

Cherry Avenue Four-Lane Widening Project

On State Route 119 in and near Valley Acres and Dustin Acres
in Kern County, California

06-Kern-119-PM 5.5/R13.3

06-424700

06-0000-0418

SCH No.: 2008081019

Initial Study with Mitigated Negative Declaration/ Environmental Assessment with Finding of No Significant Impact



Prepared by the
State of California Department of Transportation

The environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried out by the State of California Department of Transportation under its assumption of responsibility pursuant to 23 U.S. Code 327.

May 2011



General Information About This Document

What's in this document?

This document contains a Mitigated Negative Declaration and Finding of No Significant Impact, which examine the environmental effects of a proposed project on State Route 119 in Kern County.

The Initial Study/Environmental Assessment with proposed Negative Declaration was circulated for public review and comment from August 6, 2008 to September 8, 2008. Responses to the circulated document are shown in the Comments and Responses section of this document (Appendix M), which has been added since the draft. Elsewhere throughout this document, a line in the right margin indicates where changes have been made since the draft document was circulated.

What happens after this?

The proposed project has completed environmental compliance after the circulation of this document. When funding is approved, the California Department of Transportation, as assigned by the Federal Highway Administration, can design and construct all or part of the project.

For individuals with sensory disabilities, this document is available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: John Thomas, San Joaquin Valley Analysis Branch, 2015 E. Shields Avenue, Suite 100, Fresno, CA 93726; 559-960-0419 (Voice), or use the California Relay Service TTY number, 1-800-735-2929.

SCH# 2008081019
06-KER-119-PM 5.5/R13.3
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State Route 119 four-lane widening from 0.75 mile west of Cherry Avenue (post mile 5.5) to Tupman Road (post mile R13.3) in and near the communities of Valley Acres and Dustin Acres in Kern County, California

**INITIAL STUDY
with Mitigated Negative Declaration
/ENVIRONMENTAL ASSESSMENT**

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 U.S. Code 4332(2)(C) and 23 U.S. Code 327

THE STATE OF CALIFORNIA
Department of Transportation

5-13-2011
Date of Approval


Kirsten Helton, Acting Office Chief
Office of Environmental Management, North
Central Region Environmental Division
California Department of Transportation



**California Department of Transportation
Finding of No Significant Impact**

for

Cherry Avenue Four-Lane Widening Project

The California Department of Transportation (Caltrans) has determined that Alternative 11 will have no significant impact on the human environment. This Finding of No Significant Impact is based on the attached Environmental Assessment, which has been independently evaluated by Caltrans and determined to adequately and accurately discuss the need, environmental issues, and impacts of the proposed project and appropriate mitigation measures. It provides sufficient evidence and analysis for determining that an Environmental Impact Statement is not required. Caltrans takes full responsibility for the accuracy, scope, and content of the attached Environmental Assessment and incorporated technical reports.

The environmental review, consultation, and any other action required in accordance with applicable federal laws for this project are being, or have been, carried out by Caltrans under its assumption of responsibility pursuant to 23 U.S. Code 327.

5-13-2011
Date


Kirsten Helton, Acting Office Chief
Office of Environmental Management, North
Central Region Environmental Division
California Department of Transportation



Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes to widen State Route 119 from two lanes to four lanes, starting 0.75 mile west of Cherry Avenue (post mile 5.5) and ending at Tupman Road (post mile R13.3) in Kern County.

Determination

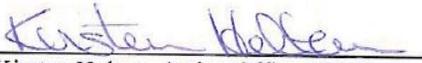
Caltrans has prepared an Initial Study for this project and, following public review, has determined from this study that the project would not have a significant effect on the environment for the following reasons:

- The project would not impede or redirect flood flows, result in substantial soil erosion, release hazardous materials into the environment, encroach upon riparian vegetation, or substantially affect hydrological resources or farmland. The project would not substantially restrict vehicle and pedestrian access.
- The project would not degrade recreational facilities, air quality, or water quality. It would have no effect on educational facilities and parks, environmental justice, utility and emergency services, cultural resources, seismic hazards, mineral resources, growth, or noise.
- The project would neither displace substantial numbers of existing housing units nor induce substantial population growth.

The project would have a less than significant effect on community character and cohesion.

In addition, the project would have no significantly adverse effect on threatened and endangered species, paleontology resources, or visual/aesthetics because the following mitigation measures would reduce potential effects to insignificance:

- Impacts to threatened or endangered species would be mitigated in accordance with the Biological Opinion rendered by the U.S. Fish and Wildlife Service.
- Impacts to paleontological resources would be minimized by implementing a well-designed paleontological resource mitigation plan.
- Cut and fill slopes would be four to one (horizontal: vertical) or flatter and rounded to blend with the existing terrain and to create a more natural appearance. All disturbed areas would be permanently stabilized with vegetative cover after grading work.
- Utilities affected by the project would be relocated in coordination with utility companies.


Kirsten Helton, Acting Office Chief
Office of Environmental Management, North
Central Region Environmental Division
California Department of Transportation

5-13-2011
Date



Summary

The California Department of Transportation (Caltrans) proposes three alternatives.

Alternative 1 proposes to widen State Route 119 from the existing two-lane conventional highway into a four-lane conventional highway from 0.26 mile west of Cherry Avenue (post mile 6.0) to Golf Course Road (post mile R9.1), and into a four-lane expressway from Golf Course Road to Tupman Road (post mile R13.3).

The second alternative (Alternative 10) proposes building a new four-lane expressway from 0.75 mile west of Cherry Avenue (post mile 5.5) to Elk Hills Road (post mile R10.0) that would bypass the communities of Valley Acres and Dustin Acres to the south. From post mile R10.0 to Tupman Road (post mile R13.3), the expressway would continue by adding two additional lanes on the north side of the existing road.

The third alternative (Alternative 11) proposes building a new four-lane expressway from 0.75 mile west of Cherry Avenue (post mile 5.5) to east of Elk Hills Road (post mile R10.4) that would bypass the communities of Valley Acres and Dustin Acres to the south.

In the draft version of this document, circulated beginning July 21, 2008, two build alternatives were proposed: Alternative 1 and Alternative 10. However, subsequent financial constraints and funding issues caused Caltrans to reevaluate and develop Alternative 11, a shorter version of Alternative 10. Both Alternative 10 and 11 have the same bypass design and avoid Valley Acres and Dustin Acres to the south. Both also reconnect to the existing alignment after Golf Course Road, but Alternative 11 is shorter by nearly 3 miles. Alternative 11 ends at 0.4 miles east of Elk Hills Road, eliminating the continuation of the expressway beyond post mile R10.4.

The purpose and need of the project are to improve operations, increase capacity within the project limits, and improve safety for pedestrians and motorists in the communities of Valley Acres and Dustin Acres.

This project is included in the financially constrained 2010 State Transportation Improvement Program and funded for the Project Approval and Environmental Document phase and Plans, Specifications, and Estimate phase. Right-of-way capital and support are expected to be programmed in the 2012 State Transportation Improvement Program. The project from post miles 5.5 to R10.4 (Alternative 11) is expected to be funded from the Regional Improvement Program in the 2015/2016 fiscal year. In the 2011 Regional Transportation Plan, the project from Cherry Avenue to Elk Hills Road was listed as

financially constrained for construction in 2021 to 2025. The portion from Elk Hills Road to Tupman Avenue was included as financially constrained in 2031 to 2035.

Alternatives Considered

The proposed project has three build alternatives (Alternative 1, Alternative 10, and Alternative 11) and the No-Build Alternative. Total cost for the project in 2008 dollars ranges from zero dollars for the No-Build Alternative to \$62,263,000 for Alternative 10. Total cost in 2008 dollars for Alternative 1 is \$57,877,000. Alternative 11 is the least costly of the three at \$45,652,000. The total cost in 2015/2016 dollars for Alternative 11 is \$52,753,000. Alternative 11 is expected to be funded from the Regional Improvement Program in the 2015/2016 fiscal year.

Alternative 1 proposes a four-lane conventional highway from post mile 6.0, about a quarter mile west of Cherry Avenue, to Tank Farm Road (post mile 8.3) with symmetrical widening on both sides of the existing highway. From Tank Farm Road (post mile 8.3) to Golf Course Road (post mile R9.1), the road would be widened on only the north side of the existing highway. A four-lane expressway would be built from Golf Course Road (post mile R9.1) to Tupman Road (post mile R13.3) by adding two additional lanes on the north side.

Alternative 10 proposes a new four-lane expressway from 0.75 mile west of Cherry Avenue (post mile 5.5) to Elk Hills Road (post mile R10.0), bypassing the communities of Valley Acres and Dustin Acres to the south. The four-lane expressway would continue from Elk Hills Road (post mile R10.0) to Tupman Road (post mile R13.3) by adding two additional lanes on the north side of the existing road.

Alternative 11 proposes building a new four-lane expressway with access control from 0.75 mile west of Cherry Avenue (post mile 5.5) to Elk Hills Road (post mile R10.4) bypassing the communities of Valley Acres and Dustin Acres to the south.

Under the No-Build Alternative, this portion of State Route 119 would remain in its current condition. No improvements would be made to bring the roadway to current design standards. The No-Build Alternative does not meet the purpose and need for this project.

Table S.1, Summary of Major Potential Impacts from Alternatives, compares potential impacts among Alternative 1, Alternative 10, Alternative 11, and the No-Build Alternative.

S.1 Summary of Major Potential Impacts from Alternatives

Potential Impact		Alternative 1 (Post Mile 6.0 to R13.3)	Alternative 10 (Post Mile 5.5 to R13.3)	Alternative 11 (Post Mile 5.5 to R10.4)	No-Build Alternative
Land Use	Consistency with Rural Community Plans	Consistent with the Valley Acres Rural Community Plan and the Dustin Acres Rural Community Plan.			Does not conform to the Valley Acres or Dustin Acres Rural Community Plans.
	Consistency with the County of Kern General Plan	Does not conform to the County of Kern General Plan, which supports a bypass alternative.	Conforms to the County of Kern General Plan.		Does not conform with the County of Kern General Plan.
Farmland		Acquisition of approximately 17.17 acres of farmland.	Acquisition of approximately 109.3 acres of farmland.		None
Community Character and Cohesion		The widened highway would divide each community and create a less friendly pedestrian environment.	Potentially improve communities by diverting traffic and congestion away from the communities.		Community concerns over pedestrian and traffic safety would rise.
Relocation	Business displacements	1 commercial building (vacant)	None		None
	Housing displacements	7	None		None
Utility service relocation		Relocation of electric power poles, aboveground and underground communication lines, water lines, and underground oil pipelines.			None
Emergency Services		Improve response time. Minimal delay during construction.			None
Traffic and Transportation/ Pedestrian and Bicycle Facilities		Reduce pedestrian highway crossing and increase traffic and pedestrian safety concerns.	Divert traffic and congestion south of the communities.		Projected increase in traffic, congestion, and safety issues.
Visual/Aesthetics		Removal of mature shrubs and trees though Valley	Affect overall character of the landscape.		None

Summary

Potential Impact	Alternative 1 (Post Mile 6.0 to R13.3)	Alternative 10 (Post Mile 5.5 to R13.3)	Alternative 11 (Post Mile 5.5 to R10.4)	No-Build Alternative
	Acres and Dustin Acres.			
Paleontology	Impact paleontological resources and scientifically important fossils especially in Elk Hills.	Impact paleontological resources and scientifically important fossils, especially in the Elk Hills, to Tupman Road.	Impact paleontological resources and scientifically important fossils, especially in the Elk Hills to 0.4 miles east of Elk Hills Road.	None
Hazardous Waste/Materials	Asbestos, lead- based paint could be present and hydrocarbon is present.	None		None
Air Quality	Direct temporary effects would include construction activities, which could increase short-term air emissions.			
Noise and Vibration	Noise levels would exceed the criteria of 67 decibels for all 11 noise receptors through Valley Acres and Dustin Acres.	Noise levels would not exceed criteria of 67 decibels for all 7 noise receptors along the bypass.		Projected noise levels would eventually exceed criteria of 67 decibels at all 11 noise receptor sites.
Natural Communities	121 acres of permanent impacts to natural communities, such as valley saltbush scrub and bush seepweed scrub.	230.88 acres of permanent impacts to natural communities, such as valley saltbush scrub and bush seepweed scrub..	173.52 acres of permanent impacts to natural communities, such as valley saltbush scrub and bush seepweed scrub.	None
Wetlands and other Waters	Affect 0.451 acres of potential jurisdictional drainage of the U.S. Army Corps of Engineers.	Affect 0.199 acres of potential jurisdictional drainage of the U.S. Army Corps of Engineers.		None
Plant Species	121 acres of permanent impacts to habitat of heart scale,	230.88 acres of permanent impacts to habitat for heartscale,	173.52 acres of permanent impacts to habitat for heartscale,	None

Summary

Potential Impact	Alternative 1 (Post Mile 6.0 to R13.3)	Alternative 10 (Post Mile 5.5 to R13.3)	Alternative 11 (Post Mile 5.5 to R10.4)	No-Build Alternative
	crownscale, gypsum loving larkspur, cottony buckwheat, Hoover's woolly-star, Lost Hills crownscale, and alkali Mariposa lily.	crownscale, gypsum loving larkspur, cottony buckwheat, Hoover's woolly-star, Lost Hills crownscale, and alkali Mariposa lily.	crownscale, gypsum loving larkspur, cottony buckwheat, Hoover's woolly-star, Lost Hills crownscale, and alkali Mariposa lily.	
Animal Species	121 acres of permanent impacts to habitat of short-nosed kangaroo rat, San Joaquin LeConte's thrasher, San Joaquin whipsnake, California horned lizard, southern grasshopper mouse, Tulare grasshopper mouse, San Joaquin pocket mouse, and loggerhead shrike. Would affect 4 observed burrows for western burrowing owl.	230.88 acres of permanent impacts to habitat of short-nosed kangaroo rat, San Joaquin LeConte's thrasher, San Joaquin whipsnake, California horned lizard, southern grasshopper mouse, Tulare grasshopper mouse, San Joaquin pocket mouse, and loggerhead shrike. Would affect 5 observed burrows for western burrowing owl.	173.52 acres of permanent impacts to habitat of short-nosed kangaroo rat, San Joaquin LeConte's thrasher, San Joaquin whipsnake, California horned lizard, southern grasshopper mouse, Tulare grasshopper mouse, San Joaquin pocket mouse, and loggerhead shrike. Would affect 5 observed burrows for western burrowing owl.	None
Threatened and Endangered Species	121 acres of permanent impacts to California jewel flower, San Joaquin woolly-threads, giant kangaroo rat, San Joaquin kit fox, blunt-nosed leopard lizard, and San Joaquin antelope squirrel. Would not affect identified San Joaquin kit fox dens.	230.88 acres of permanent impacts to California jewel flower, San Joaquin woolly-threads, giant kangaroo rat, San Joaquin kit fox, blunt-nosed leopard lizard, and San Joaquin antelope squirrel. Would affect four potential San Joaquin kit fox dens.	173.52 acres of permanent impacts to California jewel flower, San Joaquin woolly-threads, giant kangaroo rat, San Joaquin kit fox, blunt-nosed leopard lizard, and San Joaquin antelope squirrel. Would affect four potential San Joaquin kit fox dens.	None



Table of Contents

Chapter 1	Proposed Project	1
1.1	Introduction.....	1
1.2	Purpose and Need	4
1.2.1	Purpose	4
1.2.2	Need.....	4
1.2.2.1	Congestion, Capacity, and Level of Service	5
1.2.2.2	Safety.....	7
1.3	Alternatives	12
1.3.1	Build Alternatives.....	12
1.3.1.1	Alternative 1	13
1.3.1.2	Alternative 10.....	13
1.3.1.3	Alternative 11	14
1.3.2	No-Build Alternative	14
1.3.3	Comparison of Alternatives.....	15
1.3.4	Identification of a Preferred Alternative.....	16
1.3.5	Alternatives Considered and Withdrawn.....	17
1.4	Permits and Approvals Needed.....	18
Chapter 2	Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures	19
2.1	Human Environment.....	19
2.1.1	Land Use.....	19
2.1.1.1	Existing and Future Land Use.....	19
2.1.1.2	Consistency with State, Regional, and Local Plans	30
2.1.1.3	Parks and Recreation	31
2.1.2	Growth.....	32
2.1.3	Farmlands	35
2.1.4	Community Impacts	43
2.1.4.1	Community Character and Cohesion	43
2.1.4.2	Relocations.....	51
2.1.4.3	Environmental Justice	54
2.1.5	Utilities/Emergency Services	56
2.1.6	Traffic and Transportation/Pedestrian and Bicycle Facilities	57
2.1.7	Visual/Aesthetics	63
2.1.8	Cultural Resources.....	65
2.2	Physical Environment	69
2.2.1	Hydrology and Floodplain.....	69
2.2.2	Water Quality and Storm Water Runoff.....	71
2.2.3	Paleontology.....	73
2.2.4	Hazardous Waste or Materials.....	76
2.2.5	Air Quality.....	80
2.2.6	Noise and Vibration.....	92
2.3	Biological Environment	101
2.3.1	Natural Communities.....	101
2.3.2	Wetlands and Other Waters.....	108

Table of Contents

2.3.3 Plant Species..... 111

2.3.4 Animal Species..... 116

2.3.5 Threatened and Endangered Species 122

2.3.6 Invasive Species 134

2.4 Cumulative Impacts 136

2.5 Climate Change under the California Environmental Quality Act (..... 138

Chapter 3 Comments and Coordination 158

Chapter 4 List of Preparers..... 171

Appendix A California Environmental Quality Act Checklist..... 175

Appendix B Alternative Cross-Sections..... 185

Appendix C Title VI Policy Statement..... 191

Appendix D Summary of Relocation Benefits 193

Appendix E Biological Study Area Sensitive Species List..... 197

Appendix F Farmland Conversion 201

Appendix G Minimization and/or Mitigation Summary 203

Appendix H U.S. Fish and Wildlife Service Species List 223

Appendix I Resources Evaluated Relative to the Requirements of Section 4(f) ... 227

Appendix J State Historic Preservation Officer Concurrence Letter 229

Appendix K San Joaquin Kit Fox Culvert Location Map 235

Appendix L Air Quality Conformity Determination Letter 237

Appendix M Biological Opinion 239

Appendix N Comments and Responses..... 311

List of Technical Studies that are Bound Separately..... 432

List of Figures

Figure 1-1 Project Vicinity Map.....	3
Figure 1-2 Project Location Map.....	4
Figure 1-3 Level of Service, Two-Lane Highway.....	10
Figure 1-4 Level of Service, Multi-Lane Highway.....	11
Figure 2-1 Project Study Area Map.....	21
Figure 2-2 Project Existing Land Use Map.....	23
Figure 2-3 Project Future Land Use Map.....	25
Figure 2-4 Project Zoning Map.....	27
Figure 2-5 Williamson Act Properties.....	41
Figure 2-6 Noise Receptor Map.....	96
Figure 2-7 California Greenhouse Gas Inventory.....	141
Figure 2-8 Fleet Carbon Dioxide (CO2) Emissions vs. Speed (Highway).....	142
Figure 2-9 Cascade of Uncertainties.....	149
Figure 2-10 Outcome of Strategic Growth Plan.....	152

List of Tables

S.1 Summary of Major Potential Impacts from Alternatives.....	ix
Project Vicinity Map.....	3
Project Location Map.....	4
Table 1.1 Projected Level of Service without Alternative 1 or 10 (No-Build Alternative).....	5
Table 1.2 Projected Level of Service without Alternative 11 (No-Build Alternative).....	6
Table 1.3 Projected Average Daily Traffic Forecast.....	6
for Alternative 1 and 10.....	6
Table 1.4 Projected Average Daily Traffic Forecast for Alternative 11.....	6
Table 1.5 Collision Types – May 1, 2004 to April 30, 2007.....	8
Table 1.6 Collisions Within Project Segments – May 1, 2004 to April 30, 2007.....	8
Table 1.7 Accident Rates - May 1, 2004 to April 30, 2007.....	8
Table 1.8 Collisions Within Project Segments – July 1, 2005 to June 30, 2008.....	9
Table 1.9 Accident Rates Within Project Segments - July 1, 2005 to June 30, 2008.....	9
Table 1.10 Summary of Permits, Reviews, and Approvals.....	18
Table 2.1 Williamson Act Properties.....	38
Table 2.2 Comparison of Racial/Ethnicity Profiles.....	44
Table 2.3 Age Profile.....	45
Table 2.4 Household Income and Poverty Level.....	46
Table 2.5 Total Family Households.....	46
Table 2.6 Long-Term Residency.....	47
Table 2.7 Occupation Types.....	48
Table 2.8 Unemployment Rate.....	48
Table 2.9 Major Businesses in Study Area.....	49
Table 2.10 Potential Displacements.....	53
Table 2.11 Ethnicity/Race along Project Corridor.....	55
Table 2.12 Projected Average Daily Traffic Forecast Alternative 1 and 10.....	58

Table 2.13	Projected Average Daily Traffic Forecast Alternative 11	58
Table 2.14	Projected Levels of Service for Alternatives 1, 10, and No-Build	59
Table 2.15	Projected Levels of Service for Alternatives 11 and No-Build	60
Table 2.16	Project Intersections.....	61
Table 2.17	Federal and State Ambient Air Quality Standards.....	83
Table 2.18	Activity Categories and Noise Abatement Criteria	93
Table 2.19	Typical Noise Levels	94
Table 2.20	Noise Levels for Alternative 1	98
Table 2.21	Noise Levels for Alternative 10 and 11	99
Table 2.22	Impacts to Natural Communities within the Project Footprint.....	106
Table 2.23	Alternatives 1 and 10 Estimates of Carbon Dioxide Emissions	144
Table 2.24	Alternative 11 Estimates of Carbon Dioxide Emissions	145
Table 2.25	Model-Year 2015 Required Miles Per Gallon by Alternative	147
Table 2.26	Climate Change Strategies.....	154

List of Abbreviated Terms

Caltrans
CEQA
FHWA
NEPA
PM

California Department of Transportation
California Environmental Quality Act
Federal Highway Administration
National Environmental Policy Act
Post mile



Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans) proposes three alternatives on State Route 119 in Kern County (see Figure 1-1 and Figure 1-2).

The first alternative (Alternative 1) proposes to widen State Route 119 from the existing two-lane conventional highway into a four-lane conventional highway from 0.26 mile west of Cherry Avenue (post mile 6.0) to Golf Course Road (post mile R9.1). Widening would be a four-lane expressway from Golf Course Road to Tupman Road (post mile R13.3).

The second alternative (Alternative 10) proposes building a new four-lane expressway from 0.75 mile west of Cherry Avenue (post mile 5.5) to Elk Hills Road (post mile R10.0) that would bypass the communities of Valley Acres and Dustin Acres to the south. From post mile R10.0 to Tupman Road (post mile R13.3), Alternative 10 would convert the existing two-lane conventional highway into a four-lane expressway.

The third alternative (Alternative 11) proposes building a new four-lane expressway from 0.75 mile west of Cherry Avenue (post mile 5.5) to east of Elk Hills Road (post mile R10.4) that would bypass the communities of Valley Acres and Dustin Acres to the south.

The existing highway passes through the rural communities of Valley Acres and Dustin Acres, six miles east of Taft. The two communities are next to each other along State Route 119, and together stretch on either side of the highway for approximately 2.85 miles between Cherry Avenue in Valley Acres and Golf Course Road in Dustin Acres. At the east end of the project area for Alternative 1 and Alternative 10, between Golf Course Road and Tupman Road, the existing highway passes through approximately 4.2 miles of hilly terrain in Elk Hills. At the east end of the project area for Alternative 11, between Golf Course Road and 0.4 miles east of Elk Hills Road, the existing highway passes through approximately 1.3 miles of hilly terrain in Elk Hills.

The existing roadway is a two-lane conventional highway with 12-foot lanes and two- to four-foot shoulders, short of the current design standards of eight feet. In Elk Hills,

truck-climbing lanes are present from post mile 11.5 to post mile 12.3 for eastbound traffic, and from post mile 12.0 to post mile 12.8 for westbound traffic. The posted speed limit is 50 miles per hour within and between Valley Acres and Dustin Acres, but the average operating speed is 44 miles per hour due to highway and safety conditions. The posted speed limit outside of the two communities and through Elk Hills is 55 miles per hour. However, though Elk Hills, this can drop below 30 miles per hour with truck traffic.

Alternatives 1, 10, and 11 would improve operation and safety with proposed intersection realignments, lane widening, and expressway design speed. In addition, wider paved shoulders and improved clear recovery zones would create an emergency recovery area for drivers and allow disabled vehicles to move completely off the road.

The California Department of Transportation would act as the lead agency in the preparation of a joint NEPA/CEQA (National Environmental Policy Act/California Environmental Quality Act) environmental document. Caltrans would serve as the NEPA lead agency under its assumption of responsibility pursuant to 23 U.S. Code 327.

This project is included in the financially constrained 2010 State Transportation Improvement Program and funded for the Project Approval and Environmental Document phase and Plans, Specifications, and Estimate phase. Right-of-way capital and support are expected to be programmed in the 2012 State Transportation Improvement Program. The project from post miles 5.5 to R10.4 (Alternative 11) is expected to be funded from the Regional Improvement Program in the 2015/2016 fiscal year. In the 2011 Regional Transportation Plan, the project from Cherry Avenue to Elk Hills Road was listed as financially constrained for construction in 2021 to 2025. The portion from Elk Hills Road to Tupman Avenue was included as financially constrained in 2031 to 2035.

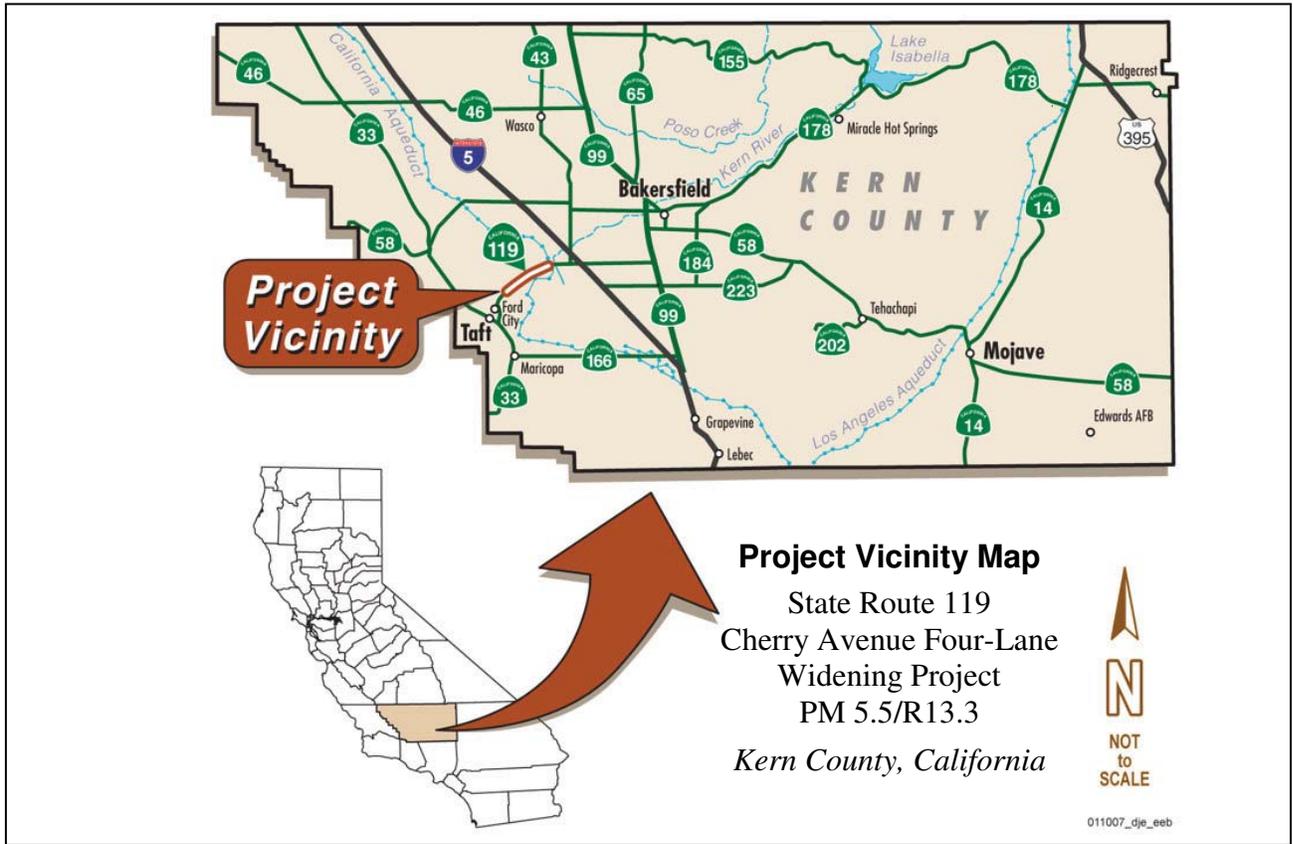


Figure 1-1 Project Vicinity Map

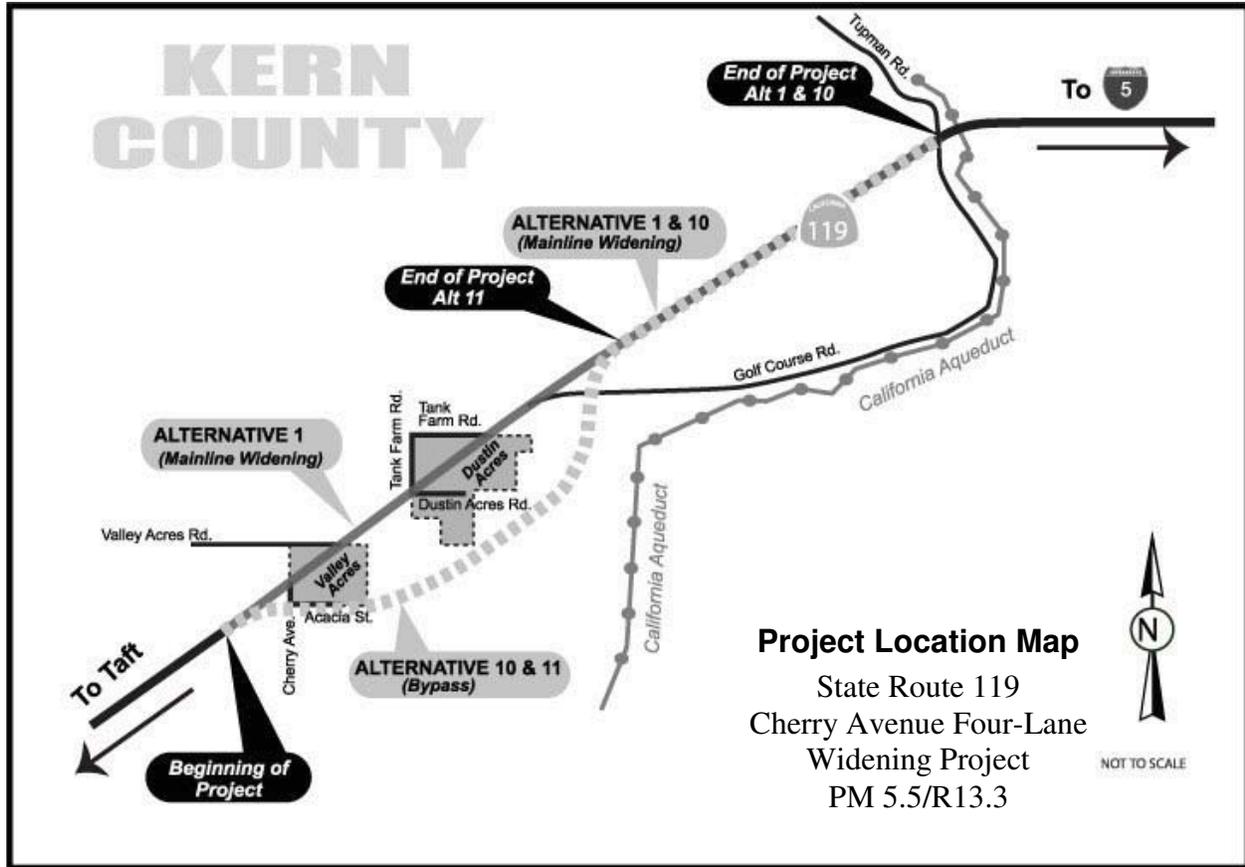


Figure 1-2 Project Location Map

1.2 Purpose and Need

1.2.1 Purpose

The purpose of the proposed project is to:

- Reduce congestion on State Route 119 within the proposed project limits.
- Increase operational capacity of State Route 119 within the project limits.
- Improve safety for pedestrians and motorists on State Route 119 in the communities of Valley Acres and Dustin Acres.

1.2.2 Need

State Route 119 is an important intra-regional route for oil industry and agricultural-related traffic. The area adjacent to the route consists of agricultural lands, active oilfields, vacant land, and residential properties. The route serves as a commuter route between Bakersfield and Taft. State Route 119 also intersects with State Route 33, State Route 43, Interstate 5, and Highway 99 from west to east, respectively.

Due to regional growth, State Route 119 is experiencing increased congestion from a mix of interregional, commuter, recreational and commercial truck traffic (22 to 30 percent of the traffic volume). The increase of traffic that passes through the communities of Valley Acres and Dustin Acres between the Taft and greater Bakersfield areas and nearby major highways has resulted in a degraded Level of Service E. See Figure 1-3. The posted speed limit drops from 55 miles per hour to 50 miles per hour through the two communities. However, the average speed is 44 miles per hour through the two communities, west of Cherry Avenue to Golf Course Road, due to highway and safety conditions.

1.2.2.1 Congestion, Capacity, and Level of Service

Level of Service is an indicator of operating conditions on a roadway and is defined in categories ranging from A to F, with “A” being the highest quality of traffic services when motorists are able to travel at their desired speed, while a level “F” is heavily congested traffic with traffic demand exceeding roadway capacity (see Figures 1-3 and 1-4 for a description of Level of Service).

The expected Level of Service without the project is shown in Table 1.1 (Alternative 1 and 10) and Table 1.2 (Alternative 11). The current average daily traffic counts for Alternatives 1 and 10 (2006), as well as the forecasts for 2015 and 2035 are shown in Table 1.3. The current average daily traffic counts for Alternative 11, as well as the forecasts for 2024 and 2044 are shown in Table 1.4. Due to subsequent financial constraints and funding issues, forecast years for Alternative 11 were deferred to later dates.

Table 1.1 Projected Level of Service without Alternative 1 or 10 (No-Build Alternative)

Locations	Post Mile	2006 a.m./p.m.	2015 a.m./p.m.	2035 a.m./p.m.
Valley Acres to Dustin Acres*	5.5-R9.2	E/E	E/E	E/E
Dustin Acres to Elk Hills Road	R9.2- R10.0	E/E	E/E	E/E
Elk Hills Road to Tupman Road	R10.0-R13.3	C/D	C/D	D/E

Source: Caltrans District 06 Office of Traffic Operations, July 2008

*Valley Acres begins at Cherry Avenue (post mile 6.26).

Table 1.2 Projected Level of Service without Alternative 11 (No-Build Alternative)

Locations	Post Mile	2008 a.m./p.m.	2024 a.m./p.m.	2044 a.m./p.m.
Valley Acres to Golf Course Road	5.5-9.2	E/E	E/E	E/E
Golf Course Road to Elk Hills Road	R9.2- R10.4	D/D	E/E	E/E

Source: Caltrans District 06 Office of Traffic Operations, November 2009

*Valley Acres begins at Cherry Avenue (post mile 6.26).

Table 1.3 Projected Average Daily Traffic Forecast for Alternative 1 and 10

Location	Post Mile	2006	2015	2035
Valley Acres to Tupman Road	5.5-R13.3	12,729	15,284	20,897

Source: Caltrans District 06 Technical Planning, July 2008

*Valley Acres begins at Cherry Avenue (post mile 6.26).

Table 1.4 Projected Average Daily Traffic Forecast for Alternative 11

Location	Post Mile	2009	2024	2044
Valley Acres* to Elk Hills Road	5.5 to R10.4	10,600	14,700	23,000

Source: Caltrans District 06 Technical Planning, November 2009

*Valley Acres begins at Cherry Avenue (post mile 6.26).

Based on these current and projected traffic volumes for Alternative 1 and 10 (Traffic Analysis, 2008) within the proposed project limits, the current two-lane State Route 119 is insufficient to manage the existing and future traffic volumes as shown in Table 1.3. The desired Level of Service for State Route 119 is “C” because it is a regionally significant route on the interregional road system (Transportation Concept Report February 2006). As of 2006, State Route 119 is operating at a Level of Service “E” from post miles 5.5 to R10.0 and would not improve through 2035. Between post miles R10.0 and R13.3, the Level of Service ranges from “C” to “D” and would deteriorate to “E” if no improvements were made. With the proposed improvements, State Route 119 within the project limits would improve to a Level of Service ranging from “A” to “B” on opening day (year 2015) and would remain at Level of Service “A” through “B” through the end of the 20-year planning horizon.

Based on these current and projected traffic volumes for Alternative 11 (Traffic Analysis 2009), the existing highway is insufficient to manage the existing and future traffic volumes, as shown in Table 1.4. As of 2009, State Route 119 is operating at a Level of Service “E” from post miles 5.5 to 9.2 and “C” to “D” from 9.2 to R10.4. This would also deteriorate to “E” without improvements. With the proposed

improvements, the Level of Service would range from “A” to “B” on opening day (year 2024) and would remain at Level of Service “A” through “B” through the end of the 20-year planning horizon.

1.2.2.2 Safety

During the three-year period from May 1, 2004 to April 30, 2007, there were 69 reported accidents between post miles 5.5 and R13.3. Of the 69 accidents, 19 accidents involved injuries, and two resulted in fatalities. For collision types and collisions within project segments, see Tables 1.5 and 1.6. Of the 69 total accidents, 51 accidents occurred in Valley Acres and Dustin Acres, between post miles 5.5 and R9.2. In the Elk Hills portion of the project, between post miles R9.2 and R13.3, 18 accidents occurred. Collisions that are head-on, rear-end, or hit-object usually occur due to congested conditions on the roadway. Forty-four of the 69 accidents that occurred within the project limits involved these types of collisions. Thirty-five of the head-on, rear-end, and hit objects collisions occurred in Valley Acres and Dustin Acres between post miles 5.5 and R9.2, and nine in Elk Hills between post miles R9.2 and R13.3.

The analysis showed the actual fatal and actual fatal-plus-injuries rates were lower than the state average, but the total accident rate within the project limits was higher than the statewide average (see Table 1.7).

An updated accident analysis revealed during the three-year period from July 1, 2005 to June 30, 2008, there were 67 reported accidents between post miles 5.5 and R13.3. This analysis divided the project from Valley Acres to Elk Hills Road in Elk Hills (post mile 5.5 and R10.4) and from Elk Hills Road to Tupman Road (post mile R10.4 to R13.3). Of the 67 accidents, 16 accidents involved injuries and three resulted in fatalities. For collision types within project segments, see Table 1.8. Forty-nine accidents occurred between Valley Acres and Elk Hills Road and 18 were between Elk Hills Road and Tupman Road. Thirty-seven of the head-on, rear-end, and hit objects collisions occurred in Valley Acres and Elk Hills Road and ten occurred between Elk Hills Road and Tupman Road.

From the updated analysis the Valley Acres to Elk Hills Road portion showed the actual fatal accident rate was higher than the statewide average and the actual fatal-plus-injuries accident rate was lower than the statewide average, but the total accident rate was higher than the statewide average (see Table 1.9). For the Elk Hills Road to Tupman Road portion, the actual fatal is higher that statewide average accident rate

and the actual fatal-plus-injuries rate was the same as the statewide average, but the total accident rate was lower than the statewide average.

The existing high traffic volumes on this section of State Route 119 limit opportunities for drivers to pass slower-moving vehicles. Without improvements, congestion and the potential for accidents would increase.

Table 1.5 Collision Types – May 1, 2004 to April 30, 2007

Primary Collision Factor	Type of Collision						
	Head-On	Sideswipe	Rear End	Broadside	Hit Object	Overturn	Other
Influence of Alcohol		1	1	1	4	2	
Following too Close			1				
Failure to Yield			1	4	1		
Improper Turn	1			3	10	3	1
Speeding			16		1	1	
Other Violation	1	5		1	6		
Other Than Driver					1		2
Unknown				1			
Total	2	6	19	10	23	6	3

Source: Caltrans Office Traffic Operational Analysis, November 2007

Table 1.6 Collisions Within Project Segments – May 1, 2004 to April 30, 2007

Post Mile	Type of Collision							Total
	Head-On	Side-swipe	Rear End	Broad-side	Hit Object	Over-turn	Other	
5.5-R9.2 (Valley Acres and Dustin Acres)	1	2	14	9	20	2	3	51
R9.2-R13.3 (Elk Hills)	1	4	5	1	1	4	0	18
Total	2	6	19	10	23	6	3	69

Source: Caltrans Office Traffic Operational Analysis, November 2007

Table 1.7 Accident Rates - May 1, 2004 to April 30, 2007

Location	Post Mile	Actual*			Statewide Average*		
		Fatal	Fatal + Injuries	Total	Fatal	Fatal + Injuries	Total
Valley Acres to Tupman Road	5.5-R13.3	0.024	0.25	0.83	0.027	0.36	0.76

Source: Caltrans Office Traffic Operational Analysis, November 2007

*Accident per million vehicle miles; Total includes Property Damage Only accidents

Table 1.8 Collisions Within Project Segments – July 1, 2005 to June 30, 2008

Post Mile	Type of Collision							Total
	Head-On	Side-swipe	Rear End	Broad-side	Hit Object	Over-turn	Other	
5.5-R10.4 (Valley Acres and Dustin Acres to Elk Hills Road in Elk Hills)	2	2	15	5	20	4	1	49
R10.4-R13.3 (Elk Hills)	1	3	4	1	5	4	0	18
Total	3	5	19	6	25	8	1	67

Source: Caltrans Office Traffic Operational Analysis, July 2009

Table 1.9 Accident Rates Within Project Segments - July 1, 2005 to June 30, 2008

Location	Post Mile	Actual*			Statewide Average*		
		Fatal	Fatal + Injuries	Total	Fatal	Fatal + Injuries	Total
Valley Acres to Elk Hills Road	5.5-R10.4	0.042	0.21	1.03	0.025	0.33	0.74
Elk Hills Road to Tupman Road	R10.4 to R13.3	0.032	0.29	0.58	0.026	0.29	0.66

Source: Caltrans Office Traffic Operational Analysis, July 2009

*Accident per million vehicle miles; Total includes Property Damage Only accidents

LEVELS OF SERVICE

for Two-Lane Highways

Level of Service	Flow Conditions	Operating Speed (mph)	Technical Descriptions
A		55+	Highest quality of service. Free traffic flow with few restrictions on maneuverability or speed. No delays
B		50	Stable traffic flow. Speed becoming slightly restricted. Low restriction on maneuverability. No delays
C		45	Stable traffic flow, but less freedom to select speed, change lanes or pass. Minimal delays
D		40	Traffic flow becoming unstable. Speeds subject to sudden change. Passing is difficult. Minimal delays
E		35	Unstable traffic flow. Speeds change quickly and maneuverability is low. Significant delays
F			Heavily congested traffic. Demand exceeds capacity and speeds vary greatly. Considerable delays

Source: 2000 HCM, Exhibit 20-2, LOS Criteria for Two-Lane Highways in Class 1

Figure 1-3 Level of Service, Two-Lane Highway

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

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

Figure 1-4 Level of Service, Multi-Lane Highway

1.3 Alternatives

This section describes the proposed project actions and the design alternatives that were developed to meet the purpose and need while avoiding or minimizing environmental impacts (see Appendix B: Alternative Cross-Sections).

Evaluation criteria used to analyze proposed alternatives included route safety, alternative cost, environmental and community impacts, and traffic operation and capacity.

During the alternative development process, 10 build alternatives and the No-Build Alternative were considered. Alternative 1 and Alternative 10 were selected for further study based on the evaluation of environmental impacts and consideration of public and local agency comments. Due to funding constraints for the project, Alternative 11, a shortened version of Alternative 10, was developed. All three of the build alternatives would convert State Route 119 from a two-lane conventional highway to a four-lane expressway. Both Alternative 10 and Alternative 11 are proposing an expressway bypass.

1.3.1 Build Alternatives

Common Design Features of the Build Alternatives

Both Alternatives 1 and 10 would begin west of Cherry Avenue (Alternative 1 from post mile 6.0 and Alternative 10 from post mile 5.5) and end at Tupman Road (post mile R13.3). Between Elk Hills Road (post mile R10.0) and Tupman Road (post mile R13.3), Alternative 1 and Alternative 10 both would convert State Route 119 into a four-lane expressway by widening to the north of the existing alignment. Along this portion of the highway, each of the build alternatives would have four 12-foot lanes, a 62-foot median, 5-foot inside shoulders, and 10-foot outside shoulders. Five concrete box culverts, three feet high and 10 feet wide for kit fox crossing and drainage would also be installed in the Elk Hills portion of the proposed highway between post miles R9.2 and R13.3.

Alternative 11, a shortened version of Alternative 10, share the same southern bypass design.

Unique Features of Build Alternatives

1.3.1.1 Alternative 1

Alternative 1 proposes a four-lane conventional highway from 0.26 mile west of Cherry Avenue (post mile 6.0) to Tank Farm Road (post mile 8.3) with symmetrical widening on both sides of the existing highway. From Tank Farm Road (post mile 8.3) to Golf Course Road (post mile R9.1), the road would be widened on only the north side of the existing highway. A four-lane expressway would be built from Golf Course Road (post mile R9.1) to Tupman Road (post mile R13.3) by adding two additional lanes on the north side.

Intersections at Cherry Avenue, Valley West Road, Dustin Acres Road, Tank Farm Road, and Elk Hills Road, east of Dustin Acres would be realigned. The connection at the south side of Elk Hills Road would be closed. A drainage system is proposed with a dike to direct water to drainage inlets and through a 30-inch pipe to a drainage basin near Valley West Road (post mile 6.7). Buena Vista Creek Bridge near Cherry Avenue would be widened. The estimated project cost for Alternative 1 in 2008 dollars, including right-of-way acquisition and utility relocation, is approximately \$57.9 million.

1.3.1.2 Alternative 10

Alternative 10 proposes a new four-lane expressway from 0.75 mile west of Cherry Avenue (post mile 5.5) to Elk Hills Road (post mile R10.0), bypassing the communities of Valley Acres and Dustin Acres to the south. The four-lane expressway would continue from Elk Hills Road (post mile R10.0) to Tupman Road (post mile R13.3) by adding two additional lanes on the north side of the existing road.

Two intersections are proposed, one near Cherry Avenue connecting to existing State Route 119 and one at Golf Course Road. Both intersections would be ground level with the connecting highway to improve sight distance. Each intersection would also include a stop sign to control traffic. At the intersection of State Route 119 and Elk Hills Road, an acceleration lane in the median would be provided for vehicles turning left onto State Route 119. Three driveways on the south side of the bypass would be provided to otherwise landlocked parcels. Six box culverts three feet in height and 10 feet wide for kit fox crossing would be installed along the bypass, between post miles 5.5 and R9.2, about every 1,000 feet. Alternative 10 proposes a total of 11 concrete box culverts sites, which include the five sites located along the Elk Hills portion of the highway. At one culvert site, two 3-double box culverts would be installed to

facilitate the tributary flow of Buena Vista Creek. Each one would be 10 feet high, 7 feet wide, and span 48 feet. A chain link fence, five feet high would serve as a right-of-way fence and as part of the project's kit fox mitigation plan.

After the public circulation period, Caltrans shifted the southern alignment, near Golf Course Road, approximately 30 feet southeast. The shift would avoid a sliver acquisition of a residential property near Golf Course Road. Before the design change, no residential displacement would have occurred. Shifting the bypass alignment, any farther southeast could result in potential farmland and cultural resource impacts, a potential residential displacement, and a potential increase in biological impacts. The alignment shift does not change the amount of acreage of biological and farmland resources directly affected by the project.

The estimated project cost for Alternative 10 in 2008 dollars, including right-of-way acquisition and utility relocation, is approximately \$62.3 million.

1.3.1.3 Alternative 11

Alternative 11, a shortened version of Alternative 10 by about three miles, would also begin west of Cherry Avenue at post mile 5.5. Both these alternatives propose building a new four-lane expressway to Elk Hills Road that would bypass the communities of Valley Acres and Dustin Acres to the south and convert the existing two-lane conventional highway into a four-lane expressway from post miles R9.1 to R10.4. Along the bypass for each alternative, between post miles 5.5 and R10.4, the project would install seven concrete box culverts, 3 feet high and 10 feet wide, for kit fox crossing and drainage.

The estimated project cost for Alternative 11 in 2008 dollars, including right-of-way acquisition and utility relocation, is approximately \$45.7 million. The estimated project cost for Alternative 11 in 2015/2016 dollars is \$52.8 million. Alternative 11 is expected to be funded from the Regional Improvement Program in the 2015/2016 fiscal year.

1.3.2 No-Build Alternative

The No-Build Alternative would not provide relief from existing road deficiencies. It would leave the roadway as it is. Congestion and traffic accidents would continue to increase, and the roadway would not be brought up to current design standards. The level of service would also deteriorate as the traffic volume and accidents increase. This alternative does not meet the purpose and need for the project.

Minor operational/safety improvements along State Route 119 include California Highway Patrol enforcement, message signs, enforcement pads (pullouts), shoulder widening, and rumble strips. These improvements may be considered in the future, but are not related to the proposed project.

1.3.3 Comparison of Alternatives

Criteria used to evaluate alternatives include the project purpose and need, project cost, and potential environmental effects of the proposed project. Table S.1 compares the alternatives using the evaluation criteria.

For many of the evaluation criteria, the three build alternatives are similar. All the build alternatives would relieve traffic congestion and increase safety along State Route 119. Additional criteria include relocation of local residences and mitigation measures for threatened and endangered species.

Alternative 1 would widen on both sides of the existing highway between post miles 6.0 and 8.3; therefore, it would potentially displace seven residences and one restaurant building (vacant). The total estimated cost for Alternative 1 is \$57,877,000, which includes construction cost of \$50,757,000 and right-of-way cost of \$7,120,000. Five concrete box culverts would be installed in the Elk Hills portion of the proposed highway.

Alternative 10 would construct an expressway bypass outside the communities of Valley Acres and Dustin Acres on the southern side. The total estimated cost for Alternative 10 in 2008 dollars is \$62,263,000, which includes construction cost of \$55,893,000 and right-of-way cost of \$6,370,000. Six concrete box culverts and a chain link fence would be installed along the bypass, between post miles 5.5 and R9.2, and five concrete box culverts would also be installed in the Elk Hills portion of the proposed highway.

Like Alternative 10, Alternative 11 would construct an expressway bypass outside the communities of Valley Acres and Dustin Acres on the southern side. Through Elk Hills, Alternative 11 ends 2.9 miles sooner than the other two build alternatives. The total estimated cost for Alternative 11 in 2008 dollars is \$45,652,000, which includes construction cost of \$35,877,000 and right-of-way cost of \$9,775,000. The total estimated cost for Alternative 11 in 2015/2016 dollars is \$52,753,000, which includes construction cost of \$40,245,000 and right-of-way cost of \$12,508,000. Alternative 11 is expected to be funded from the Regional Improvement Program in the

2015/2016 fiscal year. Seven concrete box culverts and a chain link fence would be installed along the bypass, between post miles 5.5 and R10.4.

The main difference among the build alternatives lies in the environmental effects. Except for impacts to biological habitat, the environmental effects between Alternative 10 and 11 are about the same since the bypass portion is the main cause of those effects. Alternative 11 would impact about 60 fewer acres of habitat to threatened and endangered species. Alternative 1 would potentially have noise impacts, while Alternative 10 and 11 would affect more farmland and biological resources. Another major environmental difference between Alternatives 10 and 11 and Alternative 1 is their potential effect on the communities of Valley Acres and Dustin Acres.

Alternatives 10 and 11 would have the same community impacts and not substantially diminish community character and cohesion by widening the existing alignment. In contrast, Alternative 1 would likely diminish community character and cohesion by widening the existing highway through the two communities. Neither bypass alternative (10 or 11) would create a physical and/or a psychological divide in the communities or cause seven residential displacements. Section 2.1.4.1 of this environmental document provides the results of the Community Impact Assessment conducted for the project. Section 2.1.4.2 contains the results of the Final Relocation Statement. Alternatives 10 and 11 would potentially benefit the two communities by diverting traffic, congestion, and noise south of the two communities and addressing traffic and pedestrian safety concerns. Alternatives 10 and 11 would allow for an opportunity for the relinquished portion of the existing highway to become more pedestrian friendly. In addition, residents from the two communities overwhelmingly favored the bypass alignment. Comments from the public were taken from two information meetings and a public hearing. See comment results in Chapter 3, Comments and Coordination. Residents from the two communities were opposed to any proposed alternative that would widen through the communities.

1.3.4 Identification of a Preferred Alternative

On September 29, 2008, after comparing and weighing the benefits and impacts of all of the feasible alternatives, and reviewing public comments and local agency input, Caltrans identified Alternative 10 over Alternative 1 as the preferred alternative.

On April 8, 2009, the Caltrans identified Alternative 11 as the Preferred Alternative, removing Alternative 10 as the Preferred. Due to financial constraints, Alternative 10

could not be funded entirely. Alternative 11 proposes the same bypass design as Alternative 10, has about the same environmental effects as Alternative 10, and would meet the project's purpose and need. Alternative 11 would impact about 60 fewer acres of habitat to threatened and endangered species.

1.3.5 Alternatives Considered and Withdrawn

During the project development process, eight alternatives were eliminated for the following reasons:

Alternatives 2 and 3

Alternatives 2 and 3 proposed widening the existing two-lane conventional highway to a four-lane conventional highway from Cherry Avenue to Valley West Road. Alternative 2 would widen to the north and Alternative 3 to the south from Valley West Road to the Buena Vista Inn, west of Golf Course Road. An expressway was proposed to the north of the existing State Route 119 between the Buena Vista Inn and Tupman Road.

These alternatives were withdrawn due to the noise and community impacts they would potentially cause. A soundwall would not be feasible due to openings in the wall required for residential driveways. They were also withdrawn because they did not address community concerns for pedestrian and traffic safety through the communities. Residents from the two communities opposed these alternatives when they were presented at the public meeting in January 2001.

Alternatives 4, 5, 6, and 7

Alternatives 4, 5, 6, and 7 proposed various designs for widening the existing two-lane conventional highway to a four-lane expressway from west of Cherry Avenue to Buena Vista Inn, west of Golf Course Road. An expressway was proposed to the north of the existing State Route 119 between the Buena Vista Inn and Tupman Road.

These alternatives were withdrawn mainly for the same reasons Alternative 2 and Alternative 3 were withdrawn. Alternatives 4 through 7 would cause noise impacts and affect community character and cohesion by widening the existing alignment through the two communities. Residents from the two communities expressed strong opposition to these alternatives during the public meeting and public comment period in January 2001 and 2006. These alternatives would cause residential displacements and not address community concerns for traffic and pedestrian safety.

Alternatives 8 and 9

Alternatives 8 and 9 proposed an expressway that would bypass Valley Acres and Dustin Acres, either to the north or the south. Alternative 8 would bypass the two communities to the north from west of Cherry Avenue and merge onto the existing State Route 119 near Buena Vista Inn. Two intersections, one at Valley Acres Road and one east of Tank Farm Road would have connected to the existing State Route 119. Symmetrical widening would occur from east of Tank Farm Road to Tupman Road. Symmetrical widening would occur after the merge onto existing State Route 119 to Tupman Road. This alternative was eliminated because of the greater potential impacts to the San Joaquin kit fox and the potential 13 residential displacements it would cause.

1.4 Permits and Approvals Needed

Table 1.10 shows the permits, review, and approvals required for project construction.

Table 1.10 Summary of Permits, Reviews, and Approvals

Agency	Permit/Approval	Status
United States Fish and Wildlife Service	Section 7 Consultation for Threatened and Endangered Species	The Biological Opinion was received from the U.S. Fish and Wildlife Service on April 20, 2010.
United States Army Corps of Engineers	Section 404 Permit for filling or dredging waters of the United States	Application for Section 404 permit is anticipated after the final environmental document is approved.
California Department of Fish and Game	1602 Agreement for Streambed Alteration Section 2081 Incidental Take Permit	Application for 1602 agreement and Section 2081 permit is anticipated before construction.
Regional Water Quality Control Board	Section 401 Permit for water discharge	Application for permit to be submitted after final environmental document is approved.
California Transportation Commission	Controlled Access Highway Agreement with Kern County	The adoption of the Agreement is anticipated after the final environmental document is approved.

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 project, potential impacts from each of the alternatives, and proposed avoidance, minimization, and/or mitigation measures. Any indirect impacts are included in the general impacts analysis and discussions that follow.

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

- Timberlands—There is no timberland in the project area (field visit October 3, 2006).
- Geology/Soils/Seismic/Topography—There is no potential for surface fault rupture to occur in the project area (Preliminary Geotechnical Report, May 30, 2003).

2.1 Human Environment

2.1.1 Land Use

2.1.1.1 Existing and Future Land Use

A Community Impact Assessment for this project was completed in May 2008.

Affected Environment

The study area is located in western Kern County where petroleum and agriculture comprise the basic economy. Kern County is the third largest county in California and encompasses 8,073 square miles. The land use in western Kern County is primarily resource based including agriculture, mineral, oil, and natural gas. Taft and Maricopa are located in western Kern County, along with the unincorporated communities of South Taft, Ford City, Taft Heights, McKittrick, Derby Acres, Valley Acres, and

Dustin Acres. The project area passes through the rural communities of Valley Acres and Dustin Acres, both located on State Route 119, near Taft. See Figure 2-1. Valley Acres is located approximately 15 miles west of Bakersfield and six miles east of Taft. Dustin Acres is located about 13 miles west of Bakersfield and 7.5 miles east of Taft. Valley Acres and Dustin Acres have served as rural residential areas for those employed in the surrounding petroleum and natural gas industry since the first housing settlements in the 1910s and 1920s. The study area is located between three commercial oilfields: North and South Cole Levee to the east, Buena Vista to the west, and Elk Hills to the north. A large system of oil and natural gas pipelines crosses the study area.

The existing and future land uses identify broad physical uses of land. Caltrans staff identified existing land use within the study area, which is composed of rural residential, park, agriculture, highway commercial, light industrial, and open space. See Figure 2-2.

The future land uses within the study area are described in the Land Use Element of the 2007 Kern General Plan. The future land uses for the study area are summarized below. See also Figure 2-3.

- State and Federal Land – Property owned by various state and federal agencies.
- Parks and Recreational Areas – Includes park areas.
- Specific Plan Required – A designation applied to areas “wherein large-scale projects have been previously proposed by the project landowner(s).”
- Residential – A lot ranging from ½ acre to 5 acres with one single-family unit.
- Commercial – Includes general and highway commercial designations.
- Industrial – A designation applied to light or service industrial uses.
- Agriculture – Includes intensive and extensive agriculture designations.
- Mineral and Petroleum – Areas associated with petroleum and natural gas resources.

One property located in Dustin Acres and two properties in Elk Hills adjacent to the highway are designated with a state and federal land use. These properties are managed by the U.S. Bureau of Land Management. The U.S. Bureau of Land Management owns the mineral and surface rights and manages them for mixed use, which includes leasing the land to develop the minerals for oil and gas.

