State Route 132 Interchange Improvements at Bird Road

District 10-SJ-132-KP 1.6-4.8 (PM 1.0/3.0)
EA 10-2A7800

Initial Study/Proposed Mitigated Negative Declaration

Prepared by the
State of California Department of Transportation

December 2005

General Information About This Document

What's in this document?

The California Department of Transportation has prepared this Initial Study, which examines the potential environmental effects associated with the proposed project in San Joaquin County, California. The document describes why the project is being proposed, alternatives for the project, the existing environment that could be affected, potential effects from each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures.

What should you do?

- Please read this Initial Study. Additional copies of this document as well as the technical studies are available for review at the Caltrans District Office at 1976 Charter Way, Stockton, California 95205 and at the City of Tracy Library at 20 E. Eaton Avenue, Tracy, California 95376.
- We welcome your comments. If you have any concerns regarding the proposed project, please send your written comments to Caltrans by the deadline. Submit comments via U.S. mail to:

  Attn: John Thomas
  California Department of Transportation
  Environmental Division
  2015 E. Shields, Suite 100
  Fresno, CA 93726

  Submit comments via email to: john_q_thomas@dot.ca.gov

- Submit comments by the deadline: February 2, 2006.

What happens next?

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

For individuals with sensory disabilities, this document is available in Braille, large print, on audiocassette, or computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: John Thomas, Environmental Division, 2015 E. Shields, Suite 100, Fresno, California 93726; telephone (559) 243-8175 Voice, or use the California Relay Service TTY number, 1 (800) 735-2929.

SCH#
10-SJ-132-KP 1.6-4.8
(PM 1.0-3.0)
EA 10-2A7800

State Route 132 interchange improvements at Bird Road,
kilometer posts 1.6 to 4.8 (post miles 1.0 to 3.0) in San Joaquin County, California

INITIAL STUDY/PROPOSED MITIGATED NEGATIVE DECLARATION

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

THE STATE OF CALIFORNIA
Department of Transportation

12/15/05
Date of Approval

Lance Brangham, Chief
San Joaquin Valley Branch
Central Region
California Department of Transportation

State of California
Department of Transportation

SCH Number:
10-SJ-132-KP 1.6-4.8
(PM 1.0-3.0)

Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes to improve the intersection at State Route 132 (SR 132) and Bird Road in San Joaquin County by constructing an interchange and making related highway improvements. Bird Road at SR 132 is an at-grade intersection, with stop signs on the Bird Road approaches. The at-grade intersection sits in a segment of four-lane divided highway about 3.62 kilometers (2.25 miles) east of the Interstate 580 (I-580)/SR 132 freeway-to-freeway interchange, 3.23 kilometers (2 miles) east of the SR-132/Chrisman Road interchange (at kilometer post 0.39 [post mile 0.24]) and about 1.61 kilometers (1 mile) west of the Interstate 5 (I-5)/SR 132 freeway-to-freeway interchange. Bird Road is the only at-grade connection to SR 132 in this segment.

Determination

This proposed Mitigated Negative Declaration is included to give notice to interested agencies and the public that it is Caltrans' intent to adopt a Mitigated Negative Declaration for this project. This does not mean that Caltrans' decision regarding the project is final. This Mitigated Negative Declaration is subject to modification based on comments received by interested agencies and the public.

Caltrans has prepared an Initial Study for this project and, pending public review, expects to determine from this study that the proposed project would not have a significant effect on the environment for the following reasons:

- The proposed project would have no effect on land use, communities and neighborhoods, growth, employment, relocations, air quality, noise, historic and archaeological preservation, and hazardous waste.
- The proposed project would have no effect on floodplains, water quality, visual/aesthetics, property acquisitions, or parks and recreation.

The proposed project would have no significantly adverse effect on wetlands and waters of the United States; threatened or endangered species; geology, soils, seismic, and topography; farmlands; and traffic and transportation/pedestrian and bicycle facilities because the following mitigation measures would reduce potential effects to insignificance:

- It is anticipated that utility relocations would be accommodated within the proposed new and/or existing right-of-way. Caltrans would coordinate relocation work with the various utility companies to ensure minimum disruption of service to customers in the area during project construction.
- To avoid any adverse effects to storm water quality, ground-disturbing activities would be completed during the dry season. Also, a Storm Water Pollution Prevention Plan would be prepared outlining appropriate storm water best management practices that would be installed and maintained throughout the duration of the project to prevent any possible discharge.
- Standard erosion control measures and best management practices would be implemented during the construction and operational phases of the project. In addition, the bridge structure and approaches would be designed and constructed according to the most recent Caltrans seismic design criteria.
- All hazardous waste would be removed, handled, transported, and disposed of in accordance with applicable local, state and federal laws and regulations.
- Although the big tarplant, round-leaved filaree and showy madia are not expected to occur in the study area, efforts would be made to avoid and minimize effects to these plants, if observed before construction, to the maximum extent practicable.
- Mitigation for effects to potential habitat for sensitive animal species would be achieved by participating in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan and contributing the necessary funds to the Joint Powers Authority for the preservation of lands suitable for those species covered by the plan.
- As specified in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan, pre-construction surveys for San Joaquin kit fox should be conducted two calendar weeks to 30 calendar days before starting any ground disturbance. Where San Joaquin kit fox are identified, the provisions of the U.S. Fish and Wildlife Service-published *Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance* should be followed.
- As specified in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan, pre-construction surveys for white-tailed kites shall investigate all potential nesting trees within the study area during the breeding season (February 15 to September 15) whenever white-tailed kites are noted in the study area or in the vicinity of the study area during the nesting season. If active nests are identified before construction, a setback of 30 meters (100 feet) from the nesting areas shall be established and maintained during the nesting season for the period from nest building to until fledglings leave the nests.

The setback applies whenever construction or other ground-disturbing activities must begin during the nesting season when occupied nests are present. Setbacks shall be marked by brightly colored temporary fencing.

- To minimize impacts to burrowing owls that may occupy in the study area before project construction, pre-construction surveys should be conducted within 30 days of starting project grading. If it is determined that burrowing owls are occupying the site, then incidental take minimization measures outlined in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan should be implemented. If project construction is to begin during the non-breeding season (September 1 through January 31), burrowing owls occupying the project site should be evicted from the project site by passive relocation as described in California Department of Fish and Game's Staff Report on Burrowing Owls.

  If project construction is to begin during the breeding season (February 1 through August 31), occupied burrows shall not be disturbed and shall be provided with a 75-meter (246.06-foot) protective buffer until and unless the technical advisory committee to the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan or a qualified biologist approved by the permitting agencies verifies through non-invasive means that either: 1) the birds have begun egg laying, or 2) juveniles from the occupied burrows are foraging independently and are capable of independent survival. Once the fledglings are capable of independent survival, the burrow can be destroyed.
- The Special Provisions of Standard Specifications in the construction contract for the proposed project would include requirements to minimize or eliminate construction-related dust through the application of water or other control measures. Caltrans would comply with "fugitive dust" emissions rules and policies to minimize construction dust impacts.
- During construction, Caltrans would implement a Traffic Mitigation Plan to minimize traffic impacts using such measures as one-way traffic controls and night work.

_____ _____

Lance Brangham, Chief
San Joaquin Valley Branch
Central Region
California Department of Transportation

Date

Summary

The California Department of Transportation (Caltrans) proposes to improve the intersection at State Route 132 (SR 132) and Bird Road in San Joaquin County by constructing an interchange and making related highway improvements. Bird Road at SR 132 is an at-grade intersection, with stop signs on the Bird Road approaches. The at-grade intersection sits in a segment of four-lane divided highway 3.23 kilometers (2 miles) east of the SR-132/Chrisman Road interchange (at kilometer post 0.39 [post mile 0.24]) and about 1.61 kilometers (1 mile) west of the Interstate 5 (I-5)/SR 132 freeway-to-freeway interchange. Bird Road is the only at-grade connection to SR 132 in this segment.

The purpose of the proposed project is to improve traffic operations on SR 132 by eliminating existing vehicle conflicts caused by the at-grade intersection. The interchange would eliminate conflicts between through traffic on SR 132 and traffic turning left or right to or from SR 132 and Bird Road, as well as eliminating all cross traffic coming from Bird Road.

Another purpose of the project is to improve the road to support projected increases in aggregate (sand and gravel) production truck traffic through the year 2027 by providing improved access to aggregate mining sites south of SR 132.

Table S-1 summarizes impacts that the proposed project and its alternatives would have on the human, physical, and biological environments in the project area. It briefly describes the potential impacts to the environment from the proposed project and its alternatives.

Special note: When referencing the separately bound technical studies, please note that the proposed project is identified as Alternative 3 is those studies.

The proposed project would require the following:

- A Streambed Alteration Agreement may be required for work proposed within Lone Tree Creek. The California Department of Fish and Game should be contacted to determine if it would require a Streambed Alteration Agreement.
- Take authority for the San Joaquin kit fox would be required from the San Joaquin Council of Governments through the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan.

- Conformance with the National Pollution Discharge Elimination System Municipal and Groundwater Extraction Permits (if applicable).
- Conformance with the National Pollution Discharge Elimination System General Construction Activity Permit.
- An encroachment permit would be required from the County of San Joaquin.

Table S-1 Summary of Potential Impacts

Proposed Project *Alternative 3 in technical studies	Alternative 1	Alternative 2	No-Project Alternative
Land Use			
The project would be consistent with the San Joaquin Council of Governments Regional Transportation Plan and with the plans and policies of the San Joaquin County General Plan 2010. Approximately 7.56 hectares (18.67 acres) of agricultural land would be converted to highway use under the proposed project. No potentially significant or significant land use impacts were identified, and therefore mitigation measures are not required.	Alternative 1 would result in similar impacts to those resulting from the proposed project. However, an additional 0.99 hectare (2.44 acres) of right-of-way would need to be acquired for this alternative. This alternative would be consistent with the San Joaquin County General Plan 2010; the 2004 San Joaquin Council of Governments Regional Transportation Plan Vision 2030. No adverse impacts would result, and no mitigation would be required.	Alternative 2 would result in similar impacts to those resulting from the proposed project. However, approximately 0.68 fewer hectare (1.69 fewer acres) of right-of-way would be required under this alternative. This alternative would be consistent with the San Joaquin County General Plan 2010; the 2004 San Joaquin Council of Governments Regional Transportation Plan Vision 2030. No adverse impacts or mitigation would be required.	The no-project alternative would keep SR 132 in the project area as it is. Only ongoing maintenance activities would continue. The improvements proposed in the San Joaquin Council of Governments Regional Transportation Plan would not occur, and existing adverse traffic delays would worsen due to increased truck trips resulting increased demand for aggregate materials. Consequently, impacts to existing and planned land use consistency would be greater than assessed to any of the build alternatives.
Farmlands			
The project would convert a minimal (7.56 hectares [18.67 acres]) amount of agricultural land (prime farmland) to highway use. No Williamson Act lands or farmlands of statewide or local importance would be affected by the proposed project.	Approximately 8.54 hectares (21.11) of prime farmland would be permanently converted to highway use by this alternative compared to 7.56 hectares (18.67 acres) for the proposed project. No Williamson Act land would be affected. Impacts would be considered less than significant due to the relatively small number of hectares (acres) affected.	Approximately 6.87 hectares (16.98 acres) of prime farmland would be permanently converted to highway use by this alternative compared to 7.56 hectares (18.67 acres) for the proposed project. No Williamson Act land would be affected. Impacts would be considered less than significant due to the relatively small number of hectares (acres) affected.	The no-project alternative would keep SR 132 in the project area as it is. The no-project alternative would convert no prime farmland to highway use.

Proposed Project *Alternative 3 in technical studies	Alternative 1	Alternative 2	No-Project Alternative
Utilities/Emergency Services			
To accommodate the proposed improvements, existing Pacific Gas & Electric overhead transmission lines along the west side of Bird Road north of SR 132 and along the south side of SR 132 west of Bird Road would require relocation. It is expected that one service pole, one SBC and joint pole, and four Pacific Gas & Electric-only poles would be relocated as part of project construction. An existing underground SBC telephone cable would also be relocated. Impacts to utilities and emergency services are not considered to be significant. No mitigation would be required.	Utility relocation requirements would be similar to the proposed project. This alternative would require the relocation of the existing overhead transmission lines, one service pole, one SBC and Pacific Gas & Electric joint pole, and four Pacific Gas & Electric-only poles. In addition, an existing SBC telephone cable would also be relocated. No adverse impacts to utilities and emergency services would result from this alternative.	See Alternative 1 discussion.	The no-project alternative would keep SR 132 in the project area as it is. No adverse impacts to utilities or emergency services would occur.
Traffic and Transportation/Pedestrian and Bicycle Facilities			
Implementation of the proposed project would not result in permanent or temporary adverse impacts to traffic and transportation/pedestrian and bicycle facilities. The project would benefit intersection operations through the construction of an interchange. Therefore, no mitigation measures would be required.	Alternative 1 would operate at a similar level of service (“B” or better) to the proposed project through the year 2027, except for the SR 132 westbound ramps intersection with Bird Road during the AM peak hour. This ramp would operate at level of service “D” rather than level of service “B” under the proposed project.	Alternative 2 would operate at a similar level of service (“B” or better) to the proposed project through the year 2027.	Under the no-project alternative for the year 2027, existing intersection operations would be level of service “F.” In addition, existing vehicle conflicts at the existing at-grade crossing would continue. The no-project alternative would not meet the project’s need and purpose.

Proposed Project *Alternative 3 in technical studies	Alternative 1	Alternative 2	No-Project Alternative
Cultural Resources			
A review of existing literature documenting cultural resources and an on-the-ground field survey for archaeological and historic resources in the project area were completed between March and April 2005. The literature search did not identify any archaeological resources in the project area. There are no previously identified cultural resources in the project area.	As with the proposed project, this alternative would not result in adverse impacts to archaeological or historic resources.	See discussion for Alternative 1.	The no-project alternative would keep SR 132 in the project area as it is. Only ongoing maintenance activities would continue. No impacts to cultural resources would occur under this alternative.
Hydrology and Floodplain			
This project is not expected to increase peak flows discharged into receiving waters. The triple box culvert that currently extends under SR 132 would be widened to span the width of the newly constructed portion of the road to transport flows beneath the road. All storm water generated by the road improvements would be contained on the project site and infiltrate to groundwater. There are no expected impacts on the natural and beneficial floodplain values or hydrology due to this project.	Alternative 1 is not expected to increase peak flows discharged into Lone Tree Creek. The triple box culvert would be widened under this alternative, as with the proposed project, to transport flows beneath SR 132. All storm water would be contained onsite for infiltration into groundwater.	See discussion for Alternative 1.	The no-project alternative would keep SR 132 in the project area as it is. Only ongoing maintenance activities would continue. No impacts to beneficial floodplain values or hydrology would occur under this alternative.

Proposed Project *Alternative 3 in technical studies	Alternative 1	Alternative 2	No-Project Alternative
Water Quality and Storm Water Runoff			
All storm water generated from the project site would drain internally into infiltration basins. Because no water would leave the site or enter a waterway, there would be no permanent negative impacts to water quality due to storm water. During construction, total suspended solids would be a pollutant of concern. Metals are also a possible pollutant of concern. These can be mitigated to below significance through mitigation.	Under Alternative 1, all storm water generated from the project would drain internally into infiltration basins. Because no water would leave the site or enter a waterway, there would be no permanent negative impacts to water quality due to storm water as under the proposed project.	See discussion for Alternative 1.	The no-project alternative keep SR 132 in the project area as it is. Only ongoing maintenance activities would continue. No impacts to water quality from storm water runoff would occur under this alternative.
Geology/Soils/ Seismic/Topography			
No significant impacts to geology/soils/seismic/ topography would occur as a result of project implementation. Standard erosion control measures and best management practices would be implemented during the construction and operational phases of the project. In addition, the bridge structure and approaches would be designed and constructed according to the most recent Caltrans seismic design criteria. As a result, impacts would be considered less than significant.	Although difficult to quantify, impacts to mineral resources may be slightly higher than under the proposed project due the increase in right–of-way take. Other impacts would be similar to the proposed project.	Impacts under this alternative would be similar to the proposed project.	The no-project alternative would keep SR 132 in the project area as it is. Only ongoing maintenance activities would continue. No impacts to geology/soils/seismic/topography would occur under this alternative.
Hazardous Waste Materials			
There are minimal impacts of possible exposure of contaminants on human health and safety at the project site. Implementation of avoidance and mitigation measures would reduce potential impacts on human health and safety from hazardous wastes to below a level of significance.	Hazardous waste impacts would be identical to the proposed project. Minimal impacts and exposure of contaminants on human heath and safety at the project site would be expected.	See discussion for Alternative 1.	The no-project alternative would keep SR 132 in the project area as it is. Any current exposure of contaminants on human heath and safety would remain.

Proposed Project *Alternative 3 in technical studies	Alternative 1	Alternative 2	No-Project Alternative
Natural Communities			
The project would result in impacts to agricultural land, annual grassland, and ephemeral drainage (Lone Tree Creek). The portion of Lone Tree Creek that would be affected is considered to be very marginal habitat for wildlife species, and thus impacts to this feature would not be considered adverse. Nonetheless, California Department of Fish and Game should be contacted to determine whether it would require a Streambed Alteration Agreement for work in the channel. If the California Department of Fish and Game does require a Streambed Alteration Agreement and mitigation, the mitigation would likely be required. A conceptual mitigation plan would be submitted to the respective agencies at the time the necessary permits for this activity are sought.	Under Alternative 1, impacts to natural communities would be similar to those for the proposed project. However, Alternative 1 would affect an additional 1.93 hectares (4.76 acres) of vineyard over the proposed project. In addition, Alternative 1 would reduce impacts to agricultural lands cultivated in grain crops by 0.74 hectare (1.84 acres) over the proposed project.	Impacts under Alternative 2 would be similar to those for Alternative 1. See discussion for Alternative 1.	The no-project alternative would keep SR 132 in the project area as it is. No impacts to natural communities would occur.

Proposed Project *Alternative 3 in technical studies	Alternative 1	Alternative 2	No-Project Alternative
Wetlands and Other Waters			
Portions of Lone Tree Creek would be permanently affected by the proposed project. These impacts would be the result of the extension of the northern side of the culvert under SR 132 and the construction of new retaining walls. Also, portions of Lone Tree Creek would be temporarily affected during project-related construction. These impacts would not be considered adverse. No Section 404 permit from the U.S. Army Corps of Engineers or 401 Water Quality Certification would be required for this project. No jurisdictional waters of the U.S. were identified within the project site. No hydrologic connectivity has been established between the aforementioned hydrologic features and waters of the U.S. The rationale for these determinations is outlined as an attachment Jurisdictional Wetland Determination Report in Appendix I.	Under Alternative 1, approximately 0.08 hectare (0.19 acre) of Lone Tree Creek would be permanently affected as under the proposed project. Approximately 0.0008 hectare (0.002 acre) of depressional seasonal wetland would be affected by Alternative 1. However, no impact to depressional seasonal wetlands would occur under the proposed project.	Under Alternative 2, impacts to wetlands and other waters would be identical to the proposed project.	The no-project alternative would keep SR 132 in the project area as it is. No impacts to wetlands or other waters would occur.
Plant Species			
No adverse impacts to sensitive plants including the big tarplant, round-leaved filaree or the showy madia are expected as a result of project implementation. No mitigation would be required.	As with the proposed project, no adverse impacts to the big tarplant, round-leaved filaree, showy madia, or other special-status plants would occur.	See discussion for Alternative 1.	The no-project alternative would keep SR 132 in the project area as it is. No impacts to special-status plants would occur.

Proposed Project *Alternative 3 in technical studies	Alternative 1	Alternative 2	No-Project Alternative
Animal Species			
No adverse impacts to special-status species are expected as a result of project implementation. However, the proposed project would affect grasslands, which represent potential habitat for the coast horned lizard, San Joaquin whipsnake, silvery legless lizard, California horned lark, Ferruginous hawk, Loggerhead shrike, mountain plover, western burrowing owl, white-tailed kite, and raptors and other nesting birds. However, any impacts to these species would not be considered adverse with avoidance, minimization, and/or mitigation measures.	No adverse impacts to special-status species are expected as a result of Alternative 1. However, the proposed project would permanently affect 10.51 hectares (25.98 acres) of grasslands and temporarily affect 1.17 hectares (2.89 acres) of grasslands. These impacts are nearly identical to those of the proposed project.	No adverse impacts to special-status species are expected as a result of Alternative 1. However, the proposed project would permanently affect 10.40 hectares (25.71 acres) of grasslands and temporarily affect 1.15 hectares (2.83 acres) of grasslands. These impacts are nearly identical to those of the proposed project.	The no-project alternative would keep SR 132 in the project area as it is. No impacts to special-status animals would occur.
Threatened and Endangered Species			
No direct impacts to San Joaquin kit fox are expected at this time; however, the project would result in the loss of grassland habitat that represents potential habitat for this species. Any impacts to San Joaquin kit fox habitat would not be considered adverse with mitigation. No impacts to nesting habitat for Swainson's hawk are anticipated at this time, since there are active nests 5 to 10 miles from the study area. The proposed project would result in impacts to potential Swainson's hawk foraging habitat. Any impacts to Swainson's hawk foraging habitat would not be considered adverse with mitigation.	See discussion for the proposed project.	See discussion for the proposed project.	The no-project alternative would keep SR 132 in the project area as it is. No impacts to threatened and endangered species would occur.

Proposed Project *Alternative 3 in technical studies	Alternative 1	Alternative 2	No-Project Alternative
Construction Impacts			
The proposed project would generate air pollutants during construction. Trucks and construction equipment emit hydrocarbons, oxides of nitrogen, carbon monoxide, and suspended particulate matter (10 microns and 2.5 microns). Some temporary noise disturbance would occur during construction, associated with the operation of construction machinery and equipment. Construction may require temporary traffic controls such as lane closures.	See discussion for the proposed project.	See discussion for the proposed project.	The no-project alternative would keep SR 132 in the project area as it is. No construction impacts would occur.
Cumulative Impacts			
Cumulative effects of the proposed project on farmlands, hydrology and floodplain, water quality and storm water runoff, geology/soils/seismic/ topography, natural communities, wetlands and other waters, animal species, and threatened and endangered species would be less than significant (no cumulative impacts to these issue areas were identified for the proposed project) and therefore would not contribute to cumulative impacts associated with other planned projects in the county.	See discussion for the proposed project.	See discussion for the proposed project.	The no-project alternative would keep SR 132 in the project area as it is. No cumulative impacts would occur.

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Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans) proposes to improve the intersection of State Route 132 (SR 132) and Bird Road in San Joaquin County by constructing an interchange and making related highway improvements. Bird Road at SR 132 is currently an at-grade intersection, with stop signs on the Bird Road approaches. The intersection sits in a segment of four-lane divided highway about 3.23 kilometers (2 miles) east of the SR 132/Chrisman Road interchange (at kilometer post 0.39 [post mile 0.24]) and about 1.61 kilometers (1 mile) west of the Interstate 5 (I-5)/SR 132 freeway-to-freeway interchange. Bird Road is the only at-grade connection to SR 132 in this segment.

Bird Road is a two-lane north-south county road that extends from Grant Line Road at the northern end to south of SR 132. In the project area, Vernalis Road is a two-lane east/west frontage road along the north side of SR 132 and extends from Bird Road to the west side of I-5 (about 1 mile long). Vernalis Road provides access to one residence and to agricultural lands.

Three waterways lie in the project area: the Delta Mendota Canal, the California Aqueduct, and Lone Tree Creek. The Delta Mendota Canal crosses Bird Road at the northern end of the project area and crosses SR 132 at the eastern end of the project area just before the I-5/SR 132 freeway-to-freeway interchange. Proposed improvements would not encroach into the Delta Mendota right-of-way. Bird Road crosses the California Aqueduct to the south of the project area. Proposed improvements would not extend into the California Aqueduct right-of-way. And, Lone Tree Creek, a minor water course, crosses under SR 132 to the east of the Bird Road intersection, immediately west of the Delta Mendota Canal.

1.2 Project Location

Bird Road intersects SR 132 at an at-grade intersection in San Joaquin County at kilometer post 3.62 (post mile 2.25). See Figure 1-1. The SR 132/Bird Road intersection lies about 1.61 kilometers (1 mile) west of the I-5/SR 132 interchange, and about 3.23 kilometers (2 miles) east of the SR 132/Chrisman Road interchange.

