volumes will fluctuate downwards from the peak, vehicle speeds may vary, and meteorological conditions (including wind speeds and wind direction) will change to some degree. More conservative assumptions are used for the single maximizing hour. Caltrans recommends a persistence factor of 0.7 for an urban area, and 0.6 for a rural area. For this analysis 0.7 was conservatively used for all receptor sites.

Microscale CO analyses have been performed for 1993 as a base year, and for the years 2000, 2010, and 2020. For the future analysis years, conditions with each of the build alternatives and the No Action Alternative have been analyzed to determine potential project impacts. The microscale CO analysis was based on data for the Sunday, summer afternoon peak period, which is when maximum traffic volumes occur on local streets and when the greatest traffic and air quality impacts of the proposed project are expected.

Traffic information used for the air quality analysis includes (1) peak hour volumes and speeds, (2) signal timing (total cycle length, green/cycle, etc.), (3) approach volumes and speeds, (4) number of lanes for each approach, and (5) percentage of cold starts.

4.3.3.2 Background Concentrations

Microscale modeling is used to predict CO concentrations, resulting from emissions from motor vehicles, using roadways immediately adjacent to a given location at which predictions are being made. A CO “background” level must be added to this value to account for CO entering the area from other sources upwind of this location at which predictions are being made.

Background levels for this study were based on monitored data normalized using the OBSMAX model. Caltrans has prepared a computer model that determines the second annual maximum one-hour and eight-hour ambient CO concentrations from limited field monitoring data. The accurate estimation of the ambient or background CO concentration is critical as it can often mean the difference between the finding of an acceptable or unacceptable potential impact. The location of the nearest monitoring station is Modesto, resulting in background concentrations more representative of that urban setting rather than those which are observed or expected in Oakdale and the surrounding rural area. Caltrans District 10 staff collected background data in December of 1989 and in January and February of 1990, using established sampling procedures and equipment, with appropriate calibration and quality assurance.

Data were collected at four sites in order to provide representative CO measurements. The River Oaks subdivision site (1), and the Oakdale Airport site (4) were selected as background CO monitoring sites. The fire station site (2) at Third and G Streets, and the OID site (3) on East Yosemite Avenue (Route 120/108), were selected to represent roadway contributions of CO. The River Oaks site (1) is most indicative of the project study area’s ambient background concentrations. Results from the OBSMAX model at this location indicate background levels of 3.0 ppm for one hour and 1.9 ppm for eight hours. Monitoring locations are shown on Figure 4-2.

Daily monitored CO concentrations were collected hourly. Tables of the monitored results served as input data to the OBSMAX program. Program assumptions, descriptions and formulas are described in the Caltrans Transportation Laboratory report Measurement and Analysis of Ambient Carbon Monoxide Concentrations for Project-Level Air Quality Impact Studies (Caltrans 1984).

4.3.3.3 Potential Impacts

Existing CO concentrations at Yosemite/F are estimated to be above the federal and state eight-hour standards of 9 and 9.0 ppm, respectively. All predicted future concentrations are below the applicable federal and state standards due to a decrease in background levels and the burning of cleaner fuels. Predicted CO concentrations for one and eight hours are presented in Table 4.2.

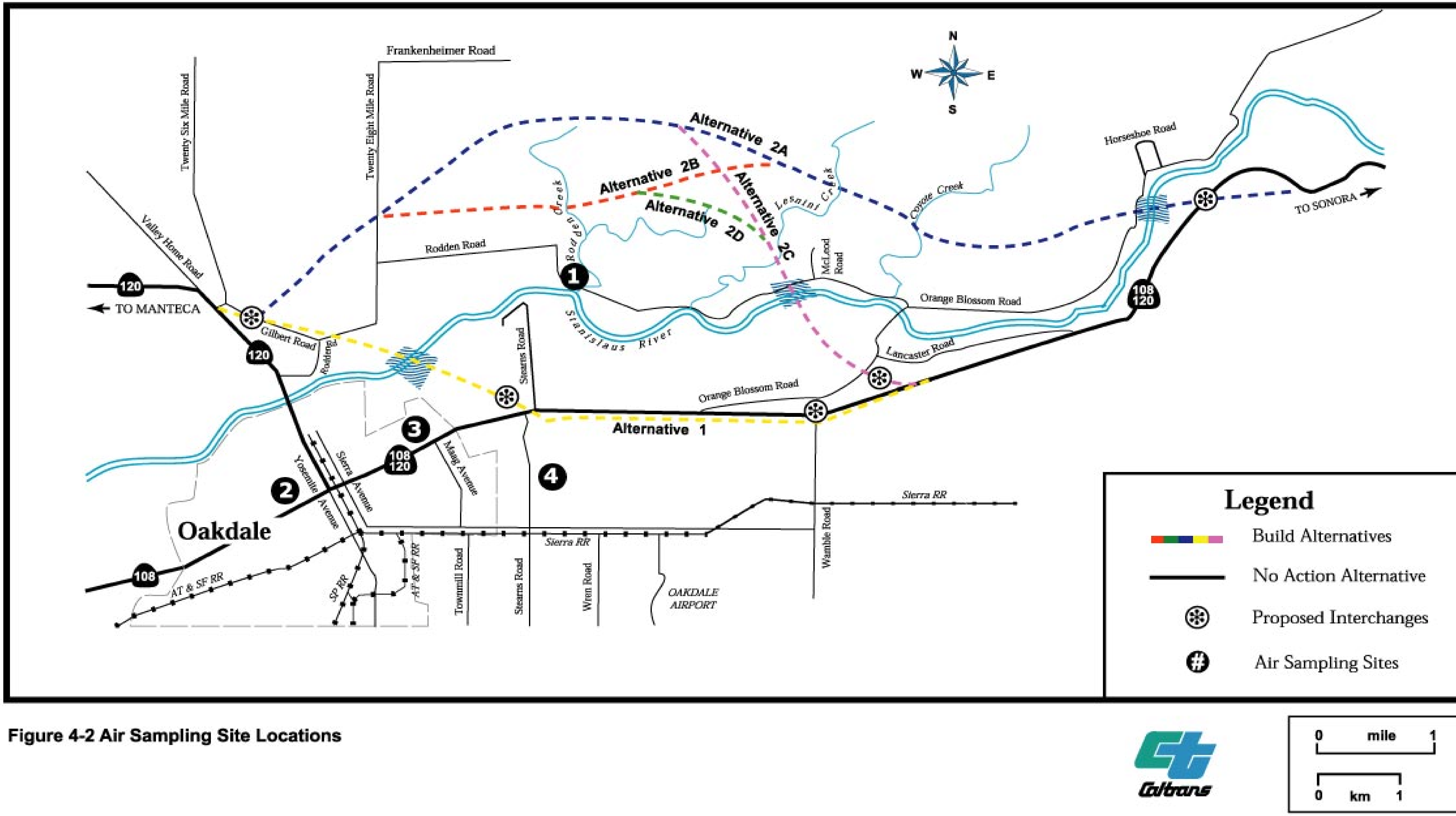


Figure 4-2 Air Sampling Site Locations

Table 4.2 Predicted CO Concentrations (ppm)

		1-Hour Concentrations[a]			8-Hour Concentrations[b]		
Year	**AQ Receptor #**	**No Action**	**Alt 1**	**Alts 2A–2D**	**No Action**	**Alt 1**	**Alts 2A–2D**
2000	1	15.3	11.0	11.0	10.5	7.5	7.5
	2	14.0	10.4	10.4	9.6	7.1	7.1
	3	12.9	9.5	9.5	8.9	6.4	6.4
	4	14.8	10.6	10.6	10.2	7.2	7.2
2010	1	9.8	7.5	7.5	6.7	6.1	5.1
	2	9.4	7.1	7.1	6.4	4.8	4.8
	3	8.6	6.7	6.7	5.8	4.5	4.5
	4	9.5	7.3	7.3	6.4	4.9	4.9
2020	1	8.9	6.6	7.2	6.1	4.4	4.9
	2	9.0	6.3	6.9	6.1	4.2	4.6
	3	7.9	5.9	6.4	5.3	4.0	4.3
	4	8.5	6.5	7.0	5.7	4.3	4.7

[a]California standard is 20 ppm, Federal standard is 35 ppm. Background levels, which must be added to predicted levels to arrive at total impact, are 3.0 ppm.
[b]California and Federal standards are each 9 ppm. Background levels, which must be added to predicted levels to arrive at total impact, are 1.9 ppm.

Build Alternatives. The analysis for the build alternatives indicates that the project would not create an exceedance of the NAAQS and CAAQS for CO. The CO concentrations for all of the build alternatives evaluated are predicted not to exceed the NAAQS and CAAQS for CO for the study years.

The proposed expressway project would have an overall beneficial impact on local air quality levels, as measured by predicted CO concentrations. As noted in Chapter 3, the Oakdale Expressway Project is in conformity with the current RTIP and RTP, which in turn have been found to conform with State plans for attaining air quality standards.

No Action Alternative. The same microscale modeling procedures that were used to estimate existing conditions were used to estimate the 2000, 2010, and 2020 No Action conditions. These conditions include a growth factor based on the general plan for the area as well as the no additional traffic associated with identified major developments in the area; therefore, they account for both traffic growth and increased development in the study area between 1992 and 2000, 2010, and 2020. The modeling results, which are presented in Table 4.2, are the highest values obtained using the methodology previously described. At all locations analyzed, violations of the federal and state eight-hour standards were estimated for the No Action Alternative for the year 2000; violations of the one- or eight-hour CO standards are predicted for the No Action Alternative for the years 2010 and 2020.

4.4 Noise

The principal criteria used to assess potential noise impacts from operation of a two-lane expressway along each of the build alternatives, are whether or not design year traffic noise levels approach or exceed the FHWA residential NAC of Leq = 67 dBA (a noise level of 66 dBA or greater is considered by Caltrans to meet the definition of "approach of exceed") and whether or not design year noise levels exceed the existing noise level by 12 dBA or more.

The 2020 traffic noise levels for the expressway scenarios of Alternatives 1, 2A, 2B, 2C, and 2D were determined using the SOUND32 model, a Caltrans version of the FHWA 2.0 Highway Traffic Noise Modeling Program. SOUND32 is a menu-driven computer model that calculates a predicted noise level through a series of adjustments to a reference sound level. The source levels are calculated using speed-dependent reference noise emissions levels. The State of California has developed independent regression equations based on the noise emission levels of vehicles registered statewide. The Stamina 2.0 Model was adjusted to reflect the difference in the California vehicle emissions. The FHWA Model uses traffic volume, vehicle mix, vehicle speed, and roadway geometry to compute the "equivalent noise level." After circulation of the DEIS/DEIR, the final noise barrier assessment would be prepared in accordance with the "Procedures for Abatement of Highway Traffic Noise and Construction Noise."

Input variables to highway and expressway noise modeling and analysis include traffic volumes, speeds, and vehicle fleet mix (auto, medium truck, and heavy truck percentages). Typically, peak hour traffic data is used unless capacity is exceeded and speeds drop to levels that no longer represent a worst case scenario for noise analysis. For this noise analysis, traffic volumes and speeds equal to an LOS of C or better were used in order to predict maximum noise levels. Detailed discussion of traffic inputs and tables listing traffic data and speeds used for the analysis are presented in the noise analysis technical report (Caltrans 1998h).

To predict future noise impacts associated with the proposed project alternatives accurately, it was necessary to identify and program into the model the locations of more than 100 sensitive noise receptors. The 13 noise measurement locations presented in Chapter 3 were used to establish baseline levels within general areas. The additional receptors were chosen based on proximity to the proposed alternatives, and all represent residential or recreational land uses. The only exception to this is, as previously mentioned, measurement Location 13, which is located on grazing land.

Future build alternative noise levels for the year 2020 are predicted to experience an Leq of 66 dBA or greater Leq at residences east of Wamble Road, on the north side of the existing and future Route 120 alignment. Other residences predicted to experience 66 Leq or greater are located at the west end of the project between Cleveland and Cottle Roads; along Gilbert and Rodden Roads, east of the Twenty-Six Mile Road connector; and near the proposed Stanislaus River crossing. The 2020 traffic noise levels for the expressway scenarios, predicted at each of the 13 noise measurement locations, are listed in Table 4.3. Predicted noise impacts for the No Action Alternative in the Year 2020 are also provided for comparison.

The number of potential impacted receptors and severity of impacts associated with the build alternatives are presented in Table 4.4, which should be used to compare potential noise impacts among build alternatives. In order to make a complete comparison, it is necessary to compare the number of impacted receptors, severity of impacts, and feasibility of mitigation. Sensitive land uses that are predicted to experience noise levels greater than or equal to 66 dBA are counted for each alternative. Additionally, increases in noise levels greater than or equal to 12 dBA are reported. Caltrans considers a substantial increase to be 12 dBA or greater in situations where the projected noise level is at least 66 dBA. The final design noise analysis (for the preferred alternative) will determine eligibility for noise mitigation based on the 12 dBA increase used by Caltrans.

4.4.1 Alternative 1

At least four houses in the vicinity of the Alternative 1 river crossing would be adversely impacted by noise, although noise levels at only one of the houses are expected to approach the NAC. The existing noise levels near the proposed river crossing are in the 40 to 46 dBA ranges. The proposed project is expected to result in noise level increases of 9 to 23 dBA in this area.

4.4.2 Alternatives 2A and 2B

Future noise levels at sensitive receptors along Alternatives 2A and 2B would range from 45 to 70 dBA. The lowest levels are predicted for houses along Gilbert and Rodden Roads. The highest noise levels are expected at residences adjacent to the western end of the corridor between Cleveland and Cottle Roads. Noise levels in this neighborhood would be in the 65 to 70 dBA ranges during peak hour conditions. Noise levels of 66 dBA are predicted to occur at residences near the Twenty-Eight Mile Road overcrossing and the Orange Blossom Road overcrossing. Increases from existing levels along this alternative alignment range from 0 to 20 dBA. Substantial increases would occur in areas adjacent to the Twenty-Eight Mile Road overcrossing and the Orange Blossom/Stanislaus

Table 4.3 Predicted 2020 Traffic Noise Levels – Leq (dBA)

Site Number	Measurement Location	Measured Existing Leq	No Action Alternative	Build Alternative 1	Build Alternative 2A/B	Build Alternatives 2C/D
1	1213 River Road	46	49	51	50	50
2	7715 Gilbert	51	51	59	53	53
3	8260 Rodden Road	46	46	69	--	
4	1500 Valley View	40	40	58	--	
5	11018 Twenty Eight Mile Road	49	49	--	58	61
6	10108 Plaza del Oro	67	72	50		
7	10749 Highway 120	64	69	52		
8	12930 Highway 120	59	59	67		67
9	11812 Orange Blossom Road	61	64	59		
10	11748 Rodden Road	49	49	--		58
11	9624 Wamble Road	47	51	54		
12	11425 Orange Blossom Road	45	45	--	58	
13	East Project End at Willm's Ranch	65	67	--	65	

Table 4.4 Comparison of Impacts

Item	Alternative 1	Alternatives 2A and 2B	Alternatives 2C and 2D
Total number of impacted residences	39	41	49
Number of modeled receptors $\geq$ 66 Leq	9	5	4
Number of modeled increases $\geq$ 12 dBA	6	7	7
Receptors $\geq$ 66 Leq & $\geq$ 12 dBA increase	2	2	1
Worst case projected Leq	70 dBA	70 dBA	70 dBA
Worst case increase over existing Leq	23 dBA	20 dBA	16 dBA

River crossing. Four residences near the Twenty-Eight Mile Road overcrossing would be impacted, with projected increases of 10 to 20 dBA. Nine residences near the Orange Blossom/Stanislaus River overcrossing would be impacted, with increases of 11 to 18 dBA.

4.4.3 Alternatives 2C and 2D

Future noise levels at sensitive receptors along the Alternative 2C and 2D corridor range from 45 to 70 dBA. The lowest levels are predicted for houses located along Gilbert and Rodden Road. The highest noise levels are expected to be experienced at residences adjacent to the western end of the corridor between Cleveland and Cottle Roads. Noise levels in this neighborhood would be in the 65 to 70 dBA ranges during peak hour conditions.

Noise levels of 65 to 67 dBA are predicted to occur at residences near the Orange Blossom Road Interchange and the eastern corridor terminus. Increases over existing noise levels along the alternative alignments would range from 0 to 16 dBA. Substantial increases occur in the following three areas: adjacent to the Twenty-Eight Mile Road overcrossing, the Stanislaus River crossing, and the Orange Blossom Road Interchange. Four residences near the Twenty-Eight Mile Road overcrossing would be impacted, with projected increases of 9 to 13 dBA. Six residences near the Stanislaus River overcrossing would be impacted, with increases of 9 to 16 dBA. Eleven residences near the Orange Blossom Road Interchange would be impacted, with increases of 10 to 15 dBA.

4.4.4 No Action Alternative

Conditions for the No Action Alternative assume maintenance of the existing physical highway features beyond the year 2020. Traffic levels on Route 120/108 are expected to increase over the next 10 to 20 years. No Action Alternative noise levels in the vicinity of a new highway corridor are determined by adjusting the existing noise levels to account for increases in traffic levels. This can only be achieved at measurement locations near existing Route 120 where the primary noise source is highway traffic. At these locations, the existing traffic counts were compared to future No Action Alternative traffic projections. The future No Action Alternative noise levels at measurement locations, not in the vicinity of Route 120/108, are expected to be relatively similar to existing measured levels. Traffic levels would have to at least double during the peak hour in order for a discernible increase to be perceived at measurement locations directly adjacent to local roadways. Predicted noise levels for 2020 No Action Alternative conditions are listed in Table 4.5 along with the predicted increase in noise levels due to increased traffic on Route 120/108. Under the No Action Alternative conditions, Leq levels at three of the thirteen measurement sites are expected to approach or exceed the NAC of 67 dBA. One of the three locations, Site 13, is located on grazing land and does not represent a noise-sensitive land use. This location was included to indicate noise level alterations at the east end of Alternatives 2A and 2B. No noise-sensitive land uses presently exist in this area. The remaining two locations expected to experience noise impacts of 67 dBA or more (Locations 6 and 7) are both located adjacent to Route 120/108 between Stearns Road and Wamble Road. Future traffic levels for this section of Route 120/108 are expected to more than triple by 2020.

Table 4.5 Year 2020 No Action Alternative Traffic Noise Levels

Site Number	Location	Existing Peak Leq	No Action Leq	Increase (dBA)
1	1213 River Road	46	**49**	3
2	7715 Gilbert	51	**51**	0
3	8260 Rodden Road	46	**46**	0
4	1500 Valley View	40	**40**	0
5	11018 Twenty Eight Mile Road	49	**49**	0
6	10108 Plaza del Oro	67	**72**	5
7	10749 Highway 120	64	**69**	5
8	12930 Highway 120	59	**59**	0
9	11812 Orange Blossom Road	61	**64**	3
10	11748 Rodden Road	49	**49**	0
11	9624 Wamble Road	47	**51**	4
12	11425 Orange Blossom Road	45	**45**	0
13	East Project End	65	**67**	2
	at Willms' Ranch			

4.4.5 Mitigation Measures

Noise barriers must be considered at sites where noise levels would exceed the FHWA NAC. The feasibility of achieving the Caltrans criterion of providing a minimum of 5 dBA reduction and reducing the traffic noise level to below 67 dBA are considered in this analysis.

A noise barrier analysis was conducted to determine the traffic noise reduction provided by different barrier heights at each of the impacted locations along the corridor. Where it is not possible to reduce noise by 5 dBA with a barrier height of 16 ft (5 m) or less, mitigation is not considered feasible. Nine potential barriers were analyzed and tested to determine financial reasonableness and physical feasibility.

Results of the barrier analysis indicate that mitigation would be both reasonable and feasible at one location along the project corridor. The recommended noise barrier would be located at the western end of the project corridor, adjacent to an existing mobile home park at the northwest corner of Route 120 and Cottle Road. The proposed barrier would be 1150 ft (350 m) long, 12 ft (3.6 m) in height, and would substantially reduce noise levels at 15 existing homes within the mobile home park. The stationing locations for the wall would be 906+00 (begin) and 917+50 (end). This wall is recommended for all project alternatives.

Certain soundwalls that were analyzed were not recommended as noise mitigation because they were found to be unreasonable and unfeasible for the following reasons:

- Scattered residential units at various distances and elevations relative to the expressway elevation cannot achieve effective mitigation from soundwalls on the highway shoulder or ROW.
- Constructing lengthy soundwalls for a few scattered residences would result in excessive costs. For rejected soundwalls, the projected cost per residence ranges from $77,000 to $180,000, which exceeds the reasonableness criterion of $45,000 per benefited residence.

Reasons for rejecting each soundwall are addressed on a case-by-case basis in Table 4.6. Please refer to site numbers given in Figure 4-3.

Table 4.6 Summary of Information Related to Rejection of Proposed Soundwalls

Site No.[a]	Alternative	Number of Residences	Length of Soundwall; ft (m)	Total Cost	Cost per Residence	Reasonable and Feasible?
1	1	5	2700 (670)	$396,000	$79,000	No
2	1	1	1000 (305)	$180,000	$180,000	No
3	2A/2B	1	300 (90)	$117,000	$117,000	No
4	2A/2B	4	2000 (610)	$420,000	$105,000	No
5	2A/2B	4	3650 (1110)	$660,000	$165,000	No
6	2C/2D	4	1700 (520)	$308,000	$77,000	No
7	2C/2D	3[b]	1600 (490)	$280,000	$140,000	No
8	2C/2D	6	2700 (825)	$492,000	$81,000	No
9	2C/2D	2	1000 (305)	$180,000	$90,000	No

[a] Refer to Figure 4-3 for locations.
[b] Although there are three residences, there are only two receptors.

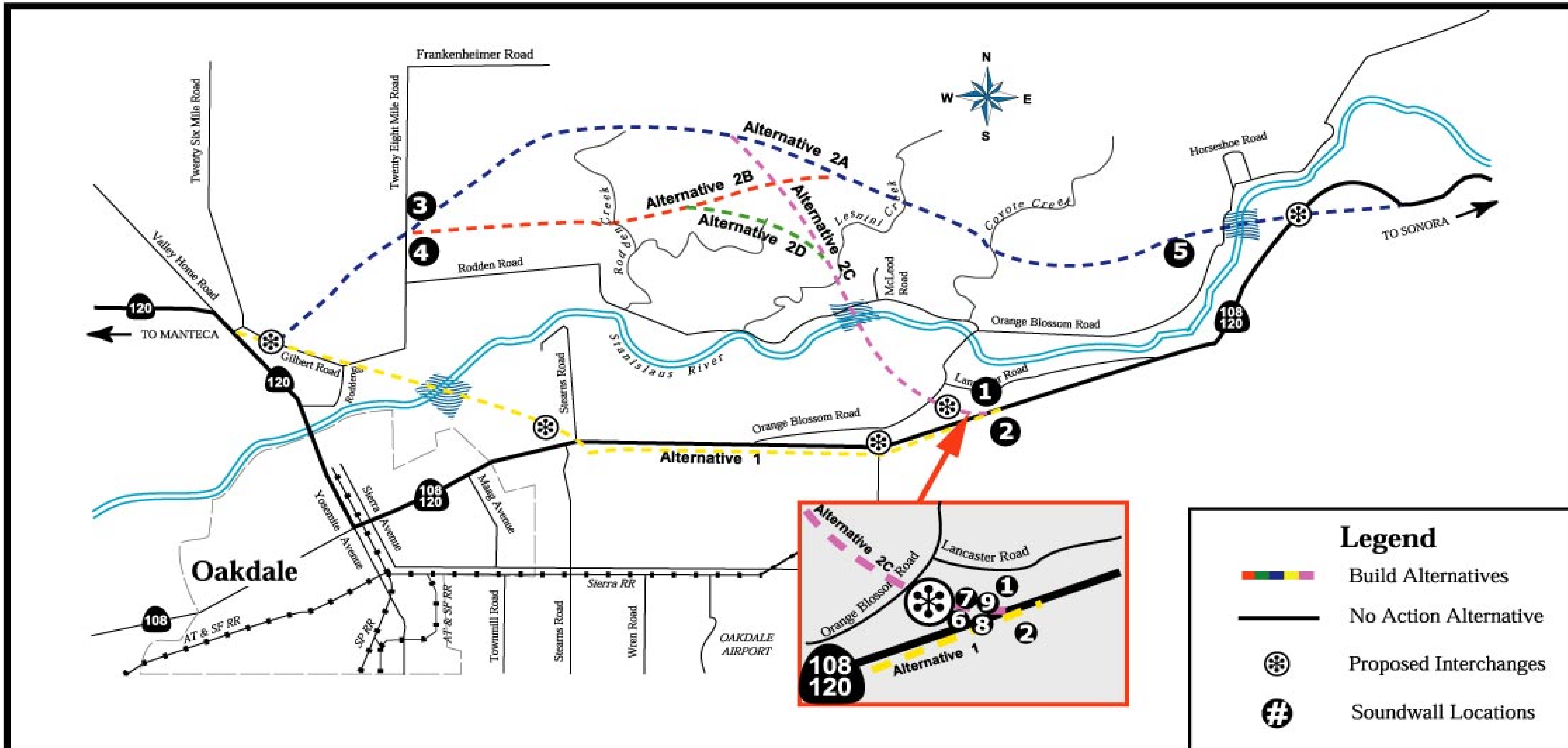


Figure 4-3 Locations of Proposed Soundwalls Considered and Rejected

4.5 Water Quality

4.5.1 Surface Water

Potential impacts to surface waters could result from either point source discharges or localized runoff. Studies performed by Caltrans have shown that runoff impacts water quality only in those cases where the ADT is higher than 30,000 vehicles (Caltrans 1982). Forecasted ADT volumes for the project range from 7000 to 12,000 for the proposed build alternatives. Because projected traffic levels for the project are well below the 30,000 ADT cutoff, the project is not expected to result in adverse water quality impacts that warrant detailed study.

The footprint of the proposed project affects the river and creeks only at crossing points and not at alignments that are parallel to the river or creeks. Runoff from the highway ROW would be retained on-site to prevent significant adverse effects on the local surface and groundwater quality. When construction is completed for the preferred alternative, permanent erosion control measures and landscaping would be implemented throughout the project area.

4.5.2 Groundwater

Shallow groundwater could have an effect on the roadway, and the roadway could have an effect on shallow groundwater (water quality and quantity). Groundwater depths in the project area vary from 8 to 74 ft (2.5 to 25 m) below the ground surface, with the shallower depths near the Stanislaus River (Caltrans 1998f). At locations where shallow groundwater depths are likely to be encountered, such as the Stanislaus River and in natural creek valleys, the proposed roadway would generally be on fill; this would minimize the potential for groundwater to affect the roadway. If shallow groundwater is encountered, slope stability could be impacted. During final design of the selected alternative, standard engineering techniques would be used to identify and mitigate impacts due to shallow groundwater. In general, shallow groundwater impacts are expected to be minimal.

Potential pollutants from highway runoff are not expected to impact groundwater basins, due to the depth of groundwater in the project area. Surface waters, which may interact with groundwater via groundwater retention basins, are expected to do so only after adequate dilution with adjacent waters and filtration through various layers of substrata and are therefore not expected to result in any significant impacts.

Depending upon the preferred alternative, the project will add 46 to 57 ac (18 to 23 ha) of impermeable surface to the drainage basin of the Stanislaus River (Table 4.7). Compared to the 1050 m^2 (2730 km^2) in the drainage basin, the additional impermeable surface from all of the proposed build alternatives for the Oakdale Expressway Project (including interchanges) represents considerably less than one percent. This represents an extremely minor increase in impermeable surface that is not expected to adversely affect groundwater recharge. Wellhead protection areas have not yet been defined in Stanislaus County, so it is not possible to determine the impacts to these areas at the present time (Aud 1998).

Table 4.7 Total Impermeable Surfaces

	Alternative 1	Alternative 2A	Alternative 2B	Alternative 2C	Alternative 2D
Total Length 24-ft (7.3-m) width	6.4 mi (10.3 km)	9.8 mi (15.8 km)	9.5 mi (15.3 km)	7.9 mi (12.7 km)	7.3 mi (11.7 km)
Estimated Interchange Area	39 ac (16 ha)	21 ac (8 ha)	21 ac (8 ha)	25 ac (10 ha)	25 ac (10 ha)
Total Additional Impermeable Surface	57 ac (23 ha)	49 ac (20 ha)	48 ac (19 ha)	48 ac (19 ha)	46 ac (18 ha)
Total Watershed Area	1050 mi^2 (2720 km^2)	1050 mi^2 (2720 km^2)	1050 mi^2 (2720 km^2)	1050 mi^2 (2720 km^2)	1050 mi^2 (2720 km^2)
Compared to Watershed as %	< 0.01%	< 0.01%	< 0.01%	< 0.01%	< 0.01%

4.6 Geology, Soils, And Geohydrology

The main potential consequence of seismic events is ground failure in the form of landslides, mudslides, rockfalls, seismic settlement, or liquefaction. These events are unlikely to occur in the project study area except along the steep banks of river channels. Liquefaction is most likely in soils composed of uniform fine sands in areas of high groundwater levels. Ground and/or structural failures could result in sediment discharges to nearby waterways.

Disturbance of paleontologically sensitive formations is related to the length of the construction project through identified areas, and the degree of topographic alteration for each alternative. Disturbance of paleontologically sensitive areas is discussed below.

Construction of any build alternative would involve grading and topographic alteration within the proposed ROW limits. It is assumed that cut and fill would only be done for the expressway at this time, and would not be done for the future transportation facility.

For all build alternatives, net earthwork volumes have been adjusted to account for structural sections and bridge locations, but do not consider earthworks for landscaping, shrinkage/swelling effects or topsoil stripping. Impacts are evaluated in terms of the volume of fill needed as a percent of total cut and fill volume, and in terms of height of cuts and fills. Impact volumes in excess of 10 percent are considered to be substantial impacts, and cuts and fills in excess of 50 ft (15 m) are considered to be substantial.

The excavation for retention facilities and partial excavation for the future transportation facility would provide on-site material for fill. Each alternative is discussed individually in the following paragraphs.

4.6.1 Alternative 1

Under Alternative 1, approximately 1.22 million yd^3 (930,000 m^3) of fill and 0.99 million yd^3 (760,000 m^3) of cut would be required (a total of nearly 2.21 million yd^3 [1,689,000 m^3]), resulting in a need for 233,000 yd^3 (178,000 m^3) of fill. The volume of imported material would be about ten percent of the total combined volume of cut and fill, and thus would be considered at the threshold of a substantial impact. Mitigation measures to reduce the quantity of imported material are discussed in subsequent sections.

None of the individual cut and fill areas for Alternative 1 would exceed 50 ft (15 m), and thus would not have a substantial impact. Generally, the deepest fills, (28 ft [8.5 m]), would be located at the western end of the Alternative 1 alignment, and the deepest cuts (35 ft [11 m]), would be located in the vicinity of the Stanislaus River crossing.

Alternative 1 would require new highway construction over approximately one mile (1.6 km) paleontologically sensitive formation (Laguna Formation). This formation would be cut to a maximum depth of 36 ft (11 m).

4.6.2 Alternative 2A

Under Alternative 2A, approximately 2.0 million yd^3 (1,534,000 m^3) of cut and 2.03 million yd^3 (1,551,000 m^3) of fill would be required (a total of 4.03 million yd^3 [3,085,000 m^3]), resulting in a need for 22,000 yd^3 (17,000 m^3) of additional fill material. The volume of imported fill would be less than 10 percent of the combined cut and fill total, and would not be considered a substantial impact.

Along the western portion of the Alternative 2A alignment, only small amounts of fill (up to 32 ft [9.75 m]) are required. Through the central portions of the Alternative 2A alignment, cuts generally exceed fill, and range from 21 to 36 ft (5.4 to 10.9 m). Further east, cuts of 63 and 53 ft (19.2 and 18.1 m) would be required, which would constitute substantial impacts. In the eastern end of the alignment, both cut and fill would be necessary, both ranging between 16 and 54 ft (4.9 and 18.5 m). Toward the end of the Alternative 2A alignment, in the vicinity of the East Interchange, 54 ft (16.5 m) of fill would be required, which would constitute a substantial impact.

Alternative 2A would require new highway construction over approximately 9 mi (14.5 km) of sensitive paleontological formations (Laguna and Mehrten Formations). The Mehrten Formation would be cut to a maximum depth of 63 ft (19 m) near the eastside of the project. The depth of cuts through the Laguna Formation would not exceed 36 ft (11 m).

4.6.3 Alternative 2B

Alternative 2B would require approximately 1.80 million yd^3 (1,373,000 m^3) of cut and 2.64 million yd^3 (2,020,000 m^3) of fill (a total of 4.44 million yd^3 [3,395,000 m^3]), and 849,000 yd^3 (649,000 m^3) of fill material would be needed. The volume of imported fill for Alternative 2B would exceed ten percent of the combined total volume of cut and fill, and thus, the total grading volume would be considered a substantial impact.

For most of the first half of the Alternative 2B alignment, only a maximum of 32 ft (9.75 m) of cut depth would be required. At the crossing of Rodden Creek, 88 ft (26.8 m) of fill depth would be required, which constitutes a substantial impact. In the central portion of the alignment, fill depths of up to 43 ft (13.1 m) generally exceed those of cuts. Where Alternative 2B rejoins the Alternative 2A alignment, the topographic impacts of Alternative 2B become identical to those of Alternative 2A, which include one substantial topographic impact.

Alternative 2B would require new highway construction over approximately 6.5 mi (10.5 km) of sensitive paleontological formations (Laguna and Mehrten Formations). The maximum cut depths would be similar to those for Alternative 2A (Mehrten Formation, 63 ft [19 m]; and Laguna Formation, 36 ft [11 m]).

4.6.4 Alternative 2C

Alternative 2C would require 951,000 yd^3 (727,000 m^3) of cut and 1.28 million yd^3 (976,000 m^3) of fill (a total of 2.23 million yd^3 [1,703,000 m^3]), requiring 326,000 yd^3 (249,000 m^3) of imported fill. The projected volume of fill needed for Alternative 2C exceeds ten percent of the total grading volume, which would be a substantial impact.

From the western end of the alignment to approximately midway, Alternative 2C follows the alignment of Alternative 2A, discussed in a preceding chapter. As discussed above, there are no substantial topographic impacts along this portion of the roadway. Further east along the alignment, cuts and fills would be minimal (24 ft [7.3 m] or less), however, there would be an increase in the vicinity of the Stanislaus River to a range of 29 ft (8.8 m) of cut to 75 ft (22.9 m) of fill in the vicinity of the Stanislaus River. The depth of fill required to construct the Stanislaus River crossing would be considered a substantial impact for Alternative 2C.

Alternative 2C would require new highway construction over approximately 6 mi (10 km) of paleontologically sensitive formations (Laguna and Mehrten Formations). The Mehrten Formation would be cut to a maximum depth of 29.5 ft (9 m) near the Stanislaus River. The depth of cut in the Laguna Formation would not exceed 36 ft (11 m).

4.6.5 Alternative 2D

Construction of Alternative 2D would require 590,000 yd^{3} (451,000 m^3) of cut and approximately 1.46 million yd^3 (1,116,000 m^3) of fill (a total of 2.05 million yd^3 [1,567,000 m^3]). Thus, 870,000 yd^3 (665,000 m^3) of fill would be necessary. The projected volume of imported material exceeds ten percent of the total combined cut and fill, which would be a substantial impact.

From the western end of the alignment, Alternative 2D shares the same alignment as Alternative 2B. Along this portion there are no substantial topographic impacts. Further east, cuts and fills vary between 22 ft (6.7 m) and 55 ft (16.8 m). At the point where Alternative 2D meets Alternative 2C, potential impacts would be as described in the preceding section. Along this portion of the alignment, there would be one substantial impact where the roadway crosses the Stanislaus River, requiring 75 ft (22.9 m) of fill.

Alternative 2D would require new highway construction over approximately 4 mi (6.4 km) of paleontologically sensitive formations (Laguna and Mehrten Formations). Similar to Alternative 2C, the Mehrten Formation would be cut to a maximum depth of 29.5 ft (9 m) near the Stanislaus River, and cuts in the Laguna Formation would not exceed 36 ft (11 m).

4.6.6 No Action Alternative

The No Action Alternative would not involve any improvements, and therefore would not require grading or topographic alteration. Thus no impacts would result from the No Action Alternative.

4.6.7 Mitigation Measures

Damage to embankments from excessive settlement or failure of soft ground is not anticipated. Inclinations on cut slopes will be based on site specific data developed from geotechnical investigations, as necessary, including subsurface exploration, sampling, laboratory testing, and analysis.

Each alternative alignment will have numerous structures, including undercrossings, overcrossings, culverts, and bridges. Structures located wholly or in part on soft or loose ground could be significantly impacted by settlement or failure of these materials under static or seismic loading. Although no extensive reaches of soft or loose ground have been identified along the alignments, deposits of such ground may occur within the floodplain of the Stanislaus River. Mitigation measures for bridges constructed on soft or loose ground will be determined by site specific studies.

During detailed design of the selected build alternative, Caltrans would document the measures to ensure that all cut and fill areas and man-made slopes would blend in smoothly with the surrounding topography. These measures include, but are not limited to the following:

- Consideration shall be given to the placement of native material or planting with native plants in slopes and graded areas.
- Consideration shall be given to slope graded areas within the proposed ROW limits to the extent that soil conditions and underlying materials permit. Maintenance access and retention facility requirements would also impact the terrain.
- Tops of cut slopes and toes of fill slopes shall be rounded to conform to existing topography and in accordance with Caltrans guidelines.

The application of the mitigation measures above would minimize the appearance of the topographic changes, but would not completely reduce the level of impacts. Therefore, even with mitigation, individual cut and fill operations along Alternatives 2A, 2B, 2C, and 2D would result in an unavoidable and adverse topographic impact at selected locations along the routes. However, in terms of overall balance between cut and fill, Alternative 2A clearly would have the most balanced earthwork.

Mitigation of paleontologically sensitive areas will include the identification of potential fossils through a literature and repository review, and field investigation by a staff geologist. The staff geologist will coordinate with California State University, Fresno, Department of Geology, to provide protection and salvage operations as necessary during construction.

4.7 Biological Resources

Biological resources that would be potentially impacted by the project include the following: wetlands and waters of the U.S., wildlife and wildlife habitat, and threatened and endangered species. The COE has confirmed the wetland delineation done in 1996 for this project (Appendix A). Wetland areas presented in this report differ from those in the 1996 verification letter, due to the inclusion of areas outside the API in the 1996 calculations, and due to the use of digitized mapping and geographic information systems to calculate the areas for this report (versus hand measurements and calculations used for the 1996 numbers). The COE, through informal consultation, has accepted the numbers used in this report and the rationale for the difference (Norton 2000). This project was subject to the Memorandum of Understanding (MOU) for the NEPA/Section 404 Coordination Process; relevant correspondence is also included in Appendix A. The USFWS has concurred with species surveys used to support this DEIR/DEIS (Appendix A). Table 4.8 summarizes the biological impacts of the project based upon the cut and fill lines for the future transportation facility. With mitigation, all potential biological impacts identified in this chapter are expected to be minimal.