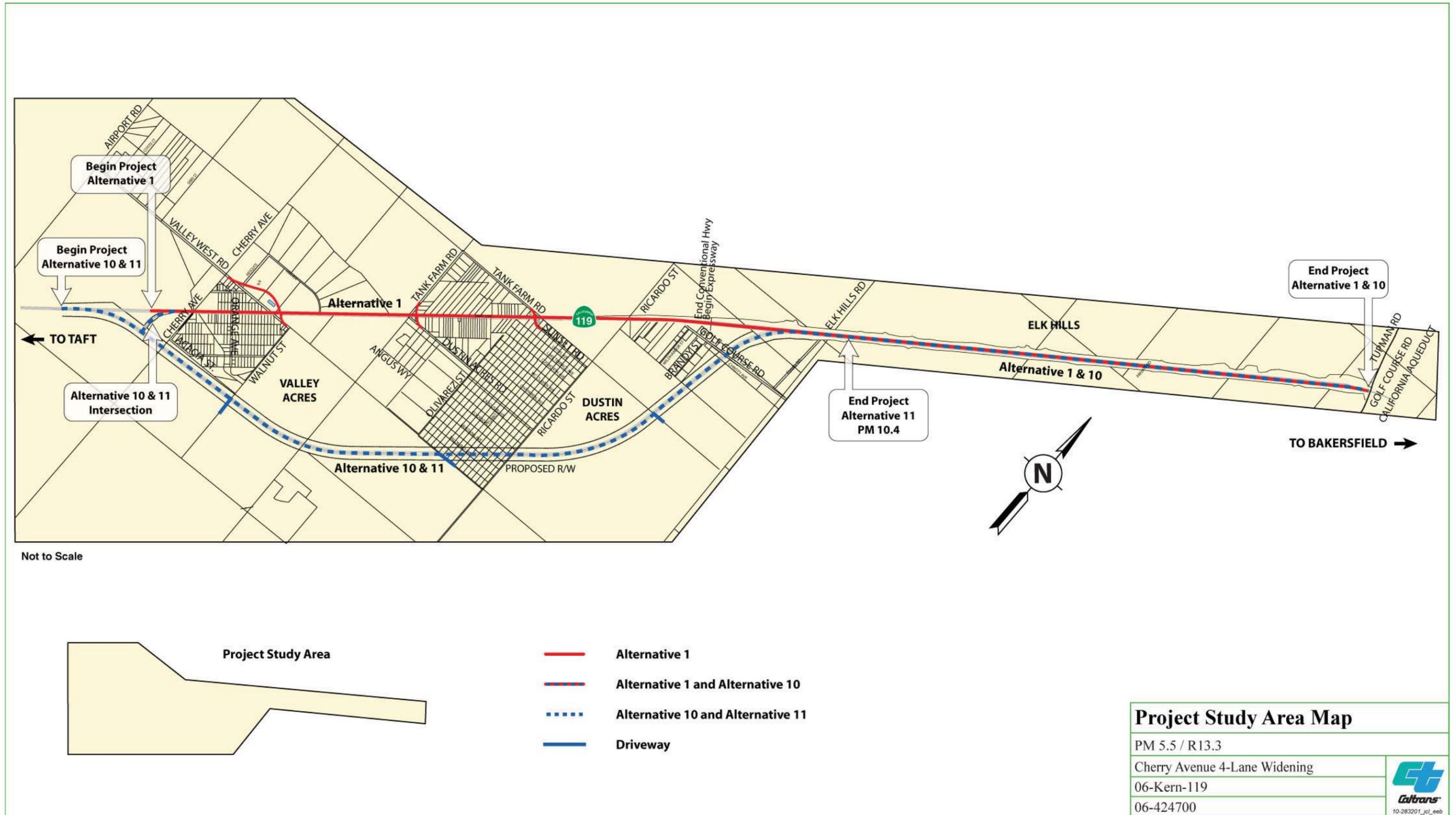


Figure 2-1 Project Study Area Map

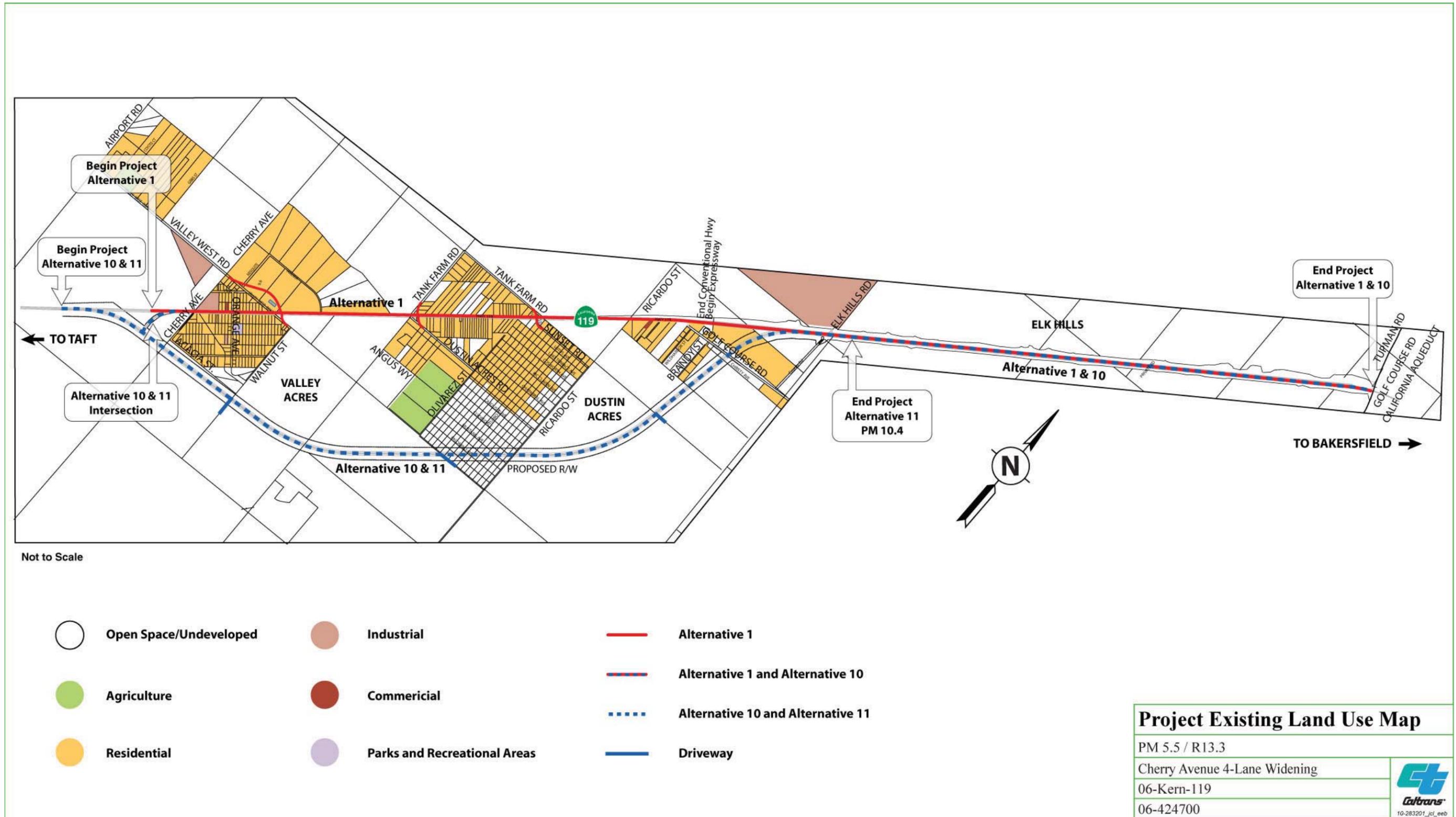


Figure 2-2 Project Existing Land Use Map

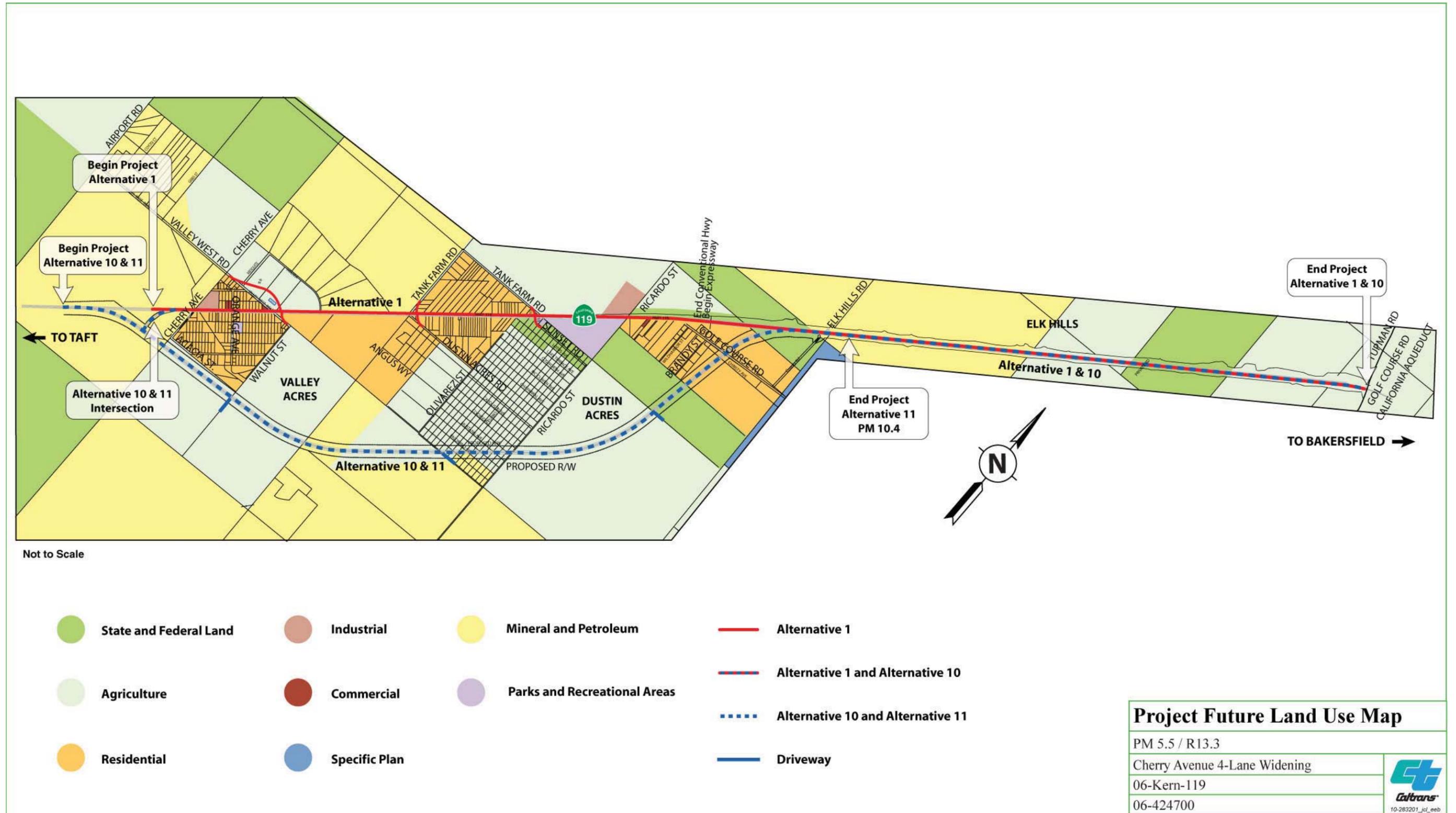


Figure 2-3 Project Future Land Use Map

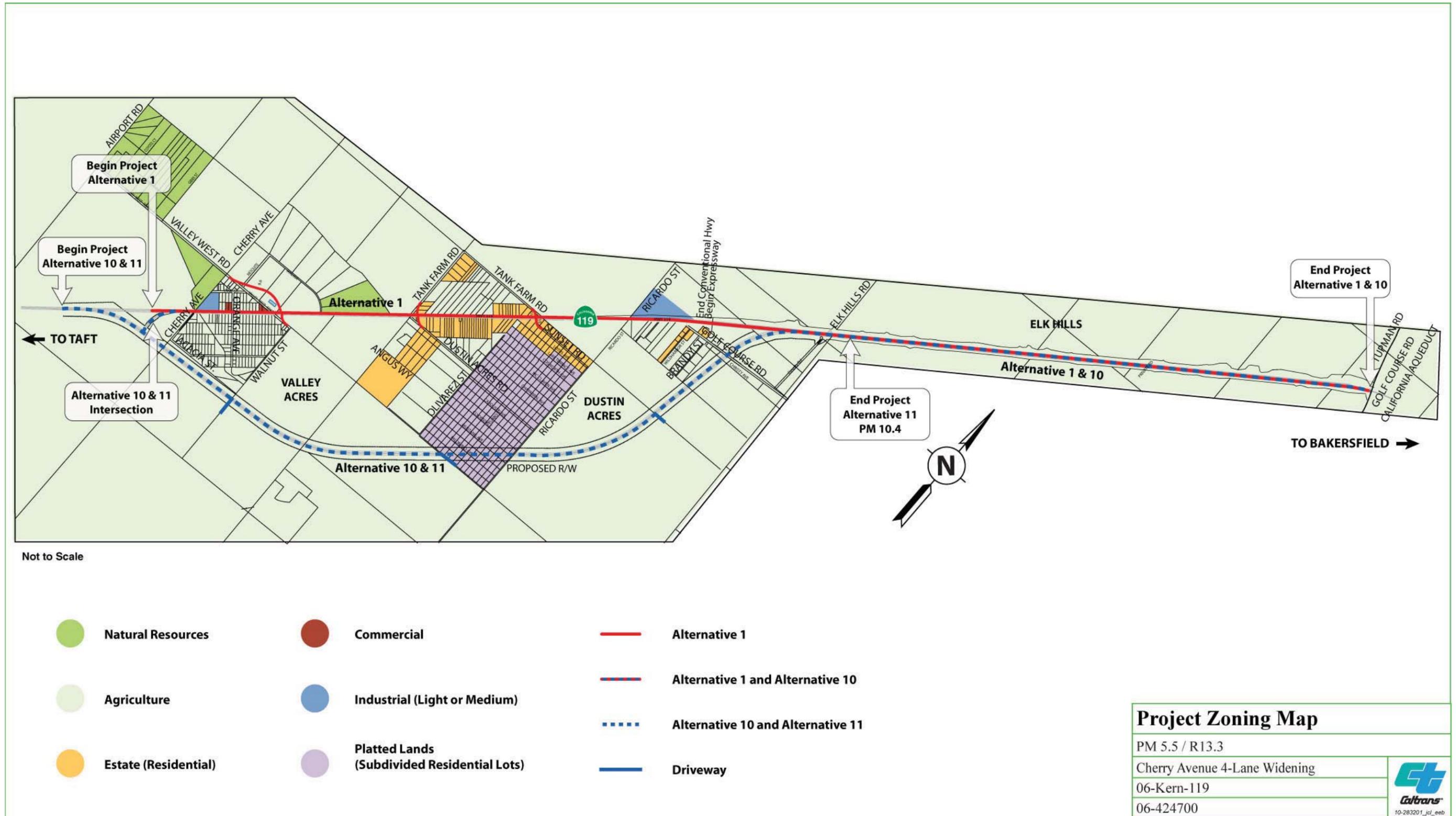


Figure 2-4 Project Zoning Map

Zoning districts provide specific standards or regulations usually more applicable to residents and developers. The Kern County Zoning Ordinance designates zoning districts found in the study area (see Figure 2-4).

Development Trends

The development trend for Valley Acres and Dustin Acres has been a slow growth of low-density housing. For growth in Valley Acres and Dustin Acres, refer to Section 2.1.2 Growth. Development consists of an occasional single-family home or mobile home built on a parcel one acre or larger. Residential development has more recently concentrated in the Sunridge area (south of Sunridge Avenue) in southern Dustin Acres. The approximate 300-acre area consists of mostly one-acre lots with some two-and-a-half-acre and five-acre subdivided lots zoned for residential (estate or platted). About 136 of these lots near Sunridge Avenue have been developed. Taft Greens Estates, a development company, has put up for sale 65 one-acre lots in the southwest portion of this zoned area. Each lot would accommodate one single-family home or a mobile home. Since 2006, four lots have been sold and a house built on each. Approximately 264 acres of the area zoned for platted also has an agricultural land use. This area was zoned for platted in 1899.

The study area currently has no planned commercial or industrial development. Dustin Acres also has one 17-acre parcel off the existing highway zoned for medium-industrial that remains undeveloped.

For agricultural land, see Section 2.1.3 Farmlands and, for park and recreational areas, see Section 2.1.1.3 Parks and Recreation.

Environmental Consequences

Alternative 1 would require the acquisition of strips of land along the existing highway designated for a variety of land uses. Through the two communities, Alternative 1 would require land with mostly residential, agricultural, or mineral and petroleum land uses. Alternative 1 would also require some land with state and federal, industrial, and commercial land uses. Both Alternative 10 and Alternative 11 would require the acquisition of a larger area of land for the southern bypass portion of the project, designated mainly with agricultural, mineral and petroleum, and state and federal land uses. Through Elk Hills the build alternatives would only require the acquisition of new land at the intersection of the state route and Elk Hills Road.

Avoidance, Minimization, and/or Mitigation Measures

None required.

2.1.1.2 Consistency with State, Regional, and Local Plans

Affected Environment

Regional/Statewide Transportation Plans

The Kern Council of Governments' 2007 Regional Transportation Plan designated State Route 119 as a "regionally significant roadway." Amendment 1 (January 2009) and Amendment 2 (September 2009) of the plan no longer list the project as financially constrained from Cherry Avenue to Tupman Road. The amendments show the project financially constrained for highway improvement from 2021 through 2025 between Cherry Avenue and Elk Hills Road. The project from Elk Hills Road to Tupman Road is listed as financially unconstrained. In the 2011 Regional Transportation Plan, the project from Cherry Avenue to Elk Hills Road was listed as financially constrained for construction in 2021 to 2025. The portion from Elk Hills Road to Tupman Avenue was included as financially constrained in 2031 to 2035. The Project from Cherry Avenue to Elk Hills Road was listed in the 2010 Federal Transportation Improvement Program, which was regionally adopted on July 15, 2010. The 2010 Federal Transportation Improvement Program is included in the 2010 Federal Statewide Transportation Improvement Program that was approved by the Federal Highway Administration and the Federal Transit Administration on December 14, 2010.

General Plan

The 2007 Kern County General Plan provides transportation goals, policies, and implementation measures for the Taft area, which includes the communities of Valley Acres and Dustin Acres. The General Plan calls for Caltrans to upgrade State Route 119 to a freeway and that it should include constructing a bypass around the communities of Dustin Acres and Valley Acres. The General Plan establishes road width and right-of-way at a minimum of 110 feet for major highways such as State Route 119. The General Plan lists the status of the planning process between 2004 and 2008 to be within the environmental document phase.

Community Plans

The Valley Acres Rural Community Plan and the Dustin Acres Rural Community Plan, implemented in 1983, each describe State Route 119 as a major highway and call for additional lane capacity and 110-foot right-of-way through the two communities.

Environmental Consequences

Alternatives 10 and 11 are compatible with the 2007 Kern County General Plan, which calls for a bypass around the two communities. Alternative 1 does not propose a bypass and therefore is not compatible with the General Plan. All three show compatibility with their respective rural community plans. Only Alternative 11 shows compatibility with the 2011 Regional Transportation Plan.

Avoidance, Minimization, and/or Mitigation Measures

For Alternative 1, an amendment to the Circulation Element of the Kern County General Plan that would include widening through Valley Acres and Dustin Acres would be recommended to Kern County.

No measures would be required for Alternative 10 or Alternative 11.

2.1.1.3 Parks and Recreation

Affected Environment

Valley Acres Park is the only park within the study area. The approximately two-acre park is located on the corner of Maple Street and Orange Avenue, south of existing State Route 119. The park is accessible on its west and south sides. Neighborhood children mainly use the park, and on occasion residents will use the park's picnic area. The Valley Acres Recreational Building at the park can be reserved for events.

The project would acquire a strip of land from parcel number 298090333 with a "Parks and Recreational Areas" future land use designation. The 36.75-acre parcel is located on the south side of the existing highway between Tank Farm Road and Ricardo Street, within an agricultural district. According to the owner of the property, the parcel is undeveloped and not used for recreational purposes. The owner never promoted nor intends to promote recreational activities on the property. The property has had a Parks and Recreational land use designation at least since 1983 (Dustin Acres Rural Community Plan).

The undeveloped (privately owned) area and the unpaved county roads south of Valley Acres and Dustin Acres have long been an area used for horseback riding by residents. Motorized recreational vehicles (dirt bikes, four-wheelers, etc.) have more recently become the main recreational activity in this area, which has attracted people from outside the communities. Some walking and hiking occur in this area.

Environmental Consequences

None of the alternatives would affect Valley Acres Park or any recreational facility.

Avoidance, Minimization, and/or Mitigation Measures

None required.

2.1.2 Growth

A Community Impact Assessment for this project was completed in May 2008. The study analyzed the project's growth-related issues.

Regulatory Setting

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

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

Affected Environment

Refer to Section 2.1.1 Land Use for information on local plans and policies that control growth in the project area. The Community Impact Assessment analyzed growth-related factors and determined that no further growth analysis is required. A Growth Inducement Checklist was completed in cooperation with Kern County Planning Department as part of the Community Impact Assessment.

Population growth for Valley Acres and Dustin Acres has been relatively slow, dating back from the first housing settlement in 1914. According to the Kern Council of Governments, between 2000 and 2003, the population of Valley Acres grew by 12

residents (from 512 to 524) and Dustin Acres grew by 18 residents (from 585 to 603). According to the Department of Finance, the City of Taft grew by 222 residents (from 8,811 to 9,033) during the same period. The population of Bakersfield grew by 22,247 residents between 2000 and 2003 (246,899 to 269,146) according to the Department of Finance. The General Plan's Housing Element explains that urban development is directed toward incorporated cities rather than rural unincorporated areas and most of the County's growth occurred in incorporated cities and in the Bakersfield area rather than in the rural unincorporated areas.

Development in the two communities mainly consists of rural residential. Housing development has been relatively slow and gradual without any large-scale subdivisions. Single-family homes and mobile homes occupy estate-sized lots from ½ acre to 5 acres and more. Four duplexes are located in the two communities. No apartments or other multi-family units exist. Based on the 2000 Census, Valley Acres had 194 housing units and Dustin Acres had 215 housing units. Between 2000 and 2006, 35 housing units were built in the two communities. A few housing units were developed off Valley West Road northwest of Valley Acres. Taft Greens Estates, a development company, has put up for sale 64 one-acre lots located south of the Sunridge area in Dustin Acres. Any buyer would have the option to put on the site one single-family home or a mobile home. Between 2006 and 2008, four lots were sold and a house built on each.

No major business development has occurred in the study area for nearly 30 years. No new land has been rezoned or classified to commercial or industrial use, except for one 17-acre parcel zoned for medium-industrial in Dustin Acres that remains undeveloped. One restaurant in Dustin Acres was closed as of 2007. No commercial or industrial development is currently planned within the study area, according to the Kern County Planning Department.

The area is lacking proper water supply and sewage capacity to meet the demands created by more intensive land use. Providing water to low-density residential areas has become an increasingly difficult issue. Development is dependent on the availability of a reliable long-term water supply. With little water resources of its own, the area is almost solely dependent on the State Water Project. The project delivers water via the California Aqueduct from the Delta in Northern California. Recent environmental constraints affecting the Project's water delivery and supply have seriously reduced water allotments to the area. With an undependable water

supply, any future development in Valley Acres and Dustin Acres would be expected to secure its own water source.

The County does not provide sewage disposal to the two communities. Residents rely on individual septic systems. The County does not allow intensive land use in rural communities, which lack “public services and infrastructure.”

The Rural Community Plans for Valley Acres and Dustin Acres do not allow high-density housing. The plans prescribe that housing densities are not to exceed four dwelling units per acre. Any development proposed for either community would need to achieve consistency with its Specific Plan and the General Plan.

There is no demand for commercial, industrial, or office development in the area, given the relatively low growth rate and development of Valley Acres and Dustin Acres. The Rural Community Plans do not permit heavy industrial development. The plans confine any new commercial development to highway intersections and do not allow for regional shopping centers or “big box” commercial centers.

Both communities are in an isolated residential pocket surrounded by oil and agricultural related industries. Local opinion may slow any large-scale commercial or industrial development in the project area. Comments from the two public meetings and personal interviews conducted for this project show local concern about any development that would seem to diminish the rural and small-town character of the communities. See Chapter 3 (Comments and Coordination) for public meeting and interview correspondence.

The Kern County General Plan requires that any development proposed within a two-mile radius of either community and which exceeds 25 percent of the existing population of either community would require a specific plan. A specific plan would require for the “entire community” to weigh in on proposed development.

Market factors, which include the supply of land and the affordability and availability of housing elsewhere, would more likely influence growth. It is unlikely that the project itself would be the primary reason for private interests to develop in the area. Development would be discouraged because of the area’s remoteness, environmental constraints, population growth, and density.

Environmental Consequences

None of the alternatives would attract residential development or new population into the study area. The project would not encourage the rezoning or reclassification of lands in the General Plan from agriculture, open space, or low-density residential to a more intensive land use.

Both Alternatives 10 and 11 could have some influence on spatial distribution of future growth considering either would create a southern highway boundary, but they would not encourage new highway commercial development at the proposed intersection west of Cherry Avenue and the intersection at Golf Course Road. Any new commercial development near these intersections would be independent of Alternatives 10 and 11, because neither would provide access to land not already accessible by the existing roadways. These intersections are near the existing highway at the beginning and end portions of the proposed bypass. If the demand for commercial development within the project area existed, it could have already occurred along the existing highway.

The intersection near Cherry Avenue is located near the beginning of the bypass and connects only to the existing highway less than 0.11 mile west of the existing Cherry Avenue. This intersection, which is surrounded by land with petroleum and mineral land use, starts about 145 yards from the existing highway.

The intersection at Golf Course Road is near the end of the proposed bypass. This intersection connects to Golf Course Road, about 147.5 yards from the proposed existing highway. If there was a demand for it, commercial development could have already occurred north along the existing highway across from Golf Course Road. East of the intersection along the Golf Course Road, the undeveloped land has a residential land use. About 0.38 mile east of the intersection, the land has a specific plan land use.

Avoidance, Minimization, and/or Mitigation Measures

None required.

2.1.3 Farmlands

In May 2008, Caltrans completed a Community Impact Assessment for this project that analyzed potential effects to farmlands.

Regulatory Setting

The National Environmental Policy Act and the Farmland Protection Policy Act (United States Code 4201-4209; and its regulations, 7 Code of Federal Regulations Ch. VI Part 658) require federal agencies, such as the Federal Highway Administration, and Caltrans as assigned, to coordinate with the Natural Resources Conservation Service if their activities may irreversibly convert farmland (directly or indirectly) to nonagricultural use. For purposes of the Farmland Protection Policy Act, farmland includes prime farmland, unique farmland, and land of statewide or local importance.

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.

Affected Environment

Though one of the primary land uses in the study area is agriculture, farming has played a modest role as an employment base for the two communities. Crop cultivation and grazing has generally occurred south of Dustin Acres. Farming has decreased over the past decades. Cotton, once a primary crop, has not been grown since 1998. Oats and alfalfa may continue to be grown in southern Dustin Acres, but the acreage has decreased considerably. The last cultivated area in the Sunridge area grew alfalfa as of 2005, but is now for sale by Taft Greens Estates, a residential development company. About 65 one-acre lots are for sale that would allow for rural residential housing. In 2006, approximately 26 of 39 acres of designated farmland south of Angus Way were cultivated. In that same year, all 39 acres were rezoned into eight 5-acre residential parcels. The 5-acre parcels would continue to support non-commercial growing of alfalfa for personal use.

Kern County prepared an environmental document in 2006 for the recently rezoned 39-acre parcel. According to the environmental document's agricultural conversion study, the site was considered not prime agriculture, but classified as "Other Land" due to the area's poor and unsuitable water quality and soil for commercial farming. The study also noted that area also lacks a proper water supply and that this has been an "historical concern" for the growers in the region. Water scarcity has worsened recently with the State Water Project's restrictions to distribute water. (See Section

2.1.2, Growth.) In addition, the site was not profitable for commercial agricultural production because the site had an average annual economic loss of \$10,000. The farming operations adjacent to this study site were found to be marginal or non-existent for these reasons as well.

In 2005, grazing occurred on over 6 acres in southern Dustin Acres. A few cattle may continue to graze in this location. In wet years, sheep grazed in the southern area during spring and summer months, but this has not occurred since the beginning of the decade.

Results of the Farmland Conversion Impact Rating Form completed in consultation with the Natural Resources Conservation Service for this project show that both Prime Farmland and Farmland of Statewide Importance are located within the study area (see Appendix F). The results did not provide the amount of grazing land within the study area. The study area does not contain farmland that is of Local Importance because Kern County does not use this designation.

Environmental Consequences

Farmland Conversion

Of the build alternatives, Alternative 1 would directly convert the least amount of farmland, totaling approximately 17.7 acres along the existing alignment (Appendix F). Of those, approximately 3.7 acres would be Prime and Unique Farmland and 3.8 acres would be Farmland of Statewide Importance. Alternative 1 would potentially bisect two privately owned parcels with assessor parcel numbers 298170317 and 298170309, but would not cause them to be inaccessible or non-farmable. No farmland would be converted through the Elk Hills portion.

Both Alternatives 10 and 11 would directly convert approximately 109.3 acres of farmland, along the bypass portion of the project. No farmland would be converted through the Elk Hills portion. Of the farmland required, approximately 47.9 acres would be Prime and Unique Farmland. These alternatives would not convert any Farmland of Statewide Importance. Of the 109.3 acres converted, approximately 43 acres have an Extensive Agricultural land use according to Kern County. Extensive Agricultural land uses involves large amounts of land with relatively low agricultural production or yield value, such as grazing. Both alternatives would divide three agricultural parcels along the bypass, but would not cause them to be inaccessible or non-farmable. The alternatives would bisect a privately owned parcel with assessor

parcel number 298190042 (320 acres). Both alternatives would also bisect two parcels owned by Chevron Incorporated with assessor parcel numbers 298181033 (316.34 acres) and 298090093 (640 acres). The only record of farming activity occurred at assessor parcel number 298181033 in 2005.

The scores for Alternative 1 and Alternative 10 on the Farmland Conversion Impact Rating for Corridor Type Projects form were below the 160-point threshold required for additional protection under the Farmland Protection Policy Act. See Appendix B, (AD 1006 Form). Alternative 1 had a score of 121, and Alternative 10 had a score of 135. The focus of the Farmland Protection Policy Act is on farmland impacts that reach the threshold of 160 points. There was no farmland conversion form done for Alternative 11. Since there is no farmland conversion through the Elk Hills portion of the project, Alternative 11 would score the same as Alternative 10.

Of the four parcels in the study area under a Williamson Act contract, Alternative 1 would potentially affect one parcel and Alternatives 10 and 11 would potentially affect two parcels, as shown in Table 2.1. See Figure 2-5 for locations of Williamson Act parcels. No build alternative would cause the project to be “of statewide, regional, or area wide significance” because it would not cancel contracts of parcels exceeding 100 acres. Only one parcel affected by Alternatives 10 and 11 had a record of farming activity; approximately 85 acres of oats were grown on that parcel in 2005.

Table 2.1 Williamson Act Properties

Assessor Parcel Number	Acres per Parcel	Estimate Land Conversion (acres) by Build Alternative	
		Alternative 1	Alternative 10 & Alternative 11
298170283	295.53	0.61	0.0
298181033	316.34	0.0	45.91
298181256	250.30	0.0	0.27

Source: Kern County Planning Department

Alternative 1 would affect the least number of parcels and amount of land under Williamson Act contract. From the northern side of the existing highway, this alternative would potentially convert a sliver of assessor parcel number 298170283. The conversion of approximately 0.61 acre of the parcel’s south border would not segment the parcel or make the remaining portion of the parcel inaccessible or non-farmable. The portion of the parcel that would be required for the proposed project

would be removed from the Williamson Act contract. The reduced parcel would remain under the Williamson Act contract.

Alternatives 10 and 11 would affect the most parcels and amount of land under the Williamson Act contract. Both alternatives would potentially bisect assessor parcel number 298181033, directly removing approximately 46 acres from the Williamson Act contract. Approximately 92 acres would remain to the north and 173 acres to the south. A driveway from the bypass would provide access to the southern portion of the property. Segmentation of the parcel would not adversely affect its eligibility to remain under the Williamson Act contract.



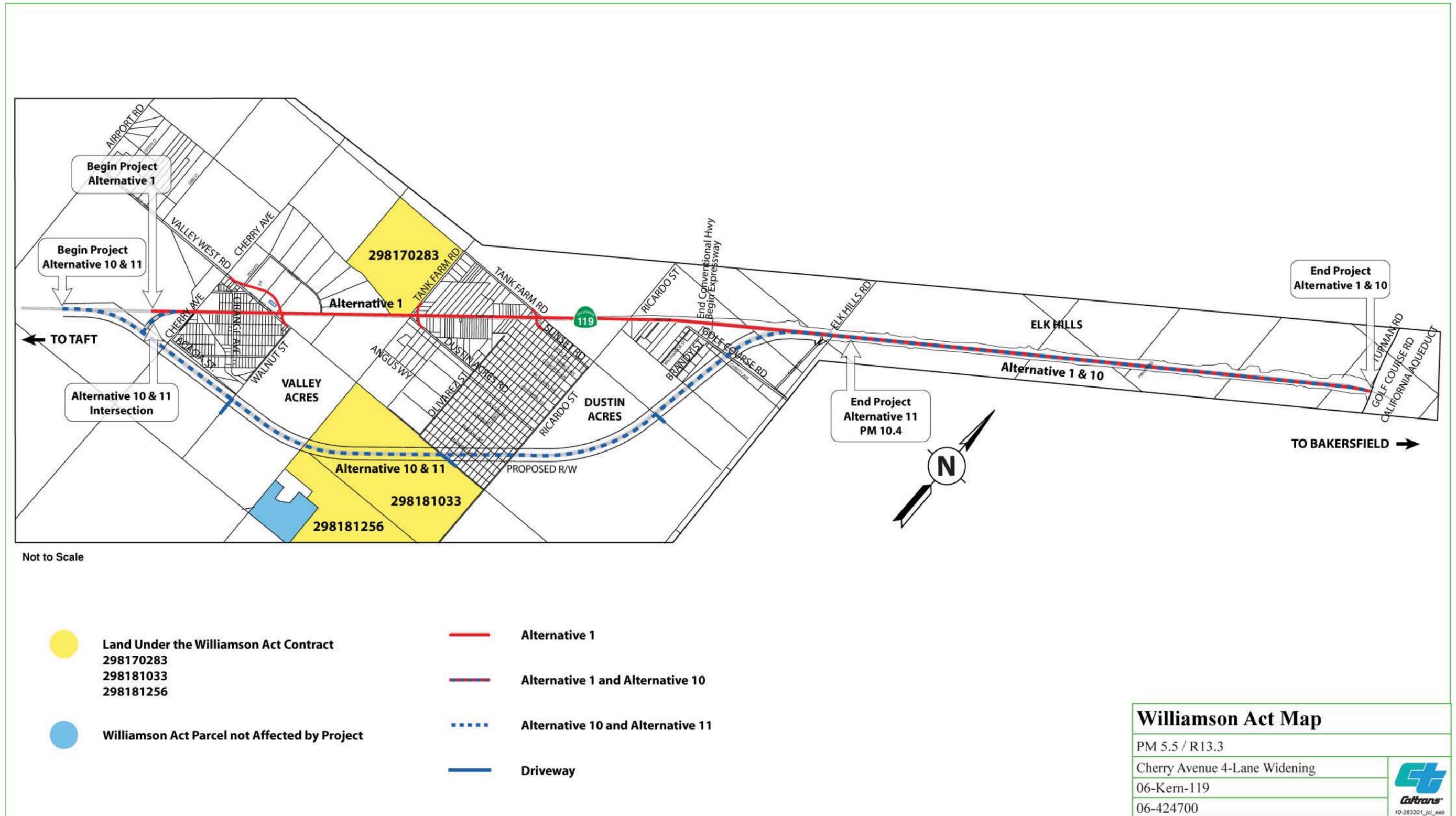


Figure 2-5 Williamson Act Properties

Alternatives 10 and 11 would also potentially convert approximately 0.27 acre from the northern edge of assessor parcel number 298181256. Neither alternative would segment the parcel or create secondary impacts that would make the remaining portion of the parcel less practical for farming. The portion of the parcel that would be required for the proposed project would be removed from the Williamson Act contract. The reduced parcel would remain under the Williamson Act contract.

Avoidance, Minimization, and/or Mitigation Measures

No measures would be necessary for Alternative 1.

Standard avoidance measures were followed in the design of the bypass (Alternatives 10 and 11). The bypass alignment would follow section lines where possible. Three driveways would be built along the bypass to provide access to otherwise landlocked parcels south of the bypass.

2.1.4 Community Impacts

A Community Impact Assessment that analyzed potential effects to community character and cohesion, relocations, and environmental justice for this project was completed in May 2008.

2.1.4.1 Community Character and Cohesion

Regulatory Setting

The National Environmental Policy Act of 1969, as amended, established that the federal government use all practicable means to ensure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings [42 United States Code 4331(b)(2)]. The Federal Highway Administration in its implementation of the National Environmental Policy Act [23 United States Code 109(h)] directs that final decisions regarding projects are to be made in the best overall public interest. This requires taking into account adverse environmental impacts, such as destruction or disruption of human-made resources, community cohesion, and the availability of public facilities and services.

Under the California Environmental Quality Act, an economic or social change by itself is not to be considered a significant effect on the environment. However, if a social or economic change is related to a physical change, then social or economic change may be considered in determining whether the physical change is significant. Since this project would result in physical change to the environment, it is appropriate

to consider changes to community character and cohesion in assessing the significance of the project's effects.

Affected Environment

Population

Valley Acres and Dustin Acres have experienced a relatively slow growth rate. According to the Kern Council of Governments, between 2000 and 2003, the population of Valley Acres grew by 12 residents (from 512 to 524) and Dustin Acres grew by 18 residents (from 585 to 603).

Race/Ethnicity

Based on available data, the race and ethnic mix of Valley Acres and Dustin Acres differs from that of the county and state. The population of both communities had a higher percentage of whites in 2000, according to the 2000 Census (see Table 2.2). Valley Acres had a white population consisting of close to 90 percent, and Dustin Acres had a white population of about 85 percent. In 2000, Kern County had a white population of 61.6 percent, and California had a white population of 59.5 percent. According to resident interviews, each community's racial/ethnicity profiles have not changed much since 2000.

Table 2.2 Comparison of Racial/Ethnicity Profiles

Race/Ethnicity	Valley Acres	Dustin Acres	Kern County	California
White (of one race)	89.8%	85.1%	61.6%	59.5%
Black or African American (of one race)	0.6%	0.2%	6.0%	6.7%
American Indian/Alaska Native (of one race)	1.8%	3.4%	1.5%	1.0%
Other (of one race)*	5.5%	8.2%	26.7%	28.0%
Two or more races	2.3%	3.1%	4.1%	4.7%
Total Population (of one race and two or more races)	100%	100%	100%	100%
Hispanic or Latino (of any race)	7.4%	10.3%	38.4%	32.4%

Source: 2000 U.S. Census

* Includes Asian, Native Hawaiian and other Pacific Islander, and some other race.

Age of Population

Using 2000 Census data, the age profiles of Valley Acres and Dustin Acres were not greatly different with the age profile of Kern County and the City of Taft (see Table 2.3). The median age of Dustin Acres is slightly lower than the median age of Valley Acres.

According to the 2000 Census, Valley Acres had 52 seniors (65 years and older), which comprised 9.4 percent of its population. Dustin Acres had 45 seniors, which comprised 7.7 percent of its population. According to the 2000 Census, the City of Taft had a higher percentage of seniors at 12.8 percent.

Table 2.3 Age Profile

	Valley Acres	Dustin Acres	City of Taft	Kern County
Median Age (Years)	38	33.2	34.3	30.6
65 Years and Older (Percentage)	9.4%	7.7%	12.8%	9.4%

Source: 2000 U.S. Census

Low Mobility

The percentage of each community's population (5 years and older) that had some form of disability was lower than the county's percentage. According to the 2000 Census, Valley Acres and Dustin Acres had 14.7 percent and 16.4 percent, respectively, of the population with some type of disability. At 22 percent, Kern County was higher.

Income and Poverty Level

According to the 2000 Census, Valley Acres had a median household income of \$41,477 (in 1999 dollars), and Dustin Acres had a median household income of \$50,203 (Table 2.4). Both were higher than the median household incomes of Taft, Bakersfield, and Kern County. The median household income for either Valley Acres or Dustin Acres has probably not decreased since 2000 given the low unemployment rate in the two communities since 2000 (see Table 2.8).

According to the 2000 Census, the percentage of families below the poverty level was 5.1 percent in Valley Acres and 4.7 percent in Dustin Acres. The poverty status for Taft and Kern County was much higher. The percentage of families below the poverty level was 13.1 percent in Taft and 16.8 percent Kern County.

Table 2.4 Household Income and Poverty Level

	Valley Acres	Dustin Acres	Taft	Bakersfield	Kern County
Median Household Income (dollars)	\$41,477	\$50,203	\$33,861	\$39,982	\$35,446
Total Families Below the Poverty Level	10 (5.1%)	8 (4.7%)	213 (13.1%)	9,014 (14.6%)	26,467 (16.8%)

Source: 2000 U.S. Census

Family Households

In 2000, the percentage of family households with children under 18 years old in Valley Acres and Dustin Acres was 78.7 percent and 81.4 percent, respectively (Table 2.5). The percentage of family households in Kern County was 75 percent.

According to the 2000 Census, Valley Acres had an average family size of 3.18 and Dustin Acres had an average family size of 3.25. For that same year, Kern County had an average family size of 3.50.

Table 2.5 Total Family Households

	Valley Acres	Dustin Acres	City of Taft	Kern County
Total Family Households	144	162	1,566	156,401
Family Households (Percentage)	78.7%	81.4%	70.1%	75.0%
Average Family Size	3.18	3.25	3.09	3.50

Source: 2000 U.S. Census

Neighborhoods/Communities

As indicators of community cohesion, family and neighborly ties, gathering places, long-term residency, home ownership, and single-family housing were evaluated. The two communities appear to have a strong sense of community among residents based on family and neighborly ties. Interviews revealed many family relations among the households of Valley Acres and Dustin Acres.

Visiting by neighbors and family relatives is a common social activity. Homes of residents are the most popular and common gathering places. Other gathering places in the two communities are Valley Acres Market and Valley Acres Park in Valley Acres. Though not considered a conventional gathering place, the open space south of

the two communities has long been a popular area for horseback riding by residents. Raising horses and horseback riding has long been a trait of the community’s rural lifestyle.

Long-Term Residency

According to the 2000 Census, the incidence of a homeowner or renter of Valley Acres and Dustin Acres living in the same house since 1995 was notably higher on average than what was found in Taft or Kern County (Table 2.6).

Table 2.6 Long-Term Residency

	Valley Acres	Dustin Acres	City of Taft	Kern County
Same house since 1995 (percentage)	77.1%	69.5%	33.8%	47.2%

Source: 2000 U.S. Census

Home Ownership

Each community had a higher average of owner-occupied households compared with the county’s average. According to the 2000 Census, owner-occupied households in Valley Acres and Dustin Acres were about 78 percent and 80 percent, respectively, while Kern County was at 62 percent. High home ownership by residents has been an ongoing trend within the communities, according to residents.

Single-Family Housing

The communities consist of single-family homes and mobile homes. Except for four duplexes, no apartments, condominiums, or other high-density housing are within the communities.

Employment and Income

Employment centers for the residents of Valley Acres and Dustin Acres are mainly located in the nearby petroleum industry and in Taft and the Bakersfield area. The petroleum industry has historically provided the main employment and income base for Valley Acres and Dustin Acres. Table 2.7 shows the types of occupations the two communities held in 2000. Farming has played a minor role in employment for the two communities, according to residents.

Table 2.7 Occupation Types

Occupation	Valley Acres		Dustin Acres	
	Number	Percent	Number	Percent
Management, Professional, and Related Occupation	24	10.4%	25	10.2%
Service Occupations	38	16.5%	48	19.6%
Sales and Office Occupations	49	21.2%	64	26.1%
Farming, Fishing, and Forestry Occupations	0	0%	14	5.7%
Construction, Extraction, and Maintenance Occupations	74	32%	49	20.0%
Production, Transportation, and Material-Moving Occupations	46	19.9%	45	18.4%

Source: 2000 U.S. Census

Combined, Valley Acres and Dustin Acres had lower unemployment rates than either Kern County or California (Table 2.8). Dustin Acres had virtually no unemployment. Valley Acres and Dustin Acres have had a labor force of approximately 300 each since 2000.

Table 2.8 Unemployment Rate

Year	Valley Acres and Dustin Acres	Kern County	California
2000	3.0%	8.2%	4.9%
2001	3.2%	8.6%	5.4%
2002	3.7%	9.8%	6.7%
2003	3.9%	10.3%	6.8%
2004	3.7%	9.9%	6.2%
2005	3.1%	8.4%	5.4%
2006	2.8%	7.6%	4.9%

Source: California Employment Development Department

Four major businesses are located in the study area (see Table 2.9). Three are in Valley Acres, and one is east of Dustin Acres in the Elk Hills portion of the project.

Table 2.9 Major Businesses in Study Area

Business Name	Stewart & Stevenson	Valley Acres Market	Huddleston Crane Service	Occidental Petroleum (Elk Hills)
Location	27506 Highway 119 Valley Acres	27530 Highway 119 Valley Acres	27454 Maple Street Valley Acres	28590 Highway 119 Elk Hills
Type of Business	Oilfield Service Company	Market and Delicatessen	Crane and Trucking Services	Oil and Natural Gas Producer
Number of Employees (approximately)	50	4	15-16	310 (2000 contract employees*)

* A majority of the contract employees lives in the greater Bakersfield area.

Environmental Consequences

Neighborhoods/Communities

Alternative 1 would have more of an impact on community character than Alternative 10 or Alternative 11 because it proposes to widen the existing highway through the communities. From Cherry Avenue to Valley West Road in Valley Acres, Alternative 1 would not require new right-of-way from the current right-of-way width of 110 feet. From Valley West Road to Golf Course Road through Dustin Acres, the right-of-way would widen from approximately 60 feet to 146 feet. To accommodate two new proposed lanes, a center median, and shoulders, Alternative 1 would widen the paved portion of the highway through the two communities from approximately 24 and 27 feet to 78 feet (see Appendix B Cross Sections). By creating a wider highway through the two communities, residents would feel a wider psychological barrier dividing each community. The residents' sense of their rural lifestyle could diminish with the wider highway.

Alternative 10 was developed based on comments received at the January 2001 information meeting. Comments received from the information meeting held for the project in November 2006 indicated that residents from the two communities overwhelmingly supported Alternative 10 and opposed Alternative 1. Comments received from the public hearing held for the project on August 27, 2008 indicated residents again overwhelmingly supported Alternative 10. The residents were opposed to any proposed alternative that would widen through the communities. See Chapter 3 Comments and Coordination. A main concern of residents was pedestrian safety, in particular children crossing the highway. According to the public comments and resident interviews, residents do not cross the highway often, due to concerns for their safety. Children and young people mostly cross the highway to get to Valley Acres Market or Valley Acres Park. Alternative 1 would likely further hinder

pedestrian crossing. With a wider highway, no designated pedestrian crossings, and an expected rise in vehicle traffic, resident concerns for pedestrian safety would rise. Alternative 1 would also reduce horseback riders crossing the highway.

Alternative 11 was developed due to funding constraints. In January 2009, Alternative 10 was no longer financially constrained in the 2007 Regional Transportation Plan. Alternative 11 maintains the public favored bypass design of Alternative 10. See Section 1.3, Alternatives. In the 2011 Regional Transportation Plan, the project from Cherry Avenue to Elk Hills Road was listed as financially constrained for construction in 2021 to 2025. The portion from Elk Hills Road to Tupman Avenue was included as financially constrained in 2031 to 2035.

Both Alternatives 10 and 11 would reduce horseback and pedestrian access to equestrian trails located south of the proposed bypass. A proposed 5-foot-high chain link fence along the entire length of the bypass would also impede access. The fence would serve as a right-of-way fence and as part of the project's kit fox mitigation plan. Three driveways would provide access to landlocked parcels south of the bypass. Of the 79 comments received from the public meeting held for this project in 2001, one comment opposed Alternative 10, due to access concerns for horseback riding. Horseback riding would still be available on approximately 630 acres of open space between the existing alignment and the proposed bypass.

Alternatives 10 and 11 would have the least impact on community cohesion since neither would create a physical and/or a psychological divide in the communities. Both bypass alternatives would potentially eliminate residents' concerns for pedestrian safety. Overall, both would have a beneficial effect on the communities because the bypass would divert traffic, noise, and congestion south of the two communities. Both would also convert the existing alignment through the communities to a local county road. As a result, this would potentially leave this segment more pedestrian friendly.

Neither Alternative 10 nor 11 are expected to reduce Valley Acres Market's customer base by diverting traffic from the existing alignment. Employees from the nearby petroleum-related industries comprise about 80 percent of the market's clientele, and residents from Valley Acres and Dustin Acres comprise about 20 percent. Drivers should not perceive the new distance to be so great an inconvenience that it would discourage them from shopping at the market. The bypass would be approximately three-fourths of a mile away from the existing highway at its furthest distance. The

market would be accessible from the bypass at proposed intersections east of Cherry Avenue and at Golf Course Road. The intersection near Cherry Avenue would be about 0.3 mile from Valley Acres Market. The market may also experience an increase in shopping by residents from Valley Acres and Dustin Acres. Residents may be more willing to walk to the market because the former highway would be safer for pedestrians. Both bypass alternatives would divert traffic, noise, and congestion south of the communities and convert the existing alignment to a local county road.

During the construction phase of the project, businesses in the study area would potentially experience short-term access impacts.

None of the three build alternatives would cause an adverse impact to the economic conditions within the region or the study area. The build alternatives would not reduce the employment base for Valley Acres and Dustin Acres.

Avoidance, Minimization, and/or Mitigation Measures

Alternative 10 was developed due to the community impacts widening through Valley Acres and Dustin Acres would potentially cause. Alternative 10 was proposed at the public meeting held in November 2006 in Taft. Alternative 10 would avoid community impacts potentially caused by Alternative 1.

Alternative 11, which ends 0.4 mile east of Elk Hills Road in Elk Hills, is a shortened version of Alternative 10. Alternative 11 maintains the bypass proposed in Alternative 10, which is overwhelmingly favored by the public.

Both Alternatives 10 and 11 would provide three driveways to landlocked parcels south of the bypass. One driveway would provide access to the subdivided parcels south of the proposed bypass in Dustin Acres. Access would also be provided to one property south of Golf Course Road and east of the proposed bypass that would otherwise be landlocked. For access, an easement through another property would be acquired.

2.1.4.2 Relocations

A Final Relocation Impact Statement was completed on October 1, 2008. Draft Relocation Impact Statements were completed in February and November 2007. In addition, a Community Impact Assessment was completed in May 2008.

Regulatory Setting

Caltrans' Relocation Assistance Program is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and Title 49 Code of Federal Regulations, Part 24. The purpose of the Relocation Assistance Program is to ensure that persons displaced as a result of a transportation project are treated fairly, consistently, and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. Please see Appendix D for a summary of the Relocation Assistance Program.

All relocation services and benefits are administered without regard to race, color, national origin, or sex in compliance with Title VI of the Civil Rights Act (42 United States Code 2000d, et seq.). Please see Appendix C for a copy of Caltrans' Title VI Policy Statement.

Affected Environment

Most of the land adjacent to the existing highway is for residential land use, which consists of approximately 115 residential parcels. Two businesses—Stewart & Stevenson, an oil service company, and Valley Acres Market—are located along the alignment. One restaurant building (closed) in Dustin Acres is also next to the highway.

Environmental Consequences

Alternative 1 would displace approximately seven residential units: four single-family homes and three mobile homes (Table 2.10). One commercial unit would also be acquired, a former restaurant. The business closed in 2007, and the building remains unoccupied. The mobile homes are located on private lots and not in a mobile-home community. The potential relocations do not belong to a classified minority or a low-income group (see Section 2.1.4.3 Environmental Justice).

Both Alternatives 10 and Alternative 11 would have no displacements at this time. The bypass would cross subdivided, one-acre lots for sale by Taft Greens Estates and also owned by private land owners in southern Dustin Acres (see Section 2.1.1 Land Use). The bypass would cross about five vacant lots in the southeast corner of Taft Greens Estates. The lots have utilities and fencing, and would accommodate one single-family home or a mobile home. Since 2006, four lots on the northwest corner have been sold and a house has been built on each. Overall, the bypass could divide an area zoned for residential use (platted), about 34 acres. Approximately 17 acres of

these subdivided parcels would be left to the south of the bypass. To provide an easement, Caltrans would acquire about 11,000 square feet of a 21.87-acre undeveloped property (APN 298100010) south of Golf Course Road and east of the proposed bypass. Another property (APN 298100030) that would be otherwise landlocked would then be allowed access to Golf Course Road. Caltrans would relinquish the easement to the County.

Table 2.10 Potential Displacements

	Alternative 1	Alternative 10 & Alternative 11
Single-Family Residential Homes	4	0
Mobile Homes (Private parcels)	3	0
Vacant Commercial Building	1	0

Source: Caltrans Draft Relocation Impact Report, November 26, 2007

Based on a 7.4 percent vacancy rate in Valley Acres and Dustin Acres and a 9.9 percent vacancy rate in Taft and Kern County, there would be sufficient single-family residences for purchase or rent/lease that are equal to or better than the displacement properties.

Avoidance, Minimization, and/or Mitigation Measures

Alternative 1 would require relocation assistance. Neither Alternative 10 nor Alternative 11 is expected to require relocation assistance. Both alternatives propose to acquire vacant subdivided lots to avoid relocation of any owners or tenants who may come to reside on the lots in the future.

All land acquisitions are subject to the Uniform Relocation Act. Caltrans must comply with all requirements of the act. Appendix D (Summary of Relocation Benefits) of this report discusses these acquisition and compensation measures.

Funding would be available to relocate or re-establish any home or business affected by the project. The Relocation Payment Program would help eligible residential occupants by paying certain costs and expenses necessary for, or incidental to, the purchase or rental of replacement housing and actual reasonable moving expenses to a new location within 50 miles of the displacement property.

Any persons (individual, family, corporation, partnership, or association) who moves from real property or moves personal property from real property as a result of the acquisition of the real property, or who is required to relocate as a result of a written notice from the California Department of Transportation from the real property required for a transportation project is eligible for “Relocation Assistance.” All activities would be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Relocation resources would be available to all displaced persons free of discrimination.

2.1.4.3 Environmental Justice

Regulatory Setting

All projects involving a federal action (funding, permit, or land) must comply with Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, signed by President Bill Clinton on February 11, 1994. This Executive Order directs federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Low income is defined based on the Department of Health and Human Services poverty guidelines. For 2008, this was \$21,200 for a family of four.

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

Affected Environment

Existing Project Corridor

Data from 12 Census blocks were used to represent properties along the project alignment in Valley Acres and Dustin Acres (see Table 2.11). As of 2000, whites were the majority population of the 12 blocks. Of a population of 594, 505 were white (85 percent).

Table 2.11 Ethnicity/Race along Project Corridor

Ethnicity/Race	Project Corridor*		City of Taft		Kern County	
	Population	%	Population	%	Population	%
White	505	85.0%	5,322	83.2%	407,581	61.6%
Black or African American	4	0.7%	126	2.0%	39,798	6.0%
American Indian/ Alaska Native	20	3.4%	54	0.8%	9,999	1.5%
Other**	65	10.9%	898	14.0%	204,267	30.9%
Total Population (one race)	594	100%	6,400	100%	661,645	100%
Hispanic or Latino (of any race)	45	7.6%	995	15.5%	254,036	38.4%

Source: 2000 U.S. Census

*Blocks 1002, 1003, 1005, and 1006 are within Valley Acres. Blocks 1000, 5533,5648, 649, 5650, 5652, and 5653 cover Dustin Acres.

**Includes Asian (Alone), Native Hawaiian and other Pacific Islander (Alone), some other race, and two or more races.

Approximately 215 residential parcels in the two communities are adjacent to the existing highway. Some parcels contain one or more mobile homes on private lots. The study area had no mobile home parks. Some properties and homes were not maintained and were in poor condition. The newest homes were built within the last 20 years. The oldest home was built in 1914.

Residents interviewed agreed that the majority of the residents living along the highway were mainly white. They also believed that the minority population living along the highway was the same percentage or slightly higher than in the rest of the two communities.

Compared with the region, Valley Acres and Dustin Acres each had higher incomes, much lower unemployment rates, and significantly fewer families below the poverty rate. The two communities also had higher home ownership and much less ethnic diversity. See Section 2.1.4.1 Community Character and Cohesion.

Environmental Consequences

No low-income or minority populations were identified in the study area. The proposed project would not potentially affect any low-income or minority populations.

Avoidance, Minimization, and/or Mitigation Measures

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

2.1.5 Utilities/Emergency Services

Affected Environment

Caltrans conducted a Community Impact Assessment in May 2008 that addressed community emergency services, utilities, and community facilities.

The Kern County Sheriff Department's Taft Substation is responsible for the law enforcement for the communities of Valley Acres and Dustin Acres, as well as the unincorporated areas surrounding the City of Taft.

The California Highway Patrol is responsible for traffic enforcement in unincorporated areas of the county. The Buttonwillow Area office is in Bakersfield.

The Kern County Fire Department's Station in Taft includes the project limits in its service area.

Within the project limits, existing utilities consist of electric power poles, aboveground and underground communication lines, water lines, and underground oil pipelines.

Utilities in the project area include Pacific Gas and Electric, West Kern Water District, Verizon, Brighthouse Cable Company, Time Warner, Pacific pipeline, Chevron pipeline, Shell pipeline, Kock Oil, Inergy, and Southern California Gas Company.

Environmental Consequences

Under the three build alternatives, adding a lane in each direction and widening the existing shoulders to current design standards would give motorists ample room to pull over for emergency vehicles to pass.

With a projected increase in vehicle congestion and reduction in level of service, emergency service response times could be delayed with the No-Build Alternative.

During construction, response times for emergency services would have minimal delay. After completion of the project, response times would improve.

Electric power poles would be relocated within the existing right-of-way for Alternative 1 and outside of the right-of-way for both Alternative 10 and Alternative 11.

Construction and acquisition of right-of-way for the three build alternatives would require relocation of aboveground and underground communication lines, water lines, and oil pipelines. This should be achievable with minimal interruption to services. Alternative 11 is shorter so would require fewer utility relocations than Alternative 10; no utilities would be relocated by Alternative 11 beyond 0.4 mile east of Elk Hills Road.

Avoidance, Minimization, and/or Mitigation Measures

For the three build alternatives, a Transportation Management Plan would be required to help reduce delays and congestion associated with construction activities and utility relocations. Before construction, utilities affected by the project would be relocated in coordination with utility companies.

2.1.6 Traffic and Transportation/Pedestrian and Bicycle Facilities *Regulatory Setting*

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

Caltrans is committed to carrying out the 1990 Americans with Disabilities Act by building transportation facilities that provide equal access for all persons. The same degree of convenience, accessibility, and safety available to the public will be provided to persons with disabilities.

Affected Environment

A Community Impact Assessment was completed in May 2008, which evaluated traffic access and circulation within the study area. Traffic analysis for Alternative 1, Alternative 10, and the No-Build Alternative were completed in July 2008. Traffic analysis for Alternative 11 was completed in November 2009.

Existing State Route 119 within the project area is a two-lane conventional highway that passes through mostly rural residential, agricultural, and natural resource areas. Projected increased traffic volumes are expected to affect the operation of State Route 119. The posted speed limit changes from 55 miles per hour to 50 miles per hour through Valley Acres and Dustin Acres. However, the average operating speed is 44 miles per hour through the communities between post miles 5.5 and R9.1. The posted speed limit through the Elk Hills portion of the project is 55 miles per hour. The average operating speed is 55 miles per hour between post miles R9.1 and R13.3.

The current average daily traffic for Alternatives 1 and 10 (2006) as well as the forecasts for 2015 and 2035 is shown in (Table 2.12). The average daily traffic on State Route 119 within the proposed project limits was approximately 12,729 vehicles in 2006. The 2006 Caltrans Transportation Concept Report for State Route 119 indicates that traffic in this segment of the highway is projected to grow three percent yearly.

Table 2.12 Projected Average Daily Traffic Forecast Alternative 1 and 10

Location	Post Mile	2006	2015	2035
Valley Acres to Tupman Road	5.5-R13.3	12,729	15,284	20,897

Source: Caltrans District 06 Technical Planning, July 2008

The current average daily traffic for Alternative 11, as well as the forecasts for 2024 and 2044, is shown in (Table 2.13). The average daily traffic was approximately 10,600 vehicles in 2009. Due to subsequent financial constraints and funding issues, forecast years for Alternative 11 were deferred to later dates.

Table 2.13 Projected Average Daily Traffic Forecast Alternative 11

Location	Post Mile	2009	2024	2044
Valley Acres to Elk Hills Road	5.5 to R10.4	10,600	14,700	23,000

Source: Caltrans District 06 Technical Planning, November 2009

Based on these current and projected traffic volumes for Alternative 1 and 10 (Traffic Analysis, 2008) within the proposed project limits, the current two-lane State Route 119 is insufficient to manage the existing and future traffic volumes as shown in

Table 2.14. The desired Level of Service for State Route 119 is “C” because it is a regionally significant route on the interregional road system (Transportation Concept Report February 2006). As of 2006, State Route 119 is operating at a Level of Service “E” from post miles 5.5 to R10.0 and would not improve through 2035. Between post miles R10.0 and R13.3, the Level of Service ranges from “C” to “D” and would deteriorate to “E” if no improvements were made. With the proposed improvements, State Route 119 within the project limits would improve to a Level of Service ranging from “A” to “B” on opening day (year 2015) and would remain at Level of Service “A” through “B” through the end of the 20-year planning horizon.

Table 2.14 Projected Levels of Service for Alternatives 1, 10, and No-Build

Location	Post Mile	Existing	2015			2035		
		No-Build	Alternative		Alternative			
			No-Build	1	10	No-Build	1	10
Cherry Avenue to Golf Course Road*	5.5/R9.2	E	E	A/B	A/B	E	A/B	A/B
Golf Course Road to Elk Hills Road	R9.2/R10.0	E	E	A/B	A/B	E	A/B	A/B
Elk Hills Road to Tupman Road	R10.0/R13.3	C	C/D	A/B	A/B	D/E	A/B	A/B

Source: Caltrans Office Traffic Operational Analysis, July 2008

*Cherry Avenue begins at post mile 6.26.