1.3 Purpose and Need

1.3.1 Purpose

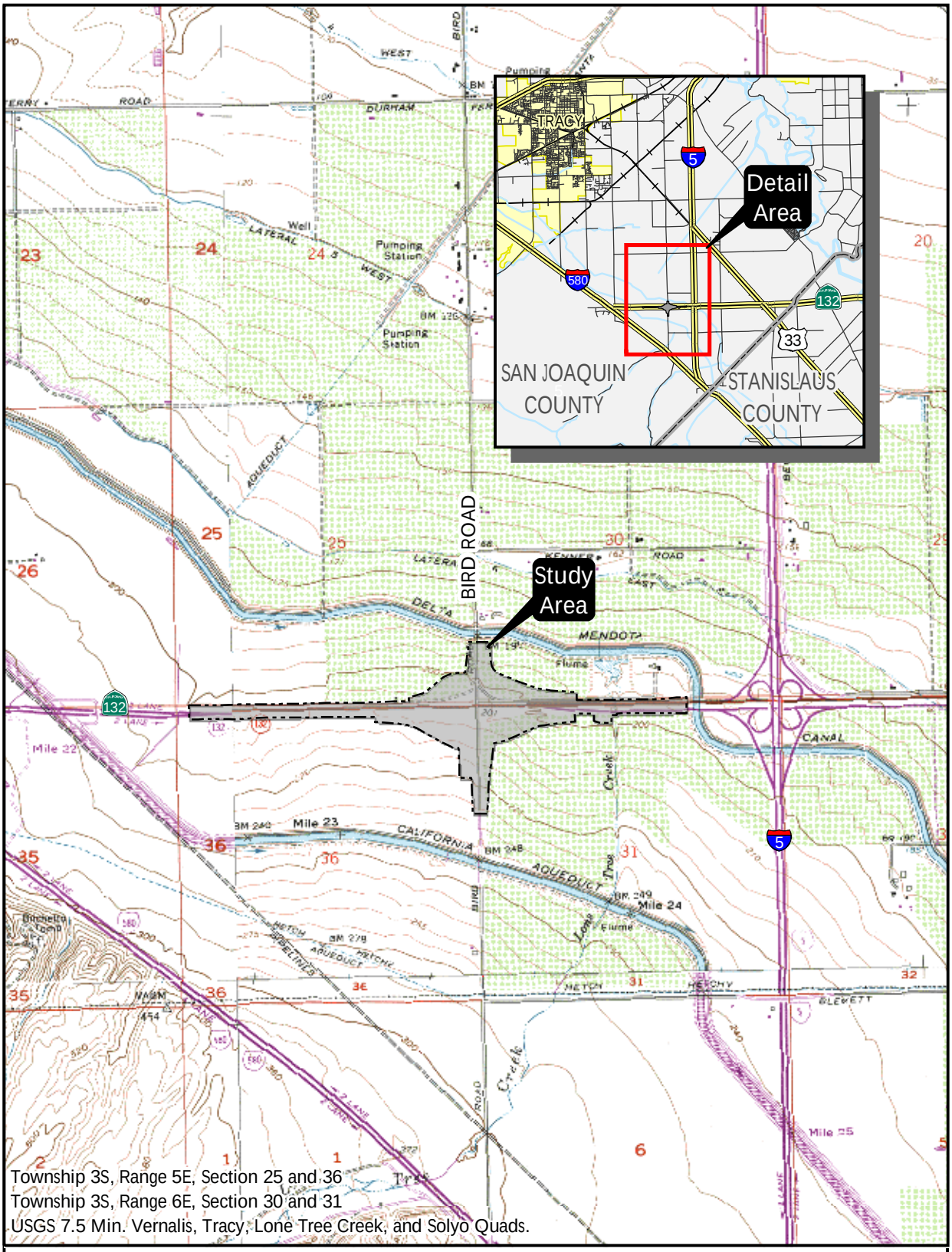
The purpose of the proposed project is to improve traffic operations on SR 132 by eliminating the existing vehicle conflicts that occur because of the at-grade intersection, where vehicles turn on and off the highway. An interchange would eliminate conflicts resulting from vehicles turning left and right to or from SR 132 and Bird Road and would eliminate all cross-traffic coming from Bird Road.

Another purpose of the project is to improve the road to support projected increases in aggregate (sand and gravel) production truck traffic through the year 2027 by improving access to aggregate mining sites south of SR 132.

1.3.2 Need

The proposed project is needed to improve existing traffic operational deficiencies caused by Bird Road intersecting SR 132. At the intersection, stop signs control access to SR 132 from Bird Road to the north and the south. SR 132 traffic does not stop. Motorists trying to turn left or right off of SR 132 or Bird Road cannot proceed easily and experience frustration and delay, especially during peak commute periods.

SR 132 serves as an east-west commuter route between Central Valley communities and the Bay Area. The Bird Road intersection experiences heavy traffic flow during the morning peak period (westbound), with heavy reverse (eastbound) traffic flow occurring during the afternoon peak period. Peak-hour traffic counts collected in May 2004 showed 1,716 vehicles traveling through the intersection on eastbound SR 132 during the afternoon peak hour.



SITE AND VICINITY

N

Meters 0 400 800

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Drawn By: DBV
Date: 06/09/05

FIGURE 1-1

SR-132 BIRD ROAD

site_and_vicinity_v9.mxd

In addition, because of aggregate mining sites south of SR 132 in the Bird Road vicinity, aggregate truck traffic accesses the highway via the Bird Road intersection. About 1,000 individual aggregate truck trips access SR 132 at this location each day. About 100 trucks turn to or from SR 132 and Bird Road during the morning peak hour and about 20 do so during the afternoon peak hour. With continued development of the available aggregate resources, it is estimated that up to 7,300 daily aggregate truck trips will access the state highway at this location by the year 2027.

Table 1-1 shows the current peak-hour intersection levels of service at the SR 132/Bird Road intersection as well as those projected for the year 2007 (year the proposed improvements would be open for use) and the year 2027 (20-year design horizon) if no improvements are made.

Table 1-1 Peak-Hour Intersection Levels of Service

SR 132 at Bird Road Intersection	Type	Morning Peak Hour		Afternoon Peak Hour	
		Delay	Level of Service	Delay	Level of Service
Existing Traffic Conditions	TWSC	309.7	F	285.2	F
2007 (Near-Term) Traffic Conditions	TWSC	OVR	F	OVR	F
2027 (Future) Traffic Conditions	TWSC	OVR	F	OVR	F

Notes: TWSC – Two-way Stop Controlled
OVR – Overflow Conditions

Source: Appendix F, Existing and Forecasted Study Area Traffic Volumes and Resulting Traffic Operations

Over the three-year period from January 1, 2001 to December 31, 2003, seven accidents were reported at or near the SR 132/Bird Road intersection. Three of the accidents were identified as “rear-end” accidents, two as “broadside” accidents, one as a “sideswipe” accident, and one as a “hit object” accident.

The actual accident rates in this segment of SR 132 (kilometer posts 1.867 to 4.311 [post miles 1.160 to 2.679]) were all lower than the corresponding statewide average accident rates per million vehicle miles traveled. Table 1-2 provides accident rates per million vehicle miles traveled for SR 132 within and adjacent to the project area. Although it is expected that the proposed project would improve safety by eliminating the at-grade intersection, improved operations is the primary need.

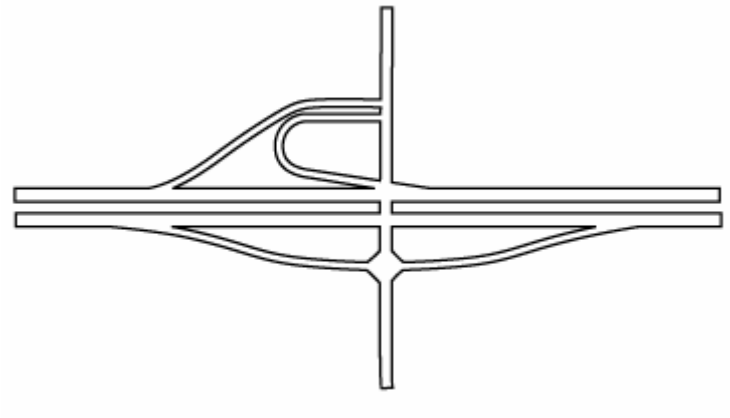
Table 1-2 Accident Rates Within and Adjacent to the Project Area

Location	Accident Rate Accidents/Million Vehicle Miles Traveled					
	Actual			Average		
	Fatal	Fatal + Injury	Total	Fatal	Fatal + Injury	Total
Kilometer posts 0.386 to 1.865 (post miles 0.240 to 1.159)	0.055	0.22	0.89	0.014	0.20	0.46
Kilometer posts 1.867 to 4.311 (post miles 1.160 to 2.679)	0.000	0.23	0.57	0.036	0.32	0.60
Kilometer posts 4.313 to 5.213 (post miles 2.680 to 3.239)	0.000	0.00	0.55	0.008	0.14	0.34
Kilometer posts 5.214 to 6.130 (post miles 3.240 to 3.809)	0.089	0.27	0.35	0.007	0.14	0.33

Source: Appendix F – Existing and Forecasted Study Area Traffic Volumes and Resulting Traffic Operations, March 1, 2005

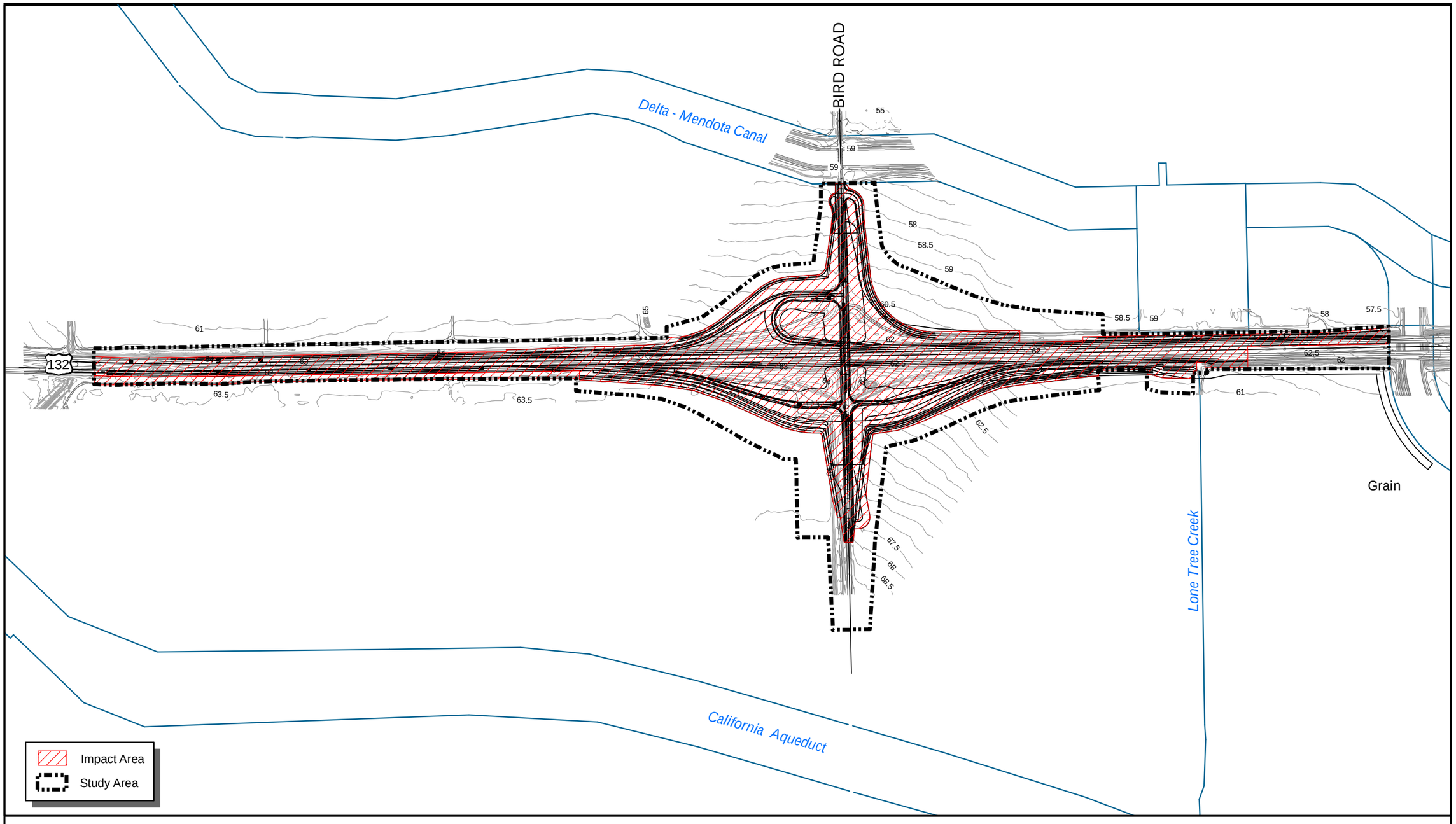
1.4 Proposed Project (formerly Alternative 3)

1.4.1 Diamond/Modified Partial Cloverleaf Interchange



Special note: When referencing the separately bound technical studies, please note that the proposed project is identified as Alternative 3 is those studies.

The proposed project would provide a diamond interchange in the eastbound direction and a modified partial cloverleaf interchange in the westbound direction. See Figure 1-2.



PROPOSED PROJECT (Alternative 3)

Digital base data provided by Omni Means.
Contour interval is 0.5 meters.

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Meters

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Feet

Drawn By: DBV
Date: 06/09/05

FIGURE 1-2

SR 132 BIRD ROAD

Site_Alt_3.mxd

1.4.2 Other Improvements

The proposed project includes the following improvements:

1. Construct a two-lane bridge with a center turn lane over SR 132 at Bird Road. Construct concrete bridge approach slabs on both Bird Road approaches to the new structure (including bridge approach slabs).

2. Construct new direct connecting onramps from Bird Road to both eastbound and westbound SR 132. Portland cement concrete pavement would be placed on both onramps.

3. Construct new direct connecting offramps from eastbound and a loop offramp from westbound SR 132 to Bird Road. Asphalt concrete pavement would be placed on both offramps.

4. Construct a 1,060-meter-long (3,478-foot-long) auxiliary lane on westbound SR 132.

5. Construct a 300-meter-long (984-foot-long) auxiliary lane on eastbound SR 132

6. Upgrade SR 132 to a four-lane freeway standard through the interchange.

7. Provide stop signs at the SR 132 eastbound and westbound offramp intersections with Bird Road.

8. Relocate Vernalis Road about 240 meters (787 feet) north of the current Bird Road intersection.

9. Transition SR 132 to the existing two-lane highway segment west of the current intersection.

10. Construct up to five infiltration basins to control onsite storm water flows.

11. Construct bio-filtration swales/strips to control storm water pollutants.

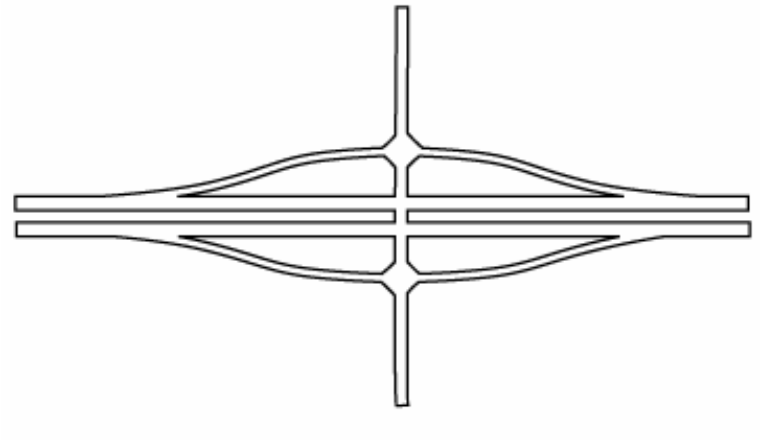
12. Relocate the existing Pacific Gas & Electric overhead transmission lines along the west side of Bird Road north of SR 132 and along the south side of SR 132 west of Bird Road. Relocate the existing underground SBC telephone cable that is along the west side of Bird Road.

13. Revegetate the project's sides by hydroseeding disturbed areas with native seed mix of non-invasive species to prevent erosion.

14. The estimated cost to acquire the right-of-way and construct the full improvements for the proposed project is $12,316,000. An additional $1,462,000 would be required to construct the highway transition (see improvement 9 above) for a project total of $13,778,000.

1.5 Alternatives

1.5.1 Alternative 1 – Spread Diamond Interchange



Alternative 1 proposes a spread diamond interchange that includes using the existing two-lane highway as the westbound SR 132 lanes while constructing a new single eastbound SR 132 travel lane. See Figure 1-3. This alternative includes the following improvements:

1. Construct a two-lane bridge with a center turn lane over SR 132 at Bird Road.

2. Construct new direct connecting onramps from Bird Road to both eastbound and westbound SR 132.

3. Construct new direct connecting offramps from eastbound and westbound SR 132 to Bird Road.

4. Construct a roughly 720-meter-long (2,362-foot-long) auxiliary lane on westbound SR 132 between the southbound I-5 to westbound SR 132 merge and the diverge from westbound SR 132 to Bird Road.

5. Construct a roughly 300-meter-long (984-foot-long) auxiliary lane on eastbound SR 132.

6. Upgrade SR 132 to a four-lane freeway standard through the interchange.

7. Provide stop signs at the SR 132 eastbound and westbound offramp intersections with Bird Road.

8. Relocate Vernalis Road about 240 meters (787 feet) to the north of the current intersection with Bird Road.

9. Construct the transition of SR 132 to the existing two-lane highway segment west of the current intersection.

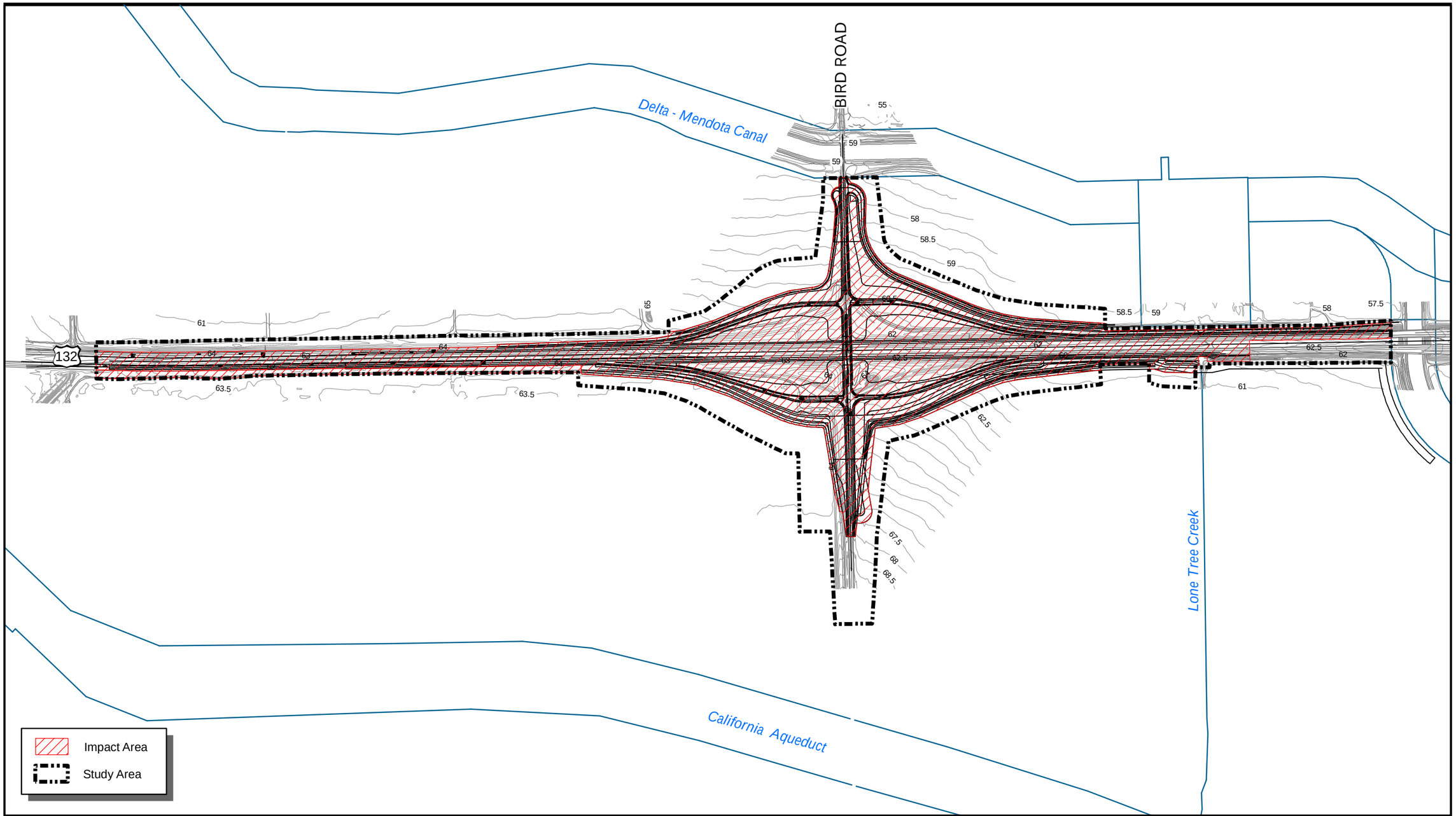
10. Construct up to five infiltration basins to control onsite storm water flows.

11. Construct bio-filtration swales/strips to control storm water pollutants.

12. Relocate the existing Pacific Gas & Electric overhead transmission lines along the west side of Bird Road north of SR 132 and along the south side of SR 132 west of Bird Road. Relocate the existing underground SBC telephone cable that is along the west side of Bird Road.

13. Revegetate the project sides by hydroseeding disturbed areas with native seed mix of non-invasive species to prevent erosion.

The estimated cost to acquire the right-of-way and construct the full improvements for Alternative 1 is $11,406,000. An additional $1,462,000 would be required to construct the highway transition (see improvement 9 above), for a project total of $12,868,000.



ALTERNATIVE 1

Digital base data provided by Omni Means.
Contour interval is 0.5 meters.

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Meters 0 200 400

Feet 0 700 1400

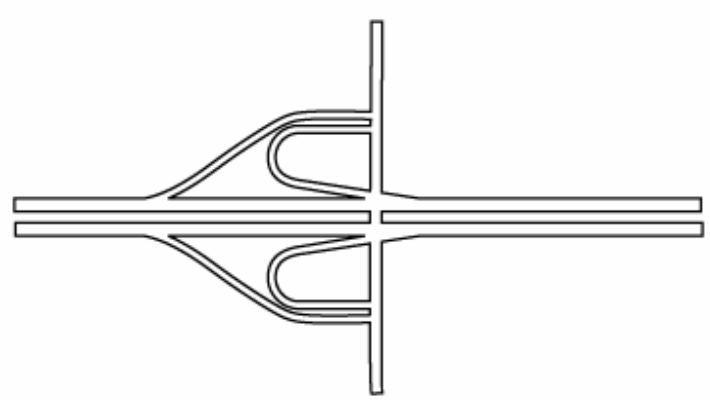
Drawn By: DBV
Date: 06/09/05

FIGURE 1-3

SR 132 BIRD ROAD

Site_Alt_1.mxd

1.5.2 Alternative 2 – Modified Partial Cloverleaf Interchange



This alternative proposes a modified partial cloverleaf interchange. See Figure 1-4. This alternative includes the following improvements:

1. Construct a two-lane bridge with a center turn lane over SR 132 at Bird Road.
2. Construct a new direct connecting onramp from Bird Road to westbound SR 132 and a loop onramp from Bird Road to eastbound SR 132.
3. Construct a new direct connecting offramp from eastbound SR 132 and a loop offramp from Bird Road to eastbound SR 132 to Bird Road.
4. Construct a roughly 1,060-meter-long (3,478-foot-long) lane on westbound SR 132 between the southbound I-5 to westbound SR 132 merge and the separation from westbound SR 132 to Bird Road.
5. Construct a roughly 640-meter-long (2,100-foot-long) auxiliary lane on eastbound SR 132.
6. Upgrade SR 132 to a four-lane freeway standard through the interchange.
7. Provide stop signs at the SR 132 offramp intersections with Bird Road.
8. Relocate Vernalis Road about 240 meters (787 feet) to the north of the current intersection with Bird Road.
9. Construct the transition of SR 132 to the existing two-lane highway segment west of the current intersection.

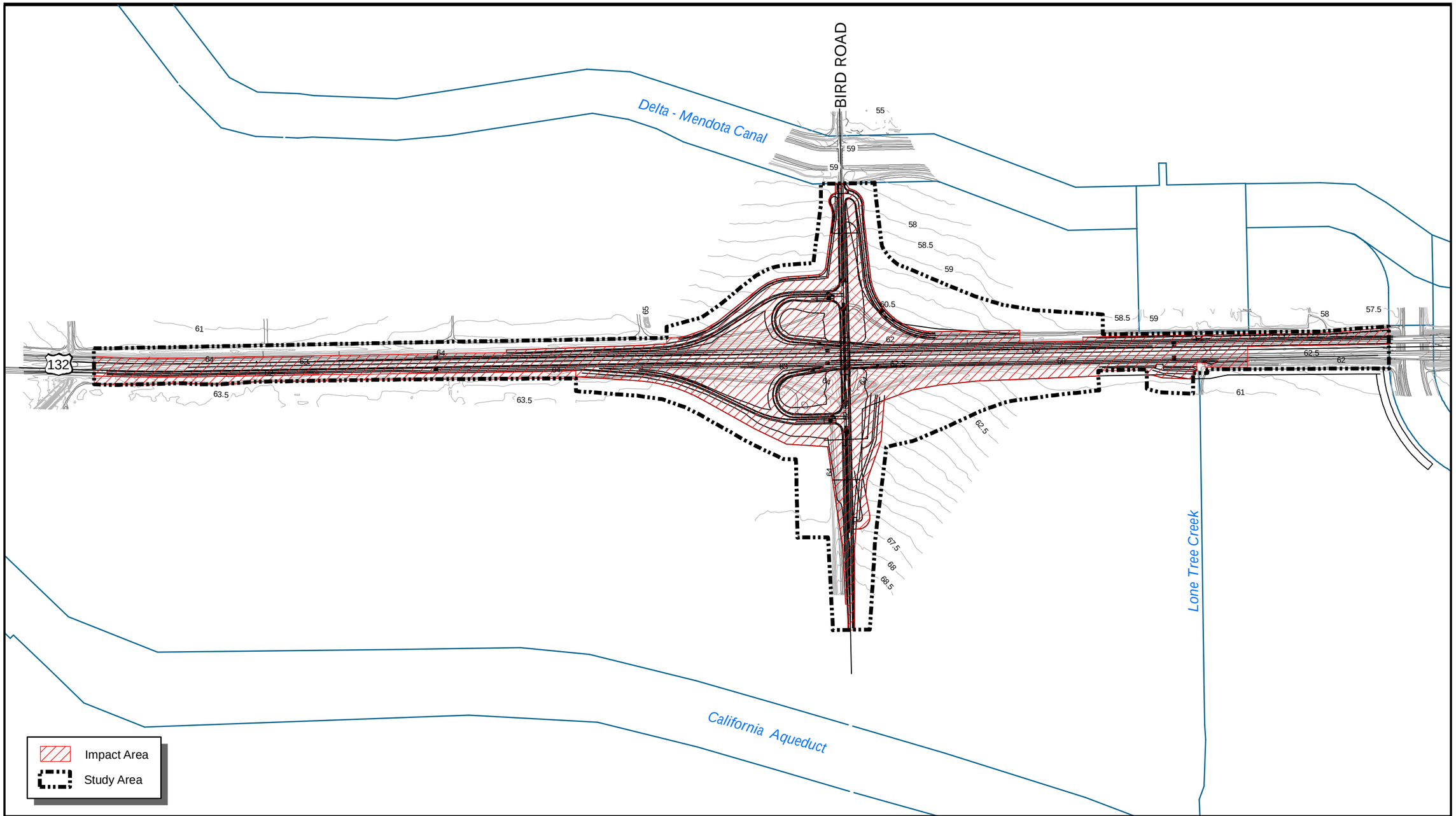
10. Construct up to five infiltration basins to control onsite storm water flows.