4.7.1 Wetlands / Waters of the U.S.

All the build alternatives would impact four wetland types subject to COE jurisdiction: vernal pools and swales, riparian forest, herbaceous marsh, and seasonally wet meadows. In addition, the alternatives would impact non-wetland jurisdictional waters of the United States. Table 4.9 summarizes the impacts by type of wetland and non-wetland waters of the US, based upon cut and fill lines for the future transportation facility.

Alternative 1. Vernal pool habitat in the study area consists of four pools; all would be removed by construction. Nine herbaceous marsh wetland sites are located within the study area; all would be affected to one degree or another by construction. Three seasonally wet meadow wetland sites are located in the study area. Approximately 98 percent of these sites are highly disturbed. Roughly half of the area of the three seasonally wet meadow sites would be removed by construction.

This alternative would impact riparian forest along the Stanislaus River. The riparian forest there is considered to be high quality wildlife habitat. The riparian forest corridor on the northern side of the river is 76 to 200 ft (23 to 60 m) wide and well developed. On the south bank, riparian forest is confined to a narrow 100-ft (30-m) wide corridor along the steep bank sloping from the floodplain terrace to the river.

Table 4.8 Potential Biological Resource Impacts

Resource Impact	Alt.1	Alt. 2A	Alt. 2B	Alt. 2C	Alt. 2D	No Action
Sensitive Upland Habitats						
Oak woodlands (ac)	4.4	0.52	0.52	4.0	4.0	0
Number of oaks	105	16	16	84	84	0
Wetland and Waters Area						
Total wetlands (ac)	10.42	11.44	16.03	6.97	11.63	0
Total non-wetland waters (ac)	0.22	1.58	2.54	1.16	2.07	0
Total wetlands and waters (ac)	10.65	13.02	18.57	8.13	13.71	0
Special Status Species						
Elderberry stems removed	134	99	104	452	457	0
Aleutian Canada geese sites directly impacted	0	0	0	0	1	0
Aleutian Canada geese sites within 1,000 ft	0	2	3	3	3	0
Fairy shrimp sites removed (sites in API)	3(3)	5(8)	4(6)	4(6)	3(4)	0
Area of fairy shrimp habitat removed (ac)	1.06	1.24	1.06	1.36	1.06	0
Tiger salamander breeding sites removed	0	1	2	1	1	0
Spawning gravels modified (number of sites)	1	0	0	0	0	0

Note: Impacts are based on limits of cut and fill for the future transportation facility. Area units are in ac (1 ac = 0.405 ha).

Alternatives 2A/2B. Vernal pool habitat in the study area consists of 11 pools for Alternative 2A and 13 pools for Alternative 2B. Seven pools would be partially or completely removed by construction of 2A, and 12 pools would be partially or completely removed by construction of 2B. There are 13 herbaceous marsh wetland sites in the study area for Alternative 2A and 19 sites in the study area for Alternative 2B. Ten sites would be partially or completely removed by construction of Alternative 2A, and 13 sites would be similarly affected by construction of Alternative 2B. There are 13 seasonally wet meadow wetland sites in the study area of 2A and 10 sites in the study area of 2B. In the study area of Alternative 2A, 79 percent of the sites are highly disturbed, and in the Alternative 2B study area, 89 percent of the sites are highly disturbed. Of those sites, 12 sites on Alternative 2A and eight sites on Alternative 2B would be directly affected by construction.

Alternatives 2A and 2B would impact riparian forest along the Stanislaus River near Horseshoe Bend. The riparian forests impacted by the alternatives have been modified and degraded by gravel mining operations on the east side of the river. There is no riparian forest on the western side of the river. On the eastern side, the riparian forest is

Table 4.9 Potential Wetland Impacts Based on Alternatives

Wetland Type		Alt 1	Alt 2A	Alt 2B	Alt 2C	Alt 2D	No Action
Riparian	Area	0.86 ac (0.35 ha)	1.41 ac (0.57 ha)	1.41 ac (0.57 ha)	0.40 ac (0.16 ha)	0.40 ac (0.16 ha)	0
	Number of Areas	3	3	4	2	2	0
	Degree of Impact[a]	High	Medium	Medium	High	High	N/A[b]
Marshes And Meadows	Area	8.42 ac (3.41 ha)	8.23 ac (3.33 ha)	12.6 ac (5.09 ha)	5.88 ac (2.38 ha)	10.3 ac (4.17 ha)	0
	Number of Areas	12	22	21	18	15	0
	Degree of Impact[a]	Low	Low	Low	Low	Low	N/A
Vernal Pools/ Swales	Area	1.1 ac (0.46 ha)	1.8 ac (0.73 ha)	2.0 ac (0.83 ha)	0.69 ac (0.28 ha)	0.94 ac (0.38 ha)	0
	Number of Areas	4	7	12	4	8	0
	Degree of Impact[a]	Low	Low	Low	Low	Low	N/A
Rivers[c]	Area	—	—	—	—	—	—
	Number of Areas	—	—	—	—	—	—
	Degree of Impact[a]	N/A	N/A	N/A	N/A	N/A	N/A
Intermittent Streams	Area	0.00 ac (0.0 ha)	0.44 ac (0.18 ha)	1.40 ac (0.57 ha)	0.02 ac (0.01 ha)	0.94 ac (0.38 ha)	0
	Number of Areas	0	5	10	1	4	0
	Degree of Impact[a]	N/A	Low	Low	Low	Low	N/A
Lakes	Area	0.00 ac (0.0 ha)	0.91 ac (0.37 ha)	0.91 ac (0.37 ha)	0.91 ac (0.37 ha)	0.91 ac (0.37 ha)	0
	Number of Areas	0	1	1	1	1	0
	Degree of Impact[a]	N/A	Low	Low	Low	Low	N/A
Irrigation Ditches	Area	0.22 ac (0.09 ha)	0.22 ac (0.09 ha)	0.22 ac (0.09 ha)	0.22 ac (0.09 ha)	0.25 ac (0.10 ha)	0
	Number of Areas	2	2	2	2	2	N/A
	Degree of Impact[a]	Low	Low	Low	Low	Low	N/A

[a] Degree of impact is based upon the functions and values of the affected wetlands (see Section 3.7), their importance in the ecosystem (see Section 3.7), and the affected acreage (for limits of cut and fill for the future transportation facility).
[b] If an alternative has no direct wetland impacts, the degree of the impact is not applicable (N/A).
[c] Right of Way limits at river crossings are considered riparian and are included in the riparian category above.

more heterogeneous in aspect and in species composition than at the other Stanislaus River crossings, and is about 175 to 250 ft (53 to 76 m) wide.

Alternatives 2C/2D. Vernal pool habitat in the study area consists of nine pools for Alternative 2C and 12 pools in the study area for Alternative 2D. Four pools would be partially or completely removed by construction of Alternative 2C, and eight pools would be partially or completely removed by construction of Alternative 2D. There are 14 herbaceous marsh wetland sites in the study area for Alternative 2C, and 15 sites in the study area for Alternative 2D. Nine sites would be partially or completely removed by construction of 2C, and 11 sites would be similarly affected by construction of 2D. There are 11 seasonally wet meadow sites in the study area for 2C, and five sites in the study area of 2D. In the study area of Alternative 2C, 91 percent of the sites are highly disturbed, and in the Alternative 2B study area, 99 percent of the sites are highly disturbed. Nine of those sites on Alternative 2C, and four of those sites on Alternative 2D, would be directly affected by construction.

Alternatives 2C and 2D would impact riparian forest along the Stanislaus River. On the north bank, the riparian corridor is about 200 ft (60 m) wide. On the south side of the river, the riparian forest on the eastern side of the survey corridor is mapped as disturbed riparian because it has been cleared to create a picnic area and park. This riparian corridor is 125 to198 ft (38 to 60 m) wide.

Wetland impacts would require a permit from the COE. The COE issues two types of permits: general permits and individual permits. The Nationwide Permit, a type of general permit, is required for projects with minimal impacts (0.5 ac or less) to wetlands and waters of the U.S. The Individual Permit is required for projects with greater impacts (more than 0.5 ac) (Section 404 of the CWA, 33 USC 1251-1387). Based on wetland impacts described in this document, it appears that the Oakdale Expressway Project would require an Individual Permit from the COE.

No Action Alternative. The No Action Alternative would not result in any direct impacts to wetlands or waters of the U.S. Indirect effects to wetlands and waters may occur due to air pollutants omitted by congested traffic on bridges over waterways, as well as due to runoff from heavily traveled corridors through Oakdale.

Mitigation. Vernal pool and swale impacts would be mitigated by purchasing credits in an approved mitigation bank. Or, if no suitable mitigation bank were available, funds would be transferred to the USFWS to purchase land. Riparian, seasonally wet meadow and herbaceous marsh wetland impacts would be mitigated by creation and enhancement of riparian and herbaceous marsh wetlands. Several feasible mitigation sites exist on

COE properties and/or property purchased by Caltrans along the Stanislaus River between Knight's Ferry and McHenry Avenue.

4.7.2 Oak Woodland

Oak woodlands (as defined by Senate Concurrent Resolution 17 of 1989) include any 5-ac (2-ha) area containing five or more oak trees per acre (0.4 ha). The resolution also limits protected status to oak woodlands dominated by blue or valley oaks. Woodlands dominated by these two species have been summarized in this document as "mixed oak woodlands." Oak woodlands dominated by interior live oaks are not protected under the Concurrent Resolution and are not included here.

Alternative 1. Oaks and oak woodlands occur at two locations. A woodland, dominated by valley oaks is near the Stanislaus River crossing; 0.52 ac (0.2 ha) is within the construction area, one acre (0.4 ha) within the ROW and 1.5 ac (0.6 ha) within the study area. Eighteen oaks with a diameter greater than 12 in (30 cm) would be removed.

A second oak woodland, dominated by blue oaks, is located at the easterly end of this alignment: 4 ac (1.6 ha) within the construction area, 6.8 ac (2.7 ha) within the ROW, and 12 ac (4.7 ha) are within the study area. Within this woodland, 32 oaks with a diameter greater than 12 in (30 cm) would be removed by construction, and an additional 47 oaks would be removed to construct a frontage road along this segment.

Scattered individual Valley oaks occur along the alternative. Eight of these lie within the proposed ROW, and would be removed by construction. A total of 105 valley and blue oaks, and 4.5 ac (1.8 ha) of oak woodland would be removed.

Alternatives 2A/2B. Two oak woodland areas are located near the Stanislaus River at the eastern terminus of these alternatives. The larger, northern woodland is dominated by blue oaks; 0.5 ac (0.2 ha) is within the construction area, 1.5 ac (0.6 ha) within the ROW, and 2.5 ac (1 ha) within the study area. This includes 10 oaks, with a diameter greater than 12 in (30 cm), within the construction area and 13 within the ROW.

The smaller, southern woodland is dominated by valley oaks; 0.025 ac (0.01 ha) is within the construction area, and 0.25 ac (0.1 ha) within the right of way and study area. Construction would require removal of two oaks.

A number of isolated valley oaks occur along the eastern third of the alignment (11 within the study area, six within the ROW, and four within the area of construction). A total of 16 oaks of a diameter greater than 12 in (30 cm), and 0.5 ac (0.2 ha) of oak woodlands would be removed.

Alternatives 2C/2D. Two oak woodlands are located in the southern portion of these alternatives, both dominated by blue oaks. One is at the crossing of Lesnini Creek, with 0.025 ac (0.01 ha) located within the ROW, and 0.5 ac (0.2ha) within the study area.

There is no oak woodland located within the construction area. The second woodland is the same site affected by the terminus of Alternative 1, with 4 ac (1.6 ha) located within the construction area, 6.25 ac (2.5 ha) within the ROW, and 10.5 ac (4.2 ha) within the study area. Within this woodland, 32 oaks greater than 12 in (30 cm) in diameter would be removed; an additional 47 oaks would be removed in order to build a frontage road along this segment.

A number of isolated valley oaks would be removed; 15 are within the study area, six within the ROW, and five within the construction area. A total of 84 oaks, of a diameter greater than 12 in (30 cm), and 4 ac (1.6 ha) of oak woodland would be removed.

No Action Alternative. The No Action Alternative would not result in the removal of any oak woodland. Indirect effects to oak woodlands may occur due to air pollutants emitted by congested traffic on heavily traveled corridors through Oakdale.

Mitigation. Mitigation of potential impacts would be implemented on land located either on, or adjacent to, the COE property along the Stanislaus River. Mitigation would occur in cooperation with the COE to enhance existing oak woodlands and to restore areas where oak woodlands have been removed. None of the removed oaks meet the criteria of heritage oak (30 in [76 cm] in diameter); therefore valley and/or blue oak seedlings at a 3 to 1 ratio (the standard CDFG ratio) would replace the oaks. Plantings would be monitored annually to assure a survival rate of 60 percent after five years.

4.7.3 Special Status Species

The following ten special status species would potentially be impacted by this project: Aleutian Canada goose, vernal pool tadpole shrimp, vernal pool fairy shrimp, VELB, California tiger salamander, western spadefoot toad, western pond turtle, Central Valley steelhead trout, fall-run Chinook salmon, and Swainson’s hawk. Potential impacts are summarized below.

4.7.3.1 Aleutian Canada Geese

Aleutian Canada geese were observed at irrigation (stock) ponds, canals, and adjacent grasslands near the alignments of Alternatives 2A, 2B, 2C, and 2D. They were often found in association with large flocks of western Taverner’s and cackling geese. The number of Aleutian Canada geese observed ranged from one to eleven per flock.

Several Canada goose experts were consulted to assess potential project effects on the geese. Impacts could result from direct loss of foraging and roosting habitat, as well as disturbance from motor vehicle traffic and human presence in the remaining habitat. The experts concurred that the geese could adapt to a steady traffic flow within a few hundred yards; anything that created an interruption in that flow would be disturbing. They also agreed that human activity within 1000 ft (300 m) has the greatest potential to disturb the geese. This distance was used as an arbitrary cut-off for potential impacts and is the "critical distance" in the discussion below (Springer 1994; Peters 1994). Any alternative beyond the critical distance from a goose habitat area is called "not significant."

This area of impact does not include construction activities that have the potential to affect wintering geese at a much greater distance. The alternatives that come closest to the most important sites (Sites 2, 3, 4, 5, 7, and 9) have the greatest potential to affect the geese (see Figure B-1 in Appendix B). Impacts to the geese are summarized in Table 4.10 and are as follows.

Alternative 1. Alternative 1 would not impact any goose habitat. No direct or indirect impacts to the geese are predicted for this alternative.

Alternative 2A/2B. Alternative 2A would not directly impact goose habitat. Three sites (No. 4, 5 and 9) are located adjacent to Alternative 2B. Alternative 2B would not directly impact goose habitat.

Alternative 2C/2D. Alternative 2C is located adjacent to the sites (No. 2 and 3) and one other potential area of goose habitat. Alternative 2C would not directly impact goose habitat. Alternative 2D would remove one area (No. 9) of habitat occasionally used by the geese. Alternative 2D is also located adjacent to the three sites associated with Alternative 2B.

No Action Alternative. The No Action Alternative would not result in any direct impacts to the goose. Because the goose use areas tend to be located in the undeveloped portions of the project area, there is little potential for indirect effects from continued traffic congestion on Routes 120/108.

Mitigation. Potential impacts to Aleutian Canada goose foraging habitat will be mitigated by acquisition, preservation, and enhancement of suitable foraging habitat outside the project area. The San Joaquin National Wildlife Refuge, located southwest of Oakdale near the meeting of the San Joaquin and Stanislaus rivers, was established in

Table 4.10 Potential Impacts to Aleutian Canada Geese

Alternative	Number of Sites		Description
	Directly Affected	Within 1,000 ft (300 m) of ROW	
1	none	none	Alternative 1 does not pass near any known Canada goose use areas.
2A	none	2	Proposed alignment is within 1000 ft (300 m) of Site 2 and 500 ft (150 m) of Site 3. The Site 2-3 complex is the second most important goose habitat in the project area.
2B	none	3	Proposed alignment is within 330 ft (100 m) of Site 4, within 500 ft (150 m) of Site 5, and within 330 ft (100 m) of Site 9. Sites 4, 5, and 9 receive only marginal use by Aleutian Canada geese.
2C	none	3	Proposed alignment is within 1,000 ft (300 m) of site 2, 500 ft (150 m) of Site 3, and within 330 ft (100 m) of Site 9. The Site 2-3 complex is the second most important goose habitat in the project area. Site 9 receives only marginal use by Aleutian Canada geese.
2D	1	3	Proposed alignment is within 330 ft (100 m) of Site 4, 500 ft (150 m) of Site 5, and would directly cross the pasture identified as Site 9. Sites 4, 5, and 9 receive only marginal use by Aleutian Canada geese.

1972 with the intent to preserve winter foraging habitat for the Aleutian Canada goose. Approximately 1607 ac (651 ha) of foraging and roosting habitat currently exist on the refuge (50 CFR 17). Caltrans proposes to mitigate impacts to the Aleutian Canada goose with the acquisition and permanent protection of land adjacent to the refuge. The Mapes Ranch, which currently owns and manages much of the land within the proposed refuge boundary has indicated a willingness to sell land for this purpose (Lyons 2001).

4.7.3.2 Valley Elderberry Longhorn Beetle

Surveys for the presence of blue elderberry shrubs (*Sambucus mexicana*), the host plant for the beetle, were conducted. Impacts were assessed based upon the number of basal stems with a diameter equal to or greater than one inch (2.5 cm). Stems with beetle exit holes were found along Alternatives 2C and 2D alignments. When the preferred alternative is identified, it would be resurveyed according to current protocol, which specifies mitigation for stems with a diameter equal to or greater than one inch (2.5 cm) at ground level.

Construction would fragment blue elderberry populations growing in whatever alternative is selected for construction. Beetle populations that might occupy these shrubs could be fragmented if the beetles are unable to travel across the unvegetated highway strip. Sites where shrubs are already isolated would not be affected in this manner (e.g., Rodden Creek on Alternatives 2B and 2D, and an unnamed creek at Orange Blossom

Road on Alternatives 2A and 2B). Impacts to beetle habitat, based on stem count, are shown in Table 4.11 and are discussed below.

Table 4.11 Summary of Valley Elderberry Longhorn Beetle Impacts

Impact	Alt 1	Alt 2A	Alt 2B	Alt 2C	Alt 2D	No Action
Stems Removed	134	99	104	452	457	0
No. of Sites	2	5	6	4	4	0
Total # of Shrubs	15	19	20	19	19	0
# of Sites With Potential VELB Exit Holes	0	0	0	2	2	0

Note: Potential impacts are presented for direct effects from cut line to cut line for the four lane future transportation facility.

Alternative 1. Elderberry shrubs were found along Alternative 1 where it crosses the Stanislaus River. There are 217 stems in the study area, 134 of which would be removed. Ten of the stems would be designated as an environmentally sensitive area to protect them during construction.

Alternatives 2A/2B. Two sites with elderberry shrubs occur along Alternative 2A. One is along Lesnini Creek (where all 42 stems in the study area would be removed), and the other is along the Stanislaus River (57 stems removed and 141 stems in the study area). Alternative 2B would affect the same elderberry shrubs affected by Alternative 2A. Alternative 2B would also remove five stems at Rodden Creek during construction.

Alternatives 2C/2D. Three sites support elderberry shrubs on Alternative 2C: the first is the crossing of Lesnini Creek (20 stems in the study area); the second is along the Stanislaus River (115 stems in the study area); the third is an old overflow channel south of the Stanislaus River (317 stems in the study area). Construction would remove all of these stems. Alternative 2D would affect the same elderberry shrubs as Alternative 2C, along with five additional stems at Rodden Creek.

No Action Alternative. The No Action Alternative would not result in any direct impacts to the beetle. Because the elderberry shrubs tend to be located in the undeveloped portions of the project area, the potential for indirect effects due to congested traffic on heavily traveled corridors through Oakdale is minimal.

Mitigation. VELB mitigation would fall under the guidelines for projects with fewer than 200 stems for all alternatives, except for 2C (452 stems) and 2D (457 stems). All mitigation would comply with the “Conservation Guidelines for the Valley Elderberry

Longhorn Beetle" issued by USFWS (see Appendix C). Mitigation would involve transplanting existing shrubs affected by construction.

4.7.3.3 Fairy Shrimp and Tadpole Shrimp.

Fairy and tadpole shrimp species occurring within the project limits could be destroyed or harmed by direct actions such as digging up or driving over the pools where they occur. Fifty sites were surveyed for the presence of these two vernal pool species. Eight sites were found that support one or both of these special status species. Indirect effects resulting from surface water contamination, alteration of pool hydrology, or construction of retention basins, storage areas, and access roads could also occur. When the preferred alternative is identified, it would be resurveyed according to current protocol.

Alternative 1. The study area for Alternative 1 contains three sites supporting at least one of these species. All the sites support populations of tadpole shrimp and one site also supports a population of fairy shrimp. Construction would directly impact all three sites and remove 1.1 ac (0.43 ha) of habitat.

Alternatives 2A/2B. Eight sites supporting at least one of these species are within the study area for Alternative 2A. Construction would directly impact five of these sites and remove 1.25 ac (0.50 ha) of habitat; the other three sites would be avoided. Six sites within the Alternative 2B study area support these species. Construction would directly impact four of the sites and remove 1.1 ac (0.43 ha) of habitat.

Alternatives 2C/2D. Six sites are found within the Alternative 2C study area. Construction would directly impact four of the sites and remove 1.4 ac (0.55 ha) of habitat. The study area for Alternative 2D contains four sites. Construction would directly impact three of these sites and remove 1.1 ac (0.43 ha) of habitat.

No Action Alternative. The No Action Alternative would not result in any direct impacts to fairy shrimp. Indirect effects may occur to small isolated populations that may be found in roadside ditches along existing heavily traveled corridors through Oakdale.

Mitigation. Fairy and tadpole shrimp were found in vernal pools, and would therefore be included in vernal pool mitigation. Several of the sites supporting these invertebrates are located in or near intermittent streambeds. Discussion of mitigation is contained in the wetland section. Table 4.12 summarizes potential impacts.

Table 4.12 Potential Impacts for Special Status Aquatic Invertebrates

	Alt 1	Alt 2A	Alt 2B	Alt 2C	Alt 2D	No Action
Total Sites Impacted	3	5	4	4	3	0
Tadpole Shrimp	3	5	3	3	3	0
Fairy Shrimp	1	5	2	2	1	0
Area Affected ac (ha)	1.1 ac (0.43 ha)	1.2 ac (0.5 ha)	1.1 ac (0.43 ha)	1.4 ac (0.55 ha)	1.0 ac (0.43 ha)	0

4.7.3.4 Anadromous Fish Species

Anadromous fish are restricted to the lower portion of the Stanislaus River by Goodwin Dam, located upstream of the project area. The reach of the river within the project area is characterized by typical pool, run and riffle habitat sequences with the occasional large, deep dredge pool. The substrate is sand, gravel, and cobble.

Central Valley steelhead and fall-run chinook salmon are known to occur in the project area. Direct impacts to chinook salmon and steelhead from the proposed river crossings include disturbance to spawning adults and a reduction of food resources due to the removal of riparian vegetation. Indirect impacts may include degradation of spawning habitat if bridge construction increases sedimentation downstream. All three river crossings are within the known rearing habitat of the salmon, but the three alternatives differ in the potential for indirect impacts to spawning habitat.

Alternative 1. Alternative 1 crosses the Stanislaus River below most spawning gravel areas identified by the CDFG, which decreases the potential for degradation due to sedimentation or introduction of toxicants. A spawning gravel is located at the crossing site; removal of riparian vegetation and shading from the bridge might adversely impact this spawning site.

Alternatives 2A/2B. Alternatives 2A and 2B cross the river near the Honolulu Bar Recreation Area. No known spawning gravels are located at the crossing site. Many spawning gravels are located downstream of the proposed crossing, which may be vulnerable to degradation from sedimentation or chemical contamination of the river originating from the new crossing.

Alternatives 2C/2D. Alternatives 2C and 2D share the same proposed crossing. This site is located between the proposed crossings for Alternatives 2A/2B and Alternative 1, and is not located at a site with known spawning gravels. The crossing is located downstream of the most important spawning areas for the two species.

No Action Alternative. The No Action Alternative would not result in any direct impact to anadromous fish. Indirect effects could occur through runoff from existing bridges over the Stanislaus River in the project area.

Mitigation. Upstream of the project area are some spawning gravels that have been disturbed by gravel mining and other activities. The CDFG has projects under way to restore spawning gravels in the upstream portion of the Stanislaus River. If Alternative 1 is selected as the preferred alternative, Caltrans could provide additional funding towards restoring spawning gravels in the vicinity of those sponsored by the CDFG. Caltrans and FHWA will consult with the National Marine Fisheries Service regarding Essential Fish Habitat.

4.7.3.5 California Tiger Salamander

Surveys were performed in the fall and spring when adults emerge to breed, and later when eggs are laid and larvae transform and leave the pond. Construction along four of the five alternative alignments would remove or fragment breeding pond habitat, eliminate upland retreat sites, and hinder dispersal to and from breeding ponds.

Alternative 1. No suitable habitat or individual adults or larvae were found in the study area for Alternative 1. Thus, this alternative is not expected to impact the California tiger salamander.

Alternative 2A/2B. In the study area for Alternative 2A, larvae were found in three different ponds. One upland site was also found to support an adult tiger salamander. The upland site, and one of the three breeding ponds, would be directly impacted by construction. Three pools within the study area for Alternative 2B contained larvae. Two of these pools would be directly affected by construction.

Alternatives 2C/2D. The Alternative 2C study area contains the same locations supporting tiger salamander as described for Alternative 2A. One upland site and one breeding pond would be directly affected by construction. A single pool was found to support salamander larvae within the study area for Alternative 2D. This breeding pool would be removed by construction.

No Action Alternative. The No Action Alternative would not result in any direct impacts to the California tiger salamander. Since the potential habitat is located in the undeveloped portion of the project area, there is little potential for indirect effects from the No Action Alternative.

Mitigation. Essentially all potential impacts to the California tiger salamander are associated with vernal pool habitat. Therefore, mitigation for the salamander is included in the mitigation measures proposed for vernal pools. All of the alternative except for Alternative 1, would result in potential construction impacts to salamander sites. Alternatives 2A, 2C, and 2D have potential impacts to one site, while Alternative 2B has potential impacts to two sites.

4.7.3.6 Western Spadefoot Toad

These spadefoot toads breed in seasonal ponds and pools in low hills and valleys dominated by grasslands or open oak woodlands. Surveys for the species were performed in the fall and spring when the species is present and identifiable. Impacts to the spadefoot toad would be the same as those described for the tiger salamander. In addition, some loss of this species could result from vibrations caused by off-road vehicles, which could displace spadefoot toads from their summer burrows at inappropriate times of the year.

Alternative 1. No suitable habitat for the western spadefoot toad was found in the study area for Alternative 1. Thus, this alternative is not expected to impact the western spadefoot toad.

Alternatives 2A/2B. A single breeding pond was identified in the project area (at the eastern terminus of Alternatives 2A and 2B, partially in the study area). Construction of Alternative 2A or 2B would not directly affect the breeding site, but would isolate the breeding pond from upland habitats to the south. This seasonal pool also supports a population of vernal pool fairy shrimp and California tiger salamander larvae.

Alternatives 2C/2D. No suitable habitat for the western spadefoot toad was found in the study area for Alternatives 2C/2D. Thus, these alternatives are not expected to impact the western spadefoot toad.

No Action Alternative. The No Action Alternative would not result in any direct impacts to the western spadefoot toad. Because the habitat for this species is located in the undeveloped portion of the project area, there is little potential for indirect impacts. Indirect effects would occur due to congested traffic on heavily traveled corridors through Oakdale.

Mitigation. Essentially all potential impacts to the western spadefoot toad are associated with vernal pool habitat. Therefore, mitigation for the spadefoot toad is included in the mitigation measures proposed for vernal pools.

4.7.3.7 Other Species

Western Pond Turtle. Pond turtles were found within the study area of Alternatives 2A and 2C. They were also found in a lake north of Burnett Lateral, north of the study area for Alternatives 2B and 2D. Construction of the proposed project would not directly affect the pond turtle. Impacts to the turtle would be the same as those described for the California tiger salamander.

Swainson's Hawk. Suitable foraging habitat for the Swainson's hawk, including irrigated pasture and non-native grassland, occurs at the western end of each alternative. Other habitats such as wetlands, orchards, and vineyards were not considered suitable. Individual and nesting sites were not found within or adjacent to the project limits. Potential impacts would be minimal.

4.8 Floodplains

By incorporating proper and accepted engineering practices, the proposed expressway, operating under normal conditions, would not produce significant impacts to the 100-year (base) floodplain of major water courses affected by the project during construction or during operation of the completed facility.

During construction, fills (and excavated materials) would not encroach on natural watercourses except as shown on approved project plans and would be suitably protected against erosion during storm flows. This impact will be quantified by the floodplain study carried out for the preferred build alternative.

Separate facilities would be required to collect the runoff resulting from construction of the paved surfaces for the preferred build alternative. The size and location of these facilities (basins) will be specified during final design of the preferred alternative.

The proposed expressway would not be subject to flooding during a 100-year flood at any creek crossing location. Proposed culverts would be sized to accommodate 100-year flood flow without objectionable headwater elevations occurring.

Full encroachment of developable areas of the base floodplain (i.e., floodway fringes) would not increase the water-surface elevation more than one foot (0.3 m) prior to construction. For this project, only minor encroachment of the base floodplain due to bridge piers is expected; they would not increase base flood elevations. Bridge abutment slopes would be located outside of the base floodplain.

Proposed bridge crossings of the Stanislaus River would consist of a two-lane expressway facility. Permits would be required from the COE for the proposed crossings of Alternatives 2A and 2B; a property transfer or lease would also be required from the COE. A lease would be required from the State Lands Commission (SLC) for portions of the project extending onto state-owned lands, which are under its exclusive jurisdiction.

Hydraulic modeling of the Stanislaus River crossings was completed using the COE HEC-2 Computer Model, which calculates water surface profiles for river flows from the channel cross section, bridge geometry and hydraulic parameters. The model predicted a minor increase in flood depth that would not change the risk of flooding associated with the Stanislaus River. Local scour effects (places in a stream bed swept clear by a swift current) at bridge locations would be reduced by placing pier foundations below the maximum scour depth and by using a cylindrical pier cross section. No other forms of scour are anticipated. A detailed floodplain study will be carried out on the preferred build alternative to accurately quantify floodplain and scour impacts at the Stanislaus River crossings.

The proposed build alternatives do not support probable incompatible floodplain development and there would not be a need to interrupt or terminate any transportation facilities needed for emergency vehicles.

All build alternatives are anticipated to have insignificant impacts on the base floodplain of affected creeks. The risk of any alternative being flooded due to breaching or overtopping of irrigation facilities is anticipated to be insignificant. The risk of any alternative being inundated due to failure of upstream dams is expected to be insignificant.

4.9 Cultural Resources

The SHPO concurs with the findings of the Historic Property Survey Report (HPSR) completed for the proposed project. The SHPO concurs with the FHWA that, after evaluation, none of the sites evaluated for the project were found eligible for the National Register of Historic Places (NRHP) (the SHPO concurrence letter is available in Appendix A).

4.9.1 Archaeological Resources

As described in Chapter 3, the archaeological reconnaissance resulted in the discovery of four historic sites and one prehistoric site within the APE. Descriptions of the sites, as well as a summary of site integrity and NRHP evaluation status is provided in Table 4.13. Site CA-STA-346 has not been evaluated; the SHPO letter of concurrence indicates that studies to date on this site are adequate. Further investigations would impact the site, and would only be necessary if Alternative 1 is chosen as the preferred alternative (see SHPO letter in Appendix A).

Consultation with local Native American representatives started in 1992 and continues up to the present. Information on the prehistoric site in the Alternative 1 APE has been conveyed orally and in documents to the Native Americans. If Alternative 1 is selected, Caltrans will consult closely with Native American groups regarding the evaluation of this site. Correspondence letters between Caltrans and the Native Americans are provided in Appendix A.

Table 4.13 Site Integrity and NRHP Evaluation Status for Cultural Resources

Site Number	Type	Description	Condition	NRHP Status	Build Alternative
CA-STA-346	Prehistoric Site	Seasonal Camp (Village?)	Moderately Impaired	Not Evaluated	1
CA-STA-347H	Cottle Historic Dump	Trash Dump	Severely Impaired	Not Eligible	1, 2A, 2B, 2C, 2D
CA-STA-348H	Windmill Site	Mining Tailings	Minimally Impaired	Not Eligible	2A, 2B
CA-STA-349H	OBP-2	Kumle Placer Mine	Severely Impaired	Not Eligible	2A
CA-STA-350H	OBP-1	SP Railroad	Severely Impaired	Not Eligible	1, 2A, 2B, 2C, 2D

Source: HPSR (May 1995)

A conclusion regarding the final level of impacts to archaeological resources cannot be made until an alternative has been selected for construction. The No Action Alternative would have no impacts to cultural resources.

4.9.2 Architectural Resources

Cultural resource surveys resulted in the identification of 203 farmsteads and residences and an irrigation canal system within the APE for Alternatives 1, 2A, 2B, 2C, and 2D. None of these buildings or structures are listed or have been found eligible for the NRHP. Prior to 1955, 38 of the investigated properties and residences were constructed, including 37 houses and farmsteads and one canal system. None were eligible for the NRHP. Therefore, construction of any of the build alternatives would not affect important architectural resources. Since the No Action Alternative uses existing ROW, no impacts to cultural resources would occur.

4.9.3 Mitigation Measures

Prior to construction, Caltrans would consider any unevaluated cultural resource located within the APE of the selected alternative as to potential eligibility for listing in the NRHP and California Register. This evaluation shall include further studies to determine site integrity and research potential if project impacts cannot be avoided. If property plans change to include any unsurveyed property, supplemental investigations would be required. In addition, if cultural remains were encountered during construction,

construction activities at those specific locales shall be stopped until the remains can be evaluated by a qualified archaeologist.

4.10 Hazardous Waste

The principal potential hazardous waste impacts of the build alternatives would be short-term impacts during construction due to exposure of buried chemicals to the atmosphere and possibly to water bodies if the wastes are uncovered during rainy conditions, and the resulting ecological and human health impacts from this exposure. There is a possibility that the underlayment for the expressway would act as a conduit for subsurface plumes of contaminants, thereby enhancing and increasing the chances of adverse human health and ecological effects. Clean up of buried waste that is found would eliminate the future potential for adverse ecological and human health effects.

The potential for hazardous waste impacts is influenced mostly by the general alignment characteristics of each alternative and the locations of hazardous waste sites with respect to these alignments. Locations of potential hazardous waste sites are presented in Section 3.10 (refer back to Figure 3-5). The highest potential for hazardous waste within 100 ft (30 m) of the build alternatives is from leaking USTs. There will be short-term disturbance to the environment due to the removal and clean up of USTs from these sites. The long-term effects of cleaning up and removal of USTs from these locations will be largely beneficial resulting in the permanent removal of possible hazardous waste spills and their subsequent soil and ground water contamination. UST counts were derived from agency lists. The listed tanks are included in the numeric totals in the following sections, even if on-site reconnaissance did not confirm the presence of the tanks.

4.10.1 Alternative 1

There are no known (reported) hazardous waste sites within the earthwork limits of Alternative 1. The only suspected hazardous waste site on properties adjacent to the earthwork that could impact the project along Alternative 1 is the City of Oakdale Landfill. The City of Oakdale Landfill reportedly received only a limited volume of landfill materials, and there have been no reported instances of environmental contamination associated with the landfill during its 40-year history. Thus, it seems unlikely that the landfill would pose a serious threat to the underlying soil and groundwater. However, because it is not known what has been deposited at the landfill, any disturbance of the landfill materials could result in unpredictable consequences.

Potential sources of environmental contamination that could impact the project area along Alternative 1, other than the hazardous waste site mentioned above, include the following:

- The USTs (15) and sites of former USTs, on the properties along Alternative 1.
- The agricultural facilities within or adjacent to the earthwork limits of Alternative 1, identified in Section 3.10. Potential hazardous waste sources associated with these are fuel storage and dispensing facilities, chemical storage and handling areas, and equipment maintenance areas.
- The farmland covering Alternative 1. Sources associated with this use include residual concentrations of agricultural chemicals.
- The abandoned wildcat oil well at the Twenty-Six Mile Road Interchange. Oil and drilling fluids from this well may have contaminated the soil in the vicinity of the well but may have also contaminated the groundwater.
- The commercial properties along Routes 120 and 108. The potential sources of environmental contamination associated with these are fuel storage, and operations and equipment maintenance activities involving solvents, fuels, waste oil, and paints.

Alternative 1 extends through more urbanized and populated areas than all of the other alternatives. Consequently, it has the highest number of sites with potential concerns regarding USTs (15), landfills and agricultural operations. Additionally, its urban setting and the need to remove numerous structures pose the highest potential, of all the alternatives, for encountering asbestos during project implementation. Therefore, substantial hazardous waste impacts could be associated with Alternative 1.

4.10.2 Alternatives 2A and 2B

Based on existing information, the potential for hazardous waste impacts would be essentially identical for both alternatives. There are no known (reported) hazardous waste sites within the earthwork limits of either alternative or on adjacent properties that could impact the proposed ROW. As with Alternative 1, the abandoned wildcat well near the western end of the project poses potential for hazardous waste although none is known to presently exist. Of all the build alternatives, Alternatives 2A and 2B have the lowest number of nearby USTs (three), local landfills, and agricultural operations, and hence have the lowest potential for hazardous waste impacts from general uses.

4.10.3 Alternatives 2C and 2D

Based on existing information, the potential for hazardous waste impacts is essentially identical for both alternatives. There are no known (reported) hazardous waste sites within the earthwork limits of either alternative. Similar to the alternatives described above, the abandoned wildcat well located near the western end of the route poses some potential for hazardous waste contamination, although none currently exist. Beyond that, six USTs, local landfill and agricultural sites near the western and eastern ends of the alignments are the only other known areas of potential impacts. As with Alternatives 2A and 2B, the level of potential impact could be substantial, due to the uncertainty of the presence of hazardous waste.

4.10.4 No Action Alternative

There are no impacts relative to encountering hazardous waste associated with the No Action Alternative.