Based on these current and projected traffic volumes for Alternative 11 (Traffic Analysis 2009), the existing highway is insufficient to manage the existing and future traffic volumes, as shown in Table 2.15. As of 2009, State Route 119 is operating at a Level of Service “E” from post miles 5.5 to 9.2 and “C” to “D” from 9.2 to R10.4. This would also deteriorate to “E” without improvements. With the proposed improvements, the Level of Service would range from “A” to “B” on opening day (2024) and would remain at Level of Service “A” through “B” through the end of the 20-year planning horizon.

Table 2.15 Projected Levels of Service for Alternatives 11 and No-Build

Location	Post Mile	Existing	2024		2044	
		No-Build	No-Build	Alternative 11	No-Build	Alternative 11
Cherry Avenue to Golf Course Road**	5.5/R9.2	E	E	A/A	E	A/B
Golf Course Road To Elk Hills Road	R9.2/R10.4	D	E	A/B	E	A/B

Source: Caltrans Office Traffic Operational Analysis, November 2009

*Cherry Avenue begins at post mile 6.26.

During the three-year period from May 1, 2004 to April 30, 2007, there were 69 reported accidents between post miles 5.5 and R13.3. Of the 69 accidents, 19 accidents caused injuries, and two resulted in fatalities. For collision types and primary collision factors, see Tables 1.5 and 1.6 in Chapter 1. Of the 69 total accidents, 51 accidents occurred in Valley Acres and Dustin Acres, between post miles 5.5 and R9.2. In the Elk Hills portion of the project, between post miles R9.2 and R13.3, 18 accidents occurred. Collisions that are head-on, rear-end, or hit-object usually occur due to congested conditions on the roadway. Forty-four of the 69 accidents that occurred within the project limits involved these types of collisions. Thirty-five of the head-on, rear-end, and hit objects collisions occurred in Valley Acres and Dustin Acres between post miles 5.5 and R9.2, and nine in Elk Hills between post miles R9.2 and R13.3.

During the three-year period, the total accident rate for State Route 119 within the project limits was above the statewide accident rate for similar highways (see Table 1.7 in Chapter 1). The actual total accident rate of 0.83 per million vehicle miles traveled is above the statewide average of 0.76 for a similar roadway. The actual fatal accident rate of 0.024 is less than the statewide average of 0.27 for a similar facility.

An updated accident analysis revealed there were 67 reported accidents between post miles 5.5 and R13.3 during the three-year period from July 1, 2005 to June 30, 2008. This analysis divided the project from Valley Acres to Elk Hills Road in Elk Hills (post mile 5.5 and R10.4) and from Elk Hills Road to Tupman Road (post mile R10.4 to R13.3). Of the 67 accidents, 16 accidents involved injuries and three resulted in fatalities. For collision types within project segments, see Table 1.8 in Chapter 1. Forty-nine accidents occurred between Valley Acres and Elk Hills Road and 18 occurred between Elk Hills Road and Tupman Road. Thirty-seven of the head-on, rear-end, and hit objects collisions occurred in Valley Acres and Elk Hills Road and ten occurred between Elk Hills Road and Tupman Road.

From the updated analysis the Valley Acres to Elk Hills Road portion showed the actual fatal rate was higher than the statewide average and the actual fatal-plus-injuries was lower than the statewide average, but the total accident rate was higher than the statewide average. For the Elk Hills Road to Tupman Road portion, the actual fatal accident rate is higher than statewide average and the actual fatal-plus-injuries rate was the same as the statewide average, but the total accident rate was lower than the statewide average.

Both the Valley Acres and Dustin Acres Rural Community Plans designate State Route 119 as a major arterial. The Valley Acres Rural Community Plan designates Valley West Road as a major arterial and Cherry Avenue as a secondary collector street. The Dustin Acres Rural Community Plan designates Sparks Lane and Golf Course Road as secondary collector streets. Several unpaved county roads cross the study area. Within the two communities, approximately 72 driveways are off the existing alignment.

Alternative 1 proposes four realigned intersections as shown in Table 2.16.

Both Alternatives 10 and 11 propose two new intersections. An intersection west of Cherry Avenue and another at Golf Course Road would connect the proposed bypass to the existing highway. These would also allow for convenient vehicle access from the bypass to Valley Acres Market and other businesses within the study area. Alternative 10 and 11 would provide access via three driveways to landlocked parcels along the bypass. Driveway access would not connect to local streets within the two communities.

Table 2.16 Project Intersections

Intersection	Alternative 1	Alternative 10	Alternative 11	No-Build Alternative
West of Cherry Avenue	Not Applicable*	New	New	No Change
Orange Avenue	Realigned	Not Applicable*	Not Applicable*	No Change
Valley West Road	Realigned	Not Applicable*	Not Applicable*	No Change
Tank Farm Road	Realigned	Not Applicable*	Not Applicable*	No Change
Dustin Acres Road	Realigned	Not Applicable*	Not Applicable*	No Change
Golf Course Road	No Change	New	New	No Change
Elk Hills Road, North (East of Dustin Acres)*	No Change	Realigned	Realigned	No Change
Elk Hills Road, South (East of Dustin Acres)**	No Change	Closed	Closed	No Change

*Intersection is non-existent and not proposed. **The south connection at Golf Course Road would be closed.

Valley Acres and Dustin Acres have no sidewalks or designated pedestrian crossings on the existing highway. Few residents cross the highway due to concerns for pedestrian safety. According to resident interviews, highway crossings mostly consist of children and young people going to Valley Acres Market or Valley Acres Park.

No portion of State Route 119 in the project area has a designated bicycle lane. The 2001 Kern County Bicycle Facilities Plan proposes a bicycle path south of Valley Acres and Dustin Acres connecting the Bakersfield area with the City of Taft.

The Taft City School District and the Taft Union High School District provide school bus route services to students living in Valley Acres and Dustin Acres. The Taft City School District provides up to four school bus stops in Valley Acres and up to 14 school bus stops in Dustin Acres. Of these, about nine school bus stop sites are along the existing highway. The bus stops on the north side of Highway 119 serve students who live on the north side of the highway and those on the south side serve students who live to the south. No buses stop in the Elk Hills portion of the proposed project.

Kern Regional Transit's Westside Express Service provides intercity service between the communities of Ford City, Taft Heights, Taft, and Bakersfield, Monday through Saturday. The Westside Express will stop at the Valley Acres Market only on individual request. No buses stop in the Elk Hills portion of the proposed project.

Environmental Consequences

From Cherry Avenue to Valley West Road in Valley Acres, Alternative 1 would not require new right-of-way from the current right-of-way width of 110 feet. From Valley West Road to Golf Course Road through Dustin Acres, right-of-way would widen from approximately 60 feet to 146 feet. To accommodate two new proposed lanes, a center median, and shoulders, Alternative 1 would widen the paved portion of the highway through the two communities from approximately 24 or 27 feet to 78 feet. Alternative 1 does not propose designated pedestrian crossings along the improved highway. With a wider highway, no designated pedestrian crossings, and a projected rise in vehicle traffic, pedestrian crossing would probably decrease.

Both Alternative 10 and 11 would provide vehicle access to landlocked parcels and to county roads south of the proposed bypass: one road south of Valley Acres and two roads south of Dustin Acres. The proposed intersection at Golf Course Road would also provide access to the southern area. Access would also be provided to one property south of Golf Course Road and east of the proposed bypass that would

otherwise be landlocked. For access, an easement through another property would be acquired. See Section 2.1.4 Community Impacts.

All three build alternatives are expected to affect access and parking for both businesses and residents within the study area during the construction phase of the project.

During construction, Alternative 1 would be expected to cause short-term delays to school buses and Kern Regional Transit operations servicing Valley Acres and Dustin Acres. The Taft City School District, Taft Union High School District, and the Kern Regional Transit provide bus operations. Delays would also occur due to construction in the Elk Hills portion from Golf Course Road to Tupman Road.

Like Alternative 1, Alternative 10 would cause short-term bus delays due to construction in Elk Hills between Golf Course Road and Tupman Road, while Alternative 11 would create short-term bus delays in Elk Hills from Gold Course Road to just east of Elk Hills Road (post mile R10.4).

Avoidance, Minimization, and/or Mitigation Measures

During the construction, a traffic management plan would help reduce traffic delays, congestion, and accidents. Standard Caltrans construction practices include providing information on roadway conditions, and using portable changeable messages signs, lane and road closures, advance warning signs, alternate routes, reverse and alternate traffic control, and a traffic contingency plan for unforeseen circumstances and emergencies.

2.1.7 Visual/Aesthetics

Regulatory Setting

The National Environmental Policy Act of 1969, as amended, establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and *aesthetically* (emphasis added) and culturally pleasing surroundings [42 United States Code 4331(b)(2)]. To further emphasize this point, the Federal Highway Administration in its implementation of the National Environmental Policy Act [23 United States Code 109(h)] directs that final decisions regarding projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

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

Affected Environment

Caltrans prepared a Visual and Scenic Resources Evaluation in March 2006. An updated Visual and Scenic Resources Evaluation was prepared in October 2006.

The general visual character of the project area is rural. The terrain is flat through the rural communities of Valley Acres and Dustin Acres and hilly east of Golf Course Road in Elk Hills. Vegetation consists of low-growing native scrub. In the Elk Hills portion of the project, there is evidence of scarred and bare slopes due to previous construction activities. The two communities are mainly residential with some light commercial land uses. Mature trees and shrubs grow along the existing highway through the two communities, providing a visual screen for some of the highway neighbors. Aside from the two communities along the highway, the area is undeveloped and without trees and vegetation. Power poles line both sides of State Route 119.

Environmental Consequences

Alternative 1 would potentially diminish the visual setting of the area by removing vegetation, including mature trees along the existing highway. Visual effects are expected to be highest for residents living nearest the proposed alignment. In addition, visual effects include the removal of seven homes along the highway. Overall, the proposed four-lane widening would decrease the rural character of the area, but it still would be perceived as a rural area.

The bypass portion of Alternatives 10 and 11 would cause a considerable physical change to the adjacent areas and affect the overall character of the landscape. The intersections proposed with the bypass would be at grade and would stay in character with the flat terrain and low-growing native scrub vegetation of the area. The highway would be above the original ground by about two feet, and the culverts would be three feet in height and 10 feet wide. See Appendix B Alternative Cross-Sections. At one culvert site, two 3-double box culverts would be installed to facilitate the tributary flow of Buena Vista Creek. Each 3-double box culvert would be 10 feet high, 7 feet wide, and span 48 feet. Cut and fill slopes would be 4 to 1

(horizontal to vertical) or flatter and rounded to blend with the existing terrain and to create a more natural appearance.

Avoidance, Minimization, and/or Mitigation Measures

To reduce visual effects potentially caused by Alternative 1, highway planting, in accordance with the Highway Design Manual, should be included to soften the appearance of the proposed highway.

The following measures should minimize potential visual effects associated with Alternatives 10 and 11:

- Cut and fill slopes would be 4:1 (horizontal: vertical) or flatter. In addition, the slope cuts should be rounded to create a more natural appearance. Grading shall be meandering to blend the slopes with the existing hillsides, according to Caltrans Highway Design Manual 304.4.
- All disturbed areas would be permanently stabilized with vegetative cover after grading work to reduce the amount of erosion and minimize any change in visual character. Seed mixes would, as closely as possible, resemble and blend in with the existing vegetation. The top 6 inches of topsoil would be designated as an environmentally sensitive area and would be held separated from the construction site for use after construction. The topsoil would be stockpiled and replaced on the finished slopes before the application of erosion control.

2.1.8 Cultural Resources

Regulatory Setting

“Cultural resources” as used in this document refers to historic and archaeological resources, regardless of significance. Laws and regulations dealing with historic and archaeological resources include the following:

The National Historic Preservation Act of 1966, as amended, sets forth national policy and procedures regarding historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for the National Register of Historic Places. Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on such properties and to allow the Advisory Council on Historic Preservation the opportunity to comment on those undertakings, following regulations issued by the Advisory Council on Historic Preservation (36 Code of Federal Regulations 800). On January 1, 2004, a

Section 106 Programmatic Agreement among the Advisory Council, the Federal Highway Administration, the State Historic Preservation Officer, and Caltrans went into effect for Caltrans projects, both state and local, with Federal Highway Administration involvement. The Programmatic Agreement implements the Advisory Council's regulations, 36 Code of Federal Regulations 800, streamlining the Section 106 process and delegating certain responsibilities to Caltrans. The Federal Highway Administration's responsibilities under the agreement have been assigned to Caltrans as part of the Surface Transportation Delivery Pilot Program (23 Code of Federal Regulations 773) (July 1, 2007).

The Archaeological Resources Protection Act applies when a project may involve archaeological resources located on federal or tribal land. This act requires that a permit be obtained before excavation of an archaeological resource on such land can take place.

Historic properties may also be covered under Section 4(f) of the U.S. Department of Transportation Act, which regulates the "use" of land from historic properties. See Appendix I for specific information regarding Section 4(f).

Historical resources are considered under the California Environmental Quality Act, as well as California Public Resources Code Section 5024.1, which established the California Register of Historical Resources. Section 5024 of the Public Resources Code requires state agencies to identify and protect state-owned resources that meet National Register of Historic Places or California Register of Historical Resources criteria listing criteria. It further specifically requires Caltrans to inventory state-owned structures in its rights-of-way. Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the State Historic Preservation Officer before altering, transferring, relocating, or demolishing state-owned historical resources that are listed on or are eligible for inclusion in the National Register or are registered or eligible for registration as California Historical Landmarks.

Affected Environment

A Historic Property Survey Report was completed in August 2007. The report fulfilled four of Caltrans' responsibilities under Section 106 of the National Historic Preservation Act: 1) determination of the Area of Potential Effects; 2) identification of historic properties located within the undertaking's Area of Potential Effects; 3) evaluation of cultural resources for eligibility to the National Register of Historic Places; and 4) determination of effects.

The area of potential effect for the project includes all existing and proposed Caltrans right-of-way for Alternative 1, Alternative 10, and Alternative 11. The area of potential effect extends beyond these areas to encompass evaluated architectural properties. The vertical area of potential effects varies depending on construction activities to a maximum depth of five feet.

Several methods and sources were used to identify potential historic properties within the area of potential effect. Identification efforts included three record searches requested from the Southern San Joaquin Valley Information Center, California State University, Bakersfield. Record searches were requested in 1998, 2001, and 2005. The results of these record searches were a primary source for assessing the archeological sensitivity of the area. The record searches did not identify sites within the current area of potential effect.

General and property-specific historic and archival research was conducted using local facilities in Kern County. This included the Local History Room and the Geology, Mining, and Petroleum Room of the Beale Memorial Kern County Library, Bakersfield; the Kern County Museum, Bakersfield; the West Kern Oil Museum, Taft; the Walter W. Stiern Memorial Library, California State University, Bakersfield; Kern County Recorder's Office, Bakersfield; and the Kern County Assessor's Office, Bakersfield. After initial archival research was completed, two architectural surveys were conducted. This resulted in 109 resources identified within the architectural study area. Thirteen required formal evaluation. These 13 properties within the area of potential effect are ineligible for listing under National Register of Historic Places guidelines, nor are they historical resources for the purposes of the California Environmental Quality Act.

Although portions of the project area were previously surveyed as part of various unrelated cultural resource investigations, the extent of the work did not meet Caltrans standards for the purposes of the current undertaking. Therefore, after background research was complete, a Phase I archaeological field survey of the project study area was conducted in December of 1999, November and December of 2000, February, March, April, July, and September of 2001, and March and December of 2002. A supplemental survey was conducted in July and September of 2005 due to design changes in the proposed project.

Ethnohistoric/ethnogeographic and geomorphological research was conducted in conjunction with the Phase I field survey. The studies provided ethnographic context

and a geomorphological predictive model for identifying buried cultural resources within the project area. The ethnohistoric/ethnogeographic research also attempted to identify resources of importance to Native American Values within the area of potential effect.

A Geomorphological Extended Phase I investigation was conducted in April of 2005 to assess the potential for buried prehistoric cultural deposits within the area of potential effect. Fieldwork included the excavation of 22 backhoe trenches. A Native American monitor was present during all activities. No prehistoric archaeological resources were identified.

Coordination with local Native American groups, government agencies, and other relevant organizations had been actively pursued from the earliest stages of identification.

No archaeological resources were identified in the project area of potential effects.

Environmental Consequences

For Alternative 1, Caltrans determined that the 13 architectural resources evaluated within the area of potential effect are not eligible for inclusion in the National Register. The State Historic Preservation Officer concurred with this determination on September 18, 2007.

Caltrans has determined a *Finding of No Historic Properties Affected*, according to the Section 106 Programmatic Agreement Stipulation IX.A and 36 Code of Federal Regulations 800.4, is appropriate for this undertaking.

Avoidance, Minimization, and/or Mitigation Measures

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

If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to Public Resources Code Section 5097.98, if the remains were thought to be Native American, the coroner would notify the Native American Heritage Commission, who would then notify the Most Likely Descendent. At this time, the person who discovered the remains would contact the District 6 Environmental Branch so that the branch may

work with the Most Likely Descendent on the respectful treatment and disposition of the remains. Further provisions of Public Resources Code Section 5097.98 are to be followed as applicable.

2.2 Physical Environment

2.2.1 Hydrology and Floodplain

Regulatory Setting

Executive Order 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. Requirements for compliance are outlined in 23 Code of Federal Regulations 650 Subpart A.

To comply, the following must be analyzed:

- The practicability of alternatives to any longitudinal encroachments
- Risks of the action
- Impacts on natural and beneficial floodplain values
- Support of incompatible floodplain development
- Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values affected by the project.

The base floodplain is defined as “the area subject to flooding by the flood or tide having a one percent chance of being exceeded in any given year.” An encroachment is defined as “an action within the limits of the base floodplain.”

Affected Environment

Caltrans prepared a Floodplain Evaluation Report in January 2006. An updated Floodplain Evaluation Report was updated in August 2007.

The project lies in the rain shadow of the coastal ranges. The summers are typically hot and dry. Winters are mild and short and usually have a few days of frost, but without heavy freezes. Temperatures reach 105 degrees from June to September. The average annual rainfall is 5 inches, but ranges from 3 to 10 inches in any given year. Over 90 percent of the rainfall occurs between December and April. Nighttime fogs occur frequently between November and February.

Kern County is divided into three distinct zones: valley, desert, and mountain. The project is located on gently sloping, alluvial deposits in the shallow Midway Valley. The alluvium is dissected by intermittent streams, Sandy Creek, and its tributaries, which run eastward and end at Buena Vista Lake. These streams cause flooding problems when they discharge from steep canyons. Many small streams also cause flooding problems when discharged from steep canyons. These small streams are confined to upland areas, but also spread out into a number of poorly defined drainages on the valley floor. Flow is further disrupted by cultivation and urbanization.

Most of the project area is located in areas designated as Zone C with some areas designated as Zone A. Zone C is defined as an area of minimal flooding and Zone A is designated as 100-year floodplain with unknown elevations.

Along the existing highway where Buena Vista Creek and its tributary cross State Route 119, two locations are designated as Zone A: one location is near Cherry Avenue at the Buena Vista Creek Bridge and the other location is just east of Dustin Acres Road. The second location has no culverts, but the road is below the original ground to allow floodwater to pass through.

Environmental Consequences

None of the three build alternatives constitutes a longitudinal encroachment or a significant encroachment on the base floodplain. None of the build alternatives constitutes a significant base floodplain encroachment as defined in 23 Code of Federal Regulations, Section 6500105 (q).

Alternatives 10 and 11 minimization measures are discussed below.

Avoidance, Minimization, and/or Mitigation Measures

Alternative 1 would not require any measures. The proposed widening on the Buena Vista Creek Bridge is not a hydrology or floodplain measure, but is intended to add additional lane capacity on the highway.

Both Alternative 10 and 11 propose seven culvert sites along the proposed bypass between post miles 5.5 and R10.4. At one culvert site, three double-box culverts would be installed to help the tributary flow of Buena Vista Creek. For both directions of the expressway, each of the three double box culverts would be 10 feet high, 7 feet wide, and span 48 feet. The combined culvert openings would be at least

the same size as the opening under the Buena Vista Creek Bridge upstream of this location.

2.2.2 Water Quality and Storm Water Runoff

Regulatory Setting

Section 401 of the Clean Water Act requires water quality certification from the State Water Resources Control Board or from a Regional Water Quality Control Board when the project requires a Clean Water Act Section 404 permit. Section 404 of the Clean Water Act requires a permit from the U.S. Army Corps of Engineers to discharge dredged or fill material into waters of the United States.

Along with Section 401 of the Clean Water Act, Section 402 of the Clean Water Act establishes the National Pollutant Discharge Elimination System permit for the discharge of any pollutant into waters of the United States. The federal Environmental Protection Agency has delegated administration of the National Pollutant Discharge Elimination System program to the State Water Resources Control Board and nine Regional Water Quality Control Boards. The State Water Resources Control Board and Regional Water Quality Control Boards also regulate other waste discharges to land within California through the issuance of waste discharge requirements under authority of the Porter-Cologne Water Quality Act.

The State Water Resources Control Board has developed and issued a statewide National Pollutant Discharge Elimination System permit to regulate storm water discharges from all Caltrans activities on its highways and facilities. Caltrans construction projects are regulated under the statewide permit, and projects performed by other entities on Caltrans right-of-way (encroachments) are regulated by the State Water Resources Control Board's Statewide General Construction Permit. All construction projects over 1 acre require a Storm Water Pollution Prevention Plan to be prepared and implemented during construction. Caltrans activities of less than 1 acre require a Water Pollution Control Program.

Affected Environment

Caltrans prepared a Water Quality Assessment for the project in January 2006. Updated Water Quality Assessments were conducted in October 2006 and June 2008.

The project area lies within the Tulare Lake Basin, which is broken into six watershed management areas. The designated groundwater basin, including all surface water

tributary to it, defines each area. The project is located in the Kern County Basin Management Area, which includes the Kern River and the Poso Creek drainage areas, as well as the drainage of west side streams in Kern County. The California Aqueduct and additional canal make up a portion of the West Kern Water District, which lies east of the project area.

Buena Vista Creek and Dry Creek are within the project area. Buena Vista Creek is north and south of Valley Acres and Broad Creek lies south of Valley Acres. Several reaches of the two creeks are in the area, even though dry most of the year they are still considered navigable water bodies. South of Valley Acres, various washes of Buena Vista Creek and Broad Creek form a well-defined floodplain. The Buena Vista Creek Bridge is located on the existing State Route 119 west of Cherry Avenue in Valley Acres.

Surface sediment in the project area is loose and susceptible to runoff. This is apparent in the Elk Hills portion of the project where the topography slopes steeply to the east and then west before leading to the flatter surface in the Buena Vista Canyon. The terrain is relatively flat at the west end of the proposed project before Golf Course Road.

Several large pipelines cross the project area and the possibility of other unknown pipelines may be present.

An assessment of the drinking water sources for West Kern Water District was completed in May 2001. The sources tested were considered most vulnerable during artificial recharge activities in spreading water basins, but these activities have not been associated with any detected contaminants.

Environmental Consequences

No groundwater impacts and no long-term surface water impacts are expected from this project. There are no apparent groundwater wells or surface watercourses that would be compromised by the proposed construction activities in this area.

Soil erosion due to construction activities is a mostly short-term concern for all three build alternatives. Sediment is highly susceptible to runoff in the Elk Hills portion of the project. The area near Buena Vista Creek is another area of particular concern. Grading activities could also affect surface waters when grading takes place upslope of populated areas. Oil-bearing soils could be deposited in washes that move the soil into human contact.

Avoidance, Minimization, and/or Mitigation Measures

By incorporating proper and accepted engineering practices and best management practices, the proposed project should not produce significant or lasting impacts to water quality during its construction or its operation. Most construction activity is short term and mitigated by construction timing, sequencing, water quality protection, revegetation, and erosion and sediment control practices.

Implementing erosion and water pollution controls in particular as it pertains to grading activities is essential for this project. Proper grading practices should be implemented to limit erosion and water pollution near Buena Vista Creek and Broad Creek. Adequate storm water controls should minimize this risk, as well as construction awareness to hydrology and the presence of historical and current oil pipelines. Care should also be taken when grading in the upslope direction to avoid depositing oil-bearing soils from erosion into populated areas. Coordination with the Department of Oil and Gas should be required to identify potential unmarked pipelines, before trenching and digging occurs in the area. Care should also be taken when equipment access occurs over dry washes.

Because the project would disturb more than one acre of soil, the following would be required:

- A Notification of Construction is to be submitted to the San Joaquin Valley Regional Water Quality Control Board at least 30 days before the start of construction. The Notice of Construction form asks for tentative start date and duration location, description of project, estimate of affected area, and name of the Resident Engineer.
- A Storm Water Pollution Prevention Plan is to be prepared and implemented during construction and must be approved by the Resident Engineer.
- A Notice of Construction Completion is to be submitted to the San Joaquin Valley Regional Water Quality Control Board upon completion of the construction and stabilization of the site. A project would be considered complete when the criteria for final stabilization in the state General Construction Permit are met.

2.2.3 Paleontology

Regulatory Setting

Paleontology is the study of life in past geologic time based on fossil plants and animals. A number of federal statutes specifically address paleontology resources,

their treatment, and funding for mitigation as a part of federally authorized or funded projects (such as the Antiquities Act of 1906 [16 USC 431-433], Federal-Aid Highway Act of 1935 [20 USC 78]). Under California law, paleontology resources are protected by the California Environmental Quality Act, the California Administrative Code, Title 14, Section 4306 et seq., and Public Resources Code Section 5097.5.

Affected Environment

A paleontology study was conducted by Dr. Robert Dundas, a vertebrate paleontologist from the California State University, Fresno Department of Earth and Environmental Sciences on April 2, 2001. Caltrans completed a Paleontological Evaluation Report on June 16, 2008.

Scientifically sensitive paleontological resources are geological deposits that contain unique and unusual fossils and which add to scientific knowledge. Undisturbed fossils, including nonmarine vertebrate fossils (of species that lived on land) are often more sensitive because they are more rare and require a greater amount of scientific study. If a project affects a highly sensitive and scientifically important paleontological resource, a mitigation program must be developed and implemented.

The geologic strata that occur near the project area include nonmarine Plio-Pleistocene Tulare Formation and nonmarine Quaternary alluvial fan deposits. The Tulare Formation is highly sensitive, having yielded vertebrate remains elsewhere in the region. The Los Angeles County Museum of Natural History and the University of California Museum of Paleontology at Berkeley both have important vertebrate sites in the region from the Tulare Formation and Quaternary sediments.

Within and nearby the project vicinity, vertebrate fossil areas exist. Localities from the Tulare Formation occur in Kern County that have produced fossil camel, horse, pronghorn antelope, rodents, and tremarctine bear. Another fossil area has produced specimens of *Borophagus diversidens* (dog family), *Ischyrosmilus ischyurus* (cat family), and two specimens of *Equus Occidentalis* (horses). Fossil areas in Elk Hills have produced a specimen from the horse family in addition to rabbit and camel material. Additional invertebrate fossil areas also occur in the project vicinity.

Although Quaternary fan deposits are unlikely to contain important vertebrate fossils in the uppermost few feet of undisturbed ground, at depth they have the potential for producing major late Pleistocene vertebrate fossils. Quaternary tar seeps in nearby

McKittrick and Maricopa have produced extensive fossil faunas. The Arvin landfill west of the project area in Kern County produced 31 specimens of mammals, reptiles, and amphibians from flat-lying Quaternary sediments.

Environmental Consequences

All three build alternatives would affect paleontological resources and scientifically important fossils.

The nonmarine fossils potentially within the project area are sensitive and scientifically important for several reasons, including their age, uniqueness, evolution, and information they could provide about relationships between species.

All three alternatives propose building that would go through Quaternary sediments along the length of the proposed alignments. Both Alternative 1 and Alternative 10 would involve major excavation through Elk Hills in the Tulare Formation from Golf Course Road (post mile R9.1) to Tupman Road (post mile R13.3). Alternative 11 would require less major excavation because it would end at Post mile R10.4 in Elk Hills.

Proper paleontological mitigation and salvage could actually result in beneficial effects on paleontological resources through the discovery of fossils that would not have been exposed without construction and, therefore, would not have been available for study.

Avoidance, Minimization, and/or Mitigation Measures

Adverse impacts to paleontological resources could be minimized by implementing a well-designed paleontological resource mitigation plan.

Paleontological mitigation for the project would include:

- A nonstandard special provision for paleontology mitigation would be included in the construction contract special provision section to advise the construction contractor of the requirement to cooperate with the paleontological salvage.
- A qualified principal paleontologist would be retained to prepare a detailed Paleontological Mitigation Plan before the start of construction.
- The qualified principal paleontologist would be present at pre-grading meetings to consult with grading and excavation contractors.

- Near the beginning of excavations, the principal paleontologist would conduct an employee environmental awareness training session for all persons involved in earth moving for the project.
- A paleontological monitor, under the direction of the qualified principal paleontologist, would be onsite to inspect cuts for fossils at all times during original grading involving sensitive geologic formations.
- When fossils are discovered, the paleontologist (or paleontological monitor) would recover them. Construction work in these areas would be halted or diverted to allow recovery of fossil remains in a timely manner.
- Bulk sediment samples would be recovered from fossiliferous horizons and processed for microvertebrate remains as determined necessary by the Principal Paleontologist.
- Fossil remains collected during the monitoring and salvage portion of the mitigation program would be cleaned, repaired, sorted, and cataloged.
- Prepared fossils, along with copies of all pertinent field notes, photos, and maps, would then be deposited in a scientific institution with paleontological collections.
- A final report would be completed that outlines the results of the mitigation program and would be signed by the Principal Paleontologist.

2.2.4 Hazardous Waste or Materials

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 the following:

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

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

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.

Affected Environment

Caltrans conducted an Initial Site Assessment, dated September 17, 2001, and an updated Initial Site Assessment, dated October 18, 2006. Caltrans completed a Preliminary Site Investigation Report on September 3, 2008.

Primary land use surrounding the project area is oil extraction: the project area lies between three commercial oil fields: North and South Cole Levee, Buena Vista, and Elk Hills. Crude oil pipelines have been identified within the project area, and a pipeline crosses beneath the existing State Route 119 at Tank Farm Road. Additional pipelines, not currently identified, may exist.

There are no operating gasoline service stations within the project area, however two properties adjacent to the existing highway are reported to have had underground storage tanks onsite. Underground storage tanks may still be present at these sites.

Aerially deposited lead deposits could exist adjacent to State Route 119 within Caltrans right-of-way. Aerially-deposited lead results primarily from vehicle emissions containing tetraethyl lead, which was added to gasoline up until the mid-1980s.

Assessor Parcel Number 298-212-01(27506 Highway 119) According to the Initial Site Assessment conducted in 2001, the site was doing business as Bob Morton Construction and two 10,000-gallon underground storage tanks (diesel and unleaded gasoline) were removed. In addition, a portion of the parcel was also operating as a solid waste facility and had a record of violations. Stewart & Stevenson currently operate a petroleum service business on the site. The property is approximately seven acres and it is not known where underground storage tanks were located on the parcel. There is a potential that underground storage tanks may still be present on this site.

Assessor Parcel Number 298-212-07(27530 Highway 119) Valley Acres Market currently operates from this parcel. The site was previously known as Clark Country Store. Depending on the database researched, this site was listed as having no underground storage tanks, or three 9,970-gallon underground storage tanks with leaded and unleaded gasoline. Field studies conducted by Caltrans found no evidence of active underground storage tanks or of any tanks having been removed. Visual evidence of associated gasoline pumps, vent lines, or product islands were absent; however, air service equipment typically found at gasoline stations was observed. There is a potential that underground storage tanks may be present on this site.

Soil contaminated with petroleum hydrocarbons from potentially leaking pipelines could exist within the project area.

Older homes and commercial buildings were observed along State Route 119 and have the potential of containing asbestos and lead-based paint.

For naturally occurring asbestos, see Section 2.2.5 Air Quality.

Environmental Consequences

The Preliminary Site Investigation conducted for this project tested for petroleum hydrocarbons and aerially deposited lead, which included a heavy metals analysis.

For Alternative 1, onsite soil evaluation for petroleum hydrocarbons was done at former properties with underground storage tanks and potential heavy metal

contamination. Onsite soil testing done at 4, 8, and 12 feet below grade were analyzed for total hydrocarbons as gasoline, diesel, benzene, toluene, ethylbenzene, and total xylenes. Five of the six drilled soil borings found soil not considered hazardous. One soil boring found soil to exceed the commercial/industrial land use Environmental Screening Level.

Onsite soil along the existing highway in Valley Acres, Dustin Acres, and in Elk Hills was analyzed for aerially deposited lead for Alternative 1. Specifically, soil samples were analyzed for total lead and soluble lead, in addition to heavy metals, and pH. The total lead and soluble lead analysis revealed that the soil along the existing alignment had some lead, but at levels not considered hazardous. The soil could be reused without restrictions. The heavy metal analysis revealed that metal concentrations were less than naturally occurring background concentrations. Arsenic was detected above background concentrations, but was within the published range of arsenic concentrations found in California soils.

Alternative 1 has the most hazardous waste concerns, which include petroleum hydrocarbon contamination from underground storage tanks. Alternative 1 has the potential for lead-based paint and asbestos-containing material to be a concern in the seven homes and one commercial building potentially affected by the project.

Along the proposed bypass for Alternatives 10 and 11, on-site soil was analyzed at 4 feet and 8 feet below ground level for total petroleum hydrocarbons such as diesel and crude oil that could be leaking from pipelines. No hydrocarbons were found.

Avoidance, Minimization, and/or Mitigation Measures

For Alternative 1, a follow-up Preliminary Site Investigation would be required before construction to determine the lateral and vertical extent of contamination. This Preliminary Site Investigation Report would be used to determine proper soil handling or disposal of hydrocarbons deposited as the result of underground storage tanks.

For Alternative 1, acquisition of seven homes and a commercial building would require a Preliminary Site Investigation to determine if lead-based paint or asbestos-containing material exists. The contractor would use proper health and safety measures to minimize the exposure of workers to potential asbestos or lead-based paint from affected buildings and structures.

All alternatives would require a project-specific Lead Compliance Plan for earthwork as part of Caltrans non-standard special provisions before construction. While some lead was found at nonhazardous levels, these special provisions would help ensure public and worker safety.

2.2.5 Air Quality

Regulatory Setting

The Clean Air Act, as amended in 1990, is the federal law that governs air quality. Its counterpart in California is the California Clean Air Act of 1988. These laws set standards for the concentration of pollutants that can be in the air. At the federal level, these standards are called National Ambient Air Quality Standards. Standards have been established for six criteria pollutants that have been linked to potential health concerns: carbon monoxide, nitrogen dioxide, ozone, particulate matter, lead, and sulfur dioxide.

Under the 1990 Clean Air Act Amendments, the U.S. Department of Transportation cannot fund, authorize, or approve federal actions to support programs or projects that are not first found to conform to the State Implementation Plan for achieving the goals of the Clean Air Act requirements. Conformity with the Clean Air Act takes place on two levels—first, at the regional level and second, at the project level. The proposed project must conform at both levels to be approved.

Regional level conformity is concerned with how well the region is meeting the standards set for carbon monoxide, nitrogen dioxide, ozone, and particulate matter. California is in attainment for the other criteria pollutants. At the regional level, Regional Transportation Plans are developed that include all of the transportation projects planned for a region over a period of years, usually at least 20. Based on the projects included in the Regional Transportation Plan, an air quality model is run to determine whether or not the implementation of those projects would conform to emission budgets or other tests showing that attainment requirements of the Clean Air Act are met. If the conformity analysis is successful, the regional planning organization, such as the Kern Council of Governments and the appropriate federal agencies, such as the Federal Highway Administration, make the determination that the Regional Transportation Plan is in conformity with the State Implementation Plan for achieving the goals of the Clean Air Act. Otherwise, the projects in the Regional Transportation Plan must be modified until conformity is attained. If the design and

scope of the proposed transportation project are the same as described in the Regional Transportation Plan, then the proposed project is deemed to meet regional conformity requirements for purposes of the project-level analysis.

Conformity at the project-level also requires “hot spot” analysis if an area is in “nonattainment” or “maintenance” for carbon monoxide and/or particulate matter. A region is a “nonattainment” area if one or more monitoring stations in the region fail to attain the relevant standard. Areas that were previously designated as non-attainment areas but have recently met the standard are called “maintenance” areas. “Hot spot” analysis is essentially the same, for technical purposes, as carbon monoxide or particulate matter analysis performed for National Environmental Policy Act and California Environmental Quality Act purposes. Conformity does include some specific standards for projects that require a hot spot analysis. In general, projects must not cause the carbon monoxide standard to be violated, and in “nonattainment” areas, the project must not cause any increase in the number and severity of violations. If a known carbon monoxide or particulate matter violation is located in the project vicinity, the project must include measures to reduce or eliminate the existing violation(s) as well.

Affected Environment

Caltrans completed an Air Quality Study Report in March 2006. An updated Air Quality Study Report was completed in May 2008.

Kern County has hot, dry summers and cool winters. Temperatures in the summer months range from 50 to 100 degrees Fahrenheit, and winter months average from 36 to 53 degrees Fahrenheit.

Warm temperatures, prevailing winds, and the location of the county within an enclosed valley all play a role in the air quality of the area. The topography is generally flat to rolling.

The project is located in the San Joaquin Valley Air Pollution Control District, which administers air quality regulations developed at the federal, state, and local levels. Ozone and particulate matter are generally regional pollutants because they or their precursors affect air quality on a regional scale. Pollutants such as carbon monoxide, nitrogen dioxide, sulfur dioxide, and lead are local pollutants because they tend to accumulate in the air locally. Particulate matter is also a local pollutant. In the area of

the proposed project site, particulate matter and carbon monoxide are of particular concern.

Project-Level Conformity

For federal standards, the project area is classified as serious/non-attainment for ozone and non-attainment for particulate matter (see Table 2.17). For state standards, the project area is classified as attainment/unclassified for carbon monoxide and non-attainment for particulate matter.

Table 2.17 Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	State Standard	State Attainment Status	Federal Standard	Federal Attainment Status	Health and Atmospheric Effects	Typical Sources
Ozone (O ₃) ^a	1 hour 8 hours	0.09 ppm 0.070 ppm	Non-Attainment	– ^b 0.08 ppm	Serious/ Non-Attainment	High concentrations irritate lungs. Long-term exposure may cause lung tissue damage. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include a number of known toxic air contaminants.	Low-altitude ozone is almost entirely formed from reactive organic gases (ROG) and nitrogen oxides (NO _x) in the presence of sunlight and heat. Major sources include motor vehicles and other mobile sources, solvent evaporation, and industrial and other combustion processes. Biologically produced ROG may also contribute.
Carbon Monoxide (CO)	1 hour 8 hours 8 hours (Lake Tahoe)	20 ppm 9.0 ppm ^c 6 ppm	Attainment/ Unclassified	35 ppm 9 ppm –	Attainment- Maintenance	Asphyxiant. CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen.	Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.
Respirable Particulate Matter (PM ₁₀) ^a	24 hours Annual	50 µg/m ³ 20 µg/m ³	Non-Attainment	150 µg/m ³ –	Non-Attainment	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many aerosol and solid compounds are part of PM ₁₀ .	Dust- and fume-producing industrial and agricultural operations; combustion smoke; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources (wind-blown dust, ocean spray).
Fine Particulate Matter (PM _{2.5}) ^a	24 hours Annual	– 12 µg/m ³	Non-Attainment	35 µg/m ³ 15 µg/m ³	Non-Attainment	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter – considered a toxic air contaminant – is in the PM _{2.5} size range. Many aerosol and solid compounds are part of PM _{2.5} .	Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical (including photochemical) reactions involving other pollutants including NO _x , sulfur oxides (SO _x), ammonia, and ROG.

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

Pollutant	Averaging Time	State Standard	State Attainment Status	Federal Standard	Federal Attainment Status	Health and Atmospheric Effects	Typical Sources
Nitrogen Dioxide (NO ₂)	1 hour Annual	0.25 <u>ppm</u> –	Attainment	– 0.053 <u>ppm</u>	Attainment/ Unclassified	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain.	Motor vehicles and other mobile sources; refineries; industrial operations.
Sulfur Dioxide (SO ₂)	1 hour 3 hours 24 hours Annual	0.25 <u>ppm</u> – 0.04 <u>ppm</u> –	Attainment	– 0.5 <u>ppm</u> 0.14 <u>ppm</u> 0.030 <u>ppm</u>	Attainment	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, steel. Contributes to acid rain. Limits visibility.	Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing.
Lead (Pb) ^d	Monthly Quarterly	1.5 <u>µg/m³</u> –	Attainment	– 1.5 <u>µg/m³</u>	Attainment	Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also considered a toxic air contaminant.	Primary: lead-based industrial process like battery production and smelters. Past: lead paint, leaded gasoline. Moderate to high levels of aerially deposited lead from gasoline may still be present in soils along major roads, and can be a problem if large amounts of soil are disturbed.

Sources: California Air Resources Board Ambient Air Quality Standards chart, 05/17/2006 (<http://www.arb.ca.gov/aqs/aaqs2.pdf>). Sonoma-Marine Area Rail Transit Draft Air Pollutant Standards and Effects table, November 2005, page 3-52. California Air Resources Board (11/10/06), U.S. Environmental Protection Agency (10/13/06)

Notes: ppm = parts per million; µg/m³ = micrograms per cubic meter

^a Annual PM10 National Ambient Air Quality Standard revoked October 2006; was 50 µg/m³. 24-hr. PM2.5 National Ambient Air Quality Standard tightened October 2006; was 65 µg/m³.

^b [12/22/2006 Federal court decision](#) may affect applicability of Federal 1-hour ozone standard. Prior to 6/2005, the 1-hour standard was 0.12 ppm. Case is still in litigation.

^c Rounding to an integer value is not allowed for the State 8-hour CO standard. A violation occurs at or above 9.05 ppm.

^d The Air Resources Board has identified lead, vinyl chloride, and the particulate matter fraction of diesel exhaust as toxic air contaminants. Diesel exhaust particulate matter is part of PM10 and, in larger proportion, PM2.5. Both the Air Resources Board and U.S. Environmental Protection Agency have identified various organic compounds that are precursors to ozone and PM2.5 as toxic air contaminants. There is no threshold level of exposure for adverse health effect determined for toxic air contaminants, and control measures may apply at ambient concentrations below any criteria levels specified for these pollutants or the general categories of pollutants to which they belong.

* Air quality standards for non-attainment pollutants in Kern County

Environmental Consequences

On October 30, 2008, the Federal Highway Administration made the air quality conformity determination that the Cherry Avenue Four-Lane Widening project conforms to the State Implementation Plan in accordance with 40 Code of Federal Regulations Part 93. On March 28, 2011, the Federal Highway Administration reissued a new conformity determination for Alternative 11 (see Appendix L).

Regional Air Quality Conformity

The proposed project is fully funded and is in the 2011 Regional Transportation Plan that was approved by the Kern Council of Governments on July 15, 2010. The project is also included in the Kern Council of Governments financially constrained 2010 Regional Transportation Improvement Program. The Federal Highway Administration and Federal Transportation Authority adopted the air quality conformity finding on December 14, 2010. The project is included in the 2011 Federal Transportation Improvement Program (see the State Highway/Regional Choice Program table, page 23). The design concept and scope of the proposed project is consistent with the project description in the 2011 Regional Transportation Plan, the 2010 Regional Transportation Improvement Plan, and the assumptions in the Kern Council of Governments regional emissions analysis.

Regional Analysis

The air quality trends have included some improvements over time. The amount of direct emissions of PM₁₀ and PM_{2.5} has remained relatively unchanged from 1975 to the present. The sources are forecast to stay relatively unchanged through 2020. Particulate matter can come from area-wide sources such as fugitive dust from paved and unpaved roads, waste burning, agricultural operations, and residential fuel burning. Due to a combination of factors, including many increased regulations by the San Joaquin Valley Air Pollution Control District, less polluting vehicles and fuels, and road improvements that include paving shoulders, the San Joaquin Valley is now in the process of going from a non-attainment area to an attainment-maintenance area.

The PM_{2.5} annual average concentrations show a definite downward trend from 1999 through 2004. Although the San Joaquin Valley is currently designated as non-attainment for the national PM_{2.5} standard, measures adopted as part of the PM_{2.5} State Implementation Plan, as well as programs to reduce ozone and diesel particulate matter will help in reducing public exposure to PM_{2.5} in the region.

Project-Level Conformity

Carbon Monoxide

Carbon monoxide is a public health concern because it combines readily with hemoglobin and thus reduces the amount of oxygen transported in the bloodstream.

The project is located outside the Metropolitan Bakersfield carbon monoxide attainment-maintenance area. Therefore, it is located in a federal attainment area for carbon monoxide and a hot-spot analysis was not required. The project is also located in a state carbon monoxide attainment area. Historical air quality data show that existing carbon monoxide levels for the project area and the general vicinity do not exceed either the state or federal ambient air quality standards.

Particulate Matter Hot Spot Analysis

Particles less than 10 micrometers (PM₁₀) pose a potential health concern because these small particles can be inhaled and accumulate in the respiratory system. Particles less than 2.5 micrometers (PM_{2.5}) are thought to be the greatest health risk because of their smaller size.

This project is located in a federal PM₁₀ and PM_{2.5} non-attainment area. A qualitative particulate matter hot spot analysis was required under the Environmental Protection Agency's Transportation Conformity rule for projects of air quality concern, as described in the Environmental Protection Agency's Final Rule of March 10, 2006. A local hot spot analysis for PM₁₀ and PM_{2.5} was required.

A qualitative PM₁₀ and PM_{2.5} analysis was conducted in April 2007, and the project was submitted for Interagency Consultation as "Not a Project of Air Quality Concern." The Model Coordinating Committee concurred with the conformity finding in April 2007. The results indicate that the project improvements would not result in any new or worsened violation of federal standards. An updated analysis was conducted in December 2009. In January 2010, the Committee concurred with the conformity finding with the same results.

The closest PM₁₀ air monitor to the project site is the Taft College monitor at 29 Emmons Park Drive in Taft. This monitor is located approximately four miles southwest of the project near Cherry Avenue. Monitored PM₁₀ concentrations between 2001 and 2006 at this site did not exceed federal PM₁₀ standards.

The closest PM_{2.5} air monitor to the project site is about 18 miles east of the project site at 5558 California Avenue in Bakersfield. Monitored PM_{2.5} concentrations at this

site between 2001 and 2005 exceeded federal PM_{2.5} standards. This is consistent with the fact that the San Joaquin Valley Air Basin is in non-attainment for PM_{2.5}.

The State Implementation Plan for PM_{2.5} and the San Joaquin Valley Air Pollution Control District continue to implement regulations and requirements that should result in a decrease of this pollutant over time. Diesel vehicles are a significant source of this pollutant. Measures including cleaner burning diesel, diesel retrofit and replacement grant programs, and regulations sponsored by the San Joaquin Valley Air Pollution Control District and the state Air Resources Board should continue to decrease the amount of PM_{2.5}.

If the project is not built, Level of Service would decrease and due to more vehicle idling and stop-and-go traffic along the existing alignment air emissions would worsen.

Naturally Occurring Asbestos

Kern County is not among the counties listed as containing serpentine and ultramafic rock (Governor's Office of Planning and Research, October 26, 2000), which contain naturally occurring asbestos. Therefore, the impact from naturally occurring asbestos during project construction would be minimal to none. If structures that may contain asbestos are to be demolished, it is the responsibility of the contractor to comply with the Rules and Regulations of the Air Pollution Control District. The project is not expected to be located in an area with naturally occurring asbestos.

Mobile Source Air Toxics

In addition to the criteria air pollutants discussed above for which there are National Ambient Air Quality Standards, the U.S. Environmental Protection Agency also regulates air toxics. Most air toxics originate from human-made sources, including on-road mobile sources, non-road mobile sources (such as airplanes), area sources, (such as dry cleaners) and stationary sources (such as factories or refineries). Mobile source air toxics are a subset of the 188 air toxics defined by the Clean Air Act. Mobile source air toxics are compounds emitted from highway vehicles and non-road equipment. Some toxic compounds are present in fuel and are emitted to the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline.

Studies of human health risks are inconclusive, however, and the Environmental Protection Agency has yet to establish air quality standards or guidelines for assessing the project-level effects of mobile air toxics. Such limitations make the study of mobile air toxic concentrations, exposures, and health impacts difficult and uncertain, especially on a qualitative basis.

This Environmental Assessment includes a basic analysis of the likely impacts of this project from emission of mobile source air toxics. However, available technical tools do not enable us to predict the project-specific health impacts of the emission changes associated with the alternatives in this Environmental Assessment. Even though reliable methods do not exist to accurately estimate the health impacts of mobile source air toxics at the project level, it is possible to qualitatively assess the levels of future emissions from mobile source air toxics under the project. Although a qualitative analysis cannot identify and measure health impacts from mobile source air toxics, it can give a basis for identifying and comparing the potential differences among mobile source air toxics emissions, if any, from the various alternatives.

The Federal Highway Administration has issued interim guidance on how mobile source air toxics should be addressed for highway projects. The Federal Highway Administration has developed a tier approach for analyzing mobile source air toxics. Depending on the specific project circumstances, the Federal Highway Administration has identified three levels of analysis:

1. No analysis for exempt projects with no potential for meaningful mobile source air toxics effects
2. Qualitative analysis for projects with low potential mobile source air toxics effects
3. Quantitative analysis to differentiate alternatives for projects with higher potential mobile source air toxics

This project best fits the “No Meaningful/Low Potential for Mobile Source Air Toxics” emissions category. The Federal Highway Administration guidance states that minor highway widening projects are those efforts for which the ultimate traffic level is predicted to be less than 150,000 annual-average vehicles per day. The ultimate traffic level is predicted to be approximately 21,000 annual-average vehicles per day for both build alternatives, and approximately 18,000 annual-average vehicles per day for the No-Build Alternative. There were no sensitive receptors identified within the 500-foot vicinity of project limits. In addition, projects that create new

travel lanes, relocate lanes, or relocate economic activity closer to homes, schools, businesses and other sensitive receptors may increase concentrations of mobile source air toxics at those locations relative to the No-Build.

Caltrans has provided a qualitative analysis of mobile source air toxics emissions relative to the various alternatives, and has acknowledged that the project alternatives may result in increased exposure to mobile source air toxics emissions in certain locations. However, the concentrations and duration of exposures are uncertain, and because of this uncertainty, the health effects from these emissions cannot be estimated.

For each alternative in this Environmental Assessment, the amount of mobile source air toxics emitted would be proportional to the vehicle miles traveled, assuming that other variables such as fleet mix are the same for each alternative. The estimate of vehicle miles traveled for each of the build alternatives is slightly higher than that for the No-Build Alternative, because the additional capacity increases the efficiency of the roadway and attracts rerouted trips from elsewhere in the transportation network. This increase in vehicle miles traveled would lead to higher emissions of mobile source air toxics for the build alternatives along the highway corridor, along with a corresponding decrease in emissions of mobile source air toxics along the parallel routes. The emissions increase is offset somewhat by lower emission rates of mobile source air toxics due to increased speeds; according to the Environmental Protection Agency's MOBILE6 emissions model, emissions of all of the priority mobile source air toxics except for diesel particulate matter decrease as speed increases. The extent to which these speed-related emission decreases will offset emission increases related to vehicle miles traveled cannot be reliably projected due to the inherent deficiencies of technical models.

Because the estimated vehicle miles traveled under each of the build alternatives is the same, it is expected there would be no appreciable difference in overall mobile source air toxic emissions between the two build alternatives. In addition, regardless of the alternative chosen, emissions will likely be lower than present levels in the design year because of the Environmental Protection Agency's national control programs that are projected to reduce emissions of mobile source air toxics by 57 to 87 percent between 2000 and 2020. Local conditions may differ from these national projections in terms of fleet mix and replacement of diesel trucks, growth rates of vehicle miles traveled, and local control measures. However, the magnitude of the reductions projected by the Environmental Protection Agency is so great (even after

accounting for vehicle miles traveled growth) that mobile source air toxic emissions in the study area are likely to be lower in the future in nearly all cases.

The Environmental Protection Agency projections indicate a continuing downward trend of the six primary mobile source air toxics. The study of mobile source air toxics, health effects, and modeling tools are currently in a state where accurate information is incomplete or unavailable. This is relevant to making an accurate prediction of any reasonably foreseeable adverse effects on the human environment. There is currently no specific significance level for exposure. Without a significance level for exposure, one cannot accurately and scientifically predict the effects on the human environment. Until there are studies to clarify some of these unknowns, the information will not be available.

Short-Term Construction Effects

Direct temporary effects would include construction activities, which could increase short-term air emissions. The exhaust from construction equipment contains hydrocarbons, oxides of nitrogen, carbon monoxide, suspended particulate matter, and odors. However, the largest percentage of pollutants would be windblown dust generated during excavation, grading, hauling, and various other activities. The impacts of these activities would vary each day as construction progresses. Dust and odors at some residences very close to the right-of-way could probably cause occasional annoyance and complaints.

Both Alternative 10 and Alternative 11 would potentially cause more emissions from construction equipment than Alternative 1. The construction of the bypass portion of the project would potentially emit more dust due to the disturbance of more farmland and undeveloped areas.

Though the No-Build Alternative would not generate more short-term air effects, in the long term it would potentially emit more pollutants than the two build alternatives. Without improvements, the level of service along the existing alignment would decrease and congestion would increase air emissions due to lower vehicle speeds and more stop-and-go traffic.

Avoidance, Minimization, and/or Mitigation Measures

Direct operational impacts would include increased particulate matter and mobile source air toxics at any receptors near the selected build alternative. Paved shoulders would reduce PM₁₀ emissions from road dust. Improved traffic flow would be

expected to improve (decrease) carbon monoxide emissions, which would help keep this area in attainment for this pollutant.

The San Joaquin Valley Air Pollution Control District and Kern County Air Pollution Control District have specific rules dealing with filing dust control plans.

For the San Joaquin Valley Air Pollution Control District, an Air Impact Analysis for the Indirect Source Review (Rule 9510) must be submitted for evaluation of potential construction emissions of PM₁₀ and oxides of nitrogen. The Air Impact Analysis would calculate emissions resulting from only the construction phase of this project. Mitigation is required in the form of payment for tons of pollutants emitted during the project, or by other methods such as mandating a construction fleet that is “newer than the state average.” Caltrans is requiring the contractor to submit the air analysis and the dust control plan at the same time.

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

Climate Change

Climate change is analyzed in Section 2.5. Neither EPA nor FHWA has promulgated explicit guidance or methodology to conduct project-level greenhouse gas analysis. As stated on FHWA’s climate change website (<http://www.fhwa.dot.gov/hep/climate/index.htm>), climate change considerations should be integrated throughout the transportation decision-making process—from planning through project development and delivery. Addressing climate change mitigation and adaptation up front in the planning process will facilitate decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project level decision-making. Climate change considerations can easily be integrated into many planning factors, such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life. Because there have been more requirements set forth in California legislation and executive orders regarding climate change, the issue is addressed in the CEQA

chapter of this environmental document and may be used to inform the NEPA decision. The four strategies set forth by FHWA to lessen climate change impacts do correlate with efforts that the State has undertaken and is undertaking to deal with transportation and climate change; the strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and reduction in the growth of vehicle hours traveled.

2.2.6 Noise and Vibration

Regulatory Setting

The National Environmental Policy Act of 1969 and the California Environmental Quality Act provide the broad basis for analyzing and abating the effects of highway traffic noise. The intent of these laws is to promote the general welfare and to foster a healthy environment. The requirements for noise analysis and consideration of noise abatement and/or mitigation, however, differ between the National Environmental Policy Act and the California Environmental Quality Act.

California Environmental Quality Act

The California Environmental Quality Act requires a strictly baseline versus build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significant noise impact under the California Environmental Quality Act, then the act dictates that mitigation measures must be incorporated into the project unless such measures are not feasible

National Environmental Policy Act and 23 Code of Federal Regulations 772

For highway transportation projects with Federal Highway Administration involvement (and Caltrans, as assigned), the Federal-Aid Highway Act of 1970 and the associated implementing regulations (23 Code of Federal Regulations 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations contain noise abatement criteria that are used to determine when a noise impact would occur. The noise abatement criteria differ depending on the type of land use under analysis. For example, the criterion for residences (67 decibels) is lower than the criterion for commercial areas (72 decibels). Table 2.18 lists the noise abatement criteria for use in the National Environmental Policy Act and 23 Code of Federal Regulations 772 analysis and Table 2.19 shows the noise levels of typical activities.

Table 2.18 Activity Categories and Noise Abatement Criteria

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

Source: Technical Noise Supplement, 1998

A-weighted decibels are adjusted to approximate the way humans perceive sound. Leq(h) is the steady A-weighted level that is equivalent to the same amount of energy as that contained in the actual time-varying levels over one hour.

Table 2.19 Typical Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Jet Fly-over at 300m (1000 ft)	110	Rock Band
Gas Lawn Mower at 1 m (3 ft)	100	
Diesel Truck at 15 m (50 ft), at 80 km (50 mph)	90	Food Blender at 1 m (3 ft)
Noisy Urban Area, Daytime	80	Garbage Disposal at 1 m (3 ft)
Gas Lawn Mower, 30 m (100 ft)	70	Vacuum Cleaner at 3 m (10 ft)
Commercial Area		Normal Speech at 1 m (3 ft)
Heavy Traffic at 90 m (300 ft)	60	Large Business Office
Quiet Urban Daytime	50	Dishwasher Next Room
Quiet Urban Nighttime	40	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime		Library
Quiet Rural Nighttime	30	Bedroom at Night, Concert Hall (Background)
	20	Broadcast/Recording Studio
	10	
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

In accordance with Caltrans' *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, August 2006*, a noise impact occurs when the future noise level with the project results in a substantial increase in noise level (defined as a 12-decibel or more increase) or when the future noise level with the project approaches or exceeds the noise abatement criteria. Approaching the noise abatement criteria is defined as coming within 1 decibel of the criteria.

If it is determined that the project would have noise impacts, then potential abatement measures must be considered. Noise abatement measures that are determined to be reasonable and feasible at the time of final design are incorporated into the project plans and specifications. This document discusses noise abatement measures that would likely be incorporated in the project.

Caltrans' *Traffic Noise Analysis Protocol* sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. A minimum 5-decibel reduction in the future noise level must be achieved for an abatement measure to be considered feasible. Other considerations include topography, access requirements, other noise sources, and safety considerations. The reasonableness determination is basically a cost-benefit analysis. Factors used in determining whether a proposed noise abatement measure is reasonable include residents' acceptance, the absolute noise level, build versus existing noise, environmental impacts of abatement, public and local agencies' input, newly constructed development versus development pre-dating 1978, and the cost per benefited residence.

Affected Environment

A Noise Study Report was completed on March 22, 2006. Amendments to the Noise Study Report were made October 18, 2007 and May 31, 2008.

The traffic noise analysis for the proposed project was prepared according to the Caltrans Traffic Noise Analysis Protocol.

The western portion of the project area along the existing alignment passes through the rural unincorporated communities of Valley Acres and Dustin Acres. The existing land use here is residential with some commercial, industrial, and agricultural uses. Homes and businesses are located next to the existing State Route 119, 52 feet from the edge of roadway. No soundwalls are present along the existing alignment. The existing land use south of the two communities is open space. Subdivided one-acre parcels located in southern Dustin Acres, extending south of the Sunridge area, are designated for residential. Development has been slow and gradual there. The southern portion of this area has no new housing. The eastern portion of the project area passes through Elk Hills. The area along the highway is in hilly terrain and not populated.

Eleven residences located along the existing alignment within the two communities represent all noise sensitive locations potentially affected by Alternative 1. They were identified as noise sensitive receptors (see Table 2.20 and Figure 2-6).