11. Construct bio-filtration swales/strips to control storm water pollutants.

12. Relocate the existing Pacific Gas & Electric overhead transmission lines along the west side of Bird Road north of SR 132 and along the south side of SR 132 west of Bird Road. Relocate the existing underground SBC telephone cable that is along the west side of Bird Road.

13. Revegetate the project sides by hydroseeding disturbed areas with native seed mix of non-invasive species to prevent erosion.

The estimated cost to acquire the right-of-way and construct the full improvements for Alternative 2 is $13,945,000. An additional $1,462,000 would be required to construct the highway transition (see improvement 9 above), for a project total of $15,407,000.



ALTERNATIVE 2

Digital base data provided by Omni Means.
Contour interval is 0.5 meters.

N

0 200 400
Meters

0 700 1400
Feet

Drawn By: DBV
Date: 06/09/05

FIGURE 1-4

SR 132 BIRD ROAD

Site_Alt_2.mxd

1.5.3 No-Project Alternative

The No-Project Alternative would keep the existing Bird Road at-grade intersection with SR 132 and the existing SR 132 between the interchanges with I-580 and I-5 as they are. Bird Road would continue to serve as the primary access point to SR 132 for area mining operations which, when running at full capacity, are projected to generate about 7,300 truck trips per day. The Bird Road northbound approaches to the SR 132 intersection would continue to operate at level of service "F" with the No-Project Alternative.

1.6 Permits and Approvals Needed

Table 1-3 shows the permits, reviews and approvals would be required before project construction:

Table 1-3 Permits and Approvals Needed

Agency	Permit/Approval	Status
San Joaquin Council of Governments	Receive take authority for the San Joaquin kit fox from San Joaquin Council of Governments through the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan	Conformance with San Joaquin County Multi-Species Habitat Conservation and Open Space Plan to be established before construction
California Department of Fish and Game	1602 Agreement for Streambed Alteration	Application for 1602 permit anticipated after final environmental document distribution
Regional Water Quality Control Board	Comply with NPDES Municipal and Groundwater Extraction Permits (if applicable)	Permit conformance determination to be made before, during and after construction
State Water Resources Control Board	Comply with NPDES General Construction Activity Permit	Permit conformance determination to be made before and during construction
San Joaquin County	Encroachment Permit	Permit conformance determination to be made before construction

Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

This chapter explains the impacts that the project would have on the human, physical, and biological environments in the project area. It describes the existing environment that could be affected by the proposed project and potential impacts to the environment from the proposed project and its alternatives.

As part of the scoping and environmental analysis conducted for the project, the following environmental resources were considered, but no potential for adverse impacts to these resources was identified. Consequently, there is no further discussion regarding these resources in this document:

- Aesthetics—Adverse effects to aesthetics are not expected from the proposed project at Bird Road due to existing nearby grade-separated interchanges on SR 132 and South Chrisman Road to the west, and SR 132 and I-5 to the east. The addition of a grade-separated crossing would be consistent with other crossings along SR 132 in San Joaquin County. In addition, SR 132 is not classified as a state scenic highway.
- Air Quality—The proposed project is not considered to be capacity increasing and therefore is exempt from air quality conformity analysis and project-level (hot spot) analysis. The construction of an interchange on SR 132 at Bird Road is identified as a Tier 1 project in the 2004 San Joaquin Council of Governments' Regional Transportation Plan: Vision 2030. The 2004 Regional Transportation Plan identified the interchange as a year 2010 project. The Air Quality Conformity Analysis for the 2004 San Joaquin Regional Transportation Plan and Federal Transportation Improvement Program was adopted in July 2004. The proposed project is listed in the 2004 Regional Transportation Plan and therefore is in conformity for air quality.
- Land Use—The proposed project would comply with the objectives and policies of the San Joaquin County General Plan 2010, the San Joaquin Council of Governments Regional Transportation Plan: Vision 2030, and the Williamson Act.

- Hydrology and Floodplain—This project is not expected to cause an increase in peak flows discharged into receiving waters. The triple-box culvert that extends under SR 132 would be widened to span the width of the newly constructed road to continue to transport flows beneath the road. All storm water generated by the road improvements would be contained on the project site and infiltrated to groundwater. There would be no substantial change in the natural and beneficial floodplain values or hydrology due to this project (see Appendix G).
- Geology—Only minor grading/landform alteration would be required for this project. The construction of bridge approaches would be required. Detention basins would also be excavated within state right-of-way to hold storm water flows from the project. No adverse effects are expected. To control erosion, all slopes and disturbed areas in the project area would be seeded after construction.
- Soils—Project area soils (the Zacharias series) are not expected to result in constraints during project construction or during the operational phase of the project.
- No wetlands or waters of the U.S. were identified within the project area. Lone Tree Creek is not considered waters of the U.S. and would not be regulated under Section 404 of the Clean Water Act (see Appendix I).
- Noise and Vibration—The proposed project would not cause any substantial permanent increase in noise for sensitive receptors; no sensitive receptors lie in the project area. Temporary noise impacts would occur from construction activity.
- Paleontological Resources—The proposed project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. The project area contains Quanternary alluvial fan deposits of the Great Valley sequence that were carried by Lone Tree Creek from the Coast Range just east of the project site. Paleontological resources are not expected to occur in the Quanternary alluvial fan deposits.

2.1 Farmlands

2.1.1 Proposed Project

2.1.1.1 Regulatory Setting

The California Environmental Quality Act requires the review of projects that would convert Williamson Act contract land to non-agricultural uses. The main purposes of the Williamson Act are to preserve agricultural land and to encourage open space

preservation and efficient urban growth. The Williamson Act provides incentives to landowners through reduced property taxes to deter the early conversion of agricultural and open space lands to other uses.

The California Department of Conservation's Farmland Mapping and Monitoring Programs indicate the proposed project area includes prime farmland. "Prime farmland" has the best combination of physical and chemical characteristics for crop production.

The San Joaquin County General Plan (2010) states that all lands designated for agricultural uses but not needed for development for 10 years should be placed in an agricultural preserve and should be eligible for Williamson Act contracts. Parcels eligible for Williamson Act contracts should be 8.1 or more hectares (20 or more acres) in size in the case of prime farmland or 16.19 hectares (40 acres) in the case of non-prime land.

2.1.1.2 Affected Environment

San Joaquin County contains large areas of highly productive soils capable of producing a wide variety of crops. Agricultural and related activities constitute a major portion of the economic base of the county. The soils in the project area are composed entirely of prime farmland soils: Zacharias gravelly clay loam (0 to 2 percent slopes) and Zacharias clay loam (0 to 2 percent slopes). Both soils are very deep and well drained.

One parcel in the southeast quadrant, bounded by the SR 132 and the Delta Mendota Canal, is under a Williamson Act contract. As a result, the 31.44-hectare (77.7-acre) parcel is to be preserved for agricultural and open space uses. The parcel is zoned for agriculture with a General Plan Land Use designation of Open Space/Resource Conservation.

2.1.1.3 Impacts

Agricultural Lands

About 7.56 hectares (18.67 acres) of prime farmland, in the form of slivers of land, would be converted to highway use. In the Tracy planning area, 50 percent of the land is prime agricultural land (34,865 hectares [86,156 acres]). The project would convert 0.002 percent of the total prime agricultural land in the Tracy area. Based on the small area of direct impact to prime farmlands, the impact would be minimal.

Williamson Act Lands

The proposed project would not require right-of-way acquisition of Williamson Act land, therefore no impacts to Williamson Act land would occur. Government Code 51295 states that Williamson Act contracts are automatically voided upon condemnation or purchase for other use for public improvement by a public agency or person, provided the use is approved by the jurisdiction with authority over contract lands.

2.1.1.4 Avoidance, Minimization, and/or Mitigation Measures

Although 7.56 hectares (18.67 acres) of prime farmland would be converted to highway use, no Williamson Act land would be affected.

2.1.2 Alternative 1

About 8.54 hectares (21.11 acres) of prime farmland would be permanently converted to highway use by this alternative. No Williamson Act land would be affected. Impacts would be considered minimal due to the relatively small number of hectares (acres) affected.

2.1.3 Alternative 2

About 6.87 hectares (16.98 acres) of prime farmland would be permanently converted to highway use by this alternative. No Williamson Act land would be affected. Impacts would be considered minimal due to the relatively small number of hectares (acres) affected.

2.1.4 No-Project Alternative

The No-Project Alternative would keep SR 132 in the project limits as it is. This alternative would convert no prime farmland to highway use.

2.2 Utilities/Emergency Services

2.2.1 Proposed Project

2.2.1.1 Affected Environment

Pacific Gas & Electric and SBC have existing overhead transmission lines along the west side of Bird Road north of SR 132 and along the south side of SR 132 west of

Bird Road. In addition, an underground SBC telephone cable lies in the northwest quadrant of SR 132 and Bird Road within the current right-of-way.

2.2.1.2 Impacts

To accommodate the proposed improvements, overhead transmission lines along the west side of Bird Road north of SR 132 and along the south side of SR 132 west of Bird Road would need to be relocated. One service pole, one SBC and Pacific Gas & Electric joint pole, and four Pacific Gas & Electric-only poles would be relocated as part of project construction. In addition, an existing underground SBC telephone cable would be relocated. Impacts to utilities would not be substantial

2.2.1.3 Avoidance, Minimization, and/or Mitigation Measures

Utility relocations would be completed within the proposed new and/or existing right-of-way. Caltrans would coordinate relocation work with the various utility companies to ensure minimum disruption of service to customers in the area during project construction. Because substantial impacts to utilities are not expected, no mitigation measures are proposed.

2.2.2 Alternative 1

Utility relocation requirements would be similar to the proposed project. This alternative would require the relocation of the existing overhead transmission lines, one service pole, one SBC and Pacific Gas & Electric joint pole, and four Pacific Gas & Electric-only poles. In addition, an SBC telephone cable would be relocated. No adverse impacts to utilities would result from this alternative.

2.2.3 Alternative 2

Same as Alternative 1 discussion.

2.2.4 No-Project Alternative

The No-Project Alternative would keep SR 132 in the project limits as it is. No adverse impacts to utilities would occur.

2.3 Traffic and Transportation/Pedestrian and Bicycle Facilities

A traffic analysis technical study evaluated the proposed project and the alternatives. Below is a summary of the reported information (see Appendix F).

2.3.1 Proposed Project

2.3.1.1 Regulatory Setting

Caltrans is committed to conforming to the 1990 Americans with Disabilities Act by building transportation facilities that provide equal access for all persons.

2.3.1.2 Affected Environment

To evaluate SR 132 and its intersections in the project area, the level of service was determined. Level of service is a measure used to describe the conditions of traffic flow. Level of service is designated by a letter in the range from "A" to "F," indicating best to worst driving conditions. Levels of service "A" through "C" indicate free-flowing traffic conditions with little or no delay. Level of service "D" indicates limited congestion and some delay, with the duration of delay acceptable to most people. Level of service "E" and "F" indicate substantial delays. Figure 2-1 shows the levels of service for multi-lane highways.

LEVELS OF SERVICE

for Multi-Lane Highways

Level of Service	Flow Conditions	Operating Speed (mph)	Technical Descriptions
A		60	Highest level of service. Traffic flows freely with little or no restrictions on maneuverability. **No delays**
B		60	Traffic flows freely, but drivers have slightly less freedom to maneuver. **No delays**
C		60	Density becomes noticeable with ability to maneuver limited by other vehicles. **Minimal delays**
D		57	Speed and ability to maneuver is severely restricted by increasing density of vehicles. **Minimal delays**
E		55	Unstable traffic flow. Speeds vary greatly and are unpredictable. **Minimal delays**
F		<55	Traffic flow is unstable, with brief periods of movement followed by forced stops. **Significant delays**

LEVELS OF SERVICE

Source:
2000 HCM, Exhibit 21-3, Speed-Flow Curves with LOS Criteria for Multi-Lane Highways

Drawn By: DBV
Date: 06/13/05

FIGURE 2-1

SR-132 BIRD ROAD

Levels_of_service.mxd

Existing and Forecasted Traffic Volumes

Caltrans 2005 traffic count information indicated that SR 132 at Bird Road has an annual average daily traffic count of 17,900 vehicles, a peak month average daily traffic count of 18,800 vehicles, and a peak hour count of 1,850 vehicles. The analysis indicated that trucks make up 18 percent of the traffic; this percentage includes trucks from the aggregate mining sites south of Bird Road.

Currently, Bird Road north of SR 132 carries an average daily traffic count of 190 vehicles, while Bird Road south of SR 132 carries an average daily traffic count of 1,610 vehicles. A report on the "Existing and Forecasted Study Area Traffic Volumes and Resulting Traffic Operations" (see Appendix F) and Table 2-1 below present the current figures and future projections (forecasted implementation year 2007 and design year 2027) for the project.

Table 2-1 Current and Forecasted Traffic Volumes

Roadway Segment	Year 2003 Annual Average Daily Traffic	Year 2007 Annual Average Daily Traffic	Year 2027 Annual Average Daily Traffic
SR 132			
Bird Road	17,900	23,600	48,600
Bird Road			
North of SR 132	190	210	430
South of SR 132	1,610	3,450	10,090

Source: Existing and Forecasted Study Area Traffic Volumes and Resulting Traffic Operations, March 2005.

The relatively minor increase in projected daily traffic on Bird Road north of SR 132 corresponds with the land use adjacent to the roadway and its remaining in agricultural use through the foreseeable future. Conversely, the substantial increase in projected daily traffic south of SR 132 corresponds with the expanding aggregate mining industry expected over the next 50 years.

Forecasted Intersection and Mainline Operations

Table 2-2 shows the existing peak hour intersection level of service at the SR 132/Bird Road intersection, as well as the level of service projected for the year 2007 (year proposed improvements would first open for use) and the year 2027 (20-year design horizon) if no improvements are provided. The SR 132/Bird Road intersection currently operates at a level of service "F" during the morning and afternoon peak hours, with the same projection for the years 2007 and 2027.

Table 2-2 Existing and Forecasted Intersection Levels of Service without Project

Intersection	Control Type	Morning Peak Hour		Afternoon Peak Hour	
		Delay	Level of Service	Delay	Level of Service
Existing Conditions					
Bird Road/SR 132	TWSC	309.7	F	285.2	F
Year 2007					
Bird Road/SR 132	TWSC	OVR	F	OVR	F
Year 2027					
Bird Road/SR 132	TWSC	OVR	F	OVR	F

Source: Existing and Forecasted Study Area Traffic Volumes and Resulting Traffic Operations, March 2005.
Notes: OVR – Overflow Conditions; TWSC – Two-Way Stop Control

SR 132 east of Bird Road is a four-lane divided road that was analyzed as a freeway segment. SR 132 west of Bird Road is a two-lane highway that was analyzed as a two-lane rural highway segment. Table 2-3 presents the current mainline/highway traffic operations. SR 132 east of Bird Road currently operates at level of service "A/B," while SR 132 west of Bird Road currently operates at level of service "F" during both the morning and afternoon peak hours.

Table 2-3 Existing Mainline Operations without Project

State Route 132 Mainline Segments	Morning Peak Hour		Afternoon Peak Hour	
	Density, (pc/mi/ln)	Level of Service	Density, (pc/mi/ln)	Level of Service
Westbound SR 132, East of Bird Road	14.8	B	2.7	A
Eastbound SR 132, East of Bird Road	1.6	A	14.4	B
Westbound SR 132, West of Bird Road*	--	F	--	F

Source: Existing and Forecasted Study Area Traffic Volumes and Resulting Traffic Operations, March 2005.
Note: *SR 132 west of Bird Road is currently a two-lane highway, and the reported level of service is based on this type of road.
pc/mi/ln = passenger cars/lane miles/number of lanes

2.3.1.3 Impacts

Table 2-4 presents the projected years 2007 and 2027 intersection operations for the proposed project. The projections are based on stop sign control on the respective eastbound and westbound SR 132 offramp approaches to Bird Road. The SR 132 ramp intersections with Bird Road are projected to operate at level of service "B" or better during both the morning and afternoon peak hour periods for the proposed project.

Table 2-4 Year 2007 and 2027 Peak Hour Intersection Conditions with Project

State Route 132 Intersections	Morning Peak Hour		Afternoon Peak Hour	
	Delay	Level of Service	Delay	Level of Service
2007				
Westbound 132/Bird Road Ramps*	9.8	A	9.6	A
Eastbound 132/Bird Road Ramps*	10.1	B	9.6	A
2027				
Westbound 132/Bird Road Ramps*	11.4	B	10.1	B
Eastbound 132/Bird Road Ramps*	14.0	B	10.7	B

Source: Existing and Forecasted Study Area Traffic Volumes and Resulting Traffic Operations, March 2005.
Notes: *Both the intersections are two-way stop control intersections with a stop sign on offramp approaches.

SR 132 is proposed to be a four-lane freeway through the interchange and immediately to the east and west of the interchange for all three build alternatives.

Table 2-5 presents the projected peak hour level of service for the project segments for the year 2007. As shown in Table 2-5, all SR 132 mainline freeway segments are projected to operate at level of service "B" or better during both the morning and afternoon peak hour. SR 132 west of Bird Road is currently a two-lane highway. With the project, SR 132 would be improved to a freeway segment through the interchange and to the west only as far as needed to transition to a freeway segment before the interchange ramps. This segment is projected to continue to operate at level of service "F."

Table 2-5 presents the projected peak hour level of service on the project segments for the year 2027. As shown in Table 2-5, the westbound SR 132 segments to the east, west, and within the interchange area are projected to operate at level of service "E/F" during the morning peak hour. The eastbound SR 132 segments both to the east and west of the interchange area are projected to operate at level of service "E" during the afternoon peak hour. These projected levels of service are consistent with the use of SR 132 as a commuter route between the Central Valley and the south Bay Area.

Table 2-5 Years 2007 and 2027 Mainline Operations with Project

State Route 132 Mainline Segments	Morning Peak Hour		Afternoon Peak Hour	
	Density, (pc/mi/ln)	Level of Service	Density, (pc/mi/ln)	Level of Service
2007				
Eastbound SR 132, East of Interchange	2.9	A	16.1	B
Eastbound SR 132, Within Interchange	1.3	A	15.4	B
Eastbound SR 132, West of Interchange	2.8	A	16.2	B
Westbound SR 132, East of Interchange	14.5	B	2.8	A
Westbound SR 132, Within Interchange	15.8	B	2.7	A
Westbound SR 132, West of Interchange	17.4	B	3.3	A
2027				
Eastbound SR 132, East of Interchange	5.1	A	50.6	E
Eastbound SR 132, Within Interchange	2.7	A	36.5	E
Eastbound SR 132, West of Interchange	4.4	A	39.3	E
Westbound SR 132, East of Interchange	OVR	F	6.7	A
Westbound SR 132, Within Interchange	38.6	E	5.6	A
Westbound SR 132, West of Interchange	OVR	F	6.3	A

Source: Existing and Forecasted Study Area Traffic Volumes and Resulting Traffic Operations, March 2005.
pc/mi/ln = passenger cars/lane miles/number of lanes

2.3.1.4 Avoidance, Minimization, and/or Mitigation Measures

Implementation of the proposed project would not result in permanent or temporary adverse impacts to traffic and transportation/pedestrian facilities. Therefore, no mitigation measures would be required.

2.3.2 Alternative 1

This alternative would operate at a level of service "B" or better during year 2027, except for the SR 132 westbound ramps intersection with Bird Road during the morning peak hour. This ramp would operate at level of service "D" under this alternative.

2.3.3 Alternative 2

This alternative would operate at a level of service "B" or better during year 2027.

2.3.4 No-Project Alternative

Under the No-Project Alternative, existing intersection operations would be level of service "F" for the year 2027. In addition, vehicle conflicts at the existing at-grade crossing would continue.

2.4 Cultural Resources

This section explains the potential impacts to cultural resources for the proposed project, based on conclusions presented in the Historic Resources Compliance Report (see Appendix J).

2.4.1 Proposed Project

2.4.1.1 Regulatory Setting

"Cultural resources" refers to historic and archaeological resources. Under California law, cultural resources are protected by the California Environmental Quality Act, as well as Public Resources Code Section 5024.1, which established the California Register of Historic Places. Section 5024.5 requires state agencies to provide notice to, and to confer with, the State Historic Preservation Officer before altering, transferring, relocating, or demolishing historic resources.

2.4.1.2 Affected Environment

Ethnography

The project lies in a part of the San Joaquin Valley identified as belonging to the Northern Valley Yokuts, a group whose territory encompassed a large portion of the valley from Fresno to Stockton. The Yokuts were bordered on the north by the Plains Miwok and on the west by the Bay Miwok (25 miles northwest) and Coastanoans. The eastern portion of Yokuts territory bordered the Sierra Nevada foothills held by the Sierra Miwok.

The Yokuts language is classified as belonging to the California Penutian family of languages, which includes four other Native American language groups of central and coastal California: the Miwok, Coastanoan, Maiduan, and Wintuan.

Prehistory

The Sacramento Delta was one of the first regions in California to attract intensive archaeological fieldwork. Between 1893 and 1901, amateur archaeologist J.A. Barr excavated many prehistoric mounds in the Stockton area. H.C. Meredith was another amateur archeologist of the period who collected in the same area. Meredith published (in 1899, 1900) a compilation of his own and Barr's findings, and these appear to be the earliest accounts of Delta archaeology. In 1902, a Smithsonian Institution archaeologist further elaborated on the Delta or "Stockton District" archaeology, presenting illustrations of artifacts collected by Meredith and Barr.

Elmer J. Dawson first recognized culture changes through time in Delta archaeology. Though he was an amateur archaeologist, Dawson kept accurate notes on grave associations and provenience of artifacts. He collaborated with W.E. Schenck to produce an overview of northern San Joaquin Valley archaeology. The overview contained information on more than 90 prehistoric sites as well as data on previous collectors.

By 1931, the focus of archaeological work was directed toward the Cosumnes River, where survey and exploration were conducted by Sacramento Junior College. Excavations found three distinct cultural traditions: Early, Transitional, and Late. Information grew as a result of excavations at other mounds in the Delta and lower Sacramento Valley.

The early horizon may represent older Yokuts settlements or perhaps the speakers of a Utian language who were somehow replaced by a shift of population(s) from the Bay Area. The middle period may represent an intrusion of ancestral Miwok-speaking people into the lower Cosumnes, Mokelumne, and Sacramento rivers areas from the Bay Area.

Archaeological investigations in the region appear to be very limited as development in the region is limited to infrastructure improvements. Several surveys have been conducted for proposed aggregate mining.

History

The project area does not lie near any community. It lies in an agricultural area, with scattered settlement dating back to the 1860s or 1870s. The land would have been useful for dry-land farming, with grain and hay likely crops. The lack of natural water would have made it difficult to raise row crops or orchards. The area remains dry and barren, and much of the immediate project vicinity is being mined or proposed for future mining for aggregates.

2.4.1.3 Impacts

A review of existing literature documenting cultural resources and an on-the-ground field survey for archaeological and historic resources in the project study area were completed between March and April 2005.

The literature search did not identify any archaeological resources in the project study area. However, due to imprecise mapping by the site recorder, the record search erroneously placed a recorded bridge on Vernalis Road within the project study area:

P-39-004445. There are no previously identified cultural resources in the project study area.

2.4.1.4 Avoidance, Minimization, and/or Mitigation Measures

Although no historic resources were identified within the project study area, it is still possible that buried archaeological deposits exist. If artifacts are discovered during construction activities such as excavation, all earth-moving activities within and around the immediate discovery area would be diverted until a qualified archaeologist could assess the find.

If human remains are discovered, State Health and Safety Code Section 7050.5 states that disturbances and activities should stop. The San Joaquin County coroner must be notified of the find immediately so that he/she may determine the origin. Per Public Resources Code Section 5097.98, if the remains are thought to be Native American, then the coroner would notify the Native American Heritage Commission, which would then notify the Most Likely Descendant. The Most Likely Descendant may inspect the remains with the approval of the landowner or the landowners' authorized representative. The Most Likely Descendant may recommend scientific removal and nondestructive analysis.

2.4.2 Alternative 1

This alternative would not result in adverse impacts to archaeological or historic resources.

2.4.3 Alternative 2

This alternative would not result in adverse impacts to archaeological or historic resources.

2.4.4 No-Project Alternative

The No-Project Alternative would keep SR 132 in the project area as it is. Only ongoing maintenance activities would continue. No impacts to cultural resources would occur under this alternative.

2.5 Water Quality and Storm Water Runoff

This section explains the potential storm water and water quality impacts for the proposed SR 132 interchange improvements at Bird Road, and is based on the State Route 132/Bird Road Interchange Storm Water Data Report prepared for the project (see Appendix G).

2.5.1 Proposed Project

2.5.1.1 Regulatory Setting

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

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

In addition, the State Water Resources Control Board has issued a construction general permit for most construction activities covering greater than 0.40 hectare (1 acre), that are part of a Common Plan of Development exceeding 2.02 hectares (5 acres) or that have the potential to significantly impair water quality. Some construction activities may require an individual construction permit. All Caltrans projects that are subject to the construction general permit require a Storm Water Pollution Prevention Plan, while all other projects require a Water Pollution Control Program. Subject to Caltrans' review and approval, the contractor prepares both the Storm Water Pollution Prevention Plan and the Water Pollution Control Program. These identify construction activities that may cause pollutants in storm water and measures to control these pollutants. Since neither the Water Pollution Control Program nor the Storm Water Pollution Prevention Plan are prepared at this time, the following discussion focuses on anticipated pollution controls.

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

2.5.1.2 Affected Environment

Lone Tree Creek watershed extends from its headwaters in the Coast Range to the Delta Mendota Canal. The watershed is about 19.31 kilometers (12 miles) long and encompasses about 56.98 square kilometers (22 square miles). The elevation ranges from about 914.40 meters (3,000 feet) at its headwaters to 60.96 meters (200 feet) at the Delta Mendota Canal. Lone Tree Creek crosses SR 132 in the southeastern portion of the project site, immediately west of the Delta Mendota Canal. Lone Tree Creek is dry during the summer months. It flows only in the winter months as it is supplied solely by precipitation.