4.10.5 Mitigation Measures

The location of the abandoned oil wells near the west end of the project, as described in the ISA, would be verified. A qualified professional would verify the status of any abandoned wells with the earthwork limits. Verification of all abandoned oil wells within the property boundaries would be recommended as part of property acquisition.

For the approved alignment alternative, a PSI is recommended for every potential source of environmental contamination identified in the ISA along that route. The PSI will include soil at locations determined by the ISA to be most likely impacted by the release of hazardous chemicals. Examples of these locations include areas of hydrocarbon stained soil, fuel storage and dispensing facilities, chemical storage, and equipment maintenance areas. If requested, groundwater monitoring wells may be installed along the alternative routes to determine the extent of groundwater degradation from the release of hazardous waste. The purpose of the PSI is to determine whether a substantial release of contaminants has occurred and, if so, whether a clean-up action is necessary in order for the project to proceed. The PSI would determine the need for and nature of any subsequent investigations and actions.

Should grading be proposed near the Oakdale Landfill, the development of the final grading plans for Alternative 1 would avoid disturbance of landfill materials and landfill cover, and the expressway drainage system would be designed to divert runoff away from the landfill This would avoid the potential for drainage to flow onto landfill and increase potential for erosion and leachate formation. Consideration would be given to the installation of a groundwater monitoring well between the expressway improvement area and the landfill to provide baseline groundwater data and monitor any project-related changes in leachate characteristics.

In addition to the unregulated landfill, Alternative 1 has 18 sites with potential hazardous waste concerns. The potential cost of site-specific investigations and possible remedial option could be substantial for Alternative 1. The removal and remediation of contaminated soils from leaking USTs or ASTs may cost $250,000 or more per site, depending of the type and extent of contamination. In comparison, Alternatives 2A and 2B have five sites with potential hazardous waste concerns. These sites, as identified in the ISA, include agricultural chemicals, fuels, and solvents. Alternatives 2C and 2 D have six sites with potential hazardous waste concerns. The ISA identified the hazardous waste concerns for Alternatives 2C and 2D as fuels, refuse site, solvents, and agricultural chemicals. Five of the potential hazardous waste sites identified for Alternatives 2A, 2B, 2C and 2D, overlap with Alternative 1. Since Alternatives 2A through 2D have fewer sites with the potential for hazardous waste issues, the cost to investigate and remediate these alternatives is estimated at a minimum of $1500 to $250,000.

To prevent the migration of hazardous waste constituents into streams and creeks during earthwork construction along the approved alternative, BMPs associated with the National Pollutant Discharge Elimination System (NPDES) program will be followed. Streams and creeks that could potentially be affected are: Lesnini and Coyote Creeks for Alternative 2A, Rodden, Lesnini and Coyote Creeks for Alternative 2B, the Stanislaus River for Alternative 1, the Stanislaus River and Coyote Creek for Alternative 2C and the east tributary to Rodden Creek for Alternative 2D. The PSI will identify the hazardous waste sources and types of wastes so that a migration prevention plan can be developed.

4.11 Visual Quality

Construction of any of the five build alternatives would result in physical changes and potential impacts to the visual environment. The project would reduce visual quality, but the rating of medium for overall visual quality would remain. The greatest potential visual impacts include the alteration of slopes, the introduction of man-made structures into areas with little or no previous encroachment, and loss of vegetation (Table 4.14). Secondary visual impacts may occur, including land conversion and installation of advertisement signs. Land in the vicinity of interchanges may convert from rural to more intensive land uses and result in a change in the visual character of the landscape.

The visual quality assessment for the project revealed that impacts of Alternatives 2A and 2B would not be substantial. The visual impacts of Alternatives 1, 2C, and 2D, however, would be substantial. In areas such as the Stearns Road Interchange and the Stanislaus River Bridge, the visual impacts of Alternative 1 would be substantial because of the scale of the project in relation to the existing environment or planned development.

Table 4.14 Physical Changes of Build Alternatives

	Alt. 1	Alt. 2	Alt. 2B	Alt. 2C	Alt. 2D
Interchanges	26-Mile Rd. Stearns Rd. Wamble Rd.	26-Mile Road Eastern Interchange	Same as Alternative 2A	26- Mile Rd. Orange Blossom Rd.	Same as Alternative 2C
Bridges	Stanislaus River 39 ft (12 m) high by 800 ft (244 m) long	Stanislaus River 36 ft (11 m) high by 1,000 (305 m) long	Same as Alternative 2A	None	None
Over-Crossings	26-Mile Rd. (realigned) Wamble Rd.	26-Mile Rd. (realigned) Twenty Eight Mile Rd. Orange Blossom Rd. SR 108	Same as Alternative 2A	26-Mile Rd. (realigned) Twenty Eight Mile Rd.	Same as Alternative 2C
Under-Crossings	Rodden Rd. SR 108 (realigned) Atlas Rd. Dillwood Rd.	None	None	Orange Blossom Rd. (Realigned)	Same as Alternative 2C
Frontage Roads	North of expressway 1) 26-Mile Rd. to 90 ft (27 m) west of Stanislaus River South of expressway 1) Rodden Rd. to 100 ft (30 m) west of Stanislaus River 2) 50 ft (15 m) east of Atlas Rd. to eastern terminus.	North of expressway 1) 430 ft (131 m) west of Twenty Eight Mile Rd.	Same as Alternative 2A	North of expressway 1) 430 ft (131 m) west of Twenty Eight Mile Rd. 2) 280 ft (85 m) west of realigned Orange Blossom Rd. South of expressway 1) 360 ft (110 m) west of eastern terminus	Same as Alternative 2C
Surface Street Alterations	26- Mile Road, Valley Home Rd., Gilbert Rd., River Rd., SR 108, Stearns Rd., Atlas Rd., Orange Blossom Rd., Wamble Rd.	26-Mile Rd., Valley Home Rd., Gilbert Rd., River Rd., SR 108	Same as Alternative 2A	26-Mile Rd., Valley Home Rd., Gilbert Rd., River Rd., Orange Blossom Rd., Lancaster Rd.	Same as Alternative 2C
Elevated Portions	Approx. 750 linear ft (229 m) > 10 ft (3 m) Largest fill – 28 ft (9 m)	Approx. 2,360 linear ft (719 m) > 10 ft (3 m) Largest fill – 54 ft (18 m)	Approx. 3,050 linear ft (930 m) > 10 ft (3 m) Largest fill – 88 ft (27 m)	Approx. 1,930 linear ft (588 m) > 10 ft (3 m) Largest fill – 75 ft (23 m)	Approx. 2,630 linear ft (802 m) > 10 ft (3 m) Largest fill – 88 ft (27 m)
Depressed Portions	Approx. 950 linear ft (229 m) > 10 ft (3 m) Largest cut – 35 ft (11 m)	Approx. 1,210 linear ft (369 m) > 10 ft (3 m) Largest cut – 63 ft (19 m)	Approx. 1,030 linear ft (314 m) > 10 ft (3 m) Largest cut – 68 ft (20 m)	Approx. 1,050 linear ft (320 m) > 10 ft (3 m) Largest cut – 38 ft (12 m)	Approx. 1,050 linear ft (320 m) > 10 ft (3 m) Largest cut – 42 ft (13 m)
Major Vegetation Losses	Orchards near Stanislaus River and east of Atlas Rd., riparian vegetation along river; oak trees east of Stearns Rd.	Orchards near western and eastern termini; riparian vegetation along Stanislaus River; oak trees near eastern terminus	Same as Alternative 2A	Orchards near western terminus and west of Orange Blossom Rd.; riparian vegetation along Lesnini Creek and Stanislaus River; oak trees near Orange Blossom Rd.	Same as Alternative 2C
Major Losses of Manmade Structures	Several houses and farm buildings around 26-Mile Rd., Stanislaus River, Stearns Rd., east of Stearns Rd.	Several houses and farm buildings around 26-Mile Rd. and on northern bank of Stanislaus River	Same as Alternative 2A	Several houses and farm buildings around 26-Mile Rd. and Orange Blossom Rd., racetrack near Rodden Rd.	Same as Alternative 2C

Alternatives 2C and 2D would cause substantial impacts to the high quality views north of Rodden Road. These impacts are important because of the high ratings of the views and the number of people affected.

The visual impact of the proposed project was assessed in four steps, by (1) determining the visual quality change; (2) defining viewer exposure and sensitivity; (3) determining viewer response; and (4) evaluating the impact based on the quality change, viewer exposure, and viewer response. The assessment of visual impacts is summarized in Table 4.15. The table considers the four assessment steps listed above, and identifies separate visual impact ratings for each project alternative as seen "from" and "of" each viewpoint.

In Table 4.15, the "Existing Visual Quality" column assigns a quality rating of low, medium or high based on field observations and assessment criteria developed by FHWA. This rating describes the view in its present condition, without the proposed project in place.

The "Proposed Visual Quality" column rates how the same view will likely appear after construction of the proposed project. The same quality rating of low, medium, or high is used for this column.

The "Degree of Visual Quality Change" column describes the relative amount of visible change which will occur when comparing the existing view with the proposed view. In this column, the low, medium and high ratings refer to the extent of physical change visible to the viewer.

Under the "Viewer Sensitivity and Response" heading, four categories of potential viewer-groups are identified as follows:

- Local residents, viewing the visual changes from their residence or place of business.
- Regular travelers, using surface streets or the expressway for local trips or for commuting.
- Intermittent and recreational travelers.
- Recreational users of the Stanislaus River and the private golf course adjacent to Stearns Road.

Viewer sensitivity and response are affected by viewers’ activities and distance from the visual quality change. The various sensitivities of these viewer-groups were considered when determining an overall sensitivity from each viewpoint.

Table 4.15 Potential Visual Impacts of Build Alternatives

Viewpoint #	Viewpoint Description	Existing Visual Quality[a]	Proposed Visual Quality[a]		Degree of Visual Quality Change[b]		Viewer Sensitivity and Response		Visual Impact
	Alternative 1		View *of*	View *from*	View *of*	View *from*	Group	Response	
1.	Western Terminus	M	L	M	H	L	Local Residents	H	M
							Regular Travelers	H	
							Intermittent Travelers	M	
2.	Rodden Road Crossing	M	M	M	M	L	Local Residents	M	M
							Regular Travelers	H	
							Intermittent Travelers	L	
3.	Stanislaus River Bridge	H	M	M	M	M	Local Residents	H	M
							Regular Travelers	H	
							Intermittent Travelers	H	
							Recreational Users	H	
4.	Steams Road Interchange	M	L	M	H	M	Local Residents	H	H
							Regular Travelers	M	
							Intermittent Travelers	H	
							Recreational Users	L	
5.	Wamble Road Interchange	M	M	M	H	M	Local Residents	M	M
							Regular Travelers	L	
							Intermittent Travelers	L	
	Alternative 2a								
	Western Terminus (same as 1)	M	L	M	H	L	Local Residents	H	M
							Regular Travelers	H	
							Intermittent Travelers	M	
6.	Twenty-Eight Mile Road	M	M	M	M	M	Local Residents	M	M
							Regular Travelers	M	
							Intermittent Travelers	H	
7.	Ranchlands	M	L	L	H	H	Local Residents	L	M
							Regular Travelers	M	
							Intermittent Travelers	M	

Table 4.15 (continued)

Viewpoint #	Viewpoint Description	Existing Visual Quality[a]	Proposed Visual Quality[a]		Degree of Visual Quality Change[b]		Viewer Sensitivity and Response		Visual Impact
	Alternative 1		View *of*	View *from*	View *of*	View *from*	Group	Response	
8.	Honolulu Bar	M	M	M	H	H	Local Residents	L	M
							Regular Travelers	M	
							Intermittent Travelers	M	
							Recreational Users	H	
9.	Eastern Interchange	M	M	M	H	H	Local Residents	L	M
							Regular Travelers	L	
							Intermittent Travelers	L	
	Alternative 2b								
	Western Terminus (same as 1)	M	L	M	H	L	Local Residents	H	M
							Regular Travelers	H	
							Intermittent Travelers	M	
	Twenty-Eight Mile Road (same as 6)	M	M	M	M	M	Local Residents	M	M
							Regular Travelers	M	
							Intermittent Travelers	H	
10.	Ranchlands	M	M	M	H	H	Local Residents	M	H
							Regular Travelers	M	
							Intermittent Travelers	M	
	Honolulu Bar (same as 8)	M	M	M	H	H	Local Residents	L	M
							Regular Travelers	M	
							Intermittent Travelers	M	
							Recreational Users	H	

Note: H=High; M=Medium; L=Low.
[a]The visual quality rating for each viewpoint was determined by combining the ratings for vividness, intactness, and unity *of* and *from* the road, using the FHWA process for visual quality assessment (US DOT 1983).
[b]. The degree of visual quality change rating for each viewpoint indicates the relative change between the existing visual quality and the visual quality of the proposed project.

Table 4.15 (continued)

Viewpoint #	Viewpoint Description	Existing Visual Quality[a]	Proposed Visual Quality[a]		Degree of Visual Quality Change[b]		Viewer Sensitivity and Response		Visual Impact
			View *of*	View *from*	View *of*	View *from*	Group	Response	
	Eastern Interchange (same as 9)	M	M	M	H	H	Local Residents	L	M
							Regular Travelers	L	
							Intermittent Travelers	L	
	Alternative 2c								
	Western Terminus (same as 1)	M	L	M	H	L	Local Residents	H	M
							Regular Travelers	H	
							Intermittent Travelers	M	
11.	Lesnini Creek	H	M	M	H	H	Local Residents	H	H
							Regular Travelers	H	
							Intermittent Travelers	H	
12.	Rodden Road Crossing	H	M	M	H	H	Local Residents	H	H
							Regular Travelers	H	
							Intermittent Travelers	M	
13.	Stanislaus River Bridge	H	L	M	H	H	Local Residents	H	H
							Regular Travelers	M	
							Intermittent Travelers	M	
							Recreational Users	H	
14.	Orange Blossom Road Road Interchange	M	M	L	H	H	Local Residents	H	H
							Regular Travelers	M	
							Intermittent Travelers	M	
	Alternative 2d								
	Western Terminus (same as 1)	M	L	M	H	L	Local Residents	H	M
							Regular Travelers	H	
							Intermittent Travelers	M	

Table 4.15 (continued)

Viewpoint #	Viewpoint Description	Existing Visual Quality[a]	Proposed Visual Quality[a]		Degree of Visual Quality Change[b]		Viewer Sensitivity and Response		Visual Impact
			View *of*	View *from*	View *of*	View *from*	Group	Response	
15.	Eaton Lateral	M	M	M	H	L	Local Residents	M	M
							Regular Travelers	L	
							Intermittent Travelers	M	
	Lesnini Creek (same as 11)	H	M	M	H	H	Local Residents	H	H
							Regular Travelers	H	
							Intermittent Travelers	H	
							Recreational Users	H	
	Rodden Road Crossing (same as 12)	H	M	M	H	H	Local Residents	H	H
							Regular Travelers	H	
							Intermittent Travelers	M	
							Recreational Users	H	
	Stanislaus River Bridge (same as 13)	H	L	M	H	H	Local Residents	H	H
							Regular Travelers	M	
							Intermittent Travelers	M	
							Recreational Users	H	

Note: H=High; M=Medium; L=Low.
[a] The visual quality rating for each viewpoint was determined by combining the ratings for vividness, intactness, and unity *of* and *from* the road, using the FHWA process for visual quality assessment (US DOT 1983).
[b] The degree of visual quality change rating for each viewpoint indicates the relative change between the existing visual quality and the visual quality of the proposed project.

The "Visual Impact" column is the result of combining the degree of change in visual quality with the anticipated level of viewer sensitivity. The degree of visual change, factored with the anticipated sensitivity of the viewer, is the basis for determining the level of visual impact.

The combined result of these individual viewpoint ratings, as well as an overall determination of relative visual impacts are discussed below.

Key views are identified in Figure 4-4. Selected views, representative of the four landscape units and five build alternatives, were photographed and then used for computer simulation; these are illustrated in Figures 4-5 through 4-8 (the original photographs were taken in black and white; they have been professionally colorized to make them easier to view).

4.11.1 Alternative 1

Construction of Alternative 1 would primarily result in changes to the *intensive agriculture* and *rural residential* landscape units. Several residences and farm buildings would need to be removed to make way for the proposed alignment, interchanges, and frontage roads. In particular, land would be required at three locations: the Twenty-Six Mile Road Interchange, the Stearns Road Interchange, the frontage road, and the long cut slope between Stearns Road and the eastern terminus. Changes in the *riparian* landscape unit along the Stanislaus River, such as removal of vegetation and construction of bridge supports would also occur.

Alternative 1 has the lowest existing visual quality but the highest number of viewers. The physical changes would be the lowest of all the alternatives because this route would be the shortest and would require the least amount of cut and fill. The visual quality change due to the proposed alternative would be substantially lower than the other alternatives, but the changes would affect more people because the route would travel through more developed areas. The greatest visual impact for this alternative would result from the large-scale Stearns Road Interchange.

4.11.2 Alternative 2A

Alternative 2A travels through relatively rugged terrain, requiring substantial cuts and fills. However, Alternative 2A would traverse less developed land than Alternative 1. Thus, changes to surface streets would be minimal and only one area near the Twenty-Six Mile Road Interchange would require a frontage road. Construction of Alternative 2A

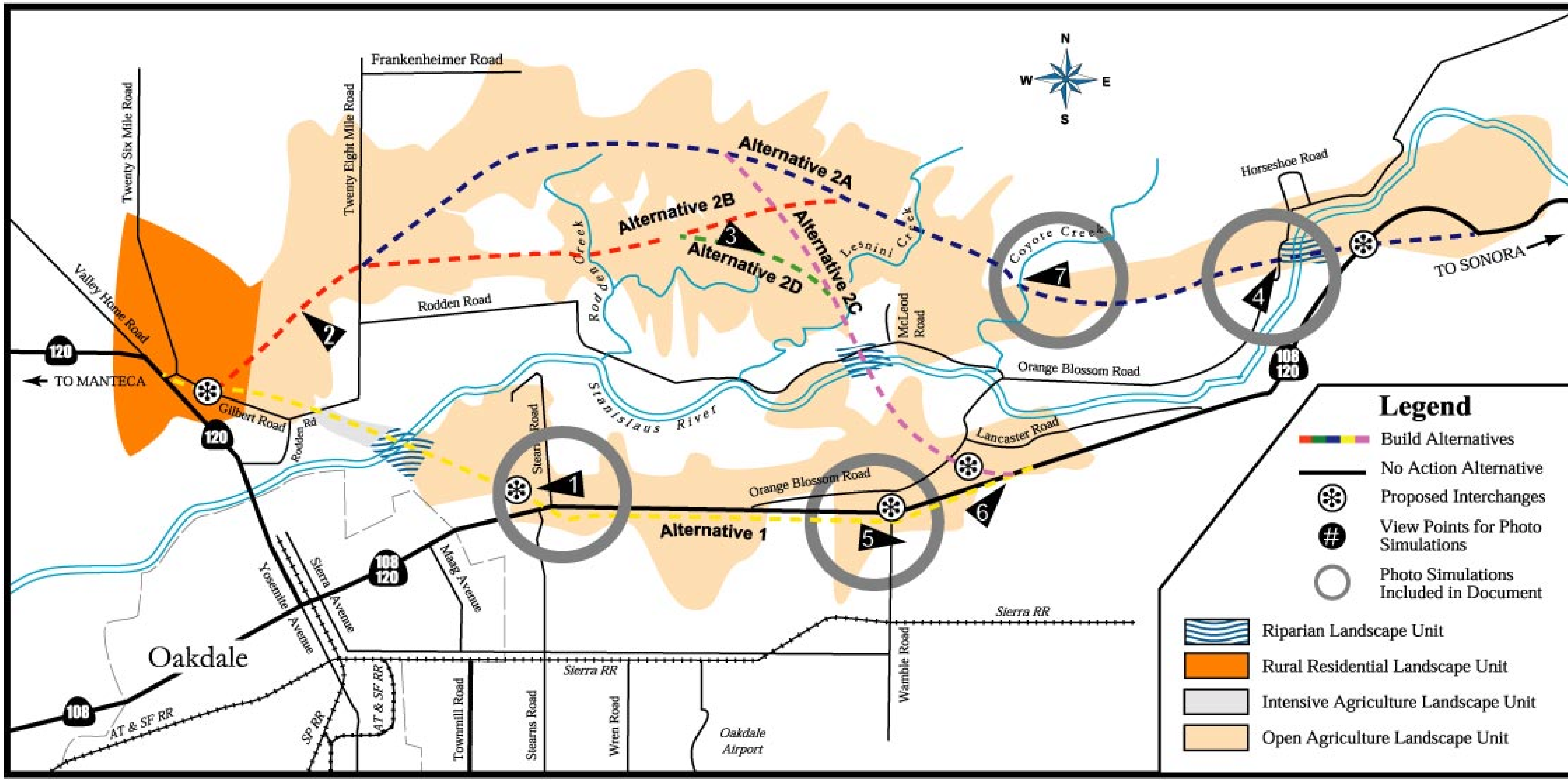


Fig 4-4 Key Views Map of the Oakdale Expressway Project

Existing Condition

Simulated Project View

Figure 4-5 View #1: Stearns Road

Existing Condition

Simulated Project View

Figure 4-6 View # 4: Honolulu Bar Recreation Area

Existing Condition

Simulated Project View

Figure 4-7 View #5: Open Farm/Ranch Land

Existing Condition

Simulated Project View

Figure 4-8 View #7: Open Farm/Ranch Land

would primarily result in changes to the *open agriculture* landscape unit. Localized changes would occur to the *rural residential* and *intensive agriculture* landscape units near the western terminus (removal of houses and farm buildings), and in the *riparian* landscape unit along the Stanislaus River (removal of vegetation and construction of bridge supports).

Alternative 2A has moderate existing visual quality, with the lowest amount of existing encroachment. Visual quality change would be high, mainly because of the introduction of an expressway into an undisturbed area. However, the number of people that would be affected by this alternative would be considerably less than those affected by Alternative 1.

4.11.3 Alternative 2B

The western and eastern ends of Alternative 2B would be identical to Alternative 2A. Between Twenty-Eight Mile Road and Lesnini Creek, however, Alternative 2B would follow a more southerly route. This would result in slightly more cut and fill and slightly more developed properties would be affected by the visual changes.

Alternative 2B, similar to Alternative 2A, has moderate existing visual quality however, Alternative 2B travels through a slightly more developed area in the western half of the project area than Alternative 2A. Thus, a slightly larger number of viewers would be exposed to the high level of physical changes (most grading and largest cuts and fills of any alternative) and the relatively high visual quality change.

4.11.4 Alternative 2C

The western portion of Alternative 2C, before the road turns southeasterly, is identical to Alternative 2A. Alternative 2C would traverse a moderate amount of developed land.

Some alteration of surface streets and new frontage roads would be required, especially near the Orange Blossom Road Interchange. Changes to the *intensive agriculture* landscape unit and to the *riparian* landscape unit along the Stanislaus River, such as the removal of vegetation and the construction of bridge supports, would also occur.

Alternative 2C combines a high existing visual quality with a relatively large viewer group (although smaller than Alternative 1). Alternative 2C would result in the highest visual quality change of all the alternatives, and would affect a relatively large number of people, especially in the vicinity of the Rodden Road crossing.

4.11.5 Alternative 2D

Similar to Alternative 2C, Alternative 2D is characterized by a large viewer group, high visual quality, and the potential for a high level of visual quality change. In the western portion, the more southerly alignment would further increase the number of people affected.

Alternative 2D represents a combination of the western portion of Alternative 2B and the eastern portion of Alternative 2C. Only near Lesnini Creek would Alternative 2D have a unique alignment. Since the more southerly route between Twenty-Eight Mile Road and Lesnini Creek would be used, slightly more cut and fill would be required. Therefore, slightly more developed land would be affected by the visual changes.

4.11.6 No Action Alternative

The No Action Alternative would result in no direct physical changes to the visual environment. However, secondary visual quality changes could eventually occur. These changes (e.g., increased traffic volume, demand for on-street parking, and deterioration of traffic flow in the commercial district) would be related to the continuing and growing congestion of the existing Route 120 and Route 108 highways. Viewer exposure, sensitivity, and response to this potential deterioration can be expected to be high, especially for local residents and regular travelers. The resulting impact may be considered substantial.

4.11.7 Impacts from Facility

Potential visual quality impacts from operation of the proposed project are primarily concerned with views of the surrounding countryside from viewpoints located along the new expressway. These views are generally regarded to be minor, beneficial impacts in that the proposed expressway will offer new vantage points from which to view the countryside. Views from Alternatives 2A, 2B, 2C, and 2D would be of higher quality than those from Alternative 1, primarily due to the nature of the viewsheds in the rural areas.

4.11.8 Mitigation Measures

Construction of any of the five build alternatives would result in impacts to the visual environment. Alternatives 2A/2B would have the lowest potential visual impact, whereas Alternatives 1, 2C and 2D would have greater impacts. Mitigation measures would improve the visual quality change resulting from the project.

General mitigation measures that would be applicable to all alternatives include the following:

- Revegetation, using native plants typically found in the corridor area or similar species, would establish a coherent landscape design.
- A coherent building materials palette would be developed, based on colors, textures and materials used in the corridor area for bridges, overcrossings, retaining walls, drainage facilities, soundwalls, and safety barriers.
- Grading and cut and fill operations would be designed to blend the expressway with the surrounding environment.

4.12 Construction

During the construction of this project, air quality, noise, water quality, community impacts, and hazardous waste impacts would occur. Potential impacts in these areas are temporary in nature. Given the expected magnitude of the impacts and their relatively short duration, any adverse impacts to the physical environment are expected to be minimal. Community impacts are generally expected to be beneficial. Cut and fill volumes are discussed previously in Chapter 4. Due to balancing of cut and fill within the project, obtaining fill from borrow sites is not expected to be an issue for this project, especially with regard to Alternative 2A.

Traffic issues would not be a concern during construction of any of the Alternative 2 alignments because of their remote location. Detours, traffic congestion, and access to schools, businesses, and other community facilities would only be a concern for Alternative 1. These issues would be addressed for Alternative 1, if it is chosen as the preferred alternative.

4.12.1 Noise

Construction noise represents a short-term impact on the noise environment. The duration and level of construction noise is dependent on the phases of construction activity. Typically, ground clearing and excavation generate the highest noise levels. Noise generated by construction equipment, including trucks, graders, bulldozers, concrete mixers, and portable generators can reach levels in the range of 67 to 98 dBA at 49.2 ft (15 m). Construction equipment noise comes under the control of the EPA's Noise Control Program. Presently, air compressors are the only equipment under strict regulation, and no new regulations are currently under consideration.

Haul trucks and equipment carriers accessing the project site can generate disruptive levels of noise if passing through residential areas. Whenever possible, haul trucks and equipment carriers would be routed away from residential areas.

Blasting to remove rock would occur at selected locations along the corridor. The criterion used to define the acceptability of blasting vibration is 2.0 in/s (51 mm/s) peak particle velocity at the nearest structure to the blasting site. The weight of the blast charges would be controlled to limit the blasting vibration where structures are within 500 ft (150 m) of the blast site.

Mitigation measures would be required to mitigate short-term construction noise impacts on existing noise-sensitive land uses. Note that measures to protect existing residential areas would be re-evaluated in greater detail when the preliminary roadway design is complete. Peak noise levels exceeding 75 dBA at the property line of a sensitive receptor can be considered as an adverse noise impact.

4.12.2 Air Quality

During construction, the proposed project would 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 other activities. The impacts from these activities would vary each day as construction progresses and according to the proximity of the receptors to the construction activities.

According to the CARB Air Quality Data Summary, neither the state nor federal PM-10 standards in Stanislaus County were exceeded in 1996 or 1997. Under Section 51.454(g) of the Clean Air Act and its amendments, CO and PM-10 hotspot analyses are not required to consider construction related activities that cause temporary increases in emissions.

Dust would be controlled by standard construction practices such as the spraying down of disturbed areas with water, constraints on work on windy days, and erosion control measures after construction.

Disruption of traffic during construction, temporary reduction of roadway capacity, and increased queue lengths could result in short-term elevated concentrations of CO from motor vehicle exhaust. Because of the nature of the phased construction activity, any potential adverse impacts would be of short duration. This project is also subject to San

Joaquin Valley Unified Air Pollution Control District (Valley Air District) regulations to control dust emissions from human activities. Rule 8020 is the specific rule that applies to the project. Rule provisions require that disturbed areas that are not actively used for seven days be stabilized to limit visible dust emissions; that ground-disturbing activities be undertaken with appropriate dust control measures during disturbance; that visible dust emissions from on-site unpaved roads and off-site unpaved access roads be effectively limited; and that accumulated mud or dirt be removed from public paved roads, including shoulders, adjacent to construction (Valley Air District 1996).

4.12.3 Water Quality

Standard Caltrans construction practices "provide prevention, control and abatement of water pollution to streams, waterways and other bodies of water" (see Standard Special Provisions 7-345). These documents cover erosion and water pollution control, sanitary provisions, and use of pesticides, and are incorporated by reference on all Caltrans construction projects.

In 1972, the CWA was amended to state that the discharge of pollutants to waters of the United States from any point source is unlawful, unless the discharge is in compliance with a NPDES Permit. The 1987 amendments to the CWA added Section 402 (p), which created a framework for regulating municipal and industrial storm water discharges under the NPDES program. On November 16, 1990, the EPA published final regulations establishing the requirements for storm water discharge permits. These regulations require an NPDES permit for discharges of storm water associated with construction activity when soil disturbances are greater than five ac (two ha). Because the project is greater than five ac (two ha), an NPDES permit would be required. A general permit that regulates storm water discharge related to construction activities covers Caltrans construction activities (CAS000002). The general permit requires the development of an NPDES Storm Water Pollution Prevention Plan (SWPPP) using BMPs to control storm water discharges. This SWPPP must be prepared by the discharger and is retained at the construction site. To this end, Caltrans has developed *Storm Water Quality Handbooks* (Caltrans 1997c).

Construction activities within the project area, such as cut slope grading, are not expected to encounter any groundwater. No direct impact to groundwater resources are anticipated as a result of this project.

4.12.4 Community Impacts

The cost per mile for the Route 120 Expressway alternatives is between $10 million and $15 million (in escalated 2003/2004 dollars). Labor accounts for approximately 19.8 percent of typical highway project costs, 46.4 percent of costs are spent on materials and supplies, while the remainder is spent on overhead, equipment, and profit. This would mean that the proposed project would generate approximately $12.8 million in wages and $30 million in material and supply sales (per average escalated 2002/2003 dollar).

Estimated employment for construction of Alternative 1 is 34 person-years, 25 person-years for Alternative 2A, 28 person-years for Alternative 2B and 2C, and 33 person-years for Alternative 2D (Rutschow 1993). A two-and-a-half year construction period is assumed for any of the expressway alternatives. Experiences of Teichert Construction Company in the San Joaquin Valley area in 1993 indicate an annual work year of 1000 to 1300 hours due to low rainfall.

Assuming workers live in the county, their wages are a direct benefit to the local communities. Wages for construction of the project would be approximately equivalent to 2 percent of 1990 wages for the Oakdale Area (Oakdale 1996). The wages earned would be spent on goods and services in the area, and generate additional tax revenues and create non-construction-related jobs. Jobs created would be a short-term benefit, lasting only as long as construction.

4.12.5 Hazardous Waste

Based on the results of the ISA (see Section 4.10), the potential for release of hazardous material from known sources appears to be low during project construction. This potential can be further evaluated by estimating the extent of contaminant release (if any) at potential sources along the preferred alignment alternative in the PSI. Nevertheless, the potential for unexpected release of hazardous material exists during project construction, such as discovery of previously undocumented USTs, buried drums, or other hazardous waste.

Unknown sources of contamination may be encountered during excavation. Alternative 2A has the largest estimated volume of cut earth, at 2.0 million yd^3. Alternative 2B is next, at 1.8 million yd^3, followed by Alternative 1 (0.99 million yd^3), Alternative 2C (951,000 yd^3), and Alternative 2D (590,000 yd^3). All Alternative routes have associated fill areas, although not all of the excavated material may be reused as fill due to the potential presence of hazardous waste or hazardous waste constituents.

The PSI for the preferred Alternative will aid in assessing the volumes of soil that may be affected by releases of hazardous waste. Disposal of contaminated soil can cost as much as $200 per cubic yard. All soil suspected of being contaminated shall be tested for hazardous waste constituents prior to reuse or disposal.

Potential impacts resulting from the release of hazardous material during construction include the following:

- Project delays due to clean-up work, resulting in cost increases and other project schedule conflicts.
- Unexpected health and safety hazards posed to construction workers and nearby residents.
- Environmental risks, including impacts to soil, air, water, and the ecosystem.

Several measures would be used to mitigate potential adverse impacts, including:

- Training all construction workers to respond to hazardous material release, including emergency procedures (e.g., Caltrans Plans and Procedures for Hazardous Wastes and Materials).
- Remediation of hazardous waste sites that are identified and investigated in the Phase II assessment. The potential for hazardous material release is greatly reduced once the known sources of contamination have been eliminated.

If an unknown waste or potential source of waste such as a UST was discovered during construction and the contractor believed that it could involve hazardous material, the contractor would:

- Immediately stop work in the vicinity of the suspect material, and remove workers and the public from the area.
- Notify the resident construction engineer.
- Secure the area as directed by the resident construction engineer.
- Implement Caltrans Plans and Procedures for Hazardous Wastes and Materials, and resume work in the subject area, only if approved by the resident construction engineer.

4.13 Cumulative And Growth-Inducing Impacts

4.13.1 Cumulative Impacts

Cumulative impacts are those that result from the past, present, and reasonably foreseeable future actions, combined with the potential impacts of this project. A cumulative effect assessment looks collectively at the impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time. Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, 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 (e.g., pesticides), 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 traffic patterns, housing availability, and employment.

4.13.1.1 Proposed Development

Table 4.16 summarizes proposed development in the Oakdale vicinity that may contribute to cumulative impacts for the Oakdale Expressway Project. Note that the first three projects listed are large developments that could convert existing habitat to development. However, their distance from the project, and the types of biological impacts expected from the Oakdale Expressway Project after mitigation (see Section 4.7), make the possibility of a cumulatively significant impact very remote.

The fourth item in Table 4.16 is located close enough to the Oakdale Expressway Project to contribute to cumulative impacts from the project, but the small size of these proposed developments and their contiguous development pattern would minimize cumulative adverse impacts when considered in the context of mitigated biological impacts from the Oakdale Expressway Project.

Cumulative impacts could also occur in conjunction with other transportation projects constructed in the Oakdale vicinity. Several transportation projects are planned in the project region. Caltrans, San Joaquin County, and the City of Escalon are proposing to construct the Route 120 Escalon Bypass along an adopted alignment between Sexton and Harold Roads south of Escalon. Construction on a Measure "K" project at the western edge of Escalon, between AT&SF railroad crossing and San Joaquin Street, was initiated in 1998. In 1988, construction of a two-lane bypass around the south of Sonora was completed. The next phase of construction is underway; it is an initial two-lane expressway in a four-lane ROW, travelling east to Standard Road.

Table 4.16 Proposed Development That May Contribute to Cumulative Impacts

Proposed Project	Type of Development	Location	Possible Cumulative Impact
1. Village One Specific Plan	Residential/commercial, about 1200 ac (86 ha)	Between Modesto and Riverbank	Conversion of agricultural land to development; habitat loss
2. Lakeborough Specific Plan	Residential/commercial; about 4400 ac (1781 ha), of which about 1100 ac (445 ha) is open space	Located about 42 km (68 mi) from the Oakdale Expressway Project	Conversion of agricultural land to development; habitat loss
3. Diablo Grande Specific Plan	30,000 ac (12,140 ha) residential/commercial, of which 6000 ac (2428 ha) is open space	Located about 81 mi (50 km) west of the Oakdale Expressway Project	Conversion of agricultural land to development; habitat loss
4. Miscellaneous Oakdale projects (Sunset Oaks)	Residential	North side of 108/120 between Stearns Road and Orange Blossom Road	Conversion of agricultural land to residential development; habitat loss

Note: See Section 3.2 for a discussion of the *Oakdale General Plan* and the *Stanislaus County General Plan.*

The realignment and construction of a four-lane freeway along the proposed route for Route 132 between Interstate 580 and Route 99 would ease congestion and decrease accidents in and near the city of Modesto. The proposed conversion of Route 219 from the existing two-lane conventional highway into a four-lane conventional highway, with a continuous left turn lane from Route 99 in Modesto to Route 108 outside of Riverbank, would ease commercial and local congestion. The conversion of the existing two-lane conventional highway into a four-lane conventional highway, with a continuous left turn lane on Route 108 from Route 219 in Modesto to Route 120 in Oakdale in Stanislaus County, would ease congestion and increase safety.

4.13.1.2 Potential Impacts

Table 4.17 summarizes potential cumulative impacts to biological resources in the Oakdale vicinity from proposed development projects. The residential developments underway in Stanislaus and adjacent counties (described above) will result in the loss and fragmentation of habitat and, as they imply a development trend of urbanization, point toward continuing habitat disturbances. However, the proposed projects with the largest conversion of land are located the greatest distance from the Oakdale Expressway Project. This distance, coupled with the types of biological impacts expected from the

Table 4.17 Proposed Projects that may Contribute to Cumulative Biological Impacts

Project	Affected Habitat Types	Affected Special Status Species	Wetlands Removed
Oakdale General Plan	Riparian woodland, oak woodland, heritage trees	VELB, salmon spawning areas, Swainson's hawk, northern harrier, big-eared and pallid bats, burrowing owls	No acreage calculated; general sites identified
Stanislaus County General Plan[a]	Potential to alter the following acreage by planned industrial parks: Salida—282 ac (114 ha) (primarily intensive agriculture); North Modesto—175 ac (71 ha) (100 ac [40 ha] agricultural and 75 ac [30 ha] already developed); Fink Rd—4000 ac (1619 ha) (primarily agricultural); and Westly Triangle—145 ac (59 ha) (agricultural with some existing development)	Not available	Not available
Village One Specific Plan	None calculated	Identified for further study: Swainson's hawk and other raptors	Potential in industrial park areas only, further study to be conducted
Lakeborough Specific Plan	None calculated	San Joaquin kit fox habitat	6 ac (2.4 ha) seasonal wetland; 0.4 ac (0.2 ha) riparian habitat, 6.1 ac (2.5 ha) of riparian/ fresh-water marsh
Diablo Grande Specific Plan	Not available	San Joaquin kit fox, red-legged frog, tiger salamander, and southwestern pond turtle	None identified
East Sonora Bypass	117.2 ac (48.5 ha) of blue and valley oak woodland	No impacts identified	No impacts identified

[a]Information regarding specific areas of habitat impacts in the *Stanislaus County General Plan* area (with the exception of the four proposed industrial parks cited in the column) was not available.