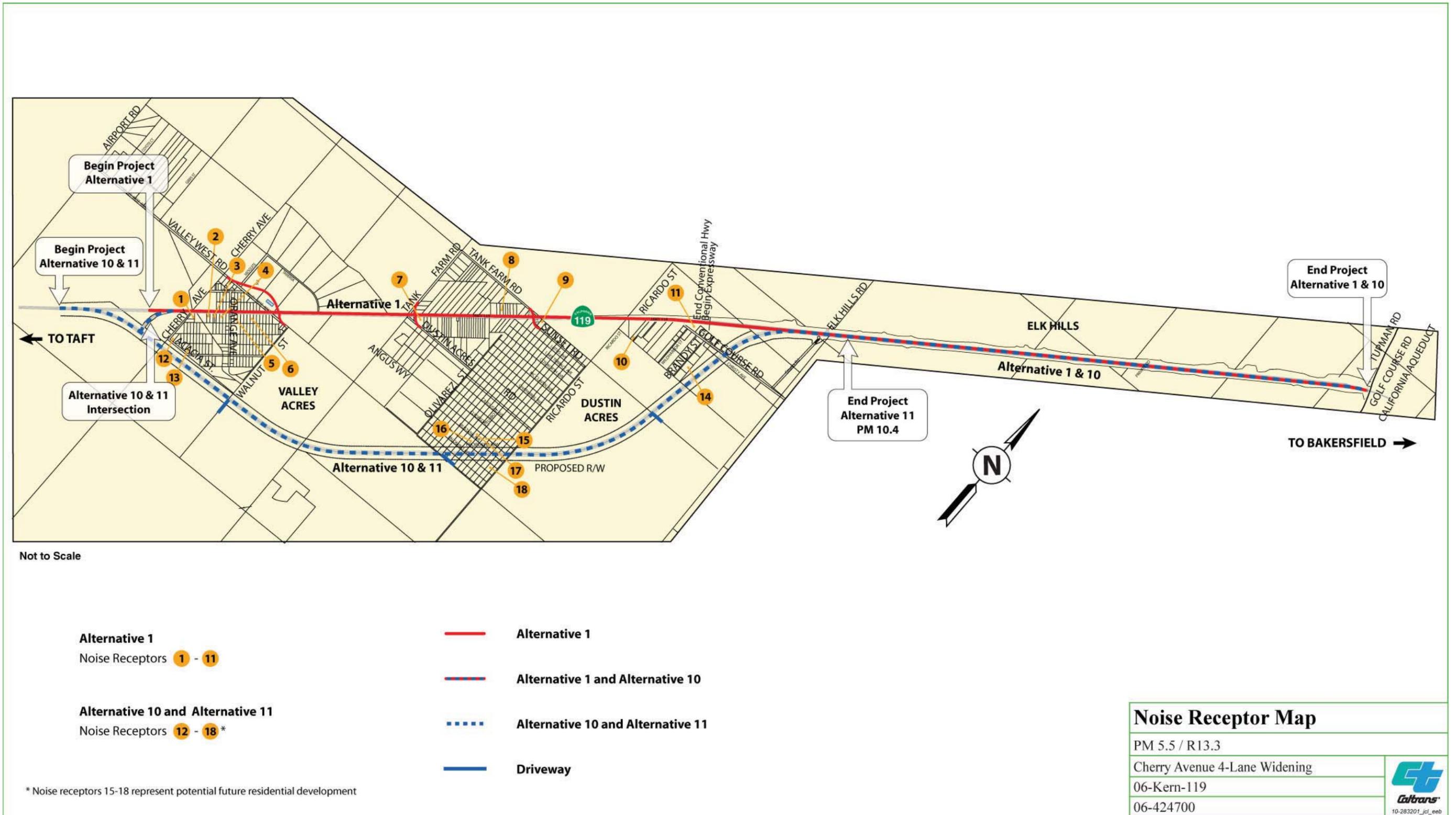


Figure 2-6 Noise Receptor Map

Two residences in southern Valley Acres and one residence southeast of Dustin Acres were identified as representing the 11 receiver locations potentially affected by Alternative 10 or Alternative 11 (Table 2.21 and Figure 2-6). Four undeveloped sites at the south end of Dustin Acres were selected as sensitive receptors representing potential future residential development that might be affected by Alternative 10 or 11.

Environmental Consequences under the National Environmental Policy Act

Alternative 1

Receptors 1 through 11 had existing noise levels ranging from 64 to 69 decibels, (Table 2.20). The predicted noise levels without the project would potentially increase to between 67 and 72 decibels. The predicted noise levels if Alternative 1 were built would increase to between 68 and 73 decibels. Since the receptors are predicted to exceed the Noise Abatement Criteria of 67 decibels, abatement must be considered.

Caltrans concluded that a soundwall would decrease noise levels by at least eight decibels. However, a soundwall would not be feasible for the single-family homes because it would need access breaks to enable residents to get to their properties. Breaks in the wall would make it ineffective for noise abatement.

Table 2.20 Noise Levels for Alternative 1

Receptor # and Location	Existing Noise Level (dBA)	Predicted Noise Level (2034) without Project (dBA)	Predicted Noise Level (2034) with Project (dBA)	Noise Impact Requiring Abatement Consideration	Reasonable and Feasible
1 - 27501 Cherry Avenue	68	72	73	Yes	No
2 - 27515 Highway 119	66	69	70	Yes	No
3 - 27519 Highway 119	69	71	72	Yes	No
4 - 27525 Highway 119	66	69	70	Yes	No
5 - 27541-Highway 119	66	72	73	Yes	No
6 - 27557 Highway 119	67	71	72	Yes	No
7 - 27913 Highway 119	68	71	72	Yes	No
8 - 27990 Highway 119	65	68	69	Yes	No
9 - 28126 Sunridge Avenue	64	67	68	Yes	No
10 - 28323 Highway 119	69	72	71	Yes	No
11 - 28364 Golf Course Road	65	69	68	Yes	No

Source: Caltrans Noise Study, May 31, 2008

Alternative 10 and Alternative 11

Receptors 12 and 13 had existing noise levels of 63 decibels, and Receptor 14 had an existing noise level of 48. Predicted noise levels with the project are not expected to be noticeably different from the existing noise levels. Predicted noise levels for Receptors 12 and 13 would decrease to 51 and 54 decibels, respectively. Predicted noise levels in 2034 for Receptor 14 would increase to 56 decibels. See Table 2.21. Undeveloped sites, represented by Receptors 15 through 18, have predicted noise levels that range between 54 and 58 decibels and an existing noise level of 48 decibels. For Receptors 14 through 18, the resulting noise level increases would not be substantial (above 12 decibels) and are below the Noise Abatement Criterion of 67 decibels for residences.

Table 2.21 Noise Levels for Alternative 10 and 11

Receptor # and Location	Existing Noise Level (decibels)	Predicted Noise Level (2034) with Project (decibels)
12 - 27500 Acacia Street	63	51
13 - 27522 Acacia Street	63	54
14 - 11806 Brandy Street	48	56
15	48	56
16	48	58
17	48	54
18	48	54

Source: Caltrans Noise Study, March 22, 2006 and October 18, 2007

Avoidance, Minimization, and/or Noise Abatement under the National Environmental Policy Act

Alternative 1

For Alternative 1, all 11 sensitive noise receptors would exceed the Noise Abatement Criteria; Caltrans determined that soundwalls at these locations would not be feasible because breaks in the wall would be required for access. Therefore, noise abatement measures, other than those recommended for the construction noise, are not recommended for this project.

Alternative 10 and Alternative 11

Other than what is recommended for construction noise, no noise abatement would be necessary.

Construction Noise

Noise at the construction site would be intermittent, and its intensity would vary. The degree of construction noise effects would vary between the two build alternatives, the areas of the project site, and the construction activities. Existing noise levels can be compared with the expected noise levels produced by various construction activities to assess construction noise impacts. During the construction period, sensitive receptors that are close to the highway may experience temporary noise effects. Measures to minimize construction noise may include but are not limited to the following:

- Use newer, or well-maintained, equipment with improved muffling and ensure that all equipment items have the manufacturers' recommended noise abatement measures, such as mufflers, engine enclosures, and engine vibration isolators intact and operational. Newer equipment will generally be quieter in operation than older equipment. All construction equipment should be inspected at periodic intervals to ensure proper maintenance and presence of noise control devices (such as mufflers and shrouding, etc.).
- Use construction methods or equipment that would provide the lowest level of noise and ground vibration impact such as alternative low noise pile installation methods.
- Turn off idling equipment.
- Temporary noise barriers would be used and relocated, as needed, to protect sensitive receptors against excessive noise from construction activities. Noise barriers can be made of heavy plywood or moveable insulated sound blankets.
- Implement a construction noise and vibration-monitoring program to limit the impacts.
- Plan noisier operations during times of least sensitivity to receptors.
- Keep noise levels relatively uniform and avoid impulsive noises.

Maintain good public relations with the community to minimize objections to the unavoidable construction impacts. Provide frequent activity update of all construction activities.

Environmental Consequences under the California Environmental Quality Act

Alternative 1

Caltrans identified 11 sensitive noise receptors potentially affected by Alternative 1. None of these sensitive noise receptors were predicted to have a noise increase different than what would occur without the project. Without the project (No-Build Alternative), these sensitive noise receptors are predicted to increase to about the same level of

decibels as they would with Alternative 1. The difference between the two alternatives would be one decibel, plus or minus. Therefore, construction of Alternative 1 would not result in a significant noise impact under the California Environmental Quality Act.

Alternative 10 and Alternative 11

Seven sensitive noise receptors were identified for these alternatives: three residences and four undeveloped parcels. None of these sensitive noise receptors were predicted to have a noise increase of 12 decibels or more. Noise levels at receptors 12 and 13 would decrease with these alternatives. Therefore, neither alternative would result in a significant noise impact under the California Environmental Quality Act.

Avoidance, Minimization, and/or Noise Abatement under the California Environmental Quality Act

Other than what is recommended for construction noise, no noise abatement would be necessary.

2.3 Biological Environment

2.3.1 Natural Communities

Regulatory Setting

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

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed in Threatened and Endangered Species, Section 2.3.5. Wetlands and other waters are discussed in Section 2.3.2.

Affected Environment

A Natural Environment Study for this project was completed in June 2008. A biological assessment was prepared in August 2008 for Alternative 10. A revision of this biological assessment was completed in December 2008. A biological assessment was prepared in June 2009 for Alternative 11. The Biological Opinion was received from the U.S. Fish and Wildlife Service on April 20, 2010.

The biological study area runs the length of the project limits and is 400 feet wide along the existing alignment and the proposed bypass. The biological study area provides nesting and foraging habitat for a variety of reptiles, birds, and mammals.

The biological study area is located in Kern County in the extreme southwestern part of the San Joaquin Valley. The western end of the project is located adjacent to the eastern foothills of the Temblor Ranges, and the eastern end of the project is located in the Elk Hills, northwest of the Buena Vista Lakebed. The general topography of the biological study area varies from steeply sloped drainages, where the project crosses Elk Hills, to gently rolling hills and nearly flat alluvial fans elsewhere. The elevation ranges from 380 to 415 feet above mean sea level through Valley Acres and Dustin Acres and rises up to 515 feet above mean sea level between Golf Course Road and Tupman Road. The climate in the biological study area consists of long, hot, dry summers and cool, mild winters.

Biological communities in the biological study area are primarily a function of soil moisture. Many of the vegetation types (biological communities) in the biological study area and the plant species typical of these vegetation types are also found in the Mojave Desert. The biological communities are arid habitats typical of the southern San Joaquin Valley that support a variety of special-status species.

The most abundant vegetation community in the biological study area is disturbed valley saltbush scrub. Less abundant communities in the biological study area include valley saltbush scrub, valley sink scrub (bush seepweed scrub), ruderal, and barren. There is no proposed or designated critical habitat listed for any species in the project area. The California Department of Fish and Game lists the community types valley saltbush scrub and bush seepweed scrub as rare natural communities due to their rarity and threat of development.

Valley Saltbush Scrub

Valley saltbush scrub is dominated by saltbush shrubs in the goosefoot family (Chenopodiaceae), particularly allscale (*Atriplex polycarpa*). This habitat type differs from bush seepweed scrub in that the shrubs are usually less alkali-tolerant and support an herbaceous annual understory. Nonnative annual grasses typically dominate the understory of this vegetation type. Valley saltbush scrub is often found on rolling, dissected alluvial fans composed of non-alkaline sandy, to sandy loams. Shrub species dominance varies geographically according to spatial variation in soil conditions and topography, and includes spinescale (*Atriplex spinosa*), quail bush (*Atriplex lentiformis* var. *lentiformis*), and cheesebush (*Hymenoclea salsola*). Valley saltbush scrub is located

near the southwest end of the existing State Route 119 just west of Valley Acres and south of Valley Acres and Dustin Acres.

The western portion of the Coles Levee Ecosystem Preserve is located on both sides of the existing highway west of Tupman Road (post mile R13.3). The 6,059-acre preserve was established in 1992 by Arco to provide protected wildlife habitat. The California Department of Fish and Game and Atlanta Richfield Company manage the preserve jointly. Aera Energy LLC purchased the preserve in 1998. Caltrans has purchased mitigation credits at Coles Levee for impacts associated with past projects. This portion of the preserve contains valley saltbush scrub habitat.

Bush Seepweed Scrub

Bush seepweed scrub, characterized by low succulent plants dominated by alkali-tolerant shrubs, is in the goosefoot family and has little or no understory development. This community is dominated by the bush seepweed (*Sueda moquinii*). This community primarily occurs in the San Joaquin Valley and many of the documented occurrences are located in Kern and Merced counties. Bush seepweed scrub vegetation once surrounded the large lakes in the southern San Joaquin Valley that have since been drained. These perennial plants are adapted to saline or alkaline clays and draw water from the seasonally high groundwater table associated with the Buena Vista Dry Lake. If present, understory growth usually includes red brome and saltgrass (*Distichlis spicata*). Extensive conversion of land to agriculture and other land uses has nearly wiped out this community. Bush seepweed scrub is located along the northernmost portions of Alternative 10, east of Dustin Acres.

Disturbed Valley Saltbush Scrub

Disturbed valley saltbush scrub is associated with areas that have been degraded by sheep grazing or other disturbances. This habitat type often occurs as a mosaic with valley saltbush scrub, nonnative grasses, and disturbed ruderal vegetation because the disturbance to the valley saltbush scrub is patchy and varies in intensity.

Ruderal

Disturbed ruderal vegetation is typical of areas where the native vegetation has been significantly altered by agriculture, grazing, construction, or other land-clearing activities. This habitat type is present on vacant lots, cultivated fields, along roadsides, surrounding oil-pumping units, and in abandoned fields. The type of disturbed lands encountered varied from bare ground to areas dominated with nonnative annual species, perennial broadleaf species, and nonnative grasses. Typical plant species observed within this habitat type include tumbleweed (*Salsola tragus*), ripgut grass (*Bromus*

diandrus), turkey mullein (*Eremocarpus setigerus*), sacred datura (*Datura wrightii*) and filaree (*Erodium cicutarium*, *E. moschatum*).

Barren

Areas that have been leveled and graded are barren and have no vegetation within them. There is a large open field adjacent to the south side of Dustin Acres and another small open field located to the east.

East of Dustin Acres to the California Aqueduct (Alternative 11 ends at Elk Hills Road in Elk Hills)

Disturbed valley saltbush scrub is the dominant vegetation type within the existing right-of-way with small pockets of intact valley saltbush scrub present. Valley saltbush scrub is the dominant vegetation type outside of the right-of-way. Soils are comparable to those throughout Elk Hills, with alternating strata of loamy sand, greenish clays, gypsum clays, and scattered shale colluvium. Soils in the biological study area are increasingly sandy moving southeast toward the California Aqueduct. Allscale and spinescale are the dominant shrubs in the valley saltbush scrub vegetation in this section.

The valley saltbush scrub vegetation is disturbed next to the existing highway in this section, especially on the northern side or where the soils are loamy. Weeds (i.e., *Bromus* spp.) and dense saltbush stands dominate the areas next to culverts. Sites with clayey soils and ridge tops support higher concentrations of natives, including various annuals such as Kern tarplant (*Deinandra pallida*), yellow comet (*Mentzelia affinis*), Parry mallow (*Eremalche parryi*), gilia (*Gilia austro-occidentalis*), plantain (*Plantago* sp.), fluffweed (*Filago californica*), and various buckwheats (*Eriogonum* spp.).

Some areas appear to be more resistant to exotic plant invasion due to the soil makeup. Many-flowered eriastrum (*Eriastrum pluriflorum*) was observed on the slopes and ridges in the Elk Hills portion of the State Route 119 right-of-way, gradually replacing Hoover's woolly-star as one moves from the sandy flats around Dustin Acres into the Elk Hills topography. Rare plants that were located in this portion of the route surveys included heartscale, cottony buckwheat, and gypsum-loving larkspur.

Highway Widening through Dustin and Valley Acres (Alternative 1)

The biological study area in this section is highly disturbed or altered. The remnant patches of scrub that remain are pure stands of allscale. The northern tributary wash of Buena Vista Creek passes through this area. Vegetation observed in the wash area includes cheesebush (*Hymenoclea salsola*) and snakeweed (*Gutierrezia sarothrae*).

West of Valley Acres, the biological study area is dominated by valley saltbush scrub that is disturbed along the highway and intact in the outer edges of the biological study area. To the west, the terrain flattens, soils are sandy-silty, and biotic crusts are relatively intact where disturbances are limited. The soils at the eastern end of this section are sandy and well drained, in part because of a slope gradient. Hoover's woolly-star occurs in open sandy areas along the roadside in the vicinity of Dustin Acres. It appears to be more numerous in some of the disturbed areas than in some of the open parcels that are often dominated by filaree and other exotic species. Degradation of the vegetation types along the highway becomes less apparent toward the western end of this section.

Southern Bypass near Dustin and Valley Acres (Alternative 10 and 11)

The vegetation types through the project area of the bypass vary depending on land use patterns. At the western end of this section, the vegetation is valley saltbush scrub that is identical to the western end of Alternative 1. South of Valley Acres, the route crosses an open graded area that was previously cultivated, but is now mostly barren with wind-blown piles of tumbleweeds (*Salsola tragus* and *Atriplex rosea*).

As the bypass begins to turn northward toward State Route 119, the alignment crosses corners of parcels that are active agricultural fields and parcels with intact valley saltbush scrub. The areas of scrub are dense with occasional raised crusts of mosses, however the natural vegetation has been degraded by illegal disposal of trash in these areas. The soils are semi-alkaline and dominated by non-native annuals.

Bush seepweed-iodine bush scrub is intermixed with disturbed valley saltbush scrub as the alignment heads north toward State Route 119. Bush seepweed is the dominant shrub in bush seepweed-iodine bush scrub vegetation, and a common associate is allscale. The areas of bush seepweed-iodine bush scrub vegetation have patchy swaths of loose, slightly clayey soils that are mostly barren. Patches of annual goosefoot family species, including heartscale, crownscale (*Atriplex coronata* var. *coronata*), arrowscale (*A. phyllostegia*), and patata (*Monolepis nuttalliana*) occasionally occur in this section. These patches alternate between dense stands of foxtail barley (*Hordeum murinum*), fiddleneck (*Amsinckia menziesii*), and brome grass.

As the route approaches Golf Course Road, the soils become much sandier, the terrain is gently sloped and the dominant shrub is allscale. Hoover's woolly-star, along with red pygmy-weed (*Crassula connata*), is common in some of these areas where the native scrub is intact.

Environmental Consequences

Impacts to natural communities were estimated based on the project footprint for permanent impacts (see Table 2.22). Direct permanent impacts are the loss of habitat due to roadway development. For Alternative 1, the impacts area is generally disturbed and smaller in size. After the circulation period and during consultation with the U.S. Fish and Wildlife Service, temporary impacts for Alternative 10 were reassigned as permanent impacts.

The overall impacts were reduced due to avoidance measures at the Coles Levee Preserve. Thus, Alternative 1 went from 59 acres of permanent and 62 acres of temporary impacts to 121 acres of permanent impacts to potentially suitable habitat. Alternative 10 went from 218 acres of permanent and 42 acres of temporary impacts to 230.88 acres of permanent impacts to potentially suitable habitat. The habitat along the bypass associated with Alternative 10 and 11 are the largest and has the most suitable habitat compared to Alternative 1. Alternative 10 and 11 would have the same impacts along the bypass, but the shorter Alternative 11 would affect less suitable habitat through Elk Hills.

Alternative 1

Compared to Alternative 10 or Alternative 11, Alternative 1 would not affect bush seepweed scrub and would have the least effect on valley saltbush scrub. None of the build alternatives would acquire valley saltbush scrub habitat within Elk Hills.

Alternative 10 and Alternative 11

Compared to Alternative 1, Alternative 10 and Alternative 11 would have the most impact on bush seepweed scrub and valley saltbush scrub.

None of the alternatives would affect the privately owned Coles Levee Ecosystem Preserve.

Table 2.22 Impacts to Natural Communities within the Project Footprint

Alternative	Permanent/Temporary Impacts (acres)
1	121.00/0.00
10	230.88/0.00
11	173.52/0.00

Avoidance, Minimization, and/or Mitigation Measures

Mitigation proposed to address the potential loss of bush seepweed scrub and valley saltbush scrub habitat include the following:

- Preservation, enhancement, and/or restoration of bush seepweed scrub habitat.
- Restoration through the removal of the top 6 inches of topsoil. This soil would be stockpiled and replaced following construction activities.
- Use of seed mix with weed-free/native plant mixture approved by California Department of Fish and Game botanist.
- Revised slope angle within Caltrans right-of-way in Elk Hills would increase from 4:1 to 2:1 to avoid impacts to the Coles Levee Ecological Preserve and Occidental of Elk Hills, Incorporated.
- Adjacent to the existing highway and within the existing Caltrans right-of-way, the project design would avoid all impacts to saltbush scrub habitat within the designated Coles Levee Ecological Preserve.

Impacts to these sensitive plant communities would be compensated for in conjunction with the San Joaquin kit fox. See Section 2.3.5 Threatened and Endangered Species.

Potential impacts to sensitive biological resources would be avoided and/or minimized by implementing the following measures:

- Modify the project design, construction specifications, and timing of project implementation.
- Install fencing around areas designated as Environmentally Sensitive Areas, conduct preconstruction surveys for burrows or dens potentially occupied by special-status wildlife species, and monitor the construction activities to prevent potential take of these species.
- Install barrier fencing between affected areas and the protected lands of Coles Levee Ecological Preserve and Occidental of Elk Hills Incorporated.
- Implement Best Management Practices: Schedule minimal activities during the rainy season. Use temporary erosion control devices on slopes where erosion or sedimentation could degrade sensitive biological resources.
- Remove all temporary fill and construction debris from the biological study area after completion of construction.

To reduce the potential impacts to sensitive biological resources, the following measures would be implemented:

- Caltrans would preserve, enhance, or restore habitat and/or aquatic resources approved by the U.S. Fish and Wildlife Service. These options would be developed further, when the proposed construction alternative has been finalized.
- Permanent impacts would be mitigated at a 3:1 ratio.
- Preconstruction surveys would be conducted for special-status species to determine their presence or absence in the project footprint. These surveys would also assist in the establishment of environmentally sensitive areas that would be avoided during construction.
- An approved biologist would monitor construction activities within endangered species habitat.
- Contract Special Provisions for environmentally sensitive areas, migratory birds, noxious weeds, and the San Joaquin kit fox would be included in the bid package.

2.3.2 Wetlands and Other Waters

Regulatory Setting

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

Section 404 of the Clean Water Act establishes a regulatory program that provides that no discharge of dredged or fill material can be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers with oversight by the Environmental Protection Agency.

The Executive Order 11990 for the Protection of Wetlands also regulates the activities of federal agencies with regard to wetlands. Essentially, this executive order states that a federal agency, such as the Federal Highway Administration, and Caltrans as

assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: 1) that there is no practicable alternative to the construction and 2) the proposed project includes all practicable measures to minimize harm.

At the state level, wetlands and waters are regulated primarily by the California Department of Fish and Game and the Regional Water Quality Control Boards. In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission) may also be involved. Sections 1600-1607 of the Fish and Game Code require any agency 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 Army Corps of Engineers may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the Department of Fish and Game.

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

Affected Environment

A biological assessment was prepared in August 2008 for Alternative 10. A revision of this biological assessment was completed in December 2008. A biological assessment was prepared in June 2009 for Alternative 11. The Biological Opinion was received from the U.S. Fish and Wildlife Service on April 20, 2010.

Drainages in the Buena Vista Creek watershed and the Elk Hills area historically drained into Buena Vista Lake, either from overland and/or subsurface flow. The California Aqueduct and agricultural activities have obscured the connection of these watersheds to Buena Vista Lake, and no surface flows from the drainages in the biological study area currently reach the lake. For more information on Buena Vista Creek and drainages, see Affected Environment in Section 2.2.2 Water Quality and Storm Water Runoff.

Eleven features within the biological study area, consisting of an alluvial wash and various drainages and swales, are potential jurisdictional waters of the United States. The California Department of Fish and Game and Regional Water Quality Control Board under the California Fish and Game Code and the McAtteer-Petris Act may regulate the washes and drainages.

No wetlands are located within the biological study area. Non-wetland drainage features within the project area include an alluvial wash, various drainages, and swales. All streams, both wash and drainage features, within the study area are temporary and dry most of the year.

Environmental Consequences

A formal jurisdictional delineation was conducted, and it was determined that there are no potentially jurisdictional wetlands in the biological study area. However, several areas potentially to be jurisdictional waters of the United States, including Buena Vista Creek and other drainages were identified. The jurisdictional delineation report has been submitted to the U.S. Army Corps of Engineers for verification.

For the potential jurisdictional waters of the United States, a 404 permit from the U.S. Army Corps of Engineers and a 401 Water Quality Certification from the Regional Water Quality Control Board would be required. A Section 1602 Streambed Alteration Notification from the California Department of Fish and Game would be required for this project. The Section 404 permit includes a combination of Nationwide Permits currently authorized by the U.S. Army Corps of Engineers. Specific Nationwide Permits that may apply to the proposed project include Nationwide Permit No. 14 for linear transportation projects and Nationwide Permit No. 33 for temporary, construction, access, and dewatering.

None of the three build alternatives would completely avoid impacts to these potential jurisdictional waters. Impacts to potential jurisdictional drainages within Alternative 1 are 0.451 acres. Alternative 10 and 11 would each impact 0.199 acres of potential drainages.

Avoidance, Minimization, and/or Mitigation Measures

Two mitigation options are proposed to address the loss of potential jurisdictional waters of the United States.

- Participation in an in-lieu fee program or
- Preservation, enhancement, and/or restoration of aquatic resources

2.3.3 Plant Species

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. Please see the Threatened and Endangered Species, Section 2.3.5, 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 2100-21177.

Affected Environment

A Natural Environment Study for this project was completed in June 2008. A biological assessment was prepared in August 2008 for Alternative 10. A revision of this biological assessment was completed in December 2008. A biological assessment was prepared in June 2009 for Alternative 11. The Biological Opinion was received from the U.S. Fish and Wildlife Service on April 20, 2010.

Rare plant surveys were conducted during March 18-21, 2002, and reconnaissance-level surveys were conducted in 2003 on March 21, May 24, and July 15. The supplemental 2003 surveys were conducted because 2002 was a dry year and plants having the potential to occur in the biological study area may not have germinated or reached maturity. Existing special-status species data sources were reviewed.

Some portions of the biological study area were not surveyed due to a lack of legal access. The 2002 rare plant surveys were affected by the lower than average rainfall during the 2001-2002 season. The rainfall conditions for the 2002 season were not productive enough to render a legitimate rare plant survey. It is likely that many more native species would be present in a good rain year.

The winter rainfall between 2002 and 2003 was nearly absent, but the following spring rainfall was abundant. All annual and herbaceous perennial plants that were growing were in bloom to some extent on March 21, which is atypically early and was probably due to a lack of cold winter rains and the heat wave of mid-March (maximum temperature in the low 90s on March survey date). Late-blooming annual plants were in bloom at this time. Some plants were mostly past bloom by this time. Though annual biomass was high, diversity was less than expected, especially in the Elk Hills. Few additional species were observed in 2003 that had not been previously identified in 2002. Annual species that require cold-moist stratification for germination, especially those in the legume family, were lacking, which is to be expected given the rainfall pattern for 2002-2003.

Sheep grazing during spring 2002 reduced the ability to detect plants in the northern portion of the alignment. Long-term sheep grazing reduces the native plant diversity and impairs the ability to detect and identify special-status species in the affected areas.

Seven special-status plant species potentially exist within the biological study area. See Appendix E for a list of the special-status species with the potential to occur in the biological study area.

Alkali Mariposa Lily

The alkali Mariposa lily (*Calochortus striatus*) is a California Native Plant Species listed 1.B plant species. This species can be found in alkali meadows and moist creosote bush scrub between elevations of 224 to 5,104 feet. Urbanization, grazing, trampling, road construction, hydrological alterations, and water diversions that result in the lowering of the water table threaten this species. This species can be found in Kern, Los Angeles, San Bernardino, and Tulare counties.

There is potential for this species to occur in the biological study area, but no plants were observed during the rare plant surveys conducted in 2002 and 2003.

Heartscale

Heartscale (*Atriplex cordulata*) is a California Native Plant Society listed 1.B plant species. This species grows in sandy, saline, or alkaline flats or scalds, in chenopod scrub, meadows, and valley and foothill grassland, and frequently occurs in areas that are dominated by saltgrass and brittlescale. *Atriplex* species are relatively tolerant of disturbance. Heartscale blooms April through October. It occurs in the Central Valley, from Kern County in the south to Butte and Glenn counties in the north, and from Alameda County in the west to Madera and Tulare counties in the east. It is believed to be gone from San Joaquin, Stanislaus, and Yolo counties and has not been reported in Sacramento County. Habitat loss is responsible for the decline of heartscale.

During surveys, heartscale was identified in the eastern portion of the two proposed alignments, including on several south-facing road cuts along the existing highway through Elk Hills and in the bush seepweed scrub habitat south of Valley Acres and Dustin Acres.

Crownscale

Crownscale (*Atriplex coronata* var. *coronata*) is a California Native Plant Society listed 4 plant. This species is found in chenopod scrub, valley and foothill grassland, and vernal pools in alkaline soils. It blooms from March to October and ranges in elevation from 3 to 1,900 feet. It is found in the southern Sacramento Valley, San Joaquin Valley, and eastern Inner South Coast Ranges.

During plant surveys, Crownscale was identified along with heartscale within the biological study area.

Lost Hills Crownscale

Lost Hills crownscale (*Atriplex vallicola*) is a federal species of concern and a California Native Plant Society listed 1.B plant. This species is typically found in chenopod scrub, valley and foothill grassland, alkaline vernal pools, alkaline grasslands, and the margins of alkali sinks. It blooms from April to August and is normally found between 150 to 2,080 feet. Lost Hills crownscale is found throughout the San Joaquin Valley.

Forty-two historical occurrences of Lost Hills crownscale near the biological study area are documented. The closest of these is approximately 1.3 miles from the biological study area. Lost Hills crownscale was not observed in the biological study area during plant surveys. However, three specimens in the biological study area appeared to be hybrids between crownscale and Lost Hills crownscale.

Gypsum-Loving Larkspur

Gypsum-loving larkspur (*Delphinium gypsophilum* ssp. *gypsophilum*) is a California Native Plant Society listed 4 plant. This species is found in chenopod scrub, cismontane woodland, and valley and foothill grassland, often on slopes. It blooms from February to May and is present at elevations between 320 to 2,700 feet. It ranges from the southern Sierra Nevada Foothills, Tehachapi Mountain Area, San Joaquin Valley, and the Inner South Coast Ranges. Gypsum-loving larkspur is threatened by road construction and maintenance, energy development, and grazing.

Gypsum-loving larkspur was identified from skeletons in 2002 and located on a few east- and northeast-facing slopes on the northern side of the existing highway through Elk Hills. In 2003, these larkspurs were observed in flower in early March. Approximately 30 to 40 larkspur plants were observed along the existing highway in Elk Hills.

Cottony Buckwheat

Cottony buckwheat (*Eriogonum gossypinum*) is a California Native Plant Society listed 4 plant. This species is found in chenopod scrub and valley and foothill grassland in clay soils. It blooms from March to September at elevations between 300 and 1,800 feet. It is found from the southern Sierra Nevada foothills to the southwestern San Joaquin Valley.

Cottony buckwheat was observed in gypsum-clay soils on the ridges of the existing highway in Elk Hills. The plants appeared to be restricted to the western edges of the ridgetops. Approximately 60 plants were present in the biological study area during the spring of 2003.

Hoover's Woolly-Star

Hoover's woolly-star (*Eriastrum hooveri*) is a federal species of concern that the U.S. Fish and Wildlife Service delisted from its previous status as threatened in 2003. This species is restricted to the southern San Joaquin Valley, but occupies a relatively wide range of habitats within its range. Populations occur in alkali sinks, washes, on both north- and south-facing slopes, and on the top of ridges. Optimal habitats for this species are characterized by stabilized silty to sandy soils, a low cover of competing herbaceous vegetation, and the presence of cryptogamic crust (a layer of moss, lichen, and algae). However, it has also been found on loamy soils, in areas of dense vegetation, and in areas lacking cryptogamic crust. This species may benefit from some soil disturbance in areas that are densely vegetated by exotic plants. Reported elevations for this species range from 164 to 3,002 feet.

Hoover's woolly-star was observed during the 2002 and 2003 surveys. In 2002, only a few plants had reached the flowering stage of growth in March, but numerous desiccated remains from the previous season were associated with the growing plants. In March 2003, nearly half of the thousands of plants observed were flowering.

A large population of Hoover's woolly-star occurs throughout the Elk Hills; surveys conducted by the Elk Hill Petroleum Reserve in 1999 also documented this species within the biological study area. Hoover's woolly-star plants were identified in sandy soil located downslope from the southeast-facing alluvial fan of the Elk Hills to the edge of the Buena Vista creek fan. Several clusters of approximately 100 plants each were located along the northeastern portion of the biological study area. The plants observed were located on gentle slopes where the soil had a cryptogamic crust (Cryptogams such as mosses, algae, lichens, or liverworts growing in a thin crust.). The areas of highest density in the biological study area occurred southwest and southeast of the old Chevron Standard Oil tank farm. The population in the biological study area is estimated to be several thousand plants.

Environmental Consequences

Of the three build alternatives, Alternative 1 would have the least effect on the seven special-status plant species within the biological study area. Alternative 1 would permanently affect 121 acres of potential habitat in the biological study area. Alternative 10 would have the most impact due to the larger footprint on more suitable habitat. After the circulation period and during consultation with the U.S. Fish and Wildlife Service, temporary impacts for Alternative 1 and Alternative 10 were reassigned as permanent impacts. The overall impacts were reduced due to avoidance measures at the Coles Levee Preserve. Thus, Alternative 10 went from 218 acres of permanent and 42 acres of temporary impacts to 230.88 acres of permanent impacts to potentially suitable habitat. Alternative 11 would result in 173.52 acres of permanent impacts.

Caltrans has revised the slopes within the Caltrans right-of-way adjacent to the Coles Levee for Alternatives 1 and 10 to avoid impacts to the privately owned Coles Levee Ecosystem Preserve at the east end of the project area. Alternative 11 would avoid impacts to this area by ending at post mile R10.4 before the preserve limits. No alternative would require land from the preserve.

Avoidance, Minimization, and/or Mitigation Measures

Potential impacts to special-status plant species would be avoided and/or minimized by implementing the following measures:

- Modify the project design, construction specifications, and timing of project implementation.
- Implement best management practices: Schedule minimal activities during the rainy season.
- Use temporary erosion control devices on slopes where erosion or sedimentation could degrade sensitive biological resources.
- Remove all temporary fill and construction debris from the biological study area after completion of construction.
- Designate occurrences of special-status plant species located next to the construction work area within the proposed right-of-way as environmentally sensitive areas and fence off to minimize inadvertent impacts to the plant population or the associated habitat.
- Conduct preconstruction surveys for the plant species during the growing season before the start of construction.
- Map all occurrences of any of the special-status plant species.

2.3.4 Animal Species

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. This section discusses potential impacts and permit requirements associated with 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 2.3.5. All other special-status animal species are discussed here, including California Department of Fish and Game fully protected species and species of special concern, and the U.S. Fish and Wildlife Service or National Oceanic and Atmospheric Administration Fisheries Service candidate species.

Federal laws and regulations pertaining to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act
- Marine Mammal Protection Act

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

In addition to state and federal laws regulating impacts to wildlife, there are often local regulations (example: county or city) that need to be considered when developing projects. If work is being done on federal land (Bureau of Land Management or Forest Service, for example), then those agencies' regulations, policies, and Habitat Conservation Plans are followed.

Affected Environment

A biological assessment was prepared in August 2008 for Alternative 10. A revision of this biological assessment was completed in December 2008. A biological assessment was prepared in June 2009 for Alternative 11. The Biological Opinion was received from the U.S. Fish and Wildlife Service on April 20, 2010.

Nine special-status animal species potentially exist within the biological study area. All of these species are designated as California Department of Fish and Game species of concern.

The giant kangaroo rat, San Joaquin kit fox, blunt-nosed leopard lizard, and the San Joaquin antelope squirrel are discussed in Section 2.3.5 Threatened and Endangered Species.

Short-Nosed Kangaroo Rat

The short-nosed kangaroo rat (*Dipodomys nitratoides brevinasus*) is found on the western side of the San Joaquin Valley. Like the giant kangaroo rat, the cultivation of once native communities and other types of development have resulted in extensive habitat loss for this species. Suitable habitat for these species consists of grassland and desert associations, on friable soil.

The trapping efforts in 2002 resulted in the capture of 70 unique, individual short-nosed kangaroo rats. During the 2003 surveys, the trapping efforts resulted in the capture of one short-nosed kangaroo rat. Suitable habitat for this species is present in the biological study area. Short-nosed kangaroo rat habitat was mainly found in the Elk Hills portion of the project and along the bypass for Alternative 10.

Southern and Tulare Grasshopper Mouse

The Tulare grasshopper mouse (*Onychomys torridus tularensis*) is a subspecies of the southern grasshopper mouse (*Onychomys torridus ramona*). These grasshopper mice inhabit arid shrubland communities. Alkali desert scrub and desert scrub habitats are preferred, although the species has been known to occur in succulent shrub, wash, riparian areas, coastal scrub, mixed chaparral, sagebrush, low sage, and bitterbrush. Low to moderate shrub cover in these areas is preferred by this species. Habitat reduction, fragmentation, and degradation as well as pesticide use are the principal causes of the decline of these species.

The southern grasshopper mouse occurs in the Mojave Desert and the southern Central Valley. The Tulare grasshopper mouse has a more limited range and occurs from western Merced and eastern San Benito counties east to Madera County and south to the Tehachapi Mountains. Currently, the Tulare grasshopper mouse is known to occur in the following areas: along the western margin of the Tulare Basin, including western Kern County; the Carrizo Plain Natural Area; along the Cuyama Valley side of the Caliente Mountains, San Luis Obispo County; and the Ciervo-Panoche Region, in Fresno and San Benito counties.

Two Tulare grasshopper mice were trapped in grids during the 2002 small mammal trapping survey. None were trapped in 2003. Suitable habitat for this species is present in the biological study area.

San Joaquin Pocket Mouse

The San Joaquin pocket mouse (*Perognathus inornatus inornatus*) occurs in dry, open grasslands or scrub areas on fine textured soils in the San Joaquin and Salinas valleys.

Two occurrences of the San Joaquin pocket mouse in the vicinity of the biological study area are documented. Four individuals were reported in 1990, approximately 4.2 miles away at the Tule Elk State Reserve. Because individuals of this species have been documented less than 5 miles from the biological study area and potentially suitable habitat exists, this species has the potential to occur in the biological study area.

Western Burrowing Owl

The western burrowing owl (*Athene cunicularia hypugea*) prefers annual and perennial grasslands, typically with sparse or nonexistent tree or shrub canopies. In California, they are found in close association with California ground squirrel burrows, which provide them with year-round shelter and seasonal nesting habitat. Burrowing owls also

use human-made structures such as culverts, debris piles, or openings beneath pavement as shelter and nesting habitat.

Burrowing owl populations have been on the decline due to diminishing habitat and burrowing mammal control measures. Burrowing owls exhibit a high degree of dependency to their nest site. As habitat becomes increasingly fragmented and isolated by development, these sites become increasingly inhospitable for breeding burrowing owls.

Habitat suitable for burrowing owl foraging and nesting is present in the biological study area. Ground squirrel burrows scattered throughout the southwestern half of the biological study area provide potential and known nesting and wintering habitat for burrowing owls.

During the spring 2002 surveys, a total of 10 burrowing owl observations and 18 burrows with signs of burrowing owl occupancy were identified in the biological study area. All of those burrows appeared to have been excavated by ground squirrels and were lined along their entrances with owl pellets, whitewash, and some feathers.

Loggerhead Shrike

The loggerhead shrike (*Lanius ludovicianus*) prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches. It occurs in highest density in open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, pinyon-juniper, juniper, desert riparian, and Joshua tree habitats. This species frequents open habitats with sparse shrubs and trees, other suitable perches, bare ground, and low or sparse herbaceous cover.

In California, loggerhead shrikes lay their eggs from March into May, and their young become independent in July or August. A monogamous, solitary nester, the loggerhead shrike lays a clutch of four to eight eggs and may be double-brooded.

No focused surveys were conducted for loggerhead shrikes; however, this species was observed in the biological study area during surveys for other species. This species has the potential to nest in trees located in the southwestern portion of Alternative 10. Habitats suitable for foraging loggerhead shrikes are also present.

San Joaquin LeConte's Thrasher

San Joaquin LeConte's thrasher (*Toxostoma lecontei macmillanorum*) is an uncommon to rare local resident in Southern California deserts from Inyo County south to the Mexican border, and in western and southern San Joaquin Valley. It occurs primarily in

open desert wash, desert scrub, alkali desert scrub, and desert succulent shrub habitats. It also occurs in Joshua tree habitat with scattered shrubs. Although formerly it was found north to Fresno and Mono counties, it has been rarely recorded north of Kern and Inyo counties since the 1950s. San Joaquin LeConte's thrasher commonly nests in dense, spiny shrub or densely branched cactus in desert wash habitat. Its nest is usually placed 2 to 8 feet aboveground. The breeding season for this species extends from late January into early June, with a peak from mid-March to mid-April.

No focused surveys were conducted for San Joaquin LeConte's thrasher; however, LeConte's thrasher was observed in the biological study area during surveys for other species. This species has the potential to forage in the biological study area, although nesting habitat is not present.

California Horned Lizard

California horned lizard (*Phrynosoma coronatum frontale*) is known from a wide variety of habitats, but may be most successful in sandy loam areas and on alkali flats. Historically, this species was abundant in the San Joaquin Valley, and most abundant at relict lake sand dunes and old alluvial fans bordering the San Joaquin Valley. Today, the California horned lizard is abundant only in localized regions of the coastal ranges and in isolated sections of natural habitat in the Central Valley. Habitat conversion from sand dunes and alluvial fans for agricultural purposes has had the greatest impact on horned lizard habitat. Blunt-nosed leopard lizards and domestic cats are two predators known to prey on California horned lizards.

Two horned lizards were observed during surveys for blunt-nose leopard lizard. Potential suitable habitat for the California horned lizard exists in the biological study area.

San Joaquin Coachwhip

The San Joaquin coachwhip (*Masticophis flagellum ruddocki*) has a range that extends from 8 miles west of Arbuckle (Colusa County) in the Sacramento Valley southward to the Grapevine in the Kern County portion of the San Joaquin Valley and westward into the inner South Coast Ranges. The species occurs in open, dry, vegetative associations with little or no tree cover. In the western San Joaquin Valley, the San Joaquin coachwhip occurs in valley grassland and saltbush scrub associations. Coachwhips occur in open terrain and are most abundant in grass, desert scrub, chaparral, and pasture habitats. Coachwhips seek cover in rodent burrows, bushes, trees, and rock piles. They hibernate in soil or sand approximately one foot below the surface, sometimes at the bases of plants.

No occurrences of San Joaquin coachwhip were documented within a 10-mile radius of the project, although suitable habitat may be present in the area. There is a potential for the coachwhip to exist in the biological study area.

Environmental Consequences

The three build alternatives could potentially result in impacts to the above species. Potential impacts are based on the footprint of the proposed alignments. Of the three build alternatives, Alternative 1 would have the least effect on the nine special-status animal species because it is located on more disturbed habitat and is smaller (see Table 2.22). Alternative 1 would permanently affect 59 acres and temporarily affect 62 acres of potential habitat within the biological study area. After circulation of the draft environmental document and during consultation with the U.S. Fish and Wildlife Service, temporary impacts for Alternative 1 and Alternative 10 were reassigned as permanent impacts. The overall impacts were reduced due to avoidance measures at the Coles Levee Preserve. Thus, Alternative 10 went from 218 acres of permanent and 42 acres of temporary impacts to 230.88 acres of permanent impacts to potentially suitable habitat. Alternative 10 would have the most impact due to the larger footprint in more suitable habitat. Alternative 11 would have the same impact as Alternative 10 along the bypass and overall would result in 173.52 acres of permanent impacts.

Alternative 1 is anticipated to affect four observed burrows used by the western burrowing owl. Both Alternative 10 and 11 would affect five observed burrows. Although all build alternatives would result in impacts to this species, Alternative 10 would affect a larger area of suitable habitat than Alternative 11.

With the implementation of the avoidance and minimization measures, no impacts to the southern grasshopper mouse, Tulare grasshopper mouse, San Joaquin pocket mouse, western burrowing owl, loggerhead shrike, San Joaquin LeConte's thrasher, California horned lizard, or San Joaquin coachwhip are anticipated by either build alternative.

Avoidance, Minimization, and/or Mitigation Measures

Preconstruction surveys would be conducted to avoid potential impacts to special-status species. If occupied suitable habitat were observed during surveys, avoidance measures would be implemented within identified suitable habitat where feasible. Migratory Bird Special Contract Provisions would be adhered to in order to avoid potential effects to the loggerhead shrike and the San Joaquin LeConte's thrasher. Avoidance, minimization, and/or mitigation measures listed in Section 2.3.1 are also appropriate efforts for these special-status species.

Compensatory mitigation measures proposed for the San Joaquin kit fox could also benefit the nine special-status species (see Section 2.3.5). For the loggerhead shrike and the San Joaquin LeConte's thrasher, nesting trees should be avoided during construction.

The following avoidance and minimization measures would prevent or reduce effects on the western burrowing owl:

- No disturbance would occur within 160 feet of occupied burrows during the non-breeding season (from September 1 through January 31) or within 250 feet during the breeding season (from February 1 through August 31).
- If it were determined after preconstruction surveys that burrowing owls are present within the project impact area, then those burrowing owls onsite would be passively relocated. Owls would be excluded from burrows in the immediate impact area and within a 160-foot buffer zone by installing one-way doors in burrow entrances. One-way doors would be left in place for 48 hours to ensure that owls have left the burrows before excavation. The project area would then be monitored daily for the next week to confirm owl use of alternative burrows before excavating burrows in the project impact area. Whenever possible, hand tools would be used to excavate burrows, and burrows would be refilled once excavated to avoid reoccupation. One alternative natural or artificial burrow would be provided for each burrow that would be excavated in the project impact area. A minimum of 6.5 acres of foraging habitat adjacent or connected to the relocation area is required for each pair of western burrowing owls that are relocated.
- A burrowing owl special provision would be included in the bid package to ensure protection of this species during construction.
- No compensatory mitigation is proposed for potential impacts to western burrowing owl habitat due to the implementation of avoidance and minimization measures.

2.3.5 Threatened and Endangered Species

Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act: 16 United States Code, Section 1531, et seq. See also 50 Code of Federal Regulations Part 402. This act and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems on which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway

Administration, and Caltrans as assigned, are required to consult with the U.S. Fish and Wildlife Service and the National Oceanic and Atmospheric Administration Fisheries Service to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 is a Biological Opinion or an incidental take statement. Section 3 of the Federal Endangered Species Act defines take as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or any attempt at such conduct.”

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

Affected Environment

A Natural Environment Study for this project was completed in June 2008. A biological assessment was prepared in August 2008 for Alternative 10. A revision of this biological assessment was completed in December 2008. A biological assessment was prepared in June 2009 for Alternative 11. The Biological Opinion was received from the U.S. Fish and Wildlife Service on April 20, 2010. A California Department of Fish and Game 2081 incidental take permit would also need to be obtained for impacts to the San Joaquin antelope squirrel, giant kangaroo rat, and San Joaquin kit fox.

Two plant and four animal species listed as threatened and/or endangered potentially exist within the study area.

California Jewel-Flower

California jewel-flower is a federal and state endangered annual herb endemic to California. The California jewel-flower is found in several plant communities, including nonnative grassland, upper Sonoran subshrub scrub, and cismontane juniper woodland and scrub. The California jewel-flower has been reported from elevations ranging from approximately 246 to 2,953 feet and from level terrain to 25 percent slopes. Primary soil types at known sites are subalkaline, sandy loams.

As of 1986, all natural occurrences of the California jewel-flower no longer exist on the San Joaquin and Cuyama Valley floors. Today, known populations of this species are confined to three areas in hilly terrain west of the San Joaquin Valley: the Carrizo Plain, Santa Barbara Canyon (adjacent to the Cuyama Valley in Santa Barbara County), and Kreyenhagen Hills (Fresno County). Additional populations of the California jewel-flower may persist in the foothills of Fresno, Kern, and Kings counties, where potential habitat remains in private rangeland.

An historical occurrence of the California jewel-flower was documented in the biological study area. The area was resurveyed in 1986, and no plants were observed. According to a record search, habitat in the area has been modified or eliminated. There is potential for this species to occur in the biological study area, but no plants were observed during surveys conducted in 2002 and 2003.

San Joaquin Woolly-Threads

The San Joaquin woolly-threads (*Lembertia congdoni* [*Monolopia congdoni*]) is listed as endangered under the Federal Endangered Species Act. The San Joaquin woolly-threads occurs in nonnative grassland, valley saltbush scrub, interior coast range saltbush scrub, and upper Sonoran subshrub scrub. This species occurs on sandy, sandy loam, or silty soils. Occurrences have been reported at elevations ranging from approximately 197 to 2,625 feet.

Many new occurrences of the San Joaquin woolly-threads have been discovered since 1986, primarily in the hills and plateaus west of the San Joaquin Valley. These constitute four larger and several small, isolated populations. The largest extant population occurs on the Carrizo Plain Natural Area in San Luis Obispo County. Moderate-sized populations are found in Kern County near Lost Hills, in the Kettleman Hills of Fresno and Kings counties, and in the Jacalitos Hills of Fresno County. Isolated occurrences are known from the Panoche Hills in Fresno and San Benito counties, the Bakersfield area in Kern County, and the Cuyama Valley.

According to the California Natural Diversity Database, some of the most recent documented occurrences include four occurrences from 1993 and 1995 southwest of the biological study area in the Elk Horn Hills quadrangle and one from 1992 northeast of the biological study area in the Stevens quadrangle. There is potential for this species to occur in the biological study area because of the suitable habitat, but no plants were observed during the rare plant surveys conducted in 2002 and 2003.

Giant Kangaroo Rat

The giant kangaroo rat (*Dipodomys ingens*) is both state and federally listed as endangered.

The preferred habitat of the giant kangaroo rat is described as annual grassland communities on gentle slopes with sandy loam soil. However, giant kangaroo rats also inhabit grassland and shrub communities on a variety of soil types with slopes up to 22 percent.

Historically, this species occurred over hundreds of thousands of acres in the western San Joaquin Valley, Carrizo Plain, and Cuyama Valley. Rapid loss of habitat due to agricultural conversion of natural lands during the 1970s was a major factor contributing to the reduction of the species' historic range. Other factors that have probably contributed to their decline include the use of rodenticide-treated grain, the aerial broadcasting of rodenticides during the 1960s, 1970s, and early 1980s, destruction of natural communities for petroleum exploration and extraction, urban/suburban development, and other development such as mineral extraction, roads, and highways.

No giant kangaroo rats were identified among the animals captured during the 2002 and 2003 surveys. However, according to the Department of Fish and Game, field surveys completed in 2004 found giant kangaroo rat within five miles of the proposed new alignment. Based on this information and the fact that project site contains suitable habitat for this species, it is likely that the giant kangaroo rat is present in the study area.

San Joaquin Kit Fox

The San Joaquin kit fox (*Vulpes macrotis mutica*) is state listed as threatened and federally listed as endangered. Development of suitable kit fox habitat for intensive agricultural, oil production, and urban land uses has contributed to the decline of this species.

The San Joaquin kit fox occurs primarily in the San Joaquin Valley, with satellite populations occurring in the southern Salinas Valley and possibly the eastern Pajaro River Valley. It inhabits valley and foothill grasslands, sparsely vegetated shrubby habitats, and some agricultural and urban areas.

The largest extant populations of the kit fox are found in western Kern County on and around the Elk Hills and Buena Vista Naval Petroleum Reserves and in San Luis Obispo County at the Carrizo Plain. They are found in all of the vegetation types found in the biological study area. Kit fox dens are abundant and widely distributed on both reserves. Five occurrences are documented within the biological study area. During surveys, San Joaquin kit foxes were observed throughout the biological study area, and observations were evenly distributed across all of the proposed alignments. However, the observations occurred primarily in less developed areas with native vegetation. Kit foxes were observed more frequently in the lower elevations of Elk Hills. Kit foxes were not detected in the developed areas within the immediate vicinity of Dustin Acres and Valley Acres.

Several known and potential San Joaquin kit fox dens were detected during surveys in the biological study area. Dens tended to be clumped in undeveloped lots within the eastern section of Dustin Acres, although one potential den was identified in an undeveloped area north of Dustin Acres and one southeast of Dustin Acres. Potential dens were also identified north and southwest of Valley Acres.

The San Joaquin kit fox was observed throughout the biological study area. Observations were evenly distributed across all of the proposed alignments. However, this species occurs primarily in less developed areas with native vegetation. Kit foxes were observed more frequently in the lower elevations of the Elk Hills compared with other portions of the biological study area. Kit foxes were not detected in the developed areas within the immediate vicinity of Dustin Acres and Valley Acres.

Blunt-Nosed Leopard Lizard

The blunt-nosed leopard lizard (*Gambelia sila*) is both state and federally listed as endangered. It is also designated as “fully protected” by the California Department of Fish and Game. Arid, sparsely vegetated areas on moderate to gentle slopes are typical habitat of the blunt-nosed leopard lizard. This species historically inhabited the majority of the San Joaquin Valley and adjacent plains, extending from Stanislaus County in the north to the Tehachapi Mountains at the southern end of the valley. The lizard is absent from the majority of its former range and is now limited to undeveloped habitats in widely scattered populations.

Currently, the blunt-nosed leopard lizard population is limited to several known clusters in the greater San Joaquin Valley, including the Elk Hills Essential Habitat area in Kern County, which is immediately north of the biological study area. According to the California Native Diversity Database, there are several recent occurrences from 2007, including three in the West Elk Hills quadrangle west of the biological study area, one from the Button Willow quadrangle north of the biological study area and one in the Elk Horn Hills quadrangle southwest of the biological study area.

No blunt-nosed leopard lizards were positively identified during surveys. A possible lizard sighting occurred about 0.6 mile north of Valley Acres, but the sighting was too brief for a positive identification. Two biologists saw another possible blunt-nosed leopard lizard about 0.3 mile north of the same alignment, but outside the biological study area, adjacent to Buena Vista Creek.

Large numbers of other lizard species, including the side-blotched and California whiptail, were also observed in the biological study area during surveys. These species are known to occupy similar habitat as the leopard lizard and are actually smaller and often less conspicuous than blunt-nosed leopard lizards. The large number of these lizards documented by the survey team validates the effectiveness and accuracy of the surveys.

San Joaquin Antelope Squirrel

The San Joaquin antelope squirrel (*Ammospermophilus nelsoni*) is a state threatened species.

The cultivation of once native communities and other types of development have resulted in extensive habitat loss for this species. San Joaquin antelope squirrels are found in arid grassland, shrubland, and alkali sink habitats of the San Joaquin Valley and adjacent foothills. During the spring 2002 surveys, 27 San Joaquin antelope ground squirrels were observed in the biological study area.

Environmental Consequences

Potential habitat for the nine threatened and endangered plant and animal species is present throughout the biological study area. The three build alternatives could potentially result in impacts to these species. Potential impacts are based on the footprint of the proposed alignments. Of the three build alternatives, Alternative 1 would have the least effect on threatened and endangered species because it is located on more disturbed habitat and is smaller (see Table 2.22).

Alternative 1 would permanently affect 59 acres and temporarily affect 62 acres of potential habitat within the biological study area. After the circulation period and during consultation with the U.S. Fish and Wildlife Service, temporary impacts for Alternative 1 and Alternative 10 were reassigned as permanent impacts. The overall impacts were reduced due to avoidance measures at the Coles Levee Preserve. Thus, Alternative 10 went from 218 acres of permanent and 42 acres of temporary impacts to 230.88 acres of permanent impacts to potentially suitable habitat. Alternative 11 would result in 173.52 acres of permanent impacts..

Alternative 1 would not affect any known San Joaquin kit fox dens. Both Alternative 10 and 11 would affect four potential San Joaquin kit fox dens.

Direct effects to animal species are those that occur as a direct result of construction of the project. Examples include loss or degradation of suitable habitat for a species to roadway development, or disturbance from construction. Indirect effects are those that may result after implementation of the project (such as animal mortality due to vehicle strikes, habitat fragmentation, or interruption of migratory corridors due to placement of a roadway).

Informal consultation between Caltrans and the U.S. Fish and Wildlife Service resulted in a potential “may affect, likely to adversely affect” determination for the San Joaquin kit fox, blunt-nosed leopard lizard, giant kangaroo rat, California jewel-flower, and the San Joaquin woolly-threads.

Caltrans conducted Section 7 formal consultation with the U.S. Fish and Wildlife Service for the giant kangaroo rat, San Joaquin kit fox, blunt-nose leopard lizard, California jewel-flower, and San Joaquin woolly-threads. Based on the July 20, 2009 Biological Assessment, plus additional consultation as outlined in Chapter 3, the U.S. Fish and Wildlife Service, on April 20, 2010, issued a Biological Opinion (#81420-2009-F-0143-R003-2).

After reviewing the Biological Assessment and other information sources, the U.S. Fish and Wildlife Service concurred with the Caltrans determination that the project is likely to adversely affect the giant kangaroo rat, San Joaquin kit fox, blunt-nose leopard lizard, California jewel-flower, and San Joaquin woolly-threads. The U.S. Fish and Wildlife Service proposed that Caltrans minimize effects to these species and effects to suitable habitat through land acquisition.

Avoidance, Minimization, and/or Mitigation Measures

In addition to the measures described below, the avoidance, minimization, and/or mitigation measures listed in Section 2.3.1 are also appropriate for these special-status species.

Through land acquisition, Caltrans would help minimize effects to the giant kangaroo rat, San Joaquin kit fox, blunt-nose leopard lizard, California jewel-flower, and San Joaquin woolly-threads and effects to suitable habitat for these species. The acquired land would be of similar or better quality and should be comprised of the same habitat types that would be permanently disturbed and lost because of construction. Caltrans proposes to compensate for 173.52 acres of potentially suitable habitat for these species at a 3:1 ratio, resulting in 520.56 acres of land acquisition. Caltrans proposes to purchase lands that would be suitable for all five species through conservation easements with willing landowners. Potential parcels would be located next to the project area. As a secondary option, Caltrans would also be willing to purchase the equivalent number of credits at a conservation bank, if a bank existed for the relevant species that covers the area. No bank currently exists that meets this criterion.

California Jewel-Flower and San Joaquin Woolly-Threads

Botanical surveys would be conducted before construction for the listed California jewel-flower or San Joaquin woolly-threads according to protocol approved by the Department of Fish and Game and U.S. Fish and Wildlife Service. If the California jewel-flower or San Joaquin woolly-threads were observed, the plant(s) would be avoided, if feasible. If avoidance were not feasible, conservation recommendation would be discussed with the U.S. Fish and Wildlife Service and California Department of Fish and Game.

To minimize any potential impacts to the California jewel-flower, the following avoidance and minimization measures would be implemented:

- During initial ground-disturbing activities, a U.S. Fish and Wildlife Service-approved biologist would be on-site every day.
- No night work would take place. Unless necessary for pedestrian or driver safety, the project site would not be lighted during nighttime hours.
- Preconstruction surveys would be done within the project area before groundbreaking activities during the blooming period for each plant by a U.S. Fish and Wildlife Service-approved biologist and would be in accordance with the most current protocols approved by the U.S. Fish and Wildlife Service, the California Department of Fish and Game, and the California Natural Plant Society.

- Caltrans would salvage the topsoil including the top 6 inches, which would be stockpiled and replaced once construction is complete in disturbed areas. Topsoil would be kept dry without a tarp.
- Topsoil would be re-spread only along the right-of-way. The topsoil would not be spread far from where it was originally collected to avoid damaging or blanketing habitat for other species with soil.
- Topsoil would be collected between June and October so that any germination of plants would have already occurred and would, therefore, maximize seed collection potential.
- A contract special provision would be included in the bid practice to ensure that these measures are part of the first order of work.

In addition, surveys would encompass the following California Native Plant Society listed plant species: heartscale (*Atriplex cordulata*), crownscale (*Atriplex coronata* var. *coronata*), Lost Hills heartscale (*Atriplex vallicola*), alkali Mariposa lily (*Calochortus striatus*), gypsum-loving larkspur (*Delphinium gypsophilum* ssp *gypsophilum*), recurved larkspur (*Delphinium recurvatum*), Hoover's woolly-star (*Eriastrum hooveri*), cottony buckwheat (*Eriogonum gossypinum*) and oil neststraw (*Stylocline citroleum*). Surveys would be conducted within the appropriate blooming period for each species.

Compensatory mitigation proposed for the San Joaquin kit fox and blunt-nosed leopard lizard would compensate for the loss of potential California jewel-flower and San Joaquin woolly-threads habitat.