Lone Tree Creek is listed in the *2002 Clean Water Act Section 303(d) List of Water Quality Limited Segment*, by the Central Valley Regional Water Quality Control Board, approved by the U.S. Environmental Protection Agency in July 2003. The pollutants of concern are ammonia, biological oxygen demand, and electrical conductivity, with dairies listed as the potential source of these pollutants. Lone Tree Creek is listed as a low total maximum daily loads priority.

The topography of the project area is generally very flat with slopes ranging from 0-2 percent. The project area lies between the California Aqueduct and the Delta Mendota Canal and is situated on alluvial fan and terrace deposits that were formed by Lone Tree Creek. Existing drainage patterns are from south to north and slightly east. The current surrounding land uses include a mining operation to the south of SR 132, with the aggregate operators having 50-year permits. The lands to the north of SR 132 are designated for agriculture by the San Joaquin County Plan. The land will remain in agricultural uses through the foreseeable future.

2.5.1.3 Impacts

All of the storm water generated from the project site would drain internally into infiltration basins. Because no water would leave the site or enter a waterway, there would be no permanent negative impacts to water quality due to storm water.

During construction, it is possible that there could be adverse impacts to storm water quality. Total suspended solids would be a pollutant of concern for the project. Possible sources of total suspended solids include natural erosion, runoff during the

construction period, and increased runoff from impervious surfaces, which can accelerate channel erosion.

Metals are also a possible pollutant of concern. Possible sources of metals in highway runoff include combustion products from fossil fuels, the wearing of brake pads, and the corrosion of metals, paints and solder. Metals can also reach receiving waters through the natural weathering of rock and soil erosion. These can be mitigated to a negligible risk through the mitigation measures noted below.

2.5.1.4 Avoidance, Minimization, and/or Mitigation Measures

This project does not involve any agricultural practices or the installation of a dairy. It would therefore not contribute to the limiting water quality pollutants of Lone Tree Creek.

To avoid any adverse impacts to storm water quality, ground-disturbing activities would be completed during the dry season. Also, a Storm Water Pollution Prevention Plan should be prepared outlining appropriate storm water best management practices that would be installed and maintained throughout the duration of the project to prevent any possible discharge.

Because all of the storm water generated by the highway would drain into internal infiltration basins, there is no risk of metals from the highway reaching Lone Tree Creek.

2.5.2 Alternative 1

Under this alternative, all storm water generated from the project would drain internally into infiltration basins. Because no water would leave the site or enter a waterway, there would be no permanent negative impacts to water quality due to storm water.

2.5.3 Alternative 2

Under this alternative, all storm water generated from the project would drain internally into infiltration basins. Because no water would leave the site or enter a waterway, there would be no permanent negative impacts to water quality due to storm water.

2.5.4 No-Project Alternative

The No-Project Alternative would keep SR 132 in the project area as it is. Only ongoing maintenance activities would continue. No impacts to water quality from storm water runoff would occur under this alternative.

2.6 Geology/Soils/Seismic/Topography

2.6.1 Proposed Project

2.6.1.1 Regulatory Setting

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

This section discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. The Caltrans' Office of Earthquake Engineering is responsible for assessing the seismic hazard for Caltrans projects. Current policy is to use the anticipated maximum credible event from young faults in and near California. The maximum credible event is defined as the largest earthquake that can be expected to occur on a fault over a particular period of time. Impacts under the California Environmental Quality Act would be considered potentially significant if any one or more of the following thresholds are exceeded:

1. The project would expose people or property to substantial risk related to seismic hazards including ground rupture, ground acceleration, liquefaction and seismic settlement, landsliding and tsunamis/seiches/earthquake-induced flooding;

2. The project would expose people or property to substantial risk from unstable geologic and related conditions including compressible soils/differential settlement, manufactured slope instability, and expansive or reactive soils;

3. Project implementation would substantially increase onsite or offsite erosion/sedimentation levels;

4. Geologic, soil or related conditions within the study area such as shallow groundwater/drainage, shallow bedrock or oversize material would substantially constrain project construction or operation; or

5. Project implementation would substantially alter existing landform, topographic or unique geologic features.

2.6.1.2 Affected Environment

The project area lies near the western edge of the San Joaquin Valley. The geology of the western San Joaquin Valley is characterized by alluvial sediments deposited by rivers and streams draining the Coast Ranges to the west. The approximately 70-mile-wide San Joaquin Valley is filled with sediments from adjacent ranges.

Seismicity

The seismicity of a particular region is determined from the distribution, recurrence, and intensity of earthquakes over a period of time. Earthquakes are the result of the release of energy stored beneath the surface of the earth and can cause the rupture of earth beneath and at the surface. The rupture surface along which earth is displaced is called a fault. Not all earthquakes are sufficiently powerful to cause ground rupture.

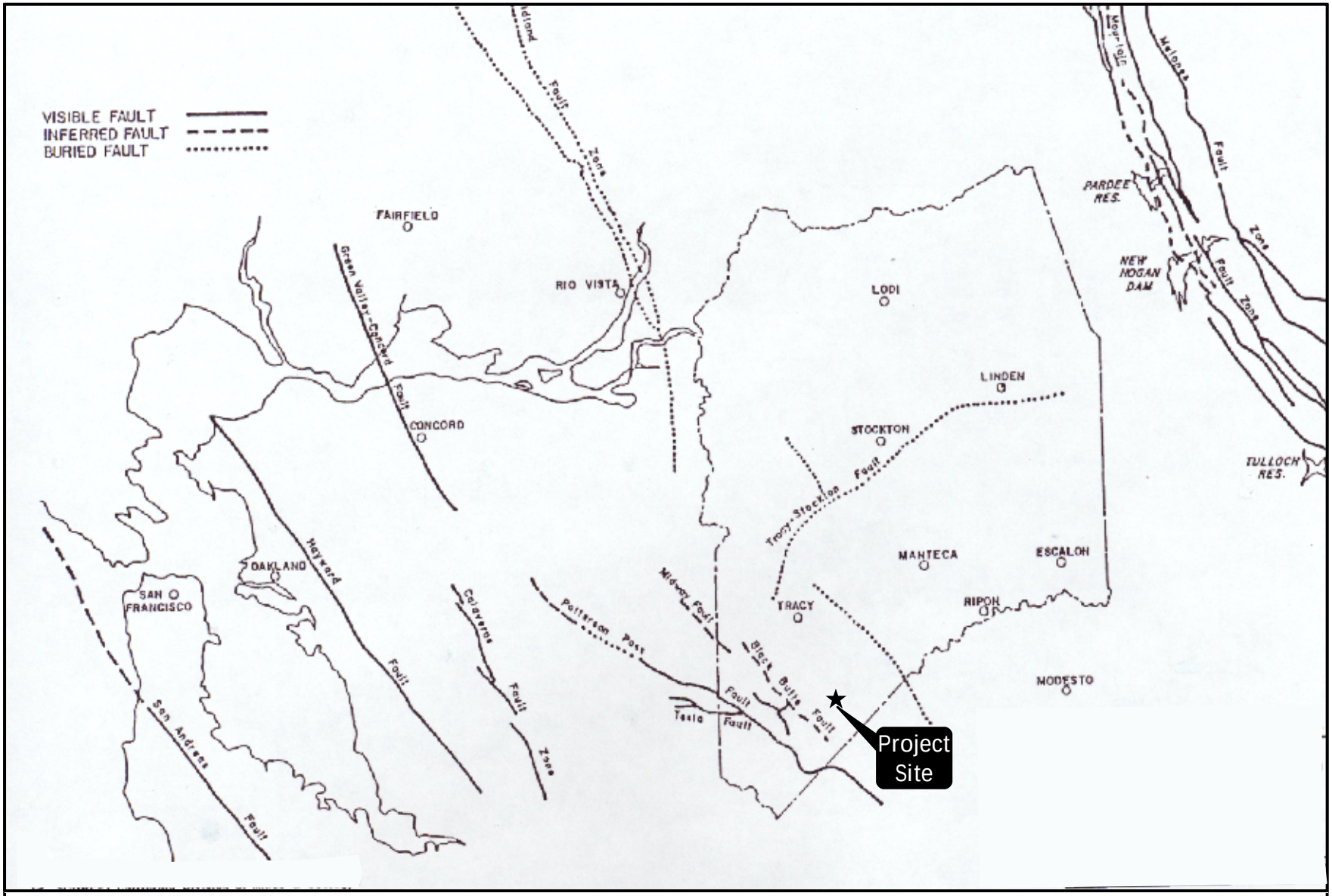
The Alquist-Priolo Fault Zoning Act, which was passed by the California legislature in 1972, provides for the identification of faults capable of generating damaging earthquakes and the regulation of development near such faults.

The California Division of Mines and Geology has evaluated and classified faults in the state as active (fault movement within the past 11,000 years), potentially active (fault movement within the past two million years), and inactive (no activity in the past two million years). Active faults within 30 miles of the project site include the Calaveras Fault, Greenville Fault Zone, and Ortigalita Fault Zone. Potentially active faults within 30 miles of the project site include the San Joaquin Fault zone, the Midway-Black Butte Fault, the Tesla Fault, and the Tracy-Stockton Fault.

The most notable events have occurred on the San Andreas Fault: the 1906 San Francisco earthquake of Richter magnitude 8+ and the 1989 Loma Prieta earthquake of Richter magnitude 7.1. Figure 2-2 shows the locations of major faults with respect to the project area.

Liquefaction

Liquefaction is known to occur in San Joaquin County where groundwater levels are less than 15.24 meters (50 feet) below the surface and where soils are predominantly clean, composed of relatively uniform sands, and are of loose medium density. According to the State Route 132/Bird Road Interchange Storm Water Data Report



EARTHQUAKE FAULT MAP

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Source: San Joaquin County General Plan 2010

FIGURE 2-2

Earthquake_fault_map.mxd

prepared for this project, groundwater levels at the project site vary from about 40 to 45 meters (131 to 148 feet) below the surface.

Mineral Resources

The project area is recognized by the California Division of Mines and Geology as an area with regionally significant aggregate content. The Mines and Geology Board has classified the project area as Mineral Resource Zones 1, 2, and 3.

The California Division of Mines and Geology classifies the regional significance of mineral resources in accordance with the California Surface Mining and Reclamation Act of 1975. Mineral Resources Zones have been designated to indicate the significance of mineral deposits:

- Mineral Resources Zones 1 – Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- Mineral Resources Zones 2 – Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence.
- Mineral Resources Zones 3 – Areas containing mineral deposits the significance of which cannot be evaluated from available data.

2.6.1.3 Impacts

Seismicity

The project feature that would most be affected by seismic activity would be the Bird Road bridge structure over SR 132. However, the bridge structure and approaches would be designed and constructed according to the most recent Caltrans seismic design criteria. As a result, impacts from potential seismic activity would not be considered adverse.

Liquefaction

According to the SR 132/Bird Road Interchange Storm Water Data Report prepared for this project, groundwater levels at the project site vary from about 40 to 45 meters (131 to 148 feet) below the surface. According to the San Joaquin County General Plan 2010, “Areas which have the greatest potential for liquefaction are those areas where the water table is less than 15.24 meters (50 feet) below the surface and soils are predominantly clean, comprised of relatively uniform sands, and are of loose to medium density.” Due to the extreme depth to groundwater and the presence of

gravelly clay loam soils, potential impacts from liquefaction during seismic events are not expected.

Mineral Resources

The proposed project would convert Mineral Resources Zones - 2 lands to highway use. However, impacts would not be considered adverse because improvements would assist with the transport of aggregate materials from the area's producers.

- Avoidance, Minimization, and/or Mitigation Measures

No substantial impacts to geology/soils/seismic/topography would occur as a result of project implementation. Standard erosion control measures and best management practices would be implemented during the construction and operational phases of the project. In addition, the bridge structure and approaches would be designed and constructed according to the most recent Caltrans seismic design criteria. As a result, impacts would not be considered adverse.

- Alternative 1

Although difficult to quantify, it appears that impacts to mineral resources may be slightly higher than under the proposed project due the increase in right-of-way take. Other impacts would be similar to the proposed project.

2.6.2 Alternative 2

Although difficult to quantify, it appears that impacts to mineral resources may be slightly higher than under the proposed project due the increase in right-of-way take. Other impacts would be similar to the proposed project

2.6.3 No-Project Alternative

The No-Project Alternative would keep SR 132 in the project area as it is. Only ongoing maintenance activities would continue. No impacts to geology, soils, seismic or topography would occur under this alternative.

2.7 Hazardous Waste/Materials

This section explains the potential hazardous waste/materials impacts for the proposed SR 132 interchange improvements at Bird Road, and is based on a 2005 Phase 1 Site Assessment prepared for the project (see Appendix H).

2.7.1 Proposed Project

2.7.1.1 Regulatory Setting

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

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

- Community Environmental Response Facilitation Act of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act

- Atomic Energy Act
- Toxic Substances Control Act
- Federal Insecticide, Fungicide, and Rodenticide Act

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

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

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

2.7.1.2 Affected Environment

The following observations were made during the site investigation:

- Miscellaneous debris was observed adjacent to SR 132 and included tires, cardboard, potentially fiberglass insulation, an empty metal canister, and a computer monitor.
- A concrete debris pile lies between Vernalis Road and SR 132. No hazardous materials were observed in the debris pile.
- A linear soil feature, about 150 feet by 3 feet by 1 foot, was observed northeast of the intersection of Bird Road and SR 132. The soil appeared similar to the native soil on the site, but the color was dark brown to black and the soil had a slight petroleum odor. No vegetation was growing on the feature. The origin of the linear feature is unknown.
- Immediately southeast of the intersection of Bird Road and SR 132 is an area of stockpiled materials. One pile was a very large soil pile, about 1529.11 cubic meters (2,000 cubic yards). It contained no discolored soils or unusual odors. The origin of the soil is unknown. Three smaller soil piles were next to the large pile and included about 22.94 cubic meters (30 cubic yards) of soil. Some household garbage and miscellaneous debris were found there, but no hazardous materials

were observed and no discolored soils or unusual odors were noted. Also in the area were the following: a boulder pile, about 26.76 cubic meters (35 cubic yards), with no hazardous materials; a bermed asphalt pile, about 15.29 cubic meters (20 cubic yards); about 1.53 to 2.29 cubic meters (2 to 3 cubic yards) of asphalt spread on the ground; a small pile, about 1.53 cubic meters (2 cubic yards), of miscellaneous blue material that appeared to be cement (some of the blue material was spread into the drainage area).

- A concrete waterway runs beneath SR 132 near the eastern end of the site. The waterway appears to connect to Lone Tree Creek to the Delta Mendota Canal overflow area adjacent to the north of the site. No unusual odors or discolorations were noted in the vicinity of the waterway. A white painted guardrail was noted in the vicinity of the waterway.
- A small gravel parking area, about 185.80 square meters (2,000 square feet), lies south of and adjacent to SR 132, near the western end of the site. No soil staining was noted in the parking area. Linear soil piles, about 19.11 cubic meters (25 cubic yards) of soil, lie next to the parking area; no discolored soils or unusual odors were noted there. The soil appeared to be native to the site. An area about 92.90 square meters (1,000 square feet) indicating a previous burn was near the parking area. No evidence of burning of hazardous materials was present in the area.
- A small dirt parking area lies west of Bird Road and south of SR 132. A linear soil pile was noted in the area next to Bird Road. The soil appeared similar to the soils native to the site. Asphalt was found in abundance in the soil pile. A small asphalt pile, about 1.53 cubic meters (2 cubic yards), was found in the parking area. A small reddish soil stain, about 0.19 square meter (2 square feet), was also noted in the parking area. The stain did not have a strong odor and appeared to have only affected the surface.
- Three pole-mounted transformers lie next to the site boundary west of Bird Road. No leaking was noted in association with the transformers. A blue non-polychlorinated biphenyl containing sticker was noted on at least one of the transformers.
- An apparent vent pipe, of unknown association, was noted next to the site boundary on the property north of the site and west of Bird Road.

2.7.1.3 Impacts

There are minimal impacts of possible exposure of contaminants on human health and safety at this project site. The following avoidance and mitigation measures would make any impacts on human health and safety from hazardous wastes negligible.

2.7.1.4 Avoidance, Minimization, and/or Mitigation Measures

To avoid or minimize the impacts of possible exposure of contaminants on human health and safety, the following actions are recommended:

- The computer monitor is considered to be a hazardous waste and should be disposed of according to all local, state and federal regulations.
- The linear soil feature northeast of the intersection of Bird Road and SR 132 should be sampled and characterized to identify the possible stain. The soil should then be disposed of in accordance with all local, state and federal regulations.
- All other soil, asphalt and debris piles should be removed or used onsite. If any hazardous materials are noted during the removal of any stockpiled material, Caltrans should be contacted.
- Underground pipelines are commonly found on properties with a history of agricultural use. It was common for these pipelines to contain asbestos. In the event that subsurface structures are encountered during the site development of or any onsite excavation, Caltrans should be notified. Also, care should be exercised in determining whether or not the subsurface structures contain asbestos. If they contain asbestos, they should be removed, handled, transported, and disposed of in accordance with applicable local, state and federal laws and regulations.

2.7.2 Alternative 1

Minimal impacts and exposure of contaminants on human health and safety at the project site are anticipated. Mitigation measures are described in Section 2.7.1.4.

2.7.3 Alternative 2

Minimal impacts and exposure of contaminants on human health and safety at the project site are anticipated. Mitigation measures are described in Section 2.7.1.4.

2.7.4 No-Project Alternative

The No-Project Alternative would keep SR 132 in the project area as it is. Any current exposure of contaminants on human health and safety would remain.

2.8 Natural Communities

This section explains the potential impacts to natural communities for the proposed project. A report of natural communities in the study area is in Appendix I.

2.8.1 Proposed Project

2.8.1.1 Regulatory Setting

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

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed in Threatened and Endangered Species, Section 2.12. Wetlands and other waters are discussed in Section 2.9.

2.8.1.2 Affected Environment

The project area contains California annual grassland. Three habitat types were identified: agricultural lands, depressional seasonal wetlands, and an ephemeral drainage (Figure 2-3). The agricultural lands consist of grain fields and a vineyard. Table 2-6 shows the natural communities and habitats in the project area.

Table 2-6 Summary of Natural Communities/Habitats in the Study Area

Natural Community/Habitat		Hectares	Acres
California Annual Grassland		15.27	37.74
Agricultural Land	Grain Field	16.10	39.79
	Vineyard	5.38	13.29
Depressional Seasonal Wetland		0.002	0.005
Ephemeral Drainage		0.03	0.068
Existing Developed		10.38	25.66
Total		47.16	116.55

Source: Natural Environment Study for the State Route 132 Interchange Improvements at Bird Road, 2005.

California Annual Grassland

California annual grassland consists of numerous native and non-native annual plant species and occurs in most of the state at elevations from sea level to about 1,219.2 meters (4,000 feet) above mean sea level. Composition of this vegetation community varies depending on distribution, geographic location and land use. Additional influences on this vegetation community include soil type, annual precipitation, and fall temperatures.

In the project area, the presence of this vegetation community indicates the area has been disturbed from its natural state. Dominant plant species within the California annual grassland on the site include the following: ripgut brome (*Bromus diandrus*), soft chess (*B. hordeaceus*), red brome (*B. madritensis* ssp. *rubens*), barley (*Hordeum jubatum*, *H. murinum*), medusa head (*Taeniatherum caput-medusae*), wild oat (*Avena fatua*), mousetail grass (*Vulpia myuros*), wheat (*Triticum* sp.), rancher's fireweed (*Amsinckia menziesii*), gumplant (*Grindelia camporum*), bull thistle (*Cirsium vulgare*), bur clover (*Medicago polymorpha*), rose clover (*Trifolium hirtum*), lupine (*Lupinus* spp.), and mustard (*Brassica* spp.).

There are also several trees scattered throughout the grassland habitat in the project area.

Tree Resources

In accordance with the San Joaquin County General Plan, the County regulates all projects with the potential to affect any protected trees. Protected trees are defined as native oaks and heritage trees. Heritage trees are defined in the General Plan as trees of substantial size or age or having a significant history.

Most of the trees in the project area are associated with an agricultural property in the southeast corner of the project area. These tress include several eucalyptus trees (*Eucalyptus* sp.) and a pepper tree (*Schinus molle*). These trees appear to have been planted as a wind block. The remaining trees appear to be former orchard trees and those of former rural residences next to the project area. The area includes a small stand of California walnuts (*Juglans californica* var. *hindsii*). These trees most likely occur in the area as a result of being used as rootstock from nearby English walnut (*J. regia*) orchards. Table 2-7 lists the trees in the study area.

Table 2-7 Summary of Trees in the Project Area

Tree Species	Size Class (diameter at breast height (centimeters [inches])				Total
	<15.24 cm (<6")	15.24-30.48 cm (6-12")	30.48-60.96 cm (12-24")	>60.96 cm (>24")	
California black walnut (*Juglans californica* var. *hindsii*)	10	0	0	0	10
Eucalyptus (*Eucalyptus* sp.)	0	0	20	0	20
Almond (*Prunus* sp.)	2	0	0	0	2
Ash (*Fraxinus* sp.)	0	0	2	0	2
China berry (*Melia azedarach*)	0	0	1	0	1
Tree tobacco (*Nicotiana glauca*)	1	0	0	0	1
Pepper tree (*Schinus molle*)	0	0	0	1	1

Source: Natural Environment Study for the State Route 132 Interchange Improvements at Bird Road, 2005.

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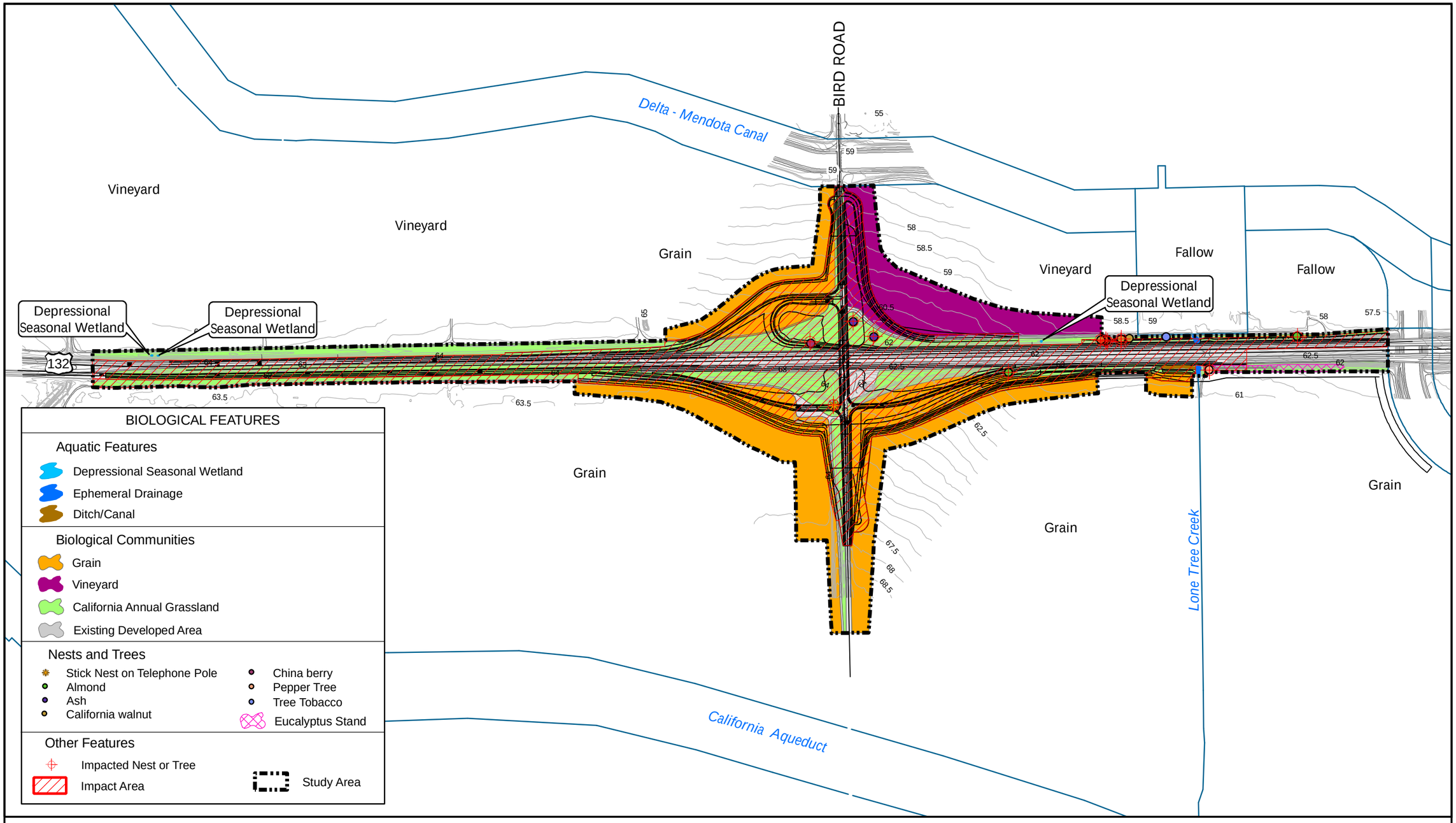


PROPOSED PROJECT: NATURAL COMMUNITIES AND WETLANDS

Digital base data provided by Omni Means.
Contour interval is 0.5 meters.

N

Meters 0 200 400

Feet 0 700 1400

Drawn By: DBV
Date: 06/09/05

FIGURE 2-3

Alt_3_bio.mxd

California annual grassland supports foraging habitat for numerous wildlife species. Avian species seen or expected to forage and/or nest in this habitat include American crow (*Corvus brachyrhynchos*), common raven (*Corvus corax*), western meadowlark (*Sturnella neglecta*), mourning dove (*Zenaida macroura*), European starling (*Sturnus vulgaris*), northern harrier (*Circus cyaneus*), white-tailed kite (*Elanus leucurus*), Swainson's hawk (*Buteo swainsonii*), loggerhead shrike (*Lanius ludovicianus*) and red-tailed hawk (*Buteo jamaicensis*). A pair of ravens was observed nesting on top of a power pole in the grassland habitat.

Additional wildlife species seen or expected to occur in this habitat include California ground squirrel (*Spermophilus beecheyi*) and black-tailed jackrabbit (*Lepus californicus*).

Agricultural Lands

Agricultural lands surround the existing SR 132 and Bird Road right-of-ways. The properties immediately northwest, southwest, and southeast of the interchange were planted in grain as of April 2005. The property immediately northeast of the interchange was planted as vineyard as of April 2005.