Oakdale Expressway Project after mitigation (see Section 4.7), make the possibility of a cumulative significant biological impact very remote.

The Oakdale area (like much of California) has experienced significant alteration of the natural landscape. Continued alteration results from activities associated with residential and commercial development, highway development, and conversion of pastures to intensive agriculture. Thus, highway construction is not the only source of potential impact to native plant and animal species.

Cumulative community impacts for the Oakdale Expressway Project and proposed development are not expected to be significant. In association with existing and planned housing developments, approximately 16,300 housing units would be constructed and 2964 ac (1200 ha) of agricultural land would be converted to urban uses by 2015 (Stanislaus 1998). Development of the Oakdale Expressway would result in a maximum of approximately 363 ac (147 ha) of farmland, which represents 1.6 percent of the agricultural land converted in the project area. The total economic impact of this loss of farmland would be approximately $2.4 million (Caltrans 1998i).

The proposed development projects, described earlier in this chapter, imply a loss of land that has not been intensely developed. Even though open space is a component of two of these projects, open space that is adjacent to, or surrounded by, residential and commercial development will no longer provide the same habitat values as it did prior to development. Likewise, open space that includes a golf course and ornamental ponds provides few of its former habitat values.

Agricultural uses are expected to continue in the area outside of the Oakdale city limits because much of this land is under Williamson Act contracts between landowners and Stanislaus County that are designed to continue viable agricultural operations. Thus, unless contracts are canceled and the property is subsequently rezoned to nonagricultural uses, intensive commercial or residential development is unlikely.

Construction of these projects would result in community and biological impacts in their respective counties. Relocations would occur in the respective counties, and would not impact housing in the Oakdale area. Furthermore, income resulting from construction would also go to the respective communities, not Oakdale. The transportation projects, including the newest ROW, are located the greatest distance from the Oakdale Expressway Project, and thus would contribute little, if any, to cumulative biological impacts from the project. The transportation projects located closest to the Oakdale Expressway Project are in general widening projects which require expansion of existing ROW with resultant minimal biological impacts. For these reasons, the cumulative impacts from designated future transportation projects are expected to be minimal.

4.13.2 Growth-Inducing Impacts

A highway project can induce growth by removing existing constraints to growth (e.g., eliminating congestion) or by directly promoting growth (e.g., providing access to previously inaccessible commercial or residential development sites). In assessing the potential growth inducement of a proposed project, it is important to clearly identify growth induced by the project beyond that already anticipated and planned for by local community planners.

The following checklist was used to evaluate potential growth inducement for the proposed Oakdale Expressway Project. The checklist is described in the Caltrans (1997) Community Impact Assessment manual.

1. *Will the project attract more residential development or new population into the community or planning area?* No. Between 1990 and 2000, the population of Stanislaus County grew from 370,522 to an estimated 441,364. Oakdale has experienced an 18 percent increase in population since 1994. The growth in Oakdale prompted the city to evaluate housing needs and the job market.

   The current general plan identifies the goal of Oakdale to be a self-supporting community, where the labor force both works and lives within the community. The general plan also anticipates development outside the present city limits, particularly in the area surrounding the Twenty-Six Mile Road Interchange (all expressway alternatives) and the Stearns Road Interchange (Alternative 1) to support the job market and the housing needs.

   The population of both the county and Oakdale are expected to continue growing. Growth forecasts developed by StanCOG (the designated RTPA for Stanislaus County) indicate that population growth will occur. Projections indicate that the county population should grow to 585,519 by 2010, and to 708,950 by 2020 (CDOF 1998); the Oakdale population should grow to 20,897 by 2010 and to 26,466 by 2020 (Sellers 1998).

   There is the potential for growth and development beyond the current city limits. Growth within the city limits would be minimal since land is being built out with rural development. Oakdale is planning for future growth in its general plan (Oakdale 1994). Predicted future growth in Oakdale would be managed growth based on land use policies and approved housing developments identified in the general plan.

   Abundance of land and predicted population growth suggest a high demand for new housing and jobs. However, Oakdale's limited water resources, agricultural lands protected under the Williamson Act, and congestion on existing roadways could constrain growth. Other constraints to growth include the Stanislaus River management area and concerns over air and water quality. Oakdale plans to expand its infrastructure and public services, thereby decreasing congestion and improving community safety. Affordability of housing would be affected by land constraints.

The *Oakdale General Plan* recognizes all the proposed alternatives for the Oakdale Expressway Project and provides contingency planning if the expressway is not built. Dual land use designations were applied in the vicinity of the Stearns Road Interchange by the general plan. The *North Oakdale Specific Plan* also includes the project; it is planning commercial and residential development around the Twenty-Six Mile Road Interchange.

2. *Will the project encourage the development of more acreage of employment generating land uses in the area (such as commercial, industrial or office)?* No. See the response to Question No. 1, above.

3a. *Will the project lead to an increase of roadway, intersection, sewer, water supply, or drainage capacity?* Yes, for roadway and intersection capacity.

3b. *If yes, would it be beyond that projected or planned for in the local general plan?* No. See the response to Question No. 1, above.

4. *Will the project encourage the rezoning or reclassification of lands in the community general plans from agriculture, open space, or low density residential to a more intensive use?* No. The project is proposing an expressway several miles in length with no intermediate interchanges in the agricultural lands north and south of Oakdale. Therefore access would be restricted, eliminating access for urban development of the surrounding lands.

5a. *Is the project not in conformance with the growth-related policies, goals or objectives of the local general plan or the area growth management plan?* No.

5b. *Or, is it in conflict with implementation measures contained in the area's growth management plan?* No.

6. *Will the project lead to the intensification of development densities or accelerate the schedule for development or will it facilitate actions by private interests to redevelop properties within two miles of an existing or future major arterial roadway or within four miles of a limited access highway interchange?* Yes, it could facilitate redevelopment of nearby properties at the proposed interchanges; however, the Oakdale General Plan has taken that into account. Any redevelopment would be in accordance with local planning.

7. *Will the project measurable and significantly decrease home to work travel times to and from or within the project area (more than 10 percent overall reduction or five minutes or more in commute time savings)?* No. The primary purpose of the project is to remove interregional Route 120 traffic (mostly weekend travelers to and from Yosemite National Park) from Oakdale. As Oakdale continues to grow, the LOS on both the present highway (passing through the community) and the expressway are projected to worsen. The LOS on existing Route 120/108 is

projected to be F in 2020, and E on the new expressway in the same year. While there might be a short-term improvement in commute travel times, there would not be a significant change for the long-term.

8. *Is the project directly related to the generation of cumulative effects as defined by California Environmental Quality Act (CEQA) guidelines?* The effects of the cumulative development in the planning will not exceed the planned limits for growth in the local community plans.

In summary, Alternatives 2A through 2D would not attract new development because of infrastructure limitations in the mostly rural areas affected by these alternatives (e.g., sewage disposal, water, etc.), and because the expressway would have limited access with interchanges on the western and eastern termini. Alternative 1 could attract new development in the areas of proposed interchanges, but growth in those areas is included in the Oakdale and Stanislaus County planning documents.

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

The Oakdale Expressway project is intended to meet long-term planning goals and objectives of the *1994 Oakdale General Plan* and StanCOG's RTIP and Congestion Management Plan. Construction and operation of any one of the build alternatives would result in a number of various potential environmental impacts.

Construction of any one of the build alternatives would involve short-term uses of the surrounding environment. Impacts would include noise from heavy machinery, dust from earth movement, changes to the visual environment, potential increased downstream sedimentation, removal of riparian/wetland habitats (mitigated through creation of replacement habitat), and additional traffic congestion due to traffic detours during construction.

Primary short-term impacts would include the relocation of residential units, agricultural operations, and businesses. Long-term impacts would include major terrain alteration; changes to visual resources by mixing of transportation facilities with residential and open space land uses; increased noise levels; the incremental removal of wildlife habitat, wetlands, and plant communities; air pollutant emissions from motor vehicles; and loss of agricultural land.

The long-term productivity of the area affected by the above impacts primarily deals with habitat, farmland, and land use. Habitat productivity is concerned with support of various plant and animal species; in addition, wetlands perform the functions and values (e.g., flood control, water quality improvement, etc.) described in Section 3 and in Appendix B. Farmland productivity is concerned with grazing, dairy operations, and crop production. Current land use and interrelated commercial and residential development are concerned with socioeconomic productivity.

The long-term benefits associated with implementation of the project are the reduction of peak hour and peak weekend congestion through Oakdale, improved travel time, reduction of through traffic use of arterial highways, and improved roadway safety. Furthermore, in the short term, the project has the potential to improve air quality and reduce energy consumption through reduction of vehicle idling at stoplights in downtown Oakdale. Current operations are at an LOS of F on certain holiday weekends and weekday peak hour periods (refer back to Figure 2-3). Estimates of future operational conditions (year 2010) without the expressway indicate significant increases in ADT and peak hour volumes, and increased travel time in excess of 60 minutes through Oakdale. The Oakdale Expressway Project would reduce travel time through Oakdale to 15 minutes during summer Sunday afternoons. The project would also result in the clean up of any hazardous waste found in the construction limits, thereby eliminating potential future adverse impacts to soil and groundwater.

Although the project alternatives would create various adverse environmental effects as identified in the previous chapters, implementation of the proposed project is warranted at this time due to the immediate need for the facility to accommodate existing traffic volumes, improve LOS, improve roadway safety, and accommodate the foreseeable increases in interregional and commuter traffic. The transportation improvements represented by this project are based on state, regional, and local comprehensive planning which considers the need for present and future traffic requirements within the context of present and future land use development. The local short-term impacts and use of resources by the proposed action are consistent with the maintenance and enhancement of long-term productivity for the state, region, and local area.

4.15 Irreversible and Irretrievable Commitment of Resources

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 facility is considered an irreversible commitment during the time period that the land is used for a highway facility. However, if a greater need arises for use of the land or if the highway facility is no longer needed, the land can be converted to another use. At present, there is no reason to believe such a conversion will ever be necessary or desirable.

Considerable amounts of fossil fuels, labor, and highway construction materials such as cement, aggregate, and bituminous material are expended. Additionally, large amounts of labor and natural resources are 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 will not have an adverse effect upon continued availability of these resources. Any construction will also require a substantial one-time expenditure of both state and federal funds, which are not retrievable.

The commitment of these resources is based on the concept that residents in the immediate area, state, and region will benefit from the improved quality of the transportation system. These benefits will consist of improved accessibility and safety, savings in time, and greater availability of quality services, which are anticipated to outweigh the commitment of these resources.

4.16 Unavoidable Adverse Impacts

4.16.1 Topography

Alternative 2A would generate only minimal topographic impacts, as measured by the volume of imported fill as a fraction of the total cut and fill. The other four build alternatives would all change topography or require large amounts of imported material, thereby resulting in substantial topographic impacts (the volume of imported fill would be 10 percent or greater than the combined cut and fill volumes). The application of mitigation measures would minimize the appearance of the topographic changes; however, it would not completely eliminate all impacts. Therefore, even with mitigation, Alternatives 1, 2B, 2C, and 2D would result in an unavoidable and adverse topographic impact.

4.16.2 Farmland

The loss of any farmland designated as prime is an unavoidable adverse project impact, and all of the alternatives, except for the No Action Alternative, would generate such impacts. In addition, Alternative 1 would also generate a "Farmland Conversion Impact

Rating." None of the alternatives generate impacts considered to be inconsistent with City or County agricultural policies.

4.16.3 Biological Resources

Substantial biological impacts would result from all of the build alternatives. The proposed mitigation measures would lessen these impacts; however, unavoidable and adverse impacts would remain.

4.16.4 Housing and Business Relocation

Construction of any one of the five build alternatives would result in housing and business displacements. However, because mitigation measures are proposed, project impacts related to housing and business relocations are considered to be below a substantial level.

Permanent disruption to the neighborhoods in the vicinity of the Twenty-Six Mile Road Interchange (common to all build alternatives) is considered an unavoidable adverse project impact.

4.16.5 Visual Quality

Following implementation of mitigation measures, substantial impacts would be reduced but not eliminated. The preferred build alternative would result in unavoidable visual impacts at certain locations along each build alternative.

4.16.6 Noise

Due to a number of contributing factors including structural limitation, adverse visual impact, inadequate attenuation, and unreasonable cost, it is not possible to reduce the noise impacts at all the potentially affected sensitive receptors in the project corridor. Noise levels at residences that are isolated, elevated above the corridor, or directly adjacent to the Stanislaus River cannot be mitigated. It is difficult to mitigate noise impacts to isolated residences because the cost for a noise barrier for one or two homes is excessively high. Noise barriers are not proposed for substantially elevated residences because they would provide little or no noise attenuation. Noise barriers are not proposed on bridge overcrossings for structural and adverse visual impact reasons.

Noise mitigation for one location was found to be reasonable and feasible for each alternative (at the west end of the project near the confluence of all five build alternatives). Nine additional potential soundwalls were evaluated and were not found to be feasible and reasonable.

CHAPTER 5 List Of Preparers

This Draft Environmental Impact Report/Environmental Impact Statement (DEIR/DEIS) was prepared by the Central Region of the California Department of Transportation. Caltrans staff prepared this document by updating and revising technical reports issued in 1994 for this project, and then by using the updated reports to prepare the respective chapters of the DEIR/DEIS. The following Caltrans staff prepared this DEIR/DEIS:

Chad J. Anderson, B.A., Functional Biology, California State University Fresno; 1 year experience in environmental impact assessment. Contribution: Hazardous waste.

David Armes, B.S. Biology, California State University, Fresno; 2 years experience in environmental impact assessment. Contribution: Wetlands, wildlife, and threatened and endangered species.

Lisa B. Cathcart-Randall, B.S., Anthropology, University of California at Davis; 3 years experience in environmental impact assessment. Contribution: Community impacts.

Donald B. Hunsaker, Jr., Doctor of Environmental Science and Engineering, University of California—Los Angeles; M.S., Chemistry, Wayne University; B.S., Chemistry, University of Wisconsin—Whitewater; 22 years experience in environmental impact assessment. Contribution: Coordinator for EIR/EIS preparation.

Agnes R. Jenkins, B.S., Civil Engineering, California State University at Fresno; 5 years experience in environmental impact assessment. Contribution: Air quality, noise.

Barbara L. Lauger, M.A., Geography, California State University, Fresno; B.S., Education, DePaul University, Chicago; 5 years of environmental planning experience. Contribution: Visual impact assessment.

Mandy Marine, B.A., Anthropology, California State University, Fresno; 4 years of environmental impact assessment experience. Contributions: Cultural resources.

Regena M. Orr, B.S., Natural Resources Management, California Polytechnic State University, San Luis Obispo; 1 year experience in environmental impact assessment. Contribution: Water quality, floodplain.

Lindy Patterson, B.A. English, California State University, Fresno; 4 years research writing experience. Contribution: Research writer.

E. Cliff Raley, M.S., Geology, B.S., Geology, California State University, Fresno; 16 years experience in environmental impact assessment. Contribution: Noise, water quality, geology.

Susan M. Schilder-Thomas, B.A., Geography, California State University, Fresno; 2 years experience in environmental impact assessment. Contribution: Coordinator for EIR/EIS preparation.

Teresa E. Sue, B.A., Environmental Sciences, California State University, Fresno. 5 years experience in environmental impact assessment. Contribution: Wetlands, wildlife, and threatened and endangered species.

Jennifer H. Verrone, B.A. in Political Studies, B.A. in Organizational Sciences, Pitzer College; 10 years experience in environmental planning and land use. Contribution: Supervisor for EIR/EIS preparation.

Dan Waterhouse, B.S., Business Administration with additional course work in City and Regional Planning, California State University, Fresno; 12 years experience in environmental impact assessment. Contribution: Section 4(f).

URS Greiner Woodward Clyde, under contract to Caltrans, reviewed and updated previous work on biological resources during 1998. This work is summarized in a new Natural Environment Study and Biological Assessment (NES/BA) prepared by Caltrans staff that was used as the basis for describing existing biological resources and potential biological impacts in this DEIR/DEIS. The following URS Greiner Woodward Clyde staff contributed to this study:

Steve Leach, M.A., Plant Ecology, a B.S., Physical Geography, University of California at Davis; 7 years experience in preparing biological resource technical reports for Caltrans and other lead agencies. Contribution: Revised and updated the NES/BA.

Laura Cholodenko, B.A., Environmental Studies, University of California at Santa Cruz; 3 years experience as a wildlife biologist. Contribution: Revised and updated the NES/BA.

Under the leadership of Gregg Erickson, District 10 Biologist for Caltrans, a Blue Ribbon Panel of Caltrans biologists from Headquarters, Northern Region and Central Region was convened to review the biology work for this project. Their review comments are reflected in the revised NES for this project.

URS Greiner Woodward Clyde, under contract to Caltrans, also reviewed and updated previous work on the location hydraulic and floodplain studies. In particular, they updated prior studies by using floodplain models required by Federal regulatory agencies to evaluate potential impacts of the project on floodplains. They also reviewed and helped update the Water Quality Report. The principal URS Greiner Woodward Clyde staff who conducted this work is:

Maximo Ramos, M.S., Coastal and Oceanographic Engineering, University of Florida; B.S., Civil Engineering, Ohio State University; 6 years experience in hydraulic engineering and hydrology. Contribution: Revised and updated the Location Hydraulic and Floodplain Study.

The traffic studies done for this project and issued in 1993 were reviewed and found to be still valid. Traffic data used in this DEIR/DEIS came from these reports. These studies were prepared by Dowling Associates, Inc.; key personnel are listed below:

Rick Dowling, Principal, B.S.C.E. Civil Engineering, M.S. Transportation Planning, Phd. Transportation Engineering, 25 years experience.

Alice Chen, Traffic Engineer, B.A. Urban Studies and Civil Engineering, M.S. Transportation Engineering, 9 years experience.

The Historic Property Survey Report (HPSR) issued in 1994 for this project was reviewed and found to be still valid. The State Historic Preservation Office has concurred on the findings of this report (Appendix A). Information on historic and archeological resources, and potential impacts, used in this DEIR/DEIS came from this report, which was prepared by Parsons Brinckerhoff Quade and Douglas, Inc., Orange, California.

CHAPTER 6 Distribution List

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Appendix A

Coordination and Consultation

A.1 Overview

Early and continuing coordination with the general public and appropriate public agencies is encouraged in the environmental review process in order to determine the scope of the environmental document, the level of analysis, and related environmental requirements. Agency consultation and public participation for the project have been accomplished through a variety of formal and informal methods, including: Project Development Team (PDT) meetings; Citizens' Advisory Committee (CAC) meetings; interviews and briefings with community leaders, agencies and elected officials; interagency coordination meetings; a media relations program; public information repositories; newsletters open houses; and a public hearing to be conducted after circulation of this document.

A.2 Consultation And Coordination With Public Agencies

The project is subject to both the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The Federal Highway Administration (FHWA) and California Department of Transportation (Caltrans) are serving as joint lead agencies to prepare a combined Environmental Impact Report/Environmental Impact Statement (EIR/EIS) to meet both NEPA and CEQA requirements. Funding is being provided by the State of California as part of the Inter-Regional Road Systems Program. The expressway project is the number one programmed project for the Stanislaus County Council of Governments StanCOG.

The first part of the environmental study process was initiated in 1989. As part of NEPA requirements, a Notice of Intent (NOI) was published in the Federal Register on July 29, 1993 to announce the intent to prepare an EIS for the project and provide a description of the alternatives being considered. As part of the CEQA requirements, a Notice of Preparation (NOP) was mailed on June 23, 1993 to responsible agencies, trustee agencies, and other federal, state and local agencies having jurisdiction over, or information and expertise relevant to, the content of the environmental studies. Both are available at the back of this appendix. A scoping meeting had previously been held in July 1989. Agencies submitted comments on the scope of the environmental document and provided information pertaining to the agencies' statutory responsibilities.

Opportunities for agency involvement continued throughout the preparation of the Draft EIR/Draft EIS (DEIR/DEIS). Public agencies responded through a variety of methods, including written responses to the NOP and NOI letters, ongoing individual contacts, and participation on the PDT. The issues raised by the agencies included: potential impacts to wetlands and other biologically sensitive habitat; loss of prime and/or unique farmland;

potential growth-inducing effects; ability to provide emergency response services to the build alternatives from local police and fire stations; and cultural resources. Copies of the agency letters received by Caltrans in response to the NOI and NOP are located at the end of this appendix.

A.2.1 Agencies Contacted

The following federal, state, regional and local agencies were consulted throughout the process for preparing this document:

Federal Agencies: Bureau of Reclamation; Federal Emergency Management Agency (FEMA); FHWA; Federal Transit Administration (FTA); National Marine Fisheries Service; U.S. Army Corps of Engineers (COE); U.S. Department of Energy; U.S. Department of Health and Human Services; U.S. Department of Housing and Urban Development; EPA; U.S. Forest Service; U.S. Geological Survey; Fish and Wildlife Service (USFWS); U.S. Department of Agriculture Natural Resources Conservation Service (formerly Soil Conservation Service); Yosemite National Park.

State Agencies: California Department of Fish and Game(CDFG); California Department of Food and Agriculture; California Department of Parks and Recreation; California Highway Patrol; California Office of Planning and Research (State Clearinghouse); California Transportation Commission; State Air Resources Board; Office of Historic Preservation (OHP); Native American Heritage Commission.

Regional Agencies: Regional Water Quality Control Board (Central Valley Region); StanCOG; Stanislaus County (Planning and Public Works Departments); Stanislaus County Parks Department; Stanislaus County Air Pollution Control District; Stanislaus County Agricultural Commission; San Joaquin County (Planning and Public Works Departments); San Joaquin County Council of Governments; San Joaquin Valley Unified Air Pollution Control District; Tuolumne County (Planning and Transportation Departments).

Local Agencies And Groups: The public works, transportation, community development and administration departments of the following cities have been notified of the status of the project: City of Oakdale; City of Escalon; City of Manteca; City of Modesto; City of Riverbank; City of Sonora; City of Stockton; City of Turlock; Oakdale Chamber of Commerce; Oakdale Fire Department; Oakdale Rural Fire Department. Special interest groups, including Native American tribes, community leaders and elected officials were also consulted during this process.

A.2.2 NEPA/404 Coordination Meetings

Because the project involves both an EIS and an individual permit under Section 404 of the Clean Water Act (CWA), the Oakdale Expressway Project is subject to the terms and conditions of the Memorandum of Understanding (MOU) established among the FHWA, the FTA, the transportation departments of California, Arizona and Nevada, USFWS, the National Marine Fisheries Service, COE, and the EPA. The scope of the MOU is limited to issues pertaining to waters of the United States and associated sensitive species. In order to initiate preparation of a DEIS, lead agencies in party states must obtain concurrence from federal signatories of this MOU on the purpose and need and on the alternatives to be considered. In 1994–1995, the federal agencies involved in the MOU concurred on the purpose and need and the alternatives described above for the Oakdale Expressway project.

Pursuant to the MOU, several meetings were held with the above-named agencies over the past five years to further discuss the potential biological, wetlands, and water quality effects associated with the Build Alternatives for the proposed expressway. The intent of these meetings was to implement early coordination with federal and resource agencies in preparation for their review of the DEIR/DEIS. These meetings were supplemented with several field visits in which representatives from these agencies visited the Oakdale vicinity to investigate biological resources that could be impacted. The following paragraphs describe the meetings.

On July 12, 1994 Caltrans met with USFWS to work out mitigation measures for the Sacramento splittail that might be impacted due to the project. On July 20, 1994, Caltrans met with USFWS to discuss the Oakdale project and potential impacts to endangered species. On November 4, 1994, USFWS concurred with proposed mitigation. In 1995, an early version of the National Environment Study and Biological Assessment (NES/BA) was sent by Caltrans to USFWS for review. In November of 1995, Dennis Woolington of USFWS conducted a field visit of the Oakdale Expressway Project with Caltrans Staff.

On April 10, 1996, Caltrans met with the COE (Duane Johnson, Chris Rudner, and Peggy Brooks) to discuss mitigation of potential riparian impacts from the Oakdale Expressway Project. On April 18, 1996, Caltrans (Bob Epperson and Pat McAchren) met with USFWS (Dennis Waddington) in Los Banos to discuss Aleutian Canada goose, elderberry bush and vernal pool mitigation for the Oakdale Expressway Project. General mitigation concepts were discussed as NEPA/404 Pre-application Meeting on July 11, 1996 with the EPA, USFWS, COE, FHWA, CDFG, and StanCOG. Ms. Deborah Lynn Mead, of the USFWS, performed a field review of wetland resources on September 11, 1996 to evaluate the analysis of resource quality for wetlands potentially removed by the proposed build alternatives. A follow-up meeting was held with Mr. Don Hovik, of the USFWS on September 19, 1996. Mr. Don Hovik is the overall coordinator for the Oakdale Expressway Project, and will be the writer of the biological opinion for the project. After reviewing information on potential impacts and mitigation, Mr. Don Hovik concluded Caltrans plans appeared adequate, and concurred with the methodology for estimating the project's impacts. Also, a meeting was held at Knights Ferry on February 21, 1997, to discuss ways of implementing the proposed 404 mitigation with representatives of the COE's Stanislaus River Parks. A general consensus of support for the proposals was reached.

On April 24, 1998, Caltrans (Rudy Chavez, Bob Epperson, Melinda Molnar, Christina Hibbard, Don Hunsaker) met with the FHWA (Dan Harris, Merrill Deskins, and Khoi Khau) and the EPA (Mark Bartholomew) to discuss the purpose and need, the history of alternatives, costs, environmental impacts, proposed mitigation, and proposed reduction in the number of build alternatives to analyze in the EIS for the Oakdale Expressway Project. On May 12, 1998, Caltrans (Rudy Chavez, Melinda Molnar, Christina Hibbard, Don Hunsaker) met with the COE (Kathy Norton) to discuss the proposed reduction to the number of build alternatives and to also discuss the 404 permit options for the Oakdale Expressway Project. On May 26, 1998 Mr. Mark Bartholomew of the EPA visited the project vicinity to assess wetlands and water resources potentially affected by the build alternatives.

On June 4, 1998 Caltrans (Bob Epperson, Rudy Chavez) met with the COE (Kathy Norton), the EPA (Mark Bartholomew and Elizabeth White), Woodward Clyde (Steve Kellogg and Steve Leach), the USFWS (Jerry Bielfeldt) and the CDFG (Dave Zezulak) at a regularly scheduled Pre-application Meeting to discuss the project background, the wetland impacts, 404 permits, and proposed reduction in number of build alternatives to be analyzed in the draft EIR/EIS.

A.2.3 Permits and Consultation

Public agencies require coordination for projects involved in the environmental process as noted above. The degree of participation of these agencies depends on project-specific issues or impacts and their legal authority, and responsibilities to review projects. Based on the potential impacts of the Oakdale Expressway Project, a permit issued under Section 404 of the CWA will be required from the COE and a Section 1601 agreement from the CDFG.

Any discharge of dredged or filled materials into waters of the U.S., including wetlands, requires prior authorization from the COE pursuant to Section 404 of the CWA. The COE issues two types of permits: general permits and individual permits. The Nationwide Permit, a type of general permit, is required for projects with minimal impacts (0.5 ac or less) to wetlands and waters of the U.S. (COE 2000). The Individual Permit is required for projects with greater impacts (more than 0.5 ac) (Section 404 of the CWA, 33 USC 1251-1387). Based on wetland impacts described in this document, it appears that the Oakdale Expressway Project would require an Individual Permit from COE. Also to be included are the Water Quality Certification required by Section 401 of the Clean Water Act, and the National Pollutant Discharge Elimination System (NPDES) General Construction Activity Permit required for all projects which disturb more than five ac (2 ha) of original ground.

CDFG will review the project through the COE 404 permit processes and may be involved in determining mitigation measures. Also, since the project will impact streams with beds or banks, a Streambed Alteration Agreement will be required. As described in Section 1601 of the Fish and Game Code, CDFG permitting jurisdiction is limited to projects that "substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake designated by the department, or use any material from the streambed." Notification to CDFG following project approval is required under the Fish and Game Code.

Other required consultation includes the following:

Agency	Jurisdiction	Requirement
Office of Historic Preservation	Cultural and historic resources	Concurrence on potential effects on cultural and historic resources
U.S. Department of Agriculture, Natural Resources Conservation Service	Prime/unique farmland	Farmland evaluation
U.S. Environmental Protection Agency, Region 9	Air quality	Conformance with regional plans for attaining ambient air quality standards
U.S. Fish and Wildlife Service	Threatened and endangered species	Section 7, Endangered Species Act

A.3 Public Participation Program

A.3.1 Program Objectives

Public participation is an important component of this project, given the variety of public and private groups interested in the outcome of the project. A Community Relations

Program was developed with the following primary objectives: to support the NEPA and CEQA mandated public participation requirements; to communicate the project purpose and need clearly and effectively; to provide information to interested groups and individuals in the project area; and to obtain broad community input and ideas from interested parties and provide forums for affected parties to express their comments. The major components of the public participation program are described below.

A.3.1.1 Project Development Team (PDT)

Caltrans assembled a PDT to serve as the technical advisory committee and decision making body for the project. The PDT consisted of staff representatives from Caltrans technical divisions (such as Environmental Analysis, Traffic and Right of Way), members of the consultant team (in the 1992-1994 time frame), two representatives from the CAC and representatives from the following agencies: FHWA, StanCOG, USFWS, CDFG, COE, Stanislaus County Public Works, and the City of Oakdale Planning and Public Works Departments. The PDT meetings were held approximately every other month, or as needed throughout the study, to discuss and address issues requiring technical direction or resolution.

A.3.1.2 Citizens' Advisory Committee

To facilitate regular and open communication with the public and to provide a forum to address diverse community views, in July 1992 Caltrans asked the Oakdale City Council and Stanislaus County Board of Supervisors to establish a CAC. The 20-member CAC, appointed by the Board of Supervisors and the Oakdale City Council, has functioned as an advisory group to the project team, communicating issues of importance to the committee, providing input to the study, and serving as an ongoing source of information to the community-at-large. The CAC membership reflected the diverse residential and business interests within the community and included residents from the city proper, as well as the unincorporated areas of Oakdale that fell under County jurisdiction that are crossed by the alternatives.

The CAC had a chairperson, a vice-chair and two CAC representatives who attended the PDT meetings. The CAC meetings were held approximately every other month and were focused first on establishing procedures for the committee, then reviewing and commenting on the project goals, discussing results of the environmental and engineering studies as they were completed, and addressing specific issues as they arose. Caltrans and consultant representatives staffed the meetings (until the contract expired in January, 1995). For three meetings over August and September 1995, the CAC met to discuss the findings of the technical reports and the (unofficial) summary of the DEIR/DEIS. The

CAC utilized a weighted matrix that evaluated the various findings and then gave an average per factor. These were then totaled showing a relative high-to-low score per build alternative and for the No Action Alternative. Alternative 2A was chosen by the CAC for recommendation to the Oakdale City Council and Stanislaus Board of Supervisors. These locally elected bodies will then develop their resolutions based on the CAC recommendations and the public hearing on the DEIR/DEIS. The findings of the CAC are attached at the end of this appendix.

A.3.1.3 Mailing List

A project mailing list of approximately 1000 addresses interested in or impacted by the project was compiled and updated throughout the process for use in disseminating project information, including public meeting notices and newsletters. The list includes federal, state and local agencies; elected and appointed officials; city and county staff; property owners; business owners; special interest groups; and the interested public.

A.3.1.4 Newsletters

One project newsletter was distributed in June of 1992 to the mailing list noted above to inform them of the project's progress at that time; a second newsletter was distributed in June of 1997.

A.3.1.5 Media Relations Program

Caltrans determined early on in the process that the local newspaper, the *Oakdale Leader*, and the regional paper, the *Modesto Bee*, were widely read by the majority of interested parties in the project area. Caltrans conducted editorial board meetings with editors and reporters from both publications to provide the background, scope and schedule for the project. The Caltrans Project Manager and appropriate District Deputy Directors served as the official media spokespersons. Media releases were distributed to both papers to provide information on the developments of the project and upcoming meetings. Media advisories were faxed prior to each CAC meeting. Both publications were reviewed weekly for relevant articles that were distributed to the team.

A.3.1.6 Public Meetings

A public scoping meeting for the expressway study area was held on July 11, 1989. The purpose of the meeting was to give the public an opportunity to express opinions about alternatives proposed at that time for this project. About seventy statements and comments were made, and questions asked, by attendees of the meeting. Following this meeting, public open houses were held on November 5, 1992; July 19, 1994; and on June 22, 1999 to provide information and receive public input on the alternatives under consideration and the results of the environmental and engineering technical studies. The first open house was attended by 160 people, the second by 140 people, and the third by about 170 people. Written comments received at each open house totaled 39 for the first, 19 for the second and 68 for the third. Maps and displays were provided at the open houses and Caltrans staff were available to answer questions. Comment sheets were provided to encourage written input from the public. Open House Summary Reports, including a summary of verbal and written comments, as well as copies of sign-in sheets and comment sheets, were prepared for each meeting, and may be obtained from Caltrans. A public hearing will be held to receive comments on this DEIR/DEIS.

A.3.1.7 Interviews with Community Leaders, Citizens and Agency Staff

Caltrans and consultant staff conducted individual interviews with more than thirty local and regional planning and engineering staff, elected officials and citizens representing varying views from the project area. Briefings on the status of the project and specific issues of concern to the community have been conducted on an as needed basis throughout the process with elected officials, government staff, and citizen groups. Groups and individuals met with during this process include elected officials and staff from Stanislaus County, San Joaquin County, City of Oakdale, the North Oaks neighborhood, Concerned Citizens Seeking A Sensible Bypass, and Concerned Citizens and Merchants for an Oakdale Bypass.

A.3.2 Issues Identified

Through the Public Participation Program, the public identified areas of concern and raised questions to be addressed in the environmental document; these include 1) traffic (interregional vs. local traffic congestion, local interim traffic improvements, safety, access to property, and emergency vehicle access), planning (growth inducement and conformance with long-term goals of general plans in the region), 2) community impacts (local and tourist-oriented businesses, right of way/farm severance, loss of prime/unique farmland, land use, zoning, property values, neighborhood cohesion, and relocation of houses, businesses, and agricultural operations), and 4) environment (air quality, noise, wetlands and other habitat, visual resources, and recreation).

A.4 Project Coordination Correspondence

Federal

U. S. Army Corps of Engineers
NEPA/Section 404 Integration, Tom Coe, April 11, 1995.
Recreational Impact, D.A. Dennis, June 29, 1995.
Recreational Impact, D.A. Dennis, March 22, 1996.
Recreational Impact, Karen Durham-Aguilera, August 3, 2000.

Wetland verification, Larry Vinzant, July 9, 1996.

U. S. Department of Commerce, National Oceanic and Atmospheric Administration
Concurrence on purpose and need and alternatives, James R. Bybee, December 29, 1994.

U. S. Department of the Interior, Fish and Wildlife Service
NEPA/Section 404 Integration, Joel A. Medlin, January 24,1995.
Species List, Karen J. Miller, June 16, 1999.
Final Draft Review, NES/BA, Karen J. Miller, April 18, 2000.

U. S. Department of Transportation, Federal Transit Administration
Response to request for concurrence on bypass, Robert E Hom, May 17, 1994.

U. S. Environmental Protection Agency, Region IX
Comments on the NOI to Prepare an EIS, David J. Farrel, September 15, 1993.
NEPA/Section 404 Integration, David Farrel, February 9, 1995.

State

Office of Historic Preservation, Department of Parks and Recreation
Response to request for concurrence, Cherilyn Widell, August 16, 1995.

Native American Heritage Commission
Letter requesting literature and record search, February 18, 1992.
Sacred lands search for project, February 18, 2001.
Response to request for sacred lands search, Debbie Plias-Treadway, March 19, 2001.

Local

Stanislaus County Council of Governments
Response to request for determination on need for MIS, Greg Steel, October 28, 1994.

Citizens Advisory Committee
Citizens Advisory Committee recommendation, Keith P. Marzan, September 26, 1995.

Tuolumne Rancheria
Initial contact to request information, February 20, 2001.
Historic Properties and the Oakdale Bypass Project, March 7, 2001.
Historic Properties and the Oakdale Bypass Project, April 5, 2001.

Northern Valley Yokut
Initial contact to request information, February 20, 2001.
Historic Properties and the Oakdale Bypass Project, March 7, 2001.

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA 95814-2922

REPLY TO
ATTENTION OF

April 11, 1995

Regulatory Branch (199300615)

State of California
Department of Transportation
Attn: Mr Gene Berthelsen, Chief
Environmental Planning Branch A
P.O. Box 2048
Stockton, California 95201

Dear Mr. Berthelsen:

I am responding to your March 23, 1995, letter regarding the Oakdale Bypass on Route 120, between Post Mile 3.0/R12.9, in and near the City of Oakdale, in Stanislaus County, California.

I agree with Caltran's Purpose and Need Statement and alternatives to be studied. Also you may proceed with the next stage in the documentation process under the NEPA/404 integration Memorandum of Understanding.

Please refer to identification number 199300615 in any future reference concerning this project. If you have any questions, please write to Ms. Kathy Norton, Room 1444 at the letterhead address, or telephone (916) 557-5260.

Sincerely,

Tom Coe

Tom Coe
Chief, Central CA/NV Section

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA 95814-2922

REPLY TO
ATTENTION OF

June 29, 1995

Operations Technical Branch

Mr. Gene Berthelsen
Chief, Environmental Planning Branch
CalTrans
P. O. Box 2048
Stockton, California 95201

Dear Mr. Berthelsen:

I am responding to your request for comments on the Preliminary Draft Environmental Report/Statement (PDEIR/S) for the Oakdale Bypass Project (345400). Mr. James Sandner, Park Manager of the Stanislaus River Parks (SRP), submitted preliminary comments on April 13, 1995. Mr. Sandner has been a member of the Project Development Team since 1992 and has worked with CalTrans to develop a mutually beneficial position particularly with regard to the PP5-1 alternative.

The SRP are part of the New Melones flood control project authorized by the Flood Control Act of 1944. The objectives of SRP are to maintain a Stanislaus River channel capable of passing flows of up to 8000 cubic feet per second, to preserve riparian habitat, to preserve salmon and steelhead spawning gravels and to provide recreational public access to the river corridor. The jurisdiction of SRP encompasses sixty miles of the Stanislaus River between Goodwin Dam and its confluence with the San Joaquin River. SRP owns and operates 882 acres of public recreation sites in 16 locations and manages 4347 acres of flowage and habitat protection easements.