Giant Kangaroo Rat

The following measures would be implemented to avoid and minimize any potential impacts to the giant kangaroo rat that may be present:

- During initial ground-disturbing activities, a U.S. Fish and Wildlife Service-approved biologist would be on-site every day.
- No night work would take place. Unless necessary for pedestrian or driver safety, the project site would not be lighted during nighttime hours.
- Preconstruction surveys to determine the presence or sign of federally listed kangaroo rats within the project area would be conducted no more than 30 calendar days before the start of construction. If listed kangaroo rats are located within the project impact area or sign of the species observed, the U.S. Fish and Wildlife Service would be contacted to discuss ways to proceed with the project and avoid take to the maximum extent practicable.

- A U.S. Fish and Wildlife Service-approved biologist would conduct construction monitoring between April 1 and September 30 at least once a week, after which a U.S. Fish and Wildlife Service-approved biologist would be on-call.
- Caltrans would be prepared to move giant kangaroo rat from the impact site to a protected, unoccupied parcel, which would be arranged in advance.
- Surveys for burrows and other sign would be conducted by a qualified biologist with demonstrated experience in identifying kangaroo rat burrows.
- Pipes and culverts would be searched for kangaroo rats before being moved or sealed to ensure that an animal has not been trapped.
- A 50-foot buffer or exclusion zone would be established around active burrows and precincts. Project-related activities within the buffer zone would be prohibited.
- When occupation of the project site by the giant kangaroo rat has been determined, ground-disturbing activities would be restricted from February 1 to May 31.
- Unless necessary for pedestrian or driver safety, the project site would not be lighted during nighttime hours.
- If active burrows could not be avoided, Caltrans would obtain authorization to destroy burrows from the U.S. Fish and Wildlife Service and the California Department of Fish and Game.

Loss of potential giant kangaroo rat habitat would be compensated for in conjunction with the proposed mitigation for San Joaquin kit fox and blunt-nosed leopard lizard. Mitigation lands purchased for compensation of the loss of giant kangaroo rat habitat must contain suitable habitat for this species.

San Joaquin Kit Fox

Potential impacts to San Joaquin kit fox would be avoided or minimized to the extent feasible. The U.S. Fish and Wildlife Service *Standard Measures for Protection of the San Joaquin Kit Fox for Prior to or During Ground Disturbance* would be implemented as follows:

- During initial ground-disturbing activities, a U.S. Fish and Wildlife Service-approved biologist would be on-site every day.
- No night work would take place. Unless necessary for pedestrian or driver safety, the project site would not be lighted during nighttime hours.

- Preconstruction/pre-activity surveys would be conducted no less than 14 days and no more than 30 days before the beginning of ground disturbance and/or construction activities or any project activity likely to affect the San Joaquin kit fox.
- Surveys would be conducted within the proposed project area and a 200-foot area outside the project footprint to identify habitat features.
- A U.S. Fish and Wildlife Service-approved biologist would conduct construction monitoring between April 1 and September 30 at least once a week, after which a U.S. Fish and Wildlife Service-approved biologist would be on-call.
- If natal/pupping dens are discovered within the project area or within 200 feet of the project boundary, the U.S. Fish and Wildlife Service would be immediately notified.
- The configuration of exclusion zones around the kit fox dens should have a 50-foot radius around potential dens and a 100-foot radius around known dens measured outward from the entrance or cluster of entrances.
- Disturbance to all San Joaquin kit fox dens would be avoided to the maximum extent possible.
- Permanent construction disturbances and other types of project-related disturbance would be minimized.
- A qualified biologist should be present on construction sites during all critical construction activities within endangered species habitat to monitor activities. Activities for which a biologist should be present include all ground-disturbing activities.
- To the extent possible, a biologist would be available on-call during all construction periods when not present on-site.
- The U.S. Fish and Wildlife Service *Standard Measures for Protection of the San Joaquin Kit Fox for Prior to or During Ground Disturbance Construction and Operational Requirements* would also be implemented.
- A San Joaquin kit fox special provision would be included in the contractor bid package to ensure protection of this species during construction.
- Mitigation measures proposed for impacts to the San Joaquin kit fox include the following:
 - The loss of San Joaquin kit fox habitat would be compensated by the purchase of mitigation lands approved by the U.S. Fish and Wildlife Service and the California Department of Fish and Game.

- A 3:1 compensation ratio would be proposed for permanent impacts to habitat.
- For Alternative 1, Caltrans would install five concrete box culverts, each measuring 3 feet high by 10 feet wide in Elk Hills between Golf Course Road and Tupman Road to facilitate kit fox movement across the highway. Median grates to allow in light would also be installed.
- For Alternative 10, Caltrans would include 11 sites with concrete box culverts (see Appendix K). At 10 culvert sites, each culvert would measure 3 feet high by 10 feet wide and would facilitate kit fox movement across the highway. At one culvert site along the bypass, 3-double box culverts would be installed to also facilitate the tributary flow of Buena Vista Creek. For both directions of the expressway, each 3-double box culvert would be 10 feet high, 7 feet wide, and span 48 feet. Six culvert sites would be installed on the bypass every 1000 feet between Cherry Avenue and Golf Course Road. In addition, a chain link fence would be installed in the bypass section, and barbed wire fence would be installed in the area between Golf Course Road/Elk Hills Road and Tupman Road. Both fences would be along Caltran's right-of-way. Median grates to allow in light would also be installed.
- For Alternative 11, Caltrans would include seven sites with concrete box culverts (see Appendix K). Alternative 11 would have the same box culverts and sites as Alternative 10 along the bypass between post miles 5.5 and R10.4 (six culverts on the bypass every 1000 feet and one east of Elk Hills Road). Like Alternative 10, a chain link fence and barbed wire fence would also be installed for Alternative 11. Median grates to allow in light would also be installed.

Blunt-Nosed Leopard Lizard

Measures that would be implemented to avoid impacts to the blunt-nosed leopard lizard include the following:

- During initial ground-disturbing activities, a U.S. Fish and Wildlife Service-approved biologist would be on-site every day.
- No night work would take place. Unless necessary for pedestrian or driver safety, the project site would not be lighted during nighttime hours.
- Preconstruction surveys to determine the presence or sign of federally listed blunt-nose leopard lizards within the project area would be conducted no more than 30 calendar days before the start of construction. If blunt-nosed leopard lizards were located within the project area, then the U.S. Fish and Wildlife Service and

California Department of Fish and Game would be contacted to discuss ways to proceed with the project and completely avoid any potential take of this species.

- If during preconstruction surveys blunt-nose leopard lizards were found to be in the action area, flash fencing would be installed to avoid potential impacts to blunt-nosed leopard lizards.
- A U.S. Fish and Wildlife Service-approved biologist would conduct construction monitoring between April 1 and September 30 at least once a week, after which a U.S. Fish and Wildlife Service-approved biologist would be on-call.

Loss of potential habitat would be mitigated for through the purchase of mitigation lands approved by the U.S. Fish and Wildlife Service and the California Department of Fish and Game. Mitigation ratios for habitat compensation are proposed at 3:1 for impacts to potential blunt-nosed leopard lizard habitat. Loss of potential blunt-nosed leopard lizard habitat would be mitigated for in conjunction with San Joaquin kit fox mitigation measures.

San Joaquin Antelope Squirrel

A biological monitor would conduct construction monitoring for the San Joaquin antelope squirrel between April 1 and September 30. This would be in conjunction with surveys for the blunt-nosed leopard lizard.

Mitigation proposed for the San Joaquin kit fox would also serve to offset potential effects to the San Joaquin antelope squirrel.

2.3.6 Invasive Species

Regulatory Setting

On February 3, 1999, President Bill Clinton signed Executive Order 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as “any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem, whose introduction does or is likely to cause economic or environmental harm or harm to human health.” Federal Highway Administration guidance issued August 10, 1999 directs the use of the state’s noxious weed list to define the invasive plants that must be considered as part of the National Environmental Policy Act analysis for a proposed project.

To prevent the introduction and spread of invasive species, the California Department of Transportation has issued policy guidelines, which provide a framework for addressing roadside vegetation management issues for construction activities and maintenance programs.

Affected Environment

Bermuda grass (*Cynodon dactylon*) and tumbleweed (*Salsola tragus*) are invasive species located within the biological study area. They occur throughout the biological study area, generally in disturbed areas next to the road. Both species are identified on the State of California Department of Food and Agriculture Noxious Weed List. They are categorized under C, which designates state-endorsed holding action and eradication only when found in a nursery. These species are also identified on the California Invasive Plant Council 2006 Weed List (Great Valley Region), with statewide impact classified as moderate for bermuda grass and limited for tumbleweed. Nineteen other plants are identified on this list, with statewide impacts ranging from none to severe. No invasive species are identified from the Federal Noxious Weed List.

Environmental Consequences

None of the alternatives would promote the spread of invasive (non-native) species. Caltrans does not use species on the California list of noxious weeds for erosion control or highway-planting measures.

Avoidance, Minimization, and/or Mitigation Measures

In compliance with the Executive Order 13112 on Invasive Species and subsequent guidance from the Federal Highway Administration, the landscaping and erosion-control included in the project would not use species listed as noxious weeds. In areas of particular sensitivity, extra precautions would be taken if invasive species were found in or adjacent to the construction areas. These include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur.

To prevent the further spread of these species, a noxious weed special provision would be adhered to during construction. In addition, areas would be seeded with a weed-free/native plant mixture following construction. These invasive species would likely be removed in some, if not all, areas of occurrence.

2.4 Cumulative Impacts

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. A definition of cumulative impacts, under the National Environmental Policy Act, can be found in 40 Code of Federal Regulations, Section 1508.7 of the Council on Environmental Quality regulations.

Affected Environment

No major growth is planned near the project area. See Section 2.1.2 Growth for growth-related issues. Valley Acres and Dustin Acres are rural communities within the project area that are not expected to significantly expand in the near future. Development within the project area is limited by uses of the surrounding lands, which include agricultural lands and active oil fields.

Transportation projects proposed near the project area consist of shoulder-widening projects on State Route 119 between post miles 0.0 and 4.3 in Taft and post miles 19.9 to 31.2 in Bakersfield. Another shoulder-lane widening is proposed within the biological study area along the existing alignment from west of Valley Acres through Dustin Acres (post miles 4.5 to 8.50). The shoulder widening begins one mile west of

the Cherry Avenue Four-Lane Widening project. The shoulder widening is proposed to begin before this project. Except for the shoulder-lane widening within the communities, it is unknown what resources or habitats these projects would affect, because they are in the planning stage.

Non-transportation projects consist of a proposed 90-acre industrial site in Taft and residential development in Dustin Acres, south of the Sunridge neighborhood. See Section 2.1.1.1 Existing and Future Land Use for development trends. Over 65 one-acre residential parcels are for sale.

Most of the development in the region occurs in the metropolitan Bakersfield area. The southwestern part of the Bakersfield metropolitan area is approximately 3.5 miles northeast of the biological study area. According to the Kern Council of Governments and the City of Bakersfield, the greater Bakersfield area is projected to grow in population from 300,800 in 2006 to 398,700 in 2015.

Chevron-Texaco is completing a Habitat Conservation Plan for company-owned property currently under development that is located above Buena Vista Lake. This plan would set aside 13,000 acres of agricultural land that would be preserved and managed to protect San Joaquin Valley habitats.

The proposed project's main environmental impacts affect biological resources, in particularly the six threatened and endangered species potentially within the project area.

Environmental Consequences

The proposed project and other proposed projects in the region would potentially contribute to the direct loss of habitat for special-status wildlife and plants. They could also contribute to the degradation of those habitats due to fragmentation and the potential introduction of invasive non-native plants in disturbed areas. See Section 2.3.3 Invasive Species. The largest pressure on biological resources in the southern San Joaquin Valley would be from the urban growth in the metropolitan Bakersfield area. Although biological resources in the metropolitan Bakersfield area would potentially be affected by urban growth, biological resources in the immediate vicinity of the biological study area would not likely be heavily affected by this growth. The Metropolitan Bakersfield Habitat Conservation Plan provides mitigation and habitat preservation in the area near Bakersfield.

Impacts to biological resources from the potential growth of Valley Acres and Dustin Acres are limited to the degree of development and growth. However, both the Valley Acres and Dustin Acres rural community plans explain that continued growth could eventually lead to impacts to sensitive species such as the San Joaquin kit fox and their habitats. The potential for future urban growth is limited in the project vicinity because the adjacent land is primarily designated for agriculture, mineral, and petroleum uses.

Avoidance, Minimization, and/or Mitigation Measures

This proposed project, in combination with other planned projects in the project area or the project vicinity, is not expected to have a cumulative effect on the natural environment.

Non-project measures come from the rural community plans of Valley Acres and Dustin Acres that call for the open space corridor and revegetation. As mitigation measures to potential future development, the two plans call for the following:

- “An open space corridor between Valley Acres and Dustin Acres should be maintained to allow movement of wildlife between the upper and lower elevations adjacent to the project site.”
- “Revegetation with native plant materials of the Buena Vista Creek channel should be considered to minimize further erosion and reduce disruption of the wildlife habitat of the area.”

In addition, the Metropolitan Bakersfield Habitat Conservation Plan provides measures addressing impacts in the greater Bakersfield area. This project would not require any additional mitigation measures.

2.5 Climate Change under the California Environmental Quality Act (

Regulatory Setting

While climate change has been a concern since at least 1988, as evidenced by the establishment of the United Nations and World Meteorological Organization’s Intergovernmental Panel on Climate Change, the efforts devoted to greenhouse gas emissions reduction and climate change research and policy have increased dramatically in recent years. These efforts are primarily concerned with the emissions of greenhouse gas related to human activity that include carbon dioxide (CO₂), methane, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23 (fluoroform), HFC-134a (s, s, s, 2-tetrafluoroethane), and HFC-152a (difluoroethane).

In 2002, with the passage of Assembly Bill 1493, California launched an innovative and proactive approach to dealing with greenhouse gas emissions and climate change at the state level. Assembly Bill 1493 requires the California Air Resources Board to develop and implement regulations to reduce automobile and light truck greenhouse gas emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year; however, in order to enact the standards, California needed a waiver from the U.S. Environmental Protection Agency. The U.S. Environmental Protection Agency denied the waiver in December 2007 (see *California vs. Environmental Protection Agency, 9th Circuit, July. 25, 2008, No.08-70011*).) On January 26, 2009, however, the U.S. Environmental Protection Agency announced it would reconsider their decision regarding the denial of California's waiver.

On May 18, 2009, President Obama announced the enactment of a 35.5-miles-per-gallon fuel economy standard for automobiles and light-duty trucks that would take effect in 2012. On June 30, 2009, the U.S. Environmental Protection Agency granted California the waiver. California is expected to enforce its standards for 2009 to 2011 and then look to the federal government to implement equivalent standards for 2012 to 2016. Granting the waiver would also allow California to implement even stronger standards in the future. The state is expected to start developing new standards for the post-2016 models later this year.

On June 1, 2005, then-Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this executive order is to reduce California's greenhouse gas emissions to 1) 2000 levels by 2010; 2) 1990 levels by the 2020; and 3) 80 percent below the 1990 levels by the year 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32, the Global Warming Solutions Act of 2006. Assembly Bill 32 sets the same overall greenhouse gas emissions reduction goals while further mandating that the California Air Resources Board create a plan that includes market mechanisms and implements rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 further directs state agencies to begin implementing Assembly Bill 32, including the recommendations made by the state's Climate Action Team.

With Executive Order S-01-07, then-Governor Schwarzenegger set forth the low-carbon fuel standard for California. Under this executive order, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by 2020.

Climate change and greenhouse gas reduction is also a concern at the federal level. At this time, no legislation or regulations have been enacted specifically addressing greenhouse gas emissions reductions and climate change. California, however, in conjunction with several environmental organizations and several other states, sued to force the U.S. Environmental Protection Agency to regulate greenhouse gas as a pollutant under the Clean Air Act (*Massachusetts vs. Environmental Protection Agency et al.*, 549 U.S. 497 (2007)). The court ruled that greenhouse gases emissions do fit within the Clean Air Act's definition of a pollutant, and that the U.S. Environmental Protection Agency does have the authority to regulate greenhouse gas emissions. Despite the Supreme Court ruling, there are no promulgated federal regulations to date limiting greenhouse gas emissions.

On December 7, 2009, the U.S. Environmental Protection Agency administrator signed two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act:

- Endangerment finding: The administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases—carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆)—in the atmosphere threaten the public health and welfare of current and future generations.
- Cause or contribute finding: The administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution, which threatens public health and welfare.

These findings do not themselves impose any requirements on industry or other entities. This action, however, is a prerequisite to finalizing the U.S. Environmental Protection Agency's proposed greenhouse gas emission standards for light-duty vehicles jointly proposed by the U.S. Environmental Protection Agency and the Department of Transportation's National Highway Safety Administration on September 15, 2009.¹

According to *Recommendations by the Association of Environmental Professionals on How to Analyze Greenhouse Gas Emissions and Global Climate Change in CEQA Documents* (Hendrix and Wilson, March 2007), an individual project does not generate enough greenhouse gas emissions to significantly influence global climate change.

¹ <http://www.epa.gov/climatechange/endangerment.html>

Rather, global climate change is a cumulative impact. This means that a project may participate in a potential impact through its incremental contribution combined with the cumulative increase of all other sources of greenhouse gases. In assessing cumulative impacts, it must be determined if a project’s incremental effect is “cumulatively considerable” (see California Environmental Quality Act Guidelines sections 15064(i)(1) and 15130). To make this determination the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects in order to make this determination is a difficult if not impossible task.

As part of its supporting documentation for the Draft Scoping Plan, the California Air Resources Board recently released an updated version of the greenhouse gas inventory for California (June 26, 2008). Shown below is a graph from that update that shows the total greenhouse gas emissions for California for 1990, 2002–2004 average, and 2020 projected if no action is taken.

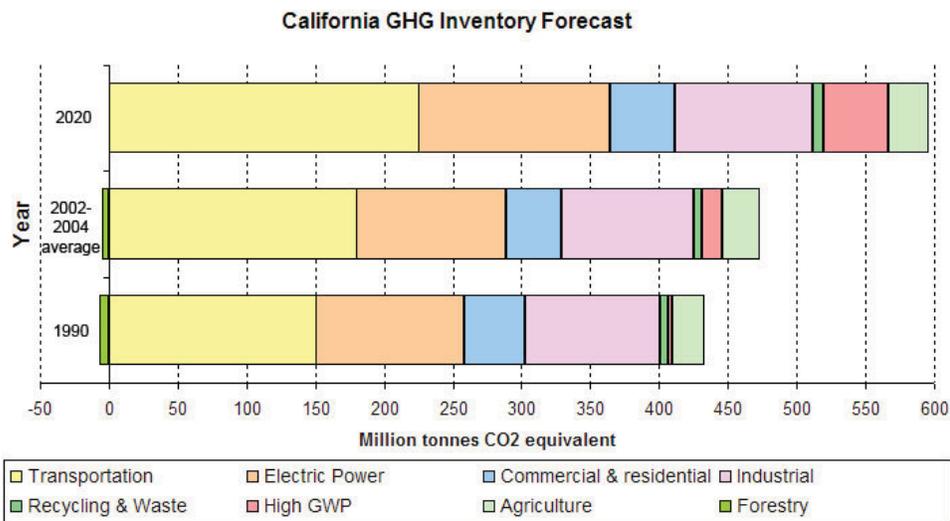


Figure 2-7 California Greenhouse Gas Inventory

Taken from: <http://www.arb.ca.gov/cc/inventory/data/forecast.htm>

Caltrans and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing greenhouse gas emissions reduction and climate change. Recognizing that 98 percent of California’s greenhouse gas emissions are from the burning of fossil fuels and 40 percent of all human-made greenhouse gas emissions are from transportation, Caltrans has created and is implementing the *Climate Action Program at Caltrans* (published December 2006). This document can be found at <http://www.dot.ca.gov/docs/ClimateReport.pdf>.

Project Analysis

One of the main strategies in the Caltrans Climate Action Program to reduce greenhouse gas emissions is to make California's transportation system more efficient. The highest levels of carbon dioxide from mobile sources, such as automobiles, occur at stop-and-go speeds (0–25 miles per hour) and speeds over 55 miles per hour; the most severe emissions occur from 0–25 miles per hour (see Figure 2-8). To the extent that a project relieves congestion by enhancing operations and improving travel times in high congestion travel corridors, greenhouse gas emissions, particularly CO₂, may be reduced.

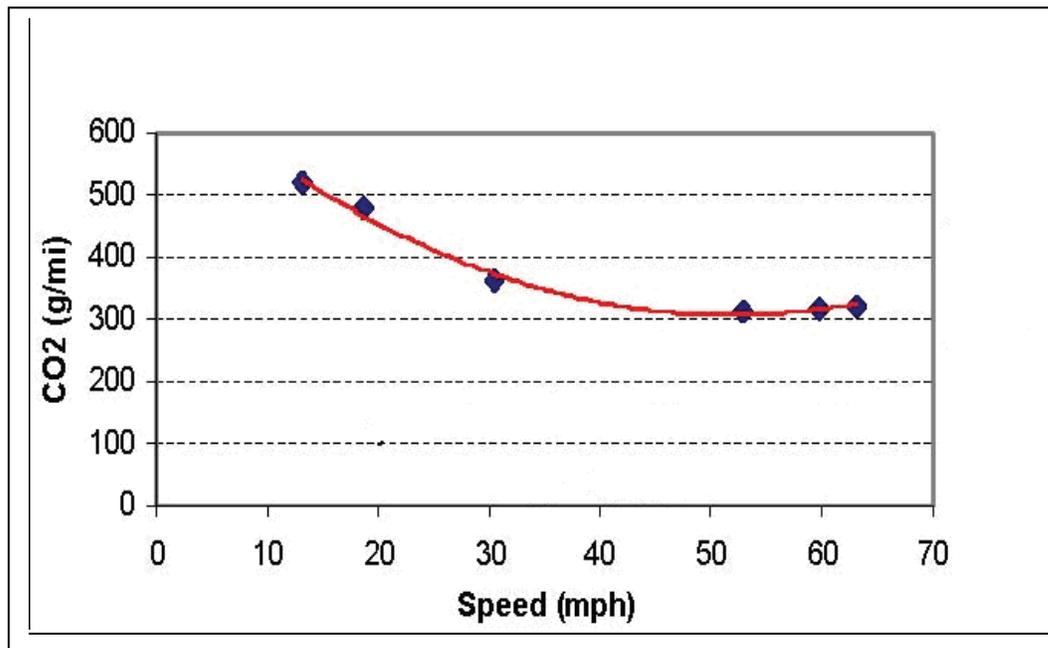


Figure 2-8 Fleet Carbon Dioxide (CO₂) Emissions vs. Speed (Highway)

Source: Center for Clean Air Policy— [http://www.ccap.org/Presentations/Winkelman%20TRB%202004%20\(1-13-04\).pdf](http://www.ccap.org/Presentations/Winkelman%20TRB%202004%20(1-13-04).pdf)

The purpose of the project is to improve operations and safety for pedestrians and motorists in the communities of Valley Acres and Dustin Acres. State Route 119 is an important intra-regional route for oil industry and agricultural related traffic and serves as a commuter route between the cities of Bakersfield and Taft. From west to east, State Route 119 also intersects with State Route 33, State Route 43, Interstate 5, and State Route 99.

Due to regional growth, State Route 119 is experiencing increased congestion from a mix of interregional, commuter, recreational, and commercial truck traffic (22 to 30

percent of the traffic volume). Traffic increases through the communities of Valley Acres and Dustin Acres between the Taft and greater Bakersfield areas and nearby major highways has resulted in a degraded level-of-service E (see Table 1.2). With the proposed improvements, State Route 119 within the project limits would improve to a level-of-service ranging from A to B on opening day in 2015 and would remain at level-of-service A to B through the end of the 20-year planning horizon.

On April 8, 2009, the project development team selected Alternative 11 as the preferred alternative, removing Alternative 10 as the preferred alternative. Due to financial constraints, Alternative 10 could not be funded entirely. Alternative 11 proposes the same bypass design as Alternative 10, has less environmental effects as Alternative 10, and would meet the project's purpose and need. Alternative 11 would affect about 60 fewer acres of threatened and endangered species habitat.

Due to commercial truck traffic volume through this area, Kern County is exploring and supporting alternative transportation modes for long-haul goods movement. These include improved intermodal freight transfer facilities and access at major airports and rail terminals. Additionally, Caltrans is leading an effort to identify and implement transportation infrastructure improvements to facilitate international trade and goods movement. These improvements would enhance overall mobility and increase access at and through international ports of entry, international airports, seaports, other major intermodal transfer facilities, distribution centers, and trade corridors within the state.

Commuter traffic accounts for some of the traffic along this route. To address some of these concerns, Kern County entered into a cooperative agreement with the City of Taft to provide bus service between Valley Acres and Dustin Acres. Currently, there is no plan to expand this service, but Kern County has implemented state and federal grants to acquire capital items such as replacement diesel buses, replacement compressed-natural-gas buses, a compressed-natural-gas fueling site, and bus shelters. Kern County is also working on an education program that would increase awareness of public transit opportunities.

Population growth for Valley Acres and Dustin Acres has been relatively slow, dating back from the first housing settlement in 1914. According to the Kern Council of Governments, between 2000 and 2003, the population of Valley Acres grew by 12 residents (from 512 to 524) and Dustin Acres grew by 18 residents (from 585 to 603). According to the Department of Finance, the city of Taft grew by 222 residents (from 8,811 to 9,033) during the same period. According to the Community Impact Assessment completed for this project in May 2008, this project would not promote

growth within the communities of Dustin Acres, Valley Acres, or Taft. Population growth in the area would not contribute to an increase in traffic or an increase in greenhouse gas emissions.

Quantitative Analysis

Caltrans has modeled the CO₂ emissions for Alternative 1, Alternative 10, and the No-Build Alternative (see Table 2.23), using Caltrans-Emission Factor 2007.

It is important to note that the CO₂ emissions numbers are only useful for a comparison between alternatives. The numbers are not necessarily an accurate reflection of what the true CO₂ emissions would be because CO₂ emissions are dependent on other factors that are not part of the model, such as the fuel mix (emission factor model emission rates are only for direct engine-out CO₂ emissions not full fuel cycle; fuel cycle emission rates can vary dramatically depending on the amount of additives like ethanol and the source of the fuel components), rate of acceleration, and the aerodynamics and efficiency of the vehicles.

Caltrans updated the model for Alternative 11 and the No-Build Alternative (see Table 2.24). Alternative 11 is 2.4 miles shorter than Alternative 1 and 2.9 miles shorter than Alternative 10.

Table 2.23 Alternatives 1 and 10 Estimates of Carbon Dioxide Emissions

Year	No-Build Alternative		Alternative 1		Alternative 10	
	Tons/year	VMT*	Tons/year	VMT*	Tons/year	VMT*
2006	46.7	81,664	46.8	83,072	50.65	88,920
2013	52.5	94,336	69.6	96,448	58.7	102,960
2033	79.2	142,912	80.8	145,728	44.7	156,000

Source: Caltrans Central Region Environmental Engineering EMFAC modeling
*VMT = Vehicle Miles Traveled

Table 2.24 Alternative 11 Estimates of Carbon Dioxide Emissions

Year	No-Build Alternative		Alternative 11	
	Tons/year	VMT*	Tons/year	VMT*
2008	44.22	59,453	N/A	N/A
2014	51.45	71,153	N/A	N/A
2024	61.27	82,853	61.85	82,853
2034	69.82	97,477	70.51	97,477
2044	79.74	112,102	80.53	112,102

Source: Caltrans Central Region Environmental Engineering EMFAC modeling
*VMT = Vehicle Miles Traveled

Based on the modeling results and projected traffic volumes, the build alternative would not substantially change the regional vehicles miles traveled. The results of the modeling were used to calculate the CO₂ emissions listed in Table 2.24. As shown above, the proposed project would increase the CO₂ emissions within the region. Emissions of CO₂ would increase per year at about the same amount with or without the proposed project. From 2008 to 2044, CO₂ emissions would increase by about 36.0 tons per year with the No-Build Alternative and Alternative 11. Compared with the No-Build Alternative in 2044, Alternative 11 would increase CO₂ by less than 1 ton of CO₂ per year. The percentage increase in emissions of 0.88 percent is very small.

Based on the Traffic Study (March 2010), Tables 2.13 and 2.15, the build alternative would reduce congestion and improve level-of-service. Relieving congestion by enhancing operations and improving travel times in high-congestion travel corridors would lead, in general, to an overall reduction in greenhouse emissions; the modeling output in Table 2.13 focuses on vehicle miles traveled but does not include the beneficial effect of improving traffic flow and speed.

Limitations and Uncertainties with Modeling—Emissions Factor

Although emissions factor can calculate CO₂ emissions from mobile sources, the model does have limitations when it comes to accurately reflecting CO₂ emissions. According to the National Cooperative Highway Research Program report, *Development of a Comprehensive Modal Emission Model* (April 2008), studies have revealed that brief but rapid accelerations can contribute significantly to a vehicle's carbon monoxide and hydrocarbon emissions during a typical urban trip. Current emission-factor models are insensitive to the distribution of such modal events (i.e., cruise, acceleration,

deceleration, and idle) in the operation of a vehicle and instead estimate emissions by average trip speed.

This limitation creates an uncertainty in the model's results when compared to the estimated emissions of the various alternatives with the baseline in an attempt to determine impacts. Although work by U.S. Environmental Protection Agency and the California Air Resources Board is underway on modal-emission models, neither agency has yet approved a modal-emissions model that can be used to conduct this more accurate modeling. In addition, emissions factor does not include speed corrections for most vehicle classes for CO₂ (most vehicle classes emission factors are held constant, meaning that emissions factor is not sensitive to the decreased emissions associated with improved traffic flows for most vehicle classes). Therefore, unless a project involves a large number of heavy-duty vehicles, the difference in modeled CO₂ emissions due to speed change would be slight.

It is interesting to note that the California Air Resources Board is currently not using emissions factor to create its inventory of greenhouse gas emissions. It is unclear why the California Air Resources Board has made this decision. Their website states the following:

REVISION: Both the EMFAC and OFFROAD Models develop CO₂ and CH₄ [methane] emission estimates; however, they are not currently used as the basis for [CARB's] official [greenhouse gas] inventory, which is based on fuel usage information. However, CARB is working towards reconciling the emission estimates from the fuel usage approach and the models.

Other Variables

With the current science, project-level analysis of greenhouse gas emissions is limited. Although a greenhouse gas analysis is included for this project, numerous key greenhouse gas variables are likely to change dramatically during the design life of the proposed project and would thus dramatically change the projected CO₂ emissions.

First, vehicle fuel economy is increasing. The U.S. Environmental Protection Agency annual report, "Light-Duty Automotive Technology and Fuel Economy Trends: 1975 through 2008 (<http://www.epa.gov/oms/fetrends.htm>)," which provides data on the fuel economy and technology characteristics of new light-duty vehicles including cars, minivans, sport utility vehicles, and pickup trucks, confirms that average fuel economy has improved each year beginning in 2005 and is now the highest since 1993. Most of the increase since 2004 is due to higher fuel economy for light trucks, following a long-

term trend of slightly declining overall fuel economy that peaked in 1987. These vehicles also have a slightly lower market share, peaking at 52 percent in 2004 with projections at 48 percent in 2008. Table 2.25 shows the alternatives for vehicle fuel-economy increases currently being studied by the National Highway Traffic Safety Administration in its Draft Environmental Impact Study Environmental Impact Study for New Corporate Average Fuel Economy Standards (June 2008):

Table 2.25 Model-Year 2015 Required Miles Per Gallon by Alternative

No Action		25% Below Optimized	Optimized (Preferred)	25% Above Optimized	50% Above Optimized	Total Costs Equal Total Benefits	Technology Exhaustion
Cars	27.5	33.9	35.7	37.5	39.5	43.3	52.6
Trucks	23.5	27.5	28.6	29.8	30.9	33.1	34.7

Second, near-zero carbon-emission vehicles would come into the market during the design life of this project. In March 2008, the University of California at Davis, Institute of Transportation Studies released a report on fuel cell vehicles. The following is an excerpt from that report:

Large advancements have occurred in fuel cell vehicle and hydrogen infrastructure technology over the past 15 years. Fuel cell technology has progressed substantially resulting in power density, efficiency, range, cost, and durability all improving each year. In another sign of progress, automotive developers are now demonstrating over 100 fuel cell vehicles (FCVs) in California – several in the hands of the public – with configurations designed to be attractive to buyers. Cold-weather operation and vehicle range challenges are close to being solved, although vehicle cost and durability improvements are required before a commercial vehicle can be successful without incentives. The pace of development is on track to approach pre-commercialization within the next decade.

A number of the U.S. DOE 2010 milestones for FCV development and commercialization are expected to be met by 2010. Accounting for a five to six year production development cycle, the scenarios developed by the U.S. DOE suggest that 10,000s of vehicles per year from 2015 to 2017 would be possible

in a federal demonstration program, assuming large cost share grants by the government and industry are available to reduce the cost of production vehicles.²

Third and as previously stated, California has recently adopted a low-carbon transportation fuel standard. The California Air Resources Board is scheduled to come out with draft regulations for low-carbon fuels in late 2008 with implementation of the standard to begin in 2010.

Fourth, driver behavior has been changing as the U.S. economy and oil prices have changed. The Congressional Budgets Office January 2008 report, “Effects of Gasoline Prices on Driving Behavior and Vehicle Market,”

(<http://www.cbo.gov/ftpdocs/88xx/doc8893/01-14-GasolinePrices.pdf>), found the following results based on data collected from California: 1) freeway motorists have adjusted to higher gas prices by making fewer trips and driving more slowly; 2) the market share of sports utility vehicles is declining; and 3) the average prices for larger, less-fuel-efficient models have declined over the past five years as average prices for the most-fuel-efficient automobiles have risen, showing an increase in demand for the more fuel efficient vehicles.

Limitations and Uncertainties with Impact Assessment

Taken from pages 3-48 and 3-49 of the National Highway Traffic Safety Administration Draft Environmental Impact Study for New Corporate Average Fuel Economy Standards (June 2008), Figure 2-9 illustrates how the range of uncertainties in assessing greenhouse gas impacts grows with each step of the analysis:

“Cascade of uncertainties typical in impact assessments showing the “uncertainty explosion” as these ranges are multiplied to encompass a comprehensive range of future consequences, including physical, economic, social, and political impacts and policy responses.”

² Cunningham, Joshua, Sig Cronich, Michael A. Nicholas. March 2008. Why Hydrogen and Fuel Cells are Needed to Support California Climate Policy, UC Davis, Institute of Transportation Studies, pp. 9-10.

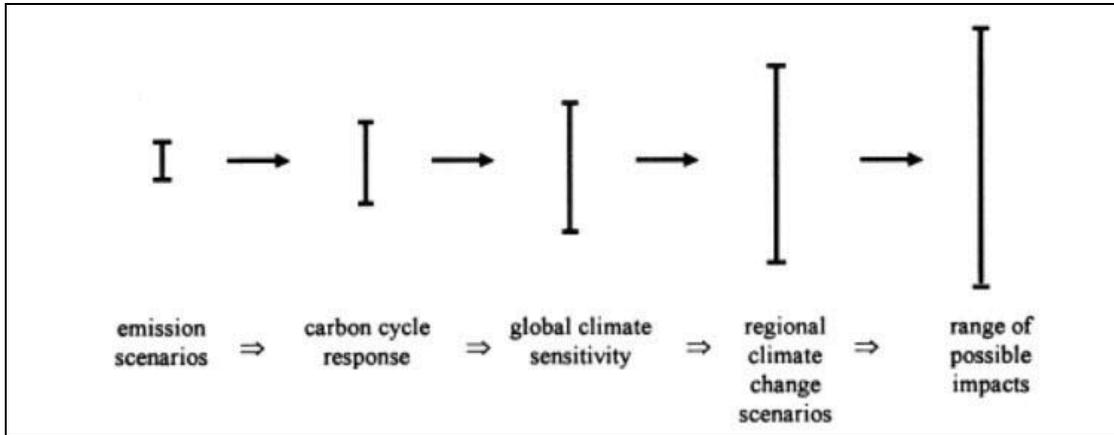


Figure 2-9 Cascade of Uncertainties

Much of the uncertainty in assessing an individual project’s impact on climate change surrounds the global nature of the climate change. Even assuming that the target of meeting the 1990 levels of emissions is met, there is no regulatory or other framework in place that would allow for a ready assessment of what the modeled increase in CO₂ emissions would mean for climate change given the overall California greenhouse gas emissions inventory of approximately 430 million tons of CO₂ equivalent. This uncertainty only increases when viewed globally. The Intergovernmental Panel on Climate Change has created multiple scenarios to project potential future global greenhouse gas emissions as well as to evaluate potential changes in global temperature, other climate changes, and their effects on human and natural systems. These scenarios vary in terms of the type of economic development, the amount of overall growth, and the steps taken to reduce greenhouse gas emissions. Non-mitigation Intergovernmental Panel on Climate Change scenarios project an increase in global greenhouse gas emissions by 9.7 up to 36.7 billion metric tons of CO₂ from 2000 to 2030, which represents an increase of between 25 percent and 90 percent.³

The assessment is further complicated by the fact that changes in greenhouse gas emissions can be difficult to attribute to a particular project because the projects often cause shifts in the locale for some type of greenhouse gas emissions rather than causing “new” greenhouse gas emissions. For example, the emission factor-model runs for this project were based on Kern County data. It is difficult to assess whether some of the trip increases on State Route 199 are “new” versus whether they are transferred from surrounding areas. Although some of the emission increases might be new, the extent to

³ Intergovernmental Panel on Climate Change (IPCC). February 2007. Climate Change 2007: The Physical Science Basis: Summary for Policy Makers. <http://www.ipcc.ch/SPM2feb07.pdf>.

which the modeled 11.4- to 20.9-metric-ton increase in CO₂ emissions represents a net global increase, reduction, or no change, is uncertain and there are no models approved by regulatory agencies that operate at the global or even statewide scale.

The complexities and uncertainties associated with project-level impact analysis are further borne out in the recently released Draft Environmental Impact Study completed by the National Highway Traffic Safety Administration Corporate Air Fuel Efficiency Standards (June 2008). As the text quoted below shows, even when dealing with greenhouse gas emission scenarios on a national scale for the entire passenger car and light-truck fleet, the numerical differences among alternatives is very small and well within the error sensitivity of the model.

In analyzing across the CAFE 30 alternatives, the mean change in the global mean surface temperature, as a ratio of the increase in warming between the B1 (low) to A1B (medium) scenarios, ranges from 0.5 percent to 1.1 percent. The resulting change in sea level rise (compared to the No Action Alternative) ranges, across the alternatives, from 0.04 centimeter to 0.07 centimeter. In summary, the impacts of the Model Year 2011-2015 CAFE alternatives on global mean surface temperature, sea level rise, and precipitation are relatively small in the context of the expected changes associated with the emission trajectories. This is due primarily to the global and multi-sectoral nature of the climate problem. Emissions of CO₂, the primary gas driving the climate effects, from the United States automobile and light truck fleet represented about 2.5 percent of total global emissions of all greenhouse gases in the year 2000 (EPA, 2008; CAIT, 2008). While a significant source, this is a still small percentage of global emissions, and the relative contribution of CO₂ emissions from the United States light vehicle fleet is expected to decline in the future, due primarily to rapid growth of emissions from developing economies (which are due in part to growth in global transportation sector emissions).” [NHTSA Draft EIS for New CAFE Standards, June 2008, pp.3-77 to 3-78]

California Environmental Quality Act Conclusion

Based on the above, it is Caltrans determination that in the absence of further regulatory or scientific information related to greenhouse gas emissions and CEQA significance, it is too speculative to make a determination regarding the project’s direct impact and its contribution on the cumulative scale to climate change. However, Caltrans is firmly

committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the following section.

Assembly Bill 32 Compliance

Caltrans continues to be actively involved on the governor's Climate Action Team as the California Air Resources Board works to implement the governor's executive orders and help achieve the targets set forth in Assembly Bill 32. Many of the strategies Caltrans is using to help meet the targets in Assembly Bill 32 come from the California Strategic Growth Plan that is updated each year. Then-Governor Arnold Schwarzenegger's Strategic Growth Plan calls for a \$238.6 billion infrastructure improvement program to fortify the state's transportation system, education, housing, and waterways, including \$100.7 billion in transportation funding through 2016⁴.

As shown in 2-10, the Strategic Growth Plan targets a significant decrease in traffic congestion below today's level and a corresponding reduction in greenhouse gas emissions. The Strategic Growth Plan proposes to do this while accommodating growth in population and the economy. A suite of investment options has been created that yield the promised reduction in congestion. The Strategic Growth Plan relies on a complete systems approach of a variety of strategies: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements.

⁴ Governor's Strategic Growth Plan, Fig. 1 (<http://gov.ca.gov/pdf/gov/CSGP.pdf>)



Figure 2-10 Outcome of Strategic Growth Plan

As part of the Caltrans Climate Action Program (December 2006, <http://www.dot.ca.gov/docs/ClimateReport.pdf>), Caltrans is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high density housing along transit corridors. Caltrans is working closely with local jurisdictions on planning activities; however, Caltrans does not have local land use planning authority. Caltrans is also supporting efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars and light- and heavy-duty trucks; Caltrans is doing this by supporting ongoing research efforts at universities, by supporting legislative efforts to increase fuel economy, and by its participation on the Climate Action Team. It is important to note, however, that the control of the fuel economy standards is held by the U.S. Environmental Protection Agency and the California Air Resources Board.

Lastly, the use of alternative fuels is also being considered; Caltrans is participating in funding for alternative fuel research at the University of California at Davis. Table 2.26 summarizes Caltrans and related statewide efforts to reduce greenhouse gas emissions.

To the extent that it is applicable or feasible for the project and through coordination with the project development team, the following measure would also be included in the project to reduce the greenhouse gas emissions and potential climate change impacts from the project:

Landscaping reduces surface warming, and through photosynthesis, decreases CO₂. All disturbed areas would be permanently stabilized with vegetative cover after grading work to reduce the amount of erosion and minimize any change in visual character. Seed mixes would, as closely as possible, resemble and blend in with the existing vegetation. The top 6 inches of topsoil would be designated as an environmentally sensitive area and would be held separated from the construction site for use after construction. The topsoil would be stockpiled and replaced on the finished slopes before the application of erosion control.

Table 2.26 Climate Change Strategies

Strategy	Program	Partnership		Method/Process	Estimated CO ₂ Savings (MMT)	
		Lead	Agency		2010	2020
Smart Land Use	Intergovernmental Review (IGR)	Caltrans	Local Governments	Review and seek to mitigate development proposals	Not Estimated	Not Estimated
	Planning Grants	Caltrans	Local and regional agencies & other stakeholders	Competitive selection process	Not Estimated	Not Estimated
	Regional Plans and Blueprint Planning	Regional Agencies	Caltrans	Regional plans and application process	0.975	7.8
Operational Improvements & Intelligent Trans. System (ITS) Deployment	Strategic Growth Plan	Caltrans	Regions	State ITS; Congestion Management Plan	.007	2.17
Mainstream Energy & GHG into Plans and Projects	Office of Policy Analysis & Research; Division of Environmental Analysis	Interdepartmental effort		Policy establishment, guidelines, technical assistance	Not Estimated	Not Estimated
Educational & Information Program	Office of Policy Analysis & Research	Interdepartmental, CalEPA, CARB, CEC		Analytical report, data collection, publication, workshops, outreach	Not Estimated	Not Estimated
Fleet Greening & Fuel Diversification	Division of Equipment	Department of General Services		Fleet Replacement B20 B100	0.0045	0.0065 0.45 .0225
Non-vehicular Conservation Measures	Energy Conservation Program	Green Action Team		Energy Conservation Opportunities	0.117	.34
Portland Cement	Office of Rigid Pavement	Cement and Construction Industries		2.5 % limestone cement mix 25% fly ash cement mix > 50% fly ash/slag mix	1.2 .36	3.6
Goods Movement	Office of Goods Movement	Cal EPA, CARB, BT&H, MPOs		Goods Movement Action Plan	Not Estimated	Not Estimated
Total					2.72	18.67

Adaptation Strategies

“Adaptation strategies” refer to how Caltrans and others can plan for the effects of climate change on the state’s transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damaging roadbeds by longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects would vary by location and may, in the extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications because of these types of impacts to the transportation infrastructure.

Climate change adaptation must also involve the natural environment as well. Efforts are underway on a statewide level to develop strategies to cope with impacts to habitat and biodiversity through planning and conservation. The results of these efforts will help California agencies plan and implement mitigation strategies for programs and projects.

On November 14, 2008, then-Governor Schwarzenegger signed Executive Order S-13-08 that directed a number of state agencies to address California’s vulnerability to sea level-rise caused by climate change.

The California Resources Agency (now the Natural Resources Agency), through the interagency Climate Action Team, was directed to coordinate with local, regional, state, and federal public and private entities to develop a state Climate Adaptation Strategy. The Climate Adaptation Strategy would summarize the best known science on climate change impacts to California, assess California's vulnerability to the identified impacts and then outline solutions that can be implemented within and across state agencies to promote resiliency.

As part of its development of the Climate Adaptation Strategy, the California Resources Agency was directed to request the National Academy of Science to prepare a Sea Level Rise Assessment Report by December 2010 to advise how California should plan for future sea-level rise. The following was included in the report:

- Relative sea-level rise projections for California, taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge and land subsidence rates
- The range of uncertainty in selected sea-level rise projections

- A synthesis of existing information on projected sea-level rise impacts to natural areas, coastal and marine ecosystems, and state infrastructure such as roads, public facilities, and beaches
- A discussion of future research needs regarding sea level rise for California

Furthermore, Executive Order S-13-08 directed the Business, Transportation, and Housing Agency to prepare a report to assess vulnerability of transportation systems to sea level affecting safety, maintenance, and operational improvements of the system and economy of the state. Caltrans continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea-level rise.

Prior to the release of the final Sea Level Rise Assessment Report, all state agencies that are planning to construct projects in areas vulnerable to future sea-level rise were directed to consider a range of sea level-rise scenarios for the years 2050 and 2100 in order to assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea-level rise. However, all projects that have filed a Notice of Preparation and/or are programmed for construction funding in the next five years (through 2013) or are routine maintenance projects as of the date of Executive Order S-13-08 may, but are not required to, consider these planning guidelines. Sea-level rise estimates should also be used in conjunction with information regarding local uplift and subsidence, coastal erosion rates, predicted higher high-water levels, storm surge, and storm wave data. (Executive Order S-13-08 allows some exceptions to this planning requirement.) The proposed project was programmed for construction from 2021 to 2025.

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. Caltrans is an active participant in the efforts being conducted as part of then-Governor Schwarzenegger's executive order on sea-level rise and is mobilizing to respond to the National Academy of Science Sea Level Rise Assessment Report due to be released by mid 2012.

On August 3, 2009, the California Natural Resources Agency, in cooperation and partnership with multiple state agencies, released the 2009 California Climate Adaptation Strategy Discussion Draft that summarizes the best known science on climate change impacts in seven specific sectors and provides recommendations on how to manage against those threats. The release of the draft document set in motion a 45-day public comment period.

Led by the California Natural Resources Agency, numerous other state agencies were involved in the creation of discussion draft, including Environmental Protection; Business, Transportation and Housing; Health and Human Services; and the Department of Agriculture. The discussion draft focuses on sectors that include public health; biodiversity and habitat; ocean and coastal resources; water management; agriculture; forestry; and transportation and energy infrastructure. The strategy is in direct response to Gov. Schwarzenegger's November 2008 Executive Order S-13-08 that specifically asked the California Natural Resources Agency to identify how state agencies can respond to rising temperatures, changing precipitation patterns, sea-level rise, and extreme natural events. As data continues to be developed and collected, the state's adaptation strategy would be updated to reflect current findings. A revised version of the report was posted on the California Natural Resource Agency website on December 2, 2009; it can be viewed at <http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF>.

Currently, Caltrans is working to assess which transportation facilities are at greatest risk from climate change effects. Without statewide planning scenarios, however, for relative sea-level rise and other climate change impacts, Caltrans has not been able to determine what change, if any, may be made to its design standards for its transportation facilities. Once statewide planning scenarios become available, Caltrans would be able to review its current design standards to determine what changes, if any, may be warranted in order to protect the transportation system from sea-level rise.

Chapter 3 **Comments and Coordination**

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

California Department of Fish and Game

October 6, 2003: Caltrans sent Clarence Mayott, Environmental Specialist IV, a letter with project information for review and comments.

October 10, 2003: Caltrans conducted a field review of the project with Mr. Mayott.

On October 20, 2003: An environmental specialist from the California Department of Fish and Game sent comments and recommendations to Caltrans staff by email. Recommendations are as follows: a 2081 incidental take permit would likely be required; a 1602 Streambed Alteration Notification would be required, and further consultation to discuss blunt-nosed leopard lizard avoidance measures and the preferred alternative would be necessary.

March 6, 2006: Caltrans sent Mr. Mayott an email with information regarding the proposed work within California Department of Fish and Game property (assessor parcel number 184-020-15). Attached was an aerial map that displayed the work proposed to the north of the existing highway, which would affect small portions of the California Department of Fish and Game property. The proposed project would not affect the California Department of Fish and Game property south of the existing highway.

January 24, 2007: Caltrans sent an email to Ellen Cypher, Ph.D., requesting information regarding plant communities within the project area and potential mitigation measures for plants that were observed in the project footprint.

March 28, 2007: Caltrans received email from Ellen Cypher, Botanist for California Department of Fish and Game, with a suggested plant list of species to be included in the seed mix for the proposed project.

June 27, 2008: Caltrans sent Natural Environmental Study to the U.S. Department of Fish and Game.

July 15, 2008: Caltrans contacted Laura Peterson-Diaz, Environmental Scientist with the California Department of Fish and Game, regarding property within the project area owned by the agency. Caltrans was informed that parcel 18402015 belonged to the California Department of Fish and Game and parcel 18402031 was privately owned but part of the Coles Levee Ecosystem Reserve. Caltrans replied that parcel 18402015 would not be affected by the project.

August 5, 2008: U.S. Department of Fish and Game commented on the Natural Environmental Study and rejected the proposed mitigation bank credits but opted for the acquired land adjacent to project.

November 5, 2008: Caltrans met with management from the California Department of Fish and Game and the U.S. Fish and Wildlife Service. Coles Levee Preserve, land purchases, and proposed driveways were discussed.

California Department of Water Resources

August 17, 2000: Caltrans spoke to Margie Graham, Department of Water Resources San Joaquin Field Division, and requested biological information collected on the property of the Department of Water Resources.

August 18, 2000: Caltrans received a letter from Ms. Graham with maps displaying potential habitat property along the California Aqueduct based on studies completed in 1991-1992. Between mile-posts 172–294 of the California Aqueduct, potential habitat for the following species was documented: American badger (*Taxidea taxus*), bald eagle (*Haliaeetus leucocephalus*), Bakersfield cactus (*Opuntia treleasei*), blunt-nosed leopard lizard (*Gambelia sila*), western burrowing owl, Buena Vista Lake shrew (*Sorex ornatus relictus*), giant kangaroo rat, golden eagle (*Aquila chrysaetos*), heartscale, Hoover's woolly-star, Le Conte's thrasher (*Toxostoma lecontei*), Lost Hills crowscale, mountain plover (*Charadrius montanus*), recurved larkspur (*Delphinium recurvatum*), San Joaquin antelope squirrel, San Joaquin kit fox (*Vulpes macrotis mutica*), short-nosed kangaroo rat, slough thistle (*Cirsium crassicaule*),

Swainson's hawk (*Buteo swainsoni*), Tipton kangaroo rat, tri-colored blackbird (*Agelaius tricolor*), and Tulare grasshopper mouse.

August 22, 2000: Caltrans received an email from Ms. Graham providing recent blunt-nosed leopard lizard observations in the biological study area from BioEnvironmental Associates. Both observations were outside of the biological study area boundary.

Endangered Species Recovery Program

June 4, 2004: Caltrans sent an email to Ellen Cypher, Ph.D., requesting review and/or comments regarding the plant list for the proposed project.

June 4, 2004: Ms. Cypher sent an email with comments regarding the proposed plant list.

April 10, 2006: Caltrans sent an email to Brian Cypher, Ph.D., with preliminary project plans for implementing San Joaquin kit fox mitigation measures within the project footprint.

April 10, 2006: Caltrans received an email from Mr. Cypher. He stated that results from the current study of fox use of structures on four-lane divided highways might prove useful, especially with respect to the use of fencing in the project area.

January 16, 2007: Caltrans sent an email to Brian Cypher, Ph.D., with the proposed project plans for implementing San Joaquin kit fox mitigation measures within the project area. These measures include the following: installation of 11 box culverts, 5 along the Elk Hills portion of both alignments and 6 along the southern bypass measuring 3 feet high by 10 feet wide, chain link fence installation for the bypass area, and barbed wire fence installation for the area between Elk Hills Road and Tupman Road. In addition, off-site mitigation would be proposed for the loss of habitat.

January 16, 2007: Caltrans received an email from Mr. Cypher. He stated that the proposed measures were reasonable for San Joaquin kit fox mitigation. Results from the study show that foxes seem to prefer crossing over the highway rather than using under-highway crossing structures, however the areas lack exclusionary fencing and median barriers. He recommended the chain link fence within the bypass area despite the lack of a median barrier because it might discourage kit foxes from crossing the road and direct them toward undercrossings.

Occidental of Elk Hills, Inc.

August 17, 2000: Caltrans sent a letter to Bill Dixon requesting biological information within the project area.

September 15, 2000: Caltrans received a letter from Mr. Dixon with a map displaying data points collected during pre-activity surveys from April and May 1999 to June 2000. Within the biological study area, there were occurrences of potential San Joaquin kit fox dens, San Joaquin antelope squirrel burrows, and Hoover's woolly-star. Potential blunt-nosed leopard lizard burrows were observed outside of the biological study area.

February 05, 2007: Caltrans sent an email to Lisa Ashley requesting updated biological information within the project area.

February 28, 2007: Caltrans received an email from Ms. Ashley stating Occidental has not conducted additional biological surveys within the project area since 2000.

U.S. Army Corps of Engineers

March 14, 2003: Caltrans contacted Mike Jewell to discuss watershed drainage connections to Buena Vista Lake. Mr. Jewell stated each project is handled on a case-by-case basis and no specific determination has been made for the Buena Vista Creek and other nearby drainages. The status of Buena Vista Lake has not been officially determined by the U.S. Army Corps of Engineers either.

October 29, 2003: A wetland delineation report was submitted to the U.S. Army Corps of Engineers.

December 11, 2003: Caltrans conducted a field verification of the project area with Matt Hirkala. The areas evaluated included Elk Hills drainages, Broad Creek, Buena Vista Creek, three suspended drainages over the California Aqueduct, an alkali sink area southeast of Dustin Acres, and an agricultural drainage ditch east of the California Aqueduct. The main issues regarding the delineation are included in a memorandum.

January 28, 2004: Caltrans received a request via email for additional information from Mr. Hirkala based on the wetland delineation report and field verification.

February 2, 2004: Caltrans sent an email to Mr. Hirkala addressing each of the items included in the January 28, 2004 email.

March 1, 2004: Caltrans sent an email to Mr. Hirkala providing information about the suspended drainages over the California Aqueduct based on a discussion with the Department of Water Resources.

March 4, 2004: A teleconference was held between Caltrans and Mr. Hirkala. Mr. Hirkala requested a revised set of delineation maps (1:200 foot scale) and further information regarding the agricultural drainage ditch located east of the California Aqueduct.

March 15, 2004: Caltrans sent an email to Mr. Hirkala providing information about the agricultural drainage ditch located east of the California Aqueduct based on a discussion with the J.G. Boswell Company.

March 16, 2004: Caltrans received an email from Mr. Hirkala stating his last day at the Sacramento District Office would be March 29, 2004.

March 25, 2004: Caltrans sent the 1:200 foot scale maps to Mr. Hirkala.

April 4, 2004: Caltrans received an email from Mr. Hirkala stating Nancy Haley would be the new project contact for the proposed project.

August 1, 2007: A letter was sent to the U.S. Army Corps of Engineers regarding pending Jurisdictional Delineation, requesting Jurisdictional Delineation for Cherry Avenue be evaluated by procedures established before June 5, 2007.

U.S. Fish and Wildlife Service

July 17, 2001: A meeting was held between Caltrans and Peter Cross and Maryann Owens, U.S. Fish and Wildlife Service, to present an overview of the proposed project. Peter Cross requested a formal letter be sent to him requesting comments from their office.

July 25, 2001: Caltrans sent a formal letter to Peter Cross with specific project information requested at the July 17, 2001 meeting. Caltrans requested that the U.S. Fish and Wildlife Service provide comments on the proposed project.

November 1, 2001: Caltrans gave a presentation of the proposed project at the Kit Fox Planning and Conservation Team Meeting in Fresno. Representatives from the U.S. Fish and Wildlife, Endangered Species Recovery Program, California Department of Fish and Game, Department of Water Resources, Bureau of

Reclamation, and Defenders of Wildlife were present. The team recommended that a field visit to the project site be conducted.

November 27, 2001: Nancy Pau, U.S. Fish and Wildlife Service, sent approval via email to Caltrans to conduct small mammal trapping.

December 6, 2001: Caltrans conducted a field visit of the project site with Kit Fox Planning and Conservation Team members. Brian Cypher, Endangered Species Program, provided comments regarding kit fox crossing structures, fencing, and bypass alternative. Susan Jones agreed to Mr. Cypher's crossing structure design and bypass alternative. She also recommended that kit fox spotlighting be conducted to determine occurrences within the project limits.

January 29, 2002: Caltrans sent a facsimile to Susan Jones summarizing items discussed at the December 6, 2001 field meeting. In addition, Caltrans requested approval to conduct California Department of Fish and Game Region 4 protocol surveys for the San Joaquin kit fox.

February 15, 2002: Caltrans spoke to Susan Jones, and she approved of the California Department of Fish and Game Region 4 protocol surveys for the San Joaquin kit fox.

June 5, 2002: Caltrans sent an email to Susan Jones providing a summary of the survey results to date.

September 25, 2002: Caltrans sent an email to Susan Jones providing a summary of the survey results to date.

December 9, 2002: Caltrans sent a special-status species survey report to Susan Jones. The report covered surveys completed from September 2001-2002.

January 16, 2003: Caltrans sent a second special-status species survey report to Susan Jones due to no receipt of the December 9, 2002 package.

March 11, 2003: Caltrans spoke with Gary Burton of U.S. Fish and Wildlife Service regarding the 2002 plant surveys. Mr. Burton recommended that the 2002 surveys be repeated in 2003 due to the unusually dry 2002 season.

June 20, 2003: Caltrans spoke to Susan Jones regarding the biological assessment for the proposed project. Ms. Jones requested that a copy of the Route Concept Report be

included in the Biological Assessment because U.S. Fish and Wildlife would like to evaluate reasonably foreseeable future projects within the proposed project's vicinity.

August 22, 2008: Biological Assessment sent to the U.S. Fish and Wildlife Service.

November 5, 2008: Caltrans met with management from the California Department of Fish and Game and the U.S. Fish and Wildlife Service. Coles Levee Preserve, land purchases, and proposed driveways were discussed.

November 21, 2008: Received a response letter from the U.S. Fish and Wildlife Service requesting revisions to Biological Assessment.

January 10, 2009: Sent revised Biological Assessment to U.S. Fish and Wildlife.

July 20, 2009: Revised Biological Assessment was sent to U.S. Fish and Wildlife with new project description including Alternative 11.

August 27, 2009: Received 30-day comment letter from U.S. Fish and Wildlife with requests for additional information on the Biological Assessment.

September 15, 2009: Caltrans sent letter to U.S. Fish and Wildlife with additional information that was requested in the August 27, 2009 letter.

December 9, 2009: Electronic mail was sent to Jen Schofield of U.S. Fish and Wildlife Service on the status of the Biological Opinion. Ms. Jen Schofield responded that further discussions were needed regarding mitigation options. She also inquired about Caltrans efforts in acquiring mitigation lands from adjacent landowners. Mitigation bank credits were also discussed.

December 22, 2009: Jen Schofield, U.S. Fish and Wildlife Service, discussed with Caltrans on purchasing adjacent property to the project area with suitable habitat for affected species. This issue would be discussed in the Biological Opinion.

February 16, 2010: Jen Schofield, U.S. Fish and Wildlife Service, emailed that the Biological Opinion would be expected to be signed by mid May 2010.

March 3, 2010: Electronic mail was sent to Jen Schofield, U.S. Fish and Wildlife Service, inquiring on the implications if 6 inches rather than 12 inches of topsoil were removed before construction.

March 9, 2010: Ms. Schofield, U.S. Fish and Wildlife Service, replied by email that it would be preferable for 12 inches of topsoil be removed and stored but that if needed, U.S. Fish and Wildlife would accept 6 inches.

March 17, 2010: Caltrans emailed Ms. Schofield, U.S. Fish and Wildlife Service, that Caltrans would be changing the amount of topsoil removed and stored from 12 to 6 inches. Ms. Schofield responded that this change should not affect the schedule in issuing the Biological Opinion.