These agricultural lands represent potential foraging habitat for several wildlife species. Avian species seen or expected to forage in this habitat include common raven, European starling, northern harrier, white-tailed kite, Swainson's hawk, loggerhead shrike and red-winged blackbird (*Agelaius phoeniceus*). Additional wildlife species seen or expected to occur in this habitat include California ground squirrel and black-tailed jackrabbit.

Seasonal Wetlands

Seasonal wetlands are depressions in the natural landscape that flood for short periods of time following intense rains but do not maintain flooded or saturated soil conditions for periods long enough for wetland plant species to develop. Plant species in seasonal wetlands generally consist of two types: (1) species that can tolerate short periods of flooding but have not adapted to withstand long periods of flooding or saturated soil conditions, and (2) short-lived (primarily annual) species that take advantage of short-lived flooded and/or saturated soil conditions.

Three small depressional seasonal wetlands totaling 0.002 hectare (0.005 acre) were identified in the study area during a routine wetland determination. They formed in areas where roadside runoff was being diverted via culverts and road drains. They were mostly unvegetated areas consisting of sediment accumulated from road runoff.

Some wetland vegetation was seen along the outer edges of these unvegetated areas, which was composed mostly of curly dock (*Rumex crispus*) and loosestrife hyssop (*Lythrum hyssopifolia*). The wetlands were inundated during any of the site visits. It appears that they may flood for brief periods following storms and likely remain saturated during portions of the rainy season. The soils appeared to have been disturbed in the past and had no hydric indicators. These would best be described as man-induced wetlands.

The three man-induced wetlands are relatively small and sparsely vegetated and are considered to be of very limited use for wildlife.

A wetland determination has identified these man-induced wetlands as having been entirely constructed in uplands as a result of the original SR 132 construction. They did not meet the criteria for hydric soils. These man-induced wetlands are not believed to be wetlands subject to U.S. Army Corps of Engineers jurisdiction under Section 404 of the Clean Water Act, in that they are isolated from identified waters of the U.S. These features do not have a hydrological or ecological connection to identified waters of the U.S. to be considered adjacent wetlands. Lone Tree Creek, which is discussed below, is not tributary to identified waters of the U.S.

Ephemeral Drainage (Lone Tree Creek)

Lone Tree Creek has been identified as an ephemeral drainage; it conveys water only during and shortly after storms. Lone Tree Creek to the south of the project area has been straightened and channelized. The channel is about 3.65 meters (12 feet) wide with 0.6-meter-high (2-foot-high) banks and a flat, even bed consisting of silt, sand, and gravel. The banks and portions of the bed were vegetated with some of the ruderal species that occur in the grasslands in the study area. No riparian vegetation was seen at Lone Tree Creek.

Lone Tree Creek in the project area flows under SR 132 through a large three-chambered box culvert. Just north of SR 132, Lone Tree Creek appears to form a small pool behind a small, slightly elevated box culvert at Vernalis Road, which is the frontage road north of SR 132. Flows rarely exceed the limits of this pool as evidenced by the lack of strong hydrologic indicators immediately north of the Vernalis Road culvert. The remnants of a former channel through the agricultural field to the north were seen in the change in soil color and the presence of gravel. Beyond this field is a culvert that crosses over the Delta Mendota Canal and into a small detention basin immediately north of the canal. Lone Tree Creek does not

represent waters of the U.S. as defined under Section 404 of the Clean Water Act in that it is not tributary to identified waters of the U.S. This feature may be subject to the jurisdiction of the California Department of Fish and Game according the Section 1600 of the California Fish and Game Code.

A ditch drains into Lone Tree Creek in the southern right-of-way, immediately west of the creek channel. The ditch appears to capture roadside runoff, diverting it to Lone Tree Creek.

Lone Tree Creek in the project area and vicinity is not potential habitat for any aquatic species. The sandy portions of Lone Tree Creek are potential habitat for reptiles and small mammals. These areas occur south of the culvert near the edge of the study area and beyond (upstream).

2.8.1.3 Impacts

Table 2-8 shows the impacts (in hectares and acres) of the proposed project and its alternatives to sensitive natural communities. The proposed project would result in minimal impacts (0.008 hectare [0.019 acre]) to ephemeral drainage (Lone Tree Creek). However, about 7.86 hectares (23.01 acres) of agricultural land (grain crops) and 10.42 hectares (25.74 acres) of grasslands would be affected by the proposed project. No impacts to seasonal wetlands would occur. These habitats are considered sensitive and are protected under the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan. Grasslands and agricultural lands have been identified in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan as providing habitat for several species covered by the plan. Impacts to trees in the study area would not be considered adverse. None are afforded protection by federal, state, or local agencies.

Table 2-8 Permanent Impacts and Mitigation for Natural Communities

Ephemeral Drainage in hectares (acres)		Seasonal Wetlands in hectares (acres)		Grasslands* in hectares (acres)		Agricultural Habitat Lands* in hectares (acres)	
Impact Area (1:1)	Mitigation Area	Impact Area (1:1)	Mitigation Area	Impact Area (3:1)	Mitigation Area	Impact Area (1:1)	Mitigation Area
0.008 (0.019)	0.008 (0.019)	0.000 (<0.000)	0.000 (0.000)	10.42 (25.74)	31.25 (77.22)	7.86 (23.01)	7.86 (23.01)

Source: *Natural Environment Study for the State Route 132 Interchange Improvements at Bird Road, 2005.*
Note: *Agricultural lands as defined in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan would not include the vineyards in the study area, only the field (grain) crops.

About 1.15 hectares (2.85 acres) of annual grassland would be temporarily affected by the proposed project during construction.

2.8.1.4 Avoidance, Minimization, and/or Mitigation Measures

Mitigation required by the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan for impacts to sensitive natural communities is shown in Table 2-8.

The portion of Lone Tree Creek that would be affected is considered to be very marginal habitat for wildlife species, and thus impacts to this feature would not be considered adverse. Nonetheless, the California Department of Fish and Game should be contacted to determine whether it would require a Streambed Alteration Agreement for work in the channel. The California Department of Fish and Game typically requires mitigation for impacts to streams within its jurisdiction where these features provide habitat for aquatic and/or terrestrial wildlife. If the California Department of Fish and Game does require a Streambed Alteration Agreement and mitigation, the mitigation would likely be required at a ratio of at least 1:1 (see Table 2-8).

Temporary impacts to 1.15 hectares (2.85 acres) of annual grassland would be hydroseeded with a native seed mix following construction. No non-native invasive species would be used. A conceptual mitigation plan would be submitted to the respective agencies at the time the necessary permits for this activity are sought.

2.8.2 Alternative 1

Under Alternative 1, impacts to natural communities would be similar to those for the proposed project. However, Alternative 1 would affect an additional 1.96 hectares (4.76 acres) of vineyard over the proposed project. In addition, Alternative 1 would reduce impacts to agricultural lands cultivated in grain crops by 0.74 hectare (1.84 acres) over the proposed project.

2.8.3 Alternative 2

Impacts under Alternative 2 would be similar to those for Alternative 1. See discussion for Alternative 1.

2.8.4 No-Project Alternative

The No-Project Alternative would keep SR 132 in the project area as it is. No impacts to natural communities would occur.

2.9 Wetlands and Other Waters

This section explains the potential impacts to wetlands and other waters for the proposed project. A jurisdictional wetland determination was completed for this project (see Appendix I).

2.9.1 Proposed Project

2.9.1.1 Regulatory Setting

Jurisdictional Waters

At the state level, wetlands and waters are regulated primarily by the California Department of Fish and Game and the Regional Water Quality Control Board. Sections 1600-1607 of the Fish and Game Code require any agency that proposes a project that would substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify the California Department of Fish and Game before beginning construction.

If the California Department of Fish and Game determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement would be required. The California Department of Fish and Game's jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the U.S. Army Corps of Engineers may or may not be included in the area covered by a Streambed Alteration Agreement obtained from California Department of Fish and Game. If an existing fish or wildlife resource may be substantially adversely affected by the activity, the California Department of Fish and Game may propose reasonable measures that would allow protection of those resources. If these measures are agreeable to the party, they may enter into an agreement with the California Department of Fish and Game identifying the approved activities and associated mitigation measures.

The Regional Water Quality Control Boards were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The Regional Water Quality Control Boards also issue water quality certifications in compliance with Section 401 of the Clean Water Act. See Section 2.5 Water Quality and Storm Water Runoff for additional details.

2.9.1.2 Affected Environment

Lone Tree Creek is mapped as a stream on the Vernalis, California U.S. Geological Survey topographic quadrangle and has been identified as an ephemeral drainage (see Figure 1-1). Lone Tree Creek conveys water only during and shortly after storms and therefore has been classified as ephemeral. Immediately south of the project area, Lone Tree Creek has been straightened and channelized. The channel is about 12 feet wide with 2-foot-high banks and a flat, even bed consisting of silt, sand, and gravel. The banks and portions of the bed are vegetated with many of the same ruderal species described under California Annual Grasslands (Section 2.8 Natural Communities). Table 2-9 lists the existing wetlands and waters identified in the project area.

Within the study area, Lone Tree Creek flows beneath SR 132 through a large three-chambered concrete box culvert. Immediately north of SR 132, Lone Tree Creek forms a small impoundment behind a small, slightly elevated box culvert at Vernalis Road, which is the frontage road north of SR 132. Flows rarely exceed the limits of this pool as evidenced by the lack of strong hydrologic indicators immediately north of the Vernalis Road culvert. The remnants of a former channel through the agricultural field to the north was seen in the change in soil color and the presence of gravel. Beyond this field is a culvert that crosses over the Delta Mendota Canal and into a small detention basin immediately north of the canal.

During high flows, Lone Tree Creek flows across the project area, across the agricultural field, through the culvert over the Delta Mendota Canal, ending at the detention basin. The 1967 (1991 photo-revised) Vernalis, California quadrangle depicts Lone Tree Creek ending and pooling along the southern levee of the Delta Mendota Canal. It is believed that Lone Tree Creek would be regulated by the California Department of Fish and Game according to Section 1600 of the State Fish and Game Code.

Table 2-9 Wetlands and Waters in the Project Area

Wetlands/Waters	California Department of Fish and Game	
	Hectares	Acres
Depressional Seasonal Wetland	0.002	0.005
Ephemeral Drainage	0.028	0.068
Total	0.030	0.073

Source: *Natural Environment Study for the State Route 132 Interchange Improvements at Bird Road, 2005.*

2.9.1.3 Impacts

Portions of Lone Tree Creek would be permanently affected by the proposed project (Table 2-10). These impacts result from the extension of the northern side of the culvert under SR 132 and the construction of new retaining walls. These impacts would not be considered adverse with mitigation.

Table 2-10 Summary of Mitigation for Impacts to Sensitive Habitats

Ephemeral Drainage in hectares (acres)		Seasonal Wetlands in hectares (acres)		Grasslands* in hectares (acres)		Agricultural Habitat Lands* in hectares (acres)	
Impact Area (1:1)	Mitigation Area	Impact Area (1:1)	Mitigation Area	Impact Area (3:1)	Mitigation Area	Impact Area (1:1)	Mitigation Area
0.008 (0.019)	0.008 (0.019)	0.00 (0.00)	0.00 (0.00)	10.42 (25.74)	31.25 (77.22)	19.44 (7.86)	19.44 (7.86)

Source: *Natural Environment Study for the State Route 132 Interchange Improvements at Bird Road, 2005.*
Note: *Agricultural lands as defined in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan would not include the vineyards in the study area, only the field (grain) crops.

2.9.1.4 Avoidance, Minimization, and/or Mitigation Measures

The box culvert at the SR 132 crossing of Lone Tree Creek would be extended to minimize the impact to that feature. Impacts to Lone Tree Creek would be avoided by limiting project-related construction to the minimal amount of area necessary to construct the culvert extension. Avoidance measures would include fencing off areas of Lone Tree Creek outside the construction area with brightly colored construction fence and limiting construction within the creek to the dry season (about April 15 to October 15). Construction fencing would be placed along the perimeter of the "impact area" depicted on Figure 1-2 at Lone Tree Creek.

Impacts to adjoining portions of Lone Tree Creek would be minimized by implementing best management practices such as using construction mats in the creek channel and implementing an erosion and sediment control plan that minimizes impacts to water quality in Lone Tree Creek.

The portion of Lone Tree Creek that would be affected is considered to be very marginal habitat for wildlife species, and thus impacts to this feature would not be considered adverse. Nonetheless, the California Department of Fish and Game should be contacted to determine whether it would require a Streambed Alteration Agreement for work in the channel. The California Department of Fish and Game typically requires mitigation for impacts to streams in its jurisdiction where these features provide habitat for aquatic and/or terrestrial wildlife. If the California Department of Fish and Game does require a Streambed Alteration Agreement and mitigation, the mitigation would likely be required at a ratio of at least 1:1. A conceptual mitigation plan would be submitted to the respective agencies at the time the necessary permits for this activity are sought.

2.9.2 Alternative 1

Under Alternative 1, about 0.008 hectare (0.019 acre) of Lone Tree Creek would be permanently affected. About 0.0008 hectare (0.002 acre) of depressional seasonal wetland would be affected.

2.9.3 Alternative 2

Under Alternative 2, about 0.008 hectare (0.019 acre) of Lone Tree Creek would be permanently affected. About 0.0000 hectare (0.000 acre) of depressional seasonal wetland would be affected

2.9.4 No-Project Alternative

The No-Project Alternative would keep SR 132 in the project area as it is. No impacts to natural communities would occur.

2.10 Plant Species

This section explains the potential impacts to special-status plant species for the proposed project. A complete discussion of special-status plant species is provided in Appendix I.

2.10.1 Proposed Project

2.10.1.1 Regulatory Setting

The U.S. Fish and Wildlife Service and California Department of Fish and Game share regulatory responsibility for the protection of special-status plant species. "Special-status" species are selected for protection because they are rare and/or subject to population and habitat declines. Special-status is a general term for species that are afforded varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act and/or the California Endangered Species Act. See Threatened and Endangered Species, Section 2.12, in this document for detailed information regarding these species.

This section of the document discusses all the other special-status plant species, including California Department of Fish and Game fully-protected species and species of special concern, U.S. Fish and Wildlife Service candidate species, and non-listed California Native Plant Society rare and endangered plants.

The regulatory requirements for the Federal Endangered Species Act can be found at United States Code 16, Section 1531, et. seq. See also 50 Code of Federal Regulations Part 402. The regulatory requirements for the California Endangered Species Act can be found at California Fish and Game Code, Section 2050, et. seq. Caltrans projects are also subject to the Native Plant Protection Act, found at Fish and Game Code, Section 1900-1913, and the California Environmental Quality Act, Public Resources Code, Sections 21000-21177.

2.10.1.2 Affected Environment

A focused rare plant survey was conducted on June 9, 2005 to determine the presence of numerous rare plants identified during the California Natural Diversity Database records search conducted on February 5, 2005. Based on known regional occurrences and the presence of suitable habitat in the study area, three special-status plant species have the potential to occur in the study area. Information on these species is provided below. Appendix E contains a comprehensive list of regional special-status plant species and habitats of concern.

Big Tarplant

Big tarplant is listed by the U.S. Fish and Wildlife Service as a federal species of concern and by the California Native Plant Society as rare in California and

elsewhere. This species is an annual herbaceous plant that blooms from July to October and is typically found in valley and foothill grasslands (California Native Plant Society 2005).

This species was not identified in the study area during focused surveys conducted in 2004 and 2005. Though these surveys were conducted outside of the species bloom period, this plant is a relatively large (30-180 centimeters) and distinct plant that is identifiable by gross morphology. There are no records of this species occurring within five miles of the study area (California Natural Diversity Database 2005). The nearest known occurrences are 5 to 10 miles to the west, in the foothills of the Coast Range (see Figure 2-4). Based on the above information, there is a low potential for this species to occur in the study area.

Round-leaved Filaree

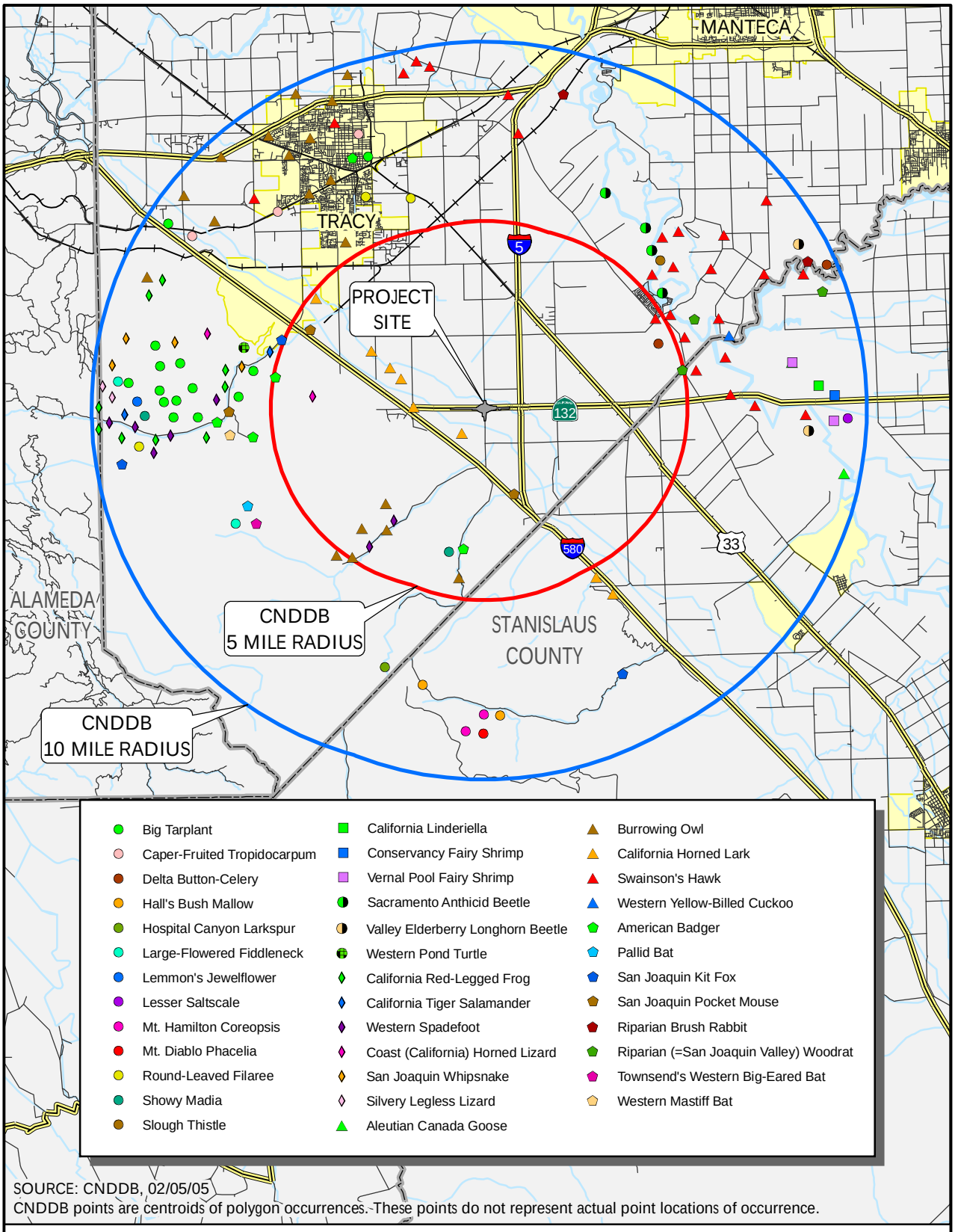
Round-leaved filaree is listed by the California Native Plant Society as rare in California but common elsewhere. This species is an annual herbaceous plant that blooms from March through May (California Native Plant Society 2005). This species is found in cismontane woodlands and valley and foothill grasslands.

This species was not identified in the study area during focused surveys conducted in 2004 and 2005. There are no records of this species occurring within five miles of the study area (California Natural Diversity Database 2005). The nearest known occurrences are 5 to 10 miles to the north of the study area near the City of Tracy. Based on the above information, there is a low potential for this species to occur in the study area.

Showy Madia

Showy madia is listed by the U.S. Fish and Wildlife Service as a federal species of concern and by the California Native Plant Society as rare in California and elsewhere. This species is an annual herbaceous plant that blooms from March through May (California Native Plant Society 2005) and is found in cismontane woodlands and valley and foothill grasslands.

This species was not identified in the study area during focused surveys conducted in 2004 and 2005. There is one record of this species occurring within five miles of the study area (California Natural Diversity Database 2005). This record is from 1938 and is about 4.3 miles southwest of the study area. Based on the above information, there is a low potential for this species to occur in the study area.



SOURCE: CNDDB, 02/05/05
CNDDB points are centroids of polygon occurrences. These points do not represent actual point locations of occurrence.

CNDDB

N

KILOMETERS 0 2.5 5

MILES 0 2 4

Drawn By: DBV
Date: 04/18/05

FIGURE 2-4

SR132 BIRD ROAD

cnddb.mxd

2.10.1.3 Impacts

No adverse impacts to the big tarplant, round-leaved filaree or the showy madia are expected to occur as a result of project implementation.

2.10.1.4 Avoidance, Minimization, and/or Mitigation Measures

Big Tarplant

If this species is identified in the study area before construction, efforts would be made to avoid and minimize impacts to identified populations to the maximum extent practicable. Avoidance measures may include modifications to grading plans and/or avoiding those portions of the study area not in the immediate footprint of the proposed project alternatives. Minimization measures may include establishing buffers around identified populations with brightly colored construction fencing.

Round-leaved Filaree

If this species is identified in the study area before construction, efforts would be made to avoid and minimize impacts to identified populations to the maximum extent practicable. Avoidance measures may include modifications to grading plans and/or avoiding those portions of the study area not in the immediate footprint of the proposed project alternatives. Minimization measures may include establishing buffers around identified populations with construction fencing and signs.

Showy Madia

If this species is identified in the study area before construction, efforts would be made to avoid and minimize impacts to identified populations to the maximum extent practicable. Avoidance measures may include modifications to grading plans and/or avoiding those portions of the study area not in the immediate footprint of the proposed project alternatives. Minimization measures may include establishing buffers around identified populations with brightly colored construction fencing.

2.10.2 Alternative 1

No adverse impacts to the big tarplant, round-leaved filaree, showy madia, or other special-status plants would occur.

2.10.3 Alternative 2

No adverse impacts to the big tarplant, round-leaved filaree, showy madia, or other special-status plants would occur.

2.10.4 No Project Alternative

The No-Project Alternative would keep SR 132 in the project area as it is. No impacts to special-status plants would occur.

2.11 Animal Species

This section explains the potential impacts to special-status animal species for the proposed project. A complete discussion of special-status animal species is provided in Appendix I.

2.11.1 Proposed Project

2.11.1.1 Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service, the National Oceanic and Atmospheric Administration Fisheries Service, and the California Department of Fish and Game are responsible for implementing these laws. The following section discusses potential impacts and permit requirements for wildlife "not" listed or proposed for listing under the state or federal Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in Section 2.12. All other special-status animal species are discussed below, including California Department of Fish and Game fully protected species and species of special concern, and the U.S. Fish and Wildlife Service or National Oceanic and Atmospheric Administration Fisheries Service candidate species. Appendix D contains a comprehensive list of regional special-status animal species and habitats of concern.

State laws and regulations pertaining to wildlife include the following:

- California Environmental Quality Act
- Sections 1601 – 1603 of the Fish and Game Code
- Sections 4150 and 4152 of the Fish and Game Code
- Migratory Bird Treaty Act of 1918

2.11.1.2 Affected Environment

Surveys were conducted in April 2004, June 2004, and April 2005 to determine site suitability for numerous special-status animal species. A California Natural Diversity Database records search was conducted on February 5, 2005 and a U.S. Fish and Wildlife Service database search was conducted on June 24, 2005. Based on known regional occurrences and the presence of suitable habitat in the study area, nine special-status animal species in addition to raptors and other nesting birds have the potential to occur in the project area. Information on these species is provided below.

Appendix D contains a comprehensive list of regional special-status animal species of concern. In addition, Appendix I contains the U.S. Fish and Wildlife Service list of Federal Endangered and Threatened Species.

Coast Horned Lizard

The coast horned lizard is recognized by the U.S. Fish and Wildlife Service as a federal species of concern and by the California Department of Fish and Game as a species of special concern. This species is most often found in lowlands along sandy washes with scattered bushes. This species was not observed during surveys of the site; directed surveys for this species were not conducted as a part of this assessment.

The sandy portions of Lone Tree Creek in the project area are potential habitat for this species. However, there are no bushes in or next to the creek that would provide shade and cover for this species. There is one record of this species occurring within 8.05 kilometers (5 miles) of the study area (see Figure 2-4). This occurrence is about 6.44 kilometers (4 miles) west of the project site and is from 1991 (California Natural Diversity Database 2005).

Based on the above information, there is a high potential for this species to occur in the study area, specifically in the sandy portion of Lone Tree Creek. This suitable habitat begins about 20 meters (65.62 feet) south (upstream) of the existing culvert and continues south for an undetermined distance. This portion of Lone Tree Creek has been straightened and appears to be subject to periodic disturbance from adjacent agricultural activity.

San Joaquin Whipsnake

San Joaquin whipsnake is recognized by the U.S. Fish and Wildlife Service as a federal species of concern and by the California Department of Fish and Game as a species of special concern. This species is found in open areas in valley and foothill grasslands, deserts, scrubland, chaparral, and pastures. This species generally avoids

dense vegetation. Most of the study area is vegetated in dense grasses and herbs and thus does not appear to be ideally suitable for this species. This species was not observed during surveys of the site; directed surveys for this species were not conducted as a part of this assessment.

This species is not known to occur within 8.05 kilometers (5 miles) of the study area (California Natural Diversity Database 2005). The nearest occurrences are from 8.05 to 16.1 kilometers (5 to 10 miles) west of the study area (see Figure 2-4). Based on the above information, there is a low potential for this species to occur in the study area.