The extent of Corps of Engineers holdings along the Stanislaus River is such that it would be difficult to devise a feasible alternative relocation for Route 120 and avoid impacting Corps property. All of the alternative routes in the PDEIR/S include bridge crossings of the Stanislaus River. Since the Corps has flowage and habitat protection easements as well as public access areas along all the potential Oakdale Bypass routes, any alternative will impact Corps interests. The alternative with the least impact on riparian vegetation is Route 2A/B.

Route 2A/B traverses the SRP's Honolulu Bar Recreation Area. More Corps property will be required for this alternative route but the site has been considerably disturbed and does not have well developed riparian vegetation. I agree with the conclusion of BioSystems Analysis Inc. in their Natural Environmental Study and Biological Assessment dated November 1994. They found that the Route 2A/B crossing traversed an area devoid of riparian vegetation on the north bank of the Stanislaus River and a riparian area on the south bank qualitatively different than the other crossing alternatives. The south bank at Honolulu Bar is vegetated primarily with shrubby willows and non-native ripgut grass. The other alternates are vegetated with well developed riparian forests. Additionally, alternatives 1 and 2C/D have more Valley Elderberry Longhorn Beetle habitat than alternative Route 2A/B. The number of elderberry stems greater than one inch in diameter at alternative 1 is 217, and is 452 for alternative 2C/D. The number of stems greater than one inch in diameter at the 2A/B alternative is 188.

Public access at the Honolulu Bar Recreation Area will not be negatively impacted by construction of the Route 2A/B alternative and will most likely be enhanced by completion of mitigation providing access to the south side of the river. Maintenance of channel flow capacity will remain unaffected by any of the alternatives.

I recommend selection of Route 2A/B since it has the least impact on the Corps mission along the Stanislaus River and also apparently the least environmental impact of the three crossing alternatives under consideration. My staff will continue to coordinate mitigation needs with CalTrans to optimize public access at SRP. Mitigation could consist of land purchase adjacent to the Honolulu Bar Recreation Area to provide access to the south side of the river or upgrading existing recreation facilities at the Horseshoe Road Recreation Area. Comments regarding wetlands issues will be addressed by my Regulatory Branch.

Your contact for this bypass project remains my park manager at SRP, Mr. James Sandner at (209) 881-3517.

Sincerely,

D.A. Dennis
Chief, Construction-Operations
Division

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA 95814-2922

REPLY TO ATTENTION OF

March 22, 1996

Construction-Operations Division

Department of Transportation
Attn.: Gene Berthelsen
Chief, Environmental Branch
P.O. Box 2048
Stockton, CA 95201

Dear Mr. Berthelsen,

This is a follow-up to our letter of June 29, 1995 to further affirm our position regarding the Oakdale Bypass project as it relates to the Honolulu Bar site. Our coordination with your staff/project has been formal (Project Development Team) and extensive, and is well documented. In the latter part of 1995, your staff received extensive documentation from us regarding the easement and park development plans. The current Operational Management Plan and Design Memorandum No. 3B, April 1977 (Lower Stanislaus River, Master Plan) shows the development plan for the park system and river corridor.

These documents clearly show the formally designated and developed Honolulu Bar Recreation Area on the north side of the river. The land on the south side of the river is an undeveloped piece of property. There are no plans to develop permanent structures or public recreational services on the property south of the Stanislaus River.

If you have any questions please contact Mr. James Sandner, Chief, Operations Technical Branch at (916) 557-5275.

Sincerely,

D. A. Dennis
Chief, Construction-Operations
Division

P 329 72

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA 95814-2922

REPLY TO
ATTENTION OF

August 03, 2000

Stanislaus River Parks

Mr. Michael G. Ritchie
Division Administrator
ATTN: Khoi Khau
Federal Highway Administration
980 Ninth Street, Suite 400
Sacramento, CA 95814-2724

Dear Mr. Khoi Khau:

This letter reaffirms the U.S. Army Corps of Engineers, Stanislaus River Parks' position on the Oakdale Expressway Project river crossing location, as described in our previous letters of June 29, 1995 and March 22, 1996. This recommendation addresses only the location of the river crossing affecting lands owned or managed by the Corps of Engineers. Our Regulatory Branch will address environmental concerns regarding the entire project. This letter also clarifies the management plans and use of Fee Tract 800, known as Honolulu Bar Recreation Area, with regards to potential use as a river crossing for the Oakdale Expressway.

No matter where the river crossing occurs, the presence of the bridge will have a negative noise and visual impact on the recreational experience of visitors. The stretch of river between Knights Ferry and Orange Blossom Recreation Area is the most heavily rafted section of river within the 59-mile park system. Last year approximately 11,523 visitors floated this section of river. The Alternative 2C/2D bridge crossing downstream of Orange Blossom Recreation Area would have similar noise and visual impacts but would likely affect fewer visitors since the majority of the rafters take-out at this recreation area.

The location of the river crossing for Alternative 2A/2B avoids a Corps of Engineers Park facility on the north side of the river, but bisects our fee-owned property on the south side of the river. Although not identified in the initial Stanislaus River Parks Master Plan of 1977, the entire 92 acres of property on both sides of the river was later purchased as a single tract of land known as Honolulu Bar Recreation Area, Tract 800. Amended in 1982, the Master Plan now addresses Honolulu Bar Recreation Area, and describes it as follows:

> Honolulu Bar. On north bank approximately ½ mile downstream of Horseshoe Road. Extends along 2/3 mile of river frontage covering approximately 45 acres. Provided for boater and non-boater day-use and public fishing access. Estimated daily capacity is 350." (page 4, part XI. F.).

RECEIVED
AUG 04 2000
FHWA-Sacramento

- 2 –

Note that this description does not include the 47 acres of land on the south side of the river. Section 6.18 of the Master Plan of 1977 describes proposed easement acquisitions that are acquired in fee at the land-owners request. If acquired in fee, these lands would be managed for low intensity use with minimal facilities provided. Tract 800 was purchased in such a manner and the southern portion has no facilities. Even though the fee tracts for Stanislaus River Parks are all identified as recreation areas; seven of the areas have no developed facilities and they are currently being managed for open space and habitat preservation. Major portions of the areas that have developed facilities are also managed for open space and habitat preservation. These uses are in accordance with section 2.04 of the Master Plan of 1977, which says portions of fee title lands will be used for flood control, fish and wildlife preservation and (habitat) enhancement.

The absence of formalized plans for the southern portion of Honolulu Bar, along wit limited access, has led to the management of this property as primarily open space/wildlife habitat. There are currently no recreation facilities on site, nor are there any existing plans for development.

The recreation facilities on the north side of the river at Honolulu Bar Recreation Area include a paved entrance road and small parking lot, vault restroom, several picnic tables, signs, a boat put-in/take-out, and foot trail approximately 100 yards long. The area surrounding these facilities which, is regularly used for recreation, is estimated to include approximately two acres. The remaining 43 acres downstream of this area are managed and used as open space/wildlife habitat. There are no improvements planned for this downstream portion.

Incidental recreational use does occur along the Stanislaus River outside of the managed recreation areas, mostly in the form of occasional, dispersed fishing and boater occasionally stopping along the streambank while traveling on the river.

The Corps of Engineers Stanislaus River Parks' position on Alternative 2A/2B as it affects Honolulu Bar Recreation Area is that there would be minimal impact on the sout side of the Stanislaus River and those impacts would be that of disturbing/ displacing an incidental use by boaters and fishermen in the undeveloped riparian corridor. This same condition, and hence the same impact, exists along the entire stretch of the Stanislaus River. Since this impact to incidental recreation cannot be avoided by choosing a different location for the river crossing, and since other locations may incur additional impacts to riparian or other sensitive resources, the Corps of Engineers Stanislaus River Parks would endorse Alternative 2A/2B if chosen as the least environmentally damaging preferred alternative, and it complies with NEPA. This endorsement is subject to inter-agency agreement on the issue of mitigation for loss of the use of our property for authorized project purposes, should that occur.

If you have further questions please contact Mr. Phillip Holcomb, Park Manager, Stanislaus River Parks at (209) 881-3517.

Sincerely,

Karen Durham-Aguilera P.E.
Chief, Construction-Operations
Division

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA 95814-2922

REPLY TO
ATTENTION OF

July 9, 1996

Regulatory Branch (199300615)

Mr. Dale Steele, Chief
State of California
Department of Transportation
Environmental Technical Services
P.O. Box 2048
Stockton, California 95201

Dear Mr. Steele:

This letter concerns the Highway 120, Oakdale Bypass, located in Oakdale, Stanislaus County, California as shown in the attached drawing.

We have reviewed and verified the revised wetland map of the Highway 120, Oakdale Bypass, submitted to us within the report dated April 1996. The title of the report is Wetlands Assessment Supplement, State Route 120, Oakdale Bypass Project, 10-Stan-120, EA: 435400. The original map was field verified on May 17 and 18, 1995. All portions of the delineation are as portrayed in the above report except for in Figure L-3, the Seasonally Wet Meadow, is not labeled a waters of the United States. This amount has been omitted from the total acreage of the site as non-jurisdictional waters. We verify the following amounts for each alternative:

Alternative 1 : 14.1 acres
Alternative 2A: 22.8 acres
Alternative 2B: 29.6 acres
Alternative 2C: 15.2 acres
Alternative 2D: 21.8 acres

Our jurisdiction in this area is under Section 404 of the Clean Water Act. A Department of the Army permit is required prior to discharging dredged or fill materials into waters of the United States. Discharge of dredged material includes but is not limited to any addition, including redeposit, of dredged material, including excavated material, into the waters of the United States which is incidental to any activity including mechanized land clearing, ditching, channelization, or other excavation. Accordingly, a permit will be required prior to filling any of the waters present on this property. The type of permit required will depend on the type and amount of waters which would be lost or adversely modified by fill activities.

-2-

This verification is valid for five years from the date of this letter unless new information warrants revision of the determination before the expiration date. Please refer to identification number 199300615 in any correspondence concerning this project. If you have any questions, please write to Kathy Norton, Room 1480 at the letterhead address, or telephone (916) 557-5260.

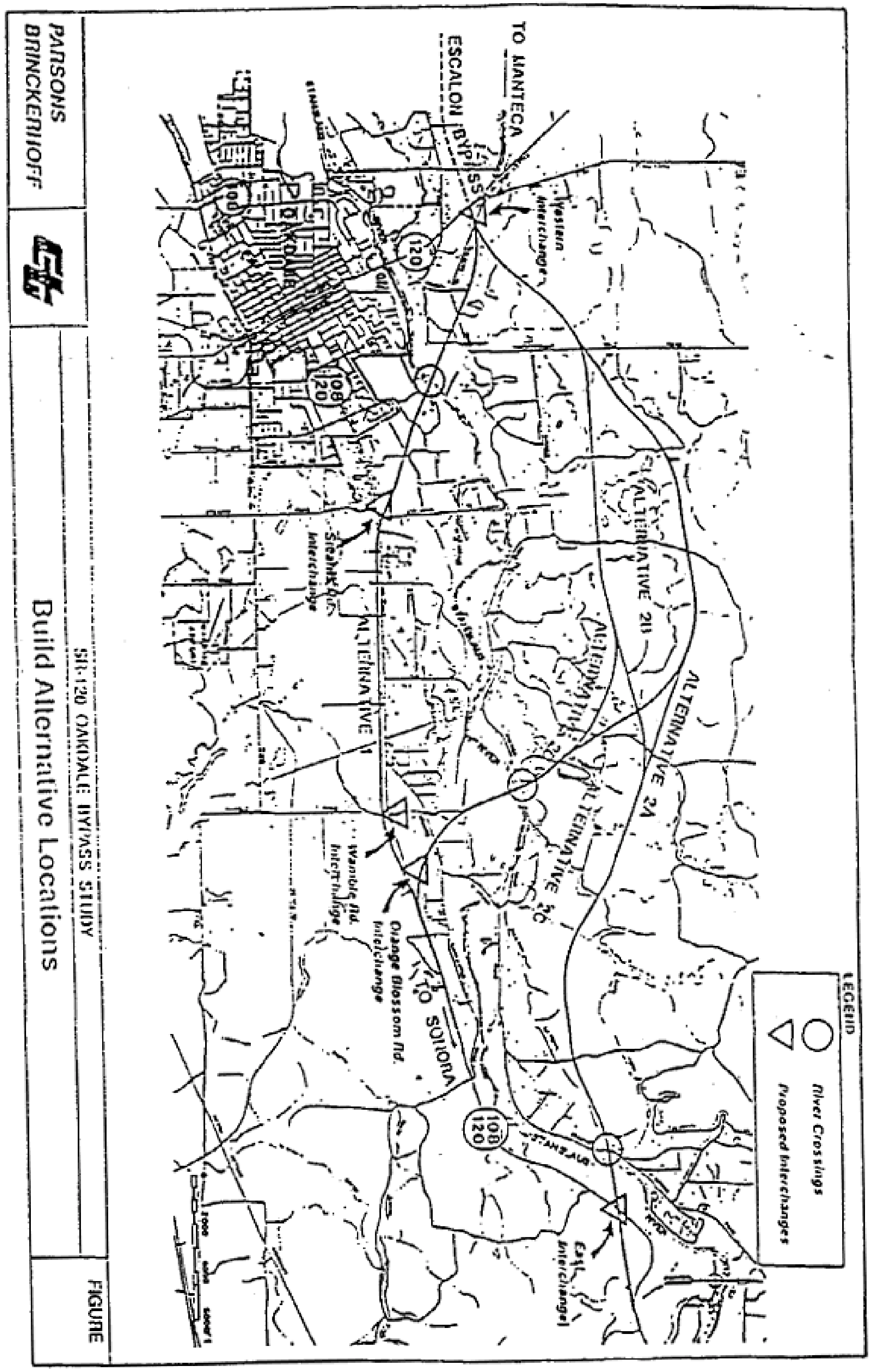
Sincerely,

for Tom Coe

Larry Vinzant
Chief, San Joaquin Valley Office

Copies Furnished

Mr. Mike McElhiney, Natural Resource Conservation Service, 216 N. El Circulo, Patterson, California 95363


TO MANTECA
ESCALON BYPASS
Western Interchange
ALTERNATIVE 2B
ALTERNATIVE 2A
ALTERNATIVE 2C
ALTERNATIVE 1
Stearns Rd. Interchange
Wamble Rd. Interchange
Orange Blossom Rd. Interchange
TO SONORA
East Interchange
LEGEND
River Crossings
Proposed Interchanges
PARSONS BRINCKERHOFF
SR-120 OAKDALE BYPASS STUDY
Build Alternative Locations
FIGURE

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Habitat Conservation Division
777 Sonoma Avenue, Rm 325
Santa Rosa, CA 95404-6528

December 29, 1994

Gene Berthelsen
Chief, Environmental Planning Branch A
California Department of Transportation
P.O. Box 2048
Stockton, California 95201

Dear Mr. Berthelsen:

Thank you for providing the National Marine Fisheries Service the opportunity to review the report, State Route 120, Oakdale Bypass Project, May 24, 1994. It describes the original Corridor 5 and other alternatives considered for study. Also attached to the report is a description of the Purpose and Need for the project.

I concur with the project's stated Purpose And Need, Alternatives Under Study, and Alternatives Considered & Rejected. This response supplements the comments on the technical appendices I provided earlier this month to Mr. Pat McAchren (enclosed).

Sincerely,

James R. Bybee

James R. Bybee
Environmental Coordinator
Northern California

Enclosure: Ltr dated December 8, 1994

cc: CDFG, J. Turner
FWS, J. Medlin
EPA, C. Morris

c.c'd [illegible] & Dale Steele
1—9 95

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Sacramento Field Office
2800 Cottage Way, Room E-1803
Sacramento, California 95825-1846

In Reply Refer To:
PPN 2084

January 24, 1995

Gene Berthelsen, Chief
Environmental Planning Branch A
California Department of Transportation
District 20
P.O. Box 2048
Stockton, California 95201

Subject: NEPA/Section 404 Integration, SR 120 - Oakdale Bypass Project, Stanislaus River, Oakdale, Stanislaus County, California

Dear Mr. Bethelsen:

This responds to your letter, dated December 28, 1994, requesting U.S. Fish and Wildlife Service (Service) concurrence with the proposed project's purpose and need statement, alternatives under study and alternatives considered and rejected. Your request was made pursuant to the 1994 Memorandum of Understanding for Integration of National Environmental Policy Act and Clean Water Act Section 404 Procedures (MOU). The following comments are to assist you in preparing the Draft Environmental Impact Statement (DEIS) and in selection of the preferred alternative and are not intended to take the place of any formal comments that may be required under the Fish and Wildlife Coordination Act or the Endangered Species Act of 1973, as amended.

The proposed project involves construction of a two-lane bypass around the City of Oakdale in Stanislaus County. The current highway alignment passes through Oakdale as a four-lane surface street. The project purpose is to reduce traffic congestion and improve safety by reducing the number of accidents. According to the purpose and need statement, the existing and predicted traffic volumes in and around Oakdale exceed capacity during commute hours and on holiday weekends. Alternative alignments to be considered in the DEIS include Alternative 1 and Alternatives 2A, 2B, 2C, and 2D. Caltrans proposes to drop Corridor 5 and several other alternate alignments from earlier corridor studies (e.g. Corridor 2 and Corridor 3).

The MOU requires the signature agencies to provide final agreement on the purpose and need statement, the selection criteria, and the alternatives to be evaluated, before the development and circulation of the DEIS. We have reviewed the information and technical reports provided on November 15, 1994, by Caltrans and additional information in our files. We concur with the project purpose and need, alternatives considered and rejected, and project alternatives to be carried forward for evaluation in the DEIS.

The proposed project may affect vernal pool habitat possibly containing one or more of the following federally listed invertebrates, vernal pool fairy shrimp (*Branchinecta lynchi*), Packard's tadpole shrimp (*Lepidurus packardi*), longhorn fairy shrimp (*Branchinecta longiantenna*) and Conservancy fairy shrimp (*Branchinecta conservatio*). The Federal Highway Administration should informally consult with the Service to discuss project modifications that could avoid the likelihood of adverse effects to listed species or critical habitat (see 50 CFR, Section 402.13). Formal consultation under section 7 of the Endangered Species Act would be required prior to any Federal action in support of this project (e.g. issuance of a Clean Water Act, Section 404 permit) if an adverse effect to endangered species cannot be avoided (50 CFR 402.14).

If you have any further questions regarding these comments, please contact Mark Littlefield at (916) 979-2113.

Sincerely,

Joel A. Medlin

Joel A. Medlin
Field Supervisor

cc: ARD-ES, Portland, OR

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
3310 El Camino Avenue, Suite 130
Sacramento, California 95821-6340

IN REPLY REFER TO:
1-1-99-SP-1480

June 16, 1999

Mr. Frank Momen
Project Manager
State of California
Department of Transportation
District 6
4545 North West Avenue
Fresno, California 93705

Subject: Species List for SR 120 Oakdale Expressway Project, Stanislaus County, California

Dear Mr. Momen:

We are sending the enclosed list in response to your June 9, 1999, request for information about endangered and threatened species (Enclosure A). These lists fulfill the requirement of the Fish and Wildlife Service (Service) to provide species lists under section 7(c) of the Endangered Species Act of 1973, as amended (Act).

The animal species on the Enclosure A quad list are those species we believe may occur within, *or be affected by projects within*, the following USGS quads, where your project is planned: Oakdale Quad.

Any plants on the quad list are ones *that have actually been observed* in the project quad(s). Plants may occur in a quad without having been observed there. Therefore we have included a species list for the whole county in which your project occurs. We recommend that you survey for any relevant plants shown on this list.

Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.

Species listed as threatened or endangered by the California Department of Fish and Game do not appear on your species list unless they have also been listed by us or by the National Marine Fisheries Service. Call (916) 322-2493 or write Marketing Manager, California Department of Fish and Game, Natural Diversity Data Base, 1416 Ninth Street, Sacramento, California 95814 for information about state-listed species.

Mr. Frank Momen 2

Some of the species listed in Enclosure A may not be affected by the proposed action. A trained biologist or botanist, familiar with the habitat requirements of the listed species, should determine whether these species or habitats suitable for them may be affected. For plants, we recommend using the enclosed Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Species (Enclosure C).

Some pertinent information concerning the distribution, life history, habitat requirements, and published references for the listed species is available upon request. This information may be helpful in preparing the biological assessment for this project, if one is required. Please see Enclosure B for a discussion of the responsibilities Federal agencies have under section 7(c) of the Act and the conditions under which a biological assessment must be prepared by the lead Federal agency or its designated non-Federal representative.

Formal consultation, under 50 CFR § 402.14, should be initiated if you determine that a listed species may be affected by the proposed project. If you determine that a proposed species may be adversely affected, you should consider requesting a conference with our office under 50 CFR § 402.10. Informal consultation may be utilized prior to a written request for formal consultation to exchange information and resolve conflicts with respect to a listed species. If a biological assessment is required, and it is not initiated within 90 days of your receipt of this letter, you should informally verify the accuracy of this list with our office.

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as *critical habitat*. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal. Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, this will be noted on the species list. Maps and boundary descriptions of the critical habitat may be found in the *Federal Register*. The information is also reprinted in the *Code of Federal Regulations* (50 CFR 17.95).

Candidate species are being reviewed for possible listing. Contact our office if your biological assessment reveals any candidate species that might be adversely affected. Although they currently have no protection under the Endangered Species Act, one or more of them could be proposed and listed before your project is completed. By considering them from the beginning, you could avoid problems later.

Your list may contain a section called *Species of Concern*. This term includes former *category 2 candidate species* and other plants and animals of concern to the Service and other Federal, State and private conservation agencies and organizations. Some of these species may become candidate species in the future.

Mr. Frank Momen 3

If the proposed project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by the U.S. Army Corps of Engineers (Corps), a Corps permit will be required, under section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act. Impacts to wetland habitats require site specific mitigation and monitoring. You may request a copy of the Service's General Mitigation and Monitoring Guidelines or submit a detailed description of the proposed impacts for specific comments and recommendations. If you have any questions regarding wetlands, contact Mark Littlefield at (916) 979-2113.

Please contact Harry Mossman, Biological Technician, at (916) 979-2753, if you have any questions about the attached list or your responsibilities under the Endangered Species Act. For the fastest response to species list requests, address them to the attention of Mr. Mossman at this address. You may fax requests to him at 979-2723.

Sincerely,

Robert T. Price for

Karen J. Miller
Chief, Endangered Species Division

Enclosures

ENCLOSURE A

Endangered and Threatened Species that May Occur in or be Affected by
Projects in the Area of the Following California County or Counties
Reference File No. 1-1-99-SP-1480
June 16, 1999

STANISLAUS COUNTY

Listed Species

Mammals

San Joaquin kit fox, *Vulpes macrotis mutica* (E)

Birds

American peregrine falcon, *Falco peregrinus anatum* (E)

Aleutian Canada goose, *Branta canadensis leucopareia* (T)

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

delta smelt, *Hypomesus transpacificus* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

Conservancy fairy shrimp, *Branchinecta conservatio* (E)

longhorn fairy shrimp, *Branchinecta longiantenna* (E)

vernal pool tadpole shrimp, *Lepidurus packardi* (E)

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

Plants

hairy Orcutt grass, *Orcuttia pilosa* (E)

Hartweg's golden sunburst, *Pseudobahia bahiifolia* (E)

fleshy owl's-clover, *Castilleja campestris ssp. succulenta* (T)

Hoover's spurge, *Chamaesyce hooveri* (T)

Colusa grass, *Neostapfia colusana* (T)

Greene's tuctoria, *Tuctoria greenei* (E)

Reference File No. 1-1-99-SP-1480 Page 2

Listed Species

Plants

San Joaquin Valley Orcutt grass, *Orcuttia inaequalis* (T) *

Proposed Species

Mammals

riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (PE) *

riparian brush rabbit, *Sylvilagus bachmani riparius* (PE) *

Birds

mountain plover, *Charadrius montanus* (PT)

Fish

Central Valley fall-run chinook crit hab, *Oncorhynchus tshawytscha* (PT)

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (PT)

Candidate Species

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Species of Concern

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

Merced kangaroo rat, *Dipodomys heermanni dixoni* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)

grasshopper sparrow, *Ammodramus savannarum* (SC)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

short-eared owl, *Asio flammeus* (SC)

western burrowing owl, *Athene cunicularia hypugea* (SC)

Reference File No. 1-1-99-SP-1480

Species of Concern

Birds

American bittern, *Botaurus lentiginosus* (SC)

ferruginous hawk, *Buteo regalis* (SC)

Costa's hummingbird, *Calypte costae* (SC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)

Vaux's swift, *Chaetura vauxi* (SC)

black tern, *Chlidonias niger* (SC)

lark sparrow, *Chondestes grammacus* (SC)

olive-sided flycatcher, *Contopus cooperi* (SC)

white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

Pacific-slope flycatcher, *Empidonax difficilis* (SC)

least bittern, western, *Ixobrychus exilis hesperis* (SC)

loggerhead shrike, *Lanius ludovicianus* (SC)

Lewis' woodpecker, *Melanerpes lewis* (SC)

long-billed curlew, *Numenius americanus* (SC)

white-faced ibis, *Plegadis chihi* (SC)

rufous hummingbird, *Selasphorus rufus* (SC)

red-breasted sapsucker, *Sphyrapicus ruber* (SC)

Brewer's sparrow, *Spizella breweri* (SC)

Bewick's wren, *Thryomanes bewickii* (SC)

California Thrasher, *Toxostoma redivivum* (SC)

Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

southwestern pond turtle, *Clemmys marmorata pallida* (SC)

San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

foothill yellow-legged frog, *Rana boylii* (SC)

western spadefoot toad, *Scaphiopus hammondii* (SC)

Reference File No. 1-1-99-SP-1480

Species of Concern

Fish

green sturgeon, *Acipenser medirostris* (SC)

river lamprey, *Lampetra ayresi* (SC)

Kern brook lamprey, *Lampetra hubbsi* (SC)

Pacific lamprey, *Lampetra tridentata* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

Sacramento anthicid beetle, *Anthicus sacramento* (SC)

California linderiella, *Linderiella occidentalis* (SC)

moestan blister beetle, *Lytta moesta* (SC)

molestan blister beetle, *Lytta molesta* (SC)

Plants

vernal pool saltbush, *Atriplex persistens* (SC)

Hoover's rosinweed, *Calycadenia hooveri* (SC)

Mt. Hamilton harebell, *Campanula sharsmithiae* (SC)

Mt. Hamilton thistle, *Cirsium fontinale var. campylon* (SC)

beaked clarkia, *Clarkia rostrata* (SC)

Mt. Hamilton coreopsis, *Coreopsis hamiltonii* (SC)

spiny-sepaled coyote-thistle, *Eryngium spinosepalum* (SC)

talus fritillary, *Fritillaria falcata* (SC)

red-flowered lotus, *Lotus rubriflorus* (SC)

little mousetail, *Myosurus minimus ssp. apus* (SC)

Mt. Diablo phacelia, *Phacelia phacelioides* (SC)

alkali milk-vetch, *Astragalus tener var. tener* (SC) *

heartscale, *Atriplex cordulata* (SC) *

brittlescale, *Atriplex depressa* (SC) *

diamond-petaled poppy, *Eschscholzia rhombipetala* (SC) *

legenere, *Legenere limosa*. (SC) *

Merced monardella, *Monardella leucocephala* (SC) **

Reference File No. 1-1-99-SP-1480 Page 5

KEY:

(E)	*Endangered*	Listed (in the Federal Register) as being in danger of extinction.
(T)	*Threatened*	Listed as likely to become endangered within the foreseeable future.
(P)	*Proposed*	Officially proposed (in the Federal Register) for listing as endangered or threatened.
(C)	*Candidate*	Candidate to become a *proposed* species.
(SC)	*Species of Concern*	Other species of concern to the Service.
*	*Extirpated*	Possibly extirpated from the area.
**	*Extinct*	Possibly extinct
	Critical Habitat	Area essential to the conservation of a species.

ENCLOSURE A

Endangered and Threatened Species that May Occur in
or be Affected by Projects in the Selected Quads Listed Below
Reference File No. 1-1-99-SP-1480
June 16, 1999

QUAD : 460D OAKDALE

Listed Species

Birds

American peregrine falcon, *Falco peregrinus anatum* (E)

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)

delta smelt, *Hypomesus transpacificus* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

vernal pool tadpole shrimp, *Lepidurus packardi* (E)

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

Proposed Species

Mammals

riparian brush rabbit, *Sylvilagus bachmani riparius* (PE) *

Birds

mountain plover, *Charadrius montanus* (PT)

Fish

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (PE)

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (PT)

Reference File No. 1-1-99-SP-1480 Page 2

Candidate Species

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Species of Concern

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

Merced kangaroo rat, *Dipodomys heermanni dixoni* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)

western burrowing owl, *Athene cunicularia hypugea* (SC)

ferruginous hawk, *Buteo regalis* (SC)

white-faced ibis, *Plegadis chihi* (SC)

Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

southwestern pond turtle, *Clemmys marmorata pallida* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

Fish

green sturgeon, *Acipenser medirostris* (SC)

river lamprey, *Lampetra ayresi* (SC)

Kern brook lamprey, *Lampetra hubbsi* (SC)

Pacific lamprey, *Lampetra tridentata* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

California linderiella, *Linderiella occidentalis* (SC)

Reference File No. 1-1-99-SP-1480 **Page 3**

Species of Concern

Invertebrates

molestan blister beetle, *Lytta molesta* (SC)

KEY:

(E)	*Endangered*	Listed (in the Federal Register) as being in danger of extinction.
(T)	*Threatened*	Listed as likely to become endangered within the foreseeable future.
(P)	*Proposed*	Officially proposed (in the Federal Register) for listing as endangered or threatened.
(C)	*Candidate*	Candidate to become a *proposed* species.
(SC)	*Species of Concern*	May be endangered or threatened. Not enough biological information has been gathered to support listing at this time.
(*)	*Extirpated*	Possibly extirpated from this quad.
(**)	*Extinct*	Possibly extinct.
	Critical Habitat	Area essential to the conservation of a species.

Enclosure B

FEDERAL AGENCIES' RESPONSIBILITIES UNDER SECTIONS 7(a) and (c) OF THE ENDANGERED SPECIES ACT

SECTION 7(a) Consultation/Conference

Requires: (1) Federal agencies to utilize their authorities to carry out programs to conserve endangered and threatened species; (2) Consultation with FWS when a Federal action may affect a listed endangered or threatened species to insure that any action authorized, funded, or carried out by a Federal agency is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. The process is initiated by the Federal agency after determining the action may affect a listed species; and (3) Conference with FWS when a Federal action is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat.

SECTION 7(c) Biological Assessment-Major Construction Activity[1]

Requires Federal agencies or their designees to prepare a Biological Assessment (BA) for major construction activities. The BA analyzes the effects of the action[2] on listed and proposed species. The process begins with a Federal agency requesting from FWS a list of proposed and listed threatened and endangered species. The BA should be completed within 180 days after its initiation (or within such a time period as is mutually agreeable). If the BA is not initiated within 90 days of receipt of the list, the accuracy of the species list should be informally verified with our Service. No irreversible commitment of resources is to be made during the BA process which would foreclose reasonable and prudent alternatives to protect endangered species. Planning, design, and administrative actions may proceed; however, no construction may begin.

We recommend the following for inclusion in the BA: an on-site inspection of the area affected by the proposal which may include a detailed survey of the area to determine if the species or suitable habitat is present; a review of literature and scientific data to determine species' distribution, habitat needs, and other biological requirement; interviews with experts, including those within FWS, State conservation departments, universities and others who may have data not yet published in scientific literature; an analysis of the effects of the proposal on the species in terms of individuals and populations, including consideration of indirect effects of the proposal on the species and its habitat; an analysis of alternative actions considered. The BA should document the results, including a discussion of study methods used, and problems encountered, and other relevant information. The BA should conclude whether or not a listed or proposed species will be affected. Upon completion, the BA should be forwarded to our office.

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[1]A construction project (or other undertaking having similar physical impacts) which is a major federal action significantly affecting the quality of the human environment as referred to in NEPA (42 U.S C. 4332(2)C).

[2]"Effects of the action" refers to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action.

h. an assessment of the biological significance or ecological quality of the project site in a local and regional context.

5. If target species is(are) found, report results that additionally include:

   a. a map showing federally listed, proposed and candidate species distribution as they relate to the proposed project.

   b. if target species is (are) associated with wetlands, a description of the direction and integrity of flow of surface hydrology. If target species is (are) affected by adjacent off-site hydrological influences, describe these factors.

   c. the target species phenology and microhabitat, an estimate of the number of individuals of each target species per unit area; identify areas of high, medium and low density of target species over the project site, and provide acres of occupied habitat of target species. Investigators could provide color slides, photos or color copies of photos of target species or representative habitats to support information or descriptions contained in reports.

   d. the degree of impact(s), if any, of the proposed project as it relates to the potential unoccupied habitat of target habitat

6. Document findings of target species by completing California Native Species Field Survey Form(s) and submit form(s) to the Natural Diversity Data Base. Documentation of determinations and/or voucher specimens may be useful in cases of taxonomic ambiguities, habitat or range extensions.

7. Report as an addendum to the original survey, any change in abundance and distribution of target plants in subsequent years. Project sites with inventories older than 3 years from the current date of project proposal submission will likely need additional survey. Investigators need to assess whether an additional survey(s) is (are) needed

8. Adverse conditions may prevent investigator(s) from determining presence or identifying some target species in potential habitat(s) of target species. Disease, drought, predation, or herbivory may preclude the presence or identification of target species in any year. An additional botanical inventory(ies) in a subsequent year(s) may be required if adverse conditions occur in a potential habitat(s). Investigator(s) may need to discuss such conditions.

9. Guidance from California Department of Fish and Game (CDFG) regarding plant and plant community surveys can be found in Guidelines for Assessing the Effects of Proposed Developments on Rare and Endangered Plants and Plant Communities, 1984. Please contact the CDFG Regional Office for questions regarding the CDFG guidelines and for assistance in determining any applicable State regulatory requirements.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W2605
Sacramento, California 95825

IN REPLY REFER TO:
1-1-00-I-0586

April 18, 2000

Perry Coy
Environmental Senior
Department of Transportation
3402 N. Blackstone, Suite 201
Fresno, California 93726

Subject: Final Draft Review, Natural Environmental Study and Biological Assessment (NES/BA), State Route 120, Stanislaus County, Oakdale Expressway Project

Dear Mr. Coy,

This is in response to your January 2000 Natural Environmental Study and Biological Assessment (NES/BA), State Route 120, Stanislaus County, California, received in this office January 6, 2000. We are providing comments to address issues related to the Endangered Species Act of 1973, as amended (Act).

The proposed project addresses five possible alternate routes to enable State Route 120 to bypass the community of Oakdale, California. Informal discussion of this project began with the U. S. Fish and Wildlife Service (Service) in 1994. Subsequent meetings between Caltrans and the Service occurred in 1994, 1995, 1996, 1997, 1998, 1999, and 2000. In 1995, a draft of the NES/BA was sent to the Service for review. In January 2000, another draft NES/BA was sent to the Service for review.

The information contained in this response is based upon information contained in the January 2000 draft NES/BA as provided, field investigations and other sources of information. A complete administrative record of this informal consultation is on file in this office.

Section 9 of the Act and Federal regulations pursuant to section 4(d) of the Act prohibit take (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect or attempt to engage in any such conduct) of listed species of fish or wildlife without a special exemption. Harass is defined as an intentional or negligent act that creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to breeding, feeding or sheltering. Harm is defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavior patterns as breeding, feeding or sheltering.

Mr. Perry Coy 2

As a Federal agency is involved with the permitting, funding or carrying out of this project, a formal consultation will be necessary and would result in a biological opinion that addresses anticipated effects of the project to listed and proposed species and may authorize a limited level of incidental take.

The Service recommends the final plan include:

> An evaluation of direct and indirect impacts to federally-listed species and their habitats for each possible alternate route. These impacts may extend beyond the project boundaries depending upon the individual project.
>
> A description of planned measures to eliminate or minimize impacts to federally- listed species and their habitats for each possible alternative route.
>
> *Recent* surveys using established Service protocols for the species listed in Enclosure A should be included in the planning document.

The Service is satisfied that the Draft NES/BA for the Oakdale Expressway Project is sufficient to support a public Draft EIR/EIS for the project. Sufficient informal consultation has been performed and relevant endangered species have been addressed in the Draft NES/BA. Additional species surveys do not appear warranted at this time for the purposes of comparing alternatives in a Draft EIR/EIS. However, once a preferred alternative is chosen the Service will require updated species surveys that comply with current protocols. These surveys are necessary for completion of the biological opinion during the formal consultation process.

Please provide us with a copy of the NES/BA when completed. Please contact Greg Van Stralen or Peter Cross of the Sacramento Fish and Wildlife Office at (916) 414-6655, if you have any questions.

Sincerely,

for

Karen J. Miller
Chief, Endangered Species Division

Enclosure

cc: Daniel Waterhouse, Department of Transportation
Terry Marshall, Department of Transportation

ATTACHMENT A

Endangered and Threatened Species that May Occur in
or be Affected by Projects in the Selected Quads Listed Below

Reference File No. 00-I-0586

Oakdale Bypass

April 13, 2000

QUAD : 460D OAKDALE

Listed Species

Mammals

riparian brush rabbit, *Sylvilagus bachmani riparius* (E) *

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

delta smelt, *Hypomesus transpacificus* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T)

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool tadpole shrimp, *Lepidurus packardi* (E)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

Reference File No. 00-I-0586

Page 2

Species of Concern

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

Merced kangaroo rat, *Dipodomys heermanni dixoni* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)

western burrowing owl, *Athene cunicularia hypugea* (SC)

ferruginous hawk, *Buteo regalis* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)

greater sandhill crane, *Grus canadensis tabida* (CA)

white-faced ibis, *Plegadis chihi* (SC)

Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

southwestern pond turtle, *Clemmys marmorata pallida* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

Fish

green sturgeon, *Acipenser medirostris* (SC)

river lamprey, *Lampetra ayresi* (SC)

Kern brook lamprey, *Lampetra hubbsi* (SC)

Pacific lamprey, *Lampetra tridentata* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

molestan blister beetle, *Lytta molesta* (SC)

Reference File No. 00-I-0586 Page 3

KEY:

(E)	*Endangered*	Listed (in the Federal Register) as being in danger of extinction.
(T)	*Threatened*	Listed as likely to become endangered within the foreseeable future.
(P)	*Proposed*	Officially proposed (in the Federal Register) for listing as endangered or threatened.
(PX)	*Proposed Critical Habitat*	Proposed as an area essential to the conservation of the species.
(C)	*Candidate*	Candidate to become a *proposed* species.
(SC)	*Species of Concern*	May be endangered or threatened. Not enough biological information has been gathered to support listing at this time.
(D)	*Delisted*	Delisted. Status to be monitored for 5 years.
(CA)	*State-Listed*	Listed as threatened or endangered by the State of California.
(*)	*Extirpated*	Possibly extirpated from this quad.
(**)	*Extinct*	Possibly extinct.
	Critical Habitat	Area essential to the conservation of a species.