A biological assessment was prepared, and Section 7 formal consultation was initiated with the U.S. Fish and Wildlife Service for potential effects to federally listed species. A Biological Opinion was issued by the U.S. Fish and Wildlife Service on April 20, 2010. A California Department of Fish and Game 2081 Incidental Take Permit would also be obtained for impacts to the San Joaquin antelope squirrel and San Joaquin kit fox.

Community Impact Surveys

Because recent demographic data was not available for Valley Acres and Dustin Acres, Caltrans staff conducted interviews to supplement the 2000 Census and to attain a sense of any substantial changes that may have occurred in each community since the last the Census in 2000. To view a copy of the Resident Questionnaire used, refer to the Community Impact Assessment completed for this project. Interviews were also conducted to get a sense of community character and cohesiveness and to evaluate any potential community impacts. The interviews focused on the following topics:

- Age profile and the elderly population
- Trends in population growth
- Ethnicity/racial profiles
- Employment and economic hardship
- Home ownership, renter status, and vacant housing
- Community ties, activities, character, and gathering places
- Recreational activities
- Pedestrian traffic and resident commute pattern
- Farming activities

Caltrans staff contacted approximately 25 households for interviews. Of these, nine residents from seven households were interviewed, while the remaining either did not respond to requests for an interview or were unable due to scheduling conflicts. Field

visit interviews were conducted on July 9 and September 20 of 2007 and telephone interviews were conducted on September 29 and October 31 of 2007.

Caltrans staff also contacted the four businesses within the project study area to attain business and economic activity information. Business interviews were conducted on February 1, February 25, and February 29 of 2007.

Results from the resident interviews did not reveal minority or low-income populations within the study area.

California Department of Conservation, Division of Land Resource Protection

Caltrans staff mailed a notification letter to the Department of Conservation on May 1, 2008 about potential project effects on three Williamson Act properties within the project area.

Kern Council of Governments

Kern Council of Governments emailed Caltrans staff on April 28, 2008 with no formal response on the Community Impact Assessment's growth inducement analysis.

Kern County Planning Department

On August 30, 2007, Caltrans staff met with representatives from the Kern County Planning Department regarding growth factors in the project area. A representative from the Kern County Planning Department notified Caltrans staff on May 9, 2008 to concur with the Community Impact Assessment's growth inducement results.

Caltrans staff corresponded with Kern County Planning Department on several occasions during the preparation of the Community Impact Assessment for this project.

U.S. Department of Agriculture Natural Resources Conservation Service

On September 1, 2006, Caltrans staff mailed a Farmland Conversion Impact Rating, Form NRCS-CPA-106, for the project to the Natural Resource Conservation Service office in Bakersfield.

On July 1, 2008, Caltrans mailed a revised Farmland Conversion Impact Rating to the Natural Resource Conservation Service office in Bakersfield.

Bureau of Land Management

Caltrans staff initiated and maintained formal consultation with the Bureau of Land Management's Bakersfield office through all stages of the cultural resources identification/evaluation effort.

On July 15, 2008, Caltrans staff contacted Nora Dedios, a Realty Specialist with the Bureau of Land Management, regarding the use of three parcels in the project area: 18402001, 29809002, and 29809004. Caltrans was informed that the Bureau of Land Management owned the mineral and surface rights of the three parcels and managed them for mixed use, which includes leasing the land for oil and gas development.

California State Historic Preservation Officer

The California State Historic Preservation Officer concurred on September 18, 2007 that the 13 resources evaluated within the area of potential effects are not eligible for inclusion in the National Register of Historic Places.

Native American Groups

Coordination with the Native American community included contacting the Native American Heritage Commission and requesting a search of the sacred lands files (May 7, 2001). The Native American Heritage Commission stated on May 23, 2001 that sacred lands failed to indicate the presence of Native American cultural resources in the immediate undertaking area. Caltrans sent letters dated March 19, 2002 initiating consultation with the various Native American groups and individuals with potential interest in the proposed undertaking. Caltrans staff had ongoing consultation with various Native American groups and individuals through the cultural resources studies.

Fred Rubio of Tule River Reservation served as Native American monitor for the duration of the 2005 study. Mr. Lalo Franco, Director of the Cultural Department for Santa Rosa Rancheria, has expressed concern regarding the cultural study and construction monitoring. Caltrans informed Santa Rosa Rancheria of the low potential for encountering archaeological deposits during construction and invited Santa Rosa Rancheria representatives to observe construction, but not in any official capacity. Caltrans informed Mr. Franco that Caltrans does not deny that the Buena Vista Creek area is sensitive for cultural studies, but that the studies performed to date are good evidence that sites are not located within the undertaking area of potential effects.

Public Meetings

Caltrans held two public information meetings for the project. The first meeting was held on January 17, 2001, and the second meeting was held on November 15, 2006. Because no building was available in Valley Acres or Dustin Acres, both meetings were held at the Thomas Jefferson Elementary School in the City of Taft. The purpose of the meetings was to provide the public and interested parties with information regarding the status of the project and to gain public input on the project alternatives before Caltrans prepared the draft environmental document.

Announcements of the meetings consisted of mailings and newspaper advertisements in two newspapers: the *Taft Midway Driller* and the *Bakersfield Californian*. Letters of invitations were mailed to property owners, residents, and local businesses in Valley Acres and Dustin Acres. Letters of invitation were also mailed to public agencies, and to federal, state, and local officials.

Both public information meetings were designed to have an informal open-house format, where the public could attend at any time during the three-hour periods, view informational display boards, and address Caltrans personnel individually with their questions and comments.

Caltrans staff distributed to each attendee an information sheet with a project map illustrating the project location, the project's description, cost, and purpose and need, as well as background information, funding sources, and a project timeline. At each meeting, Caltrans staff explained the format of the meeting and attendees were encouraged to ask questions of the Project Development Team. Information stations containing project maps, graphics, and display boards were located around the room. Caltrans personnel were available at each information station to explain the displays and answer questions. Attendees were encouraged to submit written comments.

Seventy-nine residents and interested parties attended the public information meeting held in 2001. Nine build alternatives and the No-Build Alternative were presented at this meeting. Of the 94 comments submitted during the comment period, 47 were from residents of either Valley Acres or Dustin Acres, 18 were employees of the Morton Construction Company, a former business in Valley Acres, and 29 lived in either the Taft or greater Bakersfield areas. Of the 94 comments, 82 comments favored one of the two build alternatives proposing to bypass the communities from either the south or the north. Twelve comments favored one of the seven alternatives proposing to widen along the existing alignment. All 47 comments from residents

from Valley Acres and Dustin Acres favored a bypass option, though. After review and consideration of the public comments, potential community effects, and other potential environmental impacts, all alternatives except for Alternative 1 were withdrawn from the project.

Seventy-two residents and interested parties attended the meeting held in 2006. This meeting was held to present the newly proposed southern bypass option, Alternative 10, and reintroduce Alternative 1. Of the 78 comments received during the comment period, 51 comments were from residents of either Valley Acres or Dustin Acres. Two comments were from employees of Occidental Petroleum of Elk Hills, and 25 comments were attendees living in either the Taft or greater Bakersfield areas. The comments overwhelmingly opposed Alternative 1. Only one resident was opposed to Alternative 10, due to potential access restrictions it could have on horseback riding in the undeveloped area south of the proposed bypass. However, no resident from Valley Acres or Dustin Acres expressed support for Alternative 1.

Public Hearing

Caltrans held a public hearing on August 27, 2008 at the Thomas Jefferson Elementary School in the City of Taft. The purpose of the hearing was to notify the public and interested parties that the draft environmental document and study results for the project were available for review. The purpose of the hearing was also to obtain further public and agency comments on the project before Caltrans selected a preferred alternative and prepared the final environmental document.

Announcements of the hearing consisted of mailings and newspaper advertisements in two newspapers: the *Taft Midway Driller*, published on August 8 and August 18, 2008, and the *Bakersfield Californian*, published on August 7, 2008. Letters of invitation were mailed to property owners, residents, and local businesses in Valley Acres and Dustin Acres.

Similar to the two public meetings held in 2001 and 2006 for this project, the public hearing was presented in an informal open-house format. The public could attend any time during the three-hour period, view informational display boards, mapping of the project area and alternatives, and speak with Caltrans personnel individually about their questions and comments.

Caltrans staff gave each attendee an information sheet with a project map illustrating the project location, the project's background information, cost, and purpose and need. At the hearing, Caltrans staff explained the format of the hearing and attendees

were encouraged to ask questions of the Project Development Team. Information stations containing project maps, graphics, and display boards were located around the room. Maps of the project were displayed at one station, where attendees could ask questions of the design engineering staff. Caltrans personnel were available at each information station to explain the displays and answer questions. Attendees were encouraged to submit a comment at the comment station by either filling out a comment card or providing an oral comment to the court reporter.

Fifty-nine attendees and interested parties attended the public hearing. Alternative 10, Alternative 1, and the No-Build Alternative were presented. During the comment period for this project, between August 6, 2008 and September 8, 2008, Caltrans received comments by mail, email, and at the public hearing.

Caltrans received four comments from local and state agencies, two comments from businesses in the area, and 33 comments from residents of Valley Acres or Dustin Acres. Comments were also received from 20 Taft residents, one Maricopa resident, and one Bakersfield resident. Twenty-six residents from the two communities supported Alternative 10. Two of these residents also supported another alternate route. Eight of the residents who supported Alternative 10 submitted two or three comments each. Two residents liked that Alternative 10 provided more access to the area south of the bypass. One resident preferred an extra turn lane in Elk Hills. Three residents supported a northern bypass alignment or an alternate route. Four residents opposed Alternative 10. One business owner expressed concern that Alternative 10 would have negative effects on the business.

San Joaquin Valley Modeling Coordinating Committee

In April 2007, the Model Coordinating Committee concurred with the conformity finding that the project is “Not a Project of Air Quality Concern” and that the project improvements would not result in any violation of federal air quality standards.

Chapter 4 List of Preparers

This document was prepared by the following Caltrans Central Region staff:

Allam Alhabaly, Transportation Engineer. B.S., Industrial Engineering, California State University, Fresno; 9 years environmental technical studies experience. Contribution: Noise Study Report.

Rebecca Bakhoud, Transportation Engineering Technician. B.A., Liberal Studies/Education, Minor in Mathematics, California State University, San Bernardino; 8 years CADD/Microstation support and visual design experience. Contribution: Graphics.

Henry Barnes, Landscape Associate. B.A., Landscape Architecture, California Polytechnic State University, San Luis Obispo; 4 years experience in landscape architecture; 1 year visual impact assessment experience. Contribution: Visual Impact Assessment.

Jon Brady, Associate Environmental Planner (Architectural History). B.A., Political Science; B.A., Anthropology; M.S., History, California State University, Fresno; 31 years cultural experience. Contribution: Cultural.

Harjinder Dhillon, Project Engineer. B.S., Electrical Engineering, Panjab University, India; 11 years experience in civil engineering. Contribution: Design Engineer.

Phong Duong, Environmental Planner. B.S., Environmental Health Science, California State University, Fresno; 3 years of environmental generalist and six years in transportation planning. Contribution: Assisted in Chapter 1 of Initial Study/Environmental Assessment.

Terrence Fox, Engineering Geologist, P.G. M.S., Geology, California State University, Long Beach; B.A., Earth Science, California State University, Fullerton; 21 years environmental experience. Contribution: Water Quality Scoping Report.

Gary Gagliolo, Associate Environmental Planner. B.A., Biological Science with emphasis in molecular biology, California State University, San Jose; 21 years

- environmental health, 2 years water quality, 6 years hazardous waste and environmental planning experience. Contribution: Hazardous Waste Report.
- Sarah Gassner, Chief, Southern Sierra Environmental Analysis Branch. M.A., Cultural Resources Management, Sonoma State University; B.A., Anthropology, California State University, Fresno; 12 years archaeological experience; 8 years cultural resource management and environmental planning experience with Caltrans. Contribution: Archaeological Survey Report/Environmental Supervisor.
- Theresa Goewert, Air Quality Specialist. B.S., Food Science, Colorado State University; 3 years environmental planning experience, 9 years air quality experience. Contribution: Air Quality Report.
- Dena Gonzalez, Environmental Planner (Natural Sciences). B.A., Biology, California State University, Fresno; 7 years of biology experience. Contribution: Natural Environment Study.
- Srikanth Gopalkrishnarao, Hydraulics Engineer, P.E. M.S., Environmental Engineering, South Dakota State University; B.S., Civil Engineering, Bangalor University, India; 11 years hydraulics experience; 15 years civil engineering experience. Contribution: Floodplain Evaluation Report.
- Peter Hansen, Engineering Geologist, P.G.; B.S., Geology, California State University, Fresno; 1 year hazardous waste experience, 8 years paleontology/geology experience. Contribution: Paleontology.
- Joseph Llanos, Graphic Designer I. B.A., Graphic Design, California State University, Fresno; 13 years visual design and public participation experience. Contribution: Graphics.
- Bao Luong, P.E., Transportation Engineer. M.S., Civil Engineering, Portland State University; 8 years traffic engineering experience. Contribution: Operational Analysis.
- Steven Milton, Project Manager. P.E. Civil Engineering, PMP, California Polytechnic State University; 18 years engineering experience and four years of project management experience. Contribution: Project Management.

Lisa Nishimura, Associate Environmental Planner, Archaeology. B.A., Anthropology, California State University, Fresno; 9 years archaeological experience in California PQS 2. Contribution: Historic Property Survey Report.

Gloria Ramirez, Landscape Associate. M.A., Landscape Architecture, University of California, Berkeley; B.A., Landscape Architecture, University of California at Berkeley; 13 years landscape associate experience. Contribution: Scenic Resource Evaluation.

Stephen Ruiz, Environmental Planner. B.S., Environmental Studies, San Jose State University, San Jose; 4 years environmental planning experience. Contribution: Community Impact Assessment and Initial Study/ Environmental Assessment.

Gordon Watkins, Associate Right-of-Way Agent, Caltrans Relocations Department, District 6. B.S., Real Estate and Urban Land Economics, California State University, Fresno; 15 years experience in real estate and urban land economics; 10 years experience with Caltrans right-of-way. Contribution: Draft Relocation Study.

Winter Yeung, P.E., Transportation Engineer. B.S., Civil Engineering, California State University, Fresno; 2 year traffic engineering experience. Contribution: Operational Analysis.



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.”

Supporting documentation of all California Environmental Quality Act checklist determinations is provided in Chapter 2 of this Initial Study/Environmental Assessment. Documentation of “No Impact” determinations is provided at the beginning of Chapter 2. Discussion of all impacts, avoidance, minimization, and/or mitigation measures is under the appropriate topic headings in Chapter 2.

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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I. AESTHETICS: Would the project:

a) Have a substantial adverse effect on a scenic vista	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

II. AGRICULTURE AND FOREST 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. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use?

III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

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)?

d) Expose sensitive receptors to substantial pollutant concentrations?

e) Create objectionable odors affecting a substantial number of people?

IV. BIOLOGICAL RESOURCES: Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

V. CULTURAL RESOURCES: Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

VI. GEOLOGY AND SOILS: Would the project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

VII. GREENHOUSE GAS EMISSIONS: Would the project:

- a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
- b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

An assessment of the greenhouse gas emissions and climate change is included in the body of environmental document. While Caltrans has included this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the body of the environmental document.

VIII. 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?
- 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?
- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

IX. HYDROLOGY AND WATER QUALITY: Would the project:

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Violate any water quality standards or waste discharge requirements? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Otherwise substantially degrade water quality? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| j) Inundation by seiche, tsunami, or mudflow | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

X. LAND USE AND PLANNING: Would the project:

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Physically divide an established community? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Conflict with any applicable habitat conservation plan or natural community conservation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

XI. MINERAL RESOURCES: Would the project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

XII. 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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XIII. POPULATION AND HOUSING: Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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XIV. 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?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Police protection?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Schools?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Parks?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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Other public facilities?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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XV. RECREATION:

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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XVI. TRANSPORTATION/TRAFFIC: Would the project:

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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e) Result in inadequate emergency access?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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g) Comply with federal, state, and local statutes and regulations related to solid waste?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially 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?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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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)?

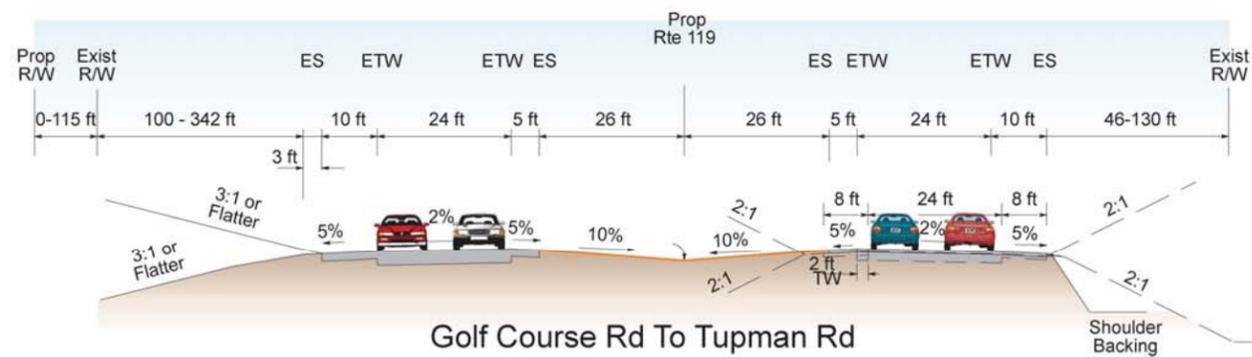
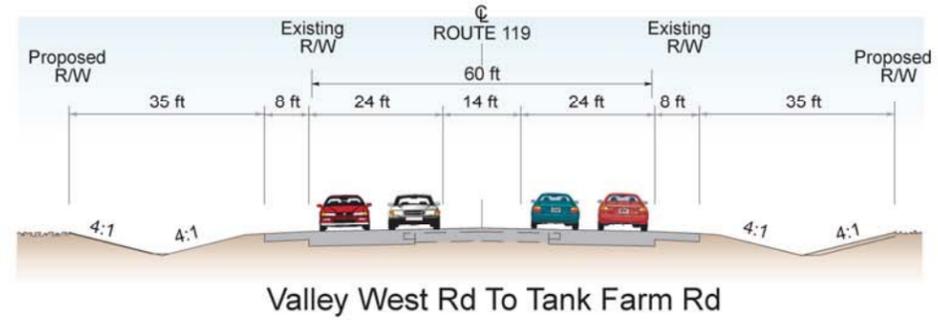
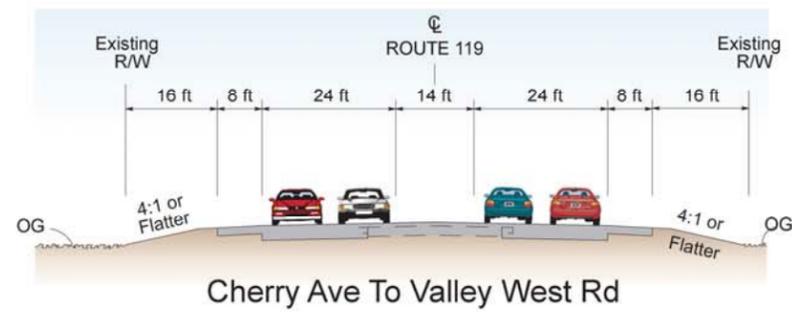
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Appendix B Alternative Cross-Sections

ALTERNATIVE 1



Typical Cross Section

PM 5.5 / R13.3
 Cherry Avenue 4-Lane Widening
 06-Kern-119
 06-424700

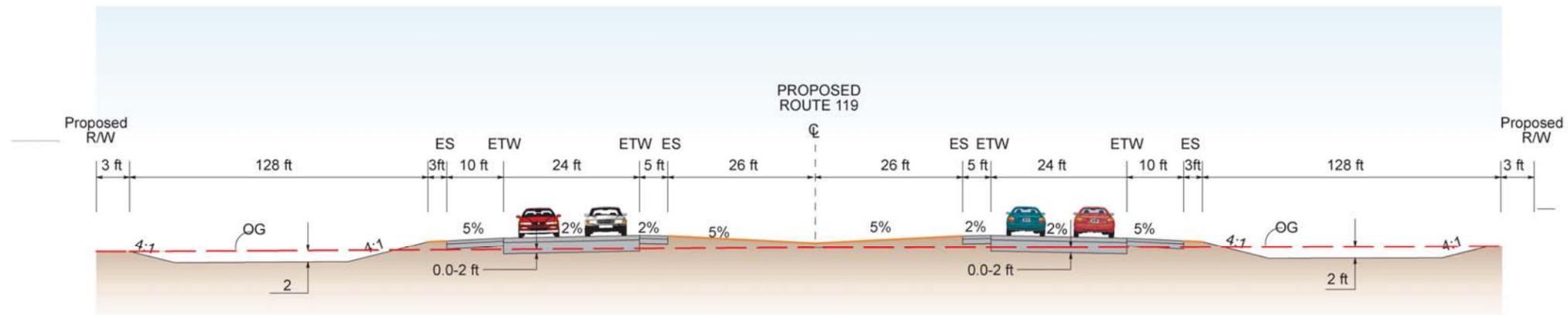


10-283201_jcl_ees

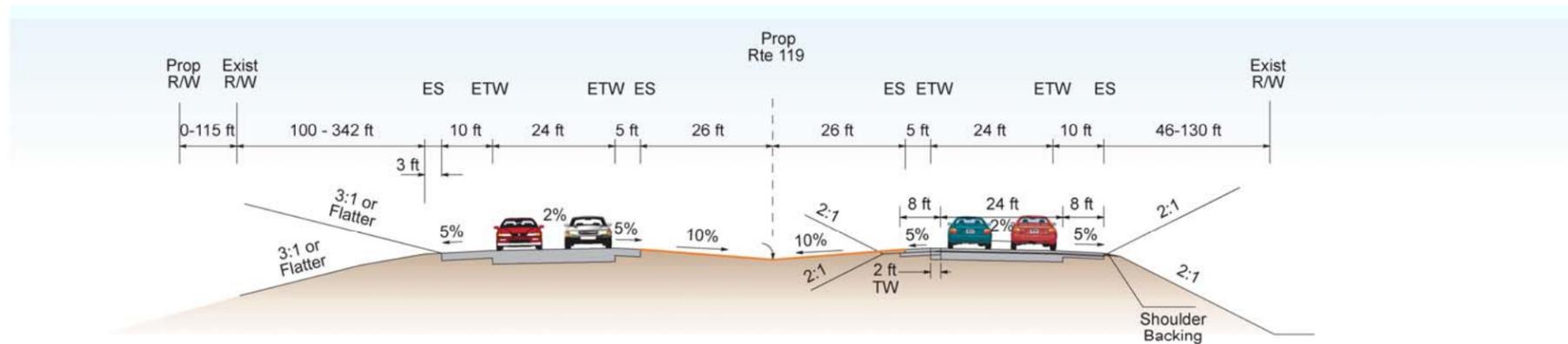
Not to Scale



ALTERNATIVE 10



Beginning To Elk Hills Rd



Elk Hills Rd To Tupman Rd

Typical Cross Section

PM 5.5 / R13.3

Cherry Avenue 4-Lane Widening

06-Kern-119

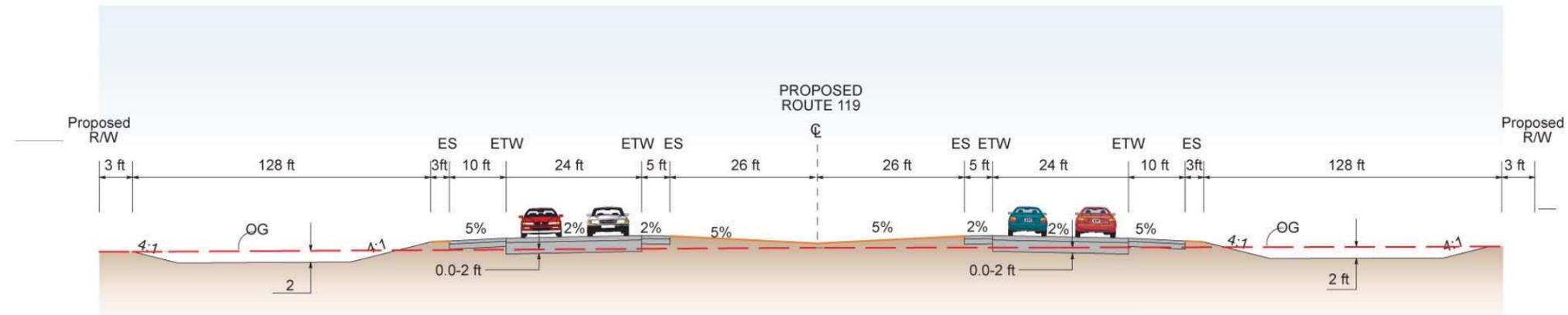
06-424700



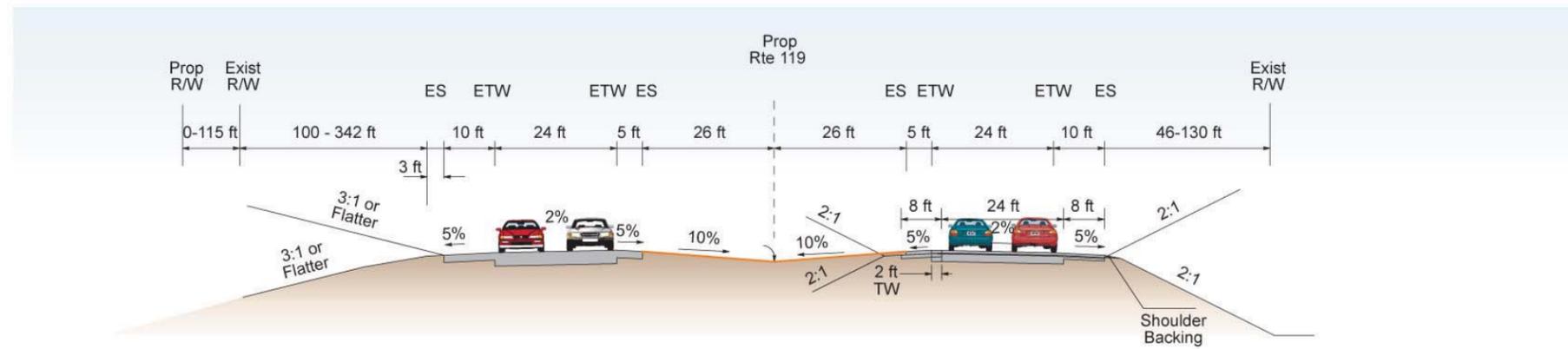
Not to Scale



ALTERNATIVE 11



Beginning To Golf Course Road



Golf Course Road To Elk Hills Road (Post Mile 10.4)

Typical Cross Section

PM 5.5 / 10.4

Cherry Avenue 4-Lane Widening

06-Kern-119

06-424700



06-424700_1-25-10

Not to Scale



Appendix C Title VI Policy Statement

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY

ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
P.O. Box 942873, MS-49
SACRAMENTO, CA 94273-0001
PHONE (916) 654-5266
FAX (916) 654-6608
TTY 711



*Flex your power!
Be energy efficient!*

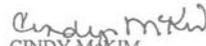
July 20, 2010

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, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

For information or guidance on how to file a complaint based on the grounds of race, color, national origin, sex, disability, or age, please visit the following web page:
http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm.

Additionally, if you need this information in an alternate format, such as in Braille or in a language other than English, please contact Charles Wahnon, Manager, Title VI and Americans with Disabilities Act Program, California Department of Transportation, 1823 14th Street, MS-79, Sacramento, CA 95811. Phone: (916) 324-1353 or toll free 1-866-810-6346 (voice), TTY 711, fax (916) 324-1869, or via email: charles_wahnon@dot.ca.gov.


CINDY MCKIM
Director

"Caltrans improves mobility across California"



Appendix D Summary of Relocation Benefits

California Dept. of Transportation Relocation Assistance Program

Relocation Assistance Advisory Services

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

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

Residential Relocation Payments Program

For more information or a brochure on the residential relocation program, please contact the following person:

Stephen Ruiz
Environmental Planner
Southern Sierra Environmental Analysis Branch
California Department of Transportation
2015 E. Shields Avenue, Suite 100
Fresno, CA 93726

The brochure on the residential relocation program is also available in English at http://www.dot.ca.gov/hq/row/pubs/residential_english.pdf and in Spanish at http://www.dot.ca.gov/hq/row/pubs/residential_spanish.pdf.

If you own or rent a mobile home that may be moved or acquired by Caltrans, a relocation brochure is available in English at http://www.dot.ca.gov/hq/row/pubs/mobile_eng.pdf and in Spanish at http://www.dot.ca.gov/hq/row/pubs/mobile_sp.pdf.

Business and Farm Relocation Assistance Program

For more information or a brochure on the relocation of a business or farm, please contact the following person:

Stephen Ruiz
Environmental Planner
Southern Sierra Environmental Analysis Branch
California Department of Transportation
2015 E. Shields Avenue, Suite 100
Fresno, CA 93726

The brochure on the business relocation program is also available in English at http://www.dot.ca.gov/hq/row/pubs/business_farm.pdf and in Spanish at http://www.dot.ca.gov/hq/row/pubs/business_sp.pdf.

Additional Information

No relocation payment received would be considered as income for the purpose of the Internal Revenue Code of 1954 or for the purposes of determining eligibility or the extent of eligibility of any person for assistance under the Social Security Act or any other federal law (except for any federal law providing low-income housing assistance).

Persons who are eligible for relocation payments and who are legally occupying the property required for the project would not be asked to move without being given at least 90 days advance notice, in writing. Occupants of any type of dwelling eligible for relocation payments would not be required to move unless at least one comparable “decent, safe, and sanitary” replacement residence, open to all persons regardless of race, color, religion, sex, or national origin, is available or has been made available to them by the state.

Any person, business, farm, or non-profit organization, which has been refused a relocation payment by Caltrans, or believes that the payments are inadequate, may appeal for a hearing before a hearing officer or the Caltrans’ Relocation Assistance Appeals Board. No legal assistance is required; however, the displacee may choose to

obtain legal council at his/her expense. Information about the appeal procedure is available from Caltrans' Relocation Advisors.

The information above is not intended to be a complete statement of all of Caltrans' laws and regulations. At the time of the first written offer to purchase, owner-occupants are given a more detailed explanation of the state's relocation services. Tenant occupants of properties to be acquired are contacted immediately after the first written offer to purchase, and also given a more detailed explanation of Caltrans' relocation programs.

Important Notice

To avoid loss of possible benefits, no individual, family, business, farm, or non-profit organization should commit to purchase or rent a replacement property without first contacting a Department of Transportation relocation advisor at:

State of California
Department of Transportation, District 6
Relocation Assistance Program
Tower Building, 855 "M" Street, 3rd Floor
Fresno, California, 93721



Appendix E Biological Study Area Sensitive Species List

Fifty-one species were evaluated for their potential to be present in the biological study area; 23 were determined to be present. Two natural communities of special concern would also be affected by the proposed project. The following species list is taken from the Natural Environmental Study, June 2008.

Scientific Name	Common Name	Status Federal /State/ CNPS	Preferred Habitat	Habitat Present /Absent	Rationale
MAMMALS					
<i>Amмосpermophilus nelsoni</i> *	San Joaquin Antelope Squirrel*	FSC/ST /-	Western San Joaquin Valley on dry, sparsely vegetated loam soils; digs burrows or uses kangaroo rat burrows; needs widely scattered shrubs, forbs, and grasses in broken terrain with gullies and washes.	P	Species observed during surveys. Habitat present within the BSA.
<i>Dipodomys ingens</i> *	Giant Kangaroo Rat*	FE/SE/-	Western side of the San Joaquin Valley (e.g., Carrizo Plain, Panoche Valley); found on fine sandy loam soils supporting sparse annual grass/forb vegetation, and marginally found in low-density alkali desert scrub.	P	CNDDDB occurrences within 10 miles of BSA. Suitable habitat present within the BSA.
<i>Dipodomys nitratoides brevinasus</i> *	Short-nosed Kangaroo Rat*	FSC/-/	Typically, inhabit grasslands with scattered shrubs and desert-shrub associations on powdery soils; highly saline soils around Soda Lake on the Carrizo Plain, and less saline soils elsewhere.	P	Species observed onsite during surveys. Habitat present within the BSA.
<i>Dipodomys nitratoides nitratoides</i> *	Tipton Kangaroo Rat*	FE/SE/-	Limited to arid communities of the valley floor in the Tulare Basin; woody shrubs such as spiny saltbush, iodine bush, and mesquite are sparsely scattered over the terrain with scant to moderate ground cover of grasses and forbs; soils are typically fine-textured and alkaline.	P	CNDDDB occurrences within 10 miles of BSA. However no occurrences have been documented west of the California Aqueduct. The project BSA is located on the western side of the valley, out of the range of the Tipton kangaroo rat.
<i>Onychomys torridus ramona</i> *	Southern Grass-hopper Mouse*	FSC/-/	Arid desert habitats of the Mojave Desert and southern Central Valley; alkali desert scrub and desert scrub habitats preferred, lower densities expected in other desert habitats, including succulent shrub, wash, and riparian areas; also occurs in coastal scrub, mixed chaparral, sagebrush, low sage, and bitterbrush habitats.	P	No CNDDDB occurrences within 10 miles of BSA. Two grasshopper mice were captured during trapping surveys. Potential habitat is present within the BSA.

Scientific Name	Common Name	Status Federal /State/ CNPS	Preferred Habitat	Habitat Present /Absent	Rationale
<i>Onychomys torridus tularensis</i> *	Tulare Grass-hopper Mouse*	FSC/-	Arid shrubland communities in hot, arid grassland and shrubland associations, including blue oak woodlands, upper Sonoran subshrub scrub community, alkali sink and mesquite associations on Valley Floor, and grasslands associations on the sloping margins of the San Joaquin Valley and Carrizo Plain region.	P	CNDDDB occurrences within 10 miles of BSA. Two grasshopper mice were captured during trapping surveys. Potential habitat is present within the BSA.
<i>Perognathus inornatus inornatus</i> *	San Joaquin Pocket Mouse*	FSC/-	Grasslands, blue oak savannas, needs friable soils.	P	CNDDDB occurrences within 10 miles of BSA. Suitable habitat present within the BSA.
<i>Vulpes macrotis mutica</i> *	San Joaquin Kit Fox*	FE/ST/-	Annual grassland or grassy open stages with scattered shrubby vegetation; needs loose-textured sandy soils for burrowing, and suitable prey base.	P	Species observed during surveys. Suitable habitat and potential den sites present within the BSA.
BIRDS					
<i>Athene cunicularia hypugea</i> *	Western Burrowing Owl*	FSC/SSC/-	Nests and winters in grassland and sparse shrubland habitats throughout California; uses abandoned burrows of burrowing mammals for shelter and nest sites.	P	Species observed during surveys. Suitable habitat and burrows present within the BSA.
<i>Lanius ludovicianus</i> *	Loggerhead Shrike*	/SSC/-	Open canopied valley and foothill hardwood, riparian.	P	Species observed onsite during surveys. Suitable habitat present within the BSA.
<i>Toxostoma lecontei macmillanorum</i> *	San Joaquin Leconte's Thrasher*	FSC/SSC/-	Occurs primarily in open desert wash, desert scrub, alkali desert scrub, and desert succulent shrub habitats; also occurs in Joshua tree habitat with scattered shrubs.	P	Species observed onsite during surveys. Suitable habitat present within the BSA.
REPTILES					
<i>Gambelia (=Crotaphytus) sila</i> *	Blunt-Nosed Leopard Lizard*	FE/SE, FP/-	Sparsely vegetated alkali and desert scrub habitats, alkali flats, large washes, arroyos and canyons; finds shade under shrubs or in mammal burrows.	P	CNDDDB occurrences within 10 miles of BSA. No blunt-nosed leopard lizards were positively identified during surveys. Suitable habitat is present within the BSA.
<i>Masticophis flagellum ruddocki</i> *	San Joaquin Coach-whip (= Whip-snake) *	FSC/SSC/-	Open hillsides, dry sand, prairies, oak and pine woodlands, grassy areas, dunes, and scrub.	P	CNDDDB occurrences within 10 miles of BSA. Potential habitat present within the BSA.
<i>Phrynosoma coronatum frontale</i> *	California Horned Lizard*	FSC/SSC/-	Valley-foothill hardwood, conifer, and riparian habitats, as well as pine-cypress, juniper, and annual grass habitats; basks on low boulders or rocks; burrows into soil or under objects for cover and hibernation.	P	CNDDDB occurrences within 10 miles of BSA. Two horned lizards were identified during surveys. Suitable habitat present.
PLANTS					
<i>Atriplex cordulata</i> *	Heartscale*	FSC/-/1B	Alkaline flats and scalds, on sandy soils in chenopod scrub, valley and foothill grassland, and meadow environments; April-October	P	Species observed onsite during surveys. Suitable habitat present in BSA.

Appendix E • Biological Study Area Sensitive Species List

Scientific Name	Common Name	Status Federal /State/ CNPS	Preferred Habitat	Habitat Present /Absent	Rationale
<i>Atriplex coronata</i> var. <i>coronata</i> *	Crownscale *	-/-/4	Alkaline soils in vernal pools, valley foothill grassland, and chenopod scrub; March-October	P	Species observed onsite during surveys. Suitable habitat present in BSA
<i>Atriplex vallicola</i> *	Lost Hills Crownscale (Saltbush) *	FSC/-/1B	Alkaline soil on alkaline substrate under vernal flooded conditions in vernal-pool habitats; April-August	P	Species observed onsite during surveys. Suitable habitat present in BSA
<i>Calochortus striatus</i> *	Alkali Mariposa Lily*	FSC	Chaparral, chenopod scrub, Mojavean desert scrub, meadows and seeps; alkaline, mesic blooms April-June.	P	CNDDDB documented occurrences within 10 miles of BSA. No species observed during 2002 or 2003 botanical surveys. Potentially suitable habitat present.
<i>Caulanthus californicus</i> *	California Jewel-Flower*	FE/SE/1B	Shadscale scrub, valley grassland, pinyon-juniper woodland; February-May	P	CNDDDB documented occurrences within 10 miles of BSA. No species observed during 2002 or 2003 botanical surveys. Potentially suitable habitat present.
<i>Delphinium gypsophilum</i> var. <i>gypsophilum</i> *	Gypsum-Loving Larkspur*	-/-/4	Chenopod scrub, cismontane woodland, valley and foothill grassland, Feb-May	P	Species observed onsite during surveys. Suitable habitat present within the BSA.
<i>Delphinium recurvatum</i>	Recurved Larkspur	FSC/-/1B	Shadscale scrub, valley grassland, foothill woodland; alkaline soil on alkaline substrate; March-May	P	CNDDDB occurrences within 10 miles of BSA. No species observed during 2002 or 2003 botanical surveys. Potentially suitable habitat present.
<i>Eremalche kernensis</i>	Kern Mallow	FE/-/1B	Shadscale scrub, valley grassland; March-May	P	CNDDDB occurrences within 10 miles of BSA. No species observed during 2002 or 2003 botanical surveys. Species only known to occur near Lokern.
<i>Eriastrum hooveri</i> *	Hoover's Woolly-Star*	FD/-/4	Shadscale scrub, valley grassland; March-July	P	Species observed onsite during surveys. Suitable habitat present within the BSA.
<i>Eriogonum gossypinum</i> *	Cottony Buck-wheat*	FSC/-/4	Chenopod scrub, valley and foothill grassland, clay; March-September	P	Species observed onsite during surveys. Suitable habitat present within the BSA.
<i>Eschscholzia lemmonii</i> ssp. <i>kernensis</i>	Tejon Poppy	FSC/-/1B	Chenopod scrub, valley and foothill grassland; March-May	P	CNDDDB occurrences within 10 miles of BSA. No species observed during 2002 or 2003 botanical surveys. Potentially suitable habitat present.
<i>Layia heterotricha</i>	Pale Yellow Layia	FSC/-/1B	Cismontane woodland, pinyon and juniper woodland, valley and foothill grassland/alkaline or clay; March-June	P	No CNDDDB occurrences within 10 miles of BSA. No species observed during 2002 or 2003 botanical surveys. Potentially suitable habitat present.
<i>Layia munzii</i>	Munz's Tidy Tips	FSC/-/1B	Valley and foothill grassland, clay alkaline soil on alkaline substrate usually in wetlands, but occasionally found in non-wetlands; March-April	P	No CNDDDB occurrences within 10 miles of BSA. No species observed during 2002 or 2003 botanical surveys. Potentially suitable habitat present.

Appendix E • Biological Study Area Sensitive Species List

Scientific Name	Common Name	Status ¹ Federal /State/ CNPS	Preferred Habitat	Habitat Present /Absent	Rationale
<i>Monolopia congdonii</i> (= <i>Lembertia congdonii</i>) [*]	San Joaquin Woolly-Threads [*]	FE/-/1B	Valley and foothill grassland, sandy; February-May	P	CNDDDB occurrences within 10 miles of BSA. No species observed during 2002 or 2003 botanical surveys. Suitable habitat present within the BSA.
<i>Stylocline citroleum</i>	Oil Neststraw	FSC/-/1B	Valley and foothill grassland, clay; March-April	P	CNDDDB occurrences within 10 miles of BSA. No species observed during 2002 or 2003 botanical surveys. Potentially suitable habitat present.

¹ Absent [A] means no further work needed. Present [P] means general habitat is present and species may be present. Status: Federal Endangered (FE); Federal Threatened (FT); Federal Proposed (FP, FPE, FPT); Federal Candidate (FC), Federal Species of Concern (FSC); State Endangered (SE); State Threatened (ST); Fully Protected (FP); State Rare (SR); State Species of Special Concern (SSC); State Species of High Priority (SHP); California Native Plant Society (CNPS).

CNDDDB – California Natural Diversity Database

BSA – Biological Study Area

^{*}Sensitive species determined to be present

[†] California Native Plant Society (CNPS)

1B - Plant species that are rare, threatened, or endangered in California and elsewhere

2 - Plant species that are rare, threatened, or endangered in California but more common elsewhere

3 - Plant species about which we need more information (a review list)

4 - Plant species of limited distribution (a watch list).

Appendix F Farmland Conversion

U.S. Department of Agriculture							
FARMLAND CONVERSION IMPACT RATING							
PART I (To be completed by Federal Agency)				Date Of Land Evaluation Request 7/3/08			
Name Of Project 06-Kern 119 Widening				Federal Agency Involved FHWA			
Proposed Land Use Four lane highway and/or expressway				County And State Kern County, CA			
PART II (To be completed by NRCS)				Date Request Received By NRCS			
Does the site contain prime, unique, statewide or local important farmland? (If no, the FPPA does not apply -- do not complete additional parts of this form)				Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Acres Irrigated 912,584	Average Farm Size 1,428
Major Crop(s) Cotton, Grapes, & Almonds		Farmable Land In Govt. Jurisdiction Acres: 1,054,228		% 20		Amount Of Farmland As Defined in FPPA Acres: 703,387	
Name Of Land Evaluation System Used California State System		Name Of Local Site Assessment System None		Date Land Evaluation Returned By NRCS 7/10/08			
PART III (To be completed by Federal Agency)				Alternative Site Rating			
				Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly				17.7	109.3		
B. Total Acres To Be Converted Indirectly							
C. Total Acres In Site				17.7	109.3	0.0	0.0
PART IV (To be completed by NRCS) Land Evaluation Information							
A. Total Acres Prime And Unique Farmland				3.7	47.9		
B. Total Acres Statewide And Local Important Farmland				3.8	0.0		
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted				Data Not Available			
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value				Data Not Available			
PART V (To be completed by NRCS) Land Evaluation Criterion							
Relative Value Of Farmland To Be Converted (Scale of 0 to 100 Points)				57	56	0	0
PART VI (To be completed by Federal Agency)				Maximum Points			
Site Assessment Criteria (These criteria are explained in 7 CFR 658.5(b))							
1. Area In Nonurban Use				7	11		
2. Perimeter In Nonurban Use				5	7		
3. Percent Of Site Being Farmed				0	0		
4. Protection Provided By State And Local Government				1	4		
5. Distance From Urban Builtup Area				0	0		
6. Distance To Urban Support Services				0	0		
7. Size Of Present Farm Unit Compared To Average				0	3		
8. Creation Of Nonfarmable Farmland				25	25		
9. Availability Of Farm Support Services				0	1		
10. On-Farm Investments				1	3		
11. Effects Of Conversion On Farm Support Services				25	25		
12. Compatibility With Existing Agricultural Use				0	0		
TOTAL SITE ASSESSMENT POINTS				160	64	79	0
PART VII (To be completed by Federal Agency)							
Relative Value Of Farmland (From Part V)				100	57	56	0
Total Site Assessment (From Part VI above or a local site assessment)				160	64	79	0
TOTAL POINTS (Total of above 2 lines)				260	121	135	0
Site Selected:		Date Of Selection		Was A Local Site Assessment Used?			
				Yes <input type="checkbox"/> No <input type="checkbox"/>			
Reason For Selection:							

(See instructions on reverse side)
This form was electronically produced by National Production Services Staff

Form AD-1056 (10-83)

Site A of Part III refers to Alternative 1, and Site B refers to Alternative 10.



Appendix G Minimization and/or Mitigation Summary

Consistency with State, Regional, and Local Plans

For Alternative 1, an amendment to the Circulation Element of the Kern County General Plan that would include widening through Valley Acres and Dustin Acres would be recommended to Kern County.

No measures would be required for Alternative 10 or Alternative 11.

Farmland

No measures would be necessary for Alternative 1.

Standard avoidance measures were followed in the design of the bypass (Alternatives 10 and 11). The bypass alignment would follow section lines where possible. Three driveways would be built along the bypass to provide access to otherwise landlocked parcels south of the bypass.

Community Character and Cohesion

Alternative 10 was developed due to the community impacts widening through Valley Acres and Dustin Acres would potentially cause. Alternative 10 was proposed at the public meeting held in November 2006 in Taft. Alternative 10 would avoid community impacts potentially caused by Alternative 1.

Alternative 11, which ends 0.4 mile east of Elk Hills Road in Elk Hills, is a shortened version of Alternative 10. Alternative 11 maintains the bypass proposed in Alternative 10 that was overwhelmingly favored by the public.

Both Alternative 10 and 11 would provide three driveways to landlocked parcels south of the bypass. One driveway would provide access to the subdivided parcels south of the proposed bypass in Dustin Acres. Access would also be provided to one property south of Golf Course Road and east of the proposed bypass that would otherwise be landlocked. For access, an easement through another property would be acquired.

Relocation

Alternative 1 would require relocation assistance. Neither Alternative 10 nor Alternative 11 is expected to require relocation assistance. Both alternatives also

propose to acquire vacant subdivided lots to avoid relocation of any owners or tenants who may come to reside on the lots in the future.

All land acquisitions are subject to the Uniform Relocation Act. Caltrans must comply with all requirements of the act. Appendix D (Summary of Relocation Benefits) of this report discusses these acquisition and compensation measures.

Funding would be available to relocate or re-establish any home or business affected by the project. The Relocation Payment Program would help eligible residential occupants by paying certain costs and expenses necessary for, or incidental to, the purchase or rental of replacement housing and actual reasonable moving expenses to a new location within 50 miles of the displacement property.

Any persons (individual, family, corporation, partnership, or association) who moves from real property or moves personal property from real property as a result of the acquisition of the real property, or who is required to relocate as a result of a written notice from the California Department of Transportation from the real property required for a transportation project is eligible for “Relocation Assistance.” All activities would be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Relocation resources would be available to all displaced persons free of discrimination.

Utilities

For the three build alternatives, a Transportation Management Plan would be required to help reduce delays and congestion associated with construction activities and utility relocations. Before construction, utilities affected by the project would be relocated in coordination with utility companies.

Traffic and Transportation/Pedestrian and Bicycle Facilities

During the construction, a traffic management plan would help reduce traffic delays, congestion, and accidents. Standard Caltrans construction practices include providing information on roadway conditions, and using portable changeable messages signs, lane and road closures, advance warning signs, alternate routes, reverse and alternate traffic control, and a traffic contingency plan for unforeseen circumstances and emergencies.

Visual/Aesthetics

To reduce visual effects potentially caused by Alternative 1, highway planting, in accordance with the Highway Design Manual, should be included to soften the appearance of the proposed highway.

The following measures should minimize potential visual effects associated with Alternatives 10 and 11:

- Cut and fill slopes would be 4:1 (horizontal: vertical) or flatter. In addition, the slope cuts should be rounded to create a more natural appearance. Grading shall be meandering to blend the slopes with the existing hillsides, according to Caltrans Highway Design Manual 304.4.
- All disturbed areas would be permanently stabilized with vegetative cover after grading work to reduce the amount of erosion and minimize any change in visual character. Seed mixes would, as closely as possible, resemble and blend in with the existing vegetation. The top 6 inches of topsoil would be designated as an environmentally sensitive area and would be held separated from the construction site for use after construction. The topsoil would be stockpiled and replaced on the finished slopes before the application of erosion control.

Cultural Resources

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

If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to Public Resources Code Section 5097.98, if the remains were thought to be Native American, the coroner would notify the Native American Heritage Commission, who would then notify the Most Likely Descendent. At this time, the person who discovered the remains would contact District 6 Environmental Branch so that they may work with the Most Likely Descendent on the respectful treatment and disposition of the remains. Further provisions of Public Resources Code Section 5097.98 are to be followed as applicable.

Hydrology and Floodplain

Alternative 1 would not require any measures. The proposed widening on the Buena Vista Creek Bridge is not a hydrology or floodplain measure, but is intended to add additional lane capacity on the highway.

Both Alternative 10 and 11 propose seven culvert sites along the proposed bypass between post miles 5.5 and R10.4. At one culvert site, 3 double-box culverts would be installed to facilitate the tributary flow of Buena Vista Creek. For both directions of the expressway, each double-box culvert would be 10 feet high, 7 feet wide, and span 48 feet. The combined culvert openings would be at least the same size as the opening under the Buena Vista Creek Bridge upstream of this location.

Water Quality and Storm Water Runoff

By incorporating proper and accepted engineering practices and Best Management Practices, the proposed project should not produce significant or lasting impacts to water quality during its construction or its operation. Most construction activity is short term and mitigated by construction timing, sequencing, water quality protection, revegetation, and erosion and sediment control practices.

Implementing erosion and water pollution controls in particular as it pertains to grading activities is essential for this project. Proper grading practices should be implemented to limit erosion and water pollution near Buena Vista Creek and Broad Creek. Adequate storm water controls should minimize this risk, as well as construction awareness to hydrology and the presence of historical and current oil pipelines. Care should also be taken when grading in the upslope direction to avoid depositing oil-bearing soils from erosion into populated areas. Coordination with the Department of Oil and Gas should be required to identify potential unmarked pipelines, before trenching and digging occurs in the area. Care should also be taken when equipment access occurs over dry washes.

Because the project would disturb more than one acre of soil, the following would be required:

- A Notification of Construction is to be submitted to the San Joaquin Valley Regional Water Quality Control Board at least 30 days before the start of construction. The Notice of Construction form asks for tentative start date and duration location, description of project, estimate of affected area, and name of the Resident Engineer.

- A Storm Water Pollution Prevention Plan is to be prepared and implemented during construction and must be approved by the Resident Engineer.
- A Notice of Construction Completion is to be submitted to the San Joaquin Valley Regional Water Quality Control Board upon completion of the construction and stabilization of the site. A project would be considered complete when the criteria for final stabilization in the state General Construction Permit are met.

Paleontology

All three build alternatives would have an adverse impact to paleontological resources that cannot be avoided without proper mitigation. Adverse impacts to paleontological resources could be minimized by implementing a well-designed paleontological resource mitigation plan.

Paleontological mitigation for the project would include:

- A nonstandard special provision for paleontology mitigation would be included in the construction contract special provision section to advise the construction contractor of the requirement to cooperate with the paleontological salvage.
- A qualified principal paleontologist would be retained to prepare a detailed Paleontological Mitigation Plan before the start of construction.
- The qualified principal paleontologist would be present at pre-grading meetings to consult with grading and excavation contractors.
- Near the beginning of excavations, the principal paleontologist would conduct an employee environmental awareness training session for all persons involved in earth moving for the project.
- A paleontological monitor, under the direction of the qualified principal paleontologist, would be onsite to inspect cuts for fossils at all times during original grading involving sensitive geologic formations.
- When fossils are discovered, the paleontologist (or paleontological monitor) would recover them. Construction work in these areas would be halted or diverted to allow recovery of fossil remains in a timely manner.
- Bulk sediment samples would be recovered from fossiliferous horizons and processed for microvertebrate remains as determined necessary by the Principal Paleontologist.
- Fossil remains collected during the monitoring and salvage portion of the mitigation program would be cleaned, repaired, sorted, and cataloged.
- Prepared fossils, along with copies of all pertinent field notes, photos, and maps, would then be deposited in a scientific institution with paleontological collections.

- A final report would be completed that outlines the results of the mitigation program and would be signed by the Principal Paleontologist.

Hazardous Waste or Materials

For Alternative 1, a follow-up Preliminary Site Investigation would be required before construction to determine the lateral and vertical extent of contamination. This Preliminary Site Investigation Report would be used to determine proper soil handling or disposal of hydrocarbons deposited as the result of underground storage tanks.

For Alternative 1, acquisition of seven homes and a commercial building would require a Preliminary Site Investigation to determine if lead-based paint or asbestos-containing material exists. The contractor would use proper health and safety measures to minimize the exposure of workers to potential asbestos or lead-based paint from affected buildings and structures.

Before construction, all alternatives would require a project-specific Lead Compliance Plan for earthwork as part of Caltrans non-standard special provisions. While some lead was found at non-hazardous levels, these special provisions would help ensure public and worker safety.

Air Quality

Direct operational impacts would include increased particulate matter and mobile source air toxics at any receptors near the selected build alternative. Paved shoulders would reduce PM₁₀ emissions from road dust. Improved traffic flow would be expected to improve (decrease) carbon monoxide emissions, which would help keep this area in attainment for this pollutant.

The San Joaquin Valley Air Pollution Control District and Kern County Air Pollution Control District have specific rules dealing with filing dust control plans.

For the San Joaquin Valley Air Pollution Control District, an Air Impact Analysis for the Indirect Source Review (Rule 9510) must be submitted for evaluation of potential construction emissions of PM₁₀ and oxides of nitrogen. The Air Impact Analysis would calculate emissions resulting from only the construction phase of this project. Mitigation is required in the form of payment for tons of pollutants emitted during the project, or by other methods such as mandating a construction fleet that is “newer than the state average.” Caltrans is requiring the contractor to submit the air analysis and the dust control plan at the same time.

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

Avoidance, Minimization, and/or Noise Abatement under the National Environmental Policy Act

Alternative 1

For Alternative 1, all 11 sensitive noise receptors would exceed the Noise Abatement Criteria; Caltrans determined that soundwalls at these locations would not be feasible because breaks in the wall would be required for access. Therefore, noise abatement measures, other than those recommended for the construction noise, are not recommended for this project.

Alternative 10 and Alternative 11

Other than what is recommended for construction noise, no noise abatement would be necessary.

Avoidance, Minimization, and/or Noise Abatement under the California Environmental Quality Act

None of the alternatives would require noise abatement, other than those recommended for construction noise.

Construction Noise

Noise at the construction site would be intermittent, and its intensity would vary. The degree of construction noise effects would vary between the two build alternatives, the areas of the project site, and the construction activities. Existing noise levels can be compared with the expected noise levels produced by various construction activities to assess construction noise impacts. During the construction period, sensitive receptors that are close to the highway may experience temporary noise effects. Measures to minimize construction noise may include but are not limited to the following:

- Use newer, or well-maintained, equipment with improved muffling and ensure that all equipment items have the manufacturers’ recommended noise abatement measures, such as mufflers, engine enclosures, and engine vibration isolators

intact and operational. Newer equipment will generally be quieter in operation than older equipment. All construction equipment should be inspected at periodic intervals to ensure proper maintenance and presence of noise control devices (such as mufflers and shrouding, etc.).

- Use construction methods or equipment that would provide the lowest level of noise and ground vibration impact such as alternative low noise pile installation methods.
- Turn off idling equipment.
- Temporary noise barriers would be used and relocated, as needed, to protect sensitive receptors against excessive noise from construction activities. Noise barriers can be made of heavy plywood or moveable insulated sound blankets.
- Implement a construction noise and vibration-monitoring program to limit the impacts.
- Plan noisier operations during times of least sensitivity to receptors.
- Keep noise levels relatively uniform and avoid impulsive noises.

Maintain good public relations with the community to minimize objections to the unavoidable construction impacts. Provide frequent activity update of all construction activities

Environmental Consequences under the California Environmental Quality Act

Alternative 1

Caltrans identified 11 sensitive noise receptors potentially affected by Alternative 1. None of these sensitive noise receptors were predicted to have a noise increase different than what would occur without the project. Without the project (No-Build Alternative), these sensitive noise receptors are predicted to increase to about the same level of decibels as they would with Alternative 1. The difference between the two alternatives would be one decibel, plus or minus. Therefore, construction of Alternative 1 would not result in a significant noise impact under the California Environmental Quality Act.

Alternative 10 and Alternative 11

Seven sensitive noise receptors were identified for these alternatives: three residences and four undeveloped parcels. None of these sensitive noise receptors were predicted to have a noise increase of 12 decibels or more. Noise levels at receptors 12 and 13

would decrease with these alternatives. Therefore, neither alternative would result in a significant noise impact under the California Environmental Quality Act.

Avoidance, Minimization, and/or Noise Abatement under the California Environmental Quality Act

Other than what is recommended for construction noise, no noise abatement would be necessary.

Natural Communities

Mitigation proposed to address the potential loss of bush seepweed scrub and valley saltbush scrub habitat include the following:

- Preservation, enhancement, and/or restoration of bush seepweed scrub habitat.
- Restoration through the removal of the top 6 inches of topsoil. This soil would be stockpiled and replaced following construction activities.
- Use of seed mix with weed-free/native plant mixture approved by California Department of Fish and Game botanist.
- Revised slope angle within Caltrans right-of-way in Elk Hills would increase from 4:1 to 2:1 to avoid impacts to the Coles Levee Ecological Preserve and Occidental of Elk Hills, Incorporated.
- Adjacent to the existing highway and within the existing Caltrans right-of-way, the project design would avoid all impacts to saltbush scrub habitat within the designated Coles Levee Ecological Preserve.

Impacts to these sensitive plant communities would be compensated for in conjunction with the San Joaquin kit fox. See Section 2.3.5 Threatened and Endangered Species.

Potential impacts to sensitive biological resources would be avoided and/or minimized by implementing the following measures:

- Modify the project design, construction specifications, and timing of project implementation.
- Install fencing around areas designated as Environmentally Sensitive Areas, conduct preconstruction surveys for burrows or dens potentially occupied by special-status wildlife species, and monitor the construction activities to prevent potential take of these species.
- Install barrier fencing between affected areas and the protected lands of Coles Levee Ecological Preserve and Occidental of Elk Hills Incorporated.

- Implement Best Management Practices: Schedule minimal activities during the rainy season. Use temporary erosion control devices on slopes where erosion or sedimentation could degrade sensitive biological resources.
- Remove all temporary fill and construction debris from the biological study area after completion of construction.

To reduce the potential impacts to sensitive biological resources, the following measures would be implemented:

- Caltrans would preserve, enhance, or restore habitat and/or aquatic resources approved by the U.S. Fish and Wildlife Service. These options would be developed further, when the proposed construction alternative has been finalized.
- Permanent impacts would be mitigated at a 3:1 ratio.
- Preconstruction surveys would be conducted for special-status species to determine their presence or absence in the project footprint. These surveys would also assist in the establishment of environmentally sensitive areas that would be avoided during construction.
- An approved biologist would monitor construction activities within endangered species habitat.
- Contract Special Provisions for environmentally sensitive areas, migratory birds, noxious weeds, and the San Joaquin kit fox would be included in the bid package.

Wetlands and Other Waters of the U.S.

Two mitigation options are proposed to address the loss of potential jurisdictional waters of the United States:

- Participation in an in-lieu fee program or
- Preservation, enhancement, and/or restoration of aquatic resources

Plant Species

Potential impacts to special-status plant species would be avoided and/or minimized by implementing the following measures:

- Modify the project design, construction specifications, and timing of project implementation.
- Implement Best Management Practices: Schedule minimal activities during the rainy season.

- Use temporary erosion control devices on slopes where erosion or sedimentation could degrade sensitive biological resources.
- Remove all temporary fill and construction debris from the biological study area after completion of construction.
- Designate occurrences of special-status plant species located next to the construction work area within the proposed right-of-way as Environmentally Sensitive Areas and fence off to minimize inadvertent impacts to the plant population or the associated habitat.
- Conduct preconstruction surveys for the plant species during the growing season before the start of construction.
- Map all occurrences of any of the special-status plant species.

Animal Species

Preconstruction surveys would be conducted to avoid potential impacts to special-status species. If occupied suitable habitat were observed during surveys, avoidance measures would be implemented within identified suitable habitat where feasible. Migratory Bird Special Contract Provisions would be adhered to in order to avoid potential effects to the loggerhead shrike and the San Joaquin LeConte's thrasher. Avoidance, minimization, and/or mitigation measures listed in Section 2.3.1 are also appropriate efforts for these special-status species.