Silvery Legless Lizard

The silvery legless lizard is listed by the U.S. Fish and Wildlife Service as a federal species of concern and by the California Department of Fish and Game as species of special concern. This species is found in areas with sandy or loose organic soils, and in areas with abundant leaf litter. The sandy portions of Lone Tree Creek in the project area are potential habitat for this species. This suitable habitat begins about 20 meters (65.62 feet) south (upstream) of the existing culvert and continues south for an undetermined distance. This species was not observed during surveys of the site; directed surveys for this species were not conducted as a part of this assessment.

There are no records of this species occurring within 8.05 kilometers (5 miles) of the study area (California Natural Diversity Database 2005). The nearest known occurrence is about 16.1 kilometers (10 miles) west of the study area (see Figure 2-4). Based on the above information, there is a low potential for this species to occur in the study area.

California Horned Lark

The California horned lark is listed by the California Department of Fish and Game as a species of special concern. This species is found in open habitats, including grasslands, deserts, and alpine dwarf-scrub habitat above the tree line. The grassland portions of the study area are potential habitat for this species. This species was not observed during surveys of the site; directed surveys for this species were not conducted as a part of this assessment.

There are six records of this species occurring within 8.05 kilometers (5 miles) of the study area (California Natural Diversity Database 2005). The nearest known occurrence is about 1.61 kilometers (1 mile) southwest of the study area (Figure 2-4). Based on the above information, there is a high potential for this species to occur in the study area.

Ferruginous Hawk

Ferruginous hawk is listed by the U.S. Fish and Wildlife Service as a federal species of concern and by the California Department of Fish and Game as species of special concern for its wintering habitat. This species is found in open arid grassland habitats in Southern California and is less common in the Central Valley of California. This species may use the grassland areas of the study area as foraging habitat. This species was not observed during surveys of the site.

There are no records of this species occurring within 16.1 kilometers (10 miles) of the study area (see Figure 2-4). Based on the above information, there is a low potential for this species to occur in the study area.

Loggerhead Shrike

The loggerhead shrike is listed by the U.S. Fish and Wildlife Service as a federal species of concern and by the California Department of Fish and Game as species of special concern. This species is found in open-canopied valley foothill hardwood, valley foothill conifer, valley foothill riparian, pinyon-juniper, juniper, desert riparian, Joshua tree habitats, and open cropland. This species typically nests in densely foliaged shrubs or trees. The grassland in the study area and adjacent croplands are potential foraging habitat for this species, and the pepper tree near Lone Tree Creek is potential nesting habitat for this species. The remaining trees in the study area are considered to be suitable nesting habitat for this species, as they do not have dense foliage.

This species was seen in the study area on a utility line immediately north of SR 132, west of Bird Road. However, there are no previous records of this species occurring within 16.1 kilometers (10 miles) of the study area (see Figure 2-4). Based on the above information, this species is known to occur in the study area.

Mountain Plover

The mountain plover is listed by the U.S. Fish and Wildlife Service as a federal species of concern and by the California Department of Fish and Game as species of special concern for its wintering habitat. This species is found in open, short

grasslands and plowed fields during the winter. The grassland in the study area and adjacent croplands are marginal foraging habitat for this species. This species was not seen during surveys of the site.

There are no records of this species occurring within 16.1 kilometers (10 miles) of the study area (see Figure 2-4). Based on the above information, there is a low potential for this species to occur in the study area.

Western Burrowing Owl

The western burrowing owl is listed by the U.S. Fish and Wildlife Service as a federal species of concern and by the California Department of Fish and Game as species of special concern. This species is found in open low-growing grasslands with suitable burrows. The grassland in the project area had several active ground squirrel burrows, but none of them appeared to be in use by burrowing owls either by direct observation or by the observation of owl pellets, feathers, and/or whitewash in the immediate vicinity of the burrows. The herbaceous vegetation in the study area is very high and thus not considered ideal habitat where burrowing owls are typically found.

There are five records of this species occurring within 8.05 kilometers (5 miles) of the study area (see Figure 2-4). The nearest occurrence is about 4.99 kilometers (3 miles) southwest of the study area and was recorded in 1991 (California Natural Diversity Database 2005). Based on the above information, there is a low potential for this species to occur in the study area.

White-tailed Kite

The white-tailed kite is listed by the U.S. Fish and Wildlife Service as a federal species of concern and by the California Department of Fish and Game as a fully-protected species. This species is found in valley and coastal lowlands and is rarely found away from agricultural areas. This species requires densely foliaged deciduous trees and shrubs for nesting. The grassland and adjacent croplands are potential foraging habitat for this species; however, the trees onsite are not ideal nesting habitat as the deciduous trees in the study area are relatively small. This species was not seen during surveys of the site.

There are no records of this species occurring within 16.1 kilometers (10 miles) of the study area (see Figure 2-4). Based on the above information, there is a low potential for this species to occur in the study area.

Raptors and Nesting Birds

A pair of red-tailed hawks was seen in flight in the vicinity of the study area, and other common raptor species (kites and owls) are known to occur in the vicinity of the project. Although the study area is subject to frequent disturbance, common raptors likely forage there. Additionally, although no raptor nests were seen during the surveys, the mature eucalyptus trees and pepper trees are potential nesting habitat for raptor species, though the potential for raptors to nest in those trees is low due to their crown and branch structure.

In April 2005, a pair of ravens was seen nesting at the top of a power pole in the study area (see Figure 2-4). The nest was a large stick nest lined with what appeared to be dried vegetation.

No other nesting birds that would be protected by the Migratory Bird Treaty Act were seen in the study area. However, the Migratory Bird Treaty Act-protected nesting birds may occupy the study area before construction.

San Joaquin Pocket Mouse

The San Joaquin pocket mouse is listed by the U.S. Fish and Wildlife Service as a federal species of concern. The breeding season for the San Joaquin pocket mouse is March 1 to July 30. This species is found in annual grasslands and scrub habitats with fine-textured soil conditions. The grasslands in the vicinity of Lone Tree Creek are potential habitat for this species as this area has sandy, loose soils.

There are two records of this species occurring within 8.05 kilometers (5 miles) of the study area (see Figure 2-4). The nearest occurrence is from 1987 and is about 4.02 kilometers (2.5 miles) south of the study area. Based on the above information, it is believed that there is a high potential for this species to occur in the study area.

2.11.1.3 Impacts

No adverse impacts to special-status species are anticipated to occur as a result of project implementation. However, the proposed project would affect grasslands, as specified in Table 2-8, which represent potential habitat for the coast horned lizard, San Joaquin whipsnake, silvery legless lizard, California horned lark, ferruginous hawk, loggerhead shrike, mountain plover, western burrowing owl, white-tailed kite, raptors and other nesting birds, and the San Joaquin pocket mouse. Any impacts to these species would not be considered adverse with avoidance, minimization, and/or mitigation measures.

2.11.1.4 Avoidance, Minimization, and/or Mitigation Measures

Coast Horned Lizard

The identified potential habitat would not be directly affected by the extension of the box culvert in Lone Tree Creek. To ensure that this area is avoided during project-related activities, brightly colored construction fencing would be installed to show that this area has sensitive resources and should be avoided to the maximum extent practicable. To minimize impacts to coast horned lizard that may occupy in the study area before project construction, pre-construction surveys would be conducted within 30 days of the start of project grading.

If this species were found in the study area before construction, incidental take minimization measures would be formulated by a technical advisory committee for the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan and approved by the Joint Powers Authority.

No compensatory mitigation is recommended at this time. During consultation with the California Department of Fish and Game for a Streambed Alteration Agreement, further avoidance and minimization measures could be implemented to compensate and/or limit impacts to Lone Tree Creek.

Mitigation for impacts to potential coast horned lizard habitat would be achieved by participating in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan and contributing the necessary funds to the Joint Powers Authority for the preservation of lands suitable for those species covered by the plan. This mitigation would preserve grasslands habitat as outlined in Table 2-8. The grasslands targeted for preservation are generally west of I-580 and include areas with known occurrences of coast horned lizard and additional suitable habitat for this species.

San Joaquin Whipsnake

No avoidance or minimization measures are recommended at this time. This species is active during the day and, if present during project construction, would have the ability to move away from areas of disturbance. However, if this species is found in the study area before construction, incidental take minimization measures would be formulated by a technical advisory committee for the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan and approved by the Joint Powers Authority.

Mitigation for impacts to potential San Joaquin whipsnake habitat would be achieved by participating in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan and contributing the necessary funds to the Joint Powers Authority for the preservation of lands suitable for those species covered by the plan. This mitigation would preserve grasslands as outlined in Table 2-8. The grasslands targeted for preservation are generally west of I-580 and include areas with known occurrences of San Joaquin whipsnake and additional suitable habitat for this species.

Silvery Legless Lizard

The identified potential habitat would not be directly affected by the extension of the box culvert in Lone Tree Creek. To ensure that this area is avoided during project-related activities, brightly colored construction fencing would be installed to show that this area has sensitive resources and should be avoided to the maximum extent practicable.

No specific compensatory mitigation would be required at this time. However, the mitigation for impacts to grassland habitat as outlined in Table 2-8 would also protect potential silvery legless lizard habitat. Though this species is not covered by the plan, it does have habitat requirements similar to other species covered under the plan. The grasslands targeted for preservation are generally west of I-580 and include areas with known occurrences of coast horned lizard and additional suitable habitat for this species.

California Horned Lark

If project construction occurs during this species' breeding period and active nests are discovered during pre-construction surveys, then implementation of the incidental take minimization measures outlined in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan should be initiated. These measures would establish a 152-meter (500-foot) setback from nesting areas for the period from nest building to until fledglings leave the nest. These setbacks would be marked by brightly colored temporary fencing. The setback applies whenever construction or other ground-disturbing activities must begin during the nesting season when occupied nests are present.

Mitigation for impacts to potential California horned lark habitat would be achieved by participating in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan and contributing the necessary funds to the Joint Powers Authority for the preservation of lands suitable for those species covered under the plan. This

mitigation would involve the preservation of grasslands as outlined in Table 2-8. The grasslands targeted for preservation are generally west of I-580 and include areas with known occurrences of California horned lark and additional suitable habitat for this species.

Ferruginous Hawk

No specific avoidance or minimization measures are recommended at this time.

Mitigation for impacts to potential ferruginous hawk foraging habitat would be achieved by participating in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan and contributing the necessary funds to the Joint Powers Authority for the preservation of lands suitable for those species covered under the plan. This mitigation would preserve grasslands as outlined in Table 2-8. The grasslands targeted for preservation are generally west of I-580 and include areas with suitable foraging habitat for ferruginous hawk.

Loggerhead Shrike

If project construction occurs during this species' breeding period and active nests are discovered during pre-construction surveys, then implementation of the incidental take minimization measures outlined in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan should be initiated. These measures would establish a 30.5-meter (100-foot) setback from nesting areas for the period from nest building to until fledglings leave the nest. These setbacks would be marked by brightly colored temporary fencing. This setback applies whenever construction or other ground-disturbing activities must begin during the nesting season when occupied nests are present.

Mitigation for impacts to potential loggerhead shrike habitat would be achieved by participating in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan and contributing the necessary funds to the Joint Powers Authority for the preservation of lands suitable for those species covered under the plan. This mitigation would preserve grasslands and agricultural habitat lands as outlined in Table 2-8.

Mountain Plover

No avoidance or minimization measures are recommended at this time.

Mitigation for impacts to potential mountain plover wintering habitat would be achieved by participating in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan and contributing the necessary funds to the Joint Powers Authority for the preservation of lands suitable for those species covered under the plan. This mitigation would preserve grasslands and agricultural habitat lands as outlined in Table 2-8.

Western Burrowing Owl

To minimize impacts to burrowing owls that may occupy in the study area before project construction, pre-construction surveys should be conducted within 30 days of starting project grading. If it is determined burrowing owls are occupying the site, then incidental take minimization measures outlined in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan should be implemented.

If project construction is to begin during the non-breeding season (September 1 through January 31), burrowing owls occupying the project site should be evicted from the project site by passive relocation as described in California Department of Fish and Game's *Staff Report on Burrowing Owls*.

If project construction is to begin during the breeding season (February 1 through August 31), occupied burrows should not be disturbed and should be provided with a 75-meter (246.06-foot) protective buffer until and unless the technical advisory committee to the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan or a qualified biologist approved by the permitting agencies verifies through non-invasive means that either: 1) the birds have begun egg laying, or 2) juveniles from the occupied burrows are foraging independently and are capable of independent survival. Once the fledglings are capable of independent survival, the burrow can be destroyed.

Mitigation for impacts to potential burrowing owl habitat would be achieved by participating in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan and contributing the necessary funds to the Joint Powers Authority for the preservation of lands suitable for those species covered under the plan. This mitigation would preserve grasslands as outlined in Table 2-8. The grasslands targeted for preservation are generally west of I-580 and include areas with known occurrences of burrowing owl and additional suitable habitat for this species.

White-tailed Kite

As specified in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan, pre-construction surveys for white-tailed kites should investigate all potential nesting trees in the study area during the nesting season (February 15 to September 15) whenever white-tailed kites are noted in the study area or in the vicinity of the study area during the nesting season. If active nests are identified before construction, a setback of 30.5-meter (100 feet) from the nesting areas should be established and maintained during the nesting season for the period from nest building until fledglings leave the nests. This setback applies whenever construction or other ground-disturbing activities must begin during the nesting season when occupied nests are present. Setbacks should be marked by brightly colored temporary fencing.

Mitigation for impacts to potential white-tailed kite habitat would be achieved by participating in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan and contributing the necessary funds to the Joint Powers Authority for the preservation of lands suitable for those species covered by the plan. This mitigation would preserve grasslands and agricultural habitat lands as outlined in Table 2-8.

Raptors and Nesting Birds

If project construction is proposed during the bird breeding season (February to September), a focused survey for raptors and other nesting birds should be conducted within 30 days of starting construction. If active nests or roosts are found, no construction activities should take place within 30.48 meters (100 feet) of the nest until the young have fledged. Trees, or other structures, containing nests that must be removed as a result of project implementation should be removed during the non-breeding season (September 1 to March 31). If no active nests are found during the focused survey, no further avoidance or minimization measures would be required.

Though no specific mitigation is recommended at this time, the mitigation conducted in accordance with the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan would result in the preservation of lands suitable as nesting and foraging habitat for a variety of bird species. This mitigation would involve the preservation of grasslands and agricultural habitat as outlined in Table 2-8.

San Joaquin Pocket Mouse

As specified in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan, if this species is discovered before project construction, incidental take minimization measures shall be formulated before ground disturbance. These measures would be prepared by the Technical Advisory Committee and approved by the Joint Powers Authority, with the concurrence of the permitting agencies' representatives on the Technical Advisory Committee in accordance with the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan's Adaptive Management Plan.

Though it is not anticipated that the San Joaquin pocket mouse would be affected by the proposed project, the mitigation for impacts to those habitats in the study area that are addressed in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan would likely be suitable habitat for this species. This mitigation would preserve grasslands as outlined in Table 2-8. The grasslands targeted for preservation are generally west of I-580 and include areas with known occurrences of California horned lark and additional suitable habitat for this species.

2.11.2 Alternative 1

No adverse impacts to special-status species are expected to occur as a result of Alternative 1. However, the proposed project would permanently affect 10.51 hectares (25.98 acres) of grasslands and temporarily affect 1.17 hectares (2.89 acres). These impacts are nearly the same to those of the proposed project.

2.11.3 Alternative 2

No adverse impacts to special-status species are expected to occur as a result of Alternative 1. However, the proposed project would permanently affect 10.40 hectares (25.71 acres) of grasslands and temporarily affect 1.15 hectares (2.83 acres). These impacts are nearly identical to those of the proposed project.

2.11.4 No-Project Alternative

The No-Project Alternative would keep SR 132 in the project area as it is. No impacts to special-status animals would occur.

2.12 Threatened and Endangered Species

This section explains the potential impacts to threatened and endangered species for the proposed project. A complete discussion of threatened and endangered species for the study area is provided in Appendix I.

2.12.1 Proposed Project

2.12.1.1 Regulatory Setting

Federal Endangered Species Act

The U.S. Congress passed the Federal Endangered Species Act United States Code, Section 1531, et seq. (see also 50 Code of Federal Regulations Part 402) in 1973 to protect those species that are endangered or threatened with extinction. The Federal Endangered Species Act works in conjunction with the National Environmental Policy Act to help protect the ecosystems upon which endangered and threatened species depend.

The Federal Endangered Species Act prohibits the "take" of endangered or threatened wildlife species. "Take" is defined as harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (Federal Endangered Species Act Section 3 [(3)(19)]). "Harm" is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 CFR §17.3). "Harass" is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR §17.3). Actions that result in take can result in civil or criminal penalties.

Since the study area is within the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan and the U.S. Fish and Wildlife Service is signatory to the plan, any take that would result from the development of any of the proposed alternatives would be covered through participation in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan.

California Endangered Species Act

The State of California enacted the California Endangered Species Act in 1984. This act is similar to the Federal Endangered Species Act but pertains to state-listed endangered and threatened species. The California Endangered Species Act requires

state agencies to consult with the California Department of Fish and Game when preparing California Environmental Quality Act documents. The purpose is to ensure that the state lead agency actions do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available (Fish and Game Code §2080).

The California Endangered Species Act directs agencies to consult with the California Department of Fish and Game on projects or actions that could affect listed species, directs the California Department of Fish and Game to determine whether jeopardy would occur and allows the California Department of Fish and Game to identify "reasonable and prudent alternatives" to the project consistent with conserving the species.

The California act allows the California Department of Fish and Game to authorize exceptions to the state's prohibition against take of a listed species if the "take" of a listed species is incidental to carrying out an otherwise lawful project that has been approved under the California Environmental Quality Act (Fish and Game Code § 2081). "Take" is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

Since the study area is within the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan and California Department of Fish and Game is signatory to the plan, any take that would result from the development of any of the proposed alternatives would be covered through participation in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan.

2.12.1.2 Affected Environment

San Joaquin Kit Fox

The San Joaquin kit fox is listed by the U.S. Fish and Wildlife Service as a federally endangered species and by the California Department of Fish and Game as a state threatened species. This species is found in open areas with loose-textured soils supporting scattered, shrubby vegetation with little human disturbance. Kit foxes require dens ranging from at least 10.16 to 20.32 centimeters (4 to 8 inches) in diameter for cover and reproduction. The only burrows seen in the study area were those in use by ground squirrels. There are several records of kit foxes occurring 8.05 to 16.1 kilometers (5 to 10 miles) west of the study area (see Figure 2-4).

Swainson's Hawk

The Swainson's hawk is listed by the U.S. Fish and Wildlife Service as a federal species of concern and by the California Department of Fish and Game as threatened. This species breeds in the Central Valley in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah. It forages in adjacent grasslands or suitable grain fields and pastures. The grassland and adjacent croplands are potential foraging habitat for this species, and the eucalyptus and pepper trees are potential nesting habitat, though these trees are not considered ideal nesting sites for raptors due to the lack of open crowns and sizeable forked branches. This species was not seen during surveys of the site.

There is one record of this species occurring within 8.05 kilometers (5 miles) of the study area (California Natural Diversity Database 2005). This nest location was last confirmed active in 1990. There are several other occurrences between 8.05 to 16.1 kilometers (5 to 10 miles), with some of these nest sites considered active (actively used in the past five years).

Based on the above information, the study area and adjacent grain fields are suitable foraging habitat for this species; however, the potential for this species to occur in the study area is low.

2.12.1.3 Impacts

San Joaquin Kit Fox

No direct impacts to San Joaquin kit fox are anticipated at this time; however, the project would result in the loss of grassland habitat as outlined in Table 2-8, which represents potential habitat for this species. Any impacts to San Joaquin kit fox habitat would not be considered adverse with mitigation.

Swainson's Hawk

No impacts to nesting habitat for Swainson's hawk are expected at this time. Since there are active nests 8.05 to 16.1 kilometers (5 to 10 miles) from the study area, all of the build alternatives would result in impacts to potential Swainson's hawk foraging habitat. Each alternative would affect grassland and agricultural habitat lands as specified in Table 2-8. Any impacts to Swainson's hawk foraging habitat would not be considered adverse with mitigation.

2.12.1.4 Avoidance, Minimization, and/or Mitigation Measures

As specified in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan, pre-construction surveys for San Joaquin kit fox should be

conducted two calendar weeks to 30 calendar days before starting ground disturbance. Surveys should be conducted by a qualified biologist.

When surveys identify potential dens (potential dens are defined as burrows at least 10.16 centimeters (4 inches) in diameter that open up within 0.6 meter [2 feet]), potential den entrances should be dusted for three calendar days to register tracks of any San Joaquin kit fox present. If no San Joaquin kit fox activity is identified, potential dens may be destroyed. If San Joaquin kit fox activity is identified, then dens should be monitored to determine if occupation is by an adult fox only or is a natal den. If the den is occupied by an adult only, the den may be destroyed when the adult fox has moved or is temporarily absent. If the den is a natal den, a buffer zone of 76.2 meters (250 feet) should be maintained around the den until the biologist determines that the den has been vacated.

Where San Joaquin kit foxes are identified, the provisions of the U.S. Fish and Wildlife Service published *Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance* should apply (except that the pre-construction survey protocols should remain as established in this paragraph). These standards include provisions for educating construction workers regarding the kit fox, keeping heavy equipment operating at safe speeds, checking construction pipes for kit fox occupation during construction, and similar low- or no-cost activities.

2.12.2 Alternative 1

No direct impacts to San Joaquin kit fox are expected; however, the project would result in the loss of grassland habitat that represents potential habitat for this species. Any impacts to San Joaquin kit fox habitat would not be considered adverse with mitigation. No impacts to nesting habitat for Swainson's hawk are expected at this time, since there are active nests 8.05 to 16.1 kilometers (5 to 10 miles) from the study area. The proposed project would result in impacts to potential Swainson's hawk foraging habitat. Any impacts to Swainson's hawk foraging habitat would not be considered adverse with mitigation. See Section 2.12.1.4 for a complete discussion of mitigation measures.

2.12.3 Alternative 2

See discussion for Section 2.12.2.

2.12.4 No Project Alternative

The No-Project Alternative would keep SR 132 in the project area as it is. No impacts to threatened and endangered species would occur.

2.13 Construction Impacts

2.13.1 Proposed Project

2.13.1.1 Affected Environment

The proposed project could create a number of temporary construction impacts to resources in the project area. These impacts include soil disturbance and water quality impacts due to excavation and vegetation removal caused by grading and construction staging.

2.13.1.2 Impacts

The proposed project would generate air pollutants during construction. Trucks and construction equipment emit hydrocarbons, oxides of nitrogen, carbon monoxide, and suspended particulate matter (10 microns and 2.5 microns). However, most pollution would consist of wind-blown dust generated by excavation, grading, hauling, and various other activities. The impacts from the above activities would vary from day to day as construction progresses.

Some temporary noise disturbance would occur during construction, in the operation of construction machinery and equipment.

Construction may require temporary traffic controls such as lane closures. Traffic would be subject to delays during various periods throughout the construction. Some night construction may be necessary to reduce traffic impacts during daytime hours.

2.13.1.3 Avoidance, Minimization, and/or Mitigation Measures

The special provisions or Standard Specifications in the construction contract for the proposed project would include requirements to minimize or eliminate construction-related dust through the application of water or other control measures. Caltrans would comply with “fugitive dust” emissions rules and policies to minimize construction dust impacts.

During construction, Caltrans would implement a Traffic Mitigation Plan to minimize traffic impacts using such measures as one-way traffic controls and night work.

Caltrans recognizes the importance of public awareness and may use such resources as the media, a web page, and changeable message signs to inform the public of potential delays during construction.

Air quality impacts associated with construction equipment and noise would not be considered substantial, and therefore, would not require mitigation. All other impacts would be reduced to a minimal level with the implementation of mitigation.

2.13.2 Alternative 1

This alternative would generate some air pollutants during construction. Trucks and construction equipment emit hydrocarbons, oxides of nitrogen, carbon monoxide, and suspended particulate matter (10 microns and 2.5 microns). Some temporary noise disturbance would occur during construction, in the operation of construction machinery and equipment. Construction may require temporary traffic controls such as lane closures.

2.13.3 Alternative 2

See discussion for Alternative 1.

2.13.4 No-Project Alternative

The No-Project Alternative would keep SR 132 in the project area as it is. No construction-related impacts would occur.

2.14 Cumulative Impacts

2.14.1 Proposed Project

2.14.1.1 Regulatory Setting

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

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway 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, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

Section 15130 of the California Environmental Quality Act Guidelines describes when a cumulative impact analysis is warranted and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts, under the California Environmental Quality Act, can be found in Section 15355 of the California Environmental Quality Act Guidelines.

2.14.1.2 Affected Environment

Resources that might warrant a cumulative impact analysis for this project are impacts to biological resources and farmlands. A previously conducted kit fox habitat assessment in the study area concluded that all of the dens in that portion of the study area did not show any signs of kit fox activity. However, onsite kit fox habitat is considered to be suitable, but of low value. About 7.56 hectares (18.67 acres) of prime farmland in the form of slivers of land would be converted to highway use for the project.

The following Caltrans transportation improvement projects along this route were recently completed, under construction, or in the project approval phase:

- Construct new two-lane expressway in San Joaquin and Stanislaus counties from the SR 33/132 separation overhead to the San Joaquin River bridge (kilometer posts 9.33/11.43; post miles 5.8/7.1).

- Repair pavement on SR 132 from the SR 132/I-580 junction to the SR 132/SR 33 junction (kilometer posts 0.0/15.13; post miles 0.0/9.4).

- Repair pavement in San Joaquin County near the Stanislaus County line on I-580 from the I-5/I-580 junction to the SR 132 junction east (kilometer posts 0.0/6.9; post miles 0.0/11.10).

- Install traffic monitoring stations at various locations in San Joaquin County on I-5, SR 132 and I-580 (kilometer posts 0.1/47.8; post miles 0.16/76.92).

- Resurface bridge decks at various locations in San Joaquin County from Hospital Creek Bridge to Pixley Slough Bridge (kilometer posts 1.77/55.52; post miles 1.1/34.5).

The County of San Joaquin has no development projects proposed for this area. The only nearby projects that have previously been authorized by the County of San Joaquin include the Teichert, Brown Sands, and DSS quarries.

2.14.1.3 Impacts

Chapter 2 of this document discussed the project's potential impacts to the environment. Cumulative effects of the proposed project could occur in the following resource areas: farmlands, natural communities, and threatened and endangered species. As described in Section 2.1.1.4, about 7.56 hectares (18.67 acres) of prime farmland would be affected by the proposed project. However, all farmland converted to highway use would be in the form of sliver takes rather than the take of complete parcels. The proposed project would not affect any Williamson Act land.