U.S. Department
of Transportation
Federal Transit
Administration

REGION IX
Arizona, California,
Hawaii, Nevada, Guam

211 Main Street
Room 1150
San Francisco, California 94105

MAY 17 1994

Mr. Donald B. MacVicar
Deputy District Director
Transportation Planning
California Department of Transportation
P. O. Box 2048
Stockton, CA 95201

Attn: Pat McAchren

Dear Mr. MacVicar:

This responds to your April 20, 1994 letter and subsequent staff contact requesting our attendance at a meeting in Sacramento to initiate the MOU for the integration of the NEPA/404 process on the Oakdale Bypass Project.

We understand the Oakdale Bypass will be a 3-10 mile bypass of Oakdale on Route 120 that is necessary to facilitate traffic that moves over this highway to and from Yosemite Park. Under the requirements of Section 450.318(b) of the Metropolitan Planning Regulations, notification to the various interested parties involved in transportation, air quality, etc is required to determine if there is an agency role in the project.

We have examined the documentation supplied and spoke with Pat McAchren about the project. It appears that transit has little, if any role for the project. The building of the bypass may even facilitate the movement of buses between the Bay Area and Yosemite and could enhance the use of bus transportation in this corridor.

We will be unable to attend your meeting. But we thank you for keeping FTA informed on this project.

Sincerely,

Robert E. Hom
Director, Program Development

cc: Greg Steel, SAAG
Dennis Scovill, FHWA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

September 15, 1993

Leonard E. Brown, Chief
District Operations-C
Federal Highway Administration
980 Ninth Street, Ste. 400
Sacramento, CA 95814-2724

Re: Notice of Intent to Prepare an EIS
State Route 120 (Oakdale Bypass)
Stanislaus County, California

Dear Mr. Brown:

The U.S. Environmental Protection Agency (EPA) has reviewed the Notice of Intent (NOI) to prepare an environmental impact statement (EIS) to reconstruct Route 120 to bypass Oakdale, California. The NOI states that the purpose of the project is to relieve congestion on the existing highway. The project would be located in Stanislaus County, California.

We provide our comments pursuant to the National Environmental Policy Act (NEPA), Section 309 of the Clean Air Act and the Council on Environmental Quality's Regulations for Implementing NEPA (40 C.F.R. Parts 1500-1508).

We appreciate the opportunity to review and provide comments on this scoping for the preparation of an environmental impact statement. Please send two copies of the Draft Environmental Impact Statement to this office at the same time it is officially filed with our Washington, DC office. If you have any questions, please feel free to contact me at (415) 744-1574, or have your staff contact Kathryn Mazaika at (415) 744-1575.

Sincerely,

David J. Farrel, Chief
Environmental Review Section
Office of Federal Activities

Enclosure: 8 pages
MI# 1566: SR120OAK.NOI

cc: Jeffrey Brooks, FHWA - Region IX
District Director, Caltrans District 9
Wayne White, U.S. Fish & Wildlife Service-Sacramento

U.S. Army Corps of Engineers-Sacramento
Lonnie Wass, Regional Water Quality Control Board-Central Valley Region
California Department of Fish & Game-Region 4 (San Joaquin Valley-Southern Sierra)
Dave Jones, San Joaquin Valley Unified Air Pollution Control District

U.S. EPA Comments - Notice of Intent to Prepare an EIS
State Route 120 (Oakdale Bypass)
Stanislaus County, California

GENERAL COMMENTS

Purpose and Need for the Project

1. The statement should specify the purpose and need to which the agency is responding in proposing the alternatives, including the proposed action. [40 C.F.R. § 1502.13]

2. We recommend that the project purpose include proposals to increase accessibility and options to reduce automotive travel as design triggers, in addition to proposals to relieve congestion by increasing capacity.

Alternatives Analysis

1. The Draft EIS should rigorously explore and objectively evaluate all reasonable alternatives and briefly discuss the reasons for having eliminated other alternatives from further evaluation. [40 C.F.R. § 1502.14]

2. We recommend that project sponsors consider a combination of alternatives in addition to those noted in the FHWA Technical Advisory (T 6640.8A, page 14) to meet the project purpose and need. A combination alternative could include transit, transportation systems management, and build variations.

Direct, Indirect and Cumulative Impacts

1. The DEIS should discuss direct, indirect and cumulative effects of the proposed action. Direct effects are caused by the action and occur at the same time and place [40 C.F.R. § 1508.8(a)]. Indirect effects are caused by the action and are later in time or further removed in distance, but are still reasonably foreseeable. They may include induced changes in land use patterns, population density and growth rate and related effects on air, water and other natural systems [40 C.F.R. § 1508.8(b)]. Cumulative impacts result from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions, regardless of what agency undertakes the action [40 C.F.R. § 1508.7].

Other NEPA Comments

1. The DEIS should cite specific documents and page numbers for documents incorporated by reference, and briefly describe the contents of the referenced material. The project sponsor should ensure that referenced materials are reasonably available for inspection [40 C.F.R. § 1502.21].

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U.S. EPA Comments - Notice of Intent to Prepare an EIS
State Route 120 (Oakdale Bypass)
Stanislaus County, California

AFFECTED ENVIRONMENT

Air Quality

1. The EIS should identify whether the project is located in an attainment or nonattainment area for the National Ambient Air Quality Standards (NAAQS). If nonattainment, then it should identify the particular pollutant(s), the degree of nonattainment and the levels of violations of state and federal standards.

2. Include statutory requirements, both state and federal, for air quality plans and discuss current planning efforts to revise any of those plans.

3. Identify PSD Class I Areas (i.e., wilderness areas, National Parks and relevant National Monuments, etc.), which receive special protection for particulates, SO_2, NO_x.

4. Identify areas with special visibility value or protection.

Water Quality

1. The EIS should discuss the project area's compliance with state and local water quality management plans and state-adopted, EPA-approved water quality standards. We recommend coordinating project planning with the Fresno Branch office of the Central Valley Regional Water Quality Control Board to ensure protection of water quality and maintenance of beneficial uses.

2. The EIS should describe and map drainage patterns and riparian areas in the proposed project area.

3. The EIS should identify the resources at risk such as wetlands (jurisdictional wetlands/waters of the United States) and fisheries habitat, especially spawning and rearing areas. It should identify the key species and acres of habitat affected, outline the beneficial uses of the area and identify special measures that will be taken to protect vulnerable areas from adverse effects of implementing the project.

4. Federal agencies must comply with the federal consistency requirements of the State's Nonpoint Source Management Program [Section 319(b)(2)(F) and Section 319(k) of the Clean Water Act]. The EIS should identify potential sources of nonpoint pollution from building and operating the proposed action. Such sources may include, but not be

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limited to, sediment, hydrocarbons, heavy metals and herbicides.

Hazardous Substances

The EIS should specify whether any hazardous substances, such as petroleum products and pesticides, will be used/generated as a result of implementing the proposed action.

Biological Resources

1. We recommend that the project sponsors coordinate with the U.S. Fish and Wildlife Service (FWS) and California Department of Fish & Game in the evaluation of potential impacts to threatened and endangered species, rare or sensitive endemic communities and candidate species. The EIS should include copies of correspondence with FWS and listings of species that could occur in the project area.

2. The EIS should discuss the current quality and capacity of habitat, usage by wildlife near the proposed project, and known wildlife corridors/trails.

ENVIRONMENTAL CONSEQUENCES

Air Quality

1. Discuss the potential direct and indirect effects on air quality (and to resources affected by degrading air quality) identified in the Affected Environment section and propose mitigation (if not already covered elsewhere in the analysis and discussion).

Regional Pollutants

Ozone Precursors (hydrocarbons and nitrogen oxides (HC and NO_x))

* Project HC and NO_x in areas that are at or near ozone standards.

Particulate Matter (PM_{10})

* Project direct emissions from construction, vehicles (tire wear, exhaust, brake wear) and reentrained road dust (use AP-42 factors for road dust).

Localized Pollutants

Carbon Monoxide

* Identify and discuss the models used for emissions and for dispersions modeling to determine pollutant concentrations. We recommend using the most current model and emissions factors available.

* When modeling intersections, use the worst case meteorology, i.e., model at least for every 10° of wind, very stable conditions, low wind speed, low mixing height, cold temperature conditions, conservative background level assumptions (high).

* Project emissions without the project and with the project. Specify the land use build out assumptions for each of these projections.

2. Use of Models to Project Air Quality Impacts

* The EIS should include traffic volume projections for each alternative and discuss how the model accounted for induced trips.

* The model should use a complete range of speeds, including those > 55 mph.

* In one California Air Basin, the metropolitan planning organization is required to evaluate the potential effects of the project on all pollutants. We recommend an evaluation of the project's potential effects on regional pollutants, even though the FHWA 1987 Technical Advisory does not recommend a project-by-project evaluation. Such pollutants include ozone precursors (hydrocarbons and nitrogen oxides) and particulate matter.

3. Conformity to Clean Air Act Amendments Requirements

The Draft EIS should demonstrate that the proposed action will not (a) cause or contribute to any new violation of the NAAQS, (b) increase the frequency or severity of any existing violation of any standard, (c) delay timely attainment of any standard or any required interim emission reductions or other milestones in the project area pursuant to Section 176(c) of the Clean Air Act [42. U.S.C. § 7506(c)].

Further, the EIS should demonstrate (pursuant to Section 7506(c)(3)) that the project (1) comes from a conforming transportation plan and program, (2) has not changed in design concept and scope from the design concept and scope approved in the program, and in carbon monoxide (CO) nonattainment areas, (3) eliminates or reduces the severity and number of violations of CO standards in the area substantially affected by the project.

EPA proposed criteria and procedures for determining conformity to transportation plans [58 Fed. Reg. 3768 (1993)]. We recommend that the project sponsors consult Bob O'Loughlin of the Federal Highway Administration Regional Office to keep abreast of the status and requirements of the proposed rule.

We also recommend coordinating with the San Joaquin Valley Unified Air Pollution Control District to ensure compliance with federal and state air quality standards. You may wish to contact Dave Jones, at (209) 497-1075.

Water Resources

Wetlands

1. The Draft EIS should identify the projected impact to waters of the U.S., including wetlands, i.e., acres of fill and acres altered by shading, sedimentation or other changes. It should specifically discuss potential impacts to the Stanislaus River from building a new crossing.

2. The EIS should demonstrate how the proposed action will comply with the 404(b)(1) Guidelines promulgated pursuant to Section 404 of the Clean Water Act [40 C.F.R. Part 230]. In particular, the EIS should:

   a. demonstrate that the project sponsors have selected the least damaging practicable alternative based on costs, logistics and existing technology with respect to waters of the United States, including wetlands. [40 C.F.R. § 230.10(a)]

   b. describe how the project sponsors will avoid, minimize and mitigate the potential impacts of implementing each of the alternatives. (Enclosed is a copy of the Memorandum of Agreement between EPA and the Army concerning the determination of mitigation under the Clean Water Act Section 404(b)(1) Guidelines from which pertinent information may be drawn.) For impacts that are unavoidable, the EIS should include mitigation with as much detail as possible. It should show specific site plans and

U.S. EPA Comments - Notice of Intent to Prepare an EIS
State Route 120 (Oakdale Bypass)
Stanislaus County, California

propose a mitigation ratio. It should not propose existing wetlands for mitigation.

c. demonstrate that implementing the action will not jeopardize the continued existence of species listed as endangered or threatened under the Endangered Species Act of 1973 or result in the destruction or adverse modification of a habitat which is critical habitat under the Endangered Species Act of 1973.

d. discuss how the impacts of the proposed action may contribute to cumulative losses of wetlands in the area.

e. discuss whether the project will cause or contribute to significant degradation of the waters of the United States.

Water Quality

1. We recommend that you consider the management practices listed in Attachment A to minimize erosion and maximize the retention of soil on-site and in siting the roadway. We also recommend that you contact Lonnie Wass, the Nonpoint Source Coordinator at the Regional Water Quality Control Board, regarding other appropriate management practices for your project area. You can reach the Regional Board at (209) 445-5116.

2. We recommend that the EIS include a conceptual runoff and sedimentation control plan and discuss the management practices it intends to implement to protect water quality. The EIS should also discuss how the management practices will be monitored to ensure that they are effective in protecting water quality.

Hazardous Substances

If the project sponsors expect to use hazardous substances (40 C.F.R. § 302.4) in conjunction with the proposed action, the EIS should discuss how the project sponsors will protect against spills in compliance with the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the methods that will be used to clean-up and dispose of spills/wastes in compliance with the Resource Conservation and Recovery Act (RCRA) regulations found at 40 C.F.R. § 260 to 268.

U.S. EPA Comments - Notice of Intent to Prepare an EIS
State Route 120 (Oakdale Bypass)
Stanislaus County, California

Biological Resources

1. Evaluate increased mortality from higher traffic levels, habitat removal, reduced access to habitat, and estimated reductions in impact from mitigation.

2. Mitigation considerations should include analysis of the following: (1) the extent to which stream crossings can be modified to also serve as wildlife crossings, (2) crossings dedicated for wildlife use to reduce wildlife mortality, connect habitat areas, and reduce traffic accidents. Crossings should be of sufficient width, minimal dark passages, and wing fencing.

U.S. EPA Comments - Notice of Intent to Prepare an EIS
State Route 120 (Oakdale Bypass)
Stanislaus County, California

Attachment A

Erosion

1. Schedule projects so clearing and grading is done during times of minimum erosion potential.
2. Mark and clear off only areas essential for construction.
3. Avoid disturbing vegetation on steep slopes or other critical areas such as highly erodible soils and areas that drain directly into sensitive water bodies.
4. Route construction to avoid existing and newly planted vegetation.
5. Protect natural vegetation with fencing, tree armoring.
6. Cover or stabilize topsoil stockpiles.
7. Use wind erosion controls to act as wind barriers such as solid board fences, snow fences and bales of hay.
8. Seed and mulch disturbed areas.

Siting Roadways and Bridges

1. Consider the type and location of permanent erosion and sediment controls such as vegetative buffer strips, grassed swales, energy dissipators and velocity controls.
2. Avoid marshes, bogs and other low-lying lands subject to flooding.
3. Assess and establish adequate setback distances near wetlands, waterbodies and riparian areas to ensure protection from encroachment in the vicinity of these areas.
4. Avoid locations requiring excessive cut and fill.
5. Avoid locations subject to subsidence, land slides, rock outcroppings and highly erodible soils.
6. Size right-of-ways to include space for siting runoff pollution control structures, as appropriate.
7. Avoid locations requiring numerous river crossings.
8. Direct pollutant loadings away from bridge decks by diverting runoff waters to land for treatment.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, Ca. 94105-3901

FEB - 9 1995

Gene Berthelsen, Chief
Environmental Planning Branch A
Caltrans
PO Box 2048
Stockton CA 95201

Dear Mr. Berthelsen:

The US Environmental Protection Agency (EPA) has received your letter dated December 28, 1994 requesting EPA's concurrence, under the NEPA/404 Memorandum of Understanding (MOU), for three aspects of the environmental documentation for the OAKDALE BYPASS PROJECT, ROUTE 120 IN AND NEAR THE CITY OF OAKDALE, STANISLAUS COUNTY, CALIFORNIA. Your letter was received in our office on January 4, 1995. You specifically request EPA's concurrence on the project's Purpose and Need Statement, Alternatives under Study, and Alternatives Considered and Rejected.

At this time we agree that Caltrans can proceed to the next stage in the documentation process. However, we would like to refer you to Appendix A (p. 2) of the NEPA/404 MOU which provides that circulation of the Draft EIS and Section 404 public notice should be "closely coordinated." Additionally, although identification of the Section 404 Least Environmentally Damaging Practicable Alternative (LEDPA) is not required until the Final EIS stage, we encourage Caltrans to provide a brief discussion in the draft EIS regarding which of the build alternatives is or may be the LEDPA. As you know, the purpose of a Section 404 alternatives analysis is to demonstrate whether there are practicable alternatives to a proposed project that would have less adverse impact on the aquatic ecosystem. According to the 404(b)(1) Guidelines promulgated by EPA under authority of the Clean Water Act, no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge that would have less adverse impacts on the aquatic ecosystem, as long as the alternative does not have other significant adverse environmental consequences [40 CFR 230.10(a)(3)]. A brief discussion in the Draft EIS on what alternative is or may be the LEDPA would be of value to EPA when providing comments to the Corps of Engineers on the public notice.

We would also like to express our thanks to your office for providing an informational briefing on the project to EPA and other agencies at the Army Corps' Sacramento office on December 7, 1994. If you have any questions or require additional information, please call me at 415-744-1584 or David Tomsovic of my staff at 415-744-1569. Lastly, please send two copies of the Draft EIS to my attention (David Farrel, code: E-3) when it is officially filed with EPA's Washington, D.C. office.

Sincerely,

David Farrel, Acting Chief
Office of Federal Activities

cc: Dan Harris, FHWA, San Francisco
Kristi Young, F&WS, Sacramento
Kathy Norton, COE, Sacramento
Pat McAchren, Caltrans, Stockton
George Wishman, FHWA, Sacramento

M.I. #1566

STATE OF CALIFORNIA — THE RESOURCES AGENCY

PETE WILSON, Governor

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
P.O. BOX 942896
SACRAMENTO 94296-0001
(916) 653-6624
FAX: (916) 653-9824

Scanned:- #1747

(916) 653-6624
FAX (916) 653-9824

August 16, 1995

FHWA950530A

Fred J. Hempel, Division Administrator
Federal Highway Administration
Region Nine, California Division
980 9th Street, Suite 400
SACRAMENTO CA 95814-2724

Re: Oakdale Bypass Project, Between Post Mile 3.0 and Post Mile 12.9, Oakdale, Stanislaus County.

Dear Mr. Hempel:

Thank you for submitting to our office your May 25, 1995 letter and Historic Property Survey Report (HSPR) regarding the proposed construction of a 9.9 mile two-lane bypass of the City of Oakdale on Route 120 in Stanislaus County. The proposed project will construct a two-lane expressway between Post miles 3.0 and 12.9 to bypass the City of Oakdale. Five build alternatives for corridor alignments are being considered for the project. The alternatives share a common departure point from Route 120 on mile east of Wamble Road and range in distance from 6.4 to 9.8 miles in length. In addition, a no build alternative and a Transportation System Management (TSM) alternative are also being considered.

A description of each alternative is too lengthy for inclusion in this letter, so we will note, for point of reference, that each description is contained in Section 2.0 of Appendix A of the HSPR. The alternatives are described first as an expressway alternative in the year 2010 and second as a freeway alternative in the year 2020. The expressway section is 42 feet wide and utilizes the westbound freeway roadbed. One lane of traffic is provided in each direction. The 114 foot wide freeway provides two lanes of traffic in each direction separated with a 46 foot wide unpaved median. Right-of-way for the freeway improvements will be acquired in each of the expressway alternatives.

You are seeking our comments on your determination of the eligibility of pre-1945 properties (26 houses and farmsteads and one irrigation system) located within the prject Area of Potential Effect (APE) and described in Appendix C of the submitted HSPR for inclusion on the National Register of Historic Places (NRHP) in accordance with Section 106 of the National Historic Preservation Act. Another 106 post-1945 properties that were located within

REC'D FHWA

SEP 0 5 1995

the project APE have been listed in the HPSR in accordance with the stipulations of the 1989 Memorandum of Understanding... Regarding Evaluation of Post-1945 Buildings, Moved Pre-1945 Buildings, and Altered Pre-1945 Buildings. Our review of the submitted documentation leads us to concur with your determination that none of the pre-1945 properties listed for evaluation in the HSPR are eligible for inclusion on the NRHP under any of the criteria established by 36 CFR 60.4. None of the structures has strong associations with historic events or persons, nor are they architecturally significant.

You have also requested our comments on the eligibility of four archeological sites located within the project APE and evaluated in the HSPR for NRHP eligibility. These sites include:

- o CA-STA-347H - The Cottle Historic Dump
- o CA-STA-348H - The Windmill Site
- o CA-STA-349H - The Kumle Placer Mining Claim
- o CA-STA-350H - The Southern Pacific Railroad Site

Our review of the information contained in the HSPR leads us to concur with your determination that none of the above sites are eligible for the NRHP under any of the criteria established by 36 CFR 60.4. We also agree that the studies to date of site CA-Sta-346 are adequate, and we anticipate further evaluation as the project progresses. We are encouraged to note that supplemental investigations of site CA-Sta-346 will be undertaken if the site cannot be avoided by future designs of the by-pass.

Thank you again for seeking our comments on your project. If you have any questions, please contact staff historian Clarence Caesar at (916) 653-8902.

Sincerely,

Cherilyn Widell
State Historic Preservation Officer

BIOSYSTEMS ANALYSIS INC.

February 18, 1992

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

File: 10-Sta-120 0.0/10.3
Oakdale Bypass Study
10-345400
Cultural Resources

Dear Ms. McNolty,

BioSystems Analysis is conducting a literature and record search for a proposed Oakdale Bypass on State Route 120 between post miles 0.0 to 10.3 near the town of Oakdale in Stanislaus County. The two proposed routes are marked in red on the enclosed map.

Please conduct a record search and notify me if any sacred lands, archeological sites or other locations of interest for Native Americans are recorded within or adjacent to the project area. Early identification of these properties will ensure their consideration during the project planning stage. Your response can be sent to me at the Tiburon office or if you have any question I can be reached at 415-435-0399.

Sincerely,

John Holson
Staff Archaeologist

cc: Bill Davilla, BioSystems
PBQ&D, San Jose
Chron:File

3152 Paradise Drive, Bldg. 39. Tiburon, CA 94920 • (415) 435-0399 (office) (415) 435-0893 (FAX)

STATE OF CALIFORNIA - BUSINESS, TRANSPORTATION AND HOUSING AGENCY GRAY DAVIS, Governor

DEPARTMENT OF TRANSPORTATION
3402 NORTH BLACKSTONE, SUITE 201
FRESNO, CA 93726-5308
TDD (559) 488-4066
OFFICE (559) 243-8209
FAX (559) 243-8215

mailed 2/20/01

February 18, 2001

Debbie Pilas-Treadway
Native American Heritage Commission
915 Capitol Mall, Rm. 364
Sacramento, CA 95814

10-STA-120
K.P. 4.5/R20.8
P.M. 3.0/R12.9
EA 10-345400

RE: SACRED LANDS SEARCH FOR A PROJECT IN STANISLAUS COUNTY

Dear Ms. Pilas-Treadway:

Caltrans is planning an activity in **Stanislaus County**. Please review the Sacred Lands Files for any Native American cultural resources or other areas of concern that may be within or adjacent to the project area depicted on the accompanying topographic map(s). We also request a list of Native American individuals/organizations who may have knowledge of cultural resources or other areas of concern that might be within this location.

NAME OF PROJECT: State Route 120, Oakdale Expressway Project

DESCRIPTION OF PROJECT: Acquisition of a right-of-way (61m [200 ft.] wide) for a future transportation facility (most likely a four-lane freeway) and the construction of a two-lane expressway within this right-of-way. There are five alternative alignments being proposed for this project: 1, 2A, 2B, 2C, 2D. (Please refer to the attached maps.)

LOCATION (Township/Range, Section, Map Name): T1S/R10E, and southern edge of Spanish Land Grant: Rancheria Del Rio Estanislau, T1S/R11E, Rancheria Del Rio Estanislau, T2S/R10E, S1,2,11,12, T2S/R11E, S4,5,6,7,8,9,10, Rancheria Del Rio Estanislau, and Eight Square Leagues Land Grant, *Oakdale, CA 7.5' USGS topographic map*; T1S/R11E, S35,36, Rancheria Del Rio Estanislau T2S/R11E, S2,3,10, *Knights Ferry, CA 7.5' USGS topographic map.*

Any information you can provide will be appreciated. If you have any questions please do not hesitate to contact me at (559)243-8209 (CALNET 8-425-8209), Kim_Tanksley@dot.ca.gov.

Thank you for your assistance.

Kim Tanksley

Kim Tanksley
Environmental Planner / Archaeologist
Central California Heritage Resources Branch

Enclosures:
Project Location Map
Alternative Alignment Map

MAR-21-01 WED 05:24 PM NAHC FAX NO. 9166575390 P.01

STATE OF CALIFORNIA Gray Davis, Governor

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

March 19, 2001

Kim Tanksley
Department of Transportation
3402 N. Blackstone, Suite 201
Fresno, CA 93726

RE: State Route 120, Oakdale Expressway Project – Stanislaus County

Sent By Fax: (559) 243-8215
Pages Sent: 2

Dear Ms. Tanksley:

A record search of the sacred lands file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend other with specific knowledge. A minimum of two weeks must be allowed for responses after notification.

If you receive notification of change of addresses and phone numbers from any these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 653-4038.

Sincerely,

Debbie Pilas-Treadway

Debbie Pilas-Treadway
Associate Governmental Program Analyst

MAR-21-01 WED 05:25 PM NAHC FAX NO. 9166575390 P. 02

NATIVE AMERICAN CONTACTS
Stanislaus County
March 15, 2001

Tuolumne Band of Me-Wuk Reba Fuller P.O. Box 699 Tuolumne , C A 95379 (209) 928-1389 - Home (209) 928-3479 - Tribal Office (209) 928-1677 - Tribal Fax	Me-Wuk - Miwok
Katherine Erolinda Perez 1234 Luna Lane Stockton , C A 95206 (209) 941-1900 work	Ohlone/Costanoan Northern Valley Yokut Bay Miwok

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regards to the cultural assessment for the proposed State Route 120, Oakdale, Stanislaus County

SAAG
Stanislaus Area
Association of Governments

1025 Fifteenth Street Modesto, CA 95354
Telephone (209) 558-7830 FAX (209) 558-7833

October 28, 1994

Mr. Gordon A. Marts
District Director
Caltrans, District 10
P. O. Box 2048
Stockton, California 95201

Attention: Mr. Edwin J. Erwin

Dear Mr. Marts:

On October 27, 1994, the Oakdale Bypass Project Development Team met to discuss the need for a Major Investment Study (MIS) for the Oakdale Bypass project. SAAG staff has analyzed the potential need and agree that all reasonable alternatives have already been adequately considered for this project; therefore, a MIS is not necessary.

The proposed Oakdale Bypass will be a three to ten mile bypass of the City of Oakdale on State Route 120 which is necessary to reduce congestion and facilitate interregional movement of traffic to recreational areas. SAAG staff concurs that proposed alternatives cover all reasonable alternatives, that further study of additional alternatives is not warranted, and that the project should move forward.

If you have any questions, please contact Margaret Middleton or me.

Cordially,

Greg Steel
Executive Director

cc: Pat McAchren, Caltrans, District 10
Bruce Bannerman, City of Oakdale
Larry Pollard, Stanislaus County Public Works Dept.
Walter Strakosh, FTA, Region IX, San Francisco
Wade Hobbs, FHWA, California Division, Sacramento

JURISDICTIONS: City of Ceres, City of Hughson, City of Modesto, City of Newman, City of Oakdale, City of Patterson, City of Riverbank, City of Turlock, City of Waterford, County of Stanislaus

Chairman
Stanislaus County Board of Supervisors

Sept 26,1995

The Citizens Advisory Committee (C.A.C.) for the proposed Oakdale Bypass held its final meeting this date.

For the past three years we have reviewed technical reports provided by Cal Trans and their consultants, we have held periodic (usually monthly) public meetings to gather public input for a proposed preferred route for the bypass and we have gathered information from local sources in order to present to you what we feel to be the best route for the Oakdale Bypass.

After tabulation of individual votes by committee members using a "Weighted Matrix" method of selection which reviewed sixteen topics of study, we provide to you the following recommendation:

That Route 2A is recommended by the C.A.C. as the preferred route for a "OAKDALE BYPASS"

Sincerely

Keith P Marzan
Chairman

mailed 2/20/01

STATE OF CALIFORNIA - BUSINESS, TRANSPORTATION AND HOUSING AGENCY GRAY DAVIS, Governor

DEPARTMENT OF TRANSPORTATION
3402 NORTH BLACKSTONE, SUITE 201
FRESNO, CA 93726-5308
TDD (559) 488-4066
OFFICE (559) 243-8219
FAX (559) 243-8215

February 20, 2001

Reba Fuller
P.O. Box 699
Tuolumne, CA 95379

10-STA-120, K.P. 4.5/R20.8
P.M. 3.0/R12.9, EA 10-345400

RE: INITIAL CONTACT TO REQUEST INFORMATION PERTAINING TO A PROJECT IN **STANISLAUS COUNTY**

Dear Ms. Fuller:

Caltrans is planning an activity in Stanislaus County. Enclosed please find map(s) depicting the project area. We would greatly appreciate hearing from you if you know of any cultural resources or other areas of concern that might be within this location. In September, 1994, an Archaeological Survey Report for this project was completed (attached). We are currently gathering information to update that report. Once these studies have been conducted, documentation will be provided to you. We would appreciate your response by March 19, 2001.

NAME OF PROJECT: State Route 120, Oakdale Expressway Project

DESCRIPTION OF PROJECT: Acquisition of a right-of-way (61m [200 ft.] wide) for a future transportation facility (most likely a four-lane freeway) and the construction of a two-lane expressway within this right-of-way. There are five alternative alignments being proposed for this project: 1, 2A, 2B, 2C, 2D. (Please refer to the attached maps.)

LOCATION (Township/Range, Section, Map Name): T1S/R10E, and southern edge of Spanish Land Grant: Rancheria Del Rio Estanislau, T1S/R11E, Rancheria Del Rio Estanislau, T2S/R10E, S1,2,11,12, T2S/R11E, S4,5,6,7,8,9,10, Rancheria Del Rio Estanislau, and Eight Square Leagues Land Grant, *Oakdale, CA 7.5' USGS topographic map*; T1S/R11E, S35,36, Rancheria Del Rio Estanislau T2S/R11E, S2,3,10, *Knights Ferry, CA 7.5' USGS topographic map.*

Caltrans studies are technical in nature, identifying resources that are observed on or in the ground. Any information or knowledge on cultural resources or other areas of concern that you could share would be appreciated. Thus, with your assistance, the document would accurately represent the existence of resources in the project area. Measures could then be taken to preserve those resources or determine the potential project effects and take appropriate measures to treat those effects. Caltrans understands and appreciates the sensitivity associated with any information you may share. Any information provided regarding cultural sites or other areas of concern will be regarded as confidential material and will only be provided to those federal and state agencies as required by law. The material may be provided on a need to know basis to any other individuals and organizations and can be done in consultation with the tribe at their request. The purpose of our gathering this type of information is to allow Caltrans to provide the respect these sites deserve.

Any information you can provide will be appreciated. If you have any questions or concerns please do not hesitate to call me at (559) 243-8219 or the project archaeologist Kim Tanksley at (559) 243-8209. Thank you for your continued assistance on Caltrans projects. We value your participation and input.

Sincerely,

Jeanne Binning, Senior Environmental Planner
Central California Heritage Resources Branch

Enclosures:
Project Location Map
Alternative Alignment Map(s)
Archaeological Survey Report, September, 1994

STATE OF CALIFORNIA - BUSINESS, TRANSPORTATION AND HOUSING AGENCY GRAY DAVIS, Governor

DEPARTMENT OF TRANSPORTATION
3402 North Blackstone Avenue Suite 201
Fresno, CA 93728-5395
OFFICE (559) 243-8219
FAX (559) 243-8215

March 7, 2001

Reba Fuller
P.O. Box 699
Tuolumne, CA 95379

File: 10-STA-120
KP 4.5/R20.8
PM 3.0/R12.9
EA 10-345400

RE: Historic Properties and the Oakdale Bypass Project

Dear Ms. Fuller:

Attached is a copy of the Historic Property Survey Report (HPSR) for the above-referenced project. For the Oakdale Bypass Project, Caltrans proposes to construct a two-lane expressway between Post Miles 3.0 and 12.9 to bypass the City of Oakdale in Stanislaus County, California. Five alternatives for corridor alignments, as well as a No Build are being considered. The "build" alternatives share a common departure point from existing State Route 120 one-tenth mile west of Home Valley Road. Two alternatives reconnect with existing State Route 120 one mile east of Wamble Road, while the other two reconnect 4.9 miles east of Wamble Road, at the East Interchange. The five alternatives range from 6.4 to 9.8 miles long, and each has two or three interchanges.

This Supplemental Historic Architectural Survey Report (HASR) was prepared for the proposed Oakdale Bypass in response to a comment letter from the Federal Highway Administration. In December 2000, FHWA requested that Caltrans evaluate structures in the project area that had been built between 1945 and 1950 because enough time had elapsed since the original studies had been conducted that they had become fifty years old. To anticipate a further time lag, Caltrans included structures built before 1955 in this supplemental study. Please be aware, that further archaeological studies are in progress and additional information will be forthcoming as it becomes available.

Four properties were formally evaluated for eligibility for the National Register of Historic Places using the criteria established by the National Historic Preservation Act, and were found to be ineligible.

Twenty-five properties qualified for treatment under the Interim Guidelines to the December 20, 1989 "Memorandum of Understanding Regarding the Evaluation of Post-1945 Buildings, Moved Pre-1945 Buildings, and Altered Pre-1945 Buildings."

As a federally-recognized Native American group from the vicinity of the project, you are a Consulting Party for purposes of Section 106 of the National Preservation Act and its implementing regulations, 36 CFR Part 800. Therefore, we request your comments regarding our additional efforts to identify Historic Properties in the area of this Undertaking.

Please provide any comments you may have on our Historic Property evaluation and identification efforts by May 1, 2001. If you have any questions or need additional information, please do not hesitate to contact Kim Tanksley at (559) 243-8209 or at the above address.

Sincerely,

Jeanne Day Binning, Ph.D.
Senior Environmental Planner

STATE OF CALIFORNIA - BUSINESS, TRANSPORTATION AND HOUSING AGENCY GRAY DAVIS, Governor

DEPARTMENT OF TRANSPORTATION
3402 North Blackstone Avenue Suite 201
Fresno, CA 93728-5395
OFFICE (559) 243-8219
FAX (559) 243-8215

April 5, 2001

The Honorable Kevin Day, Chairman
Tuolumne Rancheria
P.O. Box 699
Tuolumne, CA 95379

File: 10-STA-120
KP 4.5/R20.8
PM 3.0/R12.9
EA 10-345400

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Sincerely,

Jeanne Day Binning, Ph.D.
Senior Environmental Planner

JDB:akt
Enclosure
cc: Reba Fuller

mailed 2/20/..

STATE OF CALIFORNIA · BUSINESS, TRANSPORTATION AND HOUSING AGENCY GRAY DAVIS, Governor

DEPARTMENT OF TRANSPORTATION
3402 NORTH BLACKSTONE, SUITE 201
FRESNO, CA 93726-5308
TDD (559) 488-4066
OFFICE (559) 243-8219
FAX (559) 243-8215

February 20, 2001

Katherine Erolinda Perez
1234 Luna Lane
Stockton, CA 95206

10-STA-120, K.P. 4.5/R20.8
P.M. 3.0/R12.9, EA 10-345400

RE: INITIAL CONTACT TO REQUEST INFORMATION PERTAINING TO A PROJECT IN **STANISLAUS COUNTY**

Dear Ms. Perez:

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Archaeological Survey Report, September, 1994

STATE OF CALIFORNIA - BUSINESS, TRANSPORTATION AND HOUSING AGENCY GRAY DAVIS, Governor

DEPARTMENT OF TRANSPORTATION
3402 North Blackstone Avenue Suite 201
Fresno, CA 93728-5395
OFFICE (559) 243-8219
FAX (559) 243-8215

March 7, 2001

Katherine Erolinda Perez
1234 Luna Lane
Stockton, CA 95206

File: 10-STA-120
KP 4.5/R20.8
PM 3.0/R12.9
EA 10-345400

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Sincerely,

Jeanne Day Binning, Ph.D.
Senior Environmental Planner

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CALIFORNIA DIVISION
980 Ninth Street, Suite 400
Sacramento, CA. 95814-2724
March 15, 2001

IN REPLY REFER TO
HDA-CA
File #: 10-STA-120, PM 3.0/R12.9
Document #: P34780

CERTIFIED RETURN RECEIPT REQUESTED: 7000 0520 0024 1902 0417

Dr. Knox Mellon
State Historic Preservation Officer
Office of State Historic Preservation
P.O. Box 942896
Sacramento, CA 94296-0001

Dear Dr. Mellon:

SUBJECT: STATE ROUTE 120, OAKDALE BYPASS, STANISLAUS COUNTY

Enclosed is a Supplemental Historic Property Survey Report (HPSR) for the above-referenced project. The proposed project is the acquisition of right-of-way for a four-lane freeway and the construction of a two-lane expressway that will bypass the City of Oakdale. There are five proposed alternative alignments for the State Route 120 Oakdale Bypass/Expressway Project.

In accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800, we previously obtained SHPO concurrence on an HPSR for this project in 1995. The Area of Potential Effects (APE) has not changed since our first submission. Recently, Caltrans submitted the Draft Environmental Document to us for review. We found that, since the HPSR had been approved in 1995, many of the structures previously covered by the Memorandum of Understanding for late, altered, and moved structures were now over 50 years old and required further study. The enclosed HPSR addresses these structures.

In the original HPSR, 138 cultural resources were identified in the APE for the Oakdale Project. Of these, 106 resources fell under the purview of the "Memorandum of Understanding Among the Federal Highway Administration, California Division (FHWA), the California Department of Transportation (*Caltrans*), and the California State Historic Preservation Officer (SHPO) Regarding the Evaluation of Post-1945 Buildings, Moved Pre-1945 Buildings, and Altered Pre-1945 Buildings." Twenty-six of the architectural resources, one canal, and four historic archaeological sites were evaluated in 1995.

One prehistoric site in the APE remains unevaluated in accordance with the approach agreed upon in 1995. This prehistoric site will not be further tested unless the site ends up in the preferred alternative/final APE. All of the previously evaluated resources were determined not eligible to the National Register of Historic Places. You concurred with these findings in a letter dated August 18, 1995. The concurrence letter can be found in Attachment 3 of the enclosed Supplemental HPSR.

DOTD10 MAR23'01 08:32

After reconsidering all the cultural resources in the APE, we found 29 resources that were now 50 years old or would become 50 years old before the start of construction. Twenty-five of these architectural properties are still appropriately treated under the MOU, because they are significantly altered. Four architectural properties were formally evaluated and determined not eligible to the National Register of Historic Places.

We therefore request your concurrence in our determination that:

1. The project's Area of Potential Effects (APE) is still valid/defined adequately.

2. None of the evaluated resources/properties are eligible for the National Register.

3. The cultural resource studies conducted to date are adequate.

4. With the exception of the previously mentioned unevaluated site, no historic resources/properties will be affected by this undertaking.