Compensatory mitigation measures proposed for the San Joaquin kit fox could also benefit the nine special-status species (see Section 2.3.5). For the loggerhead shrike and the San Joaquin LeConte's thrasher, nesting trees should be avoided during construction.

The following avoidance and minimization measures would prevent or reduce effects on the western burrowing owl:

- No disturbance would occur within 160 feet of occupied burrows during the non-breeding season (from September 1 through January 31) or within 250 feet during the breeding season (from February 1 through August 31).
- If it were determined after preconstruction surveys that burrowing owls are present within the project impact area, then those burrowing owls onsite would be passively relocated. Owls would be excluded from burrows in the immediate impact area and within a 160-foot buffer zone by installing one-way doors in burrow entrances. One-way doors would be left in place for 48 hours to ensure that owls have left the burrows before excavation. The project area would then be

monitored daily for the next week to confirm owl use of alternative burrows before excavating burrows in the project impact area. Whenever possible, hand tools would be used to excavate burrows and burrows would be refilled once excavated to avoid reoccupation. One alternative natural or artificial burrow would be provided for each burrow that would be excavated in the project impact area. A minimum of 6.5 acres of foraging habitat adjacent or connected to the relocation area is required for each pair of western burrowing owls that are relocated.

- A burrowing owl special provision would be included in the bid package to ensure protection of this species during construction.
- No compensatory mitigation is proposed for potential impacts to western burrowing owl habitat due to the implementation of avoidance and minimization measures.

Threatened and Endangered Species

In addition to the measures described below, the avoidance, minimization, and/or mitigation measures listed in Section 2.3.1 are also appropriate for these special-status species.

Through land acquisition, Caltrans would help minimize effects to the giant kangaroo rat, San Joaquin kit fox, blunt-nose leopard lizard, California jewel-flower, and San Joaquin woolly-threads and effects to suitable habitat for these species. The acquired land would be of similar or better quality and should be comprised of the same habitat types that would be permanently disturbed and lost because of construction. Caltrans proposes to compensate for 173.52 acres of potentially suitable habitat for these species at a 3:1 ratio, resulting in 520.56 acres of land acquisition. Caltrans proposes to purchase lands that would be suitable for all five species through conservation easements with willing landowners. Potential parcels would be located next to the project area. As a secondary option, Caltrans would also be willing to purchase the equivalent number of credits at a conservation bank, if a bank existed for the relevant species that covers the area. No bank currently exists that meets this criterion.

California Jewel-Flower and San Joaquin Woolly-Threads

Botanical surveys would be conducted before construction for the listed California jewel-flower or San Joaquin woolly-threads according to protocol approved by the Department of Fish and Game and U.S. Fish and Wildlife Service. If the California jewel-flower or San Joaquin woolly-threads were observed, the plant(s) would be avoided, if feasible. If avoidance were not feasible, conservation recommendation

would be discussed with the U.S. Fish and Wildlife Service and California Department of Fish and Game.

To minimize any potential impacts to the California jewel-flower, the following avoidance and minimization measures would be implemented:

- During initial ground-disturbing activities, a U.S. Fish and Wildlife Service-approved biologist would be on-site every day.
- No night work would take place. Unless necessary for pedestrian or driver safety, the project site would not be lighted during nighttime hours.
- Preconstruction surveys would be done within the project area before groundbreaking activities during the blooming period for each plant by a U.S. Fish and Wildlife Service-approved biologist and would be in accordance with the most current protocols approved by the U.S. Fish and Wildlife Service, the California Department of Fish and Game, and the California Native Plant Society.
- Caltrans would salvage the topsoil including the top 6 inches, which would be stockpiled and replaced once construction is complete in disturbed areas. Topsoil would be kept dry without a tarp.
- Topsoil would be re-spread only along the right-of-way. The topsoil would not be spread far from where it was originally collected to avoid damaging or blanketing habitat for other species with soil.
- Topsoil would be collected between June and October so that any germination of plants would have already occurred and would, therefore, maximize seed collection potential.
- A contract special provision would be included in the bid practice to ensure that these measures are part of the first order of work.

In addition, surveys would encompass the following California Native Plant Society listed plant species: heartscale (*Atriplex cordulata*), crownscale (*Atriplex coronata* var. *coronata*), Lost Hills heartscale (*Atriplex vallicola*), alkali Mariposa lily (*Calochortus striatus*), gypsum-loving larkspur (*Delphinium gypsophilum* ssp. *gypsophilum*), recurved larkspur (*Delphinium recurvatum*), Hoover's woolly-star (*Eriastrum hooveri*), cottony buckwheat (*Eriogonum gossypinum*) and oil neststraw (*Stylocline citroleum*). Surveys would be conducted within the appropriate blooming period for each species.

Compensatory mitigation proposed for the San Joaquin kit fox and blunt-nosed leopard lizard would compensate for the loss of potential California jewel-flower and San Joaquin woolly-threads habitat.

Giant Kangaroo Rat

The following measures would be implemented to avoid and minimize any potential impacts to the giant kangaroo rat that may be present:

- During initial ground-disturbing activities, a U.S. Fish and Wildlife Service-approved biologist would be on-site every day.
- No night work would take place. Unless necessary for pedestrian or driver safety, the project site would not be lighted during nighttime hours.
- Preconstruction surveys to determine the presence or sign of federally listed kangaroo rats within the project area would be conducted no more than 30 calendar days before the start of construction. If listed kangaroo rats are located within the project impact area or sign of the species observed, the U.S. Fish and Wildlife Service would be contacted to discuss ways to proceed with the project and avoid take to the maximum extent practicable.
- A U.S. Fish and Wildlife Service-approved biologist would conduct construction monitoring between April 1 and September 30 at least once a week, after which a U.S. Fish and Wildlife Service-approved biologist would be on-call.
- Caltrans would be prepared to move giant kangaroo rat from the impact site to a protected, unoccupied parcel, which would be arranged in advance.
- Surveys for burrows and other sign would be conducted by a qualified biologist with demonstrated experience in identifying kangaroo rat burrows.
- Pipes and culverts would be searched for kangaroo rats before being moved or sealed to ensure that an animal has not been trapped.
- A 50-foot buffer or exclusion zone would be established around active burrows and precincts. Project-related activities within the buffer zone would be prohibited.
- When occupation of the project site by the giant kangaroo rat has been determined, ground-disturbing activities would be restricted from February 1 to May 31.
- Unless necessary for pedestrian or driver safety, the project site would not be lighted during nighttime hours.

- If active burrows could not be avoided, Caltrans would obtain authorization to destroy burrows from the U.S. Fish and Wildlife Service and the California Department of Fish and Game.

Loss of potential giant kangaroo rat habitat would be compensated for in conjunction with the proposed mitigation for San Joaquin kit fox and blunt-nosed leopard lizard. Mitigation lands purchased for compensation of the loss of giant kangaroo rat habitat must contain suitable habitat for this species.

San Joaquin Kit Fox

Potential impacts to San Joaquin kit fox would be avoided or minimized to the extent feasible. The U.S. Fish and Wildlife Service *Standard Measures for Protection of the San Joaquin Kit Fox for Prior to or During Ground Disturbance* would be implemented as follows:

- During initial ground-disturbing activities, a U.S. Fish and Wildlife Service-approved biologist would be on-site every day.
- No night work would take place. Unless necessary for pedestrian or driver safety, the project site would not be lighted during nighttime hours.
- Preconstruction/pre-activity surveys would be conducted no less than 14 days and no more than 30 days before the beginning of ground disturbance and/or construction activities or any project activity likely to affect the San Joaquin kit fox.
- Surveys would be conducted within the proposed project area and a 200-foot area outside the project footprint to identify habitat features.
- A U.S. Fish and Wildlife Service-approved biologist would conduct construction monitoring between April 1 and September 30 at least once a week, after which a U.S. Fish and Wildlife Service-approved biologist would be on-call.
- If natal/pupping dens are discovered within the project area or within 200 feet of the project boundary, the U.S. Fish and Wildlife Service would be immediately notified.
- The configuration of exclusion zones around the kit fox dens should have a 50-foot radius around potential dens and a 100-foot radius around known dens measured outward from the entrance or cluster of entrances.
- Disturbance to all San Joaquin kit fox dens would be avoided to the maximum extent possible.

- Permanent construction disturbances and other types of project-related disturbance would be minimized.
- A qualified biologist should be present on construction sites during all critical construction activities within endangered species habitat to monitor activities. Activities for which a biologist should be present include all ground-disturbing activities.
- To the extent possible, a biologist would be available on-all during all construction periods when not present on-site.
- The U.S. Fish and Wildlife Service *Standard Measures for Protection of the San Joaquin Kit Fox for Prior to or During Ground Disturbance Construction and Operational Requirements* would also be implemented.
- A San Joaquin kit fox special provision would be included in the contractor bid package to ensure protection of this species during construction.
- Mitigation measures proposed for impacts to the San Joaquin kit fox include the following:
 - The loss of San Joaquin kit fox habitat would be compensated by the purchase of mitigation lands approved by the U.S. Fish and Wildlife Service and the California Department of Fish and Game.
 - A 3:1 compensation ratio would be proposed for permanent impacts to habitat.
 - For Alternative 1, Caltrans would install five concrete box culverts, each measuring 3 feet high by 10 feet wide in Elk Hills between Golf Course Road and Tupman Road to facilitate kit fox movement across the highway. Median grates to allow in light would also be installed.
 - For Alternative 10, Caltrans would include 11 sites with concrete box culverts (see Appendix K). At 10 culvert sites, each culvert would measure 3 feet high by 10 feet wide and would facilitate kit fox movement across the highway. At one culvert site along the bypass, 3-double box culverts would be installed to also facilitate the tributary flow of Buena Vista Creek. For both directions of the expressway, each 3-double box culvert would be 10 feet high, 7 feet wide, and span 48 feet. Six culvert sites would be installed on the bypass every 1000 feet between Cherry Avenue and Golf Course Road. In addition, a chain link fence would be installed in the bypass section, and barbed wire fence would be installed in the area between Golf Course Road/Elk Hills Road and

Tupman Road. Both fences would be along Caltran's right-of-way. Median grates to allow in light would also be installed.

- For Alternative 11, Caltrans would include seven sites with concrete box culverts (see Appendix K). Alternative 11 would have the same box culverts and sites as Alternative 10 along the bypass between post miles 5.5 and R10.4 (six culverts on the bypass every 1000 feet and one east of Elk Hills Road). Like Alternative 10, a chain link fence and barbed wire fence would also be installed for Alternative 11. Median grates to allow in light would also be installed.

Blunt-Nosed Leopard Lizard

Measures that would be implemented to avoid impacts to the blunt-nosed leopard lizard include the following:

- During initial ground-disturbing activities, a U.S. Fish and Wildlife Service-approved biologist would be on-site every day.
- No night work would take place. Unless necessary for pedestrian or driver safety, the project site would not be lighted during nighttime hours.
- Preconstruction surveys to determine the presence or sign of federally listed blunt-nose leopard lizards within the project area would be conducted no more than 30 calendar days before the start of construction. If blunt-nosed leopard lizards were located within the project area, then the U.S. Fish and Wildlife Service and California Department of Fish and Game would be contacted to discuss ways to proceed with the project and completely avoid any potential take of this species.
- If during preconstruction surveys blunt-nose leopard lizards were found to be in the action area, flash fencing would be installed to avoid potential impacts to blunt-nosed leopard lizards.
- A U.S. Fish and Wildlife Service-approved biologist would conduct construction monitoring between April 1 and September 30 at least once a week, after which a U.S. Fish and Wildlife Service-approved biologist would be on-call.

Loss of potential habitat would be mitigated for through the purchase of mitigation lands approved by the U.S. Fish and Wildlife Service and the California Department of Fish and Game. Mitigation ratios for habitat compensation are proposed at 3:1 for impacts to potential blunt-nosed leopard lizard habitat. Loss of potential blunt-nosed

leopard lizard habitat would be mitigated for in conjunction with San Joaquin kit fox mitigation measures.

San Joaquin Antelope Squirrel

A biological monitor would conduct construction monitoring for the San Joaquin antelope squirrel between April 1 and September 30. This would be in conjunction with surveys for the blunt-nosed leopard lizard.

Mitigation proposed for the San Joaquin kit fox would also serve to offset potential effects to the San Joaquin antelope squirrel.

Invasive Species

In compliance with the Executive Order on Invasive Species, Executive Order 13112, and subsequent guidance from the Federal Highway Administration, the landscaping and erosion-control included in the project would not use species listed as noxious weeds. In areas of particular sensitivity, extra precautions would be taken if invasive species were found in or adjacent to the construction areas. These include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur.

To prevent the further spread of these species, a noxious weed special provision would be adhered to during construction. In addition, areas would be seeded with a weed-free/native plant mixture following construction. These invasive species would likely be removed in some, if not all, areas of occurrence.

Cumulative

This proposed project, in combination with other planned project in the project area or the project vicinity, is not expected to have a cumulative effect on the natural environment.

Non-project measures come from the rural community plans of Valley Acres and Dustin Acres that call for the open space corridor and revegetation. As mitigation measures to potential future development, the two plans call for the following:

- “An open space corridor between Valley Acres and Dustin Acres should be maintained to allow movement of wildlife between the upper and lower elevations adjacent to the project site.”
- “Revegetation with native plant materials of the Buena Vista Creek channel should be considered to minimize further erosion and reduce disruption of the wildlife habitat of the area.”

In addition, the Metropolitan Bakersfield Habitat Conservation Plan provides measures addressing impacts in the greater Bakersfield area. This project would not require any additional mitigation measures.



Appendix H U.S. Fish and Wildlife Service Species List

Sacramento Fish & Wildlife Office, Customized Species List Letter

Page 1 of 2



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



May 8, 2008

Document Number: 080508031014

Dena S. Gonzalez
California Department of Transportation
2015 E. Shields, Suite 100
Fresno, CA 93726-5428

Subject: Species List for Kern 119 Cherry Avenue Four Lane

Dear: Mrs. Gonzalez

We are sending this official species list in response to your May 8, 2008 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area *and also ones that may be affected by projects in the area*. For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be August 06, 2008.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found at www.fws.gov/sacramento/es/branches.htm.

Endangered Species Division

http://www.fws.gov/sacramento/es/spp_lists/auto_letter.cfm

5/8/2008

Conservation Status (Federal, State, or Other)	Code
Federal Endangered and Threatened Species that Occur in or may be affected by Projects in the Counties and/or Districts of the State of California	
Fish	
California Golden Shiner	0101
Delta Smelt	0102
Longfin Smelt	0103
Sacramento River Sucker	0104
Steelhead Trout	0105
Tule	0106
Western Longfin Shiner	0107
Yuba River Sucker	0108
California Freshwater Shiner	0109
California Golden Trout	0110
California Golden Trout	0111
California Golden Trout	0112
California Golden Trout	0113
California Golden Trout	0114
California Golden Trout	0115
California Golden Trout	0116
California Golden Trout	0117
California Golden Trout	0118
California Golden Trout	0119
California Golden Trout	0120
California Golden Trout	0121
California Golden Trout	0122
California Golden Trout	0123
California Golden Trout	0124
California Golden Trout	0125
California Golden Trout	0126
California Golden Trout	0127
California Golden Trout	0128
California Golden Trout	0129
California Golden Trout	0130

The image shows a large rectangular area containing a very dense and illegible list of species names. The text is too small and blurry to read, but it appears to be a species list for a project. The list is organized into several columns and rows, with some entries indented. The overall appearance is that of a scanned document where the text has been lost or is too small to be legible.

Appendix I Resources Evaluated Relative to the Requirements of Section 4(f)

This section of the document discusses parks, recreational facilities, wildlife refuges, and historic properties found within or adjacent to the project area that do not trigger Section 4(f) protection either because: 1) they are not publicly owned, 2) they are not open to the public, 3) they are not eligible historic properties, 4) the project does not permanently use the property and does not hinder the preservation of the property, or 5) the proximately impacts do not result in constructive use.

On the south side of the proposed highway through Elk Hills, there is a parcel belonging to the California Department of Fish and Game that is used as mitigation for wildlife species. The proposed project would widen to the north of the existing highway through Elk Hills; therefore, the project would not affect the property belonging to the California Department of Fish and Game. Through Elk Hills, between Elk Hills Road (post mile R10.0) and Tupman Road (post mile R13.3), the proposed project would add two additional lanes on the north side of the existing highway. The project would not have any direct, indirect, or cumulative effects on this property.



Appendix J State Historic Preservation Officer Concurrence Letter

STATE OF CALIFORNIA – THE RESOURCES AGENCY
SCHWARZENEGGER, Governor

ARNOLD



OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION

P.O. BOX 942896
SACRAMENTO, CA 94296-0001
(916) 653-6624 Fax: (916) 653-9824
calshpo@ohp.ca.gov
www.ohp.parks.ca.gov

September 18, 2007

Reply To: FHWA070814K

Jeanne Binning, Branch Chief
Central California Cultural Resources Branch
Department of Transportation
2015 East Shields Avenue, Suite A-100
Fresno, CA 93726-5428

Re: Determination of Eligibility for the Cherry Avenue 4-Lane Project, Kern County, CA

Dear Ms. Binning:

Thank you for consulting with me about the subject undertaking in accordance with the *Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California* (PA). In addition to your letter of August 14, 2007, you have submitted the following documents as evidence of your efforts to identify historic properties in the project Area of Potential effects:

- *Historic Property Survey Report Cherry Avenue 4-Lane Project Kern County, California 06-KER-119 PM 5.5/13.3 (KP 8.9/21.4) 06-424700* (L. Nishimura; Caltrans District 6: August 2007)
- *Historic Architectural Survey Report for Conversion of a 2-Lane Conventional Highway to a 4-Lane Expressway on State Route 119 Between Cherry Avenue and Tupman Road, Kern County 06-KER-119 PM 6.2/13.29 (KP 9.97/21.38) 06-424700* (D.W. Dodd; Caltrans District 6: August 2001).
- *Archaeological Survey Report for the Cherry Avenue 4-Lane Project CA-KERN-119 Kern County, California 06-KER-119-K.P. 8.77/21.39 (P.M. 5.45/13.29) 06-424700* (S.E. Gassner, et al; Caltrans District 6: July 2003).
- *Overview of the Buena Vista Lake Region Ethnogeography and Ethnohistory* (D. Earle; Earle and Associates: April 2003).
- *A Geomorphological investigation of Buried Site Potential along State Route 119 (P.M. 5.4/13.290 In Buena Vista Valley, Western Kern County, California* (D.C. Young; Caltrans District 6: January 2003).
- *Supplemental Archaeological Survey Report for the Cherry Avenue 4-Lane Project CA-KER-119 Kern County, California 06-KER-119-K.P. 8.77/21.39 (P.M. 5.45/13.29) 06-424700* (S.E. Gassner; Caltrans District 6: October 2005).
- *Supplemental Historic Resource Evaluation Report for Construction of a 4-Lane Conventional Highway/Expressway on State Route 119 Between Cherry Avenue and Tupman Road, Kern County 06-KER-119, P.M. 5.45/13.29 (K.P. 8.77/21.39 (D.W. Dodd; California State University, Bakersfield: April 2006).*

Ms. Binning
September 18, 2007

- *Geomorphological Extended Phase I Investigations along the Cherry Avenue Expressway Alternative 9(b) Corridor in Buena Vista Valley, Western Kern County, California 06-Ker-119; P.M. 5.4-13.29 EA 06-424700* (T. Wriston; Far Western Anthropological Research Group, Inc.: August 2005).

The California Department of Transportation (Caltrans) is requesting my concurrence, pursuant to Stipulation VIII.C.5 of the PA, that the following architectural properties are not eligible for the National Register of Historic Places (NRHP):

- 27501 Cherry Avenue, Valley Acres, CA
- 27519 Taft Highway, Valley Acres, CA
- 27521 Taft Highway, Valley Acres, CA
- 27573 Taft Highway, Valley Acres, CA
- 27921 Taft Highway, Valley Acres, CA
- 27924 Taft Highway, Valley Acres, CA
- 279936 Taft Highway, Valley Acres, CA
- 8455 Christy Avenue, Dustin Acres, CA
- 27999 Tank Farm Road, Valley Acres, CA
- 27597 Valley West Road, Valley Acres, CA
- 27510 Maple Street, Valley Acres, CA
- 27506 Maple Street, Valley Acres, CA
- 26032 Cherry Avenue, Valley Acres, CA

Based on my review of the submitted documentation, I concur with the foregoing determinations.

However, after having reviewed the numerous documents submitted for this undertaking, in particular the archeological survey report (Gassner 2003) and supplemental archeological survey report (Gassner 2005), I must question Caltrans broad employment of Stipulation VIII.C.1 and Attachment 4 of the PA regarding properties exempt from evaluation, for the entire range of archeological properties (17) identified in the APE. Specific archeological sites about which I have serious concerns are:

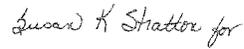
- 1) **CA-KER-6156H** (Gassner 2003:25, Gassner 2005:13): Based on the documentation provided, this is a substantial historic habitation and dump site, with extensive features and a large and varied artifact inventory. Portions of this site are documented in both archeological reports, and are recorded on a forty-page DPR 523 form and attachments. The historic context alone is three-pages in length, describing the use of and occupants of this property from 1913-1942, and states that "the Louise Mosher Homestead site contains subsurface features with depth, intact artifact deposits, and surface remnants of living and work structures that lend themselves to interpretation and analysis regarding the themes of spatial and temporal organization" and "The information contained on site could address important research questions under Criterion D of the National Register" (DPR 523 Primary Form page A5 of A6). It is further noted that this is the "only patented homestead" in the Cherry Avenue 4-Lane APE. The DPR 523 site record further states "that CA-KER-6156H "appears to meet Criterion D at a local level of significance for inclusion in the National Register of Historic Places (page A5 of A6) and the Supplemental Archaeological survey Report concluded that CA-KER-6156H is "likely eligible for the National Register of Historic Places under Criterion D (Gassner 2005:13). Having read these documents in detail, I am having difficulty comprehending the logic behind Caltrans' decision to essentially dismiss this property as being exempt under Stipulation VIII.C.1 and Attachment 4 of the PA.
- 2) **CA-KER-6159H** (Gassner 2003:24): This site is expressly identified as being "a large historic trash dump" (as opposed to a scatter) and "different from the other trash scatters in that there is a greater intensity of domestic artifacts." It is also dated as within the 1914-1945 period. If the site description is accurate, it would appear that this resource also does not fall into the exemption categories in the PA.
- 3) **CA-KER-5975** (Gassner 2005:13). The supplemental archeological survey notes that this site, a prehistoric shell and lithic scatter located near the former shoreline of Buena Vista Lake, may have been originally recorded by Nelson in 1909, but plotted at a slightly different location. I believe that the large

Ms. Binning
September 18, 2007

size of the freshwater shell scatter and the presence of a varied artifact inventory (i.e., flaked stone, ground stone, and fire-fractured rock precludes the treatment of this resource under the exemption sections of the PA.

I would appreciate a response regarding my specific comments on the three archeological sites noted above, and Caltrans' general interpretation of the exemption sections of the PA and how they were applied regarding this undertaking. Thank you for considering historic properties during project planning. If you have any questions, please contact Natalie Lindquist of my staff at (916) 654-0631 or e-mail at nlindquist@parks.ca.gov or William Soule at (916) 654-4614 or e-mail at wsoule@parks.ca.gov.

Sincerely,



Milford Wayne Donaldson, FAIA
State Historic Preservation Officer

Mr. M. Wayne Donaldson
October 5, 2007
Page 2

We hope the above observations address your concerns about the three archaeological sites (CA-KER-6156H, CA-KER-6159H, and CA-KER-5975) referenced in your letter of September 18, 2007 and Caltrans' general interpretation of the exemption sections of the PA and how they were applied regarding the subject undertaking. If you have any questions, please contact me at (559) 243-8219 (Jeanne_Binning@dot.ca.gov) or Jon L. Brady at (559) 243-8221 (Jon_Brady@dot.ca.gov).

Sincerely,



Jeanne Day Binning, Ph.D.
Branch Chief
Central California Cultural Resource Branch
California Department of Transportation
Fresno, California

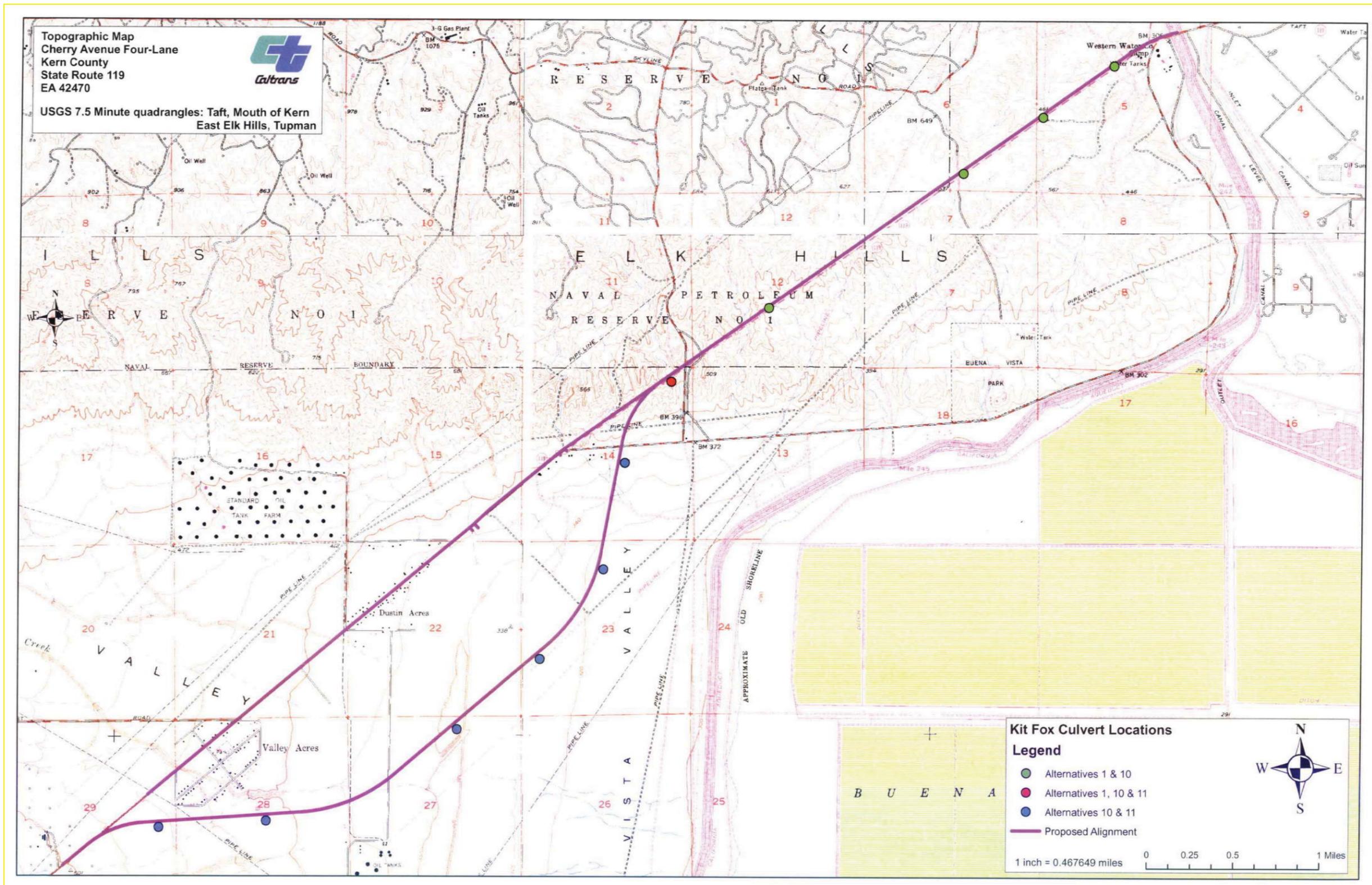
1 Encl: SHPO letter dated September 18, 2007

cc: Greg King, Caltrans, CCSO
Jill Hupp, Caltrans, CCSO
Lisa Nishimura, Caltrans, District 06
Sarah Gassner, Caltrans, District 06
✓ Stephen Ruiz, Caltrans, District 06
Mandy Marine, Caltrans, District 06 Native American
Coordinator
Jane Talbot, Roads Department, Kern County
Robert Gomez, Jr., Yokuts
Honorable Clarence Atwell, Chairman, Santa Rosa Rancheria

"Caltrans improves mobility across California"



Appendix K San Joaquin Kit Fox Culvert Location Map





Appendix L Air Quality Conformity Determination Letter



U.S. Department
of Transportation
**Federal Highway
Administration**

California Division

March 28, 2011

650 Capitol Mall, Suite 4-100
Sacramento, CA 95814
(916) 498-5001

In Reply Refer To:
HDA-CA

File # State Route 119,
Cherry Ave. Project

Mr. Malcolm Dougherty, District Director
California Department of Transportation
District 6
P. O. Box 12616
Fresno, CA 93778-2616

Attention: Terry Goewert

Dear Mr. Dougherty:

SUBJECT: Project Level Conformity Determination for the State Route 119, Cherry Ave. Project, MPO I.D. # KER08RTP022

On March 1, 2011 the California Department of Transportation (Caltrans) submitted to the Federal Highway Administration (FHWA) a request for a project level conformity determination for the State Route 119, Cherry Ave. Project, MPO I.D. # KER08RTP022. The project is in an area that is designated Non-Attainment or Maintenance for Ozone and Particulate Matter (PM₁₀, PM_{2.5}).

The project level conformity analysis submitted by Caltrans indicates that the project-level transportation conformity requirements of 40 CFR Part 93 have been met. The project is included in the currently conforming Kern Council of Governments' (KCOG) 2011 RTP and 2011 TIP. The design concept and scope of the preferred alternative have not changed significantly from those assumed in the regional emissions analysis.

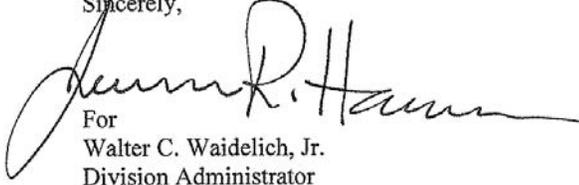
As required by 40 CFR 93.116 and 93.123, the localized PM_{2.5} and PM₁₀ analyses are included in the documentation. The analyses demonstrate that the project will not create any new violations of the standards or increase the severity or number of existing violations.

Based on the information provided, FHWA finds that the State Route 119, Cherry Ave. Project, MPO I.D. # KER08RTP022, conforms with the SIP in accordance with 40 CFR Part 93.



If you have any questions pertaining to this conformity finding, please contact Joseph Vaughn at (916) 498-5346 or by email at Joseph.Vaughn@dot.gov.

Sincerely,



For
Walter C. Waidelich, Jr.
Division Administrator

Appendix M Biological Opinion

The following Biological Opinion was issued by the U.S. Fish and Wildlife Service on April 20, 2010.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846



IN REPLY, REFER TO:
81420-2009-F-0143-R003-2

APR 20 2010

Mr. Zachary Parker
Branch Chief, Central Region Biology Branch
California Department of Transportation, District 6
2015 East Shields Avenue, Suite A-100
Fresno, California 93726-5428

Subject: Biological Opinion on the Cherry Avenue Four-Lane, State Route 119 Project,
Kern County, California (California Department of Transportation EA 06-42470C
06-KER-119 PM 5.5/10.4)

Dear Mr. Parker:

This is in response to your July 20, 2009, request for reinitiation of formal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed Cherry Avenue Four-Lane, State Route 119 Project (project) in Kern County, California. Your letter was received in this office on July 23, 2009. The California Department of Transportation (Caltrans) has determined that the proposed project is likely to adversely affect the federally-endangered giant kangaroo rat (*Dipodomys ingens*; GKR), the endangered San Joaquin kit fox (*Vulpes macrotis mutica*; SJKF), the endangered blunt-nosed leopard lizard (*Gambelia sila*; BNLL), the endangered California jewelflower (*Caulanthus californicus*; CJF), and the endangered San Joaquin woolly-threads (*Monolopia congdonii*; SJWT), and is not likely to adversely affect the endangered Kern mallow (*Eremalche kernensis*; KM). This document represents the Service's biological opinion on the effects of the proposed project on these listed species. This document has been prepared in accordance with section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 U.S.C. § 1531 *et seq.*) (Act).

The findings and recommendations of this biological opinion (B.O.) are based on: (1) the June 2009 biological assessment (B.A.) entitled *Cherry Avenue Four-Lane, State Route 119, Kern County, California, 0.75 mile west of Cherry Avenue to 0.4 mile east of Elk Hills Road*; (2) Caltrans' letter of response to the Service's 30-day letter requesting additional project information in regards to the B.A.; (3) electronic mail (e-mail) correspondence and telephone exchanges between the Service and Caltrans from August 2009 to March 2010; and (4) other information available to the Service.

Mr. Zachary Parker

2

The Service has reviewed the proposed project and concurs with Caltrans' determinations that the project is likely to adversely affect the GKR, SJKF, BNLL, CJF, and the SJWT.

After reviewing the B.A. and other information sources, the Service concurs that the proposed project is not likely to adversely affect the KM given that: no individuals were observed onsite during the 2002-2003 botanical surveys; the distance of known occurrences from the project area are located ~20 miles north of the action area (California Natural Diversity Database, 2008); and appropriate avoidance and minimization measures will be implemented, including having a Service-approved biologist conduct preconstruction surveys within the project area prior to groundbreaking activities.

This concludes the Service's consideration of the project's impacts to the KM. If substantial changes are made to the proposed project or if new information is presented to the Service, this determination may be re-evaluated and consultation reinitiated. The remainder of this biological opinion will address the concerns of the proposed project upon the GKR, SJKF, BNLL, CJF and SJWT.

Consultation History

Events prior to the July 2009 reinitiation of formal consultation:

February 1, 2000. The Service provided Caltrans with a Kern County species list.

July 17, 2001. Peter Cross and MaryAnn Owens (Service) attended a meeting with Caltrans for an overview of the proposed project.

July 25, 2001. Caltrans sent a formal letter to the Service providing specific project information requested at a previous meeting held on July 17, 2001. Caltrans requested that the Service provide comments on the proposed project.

November 1, 2001. Caltrans presented the proposed project at the Kit Fox Planning and Conservation Team Meeting in Fresno. Representatives from the Service, Endangered Species Recovery Program (ESRP), California Department of Fish and Game (CDFG), Department of Water Resources (DWR), Bureau of Reclamation (BOR), and Defenders of Wildlife were present. The team recommended that a field visit to the project site be conducted.

November 27, 2001. Nancy Pau (Service) sent approval via electronic mail to Tom Kucera, URS Corporation (URS), to conduct small mammal trapping.

December 6, 2001. Caltrans conducted a field visit of the project site with Kit Fox Planning and Conservation Team members. Brian Cypher (ESRP) provided comments regarding SJKF crossing structures, fencing, and bypass alternatives. Susan Jones (Service) agreed to Mr. Cypher's crossing structure design and bypass alternative. Ms. Jones also recommended that SJKF spotlighting be conducted to determine occurrences within the project limits.

Mr. Zachary Parker

3

January 29, 2002. Caltrans sent a facsimile to Ms. Jones summarizing items discussed at the December 6, 2001, field meeting. In addition, Caltrans requested approval to conduct CDFG Region 4 protocol surveys for the SJKF.

February 15, 2002. Ms. Jones spoke with Caltrans and approved of the CDFG Region 4 protocol surveys for the SJKF.

March 11, 2003. URS spoke with Gary Burton (Service) regarding the 2002 plan surveys. Mr. Burton said he had recommended that the 2002 surveys be repeated in 2003 due to the unusually dry season.

June 2003. Caltrans spoke to Ms. Jones regarding the B.A. for the proposed project. Ms. Jones requested that a copy of the Route Concept Report be included in the B.A. because the Service would like to evaluate reasonably foreseeable future projects within the proposed project's vicinity.

August 25, 2008. The Service received a B.A. dated August 2008 and a Transportation Concept Report dated September 2006 for State Route 119 from Caltrans.

September 12, 2008. The Service received a copy of a letter from CDFG to Sarah Gassner, (Caltrans) dated September 5, 2008, expressing CDFG's concerns about the State Route 119 bypass project, specifically citing insufficient floral surveys and biological data.

October 9, 2008. Ms. Jones and Ellen McBride (Service) attended a meeting in Fresno with Julie Vance and Laura Peterson-Diaz (both of CDFG), Zachary Parker and Dena Gonzalez (both of Caltrans) to address concerns about floral and faunal surveys that were conducted, as well as core habitat. The Service received a copy of the Natural Environment Study dated June 2008 for State Route 119.

October 14, 2008. The Service received a copy of the "State Route 119 Cherry Avenue Four-lane Special Status Species Survey Report" dated November 27, 2002, and "Initial Study with Proposed Mitigated Negative Declaration/Environmental Assessment" dated July 2008 from Caltrans. The Service also received copies of correspondence from Caltrans dated July 25, 2001, as well as a SJKF survey letter dated January 29, 2002, and a survey update sent via e-mail dated September 25, 2002.

October 15, 2008. The Service received an electronic copy of the State Route 119 design and culvert plans from Ms. Gonzalez at Caltrans.

October 29, 2008. A site visit to the proposed project site was conducted by Ms. McBride and Tim Kuhn (Service), Mr. Cypher, and Ms. Peterson-Diaz.

November 20, 2008. The Service issued a comment letter to Caltrans citing insufficient information in the B.A. to write a B.O. Additional information requested was itemized.

Mr. Zachary Parker

4

January 12, 2009. Ms. Jones and Ms. McBride (Service) had a teleconference with Mr. Parker regarding possibilities for compensation acreage as one of the minimization measures.

January 13, 2009. The Service received a revised B.A. from Caltrans.

March 17, 2009. Caltrans informed the Service that the project was pulled because of funding issues and would not be continuing at the present time. However, the project could possibly arise again at a future time.

Events following the July 2009 reinitiation of formal consultation:

July 23, 2009. The Service received a letter requesting formal consultation for the GKR, SJKF, BNLL, CJF, and SJWT. A new B.A with a new scope of work was included in the reinitiation package and Caltrans stated that this document superseded the B.A. submitted in December 2008 and received by the Service in January 2009.

August 20, 2009. A quarterly conference call was held between Kenneth Sanchez, Mr. Cross, and Jen Schofield (all of the Service), and Christine Cox, Shari Bender, and Mr. Parker (all of Caltrans) to discuss the status of Caltrans projects. Caltrans requested whether the B.O. could be expedited as there had already been previous history with this project.

August 27, 2009. The Service sent a 30-day letter with a request for additional information and comments and questions regarding the new June 2009 B.A.

September 17, 2009. The Service received a letter from Caltrans in response to the Service's 30-day letter in which Caltrans answered queries regarding the project description, mapping, the project footprint, passageway designs and fencing, surveys, night work, monitor presence, compensation, and indirect effects.

November 19, 2009. An informal quarterly meeting with Caltrans was held to discuss workload and the status of multiple projects, including the one considered herein. Mr. Parker, Ms. Cox, Mr. Sanchez, and Ms. Schofield discussed the issue of compensation for the GKR. Mr. Sanchez identified the Palo Prieto Conservation Bank (PPCB) as a possible option for Caltrans. However, no follow-up was made by Caltrans of the landowners in the vicinity of the project who had previously shown interest in selling easements on their lands. Caltrans stated that actual project implementation remained at least several years away.

December 9, 2009. Ms. Gonzalez emailed Ms. Schofield to inquire as to the status of the project and whether any more information was needed. Ms. Schofield replied that the issue of GKR compensation was still outstanding, and inquired into Caltrans' original idea to pursue easements on the surrounding landowners' properties. Ms. Schofield also mentioned the PPCB, as broached at the November 19 meeting, as a possibility. Ms. Gonzalez replied that Caltrans would prefer to use the PPCB if the Service concurred, as it had not pursued landowner interest beyond that of letters of inquiry.

Mr. Zachary Parker

5

December 14, 2009. A conference call was held with Mr. Parker, Ms. Gonzalez, and Virginia Strohl (Acting Branch Chief for Mr. Parker) about compensation options, particularly in regards to the GKR. Ms. Schofield reported that following discussion with Ms. Jones, the Service would prefer Caltrans not use the PPCB since the bank was located too far outside the project's action area. Also, other than anecdotal evidence of GKR presence on the PPCB site, and a possibility the species may be added to the PPCB in future, the GKR had not been officially documented there. Ms. Schofield and Mr. Parker discussed having Caltrans further communicate with the interested landowners in the vicinity of the project. Several other options discussed included having one of the land management organizations like Wildlands work with the landowners, or setting up a project specific in-lieu species fund through the Center for Natural Lands Management (CNLM). Mr. Parker expressed reservations about any of these ideas working when it came to implementation, but was willing for Caltrans to try.

December 21-31, 2009. E-mails were exchanged between Ms. Gonzalez and Ms. Schofield. Ms. Gonzalez inquired whether the B.O. could be prepared given the limited options discussed during the phone meeting on December 14. Ms. Schofield replied that the Service was most interested in Caltrans communicating with the potentially interested adjacent landowners. Ms. Schofield asked whether there were any known GKR on these parcels. Ms. Gonzalez replied that two of the interested landowners' parcels were adjacent to known GKR capture sites.

January 6 & 12, 2010. Ms. Schofield emailed Ms. Gonzalez with questions concerning project schedule dates, utility relocation, and fill/borrow usage. Ms. Gonzalez replied on January 12.

February 4, 8 & 9, 2010. E-mail updates were traded between Ms. Gonzalez and Ms. Schofield regarding the status of the B.O.

March 8-9, & 17, 2010. Ms. Gonzalez emailed Ms. Schofield to inquire whether a change in Caltrans' proposal for topsoil retention from 12 inches to six inches would be a problem for the Service. Ms. Schofield replied that it would not. Ms. Gonzalez e-mailed Ms. Schofield on March 17 to confirm the change.

BIOLOGICAL OPINION

Description of the Proposed Action

Project Setting and Background

The proposed alignment is located in the U.S. Geological Survey's (USGS) Taft and Mouth of Kern 7.5-minute Quadrangles and will be constructed in Township 31 S, Range 24 E, Sections 29, 28, 27, 22, 23, 14, and 13. The main land uses along SR 119 are oil production, ranching, and agriculture (Caltrans, 1989). Some of the deepest wells and largest oil fields are in Kern County, including wells at the Elk Hills Naval Petroleum Reserve 1 (NPR-1) located north of the project and Elk Hills Naval Petroleum Reserve 2 (NPR-2) located southwest of the project (CERES, 2003). The Elk Hills NPR was purchased by Occidental of Elk Hills, Inc. in 1998 and is referred to as Occidental Oil and Gas Field, the seventh largest oil field in the continental U.S.

Mr. Zachary Parker

6

Numerous roads and staging areas utilized for petroleum exploration and historical petroleum maintenance activities are present throughout much of the project area.

The general topography of the project area varies from steeply sloped drainages, where the project crosses the Elk Hills, to gently rolling hills and nearly flat alluvial fans elsewhere. The elevation ranges from 320 to 500 feet (ft) above mean sea level. Dominant vegetation in this area includes bush seepweed (*Suaeda moquinii*), quail bush (*Atriplex lentiformis* var. *lentiformis*), arrow scale (*Atriplex phyllostegia*), allscale (*Atriplex polycarpa*), spine scale (*Atriplex spinifera*), saltgrass (*Distichlis spicata*) and red brome (*Bromus madritensis* ssp. *rubens*).

The California Aqueduct is located less than one mile east of the proposed project. Drainages in the Buena Vista Creek watershed and the Elk Hills area historically drained into Buena Vista Lake, either from overland and/or subsurface flow. The California Aqueduct and agricultural activities have obscured the connection of these watersheds to Buena Vista Lake; no surface flows from the drainages in the project area currently reach the lake.

The current eastern alignment of State Route 119 used to bisect approximately two miles of saltbush scrub habitat in land owned by Occidental of Elk Hills, Inc.; this property is set aside as compensation for its development activities. Caltrans has since revised the slopes from 4:1 to 2:1 in order to avoid impacts to habitat and lands associated with Occidental of Elk Hills, Inc. Adjacent lands owned by Coles Levee Ecological Preserve and the Bureau of Land Management are traversed by SR 119. Provided that Caltrans remains within its current right-of-way (ROW), no protected lands owned by these parties will be impacted. Should there be any revisions that deviate from the current ROW, reinitiation of formal consultation will be recommended.

Construction Activities

Caltrans, in cooperation with the Federal Highway Administration (FHWA), proposes to build a new four-lane expressway beginning 0.75 mile (mi) west of Cherry Avenue (postmile (PM) 5.5) to 0.40 mi east of Elk Hills Road (PM 10.4), in Kern County. It will consist of four 12-ft lanes with a 62-ft median, five ft inside shoulders, and 10-ft outside shoulders. This new bypass will be aligned south of the towns of Valley Acres and Dustin Acres. The project proposes no inclusion of frontage roads and the ROW width will be 400 ft along the bypass. Additional proposed associated activities include:

- The addition of two new intersections will connect the bypass to the existing highway. One will be built about 560 ft west of Cherry Avenue and the second at Golf Course Road.
- The north side realignment of one existing intersection at Elk Hills Road (PM 10.0), located 0.8 mi east of Golf Course Road will be undertaken and the south side connection closed.

Mr. Zachary Parker

7

- The provision of three driveways on the south side of the bypass will open up otherwise landlocked areas. One will be located south of Valley Acres, and two will be positioned south of Dustin Acres. The driveways will not connect to local streets in the communities themselves.
- The addition of seven concrete box culverts positioned along the bypass will aid in SJKF crossing. The box culverts will be three ft in height and 10 ft wide and will be installed approximately every 1,000 ft. At the box culvert located at Buena Vista Creek, two three-double box culverts will be installed to facilitate the tributary flow of Buena Vista Creek. Each one will be 10 ft high, seven ft wide, and span 48 ft in length.
- The construction of a five-ft high chain link fence along the length of the project (on both sides of the bypass) will serve as a ROW fence and as part of the project's SJKF minimization measures. The distance between it and the edge of the new pavement will be approximately 130 ft.

Within the project limits, there are existing utilities consisting of electric power poles, above-ground and underground communication lines, water lines, and underground oil pipelines. The utilities affected by the project will be relocated in coordination with the utility companies, prior to construction. No relocation or new installation of electric power lines will occur. The bypass portion of the project will not affect aboveground utility poles.

No borrow sites or fill material from outside the project area are proposed for usage during construction. However, fill from adjacent land within the new ROW will be utilized for activities. Material will be clean and meet Caltrans' specifications.

According to Caltrans, the proposed project is intended to improve safety and to relieve traffic congestion on SR 119 between Taft and Bakersfield. Since the highway has been operating at a low Level of Service (LOS) through Valley Acres and Dustin Acres to Elk Hills since 2006, improvements are needed to boost the LOS higher within the project limits once construction is concluded.

According to Caltrans' tentative project schedule, construction is expected to take up to a year to complete but may be less depending on the contractor and the number of personnel involved. There is a current March 1, 2016 date set for approval of a contract with the contractor, as well as a close-out March 1, 2019 date set for completion. Construction will have been finished prior to this final timeline.

Proposed Avoidance and Minimization Measures

According to the B.A., Caltrans' response letter to the Service's 30-day letter, as well as further discussion with Caltrans' biologists, Caltrans proposes to implement the following guidelines to minimize and avoid impacts to sensitive communities and listed species that are known and/or have the potential to occur within the vicinity of the construction action area:

Mr. Zachary Parker

8

Construction Guidelines

1. The contractor will follow Best Management Practices (BMPs) for the duration of the project.
2. Designated staging areas for equipment storage, vehicle parking, and other project-related activities will occur only on existing disturbed or paved areas and will be pre-approved by a Service-approved biologist.
3. Chemicals, lubricants, and petroleum products must be closely monitored and precautions will be used. If any spills occur, cleanup will take place immediately.
4. Any sensitive sites adjacent to construction activities, within the Caltrans ROW, will be designated as environmentally sensitive areas (ESAs) to prevent accidental construction-related effects.
5. Trees, shrubs, and other vegetation will be removed prior to the nesting season of migratory birds.
6. The contractor will at all times adhere to the *State of California, Department of Transportation Standard Specifications* for avoidance of water pollution (Section 7-1.01G; July 1, 2008).
7. A Storm Water Pollution Prevention Plan (SWPPP) will be prepared prior to construction to reduce or eliminate any water quality reductions that might occur as a result of the project.
8. Staging and refueling areas for equipment will be located a minimum of 150 ft away from any active stream channel. If equipment has to be washed, washing will occur where water cannot flow into the stream channel.
9. Soil exposure will be minimized through the use of BMPs, ground cover, and stabilization practices. Exposed dust-producing surfaces will be sprinkled daily until wet while avoiding producing runoff.
10. The contractor will conduct periodic maintenance of erosion and sediment control measures. All such measures will be removed after the area is stabilized or as directed by the resident engineer.

Proposed General Measures for all Species

1. During initial ground-disturbing activities, the Service-approved biologist will be on-site everyday.
2. No night work will take place. Unless necessary for pedestrian or driver safety, the project site will not be lighted during nighttime hours.

Mr. Zachary Parker

9

Proposed Conservation Measures for Sensitive Communities

1. Protect sensitive biological resources in designated environmentally-sensitive areas.
 - a. Sensitive biological resources located adjacent to the construction corridor will be protected by the placement of orange construction-barrier fencing or stakes and flagging (where appropriate and depending on the resource).
 - b. Barrier fencing will be installed between the affected area and the protected lands of Coles Levee Ecological Preserve (CLEP) and Occidental of Elk Hills, Inc.
 - c. Project design will avoid all impacts to saltbush scrub habitat within the designated Elk Hills Unit (0.33 mi), located adjacent to the existing SR 119 and will stay within the existing Caltrans ROW.
 - d. The slopes have been revised from 4:1 to 2:1 in order to avoid impacts to habitat and lands associated with Occidental of Elk Hills, Inc.
2. Caltrans proposes to adhere to a noxious weed special provision during construction so as to prevent the further spread of these species.
3. Those areas within the Caltrans ROW between the fencing and new bypass alignment that will be 'temporarily' affected during construction (in fact, permanently affected since a return to maturity is anticipated to take more than two years), will be restored and seeded with a weed-free/native plant mixture once construction is complete.

Proposed Conservation Measures for Listed Species

- Giant kangaroo rat:
 1. Preconstruction surveys will be undertaken within the project area no more than 30 calendar days prior to the start of construction.
 - a. If the GKR is located within the action area, Caltrans will contact the Service and the CDFG to consult on how to avoid take to the maximum extent possible.
 - 1) If necessary and/or practicable and with advance preparation, Caltrans is willing to translocate any GKR from the impact site to a different protected location.
 2. A Service-approved biologist will conduct construction monitoring between April 1 and September 30 at least once a week (also for the BNLL and the SJKF), after which the Service-approved biologist will be on-call.

Mr. Zachary Parker

10

3. A Service-approved biologist with demonstrated experience in identifying GKR burrows will survey for burrows and other signs.
 4. If burrows are observed on-site, appropriate buffers will be established around their entirety.
 5. If active burrows cannot be avoided, Caltrans will obtain authorization from the Service and CDFG to collapse and excavate the burrows prior to any disturbance.
 6. Pipes and culverts will be searched for GKR prior to being moved or sealed to ensure that individuals are not trapped.
 7. A 50 ft buffer or exclusion zone will be established around active burrows and precincts. Project-related activities within the buffer zone will be prohibited.
- San Joaquin kit fox:
 1. Caltrans will include Special Provisions that include the avoidance and minimization measures of this biological opinion in the contractor bid package during solicitation for bid information.
 2. Preconstruction surveys will be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities.
 - a. Surveys will be conducted within the proposed project footprint plus an additional 200 ft area outside the footprint in order to identify habitat features.
 3. A Service-approved biologist will conduct construction monitoring between April 1 and September 30 at least once a week (also for the BNLL and the GKR), after which the Service-approved biologist will be on-call.
 4. Disturbance to all SJKF dens will be avoided to the maximum extent possible.
 - a. If natal/pupping dens are discovered within the action area or within 200 ft of the action area, Caltrans will immediately notify the Service.
 - b. Exclusion zones around SJKF dens will have a 50 ft radius around potential dens and a 100 ft radius around known dens, as measured outwards from the entrance or cluster of entrances.
 5. Caltrans will follow the Service's *Standard Measures for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance Construction and Operation Requirements*. Note that the Service is currently revising and updating these measures.

Mr. Zachary Parker

11

6. To facilitate SJKF movement across SR 119, Caltrans proposes to install seven box culverts throughout the project area (six on the bypass every 1000 ft and one east of Elk Hills Road). Chain-link fencing will also be installed in the bypass section and barbed wire fence will be installed along the section of SR 119 east of Elk Hills Road. Median grates to allow in light will also be incorporated.
 7. Caltrans proposes to install ROW fencing along the bypass which will serve to discourage road crossings by the SJKF and to instead direct and funnel individuals to the underpass structures. Openings in the fence line at the driveway entrances for landowner access and at the intersections will provide some means of maintaining connectivity so as not to create a barrier effect. Barbed wire fencing will be used within the segment of SR 119 east of Dustin Acres in the Elk Hills, to also allow for wildlife movement and to limit the barrier effect in this area.
- Blunt-nosed leopard lizard:
 1. Protocol-level surveys will be conducted to determine presence no more than 30 calendar days prior to the start of construction.
 - a. If the BNLL is located within the action area, Caltrans will contact the Service and the CDFG to consult on how to avoid take to the maximum extent possible.
 - b. If the BNLL is found on-site, flash fencing will be installed to minimize potential effects to the species.
 2. During the active period of the BNLL, a Service-approved biologist will conduct construction monitoring between April 1 and September 30 at least once a week, after which the Service-approved biologist will be on-call.
 3. If burrows are observed on-site, appropriate buffers will be established around them.
 - California jewelflower and San Joaquin woolly-threads:
 1. Preconstruction surveys will be conducted during the appropriate and respective blooming periods by a Service-approved biologist within the project area prior to groundbreaking activities, and will be in accordance with the most current protocols approved by the Service, the CDFG, and the California Natural Plant Society (CNPS).
 2. Caltrans will salvage the top-soil, including the top six inches (in) which will be stockpiled and used for re-vegetation in disturbed areas once construction is complete.

Mr. Zachary Parker

12

3. Topsoil will be kept dry without a tarp and will be re-spread along the ROW, ensuring not to spread it too far from where it was originally collected to avoid damaging habitat for other species by blanketing it with soil.
 4. Topsoil will be collected between June and October so that plant germinations and flowerings will have already occurred, thus maximizing seed collection potential.
 5. A contract special provision will be included in the bid practice to ensure that these measures are part of the first order of work.
- Caltrans will help minimize effects to the GKR, SJKF, BNLL, CJF, and the SJWT and further minimize effects to suitable habitat for these species through land acquisition; these lands will be of similar or better quality and should be comprised of the same habitat types that will be permanently disturbed and lost as a result of construction of the new bypass alignment (e.g. Valley Saltbush Scrub, and Bush Seepweed Scrub). Caltrans proposes to compensate for 173.52 acres (ac) of potentially suitable habitat for these species at a 3:1 ratio, resulting in 520.56 ac of land acquisition. Caltrans proposes to purchase lands that will be suitable for all five species through conservation easements with willing landowners. Potential parcels will be located proximal to the project's action area. As a secondary option, Caltrans would also be amenable to purchasing the equivalent number of credits at a conservation bank, although no bank currently exists for the relevant species that covers the action area.

Caltrans sent letters of inquiry to landowners surrounding the project's action area in order to assess their willingness to sell easements on their properties. Several responded in the affirmative. Thus far, two of these potential seven land parcels (320 ac and 19.99 ac, respectively) are adjacent to two sites in which the GKR is known to be present and has been captured. Other lands in the vicinity belong to the Coles Levee Ecosystem Preserve, the Bureau of Land Management, the AG Preserve, and to Occidental of Elk Hills, Inc.; these last set of lands are set aside as future sites of minimization for Occidental's projects.

Action Area

The action area is defined in 50 CFR § 402.02, as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." The action area is bounded on the southwestern end by the City of Taft; on the northern end by the NPR; on the eastern end by the California Aqueduct; and on the southeastern end by the Buena Vista Lakebed.

The action area incorporates the project's footprint, totaling approximately 270 ac, which includes the Caltrans ROW within which all staging areas will be located, and utilities work and other construction activities will take place. The action area further encompasses the 5.42 mi bypass that will be newly constructed south of the towns of Valley Acres and Dustin Acres from approximately 0.75 mi west of Cherry Avenue (PM 5.5) to 0.4 mi east of Elk Hills Road (PM 10.4), as well as the original segment of SR 119 situated between these postmiles. A 400-ft

Mr. Zachary Parker

13

corridor, measured from the centerlines of both SR 119 and the proposed bypass is also included as a buffer to construction activities in order to account for the space in which surveys were conducted 200 ft north and south of both centerlines. Direct effects due to construction of the bypass and other associated activities tied to the intersections, driveways, culverts, fencing, and acquisition of fill material will occur within both the existing and acquired ROW along SR 119 and will permanently affect 173.52 ac of undeveloped habitat. This undeveloped habitat is located south of the current alignment, and consists of 53.72 ac of Valley Saltbush Scrub; 48.19 ac of Bush Seepweed Scrub; and 71.61 ac of disturbed Valley Saltbush Scrub. The action area is located within the USGS Taft and Mouth of Kern 7.5' quadrangles, and its midpoint is marked at 11S, 283193.96m E and 3898907.07m N.

Status of the Species

Giant Kangaroo Rat

The GKR was federally listed as endangered on January 5, 1987 (52 FR 283) and was listed by the State of California as endangered on October 2, 1980 (CDFG, 1980). The Recovery Plan includes the GKR (Service, 1998). The GKR was distributed historically from southern Merced County, south through the San Joaquin Valley, to southwestern Kern County and northern Santa Barbara County. Significant populations survive only in a few areas of remaining habitat, including the Panoche Hills, Cuyama Valley, Carrizo and Elkhorn Plains, and the Lokern area.

The preferred habitat of the GKR is annual grassland on gentle slopes of generally less than 10°, with friable, sandy-loam soils. However, most remaining populations are on poorer and marginal habitats that include shrub communities on a variety of soil types and on slopes up to about 22°. Completion of the San Luis Unit of the Central Valley Project and the California Aqueduct of the State Water Project resulted in rapid cultivation and irrigation of natural communities that had provided habitat for GKR along the west side of the San Joaquin Valley (Williams, 1992; Williams and Germano, 1993). Between about 1970 and 1979, almost all the natural communities on the western floor and gentle western slopes of the Tulare Basin were developed for irrigated agriculture, restricting occurrence of most species of the San Joaquin saltbush and valley grassland communities, including the GKR. This rapid habitat loss was the main reason for its listing as endangered.

Up until the 1950s, colonies of GKR were spread over hundreds of thousands of acres of continuous habitat in the western San Joaquin Valley, Carrizo Plain, and Cuyama Valley (Grinnell, 1932; Shaw, 1934; Hawbecker, 1944, 1951). The decline of the GKR is attributed primarily to habitat loss from the conversion of native scrub and grasslands to agriculture (Service, 1998); specific causes of decline of the GKR are similar to those discussed in the next section for the SJKF. An estimated 1.8 percent of the GKR's historical habitat remains extant (Williams, 1992). Habitat destruction resulting from the development of small cities and towns along the western edge of the San Joaquin Valley between Coalinga and Maricopa, as well as development of the infrastructures for petroleum and mineral exploration and extraction, roads and highways, energy and communications infrastructures, and agriculturally related industrial

Mr. Zachary Parker

14

developments collectively have contributed to the endangerment of the GKR. Widespread use of rodenticides and rodenticide-treated grain to control ground squirrels and other kangaroo rat species may also have contributed to the decline of GKR in some areas.

Populations within remaining habitat fluctuate widely in response to changing weather patterns (Williams, 1992; Service, 1998). Since listing as endangered, conversion of habitat suitable for the GKR has slowed substantially, because most tillable land has already been brought into cultivation, and because of a lack of water for additional irrigated acres. However, during and following the 1994-1995 winter, biologists noted a decline in abundance of GKR in the southern San Joaquin Valley. Decreased sign of activity and lower than expected trapping results were observed at several dispersed sites. Dramatic declines were noted for short-nosed (*Dipodomys nitratoides brevinasus*), Tipton (*Dipodomys nitratoides nitratoides*), and Heermann's kangaroo rats (*D. heermanni*), although only modest reductions were noted for GKR populations on the valley floor (Single *et al.*, 1996).

The GKR establishes burrow systems known as precincts. Williams *et al.* (1993) found that counting active precincts as evidenced by the presence of seed caches, may provide the best measure of the number of animals present, and also may be the most efficient method of estimating populations without the need for trapping. Because GKR continuously modify their precincts by tunneling, clipping plants for seeds and storing caches, this disturbance to soil and vegetation can influence the composition of vegetative communities. Schiffman (1994) examined the establishment of exotic grasses and forbs in precinct areas amongst the Carrizo Plain National Area GKR population in San Luis Obispo County, southwest of the Western Kern County GKR population; she found that the numbers of exotics were greater on precincts than in areas further away. This led to the belief that GKR preferred exotic species at the expense of native species. However, Goldingay *et al.* (1997) argued that the study did not address measurements in areas where the GKR did not occur, and so it was plausible that native species of plant could indeed benefit from the soil disturbance created by the GKR, particularly since 11 to 15 native species in fact were found to occur on the precincts.