Section 2.12.1.4 outlines mitigation required under the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan. Implementation of the proposed mitigation specified in the plan would reduce all impacts to an insignificant level. As a result, this project would not result in any substantial impacts to biological resources.

The highway project conforms to the Circulation element of the San Joaquin County General Plan 2010. The proposed project is consistent with the goals of the Transportation Section of the San Joaquin County General Plan 2010; however, the proposed interchange is not on the General Plan Figure IV interchange map depicting the existing and planned freeway interchanges. The proposed project is however listed in the 2004 San Joaquin County Regional Transportation Plan as a Tier 1 project.

Overall, results from the analysis conducted for this project show that the incremental effects of the proposed project, combined with the effects of past, current and probable future projects, are not cumulatively considerable for this project.

2.14.1.4 Avoidance, Minimization, and/or Mitigation Measures

No mitigation measures would be required for the proposed project.

2.14.2 Alternative 1

Cumulative effects of the proposed project could occur in the following resource areas: biological resources and farmlands. However, avoidance, minimization and mitigation measures outlined for these resource areas would reduce any potentially substantial cumulative impacts. Overall, results from the analysis conducted for this project show that the incremental effects of the proposed project, combined with the effects of past, current and probable future projects, are not cumulatively considerable for this project.

2.14.3 Alternative 2

Same as Alternative 1 (Section 2.14.2).

2.14.4 No-Project Alternative

The No-Project Alternative would keep SR 132 in the project area as it is. No cumulative impacts would occur under the No-Project Alternative.

Chapter 3 Comments and Coordination

3.1 Project Development Team Meetings

Monthly project development team meetings were held at the County of San Joaquin to discuss project scope, schedule and status.

3.2 Consultation and Coordination

Below is a summary of all documented agency coordination involving natural resources for the study area to date.

U.S. Fish and Wildlife Service

- April 6, 2004: Species list for the Vernalis quadrangle received from the U.S. Fish and Wildlife Service (online).
- December 20, 2004: Species list for the Vernalis quadrangle received from the U.S. Fish and Wildlife Service (online, verified again on April 1, 2005).

County of San Joaquin

November 3, 2004: Foothill Associates (John Howe) met with Caltrans and San Joaquin County staff to look at the study area and discuss potential sensitive biological resources.

California Department of Transportation

- November 3, 2004: Foothill Associates (John Howe) met with Caltrans (Claudia Gambaro) and San Joaquin County staff to look at the study area and discuss potential sensitive biological resources.
- February 23, 2005: Foothill Associates (John Howe) met with Caltrans biologist (Claudia Gambaro) to walk the study area and discuss sensitive biological resources.

Native American Heritage Commission

A letter was sent to the Native American Heritage Commission by Melinda Peak requesting a check of the Sacred Lands files. The reply from the Native American

Heritage Commission on March 8, 2005 reported that there were no resources listed for the immediate project area. The commission also sent a list of contacts for the area, with only one name: Katherine Erolinda Perez.

Katherine Erolinda Perez

A letter was sent to Ms. Perez on April 9, 2005 requesting any information she had on sites or issues of concern to Native Americans in the project area. She has not replied to date. It was not possible to reach her by phone; messages were left on her answering machine on April 26, 2005 reporting the results of the field survey and again on May 31, 2005, with both calls requesting that she respond if she had any issues or concerns with the project.

Chapter 4 List of Preparers

This Initial Study/Proposed Mitigated Negative Declaration was prepared by Foothill Associates under the direction of the California Department of Transportation, Central Region. The following persons participated in the preparation of the Initial Study/Proposed Mitigated Negative Declaration and its related technical studies:

California Department of Transportation, Central Region (Project Oversight)

- Lance Brangham, Senior Environmental Planner
- Kevin Sheridan, Project Manager
- Julie Myrah, Biologist
- Claudia Gambaro, Associate Environmental Planner (Biology)
- Cassandra Henscher, Associate Environmental Planner (Archaeology)
- John Thomas, Associate Environmental Planner (Generalist)

County of San Joaquin (Project Oversight)

- Mike Selling, Associate Civil Engineer
- Wendy Johnson, Environmental Coordinator

Foothill Associates (Initial Study/Proposed Mitigated Negative Declaration and Management, Natural Environment Study, and Wetland Delineation)

- Todd Sexauer, Senior Project Manager
- John Howe, Biologist/Regulatory Specialist
- Rebecca Loeffler, Regulatory Specialist
- Sandra Kosmatin, Administration
- David Vienna, GIS Specialist

Omni-Means (Project Design, Traffic Study and Storm Water Data Report)

- Joe Weiland, Project Manager
- Marty Inouye, Project Engineer

Kleinfelder (Initial Site Assessment)

- Fran Bean, Staff Geologist
- Don G. D'Amico, CAC

Peak and Associates (Historical Resources Compliance Report)

- Melinda A. Peak, Archaeologist

Appendix A California Environmental Quality Act Checklist

The following checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. The California Environmental Quality Act impact levels include "potentially significant impact," "less than significant impact with mitigation," "less than significant impact," and "no impact."

The California Environmental Quality Act requires that environmental documents determine significant or potentially significant impacts. In many cases, background studies performed in connection with the project indicate no impacts. A mark in the "no impact" column of the checklist reflects this determination. Any needed explanation of that determination is provided at the beginning of Chapter 2.

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
AESTHETICS - Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a state scenic highway?	☐	☐	☐	X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	X
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	☐	☐	☐	X
AGRICULTURE RESOURCES - In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	X	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	X	☐
c) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	X
AIR QUALITY - Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	X

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	X	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?	☐	☐	X	☐
d) Expose sensitive receptors to substantial pollutant concentration?	☐	☐	X	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	X	☐
BIOLOGICAL RESOURCES - Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	X	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	X	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	X
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	X	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	X	☐

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

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?				X
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X
d) Disturb any human remains, including those interred outside of formal cemeteries?				X
GEOLOGY AND SOILS - Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.		X		
ii) Strong seismic ground shaking?		X		
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?				X
b) Result in substantial soil erosion or the loss of topsoil?		X		
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?			X	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.			X	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				X

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
HAZARDS AND HAZARDOUS MATERIALS - Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	X	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	X	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous material, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	X
d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	X
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	X	☐
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	X
HYDROLOGY AND WATER QUALITY - Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	X	☐	☐

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	X
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or offsite?	☐	☐	X	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or offsite?	☐	☐	X	☐
e) Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	X	☐
f) Otherwise substantially degrade water quality?	☐	☐	X	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	X
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	X
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	X
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	X
LAND USE AND PLANNING - Would the project:				
a) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	X	☐

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
b) Conflict with any applicable habitat conservation plan or natural community conservation plan?			X	
MINERAL RESOURCES - Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?			X	
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?			X	
NOISE - Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			X	
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				X
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				X

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
POPULATION AND HOUSING - Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	X	☐
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	X
PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☐	X
Police protection?	☐	☐	☐	X
Schools?	☐	☐	☐	X
Parks?	☐	☐	☐	X
Other public facilities?	☐	☐	☐	X
RECREATION				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	X
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	X

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
TRANSPORTATION/TRAFFIC - Would the project:				
a) Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?				X
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?				X
c) Result in a change in air traffic patters, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incomplete uses (e.g., farm equipment)?				X
e) Result in inadequate emergency access?			X	
f) Result in inadequate parking capacity?				X
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?				X
UTILITY AND SERVICE SYSTEMS - Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				X
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?		X		
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?				X

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
e) Result in determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

MANDATORY FINDINGS OF SIGNIFICANCE

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, or cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c) Does the project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Appendix B Title VI Policy Statement

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

DEPARTMENT OF TRANSPORTATION
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Flex your power!
Be energy efficient!

January 14, 2005

TITLE VI
POLICY STATEMENT

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

WILL KEMPTON
Director

"Caltrans improves mobility across California"

Appendix C Minimization and/or Mitigation Summary

Mitigation Monitoring and Reporting Record
State Route 132 Interchange Improvements at Bird Road

Task and Brief Description	Responsible Branch/Staff	Timing/ Phase	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
				Initial	Date		Initial	Date
Pre-construction Meeting	Project Management	Contract Award						
Transfer Resident Engineer Book	Project Engineer	Pre-construction Meeting						
Pre-job Meeting with Contractor	Project Management/ Construction	Beginning of Construction						
Design Kick-off	Project Management/ Project Development	Beginning of 1 Phase						
Environmental PS&E Review	Environmental Coordinator	District PS&E Circulation						
Design Features Memorandum	Construction/Design	Post Construction						
Environmental Compliance Review	Project Management/ Construction	Safety Review						
Cultural Resources								
Although no historic resources were identified in the project area, it is still possible that buried archaeological deposits exist. If artifacts are discovered during construction activities such as excavation, all earth-moving activities in and around the immediate discovery area would be diverted until a qualified archaeologist can assess the find. If human remains are discovered, State Health and Safety Code Section 7050.5 states that disturbances and activities should cease. The County of San Joaquin coroner must be notified of the find immediately so that he/she may determine the origin. Per Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner would notify the Native American Heritage Commission, which would	Project Management/ Archaeology/ Construction	During Construction						

Task and Brief Description	Responsible Branch/Staff	Timing/ Phase	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
then notify the Most Likely Descendant. The Most Likely Descendant may inspect the remains with the approval of the landowner or the landowners' authorized representative. The Most Likely Descendant may recommend scientific removal and nondestructive analysis.								
Water Quality and Storm Water Runoff								
This project does not involve any agricultural practices or the installation of a dairy. It would therefore not contribute to the water quality pollutants of Lone Tree Creek. To avoid any adverse impacts to storm water quality, ground-disturbing activities would be completed during the dry season. Also, a Storm Water Pollution Prevention Plan should be prepared outlining appropriate storm water best management practices that would be installed and maintained throughout the duration of the project to prevent any possible discharge. Because all of the storm water generated by the highway would drain into internal infiltration basins, there is no risk of metals from the highway reaching Lone Tree Creek.	Project Engineer/ Design/Construction	During Construction						
Geology/Soils/Seismic/Topography								
No substantial impacts to geology/soils/seismic/topography would occur as a result of project implementation. Standard erosion control measures and best management practices would be implemented during the construction and operational phases of the project. In addition, the bridge structure and approaches would be designed and constructed according to the most recent Caltrans seismic design criteria. As a result, impacts would not be considered substantial.	Project Engineer/ Design/Construction	PS&E/ During Construction and Operation						
Hazardous Waste/Materials								
To avoid or minimize the impacts of possible exposure of contaminants on human health and safety, the following actions are recommended: • The computer monitor is considered to be a hazardous waste and should be disposed of according to all local, state and federal regulations. • The linear soil feature northeast of the intersection of Bird Road and SR 132 should be sampled and characterized to identify the possible stain. The soil should then be disposed of in accordance with all local, state and federal regulations.	Project Management/ Construction	During Construction						

Task and Brief Description	Responsible Branch/Staff	Timing/ Phase	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
• All other soil, asphalt and debris piles should be removed or used on site. If any hazardous materials are noted during the removal of any stockpiled material, Caltrans should be contacted. • Underground pipelines are commonly found on properties with a history of agricultural use. It was common for these pipelines to contain asbestos. In the event that subsurface structures are encountered during the site development of or any onsite excavation, Caltrans should be notified. Also, care should be exercised in determining whether or not the subsurface structures contain asbestos. If they contain asbestos, they should be removed, handled, transported, and disposed of in accordance with applicable local, state and federal laws and regulations.								
Natural Communities								
Mitigation required by the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan for impacts to sensitive natural communities is outlined in Table 2-8 of the Initial Study/Proposed Mitigated Negative Declaration. The portion of Lone Tree Creek that would be affected is considered to be very marginal habitat for wildlife species, and thus impacts to this feature would not be considered adverse. Nonetheless, the California Department of Fish and Game should be contacted to determine whether it would require a Streambed Alteration Agreement for work in the channel. The California Department of Fish and Game typically requires mitigation for impacts to streams within their jurisdiction where these features provide habitat for aquatic and/or terrestrial wildlife. If the California Department of Fish and Game does require a Streambed Alteration Agreement and mitigation, the mitigation would likely be required at a ratio of at least 1:1 (Table 2-8 of the Initial Study/Proposed Mitigated Negative Declaration). Temporary impacts to 1.15 hectares (2.85 acres) of annual grassland would be hydroseeded with a native seed mix after construction. A conceptual mitigation plan would be submitted to the respective agencies at the time the necessary permits for this activity are sought.	Project Management/ Biology/Landscape/ Construction	During PS&E and end of Construction						
Wetlands and Other Waters								
The box culvert at the SR 132 crossing of Lone Tree Creek would be extended to minimize the impact to this feature. Impacts to the creek would be avoided by limiting project-related construction to the minimal	Project Management/ Biology/Landscape/	During PS&E and Construction						

Task and Brief Description	Responsible Branch/Staff	Timing/ Phase	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
amount of area necessary to construct the extension of the culvert. Avoidance measures would include fencing off areas of Lone Tree Creek outside the construction area with brightly colored construction fence and limiting construction within the creek to the dry season (about April 15 to October 15). Construction fencing would be placed along the perimeter of the "impact area" at Lone Tree Creek. Impacts to adjoining portions of the creek would be minimized by implementing best management practices such as using construction mats within the creek channel and implementing an erosion and sediment control plan that minimizes impacts to water quality within creek. The portion of Lone Tree Creek that would be affected is considered to be very marginal habitat for wildlife species, and thus impacts to this feature would not be considered adverse. Nonetheless, the California Department of Fish and Game should be contacted to determine whether it would require a Streambed Alteration Agreement for work in the channel. The California Department of Fish and Game typically requires mitigation for impacts to streams within its jurisdiction where these features provide habitat for aquatic and/or terrestrial wildlife. If the California Department of Fish and Game does require a Streambed Alteration Agreement and mitigation, the mitigation would likely be required at a ratio of at least 1:1. A conceptual mitigation plan would be submitted to the respective agencies at the time the necessary permits for this activity are sought.	Construction							
Plant Species								
<u>Big Tarplant</u> If this species is found in the study area before construction, efforts would be made to avoid and minimize impacts to identified populations to the maximum extent practicable. Avoidance measures may include modifications to grading plans and/or avoiding those portions of the study area not in the immediate footprint of the proposed project alternatives. Minimization measures may include establishing buffers around identified populations with brightly colored construction fencing. <u>Round-leaved Filaree</u> If this species is found in the study area before construction, efforts would be made to avoid and minimize impacts to identified populations to the maximum extent practicable. Avoidance measures may include modifications to grading plans and/or avoiding those portions of the study	Project Management/ Biology/Design/ Construction	During PS&E and Construction						

Task and Brief Description	Responsible Branch/Staff	Timing/ Phase	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
area not in the immediate footprint of the proposed project alternatives. Minimization measures may include establishing buffers around identified populations with construction fencing and signs. Showy Madia If this species is found in the study area before construction, efforts would be made to avoid and minimize impacts to identified populations to the maximum extent practicable. Avoidance measures may include modifications to grading plans and/or avoiding those portions of the study area not in the immediate footprint of the proposed project alternatives. Minimization measures may include establishing buffers around identified populations with brightly colored construction fencing.								
Animal Species								
Coast Horned Lizard The identified potential habitat would not be directly affected by the extension of the box culvert within Lone Tree Creek. To ensure that this area is avoided during project-related activities, brightly colored construction fencing should be installed to show that this area has sensitive resources and should be avoided to the maximum extent practicable. To minimize impacts to coast horned lizard that may occupy in the study area before project construction, pre-construction surveys should be conducted within 30 days of starting project grading. If this species is found in the study area before construction, incidental take minimization measures should be formulated by a technical advisory committee for the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan and approved by the Joint Powers Authority. No compensatory mitigation is recommended at this time. During consultation with the California Department of Fish and Game for a Streambed Alteration Agreement, further avoidance and minimization measures could be implemented to compensate and/or limit impacts to Lone Tree Creek. Mitigation for impacts to potential coast horned lizard habitat would be achieved by participating in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan and contributing the necessary funds to the Joint Powers Authority for the preservation of lands suitable for those species covered by the plan. This mitigation would involve the preservation of grasslands habitat as outlined in Table 2-8 of the Initial Study/Proposed Mitigated Negative Declaration. The grasslands targeted for preservation are generally west	Project Management/ Biology/Design/ Construction/ San Joaquin County Council of Governments	Pre-construction						

Task and Brief Description	Responsible Branch/Staff	Timing/ Phase	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
of I-580 and include areas with known occurrences of coast horned lizard and additional suitable habitat for this species.								
San Joaquin Whipsnake No avoidance or minimization measures are recommended at this time. This species is active during the day and, if present during project construction, would have the ability to move away from areas of disturbance. However, if this species is found in the study area before construction, incidental take minimization measures should be formulated by a technical advisory committee for the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan and approved by the Joint Powers Authority. Mitigation for impacts to potential San Joaquin whipsnake habitat would be achieved by participating in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan and contributing the necessary funds to the Joint Powers Authority for the preservation of lands suitable for those species covered by the plan. This mitigation would preserve grasslands as outlined in Table 2-8 of the Initial Study/Proposed Mitigated Negative Declaration. The grasslands targeted for preservation are generally west of I-580 and include areas with known occurrences of San Joaquin whipsnake and additional suitable habitat for this species.	Project Management/ Biology/Design/ Construction/ San Joaquin County Council of Governments	During Construction						
Silvery Legless Lizard The identified potential habitat would not be directly affected by the extension of the box culvert within Lone Tree Creek. To ensure that this area is avoided during project-related activities, brightly colored construction fencing should be installed to show that this area has sensitive resources and should be avoided to the maximum extent practicable. No specific compensatory mitigation would be required at this time. However, the mitigation for impacts to grassland habitat as outlined in Table 2-8 of the Initial Study/Proposed Mitigated Negative Declaration would also protect potential silvery legless lizard habitat. Though this species is not covered by the plan, it does have habitat requirements similar to other species covered under the plan. The grasslands targeted for preservation are generally west of I-580 and include areas with known occurrences of coast horned lizard and additional suitable habitat for this species.	Project Management/ Biology/Design/ Construction/ San Joaquin County Council of Governments	During Construction						

Task and Brief Description	Responsible Branch/Staff	Timing/ Phase	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
California Horned Lark If project construction occurs during this species' breeding period and active nests are discovered during pre-construction surveys, then implementation of the incidental take minimization measures outlined in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan should be initiated. These measures would establish a 500-foot setback from nesting areas for the period from nest building and to until fledglings leave the nest. These setbacks should be marked by brightly colored temporary fencing. The setback applies whenever construction or other ground-disturbing activities must begin during the nesting season when occupied nests are present. Mitigation for impacts to potential California horned lark habitat would be achieved by participating in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan and contributing the necessary funds to the Joint Powers Authority for the preservation of lands suitable for those species covered under the plan. This mitigation would preserve grasslands as outlined in Table 2-8 of the Initial Study/Proposed Mitigated Negative Declaration. The grasslands targeted for preservation are generally west of I-580 and include areas with known occurrences of California horned lark.								
Ferruginous Hawk No specific avoidance or minimization measures are recommended at this time. Mitigation for impacts to potential ferruginous hawk foraging habitat would be achieved by participating in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan and contributing the necessary funds to the Joint Powers Authority for the preservation of lands suitable for those species covered under the plan. This mitigation would preserve grasslands as outlined in Table 2-8 of the Initial Study/Proposed Mitigated Negative Declaration. The grasslands targeted for preservation are generally west of I-580 and include areas with suitable foraging habitat for ferruginous hawk.	Project Management/ Biology/Design/ Construction/ San Joaquin County Council of Governments	During Construction						
Loggerhead Shrike If project construction occurs during this species' breeding period and active nests are discovered during pre-construction surveys, then implementation of the incidental take minimization measures outlined in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan should be initiated. These measures would establish a 100-foot setback from nesting areas for the period from nest building to until	Project Management/ Biology/Design/ Construction/ San Joaquin County Council of	During Construction						

Task and Brief Description	Responsible Branch/Staff	Timing/ Phase	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
fledglings leave the nest. These setbacks should be marked by brightly colored temporary fencing. The setback applies whenever construction or other ground-disturbing activities must begin during the nesting season when occupied nests are present. Mitigation for impacts to potential loggerhead shrike habitat would be achieved by participating in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan and contributing the necessary funds to the Joint Powers Authority for the preservation of lands suitable for those species covered under the plan. This mitigation would preserve grasslands and agricultural habitat lands as outlined in Table 2-8 of the Initial Study/Proposed Mitigated Negative Declaration.	Governments							
<u>Mountain Plover</u> No avoidance or minimization measures are recommended at this time. Mitigation for impacts to potential mountain plover wintering habitat would be achieved by participating in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan and contributing the necessary funds to the Joint Powers Authority for the preservation of lands suitable for those species covered under the plan. This mitigation would preserve grasslands and agricultural habitat lands as outlined in Table 2-8 of the Initial Study/Proposed Mitigated Negative Declaration.	Project Management/ Biology/Design/ Construction/ San Joaquin County Council of Governments	During Construction						
<u>Western Burrowing Owl</u> To minimize impacts to burrowing owls that may occupy the project area before construction, pre-construction surveys should be conducted within 30 days of starting project grading. If it is determined burrowing owls are occupying the site, then incidental take minimization measures outlined in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan should be implemented. If construction begins during the non-breeding season (September 1 through January 31), burrowing owls occupying the project site should be evicted by passive relocation as described in California Department of Fish and Game's Staff Report on Burrowing Owls. If project construction begins during the breeding season (February 1 through August 31), occupied burrows should not be disturbed and should be provided with a 75-meter (246.06-foot) protective buffer until and unless the technical advisory committee to the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan or a qualified biologist approved by the permitting agencies verifies through non-	Project Management/ Biology/Design/ Construction/ San Joaquin County Council of Governments	During Construction						

Task and Brief Description	Responsible Branch/Staff	Timing/ Phase	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
invasive means that either: 1) the birds have begun egg laying, or 2) juveniles from the occupied burrows are foraging independently and are capable of independent survival. Once the fledglings are capable of independent survival, the burrow can be destroyed. Mitigation for impacts to potential burrowing owl habitat would be achieved by participating in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan and contributing the necessary funds to the Joint Powers Authority for the preservation of lands suitable for those species covered under the plan. This mitigation would preserve grasslands as outlined in Table 2-8 of the Initial Study/Proposed Mitigated Negative Declaration. The grasslands targeted for preservation are generally west of I-580 and include areas with known occurrences of burrowing owl and additional suitable habitat for this species.								
<u>White-tailed Kite</u> As specified in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan, pre-construction surveys for white-tailed kites should investigate all potential nesting trees in the project area during the nesting season (February 15 to September 15) whenever white-tailed kites are noted within the vicinity of the project area during the nesting season. If active nests are identified before construction, a setback of 100 feet from the nesting areas should be established and maintained during the nesting season for the period from nest building to until fledglings leave the nests. The setback applies whenever construction or other ground-disturbing activities must begin during the nesting season when occupied nests are present. Setbacks should be marked by brightly colored temporary fencing. Mitigation for impacts to potential white-tailed kite habitat would be achieved by participating in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan and contributing the necessary funds to the Joint Powers Authority for the preservation of lands suitable for those species covered by the plan. This mitigation would preserve grasslands and agricultural habitat lands as outlined in Table 2-8 of the Initial Study/Proposed Mitigated Negative Declaration.	Project Management/ Biology/Design/ Construction/ San Joaquin County Council of Governments	During Construction						

Task and Brief Description	Responsible Branch/Staff	Timing/ Phase	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
Raptors and Nesting Birds If project construction occurs during the bird breeding season (February–September), a focused survey for raptors and other nesting birds should be conducted within 30 days of starting construction. If active nests or roosts are found, no construction activities should take place within 30.48 meters (100 feet) of the nest until the young have fledged. Trees or other structures containing nests that must be removed as a result of project implementation should be removed during the non-breeding season (late September to March). If no active nests are found during the survey, no further avoidance or minimization measures would be required. Though no specific mitigation is recommended at this time, the mitigation conducted in accordance with the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan would result in the preservation of lands suitable as nesting and foraging habitat for a variety of bird species. This mitigation would preserve grasslands and agricultural habitat as outlined in Table 2-8 of the Initial Study/Proposed Mitigated Negative Declaration.	Project Management/ Biology/Design/ Construction/ San Joaquin County Council of Governments	During Construction						
San Joaquin Pocket Mouse As specified in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan, if this species is discovered before project construction, incidental take minimization measures shall be formulated before ground disturbance by the Technical Advisory Committee and approved by the Joint Powers Authority with the concurrence of the permitting agencies' representatives on the Technical Advisory Committee in accordance with the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan's Adaptive Management Plan. Though it is not expected that the San Joaquin pocket mouse would be affected by the proposed project, the mitigation for impacts to those habitats within the study area that are addressed in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan would likely project suitable habitat for this species. This mitigation would preserve grasslands as outlined in Table 2-8 of the Initial Study/Proposed Mitigated Negative Declaration. The grasslands targeted for preservation are generally west of I-580 and include areas with known occurrences of California horned lark and additional suitable habitat for this species.	Project Management/ Biology/Design/ Construction/ San Joaquin County Council of Governments	During Construction						

Task and Brief Description	Responsible Branch/Staff	Timing/ Phase	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
Threatened and Endangered Species								
San Joaquin Kit Fox As specified in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan, pre-construction surveys for the San Joaquin kit fox should be conducted two calendar weeks to 30 calendar days before starting ground disturbance. Surveys should be conducted by a qualified biologist. When surveys identify potential dens (potential dens are defined as burrows at least 10.16 centimeters [4 inches] in diameter that open up within 0.6 meter [2 feet]), potential den entrances should be dusted for three calendar days to register tracks of any San Joaquin kit fox present. If no San Joaquin kit fox activity is identified, potential dens may be destroyed. If San Joaquin kit fox activity is identified, then dens should be monitored to determine if the den is for an adult fox only or is a natal den. If the den is occupied by an adult only, the den may be destroyed when the adult fox has moved or is temporarily absent. If the den is a natal den, a buffer zone of 76.2 meters (250 feet) should be maintained around the den until the biologist determines that the den has been vacated. Where San Joaquin kit foxes are identified, the provisions of the U.S. Fish and Wildlife Service-published Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance should apply (except that the pre-construction survey protocols should remain as established in this paragraph). These standards include provisions for educating construction workers regarding the kit fox, keeping heavy equipment operating at safe speeds, checking construction pipes for kit fox occupation during construction and similar low- or no-cost activities.	Project Management/ Biology/Design/ Construction/ San Joaquin County Council of Governments							
Construction Impacts								
The special provisions or Standard Specifications in the construction contract for the proposed project would include requirements to minimize or eliminate construction-related dust through the application of water or other control measures. Caltrans would comply with “fugitive dust” emissions rules and policies to minimize construction dust impacts. During construction, Caltrans would implement a Traffic Mitigation Plan to minimize traffic impacts using such measures as one-way traffic	Project Management/ Design/Construction	During Construction						

Task and Brief Description	Responsible Branch/Staff	Timing/ Phase	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
controls and night work. Caltrans recognizes the importance of public awareness and may use such resources as the media, a web page, and changeable message signs to inform the public of potential delays during construction. Air quality impacts associated with construction equipment and noise would not be considered substantial, and therefore, would not require mitigation. All other impacts would be reduced to an insignificant level with the implementation of mitigation.								