Sincerely,

/s/ Brian Zewe

For
Michael G. Ritchie
Division Administrator

Enclosure

cc:
Gary Winters, Caltrans HQ Acting Chief Environmental Program
Dale Jones, Caltrans District 10 Environmental
Jeanne Binning, Chief Environmental Planner, District 6

cc (E-Mail):
Glenn Clinton, HA-CA
Larry Vinzant, HA-CA
Brian Zewe, HA-CA

Appendix B

Supplemental Biological Information

Table B.1 Definition of Function/Value Ratings for Wetlands

Function	Definition of Range of Potential Values
Flood Control	**High:** groundwater table slopes away from wetland, regulated reservoir, below dam/impoundment, outlets but no defined inlet, outflow less than inflow, capacity to delay runoff (depression), presence of springs, non-riparian, permanently or seasonally inundated, non tidal. **Low:** wetlands with impervious underlying strata, wetlands rated "HIGH" for groundwater recharge but lacking characteristics for a "HIGH" groundwater discharge rating, permanently inundated (i.e. less capacity), no potential ponding, all tidal wetlands, marine/estuarine wetlands.
Water Quality	**High:** potential for erosion or toxicants in the watershed combined with capacity to confine or impound water; no outlet (or constricted), riffle and pool complexes, erect vegetation. **Low:** no flowing water, no open water > 100 feet wide, or no vegetation; high-velocity wetlands, immediately downstream of an impoundment, low sediment trapping, peat sediments, anoxic water column, marine wetlands
Production Export	**High:** high primary productivity and high water velocity; riverine wetlands with eutrophic conditions, large watershed (>100 square miles), erect or submerged vegetation. Headwater wetlands with erect vegetation, erosive conditions, potential for flooding, and eutrophic conditions. **Low:** no permanent or intermittent wetlands.
Wildlife Habitat	**High:** riparian wetlands, floodplain wetlands, high vegetation diversity that also provide partial shading, erect vegetation, wetland-upland complexes, regularly flooded, adequate levels of dissolved oxygen. **Low:** isolated wetlands within urbanized areas, lack of connecting corridors, small wetlands with low vegetation diversity or narrow ecotones, wetlands have a substrate of bedrock or rubble, farmed, acidic surface water.
Uniqueness Heritage	**High:** presence of special status species, significant archeological resources, "unique" wetland types, or publicly owned lands designated for conservation, preservation, or research. **Low:** wetlands not utilized or accessible for recreation.

Note: Functions are based on Adamus and Stockwell (1983), Adamus, et al., (1983), and Adamus et al., (1987). Values refer to the probability that a particular wetland/water is performing the listed function.

Table B.2 Summary of Wetland Ratings By Alternative

Wetland Type	Functions/Value	Alt 1	Alt 2A	Alt 2B	Alt 2C	Alt 2D	No Action[a]
Riparian	Flood Control	**H (3)**	H (3)	H (3)	H (3)	H (3)	N/A
	Water Quality	M (2)	M (2)	M (2)	H (3)	H (3)	N/A
	Production Export	L (1)	L (1)	L (1)	M (2)	M (2)	N/A
	Wildlife Habitat	H (3)	M (2)	M (2)	H (3)	H (3)	N/A
	Uniqueness/Heritage	M (2)	L (1)	L (1)	L (1)	L (1)	N/A
Summary of Wetland Functions[b]		M+ (2.2)	M- (1.8)	M- (1.8)	M+ (2.4)	M+ (2.4)	N/A
Marshes And Meadows	Flood Control	M (2)	M (2)	M (2)	M (2)	M (2)	N/A
	Water Quality	L (1)	L (1)	L (1)	L (1)	L (1)	N/A
	Production Export	L (1)	L (1)	L (1)	L (1)	L (1)	N/A
	Wildlife Habitat	M (2)	M (2)	M (2)	M (2)	M (2)	N/A
	Uniqueness/Heritage	L (1)	L (1)	L (1)	L (1)	L (1)	N/A
Summary of Wetland Functions		L+ (1.4)	L+ (1.4)	L+ (1.4)	L+ (1.4)	L+ (1.4)	N/A
Vernal Pools	Flood Control	N	L (1)	L (1)	L (1)	L (1)	N/A
	Water Quality	N	L (1)	L (1)	L (1)	L (1)	N/A
	Production Export	N	M (2)	M (2)	M (2)	L (1)	N/A
	Wildlife Habitat	N	M (2)	M (2)	M (2)	L (1)	N/A
	Uniqueness/Heritage	N	M (2)	M (2)	M (2)	M (2)	N/A
Summary of Wetland Functions		0	M- (1.6)	M- (1.6)	M- (1.6)	L+ (1.2)	N/A
Rivers	Flood Control	H (3)	H (3)	H (3)	H (3)	H (3)	N/A
	Water Quality	M (2)	L (1)	L (1)	H (3)	H (3)	N/A
	Production Export	M (2)	M (2)	M (2)	M (2)	M (2)	N/A
	Wildlife Habitat	H (3)	M (2)	M (2)	M (2)	M (2)	N/A
	Uniqueness/Heritage	M (2)	M (2)	M (2)	M (2)	M (2)	N/A
Summary of Wetland Functions		M+ (2.4)	M (2.0)	M (2.0)	M+ (2.4)	M+ (2.4)	N/A
Intermittent Streams	Flood Control	N	M (2)	M (2)	M (2)	M (2)	N/A
	Water Quality	N	M (2)	M (2)	M (2)	M (2)	N/A
	Production Export	N	L (1)	L (1)	M (2)	M (2)	N/A
	Wildlife Habitat	N	M (2)	M (2)	M (2)	M (2)	N/A
	Uniqueness/Heritage	N	L (1)	L (1)	L (1)	L (1)	N/A
Summary of Wetland Functions		0	M- (1.6)	M- (1.6)	M- (1.8)	M- (1.8)	N/A
Lakes	Flood Control	N	L (1)	L (1)	L (1)	L (1)	N/A
	Water Quality	N	M (2)	M (2)	M (2)	M (2)	N/A
	Production Export	N	M (2)	M (2)	M (2)	M (2)	N/A
	Wildlife Habitat	N	M (2)	M (2)	M (2)	M (2)	N/A
	Uniqueness/Heritage	N	M (2)	M (2)	M (2)	M (2)	N/A
Summary of Wetland Functions		0	M- (1.8)	M- (1.8)	M- (1.8)	M- (1.8)	N/A
Irrigation Ditches	Flood Control	L (1)	L(1)	L (1)	L (1)	L (1)	N/A
	Water Quality	L (1)	L (1)	L (1)	L (1)	L (1)	N/A
	Production Export	N	N	N	N	N	N/A
	Wildlife Habitat	L (1)	M (2)	M (2)	M (2)	M (2)	N/A
	Uniqueness/Heritage	N	N	N	N	N	N/A
Summary of Wetland Functions		L- (0.6)	L- (0.8)	L- (0.8)	L- (0.8)	L- (0.8)	N/A

Note: See Table B.1 for definitions of ranges of values. Moderate (M) was added as an intermediate value rating for describing wetlands potentially affected by this project. None (N) indicates that the listed wetland is not expected to perform the listed function for the Alternative given.

[a]No Action Alternative does not directly affect wetlands, so all values are "Not Applicable (N/A)."

[b]The summary of Wetland Functions is based on the average score of function/value ratings. H=3, M=2, L=1, N=0. Categories of herbaceous marsh, seasonally wet meadow and disturbed seasonally wet meadow have been combined into a single category of "marshes and meadows."

Table B.3 Summary of Special Status Species Potentially Impacted

Common Name / *Scientific Name*	Status: Federal	Status: State	Comments
<u>Insects</u>			
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT	--	
<u>Aquatic Invertebrates</u>			
Vernal pool fairy shrimp *Branchinecta lynchi*	FT	--	
Vernal pool tadpole shrimp *Lepidurus packardi*	FE	--	
<u>Reptiles and Amphibians</u>			
California tiger salamander *Ambystoma californiense*	FC	CSC	Formerly Cat. 2
California red-legged frog *Rana aurora draytonii*	FT	CSC	
Foothill yellow-legged frog *Rana boylii*	FSC	CSC	
Western pond turtle *Clemmys marmorata*	FSC	CSC	
Giant garter snake *Thamnophis couchii gigas*	FT	ST	
Western spadefoot toad *Scaphiopus hammondii*	FSC	CSC	
<u>Birds</u>			
Aleutian Canada goose *Branta canadenis leucopareia*	FT*	--	Wintering
Swainson's hawk *Buteo swainsoni*	--	ST	Nesting
Bald eagle *Haliaeetus leucocephalus*	FT	SE	Nesting and wintering
American peregrine falcon *Falco peregrinus anatum*	FE	SE	
<u>Fish</u>			
Central Valley steelhead trout *Oncorhynchus mykiss*	FT	CSC	
Sacramento splittail *Pogonichthys macrolepidotus*	FPT	CSC	
<u>Mammals</u>			
Pale big-eared bat *Corynorhinus townsendii pallescens*	FSC	CSC	
Townsend’s big-eared bat *Corynorhinus townsendii townsendii*	FSC	CSC	
Pallid bat *Antrozous pallidus*	--	CSC	
California mastiff bat *Eumops perotis californicus*	FSC	CSC	
San Joaquin kit fox *Vulpes macrotis mutica*	FE	ST	

Status Abbreviations for State:

SE	Listed as endangered by California
ST	Listed as threatened by the State of California
CSC	Calif. Dept. of Fish & Game Species of Special Concern

Status Abbreviations for Federal:

FE	Listed as endangered
FT	Listed as threatened
FC	Candidate for federal listing
FPT	Proposed for listing as threatened

*Proposed for delisting (50 CFR §17).

Table B.4 Species, Distribution, and Habitat of Special Status Plants Potentially Impacted

Species Common Name[1]	Federal Status[2]	State Status[3]	CNPS Status[1]	Habitat Type[1,4]	Distribution by County[1]
Calycadenia hooveri Hoover's calycadenia	FSC	None	2-1-3 List 1B	valley grasslands, foothill woodland	CAL MAD MER MPA STA
Chamaesyce hooveri Hoover's spurge	FT	None	3-2-3 List 1B	vernal pools and lakes	BUT GLE STA TEH TUL
Clarkia rostrata beaked clarkia	FSC	None	2-1-3 List 1B	valley grasslands, foothill woodlands	MER MPA STA
Cryptantha hooveri Hoover's cryptantha	None	None	1-2-3 List 4	valley grasslands	ALA CCA MAD MER SJQ STA
Downingia pusilla dwarf downingia	None	None	1-2-1 List 2	wet valley grasslands, vernal pools	MER MAP NAP PLA SAC SOL SON STA TEH SA
Juglans californica var.hindsii Northern California black walnut	FSC	None	List 1B	riparian forest, riparian woodland	CCA, NAP, SAC, SOL, YOL
Legenere limosa legenere	FSC	None	2-3-3 List 1B	vernal pools	LAK NAP PLA SAC SMT SOL SON* STA* TEH
Neostapfia colusana Colusa grass	FT	SE	1-3-3 List 1B	vernal pools and lakes	COL* MER SOL STA YOL
Ophioglossum californicum California adder's-tongue	None	None	1-2-2 List 4	vernal pools, valley grasslands, chaparral	AMA BUT MER MNT* MPA ORA SDG STA TUO BA
Orcuttia inaequalis San Joaquin Valley Orcutt grass	FT	SE	2-2-3 List 1B	vernal pools and lakes	FRE MAD MER STA* TUL*
Orcuttia pilosa hairy Orcutt grass	FE	SE	2-3-3 List 1B	vernal pools and lakes	BUT GLE MAD MER STA TEH
Pseudobahia bahiifolia Hartweg's golden sunburst	FE	SE	2-3-3 List 1B	clay soils in valley grasslands	FRE MAD MPA STA SUT* YUB*
Tuctoria greenei Greene's tuctoria	FE	Rare	2-3-3- List 1B	vernal pools and lakes	BUT FRE MAD MER SHA SJQ* STA* TEH TUL*

Notes:
1. Nomenclature corresponds to Skinner and Pavlik (1994). Counties abbreviated by a three-letter code; *= plants presumed extinct in these counties
2. Federal Status Designations:
   FE = listed as endangered under the federal Endangered Species Act
   FT = listed as threatened under the federal Endangered Species Act
   FSC = USFWS special concern (USFWS 1997)
3. Section 1904, California Fish and Game Code (February 1994 listing)(CDFG 1994)
   SE = listed as endangered under the state Endangered Species Act
4. Munz and Keck (1959); Stone et al. (1988)

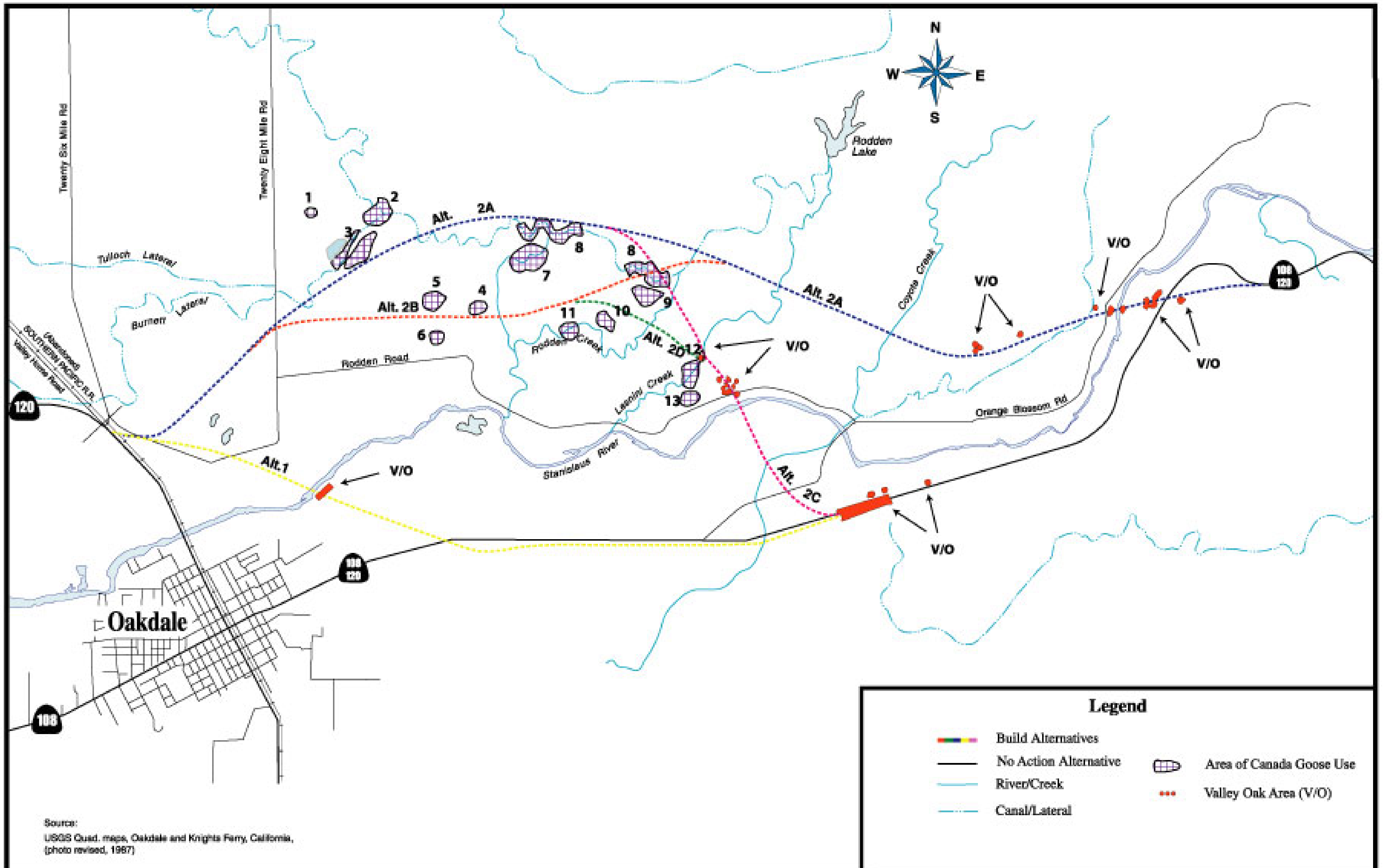

Figure B-1 Valley Oak and Aleutian Canada Goose Use Area

Appendix C

Conservation Guidelines for the Valley Elderberry Longhorn Beetle

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
3310 El Camino Avenue, Suite 130
Sacramento, California 95821-6340

Conservation Guidelines for the Valley Elderberry Longhorn Beetle

9 July 1999

The following guidelines have been issued by the U.S. Fish and Wildlife Service (Service) to assist Federal agencies and non-federal project applicants needing incidental take authorization through a section 7 consultation or a section 10(a)(1)(B) permit in developing measures to avoid and minimize adverse effects on the valley elderberry longhorn beetle. The Service will revise these guidelines as needed in the future. The most recently issued version of these guidelines should be used in developing all projects and habitat restoration plans. The survey and monitoring procedures described below are designed to avoid any adverse effects to the valley elderberry longhorn beetle. Thus a recovery permit is not needed to survey for the beetle or its habitat or to monitor conservation areas. If you are interested in a recovery permit for research purposes please call the Service's Regional Office at (503) 231-2063.

Background Information

The valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), was listed as a threatened species on August 8, 1980 (*Federal Register* 45: 52803-52807). This animal is fully protected under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.). The valley elderberry longhorn beetle (beetle) is completely dependent on its host plant, elderberry (*Sambucus* species), which is a common component of the remaining riparian forests and adjacent upland habitats of California's Central Valley. Use of the elderberry by the beetle, a wood borer, is rarely apparent. Frequently, the only exterior evidence of the elderberry's use by the beetle is an exit hole created by the larva just prior to the pupal stage. The life cycle takes one or two years to complete. The animal spends most of its life in the larval stage, living within the stems of an elderberry plant. Adult emergence is from late March through June, about the same time the elderberry produces flowers. The adult stage is short-lived. Further information on the life history, ecology, behavior, and distribution of the beetle can be found in a report by Barr (1991) and the recovery plan for the beetle (USFWS 1984).

Surveys

Proposed project sites within the range of the valley elderberry longhorn beetle should be surveyed for the presence of the beetle and its elderberry host plant by a qualified biologist. The beetle's range extends throughout California's Central Valley and associated foothills from about the 3,000-foot elevation contour on the east and the watershed of the Central Valley on the west (Figure 1). All or portions of 31 counties are included: Alameda, Amador, Butte, Calaveras, Colusa, Contra Costa, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Madera, Mariposa, Merced, Napa, Nevada, Placer, Sacramento, San Benito, San Joaquin, San Luis Obispo, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba.

If elderberry plants with one or more stems measuring 1.0 inch or greater in diameter at ground level occur on or adjacent to the proposed project site, or are otherwise located where they may be directly or indirectly affected by the proposed action, minimization measures which include planting replacement habitat (conservation planting) are required (Table 1).

All elderberry shrubs with one or more stems measuring 1.0 inch or greater in diameter at ground level that occur on or adjacent to a proposed project site must be thoroughly searched for beetle exit holes (external evidence of beetle presence). In addition, all elderberry stems one inch or greater in diameter at ground level must be tallied by diameter size class (Table 1). As outlined in Table 1, the numbers of elderberry seedlings/cuttings and associated riparian native trees/shrubs to be planted as replacement habitat are determined by stem size class of affected elderberry shrubs, presence or absence of exit holes, and whether a proposed project lies in a riparian or non-riparian area.

Elderberry plants with no stems measuring 1.0 inch or greater in diameter at ground level are unlikely to be habitat for the beetle because of their small size and/or immaturity. Therefore, no minimization measures are required for removal of elderberry plants with no stems measuring 1.0 inch or greater in diameter at ground level with no exit holes. Surveys are valid for a period of two years.

AVOID AND PROTECT HABITAT WHENEVER POSSIBLE

Project sites that do not contain beetle habitat are preferred. If suitable habitat for the beetle occurs on the project site, or within close proximity where beetles will be affected by the project, these areas must be designated as avoidance areas and must be protected from disturbance during the construction and operation of the project. When possible, projects should be designed such that avoidance areas are connected with adjacent habitat to prevent fragmentation and isolation of beetle populations. Any beetle habitat that cannot be avoided as described below should be considered impacted and appropriate minimization measures should be proposed as described below.

Avoidance: Establishment and Maintenance of a Buffer Zone

Complete avoidance (i.e., no adverse effects) may be assumed when a 100-foot (or wider) buffer is established and maintained around elderberry plants containing stems measuring 1.0 inch or greater in diameter at ground level. Firebreaks may not be included in the buffer zone. In buffer areas construction-related disturbance should be minimized, and any damaged area should be promptly restored following construction. The Service must be consulted before any disturbances within the buffer area are considered. In addition, the Service must be provided with a map identifying the avoidance area and written details describing avoidance measures.

Protective Measures

1. Fence and flag all areas to be avoided during construction activities. In areas where encroachment on the 100-foot buffer has been approved by the Service, provide a minimum setback of at least 20 feet from the dripline of each elderberry plant.

2. Brief contractors on the need to avoid damaging the elderberry plants and the possible penalties for not complying with these requirements.

3. Erect signs every 50 feet along the edge of the avoidance area with the following information: "This area is habitat of the valley elderberry longhorn beetle, a threatened species, and must

not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment." The signs should be clearly readable from a distance of 20 feet, and must be maintained for the duration of construction.

4. Instruct work crews about the status of the beetle and the need to protect its elderberry host plant.

<u>Restoration and Maintenance</u>

1. Restore any damage done to the buffer area (area within 100 feet of elderberry plants) during construction. Provide erosion control and re-vegetate with appropriate native plants.

2. Buffer areas must continue to be protected after construction from adverse effects of the project. Measures such as fencing, signs, weeding, and trash removal are usually appropriate.

3. No insecticides, herbicides, fertilizers, or other chemicals that might harm the beetle or its host plant should be used in the buffer areas, or within 100 feet of any elderberry plant with one or more stems measuring 1.0 inch or greater in diameter at ground level.

4. The applicant must provide a written description of how the buffer areas are to be restored, protected, and maintained after construction is completed.

5. Mowing of grasses/ground cover may occur from July through April to reduce fire hazard. No mowing should occur within five (5) feet of elderberry plant stems. Mowing must be done in a manner that avoids damaging plants (e.g., stripping away bark through careless use of mowing/trimming equipment).

TRANSPLANT ELDERBERRY PLANTS THAT CANNOT BE AVOIDED

Elderberry plants must be transplanted if they can not be avoided by the proposed project. All elderberry plants with one or more stems measuring 1.0 inch or greater in diameter at ground level must be transplanted to a conservation area (see below). At the Service's discretion, a plant that is unlikely to survive transplantation because of poor condition or location, or a plant that would be extremely difficult to move because of access problems, may be exempted from transplantation. In cases where transplantation is not possible the minimization ratios in Table 1 may be increased to offset the additional habitat loss.

Trimming of elderberry plants (e.g., pruning along roadways, bike paths, or trails) with one or more stems 1.0 inch or greater in diameter at ground level, may result in take of beetles. Therefore, trimming is subject to appropriate minimization measures as outlined in Table 1.

1. <u>Monitor</u>. A qualified biologist (monitor) must be on-site for the duration of the transplanting of the elderberry plants to insure that no unauthorized take of the valley elderberry longhorn beetle occurs. If unauthorized take occurs, the monitor must have the authority to stop work until corrective measures have been completed. The monitor must immediately report any unauthorized take of the beetle or its habitat to the Service and to the California Department of Fish and Game.

2. Timing. Transplant elderberry plants when the plants are dormant, approximately November through the first two weeks in February, after they have lost their leaves. Transplanting during the non-growing season will reduce shock to the plant and increase transplantation success.

3. Transplanting Procedure.

   a. Cut the plant back 3 to 6 feet from the ground or to 50 percent of its height (whichever is taller) by removing branches and stems above this height. The trunk and all stems measuring 1.0 inch or greater in diameter at ground level should be replanted. Any leaves remaining on the plant should be removed.

   b. Excavate a hole of adequate size to receive the transplant.

   c. Excavate the plant using a Vemeer spade, backhoe, front end loader, or other suitable equipment, taking as much of the root ball as possible, and replant immediately at the conservation area. Move the plant only by the root ball. If the plant is to be moved and transplanted off site, secure the root ball with wire and wrap it with burlap. Dampen the burlap with water, as necessary, to keep the root ball wet. Do not let the roots dry out. Care should be taken to ensure that the soil is not dislodged from around the roots of the transplant. If the site receiving the transplant does not have adequate soil moisture, pre-wet the soil a day or two before transplantation.

   d. The planting area must be at least 1,800 square feet for each elderberry transplant. The root ball should be planted so that its top is level with the existing ground. Compact the soil sufficiently so that settlement does not occur. As many as five (5) additional elderberry plantings (cuttings or seedlings) and up to five (5) associated native species plantings (see below) may also be planted within the 1,800 square foot area with the transplant. The transplant and each new planting should have its own watering basin measuring at least three (3) feet in diameter. Watering basins should have a continuous berm measuring approximately eight (8) inches wide at the base and six (6) inches high.

   e. Saturate the soil with water. Do not use fertilizers or other supplements or paint the tips of stems with pruning substances, as the effects of these compounds on the beetle are unknown.

   f. Monitor to ascertain if additional watering is necessary. If the soil is sandy and well-drained, plants may need to be watered weekly or twice monthly. If the soil is clayey and poorly-drained, it may not be necessary to water after the initial saturation. However, most transplants require watering through the first summer. A drip watering system and timer is ideal. However, in situations where this is not possible, a water truck or other apparatus may be used.

PLANT ADDITIONAL SEEDLINGS OR CUTTINGS

Each elderberry stem measuring 1.0 inch or greater in diameter at ground level that is adversely affected (i.e., transplanted or destroyed) must be replaced, in the conservation area, with elderberry seedlings or cuttings at a ratio ranging from 1:1 to 8:1 (new plantings to affected stems). Minimization ratios are listed and explained in Table 1. Stock of either seedlings or cuttings should be obtained from local sources. Cuttings may be obtained from the plants to be transplanted if the project site is in the vicinity of the conservation area. If the Service determines that the elderberry plants on the proposed project site are unsuitable candidates for transplanting, the Service may allow the applicant to plant seedlings or cuttings at higher than the stated ratios in Table 1 for each elderberry plant that cannot be transplanted.

PLANT ASSOCIATED NATIVE SPECIES

Studies have found that the beetle is more abundant in dense native plant communities with a mature overstory and a mixed understory. Therefore, a mix of native plants associated with the elderberry plants at the project site or similar sites will be planted at ratios ranging from 1:1 to 2:1 [native tree/plant species to each elderberry seedling or cutting (see Table 1)]. These native plantings must be monitored with the same survival criteria used for the elderberry seedlings (see below). Stock of saplings, cuttings, and seedlings should be obtained from local sources. If the parent stock is obtained from a distance greater than one mile from the conservation area, approval by the Service of the native plant donor sites must be obtained prior to initiation of the revegetation work. Planting or seeding the conservation area with native herbaceous species is encouraged. Establishing native grasses and forbs may discourage unwanted non-native species from becoming established or persisting at the conservation area. Only stock from local sources should be used.

Examples

Example 1

The project will adversely affect beetle habitat on a vacant lot on the land side of a river levee. This levee now separates beetle habitat on the vacant lot from extant Great Valley Mixed Riparian Forest (Holland 1986) adjacent to the river. However, it is clear that the beetle habitat located on the vacant lot was part of a more extensive mixed riparian forest ecosystem extending farther from the river's edge prior to agricultural development and levee construction. Therefore, the beetle habitat on site is considered riparian. A total of two elderberry plants with at least one stem measuring 1.0 inch or greater in diameter at ground level will be affected by the proposed action. The two plants have a total of 15 stems measuring over 1.0 inch. No exit holes were found on either plant. Ten of the stems are between 1.0 and 3.0 inches in diameter and five of the stems are greater than 5.0 inches in diameter. The conservation area is suited for riparian forest habitat. Associated natives adjacent to the conservation area are box elder (*Acer negundo californica*), walnut (*Juglans californica* var. *hindsii*), sycamore (*Platanus racemosa*), cottonwood (*Populus fremontii*), willow (*Salix gooddingii* and *S. laevigata*), white alder (*Alnus rhombifolia*), ash (*Fraxinus latifolia*), button willow (*Cephalanthus occidentalis*), and wild grape (*Vitis californica*).

Minimization (based on ratios in Table 1):

- Transplant the two elderberry plants that will be affected to the conservation area.
- Plant 40 elderberry rooted cuttings (10 affected stems compensated at 2:1 ratio and 5 affected stems compensated at 4:1 ratio, cuttings planted:stems affected)
- Plant 40 associated native species (ratio of associated natives to elderberry plantings is 1:1 in areas with no exit holes):
  5 saplings each of box elder, sycamore, and cottonwood

5 willow seedlings
5 white alder seedlings
5 saplings each of walnut and ash
3 California button willow
2 wild grape vines
Total: 40 associated native species

• Total area required is a minimum of 1,800 sq. ft. for one to five elderberry seedlings and up to 5 associated natives. Since, a total of 80 plants must be planted (40 elderberries and 40 associated natives), a total of 0.33 acre (14,400 square feet) will be required for conservation plantings. The conservation area will be seeded and planted with native grasses and forbs, and closely monitored and maintained throughout the monitoring period.

Example 2
The project will adversely affect beetle habitat in Blue Oak Woodland (Holland 1986). One elderberry plant with at least one stem measuring 1.0 inch or greater in diameter at ground level will be affected by the proposed action. The plant has a total of 10 stems measuring over 1.0 inch. Exit holes were found on the plant. Five of the stems are between 1.0 and 3.0 inches in diameter and five of the stems are between 3.0 and 5.0 inches in diameter. The conservation area is suited for elderberry savanna (non-riparian habitat). Associated natives adjacent to the conservation area are willow (*Salix* species), blue oak (*Quercus douglasii*), interior live oak (*Q. wislizenii*), sycamore, poison oak (*Toxicodendron diversilobum*), and wild grape.

Minimization (based on ratios in Table 1):

• Transplant the one elderberry plant that will be affected to the conservation area.

• Plant 30 elderberry seedlings (5 affected stems compensated at 2:1 ratio and 5 affected stems compensated at 4:1 ratio, cuttings planted:stems affected)

• Plant 60 associated native species (ratio of associated natives to elderberry plantings is 2:1 in areas with exit holes):
20 saplings of blue oak, 20 saplings of sycamore, and 20 saplings of willow, and seed and plant with a mixture of native grasses and forbs

• Total area required is a minimum of 1,800 sq. ft. for one to five elderberry seedlings and up to 5 associated natives. Since, a total of 90 plants must be planted (30 elderberries and 60 associated natives), a total of 0.37 acre (16,200 square feet) will be required for conservation plantings. The conservation area will be seeded and planted with native grasses and forbs, and closely monitored and maintained throughout the monitoring period.

CONSERVATION AREA—PROVIDE HABITAT FOR THE BEETLE IN PERPETUITY

The conservation area is distinct from the avoidance area (though the two may adjoin), and serves to receive and protect the transplanted elderberry plants and the elderberry and other native plantings. The Service may accept proposals for off-site conservation areas where appropriate.

1. Size. The conservation area must provide at least 1,800 square feet for each transplanted elderberry plant. As many as 10 conservation plantings (i.e., elderberry cuttings or seedlings and/or associated native plants) may be planted within the 1800 square foot area with each transplanted elderberry. An additional 1,800 square feet shall be provided for every additional 10 conservation plants. Each planting should have its own watering basin measuring approximately three feet in diameter. Watering basins should be constructed with a continuous berm measuring approximately eight inches wide at the base and six inches high.

   The planting density specified above is primarily for riparian forest habitats or other habitats with naturally dense cover. If the conservation area is an open habitat (i.e., elderberry savanna, oak woodland) more area may be needed for the required plantings. Contact the Service for assistance if the above planting recommendations are not appropriate for the proposed conservation area.

   No area to be maintained as a firebreak may be counted as conservation area. Like the avoidance area, the conservation area should connect with adjacent habitat wherever possible, to prevent isolation of beetle populations.

   Depending on adjacent land use, a buffer area may also be needed between the conservation area and the adjacent lands. For example, herbicides and pesticides are often used on orchards or vineyards. These chemicals may drift or runoff onto the conservation area if an adequate buffer area is not provided.

2. Long-Term Protection. The conservation area must be protected in perpetuity as habitat for the valley elderberry longhorn beetle. A conservation easement or deed restrictions to protect the conservation area must be arranged. Conservation areas may be transferred to a resource agency or appropriate private organization for long-term management. The Service must be provided with a map and written details identifying the conservation area; and the applicant must receive approval from the Service that the conservation area is acceptable prior to initiating the conservation program. A true, recorded copy of the deed transfer, conservation easement, or deed restrictions protecting the conservation area in perpetuity must be provided to the Service before project implementation.

   Adequate funds must be provided to ensure that the conservation area is managed in perpetuity. The applicant must dedicate an endowment fund for this purpose, and designate the party or entity that will be responsible for long-term management of the conservation area. The Service must be provided with written documentation that funding and management of the conservation area (items 3-8 above) will be provided in perpetuity.

3. Weed Control. Weeds and other plants that are not native to the conservation area must be removed at least once a year, or at the discretion of the Service and the California Department of Fish and Game. Mechanical means should be used; herbicides are prohibited unless approved by the Service.

4. Pesticide and Toxicant Control. Measures must be taken to insure that no pesticides, herbicides, fertilizers, or other chemical agents enter the conservation area. No spraying of these agents must be done within one 100 feet of the area, or if they have the potential to drift, flow, or be washed into the area in the opinion of biologists or law enforcement personnel from the Service or the California Department of Fish and Game.

5. Litter Control. No dumping of trash or other material may occur within the conservation area. Any trash or other foreign material found deposited within the conservation area must be removed within 10 working days of discovery.

6. Fencing. Permanent fencing must be placed completely around the conservation area to prevent unauthorized entry by off-road vehicles, equestrians, and other parties that might damage or destroy the habitat of the beetle, unless approved by the Service. The applicant must receive written approval from the Service that the fencing is acceptable prior to initiation of the conservation program. The fence must be maintained in perpetuity, and must be repaired/replaced within 10 working days if it is found to be damaged. Some conservation areas may be made available to the public for appropriate recreational and educational opportunities with written approval from the Service. In these cases appropriate fencing and signs informing the public of the beetle's threatened status and its natural history and ecology should be used and maintained in perpetuity.

7. Signs. A minimum of two prominent signs must be placed and maintained in perpetuity at the conservation area, unless otherwise approved by the Service. The signs should note that the site is habitat of the federally threatened valley elderberry longhorn beetle and, if appropriate, include information on the beetle's natural history and ecology. The signs must be approved by the Service. The signs must be repaired or replaced within 10 working days if they are found to be damaged or destroyed.

MONITORING

The population of valley elderberry longhorn beetles, the general condition of the conservation area, and the condition of the elderberry and associated native plantings in the conservation area must be monitored over a period of either ten (10) consecutive years or for seven (7) years over a 15-year period. The applicant may elect either 10 years of monitoring, with surveys and reports every year; or 15 years of monitoring, with surveys and reports on years 1, 2, 3, 5, 7, 10, and 15. The conservation plan provided by the applicant must state which monitoring schedule will be followed. No change in monitoring schedule will be accepted after the project is initiated. If conservation planting is done in stages (i.e., not all planting is implemented in the same time period), each stage of conservation planting will have a different start date for the required monitoring time.

Surveys. In any survey year, a minimum of two site visits between February 14 and June 30 of each year must be made by a qualified biologist. Surveys must include:

1. A population census of the adult beetles, including the number of beetles observed, their condition behavior, and their precise locations. Visual counts must be used; mark-recapture or other methods involving handling or harassment must not be used.

2. A census of beetle exit holes in elderberry stems, noting their precise locations and estimated ages.

3. An evaluation of the elderberry plants and associated native plants on the site, and on the conservation area, if disjunct, including the number of plants, their size and condition.

4. An evaluation of the adequacy of the fencing, signs, and weed control efforts in the avoidance and conservation areas.

5. A general assessment of the habitat, including any real or potential threats to the beetle and its host plants, such as erosion, fire, excessive grazing, off-road vehicle use, vandalism, excessive weed growth, etc.

The materials and methods to be used in the monitoring studies must be reviewed and approved by the Service. All appropriate Federal permits must be obtained prior to initiating the field studies.

Reports. A written report, presenting and analyzing the data from the project monitoring, must be prepared by a qualified biologist in each of the years in which a monitoring survey is required. Copies of the report must be submitted by December 31 of the same year to the Service (Chief of Endangered Species, Sacramento Fish and Wildlife Office), and the Department of Fish and Game (Supervisor, Environmental Services, Department of Fish and Game, 1416 Ninth Street, Sacramento, California 95814; and Staff Zoologist, California Natural Diversity Data Base, Department of Fish and Game, 1220 S Street, Sacramento, California 95814). The report must explicitly address the status and progress of the transplanted and planted elderberry and associated native plants and trees, as well as any failings of the conservation plan and the steps taken to correct them. Any observations of beetles or fresh exit holes must be noted. Copies of original field notes, raw data, and photographs of the conservation area must be included with the report. A vicinity map of the site and maps showing where the individual adult beetles and exit holes were observed must be included. For the elderberry and associated native plants, the survival rate, condition, and size of the plants must be analyzed. Real and likely future threats must be addressed along with suggested remedies and preventative measures (e.g. limiting public access, more frequent removal of invasive non-native vegetation, etc.).

A copy of each monitoring report, along with the original field notes, photographs, correspondence, and all other pertinent material, should be deposited at the California Academy of Sciences (Librarian, California Academy of Sciences, Golden Gate Park, San Francisco, CA 94118) by December 31 of the year that monitoring is done and the report is prepared. The Service's Sacramento Fish and Wildlife Office should be provided with a copy of the receipt from the Academy library acknowledging receipt of the material, or the library catalog number assigned to it.

Access. Biologists and law enforcement personnel from the California Department of Fish and Game and the Service must be given complete access to the project site to monitor transplanting activities. Personnel from both these agencies must be given complete access to the project and the conservation area to monitor the beetle and its habitat in perpetuity.

SUCCESS CRITERIA

A minimum survival rate of at least 60 percent of the elderberry plants and 60 percent of the associated native plants must be maintained throughout the monitoring period. Within one year of discovery that survival has dropped below 60 percent, the applicant must replace failed plantings to bring survival above this level. The Service will make any determination as to the applicant's replacement responsibilities arising from circumstances beyond its control, such as plants damaged or killed as a result of severe flooding or vandalism.