Appendix D Regional Special-Status Animal Species and Habitats of Concern

Regional Special-Status Animal Species and Habitats of Concern			
Species Name	**Regulatory Status (Federal; State; Local)**	**Habitat Requirements**	**Potential for Occurrence**
Wildlife			
Invertebrates			
California linderiella *Linderiella occidentalis*	FSC; --; --; --	Vernal pools, swales, and ephemeral freshwater habitat.	**No**; no suitable habitat occurs within the study area.
Conservancy fairy shrimp *Branchinecta conservatio*	FE; --; --; --	Large vernal pools, usually with turbid water.	**No**; no suitable habitat occurs within the study area.
Molestan blister beetle *Lytta molesta*	FSC; --; --; --	Found on vegetation in dry vernal pools.	**No**; no suitable habitat occurs within the study area.
Sacramento anthicid beetle *Anthicus sacramento*	FSC; --; --; --	Found on sand slip-faces among willows.	**No**; no suitable habitat occurs within the study area.
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT; --; --; --	Complete life cycle associated with its host plant, elderberry shrubs (*Sambucus* sp.).	**No**; no suitable habitat occurs within the study area.
Vernal pool fairy shrimp *Branchinecta lynchi*	FT; --; --; --	Vernal pools, swales, and ephemeral freshwater habitat.	**No**; no suitable habitat occurs within the study area.
Vernal pool tadpole shrimp *Lepidurus packardi*	FE; --; --; --	Vernal pools, swales, and ephemeral freshwater habitat.	**No**; no suitable habitat occurs within the study area.
Amphibians/Reptiles			
Coast horned lizard *Phrynosoma coronatum (frontale)*	FSC; CSC; --; --	Frequents a wide variety of habitats, most often found in lowlands along sandy washes with scattered bushes. Requires patches of fine loose soil for cover and nesting. This is no longer a recognized subspecies, but is considered a separate population of *P. coronatum*.	**High**; this species has the potential to occur in the sandy portion of Lone Tree Creek. One occurrence was reported within 8.05 kilometers (5 miles) of the study area.

Regional Special-Status Animal Species and Habitats of Concern			
Species Name	**Regulatory Status (Federal; State; Local)**	**Habitat Requirements**	**Potential for Occurrence**
California red-legged frog *Rana aurora draytonii*	FT; CSC; --; --	Requires a permanent water source and is typically found in deep pools (greater than 2½ feet) along quiet slow-moving streams, ponds, or marsh communities with emergent vegetation.	**No**; no suitable habitat occurs within the study area.
California tiger salamander *Ambystoma californiense*	FPT; CSC; --, --	Breeds in temporary rain pools and permanent waters of grassland and open woodland of low hills and valleys. Requires mammal burrows within the adjacent uplands for summer refugia.	**No**; no suitable habitat occurs within the study area.
Giant garter snake *Thamnophis gigas*	FT; CT; --; --	Agricultural wetlands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands.	**No**; no suitable habitat occurs within the study area.
Northwestern pond turtle *Emmys marmorata marmorata*	FSC; CSC; --; --	Associated with permanent water in a variety of habitat types. Requires submerged logs, rocks, floating vegetation, or mud banks for basking with nearby underwater retreats.	**No**; no suitable habitat occurs within the study area.
San Joaquin whipsnake *Masticophis flagellum ruddocki*	FSC; CSC; --; --	Found in open areas within valley and foothill grasslands, deserts, scrubland, chaparral, and pastures. Generally avoids dense vegetation.	**Low**; the area is densely vegetated without open areas. No suitable habitat occurs within the study area.
Silvery legless lizard *Anniella pulchra pulchra*	FSC; CSC; --; --	Found in areas with sandy or loose organic soils, and in areas with abundant leaf litter. Occurs in coastal dunes, valley-foothill region, chaparral, and coast scrub.	**Low**; although potential habitat occurs within sandy portions of Lone Tree Creek, there are no records of this species occurring within 16.1 kilometers (10.0 miles).

Regional Special-Status Animal Species and Habitats of Concern			
Species Name	**Regulatory Status (Federal; State; Local)**	**Habitat Requirements**	**Potential for Occurrence**
Western spadefoot toad *Spea hammondii*	FSC; CSC; --; --	Frequents lowland washes, floodplains of rivers, alluvial fans, playas, and alkali flats. Prefers areas of open vegetation and short grasses with sandy or gravelly soil. Found in valley and foothill grassland, open chaparral, and pine-oak woodlands. Requires shallow, temporary pools for breeding, occasionally uses quiet streams.	**No**; no suitable habitat occurs within the study area.
Fish			
Chinook salmon, winter-run *Oncorhynchus tshawytscha*	FE; CE; --; --	Sacramento and San Joaquin rivers and their tributaries.	**No**; no suitable habitat occurs within the study area.
Central Valley fall/late fall-run, Chinook salmon *Oncorhynchus tshawytscha*	FC; CSC; --; --	Sacramento and San Joaquin rivers and their tributaries.	**No**; no suitable habitat occurs within the study area.
Central Valley spring-run Chinook salmon *Oncorhynchus tshawytscha*	FT; CT; --; --	Sacramento and San Joaquin rivers and their tributaries.	**No**; no suitable habitat occurs within the study area.
Central Valley steelhead *Oncorhynchus mykiss*	FT; --; --; --	Sacramento and San Joaquin rivers and their tributaries.	**No**; no suitable habitat occurs within the study area.
Delta smelt (Critical Habitat) *Hypomesus transpacificus*	FT; CT; --; --	Lower and middle reaches of Sacramento-San Joaquin Delta. Spawning takes place within side channels and sloughs in the middle reaches of the Delta.	**No**; no suitable habitat occurs within the study area.
Green sturgeon *Acipenser medirostris*	FC; CSC; --; --	An anadromous fish known to spawn in the Sacramento, Klamath, and Rogue rivers.	**No**; no suitable habitat occurs within the study area.
Kern brook lamprey *Lampetra hubbsi*	FSC; CSC; --; --	Found in the lower reaches of the Merced, Kaweah, Kings, and San Joaquin rivers.	**No**; no suitable habitat occurs within the study area.
Longfin smelt *Spirinchus thaleichthys*	FSC; CSC; --; --	Found in Suisun Bay, the Delta, and the lower reaches of the Sacramento and San Joaquin rivers.	**No**; no suitable habitat occurs within the study area.
Pacific lamprey *Lampetra tridentata*	FSC; --; --; --	Found in rivers throughout California. Species is anadromous.	**No**; no suitable habitat occurs within the study area.

Regional Special-Status Animal Species and Habitats of Concern			
Species Name	**Regulatory Status (Federal; State; Local)**	**Habitat Requirements**	**Potential for Occurrence**
River lamprey *Lampetra ayresi*	FSC; CSC; --; --	Found in rivers throughout California. Species is anadromous.	**No**; no suitable habitat occurs within the study area.
Sacramento splittail *Pogonichthys macrolepidotus*	FSC; CSC; --; --	River and stream tributaries to the Sacramento River Basin.	**No**; no suitable habitat occurs within the study area.
Birds			
Aleutian Canada goose *Branta canadensis leucopareia*	FD (FSC); --; -- (Wintering)	Winter resident of agricultural lands with adjacent wetlands. Only known from occurrences within the northern Sacramento valley.	**No**; out of known range, no suitable wintering habitat occurs within the study area.
American peregrine falcon *Falco peregrinus anatum*	FD (FSC); CE; --; -- (Nesting)	In winter, found inland throughout California. Nests in the coastal mountains along Santa Barbara, Sierra Nevada, and other mountain ranges in northern California. Nests found on high cliffs, banks, dunes, and mounds. Requires protected cliffs and ledges for cover.	**No**; no suitable nesting habitat occurs within the study area.
Bald eagle *Haliaeetus leucocephalus*	FT; CE; --; -- (Nesting and Wintering)	Requires large bodies of water or free-flowing rivers with abundant fish and adjacent snags or other perches. Nests near permanent water in large trees.	**No**; no suitable habitat occurs within the study area.
California horned lark *Eremophila alpestris actia*	-- ; CSC; --; --	Found in open habitats, including grasslands, deserts, and alpine dwarf-scrub habitat above treeline. Nests on open ground in small depressions.	**High**; although not observed, this species occurs within 8.05 kilometers (5 miles) of the study area. Suitable habitat occurs in the grassland portions of the study area.
California thrasher *Toxostoma redivivum*	FSC; --; --; --	Found in foothills and lowlands in cismontane California. Occupies moderate to dense chaparral and extensive thickets in valley foothill riparian habitats.	**No**; no suitable habitat occurs within the study area.

Regional Special-Status Animal Species and Habitats of Concern			
Species Name	**Regulatory Status (Federal; State; Local)**	**Habitat Requirements**	**Potential for Occurrence**
Costa's hummingbird *Calypte costae*	FSC; --; --; -- (Nesting)	Primary habitats are desert wash, edges of desert riparian, and valley foothill riparian, coastal scrub, desert scrub, desert succulent scrub, chaparral and palm oasis. Known to breed along the western edge of the San Joaquin Valley.	**No**; no suitable habitat occurs within the study area.
Ferruginous hawk *Buteo regalis*	FSC;CSC; --; -- (Wintering)	A winter resident found in open arid grassland habitats in Southern California, although it is known to occur, it is less common in the Central Valley of California.	**Low**; although suitable foraging habitat occurs on the site, there are no records of occurrences within 16.01 kilometers (10 miles) of the study area.
Greater sandhill crane *Grus Canadensis tabida*	--; CT fully protected; --; -- (Nesting & Wintering)	Nests in wet meadows interspersed with emergent marsh habitat in northeastern California. Winters in agricultural croplands and irrigated pastures in the Sacramento and San Joaquin Valleys.	**No**; no suitable wintering or nesting habitat occurs within the study area.
Lawrence's goldfinch *Carduelis lawrencei*	FSC; --; --; -- (Nesting)	Breeds in open oak or other arid woodland and chaparral habitats near water. Found in valley foothill hardwood and valley foothill hardwood-conifer.	**No**; no suitable nesting habitat occurs within the study area.
Lewis' woodpecker *Melanerpes lewis*	FSC; --; --; -- (Nesting)	Winters in the open habitats with scattered trees in the Central Valley. Nests in the Sierra Nevada, Coast Range, and mountain ranges in northern California.	**No**; no suitable nesting habitat occurs within the study area.
Little willow flycatcher *Empidonax traillii brewsteri*	--; CE; --; -- (Nesting)	Found in riparian woodlands. Nests in dense willow thickets. Nests built in thick willow shrubs.	**No**; no suitable nesting habitat occurs within the study area.
Loggerhead shrike *Lanius ludovicianus*	FSC; CSC; --; -- (Nesting)	Found in open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, pinyon-juniper, juniper, desert riparian, Joshua tree habitats, and open cropland. Typically nests in densely-foliaged shrub or tree.	**Present/High**; observed on a utility line located north of SR 132, west of Bird Road. Cropland occurs within the study area.

Regional Special-Status Animal Species and Habitats of Concern			
Species Name	**Regulatory Status (Federal; State; Local)**	**Habitat Requirements**	**Potential for Occurrence**
Long-billed curlew *Numenius americanus*	FSC; CSC; --; -- (Nesting)	Frequents wet meadow habitats, large coastal estuaries, and upland herbaceous areas including croplands. Breeds primarily in Modoc, Siskiyou, and Lassen counties. Nests built in grass-lined depressions on open ground.	**No**; no suitable nesting habitat occurs within the study area.
Marbled godwit *Limosa fedoa*	FSC; --; --; --	Winter visitant, found on estuarine mudflats, sandy beaches, open shores, saline emergent wetlands, and adjacent wet upland fields.	**No**; no suitable habitat occurs within the study area.
Mountain plover *Charadrius montanus*	FSC; CSC; --; -- (Wintering)	Winter valley resident found in open grasslands and plowed fields.	**Low**; only marginal habitat is present within the study area. There are not records of this species occurring within 16.1 kilometers (10 miles) of the study area.
Nuttall's woodpecker *Picoides nuttallii*	--; --; SLC; -- (Nesting)	Permanent resident of low elevation riparian deciduous and oak woodland habitats. Nests in cavities in dead trunks or limbs of willows, sycamore, cottonwood, or alder; rarely in oaks.	**No**; no suitable nesting habitat occurs within the study area.
Rufous hummingbird *Selasphorus rufus*	FSC; --; --; -- (Nesting)	Common migrant found occurring in hardwood, hardwood-conifer, meadow, riparian, and chaparral habitats. Nests in areas north of California.	**No**; no suitable habitat occurs within the study area.
Swainson's hawk *Buteo swainsoni*	FSC; CT; --; -- (Nesting)	Breeding resident in the Central Valley. Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah. Forages in adjacent grasslands or suitable grain fields and pastures.	**Low**; no known active nests within 8.05 kilometers (5 miles) of the site.
Tricolored blackbird *Agelaius tricolor*	FSC; CSC; --; -- (Nesting colony)	Nests in dense thickets of blackberry, cattails, willow, or wild rose within emergent wetland habitats within the Central Valley and surrounding foothills.	**No**; no suitable nesting habitat occurs within the study area.
Vaux's swift *Chaetura vauxi*	FSC; CSC; --; -- (Nesting)	Nests within large hollow cavities in live trees or snags in coniferous forest habitats.	**No**; no suitable nesting habitat occurs within the study area.

Regional Special-Status Animal Species and Habitats of Concern			
Species Name	**Regulatory Status (Federal; State; Local)**	**Habitat Requirements**	**Potential for Occurrence**
Western burrowing owl *Athene cunicularia hypugaea*	FSC; CSC; --; -- (Burrow sites)	Open low-growing grasslands with suitable burrow sites.	**Low**; although suitable habitat (ground squirrel burrows) occurs within the study area, none appear to be occupied by owls.
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FC; CE; --; -- (Nesting)	An uncommon summer resident of valley foothill and desert riparian habitats in scatted locations in California.	**No**; no suitable nesting habitat occurs within the study area.
White-faced ibis *Plegadis chihi*	FSC; CSC; --; -- (Rookery site)	Inhabits large freshwater emergent wetlands. The nesting colony typically occurs hidden within dense stands of vegetation such as reeds or willows.	**No**; no suitable rookery habitat occurs within the study area.
White-tailed kite *Elanus leucurus*	FSC; CFP; --; -- (Nesting)	Yearlong resident in valley and coastal lowlands and is rarely found away from agricultural areas. Requires densely foliaged deciduous trees and shrubs for nesting.	**Low**; may use study area for foraging but is not suitable for nesting.
Other raptors (hawks, owls and vultures) and nesting birds	Migratory Bird Treaty Act and §3503.5 Department of Fish and Game Code	Nests in a variety of communities including cismontane woodland, mixed coniferous forest, chaparral, montane meadow, riparian, and urban communities.	**Present/High**; (a pair of ravens observed nesting in stick nest on a power pole).
Mammals			
American badger *Taxidea taxus*	-- ; CSC; --; --	Found in a variety of habitats. Most common in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils for burrowing. Requires burrows for cover and reproduction.	**Low;** no large burrows observed within study area.
Greater western mastiff bat *Eumops perotis californicus*	FSC; CSC; --; --	Found in open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban. Requires cliff faces, high buildings, trees, and tunnels for roosting. Nursery roosts occur in rock crevices.	**No**; trees on-site do not have cavities to support roosting.

Regional Special-Status Animal Species and Habitats of Concern			
Species Name	**Regulatory Status (Federal; State; Local)**	**Habitat Requirements**	**Potential for Occurrence**
Long-legged myotis bat *Myotis volans*	FSC; --; --; --	Woodland and forest communities above approximately 1219.20 meters (4,000 feet) above mean sea level. Roosts in rock crevices, buildings, under tree bark, in snags, mines, and caves.	**No;** no suitable habitat within the study area.
Pacific western big-eared bat *Corynorhinus townsendii townsendii*	FSC; CSC; --; --	Typically occurs in mesic habitats, and requires caves, crevices, mines, tunnels, buildings or structures for roosting.	**No**; no suitable habitat within the study area.
Pallid bat *Antrozous pallidus*	-- ; CSC; --; --	Found at low elevations throughout California, most common in open, dry habitats with rocky outcrops, cliffs, and crevices for roosting and hibernations.	**No**; no suitable habitat within the study area.
Riparian brush rabbit *Sylvilagus bachmani riparius*	FE; CE; --; --	Found in riparian communities with dense vegetation. Distribution limited to areas along the Stanislaus and San Joaquin rivers.	**No**; no suitable habitat within the study area and out of known range.
Riparian woodrat *Neotoma fuscipes riparia*	FE; CSC; --; --	Found in riparian communities with dense vegetation. Found along rivers in the northern San Joaquin Valley.	**No**; no suitable habitat within the study area.
San Joaquin kit fox *Vulpes macrotis mutica*	FE; CT; --; --	Found in open areas with loose-textured soils supporting scattered, shrubby vegetation with little human disturbance. Requires dens for cover and reproduction.	**Low**; although suitable habitat occurs on site, relative isolation due to linear features limit access by kit fox.
San Joaquin pocket mouse *Perognathus inornatus*	FSC; --; --; --	Annual grassland and scrub habitats with fine-textured soil conditions, confined to the San Joaquin and Sacramento Valleys of California.	**High**; although not observed, suitable habitat for this species occurs within the project area. In addition, there are two records of this species occurring within 8.05 kilometers (5 miles) of the study area.
Small-footed myotis bat *Myotis ciliolabrum*	FSC; --; --; --	Occurs in a wide variety of habitats, primarily in relatively arid wooded and brushy uplands near water, roosting in caves, buildings, mines, and crevices.	**No**; no suitable habitat within the study area.

Regional Special-Status Animal Species and Habitats of Concern

Species Name	Regulatory Status (Federal; State; Local)	Habitat Requirements	Potential for Occurrence
Yuma myotis bat *Myotis yumanensis*	FSC; CSC; --; --	Resides in open forests and woodland habitats with sources of water over which to feed. Roosts in colonies within buildings, mines, caves, and crevices.	**No**; no suitable habitat within the study area.

Federally Listed Species:

FE = federal endangered

FT = federal threatened

FSC = federal species of concern

FC = candidate

PT = proposed threatened

FPD = proposed for delisting

FD = delisted

California State Listed Species:

CE = California state endangered

CT = California state threatened

CR = California state rare

CSC = California Species of Special Concern

CFP = California Fully Protected

Other Special-status Listing:

SLC = species of local or regional concern or conservation significance

Appendix E Regional Special-Status Plant Species and Habitats of Concern

Regional Special-Status Plant Species and Habitats of Concern			
Species Name	**Regulatory Status (Federal; State; Local; California Native Plant Society)**	**Habitat Requirements**	**Potential for Occurrence**
Plants			
Big tarplant *Blepharizonia plumosa*	FSC; --; --; 1B	Found in valley and foothill grasslands at elevations ranging from 100 to 1,650 feet above mean sea level. Bloom period July-October.	**Low**; not observed during visits to the site. Though this species is annual, it is rather large and identifiable outside of bloom period based on gross morphology. No vegetation similar to this species was observed within the study area.
Caper-fruited tropidocarpum *Tropidocarpum capparideum*	FSC; --; --; 1B	Found in valley and foothill grasslands with alkaline hills at elevations ranging from 3 to 1,500 feet above mean sea level. Bloom period March-April.	**No**; soils on-site are not suitable for this species.
Delta button-cellery *Eryngium racemosum*	--; CE; --; 1B	Found in vernally mesic clay depressions within riparian scrub at elevations ranging from 10 to 90 feet above mean sea level. Bloom period June-September.	**No**; no suitable habitat occurs within the study area.
Diamond-petaled California poppy *Eschscholzia rhombipetala*	FSC; --; --; 1B	Found in valley and foothill grasslands on alkaline, clay soils at elevations ranging from 0 to 3,200 feet above mean sea level. Bloom period March-April.	**No**; soils in the study area are not suitable, not known to occur in San Joaquin County.
Hall's bush mallow *Malacothamnus hallii*	--; --; SLC; 1B	Found in chaparral and coastal scrub at elevations ranging from 30 to 2,500 feet above mean sea level. Bloom period May-September.	**No**; no suitable habitat occurs within the study area.

Regional Special-Status Plant Species and Habitats of Concern			
Species Name	**Regulatory Status (Federal; State; Local; California Native Plant Society)**	**Habitat Requirements**	**Potential for Occurrence**
Hospital Canyon larkspur *Delphinium californicum* ssp. *interius*	FSC; --; --; 1B	Found in mesic cismontane woodlands and chaparral openings at elevations ranging from 750 to 3,600 feet above mean sea level. Bloom period April-June.	**No**; no suitable habitat occurs within the study area.
Large flowered fiddleneck *Amsinckia grandiflora*	FE; CE; --; 1B	Found in cismontane woodlands and valley and foothill grasslands at elevations ranging from 800 to 1,800 feet above mean sea level. Bloom period April-May.	**No**; out of known elevation range.
Lemmon's jewelflower *Caulanthus coulteri* var. *lemmonii*	--; --; SLC; 1B	Found on dry rocky bands in pinyon and juniper woodlands and valley and foothill grasslands at elevations ranging from 260 to 4,000 feet above mean sea level. Bloom period March-May.	**No**; habitat within the study area is not suitable, and the study area is below the known elevation range.
Lesser saltscale *Atriplex minuscula*	FSC; --; --; 1B	Found in chenopod scrub, playas, valley and foothill grasslands on sandy alkaline soils at elevations ranging from 50 to 650 feet above mean sea level. Bloom period May-October.	**No**; soils within the project site are not suitable for this species, and it was not observed during surveys of the site.
Mason's lilaeopsis *Lilaeopsis masonii*	FSC; CR; --; 1B	Found in freshwater or brackish marshes and swamps and in riparian scrub at elevations ranging from 0 to 30 feet above mean sea level. Bloom period April-November.	**No**; no suitable habitat occurs within the study area.
Mt. Diablo phacelia *Phacelia phacelioides*	FSC; --; --; 1B	Found in chaparral and rocky cismontane woodland at elevations ranging from 1,650 to 4,450 feet above mean sea level. Bloom period April-May.	**No**; no suitable habitat occurs within the study area.
Mt. Hamilton coreopsis *Coreopsis hamiltonii*	FSC; --; --; 1B	Found in rocky cismontane woodland at elevations ranging from 1,800 to 4,300 feet above mean sea level. Bloom period March-May.	**No**; no suitable habitat occurs within the study area.

Regional Special-Status Plant Species and Habitats of Concern

Species Name	Regulatory Status (Federal; State; Local; California Native Plant Society)	Habitat Requirements	Potential for Occurrence
Round-leaved filaree *Erodium macrophyllum*	--; --; --; 2	Found in cismontane woodland and valley and foothill grasslands at elevations ranging from 45 to 4,000 feet above mean sea level. Bloom period March-May.	**Low**; species not observed during two consecutive years of surveys.
Showy madia *Madia radiata*	FSC; --; --; 1B	Found in cismontane woodland and valley and foothill grasslands at elevations ranging from 80 to 3,000 feet above mean sea level. Bloom period March-May.	**Low**; species not observed during two consecutive years of surveys.
Slough thistle *Cirsium crassicaule*	FSC; --; --; 1B	Found in chenopod scrub, marshes and swamps, and riparian scrub at elevations ranging from 10 to 330 feet above mean sea level. Bloom period May-August.	**No**; no suitable habitat occurs within the study area.
Wright's trichocoronis *Trichocoronis wrightii* var. *wrightii*	--; --; --; 2	Found in meadows and seeps, marshes and swamps, riparian forests, and alkaline vernal pools at elevations ranging from 15 to 1,400 feet above mean sea level. Bloom period May-September.	**No**; no suitable habitat occurs within the study area.

Federally Listed Species:		**California State Listed Species:**	**California Native Plant Society* List Categories:**
FE = federal endangered	FC = candidate	CE = California state endangered	1A = plants presumed extinct in California
FT = federal threatened	PT = proposed threatened	CT = California state threatened	1B = plants rare, threatened, or endangered in California and elsewhere
FSC = federal species of concern	FPD = proposed for delisting	CR = California state rare	2 = plants rare, threatened, or endangered in California, but common elsewhere
	FD = delisted	CSC = California Species of Special Concern	3 = plants about which we need more information
		CFP = California Fully Protected	4 = plants of limited distribution
			Other Special-status Listing:
			SLC = species of local or regional concern or conservation significance

Appendix F Existing and Forecasted Study Area Traffic Volumes and Resulting Traffic Operations

This document is bound separately.

Appendix G Storm Water Data Report

This document is bound separately.

Appendix H Initial Site Assessment, Limited Soil Sampling and Analysis

This document is bound separately.

Appendix I Natural Environment Study

This document is bound separately.

Appendix J Historic Resources Compliance Report

This document is bound separately.

List of Technical Studies that are Bound Separately

Appendix F	Existing and Forecasted Study Area Traffic Volumes and Resulting Traffic Operations
Appendix G	Storm Water Data Report
Appendix H	Initial Site Assessment, Limited Soil Sampling and Analysis
Appendix I	Natural Environment Study
Appendix J	Historic Resources Compliance Report