SERVICE CONTACT

These guidelines were prepared by the Endangered Species Division of the Service's Sacramento Fish and Wildlife Office. If you have questions regarding these guidelines or to request a copy of the most recent guidelines, telephone (916) 414-6600 after August 5, 1999, or write to:

U.S. Fish and Wildlife Service
Ecological Services
2800 Cottage Way, W-2605
Sacramento, CA 95825

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Barr, C. B. 1991. The distribution, habitat, and status of the valley elderberry longhorn beetle *Desmocerus californicus dimorphus*. U.S. Fish and Wildlife Service; Sacramento, California.

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USFWS. 1980. Listing the valley elderberry longhorn beetle as a threatened species with critical habitat. Federal Register 45:52803-52807.

USFWS. 1984. Recovery plan for the valley elderberry longhorn beetle. U.S. Fish and Wildlife Service, Endangered Species Program; Portland, Oregon.

Figure 1: Range of the Valley Elderberry Longhorn Beetle

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Table 1: **Minimization ratios based on location (riparian vs. non-riparian), stem diameter of affected elderberry plants at ground level, and presence or absence of exit holes.**

Location	**Stems (maximum diameter at ground level)**	**Exit Holes Y/N (quantify)**	**Elderberry Seedling Ratio[1]**	**Associated Native Plant Ratio[2]**
non-riparian	stems ≥ 1" & ≤ 3"	No:	1:1	1:1
		Yes:	2:1	2:1
non-riparian	stems > 3" & < 5"	No:	2:1	1:1
		Yes:	4:1	2:1
non-riparian	stems ≥ 5"	No:	3:1	1:1
		Yes:	6:1	2:1
riparian	stems ≥ 1" & ≤ 3"	No:	2:1	1:1
		Yes:	4:1	2:1
riparian	stems > 3" & < 5"	No:	3:1	1:1
		Yes:	6:1	2:1
riparian	stems ≥ 5"	No:	4:1	1:1
		Yes:	8:1	2:1

[1] Ratios in the *Elderberry Seedling Ratio* column correspond to the number of cuttings or seedlings to be planted per elderberry stem (one inch or greater in diameter at ground level) affected by a project.

[2] Ratios in the *Associated Native Plant Ratio* column correspond to the number of associated native species to be planted per elderberry (seedling or cutting) planted.

Appendix D

Draft Section 404(b)(1) Alternatives Analysis

D.1 Introduction

This Appendix was prepared to meet the requirements of the Memorandum of Understanding (MOU) on the National Environmental Policy Act (NEPA) and Section 404 of the Clean Water Act. The MOU was established among the Federal Highway Administration (FHWA), the Federal Transit Administration, the transportation departments of the states of California, Arizona, Nevada, the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, the U.S. Army Corps of Engineers, and the U.S. Environmental Protection Agency (EPA) to integrate NEPA and Section 404 in the planning of transportation projects. The scope of the MOU is limited to issues pertaining to waters of the United States and associated sensitive species. Because the Oakdale Expressway Project involves both an Environmental Impact Statement (EIS) [prepared under NEPA] and an individual permit under Section 404 of the Clean Water Act, this project is subject to the terms and conditions of the above MOU. In order to initiate preparation of a DEIS, lead agencies in affected states must obtain concurrence from federal signatories of the MOU on the purpose and need and on the alternatives to be considered in DEISs addressing affected projects. In 1994–1995, the federal agencies involved in the MOU concurred on the purpose and need and the alternatives described in the DEIS for the project.

The sections of this Appendix correspond to the organization stipulated in the MOU. Wherever possible, and as discussed in the MOU, the required sections cross-reference requested information that appears elsewhere in the DEIR/DEIS.

D.2 Proposed Action

Caltrans proposes to construct and operate the Route 120 Oakdale Expressway Project, a two-lane expressway with interchanges and passing lanes, to bypass the Oakdale in Stanislaus County, California. Also as part of this project, Caltrans proposes to acquire additional right of way for construction of a future freeway. The proposed project involves about 13 to 16 km (8 to 10 miles) of new highway bypassing Oakdale.

Route 120 is a major east/west route that serves as a principal recreation route throughout its length and a commuter route in the Central Valley and foothills. Route 120 connects with Route 108 in downtown Oakdale. Increasing levels of traffic on Routes 120/108 through Oakdale have led to a growing traffic congestion problem that Caltrans and the local community have been addressing for over four decades.

The purpose of the proposed project is to reduce traffic congestion, enhance continuity, and improve safety on Routes 120/108. Routes 120 and 108 currently experience severe traffic congestion during weekends (especially summer holidays) from Route 120 recreational traffic (traveling to Yosemite National Park, the Jamestown and Sonora areas, and points east) and during weekdays from Route 120/108 commuter traffic.

Additional details on purpose and need are found in Chapter 1.

D.3 Resource Identification

Resource information on wetlands and waters, and associated species, potentially affected by the build alternatives is described in Section 3.7.

D.4 Documentation of Alternatives Considered and Eliminated

A systematic, interdisciplinary approach has been used to evaluate more than 60 alternatives for this project, and five build alternatives and the No Action Alternative are carried forward for analysis in this DEIR/DEIS. Additional information is presented in Section 2.2.

D.5 Impacts of Each Alternative

The overall intent of the Section 404 analyses is to encourage permit applicants to develop and evaluate project alternatives that avoid or minimize impacts to aquatic resources. As discussed in Section 2.2, Caltrans originally proposed two build alternatives for the Oakdale Expressway Project: the current Alternative 1 and Alternative 2 (which shares about 95 percent of its route with the current Alternative 2C). Field reconnaissance of Alternatives 1 and 2 during 1992–1993 identified substantial potential adverse impacts to aquatic resources for Alternative 2. Consequently, Alternative 2 was dropped and was replaced with the current suite of Alternatives 2A through 2D that were designed, in part, to avoid or minimize the adverse impacts identified for Alternative 2.

Thus, Caltrans has already complied with the intent of Section 404 of the Clean Water Act by using information on potential adverse impacts of alternatives to modify the alternatives to minimize impact. Any of the four Alternatives 2A through 2D can thus be thought of as avoidance alternatives for the original Alternative 2, for which adverse impacts to wetlands and other natural environmental values were identified.

It is next of interest to determine if any of the five viable alternatives offer clear advantages over the others for impacts of interest to the Section 404 process. Table D.1 summarizes potential impacts to wetlands/waters for all five build alternatives.

Table D.1 Total Direct Wetland/Water Impacts

	Alt 1	Alt 2A	Alt 2B	Alt 2C	Alt 2D
Wetlands	4.22 ha	4.63 ha	6.49 ha	2.82 ha	4.71 ha
Waters	0.09 ha	0.64 ha	1.03 ha	0.47 ha	0.84 ha
Total	4.31 ha	5.27 ha	7.52 ha	3.29 ha	5.55 ha

Note: 1 ha = 2.47 ac

The principal wetland / water categories contributing to the areal differences among alternatives are riparian, marshes/meadows, vernal pools/swales, and intermittent streams. Based on area alone, Alternative 2C appears to have the least adverse environmental impact, and could be selected as the least environmentally damaging practicable alternative if it does not have significant adverse impacts in other areas.

Federal regulations implementing Section 404 of the Clean Water Act state that “no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge that would have less adverse impacts on the aquatic ecosystem, as long as the alternative does not have other significant adverse environmental consequences” (40 CFR 230.10[a]). Thus, the alternatives analysis for Section 404 compliance hinges upon not only identifying potential adverse impacts to aquatic resources but also on determining the potential for adverse impacts in areas other than aquatic resources.

Table 2.3 (Section 2.4) summarizes potential impacts in all of these areas for all alternatives; however, it is difficult to compare and contrast alternatives across all impact categories to identify a clear “winner” (i.e., alternative with the least potential environmental impact). To facilitate this comparison, Table D.2 was created by using the information in Table 2.3 to rate each alternative within each impact category for which there was a quantifiable difference among alternatives. Consistent with the NEPA/404 MOU guidance, community impact factors were included in this analysis. For each impact category, the alternative with the lowest potential impact was given one point, and all others were assigned “zero.” Ties were assigned the same score.

Summing these ratings across all impact categories for each alternative shows that Alternative 2A clearly has the least overall adverse impacts among the build alternatives. At a minimum, the analysis reflected in Table D.2 reflects a similarity of impacts, especially across Alternatives 2A through 2D. At face value, the results show 2A is a clear winner.

Thus, even though Alternative 2C had the lowest potential areal impacts to wetlands and waters, these impacts were more than offset by adverse impacts in other areas. As noted in regulatory guidance letter 93-02 (Section 3.a.iv [U.S. Army Corps of Engineers

1993]), "in applying an alternatives analysis required by the guidelines, it is not appropriate to select an alternative where minor impacts on the aquatic environment are avoided at the cost of substantial impacts to other natural values." Alternative 2C's standing in the results of Table D.2 reflects the presence of substantial impacts to other natural values.

Consideration of only wetlands/waters areal impacts points to Alternative 2C as the least environmentally damaging alternative, whereas consideration of all potential environmental impacts points to Alternative 2A as the least environmentally damaging alternative. It is thus useful at this time to compare in detail the potential wetlands/waters impacts of these two alternatives. As discussed in Section 4.7, the principal differences in potential wetlands/waters impacts between Alternatives 2A and 2C are in the areas of riparian forest, vernal pools/swales, marshes/meadows, and intermittent streams. Although Alternative 2A would impact slightly more than three times the area of riparian forest than Alternative 2C, the riparian wetlands along 2A are already substantially degraded (due to gravel mining and other activities), whereas the riparian habitat of Alternative 2C is relatively undisturbed and is of high quality. The low quality of Alternative 2A's riparian areas is mentioned by the U.S. Army Corps of Engineers (Stanislaus River Parks) in their recommended selection of Alternative 2A for the Oakdale Expressway Project (see Appendix A). Potential impacts to vernal pools are small areas for each alternative (0.3 ha for Alternative 2C us 0.7 ha for Alternative 2A) and will be addressed by participation in a vernal pool bank. For potential impacts to marshes/meadows Alternative 2A would impact almost 50 percent more area than Alternative 2C, but all of the impact areas were judged to have low probability of performing key wetland functions. Intermittent streams affected by Alternative 2C (0.01 ha) were judged to have higher functions and values than those affected by Alternative 2A (0.4 ha), although all function and value ratings were in the low-to-moderate range for both alternatives. Thus in every case of principal difference between potential wetlands/waters impacts of Alternative 2A versus Alternative 2C, the overall wetland impacts are minimal in terms of area involved (vernal pools), the impacts involve areas of poor quality for both alternatives (meadows and intermittent streams), or the area difference is offset by significant differences in wetland quality (riparian). Even when focusing on only wetlands/waters impacts, Alternative 2C does not offer appreciable advantages over Alternative 2A. Furthermore, because of extensive overlaps of Alternatives 2A and 2C, selection of Alternative 2C over Alternative 2A does not eliminate Alternative 2A's wetland impacts; instead, Alternative 2C reduces the area of impacts at the expense of affecting higher quality wetlands and waters.

Table D.2 Evaluation of Environmental Ranking of Build Alternatives

Impact Area	Build Alternatives				
	1	**2A**	**2B**	**2C**	**2D**
Wetlands/waters	0	0	0	1	0
Valley Elderberry Longhorn Beetle	0	1	0	0	0
Aleutian Canadian Goose	1	1	1	1	0
Spawning Gravels	0	1	1	1	1
Fairy Shrimp	1	0	0	0	1
Oak Woodlands	0	1	1	0	0
Tiger Salamander	1	0	0	0	0
Agriculture Displacements	0	1	0	0	0
Farmland Conversion	0	0	0	1	0
Business Displacements	0	1	0	1	1
Agriculture Revenue Lost	0	1	0	0	0
Housing Displacements	0	0	1	0	0
Utility Relocation	0	1	1	1	1
Hazardous Waste	0	1	1	0	0
Cut & Fill	0	1	0	0	0
Noise	1	0	0	1	1
Total	4	10	6	7	5

Note: Based on information presented in Table 2.3. Impact categories were included if they were quantified and if the impacts differed among alternatives. A "1" indicates least potential adverse impact for the category listed, and "0" indicates all other degrees of impact. The highest total points indicate the alternative with least adverse potential impact.

Furthermore, the potential wetland impacts identified for the Build Alternatives share many characteristics with wetland impacts characterized by the COE as "minor" (Robert H. Wayland III and John P. Elmore, U.S. Army Corps of Engineers, Memorandum to the Field on Flexibility in Demonstrating Compliance with the Section 404(b)(1) Guidelines Alternatives Requirements, November 1992). According to the COE, minor impacts are associated with activities that generally would have little potential to degrade the aquatic environment and have one, and frequently more, of the following characteristics: are located in aquatic resources of low value; are small in size and cause little direct impact; and have limited potential for secondary or cumulative impacts.

D.6 Conclusions

In conclusion, information presented in this document relevant to the Section 404 process demonstrates that consideration of only wetlands/waters areas directly affected by alternatives supports Alternative 2C as having a less adverse impact. However, consideration of functions and values of the affected wetlands/waters, as well as environmental impacts outside of aquatic resources, shows that at a minimum the build alternatives are similar, and that overall Alternative 2A has a less adverse impact than the other proposed build alternatives.

At a minimum, consideration of all potential environmental impacts shows similar impacts across alternatives, especially Alternatives 2A through 2D. In this situation, the reduced potential wetland/water impacts of Alternative 2C do not carry as much weight in the Section 404 decision-making process. As noted by the COE (Robert H. Wayland III and John P. Elmore, U.S. Army Corps of Engineers, Memorandum to the Field on Flexibility in Demonstrating Compliance with the Section 404 (6)(i) Guidelines Alternatives Requirements, November 1992), "Of course, where there is no significant or easily identifiable difference in impact, the alternative need not be considered to have 'less adverse' impact" (as quoted from the preamble to the Section 404 guidelines, page 85339). Since Alternative 2C did not emerge as the alternative with lowest overall potential adverse impacts, its marginally lower wetlands/waters impacts do not support its ultimate selection under the NEPA/404 MOU process.

Appendix E

Section 4(f) Information

SECTION 4(f) INFORMATION

Overview

Section 4(f) of the U.S. Department of Transportation Act of 1966, codified in Federal law at 49 USC 303, declares that "[i]t 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 refuges, and historic sites."

Section 4(f) specifies that "[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, or land of a historic site 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 feasible and prudent 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 which use lands protected by section 4(f).

In general, a section 4(f) "use" occurs with a project or program, approved by the Department of Transportation, (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 specific criteria (23 CFR 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 CFR 771.135 [p] [1] and [2]).

Proposed Action

The project proposes the construction of a two-lane expressway within a four-lane freeway right of way (ROW) on Route 120 in and near Oakdale in Stanislaus County, California. Five build alternatives and the No Action Alternative is evaluated in the

Environmental Impact Report/Environmental Impact Statement (EIR/EIS) prepared for the proposal.

The expressway is being proposed to relieve traffic congestion on Route 120/108 within Oakdale and to improve traffic safety by removing interregional traffic (primarily to and from Yosemite National Park) from surface streets passing through the city. See Chapters 1 and 2 of the EIR/EIS for additional information.

Description of Section 4(f) Properties

Section 4(f) properties relevant to this project consist of recreation areas and trails, and historic sites.

Recreation Areas. The Stanislaus River Easement is part of the New Melones flood control project authorized by the Flood Control Act of 1944, and carried out by the Army Corps of Engineers (COE). The objectives of the COE within the easement area are to maintain a Stanislaus River channel capable of passing flows of up to 8000 cfs (225 cms), and to preserve riparian habitat and salmon and steelhead spawning gravels. The jurisdiction of the COE encompasses 59 mi (95 km) of the Stanislaus River between Goodwin Dam and its confluence with the San Joaquin River.

Because the easement is managed for a variety of purposes, section 4(f) only applies to those lands which function primarily for, in this instance, recreational uses. Within the general area of the easement, the COE owns and operates 882 ac (357 ha) of public recreation sites in 16 locations (refer to Figure E-1). Of these 16 locations, only two could be affected by any of the build alternatives: Honolulu Bar and Horseshoe Road Recreation Areas. Neither the Honolulu Bar Recreation Area nor the Horseshoe Road Recreation Area would be directly affected by any of the build alternatives.

Another property also owned by the COE is located on the south side of the Stanislaus River across from the Honolulu Bar Recreation Area day use area. During coordination meetings in late 1995, a COE parks representative reported that the land was purchased in fee from the same property owner as was the Honolulu Bar Recreation Area across the river. The two properties were incorporated into a single deed. The COE had not originally intended to purchase the property nor did it intend to use it for recreational purposes. However, the owner was a willing seller and the COE elected to buy the property. The 1995 discussions were reaffirmed in an August 2000 letter from the COE (Appendix A).

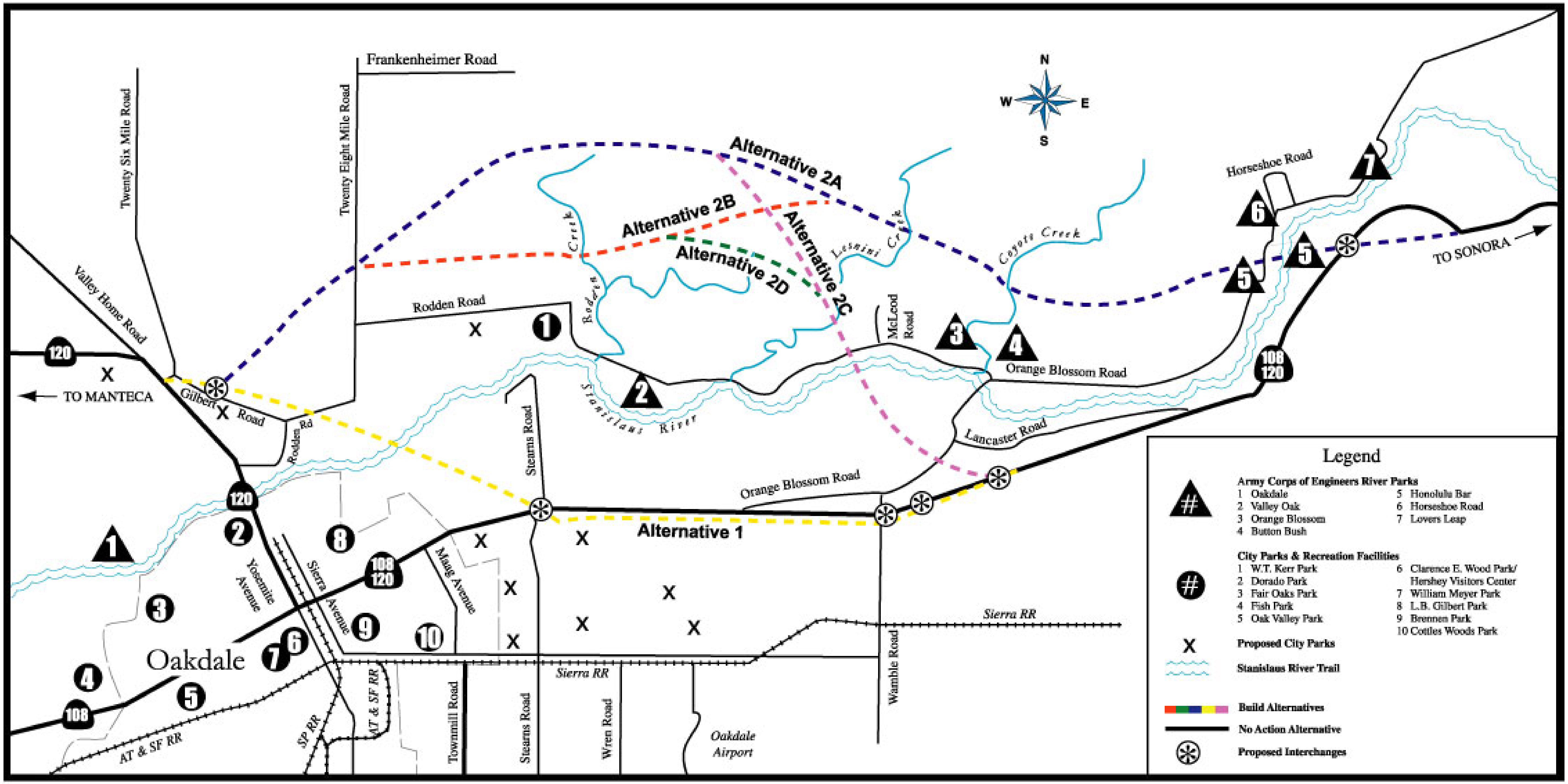

Figure E-1 Parks & Recreation Areas in the Vicinity of the Oakdale Expressway Project

The COE does not consider the parcel suitable for recreational purposes because it lies within the 8,000 cfs (225 cms) floodway. The COE's Master Plan does not include the land; neither does the Operational Plan for the Lower Stanislaus River. It is also not depicted as a recreational site on any public information material distributed by the COE, and signs on the property direct the public to the Honolulu Bar Recreation Area across the river. No public facilities are on the property, but it is occasionally used by rafters/kayakers for a rest stop. It is managed as primarily open space/wildlife habitat. Thus, the property on the south side of one river is not a section 4(f) property. See Appendix A for correspondence with the COE.

Honolulu Bar Recreation Area. This day-use recreation area is located on the north side of the Stanislaus River off of Orange Blossom Road. The 45 ac(18 ha) parcel is developed with four picnic sites, one vault toilet building, a 100 feet (30 m) long foot trail and a 10-car parking area clustered on 2 ac (0.8 ha). The other 43 ac (17 ha) are managed and used as open space and wildlife habitat. A boat put-in/take-out is provided here. In 1998, there were 31,039 visits.

Horseshoe Road Recreation Area. This property is located on the north side of the river upstream from Honolulu Bar. The 41 ac (16.5 ha) area has been developed for day uses and camping. There are 16 campsites, as well as six group sites; one parking area with 11 stalls; three toilet facilities and one hiking trail. In 1998, there were 33,502 visits.

<u>Recreational Trails.</u> As mentioned above, the COE manages this portion of the Stanislaus River for a variety of uses. The river functions as an aquatic trail, linking the series of recreational areas located along the river. Thus, the river and the recreational areas can be considered as an integrated network of recreational facilities designed to mitigate for lost recreational opportunities resulting from the construction of New Melones Dam. Because the river is considered publicly owned under section 4(f), is publicly managed, and is utilized by rafters, kayakers, and other watercraft, Federal Highway Administration (FHWA) has determined that the waterway meets the definition of a recreational trail and is subject to the requirements of section 4(f).

<u>Historic Sites.</u> Qualified specialists performed surveys for archaeological and historic resources. Within the Area of Potential Effect for the project, one prehistoric and four historic sites were identified. Pursuant to section 106 of the National Historic Preservation Act of 1966, no properties within the Area of Potential Effect have been listed or determined eligible for listing in the National Register of Historic Places. For

additional information on historic sites, see Sections 3.9 and 4.9 of the Draft Environmental Impact Report/Draft Environmental Impact Statement (DEIR/DEIS).

Impacts on Section 4(f) Properties

Recreation Areas. No ROW would be taken from any protected section 4(f) properties in the project area by the alternatives. Potential constructive use is discussed below.

Recreational Trails. A bridge would cross the Stanislaus River at one of three alternative locations. Any bridge would clear span the trail. No abutments, embankments or bridge piers would intrude directly onto the trail. There would be no direct impacts on the trail or its users.

Historic Sites. The four historic sites have been evaluated and determined not eligible for listing in the National Register of Historic Places. It is Caltrans' policy not to evaluate prehistoric sites until a preferred alternative is identified. Since the only alternative that affects the one prehistoric site associated with this project is Alternative 1, further evaluation of the site would be necessary only if Alternative 1 is identified as the preferred alternative.

Measures to Minimize Harm

Recreation Areas. No measures to minimize harm for direct impacts are required. No ROW would be taken from any protected section 4(f) properties in the project area.

Recreational Trails. No measures to minimize harm for direct impacts are required. No right of way would be taken from the trail.

Historic Resources. It is Caltrans' policy to avoid affecting cultural resources whenever it is possible. If additional cultural resources are encountered during construction, permitted encroachment work, or maintenance, Caltrans' policy requires that work at those locations be stopped until the resource can be evaluated by a qualified archaeologist.

If after identification of the preferred alternative, any cultural resources are found eligible for the National Register of Historic Places and for protection under section 4(f), Caltrans would prepare a section 4(f) evaluation and would also comply with section 106.

Potential Constructive Use of Section 4(f) Resources

For the purposes of constructive use under section 4(f), the "protected activities, features, or attributes" that qualify the river for protection under section 4(f) are: the connection of the COE recreation areas using a transportation mode (watercraft) that supports the use of the areas, and the recreational opportunities of the river itself (boating, fishing, access to camping areas, etc.).

Access. None of the alternatives would affect the existing access to the recreation areas or trail from Orange Blossom Road or the Stanislaus River.

Noise. The original noise impact study performed for the project measured a then-existing ambient noise level in the vicinity of Honolulu Bar of 45 decibels (dBA). The original noise analysis projected noise levels from Alternatives 2A/B in the year 2020 as about 58 dBA in this general area. An updated analysis (2000) indicated that the ambient noise level is now 61 dBA and projected noise levels from Alternatives 2A/B in 2020 would be 66 or 67 dBA in this general area. The projected noise level from Alternatives 2A/B would not exceed the FHWA noise abatement criterion of 67 dBA (exterior). Horseshoe Road Recreation Area is further away from the Alternative 2A/B alignment than Honolulu Bar. Noise levels decrease as the distance between the proposed expressway and the receptor increases; consequently, projected noise levels in 2020 at Horseshoe Road Recreation Area would be lower than the 67 dBA projected for Honolulu Bar. FHWA regulations state that there is no constructive use because of noise if the project traffic noise levels do not exceed the FHWA noise abatement criteria (23 CFR 135).

Visual. The most sensitive viewer group in the Honolulu Bar and Horseshoe Road area is the recreational users of the Stanislaus River. A qualified landscape architect evaluated the potential project effects on visual resources.

Viewpoint 1 (Figure E-2) is located at the Honolulu Bar Recreation Area, approximately 180 meters (590 feet) south of the proposed roadway. Existing units on the site include rolling hills, riparian vegetation, grasslands, and rural residences. The existing visual quality of the area is moderate, given the existence of telephone poles, trash receptacles, parking lot, restroom, benches, etc. The existing visual intactness rates at a medium score, therefore the proposed Alternative 2A would not affect the current visual quality and keep the overall visual unity intact. The most significant visual impacts will be from the initial scarring of the cut slope (on the left of the photo) and the bridge structure over the Stanislaus River (on the right of the photo). Once the slope is healed and revegetated the visual impacts will be extremely low. Visual impacts for Alternative 2A at this location are minimal.

Viewpoint 2 (Figure E-3) is also located at the Honolulu Bar Recreation Area, approximately 100 meters (330 feet) south of the proposed roadway, near the Stanislaus

River. Existing units on the site include rolling hills, riparian vegetation and a rural residence. The existing visual quality of the area is extremely high, given the views of the river and riparian landscape. The existing view is rated very high overall in vividness, intactness, and unity. This location will be the most adversely affected area at the Recreation site visually. Visual impacts to the hills (on the left of the photo) by Alternative 2A are minimal. The proposed bridge structure over the Stanislaus River (on the right of the photo) has a moderately high negative visual impact to the overall intactness of the site, however it only slightly lowers the overall vividness and unity of the area. Therefore the visual impacts for Alternative 2A at this location are moderate.

A new bridge crossing the Stanislaus River would pass above the recreational trail. The light shading effects would be similar to those at the other existing bridge crossings along the 95 km (59 miles) of publicly managed trail. Public use of the trail would not be adversely affected.

Conclusion. The proximity impacts of the project would not substantially impair the protected activities, features or attributes that qualified the recreation areas and river trail for protection under section 4(f), and consequently, there would not be a constructive use by any of the proposed build alternatives.

Coordination with Public Agencies and Property Owners

The COE's Knights Ferry Information Center was consulted for information regarding the Stanislaus River Parks located in the vicinity of the Oakdale Expressway alternatives. COE personnel provided specific information on annual/daily park operations, site facilities, and special uses. Meetings were held with COE staff in December of 1995, July of 1996, February 10 and 21, 1997, and on May 10 and June 27, 2000. In addition, three field visits were conducted in 1998 and two in 2000. The COE has also supplied three letters regarding potential impacts to the Stanislaus River Parks, in 1995, 1996 and 2000 (see Appendix A).

Existing

Proposed

Figure E-2 Oakdale Expressway at Honolulu Bar Recreation Area: Viewpoint 1 of Alternative 2A

Existing

Proposed

Figure E-3 Oakdale Expressway at Honolulu Bar Recreation Area: Viewpoint 2 of Alternative 2A

Appendix F

Notice of Intent/Notice of Preparation

40666 Federal Register / Vol. 58, No. 144 / Thursday, July 29, 1993 / Notices

determinations would be harmful to the national security of the United States.

Dated: July 5, 1993

Robert L. Gallucci,

Assistant Secretary of State for Politico-Military Affairs.

[FR Doc. 93–18045 Filed 7–28–93; 8:45 am]

BILLING CODE 4710–25–M

DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

Environmental Impact Statement; Stanislaus 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 adjacent to the city of Oakdale, Stanislaus County, California.

FOR FURTHER INFORMATION CONTACT: Leonard E. Brown, Chief District Operations, Federal Highway Administration, 980 Ninth Street, suite 400, Sacramento, CA 95814. Telephone (916) 551–1307.

SUPPLEMENTARY INFORMATION: The FHWA in cooperation with the California Department of Transportation (CALTRANS) will prepare an Environmental Impact Statement (EIS) on a proposal to reconstruct State Route 120 to bypass the city of Oakdale, Stanislaus County.

The purpose of the project is to relieve the congestion on the existing highway which passes through the commercial center of Oakdale. The bypass will require a new crossing of the Stanislaus River and local circulation will be provided only at controlled access points.

Several alignment alternatives are being considered for this project. Also being considered is a "no-build" alternative; and an operational improvement to the existing highway

The appropriate federal, state and local agencies, and private organizations and citizens who have previously expressed or are known to have interest in this proposal will be placed on a mailing list. A Planning Development Team (PDT) will be established; the team consists of federal, state and local agency staff along with Caltrans and consultant personnel. Also, a Citizen Advisory Committee (CAC) will be formed of area residents appointed by the Oakdale City Council and Stanislaus Board of Supervisors. The public hearing will be held after the EIS is available for review, and is scheduled for the summer of 1994. Public notice will be given of the time and place of the hearing.

To ensure that the full range of issues of this proposed action are addressed and any significant impacts are identified, comments and suggestions are invited from all interested parties. The view of agencies which may have knowledge about historic and archaeological resources potentially affected by the proposal or interest in the effects of the proposal on endangered species/habitat are specifically solicited. Comments or questions concerning this proposed action and the EIS should be directed to the Federal Highway Administration 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: July 20, 1993

John R. Schultz,

Chief, District Operations—A, Sacramento, California.

[FR Doc. 93–18077 Filed 7–28–93; 8:45 am]

BILLING CODE 4910–22–M

SCH #_______________ __

NOTICE OF PREPARATION

TO:	Office of Planning and Research 1400 Tenth Street Sacramento, CA 95814	FROM:	Caltrans, District 10 P. O. Box 2048 Stockton, CA 95201

SUBJECT: **Notice of Preparation of a Draft Environment Impact Report/Statement [References: Division 13, Public Resources Code, Section 21080.4 (State); 40 C.F.R. 1501.7 and 1508.22 (Federal)]**

This is to inform you that the California Department of Transportation (CALTRANS) in cooperation with the Federal Highway Administration (FHWA) will be the Lead Agency and will prepare an EIR/EIS for the project described below. Your participation as a responsible/cooperating agency is requested in the preparation and review of this document.

We need to know the applicable permit and environmental requirements of your agency and the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR/EIS prepared by our agency when considering your permit or other approval for the project.

The proposal is to construct a two-lane expressway of State Route 120 to bypass the city of Oakdale, in Stanislaus County, from P.M. 3.3 to R10.5. The new route will ultimately be converted to a four-lane freeway facility.

There are four (4) alternatives being considered for this project: two (2) build alternatives with alignment options; a "no-build" alternative; and a Transportation System Management (TSM) alternative. Build Alternative #1 is approximately 6.4 miles long and follows a route that skirts the northern limits of the city of Oakdale. Build Alternative #2, with its three (3) alignment options, is approximately seven to nine miles long, with all options being completely north of the developed Oakdale area. The TSM alternative includes spot widening and provision of dedicated turn lanes and pockets along the existing highway.

Studies of the physical and socioeconomic environment are under way and the impacts of the project will be detailed in the EIR/EIS.

Due to the time limits mandated by law, your response must be sent at the earliest possible date, but no later than forty-five (45) days after receipt of this notice.

Please send your responses and direct any comments or questions regarding this project to James Jelinek, Chief, Environmental Planning Branch A, P.O. Box 2048, Stockton, CA 95201, (209) 948-7918. We will need the name of a contact person in your agency.

Date 6-17-95

James C. Jelinek

JAMES C. JELINEK
Chief, Environmental Planning
Branch A

Appendix G

Farmland Conversion Impact Rating

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request: March 2, 2000
Name Of Project: Oakdale Expressway	Federal Agency Involved: Federal Highway Administration
Proposed Land Use: State Highway	County And State: Stanislaus, California
PART II *(To be completed by NRCS)*	Date Request Received By NRCS: 3/2/00

Does the site contain prime, unique, statewide or local important farmland? *(If no, the FPPA does not apply -- do not complete additional parts of this form).*	Yes ☒	No ☐	Acres Irrigated: 422,700	Average Farm Size: 175
Major Crop(s): Almonds, Corn, & Tomatoes	Farmable Land In Govt. Jurisdiction Acres: 442,680	% 46	Amount Of Farmland As Defined in FPPA Acres: Data Not Available	%
Name Of Land Evaluation System Used: Ca. Storie Index System	Name Of Local Site Assessment System: —		Date Land Evaluation Returned By NRCS: 3/2/00	

	Maximum Points	Alternative Site Rating Alt. 1	Alt. 2A	Alt. 2B	Alt. 2C
PART III *(To be completed by Federal Agency)*					
A. Total Acres To Be Converted Directly		270	176	188	157
B. Total Acres To Be Converted Indirectly		20	5	7	3
C. Total Acres In Site		348	383	390	337
PART IV *(To be completed by NRCS)* Land Evaluation Information					
A. Total Acres Prime And Unique Farmland		223	97	94	82
B. Total Acres Statewide And Local Important Farmland		57	86	99	78
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted		0.0655	0.0413	0.0440	0.0361
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value		Not Available	Not Available	Not Available	Not Available
PART V *(To be completed by NRCS)* Land Evaluation Criterion Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*		77	64	63	64
PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points				
1. Area In Nonurban Use	15	14	15	15	15
2. Perimeter In Nonurban Use	10	10	10	10	10
3. Percent Of Site Being Farmed	20	12	1	1	9
4. Protection Provided By State And Local Government	20	20	20	20	20
5. Distance From Urban Builtup Area	0*	--	--	--	--
6. Distance To Urban Support Services	0*	--	--	--	--
7. Size Of Present Farm Unit Compared To Average	10	1	4	3	2
8. Creation Of Nonfarmable Farmland	25	2	0	0	0
9. Availability Of Farm Support Services	5	5	5	5	5
10. On-Farm Investments	20	20	14	14	15
11. Effects Of Conversion On Farm Support Services	25	0	0	0	0
12. Compatibility With Existing Agricultural Use	10	10	8	8	8
TOTAL SITE ASSESSMENT POINTS	160	94	77	76	84
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100	77	64	63	64
Total Site Assessment *(From Part VI above or a local site assessment)*	160	94	77	76	84
TOTAL POINTS *(Total of above 2 lines)*	260	171	141	139	148

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? Yes ☐ No ☐

Reason For Selection:

* These criteria do not apply for this type (corridor-type) of project.

Page 1 of 2

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Form AD-1006 (10-83)

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request March 2, 2000
Name Of Project Oakdale Expressway	Federal Agency Involved Federal Highway Administration
Proposed Land Use State Highway	County And State Stanislaus, California
PART II *(To be completed by NRCS)*	Date Request Received By NRCS 3/2/00

Does the site contain prime, unique, statewide or local important farmland? *(If no, the FPPA does not apply -- do not complete additional parts of this form).*	Yes ☒ No ☐	Acres Irrigated 422,700	Average Farm Size 175
Major Crop(s) Almonds, Corn + Tomatoes	Farmable Land In Govt. Jurisdiction Acres: 442,680 % 46		Amount Of Farmland As Defined in FPPA Acres: Data Not Available %
Name Of Land Evaluation System Used California Storie System	Name Of Local Site Assessment System —		Date Land Evaluation Returned By NRCS 3/2/00

	Maximum Points	Alternative Site Rating: Alt. 2D			
PART III *(To be completed by Federal Agency)*					
A. Total Acres To Be Converted Directly		164			
B. Total Acres To Be Converted Indirectly		4			
C. Total Acres In Site		323			
PART IV *(To be completed by NRCS)* **Land Evaluation Information**					
A. Total Acres Prime And Unique Farmland		85			
B. Total Acres Statewide And Local Important Farmland		83			
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted		0.0380			
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value		Not Available			
PART V *(To be completed by NRCS)* **Land Evaluation Criterion** Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*		60			
PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b))*	Maximum Points				
1. Area In Nonurban Use	15	15			
2. Perimeter In Nonurban Use	10	10			
3. Percent Of Site Being Farmed	20	9			
4. Protection Provided By State And Local Government	20	20			
5. Distance From Urban Builtup Area	0*	--			
6. Distance To Urban Support Services	0*	--			
7. Size Of Present Farm Unit Compared To Average	10	1			
8. Creation Of Nonfarmable Farmland	25	0			
9. Availability Of Farm Support Services	5	5			
10. On-Farm Investments	20	15			
11. Effects Of Conversion On Farm Support Services	25	0			
12. Compatibility With Existing Agricultural Use	10	8			
TOTAL SITE ASSESSMENT POINTS	160	83			
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100	60			
Total Site Assessment *(From Part VI above or a local site assessment)*	160	83			
TOTAL POINTS *(Total of above 2 lines)*	260	143			

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? Yes ☐ No ☐

Reason For Selection:

* These criteria do not apply for this type (corridor-type) of project.

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Appendix H

Title VI
Policy Statement

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
1120 N STREET
P. O. BOX 942873
SACRAMENTO, CA 94273-0001
PHONE (916) 654-5267
FAX (916) 654-6608

July 26, 2000

TITLE VI
POLICY STATEMENT

The California State 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, sex and national origin be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

Jeff Morales

JEFF MORALES
Director