Urban and industrial developments, roads, petroleum and mineral exploration and extraction, new energy and water conveyance facilities, and construction of communication and transportation infrastructures continue to destroy habitat for GKR and increase the threats to the species by reducing and further fragmenting populations. Habitat degradation due to lack of appropriate habitat management on conservation lands, especially lack of grazing or fire to control density of vegetation (including shrubs) may be an additional threat to the GKR (Williams and Germano, 1993). Though many recent and future habitat losses will be minimized for by protecting habitat elsewhere, they still result in additional loss and fragmentation of habitat.

Along with the decline of the GKR, the Tipton kangaroo rat and Fresno kangaroo rat [*Dipodomys nitratoides exilis*], are also heavily influenced through habitat loss which also threatens other subspecies within the San Joaquin and associated valleys (Williams and Germano, 1992). These small mammals are believed to have declined due to loss of habitat to

agriculture (Williams and Germano, 1992), increases in thick cover of exotic plant species and the related thatch build-up (Germano *et al.*, 2001; L. Saslaw, pers. comm. 2008), and use of rodenticides and pesticides for pest control in rangelands and agricultural crops (Orloff *et al.*, 1986; Bell *et al.*, 1994). By 1979, the GKR occupied only about 1.6 percent of its historic geographic range, while the Tipton kangaroo rat occupied only 3.7 percent of its historic range by 1985 and the Fresno kangaroo rat was only known from several small, isolated, natural parcels west of Fresno (see review in Williams and Germano, 1992). Since 1994, kangaroo rats and other small native mammals have declined precipitously in the southern San Joaquin Valley (Single *et al.*, 1996, as cited in Germano *et al.*, 2001). Livestock grazing may affect individual kangaroo rats by damaging burrows (Germano *et al.*, 2001), and potentially killing individuals. The Service expects these effects to comprise a threat primarily where livestock are concentrated in areas of GKR precincts (e.g. by watering and feeding stations, or by penning). While livestock grazing may damage individual precincts, cessation of grazing may also lead to larger-scale declines in kangaroo-rat populations during wet years due to negative effects related to dense growth of vegetation (Germano *et al.*, 2001).

The decline in GKR abundance and distribution has been well documented in the southern San Joaquin Valley (Single *et al.*, 1996). In the Lokern area, the decline in species may have been caused by the combination of an extremely hot fire that occurred in spring 1997 that burned approximately 5800 ac, and several years of heavier than normal precipitation. Because of the small, isolated nature of many remaining populations, their lack of genetic diversity, and low dispersal capability, GKR are especially vulnerable to local extirpation from random environmental events such as fires, flooding, or unpredictable land use changes.

The Bureau of Land Management (BLM), in cooperation with species experts, has initiated GKR population monitoring studies in the Lokern and CPNA areas. There have been significant declines in GKR numbers on BLM lands in response to both drought and above average rainfall conditions. While these fluctuations have been drastic in nature, the GKR has rebounded from low population numbers following the drought. Since the 1993 rebound, numbers have declined to various levels. Wildfire and prescribed burn monitoring have indicated that this species responds positively to fire (Germano and Saslaw, 1999, unpublished data).

In 1995, the most recent year in which substantial information is available, the GKR was believed to be present in only a few remaining isolated populations: Cuyama Valley, San Juan Creek Valley, and the Carrizo Plain in San Luis Obispo County; the Panoche Hills on the Fresno-San Benito County line; in the Kettleman Hills of Kings County; and in western Kern County, as shown on Figure 39 of the Recovery Plan.

The draft 5-year review of the GKR reported that monitoring studies on Elkhorn Plain (Kelly *et al.*, 2004, Williams and Germano, 1994), the Lokern area (Germano *et al.*, 2005), and the Elk Hills (NPR-1) (Quad Knopf, 2006) show that the populations in the Carrizo Plain, Elkhorn Plain, and western Kern County are currently stable or even increasing following several years of drought. The range of this species has increased by 40% on the Carrizo and Elkhorn Plains since 2001. In addition, surveys of active precincts in the Cuyama Valley show that since 2001 the

Mr. Zachary Parker

16

range of GKR there has doubled. The status of GKR in the San Juan Creek Valley, and in Kettleman Hills has yet to be monitored, and, therefore, remains unknown.

San Joaquin Kit Fox

The SJKF was listed as an endangered species on March 11, 1967 (Service, 1967) and was listed by the State of California as a threatened species on June 27, 1971. In the San Joaquin Valley before 1930, the range of the SJKF extended from southern Kern County north to Tracy, San Joaquin County, on the west side, and near La Grange, Stanislaus County, on the east side (Grinnell *et al.* 1937; Service, 1998). Historically, this species occurred in several San Joaquin Valley native plant communities. In the southernmost portion of the range, these communities included Valley Sink Scrub, Valley Saltbush Scrub, Upper Sonoran Scrub, and Annual Grassland. SJKF also exhibit a capacity to utilize habitats that have been altered by man. The animals are present in many oil fields, grazed pasturelands, and “wind farms” (Cypher, 2000). SJKF can inhabit the margins and fallow lands near irrigated row crops, orchards, and vineyards, and may forage occasionally in these agricultural areas (Service, 1998).

The diet of the SJKF varies geographically, seasonally, and annually, based on temporal and spatial variation in abundance of potential prey. The diets and habitats selected by coyotes and SJKF living in the same areas are often quite similar. Hence, the potential for resource competition between these species may be quite high when prey resources are scarce such as during droughts, which are quite common in semi-arid, central California. Competition for resources between coyotes and SJKF may result in SJKF mortalities. Coyote-related injuries accounted for 50 to 87 percent of the mortalities of radio collared SJKF at Camp Roberts, the Carrizo Plain Natural Area, the Lokern Natural Area, and the NPR (Cypher and Scrivner, 1992; Standley *et al.*, 1992).

The SJKF seems to prefer more gentle terrain and decreases in abundance as terrain ruggedness increases (Grinnell *et al.*, 1937; Morrell, 1972; Warrick and Cypher, 1998). The SJKF is often associated with open grasslands, which form large contiguous blocks within the eastern portions of the range of the animal. The canine also utilizes oak savanna and some types of agriculture (i.e. orchards and alfalfa), although the long-term suitability of these habitats is unknown (Jensen, 1972; Service, 1998). Orchards sometimes support prey species if the grounds are not manicured; however, denning potential is typically low and SJKF can be more susceptible to coyote predation within orchards (Orloff, 2002). Alfalfa fields provide an excellent prey base (Woodbridge, 1987), and berms adjacent to alfalfa fields sometimes provide good denning habitat (Orloff, 2002). SJKF often den adjacent to, and forage within, agricultural areas (Bell, 1994; Scott-Graham, 1994). Although agricultural areas are not traditional SJKF habitat and are often highly fragmented, they can offer sufficient prey resources and denning potential to support small numbers of SJKF.

Adult SJKF are usually solitary during late summer and fall. In September and October, adult females begin to excavate and enlarge natal dens (Morrell, 1972), and adult males join the females in October or November (Morrell, 1972). Typically, pups are born between February and late March following a gestation period of 49 to 55 days (Egoscue, 1962; Morrell, 1972;

Spiegel and Tom, 1996; Service, 1998). Pups appear above ground at about age three to four weeks, and are weaned at age six to eight weeks. Reproductive rates, the proportion of females bearing young, of adult SJKF vary annually with environmental conditions, particularly food availability. Although some yearling female SJKF will produce young, most do not reproduce until two years old (Spencer et al., 1992; Spiegel and Tom, 1996; Cypher et al., 2000). Some young of both sexes, but particularly females may delay dispersal, and may assist their parents in the rearing of the following year's litter of pups (Spiegel and Tom, 1996). The young SJKF begin to forage for themselves at about four to five months of age (Koopman et al., 2000; Morell, 1972).

Movements and Habitat use

Although most young SJKF disperse less than five miles (Scrivner et al., 1987b), dispersal distances of up to 76.3 mi have been documented for the SJKF (Scrivner et al., 1993; Service, 1998). Dispersal can be through disturbed habitats, including agricultural fields, and across highways and aqueducts. The age at dispersal ranges from four to 32 months (Cypher, 2000). Some SJKF delay dispersal and may inherit their natal home range.

SJKF are reputed to be poor diggers, and their dens are usually located in areas with loose-textured, friable soils (Morrell, 1972; O'Farrell, 1983). However, the depth and complexity of their dens suggest that they possess good digging abilities, and SJKF dens have been observed on a variety of soil types (Service, 1998). Some studies have suggested that where hardpan layers predominate, SJKF create their dens by enlarging the burrows of California ground squirrels (*Spermophilus beecheyi*) or badgers (*Taxidea taxus*) (Jensen, 1972; Morrell, 1972; Orloff et al., 1986). In parts of their range, particularly in the foothills, SJKF often use ground squirrel burrows for dens (Orloff et al., 1986). SJKF dens are commonly located on flat terrain or on the lower slopes of hills. Natal and pupping dens are generally found in flatter terrain. Common locations for dens include washes, drainages, and roadside berms. SJKF also commonly den in human-made structures such as culverts and pipes (O'Farrell, 1983; Spiegel and Tom, 1996).

Natal and pupping dens may include from two to 18 entrances and are usually larger than dens that are not used for reproduction (O'Farrell et al., 1980; O'Farrell and McCue, 1981). Natal dens may be reused in subsequent years (Egoscue, 1962). It has been speculated that natal dens are situated in the same location as ancestral breeding sites (O'Farrell, 1983). Active natal dens are generally 1.2 to two mi from the dens of other mated SJKF pairs (Egoscue, 1962; O'Farrell and Gilbertson, 1979). Natal and pupping dens usually can be identified by the presence of scat, prey remains, matted vegetation, and mounds of excavated soil (i.e. ramps) outside the dens (O'Farrell, 1983). However, some active dens in areas outside the valley floor often do not show evidence of use (Orloff et al., 1986). During telemetry studies of SJKF in the northern portion of their range, 70 percent of the dens that were known to be active showed no sign of use (e.g., tracks, scats, ramps, or prey remains) (Orloff et al., 1986).

Dens are used by SJKF for temperature regulation, shelter from adverse environmental conditions, and escape from predators. A SJKF can use more than 100 dens throughout its home

Mr. Zachary Parker

18

range, although on average, an animal will use approximately 12 dens a year for shelter and escape cover (Cypher *et al.*, 2001). SJKF typically use individual dens for only brief periods, often for only one day before moving to another den (Ralls *et al.*, 1990). Possible reasons for changing dens include infestation by ectoparasites, local depletion of prey, or avoidance of coyotes. SJKF tend to use dens that are located in the same general area, and clusters of dens can be surrounded by hundreds of hectares of similar habitat devoid of other dens (Egoscue, 1962). In the southern San Joaquin Valley, SJKF were found to use up to 39 dens within a denning range of 320 to 482 ac (Morrell, 1972). An average den density of one den per 69 to 92 ac was reported by O'Farrell (1984) in the southern San Joaquin Valley.

The SJKF is primarily nocturnal, although individuals are occasionally observed resting or playing (mostly pups) near their dens during the day (Grinnell *et al.*, 1937). Other adults, usually offspring from previous litters, also may be present (Koopman *et al.*, 2000), but individuals often move independently within their home range (Cypher, 2000). Average distances traveled each night range from 5.8 to 9.1 mi and are greatest during the breeding season (Cypher, 2000).

Estimates of fox density vary greatly throughout its range, and have been reported as high as 3.11 per square mi in optimal habitats in good years (Service, 1998). SJKF home ranges vary in size from approximately one to 12 square mi (Spiegel and Tom, 1996; Service, 1998). Knapp (1978) estimated that a home range in agricultural areas is approximately one square mi. Individual home ranges overlap considerably, at least outside the core activity areas (Morrell, 1972; Spiegel, 1996). The animals maintain core home range areas that are exclusive to mated pairs and their offspring (White and Ralls, 1993; Spiegel, 1996; White and Garrott, 1997). This territorial spacing behavior eventually limits the number of SJKF that can inhabit an area owing to shortages of available space and per capita prey. Hence, as habitat is fragmented or destroyed, the carrying capacity of an area is reduced and a larger proportion of the population is forced to disperse. Increased dispersal generally leads to lower survival rates and, in turn, decreased abundance because greater than 65 percent of dispersing juvenile SJKF die within 10 days of leaving their natal range (Koopman *et al.*, 2000).

Historical and Current Range

In the San Joaquin Valley before 1930, the range of the SJKF extended from southern Kern County north to Tracy, San Joaquin County, on the west side, and near La Grange, Stanislaus County, on the east side (Grinnell *et al.*, 1937; Service, 1998). Historically, this species occurred in several San Joaquin Valley native plant communities. In the southernmost portion of the range, these communities included Valley Sink Scrub, Valley Saltbush Scrub, Upper Sonoran Subshrub Scrub, and Annual Grassland.

SJKF currently inhabit some areas of suitable habitat on the San Joaquin Valley floor and in the surrounding foothills of the coastal ranges, Sierra Nevada, and Tehachapi Mountains, from southern Kern County north to Contra Costa, Alameda, and San Joaquin Counties on the west, and near La Grange, Stanislaus County on the east side of the Valley, and some of the larger

Mr. Zachary Parker

19

scattered islands of natural land on the Valley floor in Kern, Tulare, Kings, Fresno, Madera, and Merced Counties.

Currently, the entire range of the SJKF appears to be similar to what it was at the time of the Service's 1998 Recovery Plan; however, population structure has become more fragmented, at least some of the resident satellite subpopulations, such as those at Camp Roberts, Fort Hunter Liggett, Pixley National Wildlife Refuge (NWR), and the San Luis NWR, apparently have been locally extirpated (White *et al.*, 2000; Moonjian, 2007; P. Williams, Kern NWR, *in litt.*, 2007; B. Cypher, ESRP, *in litt.*, 2007; R. Parris, San Luis NWR, *in litt.*, 2007; M. Moore, Camp Roberts, *in litt.*, 2008), and portions of the range now appear to be frequented by dispersers rather than resident animals (Moore *in litt.*, 2008; M. Mueller, Contra Costa Water District, *in litt.*, 2008; Cypher *in litt.*, 2009).

Reasons for Decline and Threats to Survival

The status (i.e., distribution, abundance) of the SJKF has decreased since its listing in 1967. This trend is reasonably certain to continue into the foreseeable future unless measures to protect, sustain, and restore suitable habitats, and alleviate other threats to their survival and recovery, are implemented. Threats that are seriously affecting SJKF are described in further detail.

Loss of Habitat: Less than 20 percent of the habitat within the historical range of the SJKF remained when the subspecies was listed as federally-endangered in 1967, and there has been a substantial net loss of habitat since that time. Historically, the SJKF occurred throughout California's Central Valley and adjacent foothills. By the 1930s, the range of the SJKF had been reduced to the southern and western parts of the San Joaquin Valley (Grinnell *et al.*, 1937). The primary factor contributing to this restricted distribution was the conversion of native habitat to irrigated cropland, industrial uses (e.g., hydrocarbon extraction), and urbanization (Laughrin, 1970; Jensen, 1972; Morrell, 1972, 1975). Approximately one-half of the natural communities in the San Joaquin Valley were tilled or developed by 1958.

This rate of loss accelerated following the completion of the Central Valley Project and the State Water Project, which diverted and imported new water supplies for irrigated agriculture (Service, 1995). Approximately 1.97 million ac of habitat, or about 66,000 ac per year, were converted in the San Joaquin region between 1950 and 1980. Kern County was one of the top land converters. By 1979, only approximately 370,000 ac out of a total of approximately 8.5 million ac on the San Joaquin Valley floor remained as non-developed land (Williams, 1985).

During 1990 to 1996, a gross total of approximately 71,500 ac of habitat were converted to farmland in 30 counties (total area 23.1 million ac) within the Conservation Program Focus area of the Central Valley Project. Overall, more than one million ac of suitable habitat for SJKF have been converted to agricultural, municipal, or industrial uses since the listing of the SJKF in 1967. In contrast, less than 500,000 ac have been preserved or are subject to community-level conservation efforts designed, at least in part, to further the conservation of the SJKF (Service, 1998).

Mr. Zachary Parker

20

Land conversions contribute to declines in SJKF abundance through direct and indirect mortalities, displacement, reduction of prey populations and denning sites, changes in the distribution and abundance of larger canids that compete with SJKF for resources, and reductions in carrying capacity. SJKF may be buried in their dens during land conversion activities (C. Van Horn, pers. comm., 2000), or permanently displaced from areas where structures are erected or the land is intensively irrigated (Jensen, 1972; Morrell, 1975). Furthermore, even moderate fragmentation or loss of habitat may significantly impact the abundance and distribution of SJKF. Capture rates at the NPR in Elk Hills were negatively associated with the extent of oil-field development after 1987 (Warrick and Cypher, 1998). Likewise, the California Energy Commission found that the relative abundance of SJKF was lower in oil-developed habitat than in nearby undeveloped habitat on the Lokern (Spiegel, 1996). Researchers from both studies inferred that the most significant effect of oil development was the lowered carrying capacity for populations of both foxes and their prey species owing to the changes in habitat characteristics or the loss and fragmentation of habitat (Spiegel, 1996; Warrick and Cypher, 1998).

Land conversion also reduces the number of typical earthen dens available to SJKF. Those in Bakersfield use atypical dens, but have only been found to rear pups in earthen dens (P. Kelly, pers. comm., 2000). Hence, the fragmentation of habitat and destruction of earthen dens could adversely affect the reproductive success of SJKF. Furthermore, the destruction of earthen dens may also affect SJKF survival by reducing the number and distribution of escape refuges from predators. Land conversions and associated human activities can lead to widespread changes in the availability and composition of mammalian prey for SJKF. Because more than 70 percent of the diets of SJKF usually consist of abundant leporids (*Lepus*, *Sylvilagus*) and rodents (i.e., *Dipodomys* spp.), and SJKF often continue to feed on their staple prey during ephemeral periods of prey scarcity, such changes in the availability and selection of foraging sites could influence their reproductive rates, which are strongly influenced by food supply and decrease during periods of prey scarcity (White and Garrott, 1997, 1999).

Extensive habitat destruction and fragmentation have contributed to smaller, more isolated populations of SJKF. Small populations have a higher probability of extinction than larger populations because their low abundance renders them susceptible to stochastic (i.e., random) events such as high variability in age and sex ratios, and catastrophes such as floods, droughts, or disease epidemics (Lande, 1988; Frankham and Ralls, 1998; Saccheri *et al.*, 1998). Similarly, isolated populations are more susceptible to extirpation by accidental or natural catastrophes because their recolonization has been hampered. These chance events can adversely affect small, isolated populations with devastating results. Extirpation can even occur when the members of a small population are healthy, because whether the population increases or decreases in size is less dependent on the age-specific probabilities of survival and reproduction than on raw chance (sampling probabilities).

In response to the drastic loss of habitat and steadily increasing fragmentation, Caltrans and the Service convened a San Joaquin Kit Fox Conservation and Planning Team to address the rapid decline of SJKF habitat in the northern range, and increasing barriers to SJKF dispersal. Consisting of Federal, State, and local agencies, local land trusts, environmental groups,

researchers, and other concerned individuals, the goal of this team was to coordinate agency actions that will recover the species, and troubleshoot threats to the SJKF as they emerge. Between the years 2001 and 2003, the team addressed connectivity issues at specific points along the west-side corridor north of the Ciervo Panoche core population.

Habitat loss and modification due to agricultural conversion: In the San Joaquin and associated valleys, and in the border foothill areas, conversion of natural habitat to intensive agriculture continues to be the primary cause of habitat loss for the SJKF (Cypher *et al.*, 2007). Conversion of natural lands to agriculture has continued since the SJKF was listed. By 1979, only approximately 370,000 ac out of a total of approximately 8.5 million ac on the San Joaquin Valley floor remained as undeveloped land (Williams, 1985; Service, 1980). Data from the CDFG (1985) and Service file information indicate that between 1977 and 1988, essential habitat for the BNLL, a species that occupies habitat that is also suitable for SJKF, declined by about 80 percent – from 311,680 ac to 63,060 ac, an average of about 22,000 ac per year (Biological Opinion for the Interim Water Contract Renewal, Service File No. 00-F-0056, February 29, 2000). Virtually all of the documented loss of essential habitat was the result of conversion to irrigated agriculture.

During 1990 to 1996, a gross total of approximately 71,500 ac of habitat were converted to farmland in 30 counties (total area 23.1 million ac) within the Conservation Program Focus area of the CVP. This figure includes 42,520 ac of grazing land and 28,854 ac of “other” land, which was predominantly comprised of native habitat. During this same period, approximately 101,700 ac were converted to urban land use within the Conservation Program Focus area (California Department of Conservation 1994, 1996, 1998). This figure comprises 49,705 ac of farmland, 20,476 ac of grazing land, and 31,366 ac of “other” land, which is predominantly comprised of native habitat. Because these assessments included a substantial portion of the Central Valley and adjacent foothills, they provide the best scientific and commercial information currently available regarding the patterns and trends of land conversion within the SJKF’s geographic range.

Recent unauthorized conversions of suitable SJKF habitat to agriculture have also been documented on a smaller scale in the San Joaquin Valley. For example, in 2006, approximately 1,300 ac of saltbush scrub and sink scrub habitat along I-5 north of the Kings-Kern County line were disked and converted to agriculture (J. Vance, CDFG, *in litt.* 2006).

Denning opportunities on land converted to agriculture are limited due to agricultural practices, such as cultivation, irrigation, chemical treatments, and other disturbances. The loss of denning habitat can impede successful migration of SJKF across agricultural lands because of greater vulnerability to predation resulting from a lack of possible escapes.

SJKF use some types of agricultural land where uncultivated land is maintained, allowing for denning sites and a suitable prey base (Jensen, 1972; Knapp, 1978; Hansen, 1988). SJKF also den on small parcels of native habitat surrounded by intensively maintained agricultural lands (Knapp, 1978), and adjacent to dryland farms (Jensen, 1972; Kato, 1986; Orloff *et al.*, 1986).

Mr. Zachary Parker

22

Habitat loss and modification due to urbanization: Loss and modification of habitat to urban development continues to be a threat to the SJKF throughout its range. Development along the San Joaquin Valley periphery continues to restrict both core habitat and movement corridors for the SJKF. The increasing human population of California, with the concomitant high demand for limited supplies of land, water, and other resources, has been identified as the primary underlying cause of habitat loss and degradation (Bunn *et al.*, 2007). Between 1970 and 2000, the human population of the San Joaquin Valley doubled in size; it is expected to more than double again by 2040 (Field *et al.*, 1999; Teitz *et al.* 2005). In roughly the same period (between 1987 and 2007), the Biological Opinions and Habitat Conservation plans completed by the Service's Sacramento Fish and Wildlife Office covered projects with permanent impacts to approximately 114,000 ac of natural habitat considered to be suitable for the SJKF. These projects also resulted in temporary impacts to close to an additional 20,100 ac of SJKF habitat (Service, unpublished data).

On the floor of the valley, urbanization occurs most often on previously cultivated lands, where natural habitat has been lost or degraded (Bunn *et al.*, 2007). However, urbanization also occurs along all edges of the San Joaquin Valley in areas of extant natural habitat that are important to the SJKF. Within these areas, cities that are undergoing substantial growth include, but are not limited to, Livermore, Antioch, Tracy, and Los Banos, in the northwestern portion of the SJKF's range; and Paso Robles, Tulare, and Bakersfield in the southern portion of the range. The City of Tracy has grown by 41 percent between 2000 and 2006, resulting in the loss and fragmentation of remaining SJKF habitat in the area. For example, a development proposed for the Tracy Hills would occupy all natural habitat having less than a 15 percent slope for a two mi portion of the SJKF corridor, while only preserving steeper areas for the SJKF, thereby reducing the width and viability of the needed SJKF corridor. Because the planned corridor is an integral part of the SJKF strategy for this area, construction of the proposed development is expected to place the strategy at risk (N. Pau, Service, *in litt.*, 2002). Although the project has not been built as of 2009, Service files indicate that it is once again moving forward.

Habitat loss, modification, and fragmentation due to construction of solar facilities: A number of large-scale solar development projects that would threaten SJKF population clusters are currently proposed for construction in SJKF habitat. Within the Carrizo Core Area, two solar firms propose to install solar panels on 13 square mi of land on the valley floor of the Carrizo Plain, San Luis Obispo County, just north of the Carrizo Plain National Monument (DeBare, 2008). Although this area of the Carrizo has a fair amount of dryland farming and is less likely to be optimal SJKF habitat than land within the National Monument (B. Cypher, pers. comm., 2008), these projects will create barriers to the linkage between the Carrizo Plain Core Area, the Western Kern core area, and core and satellite areas to the north and west, thereby impeding SJKF dispersal and increasing habitat fragmentation. The Service expects that additional solar projects will be proposed on lands important to the SJKF at the southern extent of its range.

Habitat loss and modification due to oil extraction and mining activities: At the time that the SJKF was federally listed, extraction of petroleum products (including crude oil, propane, natural gas, etc.) was not considered to be a threat to the SJKF, as most of the petroleum-producing land

Mr. Zachary Parker

23

was still relatively undisturbed (Jensen, 1972). The Service has not found information to indicate that gravel and sand mining activities were considered to be a threat to the SJKF at the time of listing.

Currently, oil extraction and gravel mining may pose both direct and indirect risks to the SJKF. Direct risks to the SJKF from oil-field development include human disturbance, loss of habitat and den sites (Zoellick *et al.*, 1987; Spiegel and Small, 1996; Warrick and Cypher, 1998; Cypher *et al.*, 2000; P. Kelly, pers. comm., 2000; BLM, 2008j), entombment, entrapment in sumps or oil spills, and exposure to contaminants (Spiegel and Disney, 1996; Warrick and Cypher, 1999; Cypher *et al.*, 2000). However, SJKF have appeared to be tolerant of human activities; they have frequently been observed around facilities and are known to use manmade structures (pipe, culverts, foundations) as dens, although with some mortality (Cypher *et al.*, 2000; BLM, 2008j), suggesting that the direct effects of low density oil-field development on dynamics may be minimal (Warrick and Cypher, 1998).

Indirect effects of oilfield development on the SJKF include changes to remaining habitat, and changes in predator and prey community composition and abundance. Oil spills may create short-term disruptions of primary travel routes and foraging areas for the SJKF (BLM, 2008j). Between 1976 and 1995 oil spills that occurred on 64 sites resulted in effects to an unquantified number of acres that were contaminated by chromium, arsenic, and other materials, although all sites were remediated by 1995 (Service, 1995). Short-term effects of oil spills have included a 67 percent difference in abundance of Heerman's kangaroo rats between spill areas and control areas (Warrick *et al.*, 1997). Similarly, oil field disturbances in western Kern County have been found to result in shifts in the small mammal community from the primarily granivorous (seed-eating) kangaroo rat species that are a staple prey of SJKF, to species adapted to disturbed areas (murid, or old world rodents) (Spiegel *et al.*, 1996). The effect of an altered prey community on the energetics of the SJKF is not currently known, but early studies suggest that such altered prey composition may result in lower SJKF density (Jensen, 1972). The most significant effect of oil-field development appears to be lowered carrying capacity for populations of both SJKF and their prey species due to changes in habitat characteristics, and to loss and fragmentation of habitat (Warrick and Cypher, 1998; Cypher *et al.*, 2000).

The southwestern extent of the San Joaquin Valley harbors a high proportion of the remaining SJKF occurrences (Cypher *et al.*, 2000; CNDDDB, 2008), and lands in this region that are important to the SJKF also support numerous areas of potential oilfield development. Development of these areas has continued since listing of the SJKF. By 2007, the Western Kern County Core Area included a number of high-density oil fields on private lands (i.e., Midway-Sunset, Elk Hills Oilfield (formerly the NPR-1), Cymric, and South Belridge). The Midway-Sunset Oilfield contains the highest-producing BLM lease in the United States (BLM, 2008i). The 74 square-mi Elk Hills Oilfield, the seventh largest oilfield in the United States, is surrounded on three sides by oil and gas fields and agricultural lands, while on the northwest side, it is adjacent to the 30,000-acre Lokern Natural Area (also known as the Lokern Road area), an area of relatively undisturbed publicly and privately-owned habitat (Service, 1995). Federal lands under the jurisdiction of the BLM, including the Buena Vista Oilfield (formerly the

Mr. Zachary Parker

24

NPR-2), an area south of Lokern Road in Kern County, and lands in the Temblor Range east of Carrizo Plain National Monument occupy another 59,703 ac of the core area. Subsequent to passage of the Energy Policy Act in 2005, the BLM leased an additional 2,500 ac of Federal lands in September 2006 (BLM 2008i).

In the Carrizo Plain National Monument (Carrizo Plains Natural Area core area), approximately 130,000 ac of mineral rights are privately owned (Whitney, 2008a, b), including 30,000 ac of privately-held subsurface mineral rights in the center of the monument (BLM, 2008h). In addition, five of the 13 “satellite areas”, which have been designated as important for recovering subpopulations of the SJKF, have substantial petroleum production areas. Between five and eight percent of the acreage in each of these areas is comprised of lands currently open to oil and gas leasing. Most of the BLM lands in this area are scattered in a checkerboard pattern of one square-mi (640 ac) parcels or smaller. Oil and gas leases on lands under the jurisdiction of BLM are subject to limited surface-use stipulations for the protection of threatened and endangered species (BLM, 1984, 1997; Lowe *in litt.* 2006, 2007).

On public lands, including the Carrizo Plains National Monument and other BLM lands, oil and gas leasing continues to pose a threat to SJKF populations. Most oil and gas leasing and development activities on public lands occur in the San Joaquin Valley on lands managed by the BLM’s Bakersfield Office (BLM, 2008i). Approximately 440,000 ac of Federal mineral estate holdings are located in the San Joaquin Valley (BLM, 2008j). In the past 10 years, oilfield development has increased in this area, with extensive new development initiated in shallow diatomite oil-bearing formations. During the period from 2001 to 2005, 10,873 wells were drilled, with 10,746 completed. During the same period, 8,844 wells were abandoned (BLM, 2008j). This 10-year time period includes periods of very high, and very low, gas prices (BLM, 2008j), suggesting that development will continue despite fluctuations in the oil and gas markets. Additional incentive for development stems from new technology that is predicted to result in recovery of up to 3.5 billion additional barrels of undiscovered oil from existing reserves (USGS, 2004). BLM lease offerings have included lands that were previously in row crops, and natural lands, including sparse saltbush scrub. Based on data collected in the past 10 years, the BLM predicts that up to 25,000 wells may be drilled on Federal, State, and private lands in the San Joaquin Valley over the next 10 years, with 1,250 – 2,500 wells on Federal Lands (BLM, 2008j). While BLM lands are subject to degradation by oil and gas exploration activities, the BLM Oil and Gas Programmatic Biological Opinion for Kings and Kern Counties limits modification of high quality habitat to less than 10 percent of each 640 ac section, and modification of lower quality habitat to less than 25 percent. The BLM Oil and Gas Programmatic also limits total permanent modification of SJKF habitat on BLM lands throughout Kings and Kern Counties to 1,725 ac. However, several sections within NPR-2, however, had already exceeded the modification thresholds when the BLM acquired the properties (Service, 2001, 2003) and are not subject to these limitations.

Currently, the southern half of the San Joaquin Valley continues to be an area of expansion and development activity for extraction of petroleum products. Recent and continuing oil and gas leases are being offered within the range of the SJKF in Kern, Kings, Fresno, San Benito, and

Mr. Zachary Parker

25

Monterey Counties (BLM, 2008a, b, c, d, e, f, and j), in which they have the potential to affect SJKF habitat and dispersal corridors. In addition, within the Carrizo National Monument, Vintage Production LLC, a subsidiary of Occidental Petroleum, recently submitted a permit request to the BLM to explore for oil on 30,000 ac of subsurface mineral holdings in the heart of the Monument's valley floor grasslands (BLM, 2008h; Whitney, 2008a, b). Work is projected to start in spring or summer of 2009 (BLM, 2008h). Although exploration could set the stage for negotiations to purchase the oil rights (Whitney, 2008a), it is also possible that exploration will result in development of oil resources in high-value SJKF habitat.

In addition to oil field development, existing and additional proposed sand and gravel mining activities are expected to affect areas in the Western Kern County Core area (e.g., the Johnny Cat mine) and in areas such as the Salinas River Watershed in northern San Luis Obispo County, where proposed linear sand/gravel mines are expected to present barriers to the movement of the SJKF in the habitat corridor between the Carrizo Plain and Camp Roberts (Service, 2006c; Service, 2008).

The most robust SJKF populations now occur in the oil-producing region of the San Joaquin Valley, suggesting that they can persist well with low-density oil development. The cumulative and long-term effects of oil extraction activities on SJKF populations are not fully known, but studies included herein indicate that moderate to high density oil fields contribute to a decrease in carrying capacity for SJKF through outright habitat loss and through changes in characteristics of remaining habitat over time (Spiegel, 1996; Warrick and Cypher, 1998; Cypher *et al.*, 2000). Currently, the areas in which SJKF populations are most robust are also the areas slated for expansion of oil extraction activities, including focused activities on Federal lands that are usually thought to offer protection from development. It is therefore reasonably certain that oil field development will continue to threaten the SJKF into the foreseeable future, while increased development in the arid oil lands of Kern County may present exceptional threats to critical SJKF localities.

Oil fields in the southern half of the San Joaquin Valley also continue to be an area of expansion and development activity. This expansion is reasonably certain to increase in the near future owing to market-driven increases in the price of oil. The cumulative and long-term effects of oil extraction activities on SJKF populations are not fully known, but recent studies indicate that moderate- to high-density oil fields may contribute to a decrease in carrying capacity for SJKF owing to habitat loss or changes in habitat characteristics (Spiegel, 1996, Warrick and Cypher, 1998). There are no limiting factors or regulations that are likely to retard the development of additional oil fields. Hence, it is reasonably certain that development will continue to destroy and fragment SJKF habitat into the foreseeable future.

Habitat loss, modification, and fragmentation due to construction of infrastructure:

Construction of infrastructure projects continues to result in the direct loss and indirect modification of remaining SJKF habitat throughout its range. Paved roads, canals, reservoirs, water banks, sound walls, and similar facilities present both permanent loss of habitat and potential barriers to SJKF movement that fragments habitat.

Mr. Zachary Parker

26

Road construction in the San Joaquin Valley has resulted in the loss of SJKF habitat since listing. The Service does not have data to show the historic and current loss of SJKF habitat rangewide that is the direct result of road construction. However, rough calculations of the acreage of land lost to road development indicate that by 2003, over 7,000 ac of land had been transferred to Caltrans' jurisdiction, including 590 ac in Kings County, 1,065 ac in Merced County, and 2,020 ac in Fresno County (K. Hau, Caltrans, pers. comm., as cited in Bjurlin and Cypher, 2003).

Canals also present substantial barriers to SJKF movement across the canal features. Canals are known to be hazards that can result in wildlife drownings (J. Lowe, BLM, *in litt.* 2007). Monitoring has shown that some wildlife species, including red and gray fox, will utilize flumes, pipelines, and other structures to cross canals, including the California aqueduct and the DMC (Johnson *et al.*, 1994), potentially suggesting that the SJKF may achieve some cross-canal movement, although the mortality due to drowning is not known. However, use of such structures by SJKF predators may serve to deter SJKF from using the structures when available, and the Service has no information quantifying the use of these features by SJKF.

In contrast, several canal right-of-ways have been proposed as travel corridors between northern and central occurrences of the species along either side of the canal (Clark *et al.*, 2003a). The natural lands in canal right-of-ways can provide relatively abundant prey, and are utilized by the SJKF (Warrick *et al.*, 2007), so may serve as linkages that facilitate north-south movement of the SJKF (Warrick *et al.*, 2007). However, SJKF competitors, including red fox, also utilize these corridors (Clark *et al.*, 2003a) and may inhibit their successful use by SJKF (Johnson *et al.*, 1994; Clark *et al.*, 2005; Cypher *et al.*, 2005b; Smith *et al.*, 2006).

Competition with Other Canids

Several species prey upon the SJKF. Predators (such as coyotes, bobcats, non-native red foxes, badgers (*Taxidea taxus*), and golden eagles (*Aquila chrysaetos*) will kill the SJKF. Badgers, coyotes, and red foxes also may compete for den sites (Service, 1998). The diets and habitats selected by coyotes and SJKF living in the same areas are often quite similar (Cypher and Spencer, 1998). Hence, the potential for resource competition between these species may be quite high when prey resources are scarce such as during droughts (which are quite common in semi-arid, central California).

Coyotes occur in most areas with abundant populations of SJKF and, during the past few decades, coyote abundance has increased in many areas owing to a decrease in ranching operations, favorable landscape changes, and reduced control efforts (Orloff *et al.*, 1986; Cypher and Scrivner, 1992; White and Ralls, 1993; White *et al.*, 1995). Coyotes may attempt to lessen resource competition with SJKF by killing them. Coyote-related deaths of adult SJKF appear to be largely additive (i.e., in addition to deaths caused by other mortality factors such as disease and starvation) rather than compensatory (i.e., tending to replace deaths due to other mortality factors) (White and Garrott, 1997). Hence, the survival rates of adult SJKF decrease significantly as the proportion of mortalities caused by coyotes increases (Cypher and Spencer, 1998; White and Garrott, 1997). Increases in coyote abundance may contribute to significant

Mr. Zachary Parker

27

declines in SJKF abundance (Cypher and Scrivner, 1992; Ralls and White, 1995; White *et al.*, 1996). There is some evidence that the proportion of juvenile foxes killed by coyotes increases as fox density increases (White and Garrott, 1999). This density-dependent relationship provides a feedback mechanism that reduces the amplitude of SJKF population dynamics and keeps foxes at lower densities than they might otherwise attain.

Land-use changes also contributed to the expansion of nonnative red foxes into areas inhabited by SJKF. Historically, the geographic range of the red fox did not overlap with that of the SJKF. By the 1970s, however, introduced and escaped red foxes had established breeding populations in many areas inhabited by the SJKF (Lewis *et al.*, 1993). The increased abundance and distribution of nonnative red foxes will also likely adversely affect the status of SJKF because they are closer morphologically and taxonomically, and likely have higher dietary overlap than coyotes, potentially resulting in more intense competition for resources. Also, a telemetry study of sympatric red foxes and SJKF in the Lost Hills area detected spatial segregation between these species, suggesting that SJKF may avoid or be excluded from red fox-inhabited areas (P. Kelly, pers. comm., 2000). Such avoidance would limit the resources available to local populations and possibly result in decreased SJKF abundance and distribution.

Disease

Wildlife diseases do not appear to be a primary mortality factor consistently limiting SJKF populations throughout their range (McCue and O'Farrell, 1988; Standley and McCue, 1992). However, documented cases in the 1990s in central California saw a high incidence of wildlife rabies cases (Schultz and Barrett, 1991), and high seroprevalences of canine distemper virus and canine parvovirus (McCue and O'Farrell, 1988; Standley and McCue, 1992). Hence, disease outbreaks could potentially cause substantial mortality or contribute to reduced fertility in seropositive females.

For example, there are some indications that rabies virus may have contributed to a catastrophic decrease in SJKF abundance at Camp Roberts, San Luis Obispo County, California, during the early 1990s. San Luis Obispo County had the highest incidence of wildlife rabies cases in California during 1989 to 1991, and striped skunks (*Mephitis mephitis*) were the primary vector (Barrett, 1990; Schultz and Barrett, 1991; Reilly and Mangiamele, 1992). A rabid skunk was trapped at Camp Roberts during 1989 and two SJKF were found dead due to rabies in 1990 (Standley *et al.* 1992). Captures of SJKF during annual live trapping sessions at Camp Roberts decreased from 103 to 20 individuals during 1988 to 1991. Captures of SJKF were positively correlated with captures of skunks during 1988 to 1997; suggesting that some factor(s) such as the rabies virus was contributing to concurrent decreases in the abundances of these species.

Pesticides and Rodenticides

Pesticides and rodenticides pose a threat to SJKF through direct or secondary poisoning. SJKF could be killed if they ingest rodenticide in a bait application, or if they eat a rodent that has consumed the bait. Even sublethal doses of rodenticides may lead to the death by impairing their

ability to escape predators or to find food. Pesticides and rodenticides may also indirectly affect the survival of SJKF by reducing the abundances of their staple prey species. For example, the California ground squirrel, which is the staple prey of the SJKF in the northern portion of their range, was thought to have been eliminated from Contra Costa County in 1975, after extensive rodent eradication programs. Field observations indicated that the long-term use of ground squirrel poisons in this county severely reduced SJKF abundance through secondary poisoning and the suppression of populations of its staple prey (Orloff *et al.*, 1986).

SJKF occupying habitats adjacent to agricultural lands are also likely to come into contact with insecticides applied to crops owing to runoff or aerial drift. They may be affected through direct contact with sprays and treated soils, or through consumption of contaminated prey. Data from the CDFG Pesticide Investigations Unit (CDFG, 1999) indicate that acephate, aldicarb, azinphos methyl, bendiocarb, carbofuran, chlorpyrifos, endosulfan, s-fenvalerate, naled, parathion, permethrin, phorate, and trifluralin are used within one mi of SJKF habitat. A wide variety of crops, as well as buildings, Christmas tree plantations, commercial/industrial areas, greenhouses, nurseries, landscape maintenance, ornamental turf, rangeland, rights of way, and uncultivated agricultural and non-agricultural land, occur in close proximity to SJKF habitat.

Efforts were undertaken to reduce the risk of rodenticides to the SJKF (Service, 1993). The Federal government began controlling the use of rodenticides in 1972 with a ban of Compound 1080 on Federal lands pursuant to Executive Order. Above-ground application of strychnine within the geographic ranges of listed species was prohibited in 1988. Despite such efforts, the use of other pesticides and rodenticides still posed a significant threat to the SJKF, as evidenced by the death of two SJKF at Camp Roberts in 1992 owing to secondary poisoning from chlorophacinone applied as a rodenticide (Berry *et al.*, 1992; Standley *et al.*, 1992).

A September 22, 1993, biological opinion issued by the Service to the Environmental Protection Agency (EPA) regarding the regulation of pesticide use (31 registered chemicals) through administration of the Federal Insecticide, Fungicide, and Rodenticide Act, found that use of the following chemicals would likely jeopardize the continued existence of the SJKF: (1) aluminum and magnesium phosphide fumigants; (2) chlorophacinone anticoagulants; (3) diphacinone anticoagulants; (4) pival anticoagulants; (5) potassium nitrate and sodium nitrate gas cartridges; and (6) sodium cyanide capsules (Service, 1993). Reasonable and prudent alternatives to avoid jeopardy included restricting the use of aluminum/magnesium phosphide, potassium/sodium nitrate within the geographic range of the SJKF to qualified individuals, and prohibiting the use of chlorophacinone, diphacinone, pival, and sodium cyanide within the geographic range of the SJKF, with certain exceptions (i.e., agricultural areas greater than one mi from any SJKF habitat) (Service, 1999).

Reduction in prey availability

SJKF have been strongly linked ecologically to kangaroo rats, with SJKF densities and population stability highest in areas with abundant kangaroo rats (Spiegel *et al.*, 1996; Cypher *et al.* 2000; Cypher, 2006; see also Bean and White, 2000). Abundance of prey species,

Mr. Zachary Parker

29

particularly abundance of kangaroo rats, has been linked with successful recruitment of young SJKF and increases in SJKF population numbers (Morell, 1972; Orloff *et al.* 1986; White and Ralls 1993; Cypher *et al.* 2000; Bidlack, 2007; L. Saslaw, BLM, pers. comm. 2008). Conversely, prey scarcity has been a primary factor contributing to decreased reproductive success during droughts (White and Ralls, 1993), or to extirpation of SJKF in specific localities (Williams *in litt.*, 2007). Early studies suggested that kangaroo rats were a preferred food for the SJKF throughout the range (Laughrin, 1970), and that SJKF densities were lower in areas like those near Bakersfield where plant associations changed and abundant ground squirrels replaced kangaroo rats (Jensen, 1972). Current studies have shown that SJKF subsist primarily on ground squirrels in some portions of their range, including areas around Bakersfield, and in valleys within the inner Coast Range (Balestreri, 1981; Orloff *et al.* 1986; Cypher and Warrick, 1993), while they may subsist on a variety of native and nonnative species in disturbed areas or areas near to agriculture, and often also rely upon insect prey during portions of the year (Spiegel *et al.*, 1996; Cypher and Brown, 2006).

Vehicular Mortality

SJKF mortality and injury occurs when attempting to cross roads. The majority of strikes likely occur at night when the animals are most active. Such hits are usually fatal for an animal the size of a SJKF. If vehicle strikes are sufficiently frequent in a given locality, this could result in reduced SJKF abundance. The death of SJKF during the December through March breeding season could also result in reduced reproductive success. Death of females during gestation or prior to pup weaning could result in the loss of an entire litter of young, and therefore, reduced recruitment of new individuals into the population.

Vehicle strikes appear to occur most frequently where roads transverse areas where SJKF are abundant. However, the linear quantity of roads in a given area may not be directly related to the number of vehicle strikes in a given area. The number of strikes likely increases with road size, traffic volume, and average speed (Clevenger and Waltho, 1999). Another factor influencing mortality, but for which little data are available, is the frequency with which the animals cross roads and are therefore at risk. The proportion of successful road crossings by these animals likely declines with increasing road size, traffic volume and density, and vehicle speeds. The proportion of SJKF successfully crossing roads may increase in areas where they obtain more experience crossing roads, such as in and near urban areas.

Occurrences of vehicle strikes involving SJKF have been well documented, and such strikes occur throughout the range of the species. Sources of SJKF mortality were examined during the period 1980-1995 at the NPR in California in western Kern County (Cypher *et al.*, 2000).

During this period, 341 adult SJKF were monitored using radio telemetry, and 225 of these animals were recovered dead. Of these, 20, or nine percent, were struck and killed by vehicles. During this same period, 184 juvenile (less than one year old) SJKF were monitored. Of these, 142 were recovered dead and 11, or eight percent, were killed by vehicles. For both adults and juveniles, vehicle strikes accounted for less than 10 percent of all SJKF deaths in most years.

Mr. Zachary Parker

30

However, in some years, vehicles accounted for about 20 percent of deaths (predators, primarily coyotes and bobcats, were the primary source of mortality at the NPR).

In other areas of western Kern County, 49 SJKF were radio-collared in the highly developed Midway-Sunset oil field, and 54 SJKF were radio-collared in the Lokern Natural Area, a nearby undeveloped area, during the period between 1989 and 1993 (Spiegel and Disney, 1996). Of these animals, 60 were recovered dead; one (two percent) was killed by a vehicle, and it was found in an undeveloped area along the access road adjacent to the California Aqueduct. Though six non-collared SJKF were killed by vehicles on the access road, predators, primarily coyotes, bobcats, and feral dogs were responsible for most deaths in this study.

Morrell (1970) acknowledged that there is some bias deriving from the fact that road-killed SJKF are conspicuous and easily observed compared to animals dying from other causes. Though predators such as coyotes, bobcats, non-native red foxes, and domestic dogs likely constitute a higher source of mortality than vehicle strikes (Service, 1998; Cypher, 2000), predation as a source of mortality is likely dependent upon local conditions. Where abundance of predators has also been reduced due to road density and loss of habitat, vehicle strikes may present a significant threat to SJKF survival and recovery.

Barrier Effects

Roads can constitute barriers to SJKF movements, dispersal, and gene flow. Movements and dispersal corridors are critical to SJKF population dynamics, particularly because the species currently persists as metapopulations. Movement and dispersal corridors are important for alleviating over-crowding and intraspecific competition during years when SJKF abundance is high, as well as for facilitating the recolonization of areas in which the animal has been extirpated. Movement between population centers maintains gene flow and reduced genetic isolation. Genetically isolated populations are at greater risk of deleterious genetic effects such as inbreeding, genetic drift, and founder effects.

Noise Harassment

Increases in ambient noise level are unlikely to cause direct harm to the SJKF; however, its hearing is acute. The ability to habituate to noise appears to vary widely between species. Typical construction machinery produces noise in the range of 75 dBA (arc-welder) to 85 dBA (bulldozer) (Berglund and Lindvall, 1995). On the one hand, harassment from long-term noise may cause the SJKF and its prey species to vacate an area. Disturbance from construction and operation of the project may also induce stress in the SJKF and affect physiological parameters or behavior. The resulting effects could include increased energetic requirements, decreased reproductive output, decreased immunological functions, altered space use patterns, displacement, or possibly death. On the other hand, observations from a variety of sources and situations suggest that SJKF may not be significantly affected by disturbance, even when the source is prolonged or continuous (Cypher, 2000). Even so, individual animals may be more

Mr. Zachary Parker

31

affected than others, and it is unknown whether different types of disturbance result in reduced local abundance.

Endangered Species Act Section 9 Violations and Compliance with the Terms and Conditions of Existing Biological Opinions:

The intentional or unintentional destruction of areas occupied by SJKF is an issue of serious concern. Section 9 of the Act prohibits the “take” (e.g., harm, harass, pursue, injure, kill) of federally-listed wildlife species. “Harm” (i.e., “take”) is further defined to include habitat modification or degradation that kills or injures wildlife by impairing essential behavioral patterns including breeding, feeding, or sheltering. Congress established two provisions (under sections 7 and 10 of the Act) that allow for the “incidental take” of listed species of wildlife by Federal agencies, non-Federal government agencies, and private interests. Incidental take is defined as “incidental to, and not the purpose of, the carrying out of an otherwise lawful activity.” Such take requires a permit from the Secretary of the Interior that anticipates a specific level of take for each listed species. If no permit is obtained for the incidental take of listed species, the individuals or entities responsible for these actions could be liable under the enforcement provisions of potential section 9 of the Act if any unauthorized take occurs. Nevertheless, the Service is aware of numerous instances of conversion of fox habitat to agricultural, residential, and commercial purposes throughout the San Joaquin Valley.

Recovery Status

A recovery plan approved in 1983 proposed interim objectives of halting the decline of the SJKF and increasing population sizes above 1981 levels (Service, 1983). Conservation efforts subsequent to the 1983 recovery plan have included habitat acquisition by BLM, CDFG, California Energy Commission, Bureau of Reclamation, the Service, and the Nature Conservancy. Purchases most significant to conservation efforts were the acquisitions in the Carrizo Plain, Ciervo-Panoche Natural Area, and the Lokern Natural Area. Other lands have been acquired as compensation for land conversions, both temporary and permanent.

An updated recovery plan covering upland species of the San Joaquin Valley, including the SJKF, was written in 1998. The primary goal of the recovery strategy for the SJKF identified in the Recovery Plan is to establish a complex of interconnected core and satellite populations throughout the species' range. The long-term viability of each of these core and satellite populations depends partly upon periodic dispersal and genetic flow between them. Therefore, SJKF movement corridors between these populations must be preserved and maintained. In the northern range, from the Ciervo Panoche in Fresno County northward, SJKF populations are small and isolated, and have exhibited significant decline. The core populations are the Ciervo-Panoche area, the Carrizo Plain area, and the western Kern County population. Satellite populations are found in the urban Bakersfield area, Porterville/Lake Success area, Creighton Ranch/Pixley Wildlife Refuge, Allensworth Ecological Reserve, Semitropic/Kern NWR, Antelope Plain, eastern Kern grasslands, Pleasant Valley, western Madera County, Santa Nella,

Mr. Zachary Parker

32

Kesterson NWR, and Contra Costa County. Major corridors connecting these population areas are on the east and west side of the San Joaquin Valley, around the bottom of the Valley, and cross-valley corridors in Kern, Fresno, and Merced Counties.

The recovery criteria for the SJKF include site-specific objectives for habitat protection in each of the identified core and satellite areas (Service, 1998, page 188). In the Carrizo Plains Natural Area (including BLM, CDFG, The Nature Conservancy, and private lands) in San Luis Obispo County, the protection level was set at 100 percent of existing potential habitat. In western Kern County (including BLM, CDFG, Kern County Water Agency, California Department of Water Resources, US Department of Energy, Center for Natural Lands Management, and private lands) the protection level was set at 90 percent of the existing potential habitat, and at the Ciervo-Panoche Natural Area (including BLM, CDFG, and private lands) in Fresno and San Benito Counties, the protection level was set at 90 percent of the existing potential habitat. For the nine or more proposed satellite populations, the protection level was set at 80 percent of the existing potential habitat. The term “potential habitat” is not defined in the Recovery Plan; however, the Service expects that to achieve recovery, habitat must include components, such as appropriate physical conditions, vegetative structure, and community structure needed by the SJKF.

The first downlisting criterion, to secure and protect the three core populations and three satellite populations from incompatible uses, has not yet been achieved. Service files indicate that, although lands have been protected in many of the satellite areas through use of Habitat Conservation Plans (HCPs), conservation banks, etc., no satellite areas are sufficiently secured from incompatible uses.

The second recovery criterion requires that all protected lands identified as important to the SJKF’s continued survival have management plans that include survival of the SJKF as a management objective. It has not yet been achieved.

The third recovery criterion stipulates that population in the specified recovery areas shows that the three core areas have stable or increasing populations through one precipitation cycle and that there is population interchange between one or more core populations and the three satellite populations. Because population dynamics of most SJKF populations can greatly fluctuate, and the isolation and loss of small subpopulations due to stochastic events and habitat fragmentation, this recovery criterion has not been achieved.

Blunt-nosed Leopard Lizard

The BNLL was federally listed as endangered on March 11, 1967 (32 FR 4001) and was listed by the State of California as endangered on June 27, 1971. A recovery plan for the BNLL was first prepared in 1980, revised in 1985, and then superseded by the Service’s 1998 Recovery Plan (Service, 1998). The recovery strategy requires that the Service (1) determine appropriate habitat management and compatible land uses for the BNLL; (2) protect additional habitat for

Mr. Zachary Parker

33

them in key portions of their range; and (3) gather additional data on population responses to environmental variation at representative sites in their existing geographic range (Service, 1998).

The BNLL was distributed historically throughout the San Joaquin Valley and adjacent interior foothills and plains, extending from central Stanislaus County south to extreme northeastern Santa Barbara County. Today its distribution is limited to scattered parcels of undeveloped land, with the greatest concentrations occurring on the west side of the valley floor and in the foothills of the Transverse Range. The BNLL prefers open, sparsely vegetated areas of low relief and inhabits Valley Sink Scrub, Valley Saltbush Scrub, valley/plain grasslands, and foothill grasslands vegetation communities.

Adult BNLL often seek safety in burrows, while immature BNLL use rock piles, trash piles, and brush. They use burrows constructed by mammals, such as kangaroo rats, for overwintering and estivation. Adult BNLL hibernate during the colder months of winter, and are less active in the hotter months of late summer. Adults are active above ground from about March or April through September. Hatchlings are active until mid-October or November, depending on weather. BNLL habitat has been significantly reduced, degraded, and fragmented by roads, agricultural development, petroleum and mineral extraction, livestock grazing, pesticide application, and off-road vehicle use.

In Kern County, the BNLL currently occupies scattered parcels of undeveloped land on the Valley floor, and occurs in the foothills of the Coast Range. While the BNLL can occupy grassland used for grazing it prefers lands with scattered shrubs and sparse grass/forb cover. Habitat for the BNLL has been lost or degraded due to oil development, urban development, row crops, pesticide application, and off-road vehicle use (Service, 1998).

Habitat disturbance, destruction, and fragmentation continue as the greatest threats to BNLL populations. Disturbances and modifications of habitats within areas of mineral and petroleum development pose lesser, but continuing threats as they degrade the habitat. Mortality occurs when animals are killed in their burrows during construction, killed by vehicle traffic, drowned in oil, or fall into excavated areas from which they are unable to escape. Displaced BNLL may be unable to survive in adjacent habitat if it is already occupied or unsuitable for colonization.

Livestock grazing can result in removal of herbaceous vegetation and shrub cover and destruction of rodent burrows used by BNLL for shelter. Unlike cultivation of row crops, which precludes use by BNLL, light or moderate grazing may be beneficial. The use of pesticides may directly and indirectly affect the BNLL. The insecticide malathion has been used since 1969 to control the beet leafhopper, and its use may reduce insect prey populations. Fumigants such as methyl bromide are used to control ground squirrels. Because BNLL often inhabit ground squirrel burrows, they may be inadvertently poisoned.

In recent years, above average precipitation seems to have increased the amount of vegetative cover. This increase in cover may be a factor in the low abundance of adult BNLLs seen during

Mr. Zachary Parker

34

the population monitoring at the former NPR in western Kern County in 1995 (EG&G Energy Measurements, 1996).

The BLM has conducted surveys and compiled observational data from BLM lands in western Kern, Kings, and Fresno Counties. Currently, the BLM and USGS-Biological Research Division are conducting a 5- to 10-year research study in the Lokern Area to evaluate the effects of cattle grazing on BNLL, GKR, San Joaquin antelope squirrel, other small mammals, and the KM plant.

Extant populations of BNLL are known from the Carrizo Plain, Elk Hills, around Taft, and at various other locations in the vicinity of the project area (Service, 1998). There are numerous records from the vicinity in the NDDDB and other sources. The McKittrick Valley area is included in one of several larger areas given highest priority for habitat protection for the BNLL. The Lokern and Elk Hills areas have also been targeted for habitat protection for the species (Service, 1998).

There has never been a comprehensive survey of the entire historical range of the BNLL, and therefore less is known about this animal's distribution than giant and Tipton kangaroo rats (Service, 1998). The currently known occupied range of the BNLL is in scattered parcels of undeveloped land and margins of developed land on the Valley floor, and in the foothills of the Coast Range. The BNLL occurs from Merced and Madera Counties in the north, through Fresno, Kings, Tulare, and Kern Counties to San Luis Obispo, Santa Barbara, and Ventura Counties in the south, as shown on Figure 49 of the Recovery Plan.

California jewel-flower

The CJF was listed as an endangered species on July 19, 1990 (Service, 1990) and was listed as endangered by the State of California in January 1987. The Recovery Plan includes the CJF (Service, 1998). The recovery goal is to maintain self-sustaining populations in protected areas representative of the former geographic and topographic range of the species and in a variety of appropriate natural communities.

The primary reason for the decline of the CJF is habitat destruction. All the populations on the San Joaquin and Cuyama Valley floors have been eliminated. Conversion to agriculture accounts for the loss of most sites, but the sites closest to Bakersfield and Fresno were destroyed by urbanization. Oilfield activity may have eliminated a few sites in the foothills at the western margin of the San Joaquin Valley (Taylor and Davilla, 1986). Potential threats to one or more of the remaining populations of CJF include competition from exotic plants, the effects of certain insecticides on pollinators, and small population size (Service, 1998). The CJF is an annual, meaning that each plant lives less than one year, and the entire life cycle from seed germination to seed set is completed in a single growing season. As is typical of annuals, both plant size and population size can vary dramatically, depending on site and weather conditions. The CJF probably forms a persistent seed bank. The presence of a seed bank would explain the reappearance of CJF in uncultivated areas where it has not been observed for decades. In years of above average rainfall during the growing season, 46 percent to 85 percent of plants in study

Mr. Zachary Parker

35

areas on the Carrizo Plain survived long enough to produce seed. In years of below average precipitation or above average temperatures, all the plants may die before setting seed (Service, 1998).

The historical distribution of the CJF is known from seven counties. Occurrences were noted in Fresno, Kern, and Tulare counties and the Carrizo Plain (San Luis Obispo County) and the Cuyama Valley (Santa Barbara and Ventura counties). The species was also found in the Sierra Nevada foothills at the eastern edge of Kern County and in Kings County. By 1986, all occurrences on the San Joaquin and Cuyama Valley floors had been extirpated, and the only known natural population still in existence was in Santa Barbara Canyon, which is adjacent to the Cuyama Valley in Santa Barbara County. A small, introduced population colony also existed at the Paine Preserve in Kern County at that time. Since 1986, several more introductions have been attempted, and a number of colonies were rediscovered in two other areas where the species had been collected historically. Populations of CJF that are known to be extant are shown on Figure 6 in the Recovery Plan (Service, 1998).

One of the recovery criteria for CJF in the 1998 Recovery Plan is that each population be stable or increasing. The Carrizo Plain metapopulation was presumed to be secure because it is mostly on public land, but Bureau of Land Management personnel recently discovered trespass sheep grazing on the adjacent private land. Demographic monitoring is proposed to determine the overall trend of the metapopulation by tracking several subpopulations ranging in size from small to large and including those that were recently grazed and others that have not been grazed for at least 10 years. This research addresses Recovery Task #4.3 (reproduction and demography) in the Recovery Plan.

San Joaquin Woolly-threads

The SJWT, a member of the sunflower family (Asteraceae), was federally-listed as endangered in 1990 (Service, 1990). It has not been listed by the State of California. The Recovery Plan includes the SJWT (Service, 1998). The recovery goal for this species is similar to that for other plant species discussed in the Service's 1998 Recovery Plan: to maintain self-sustaining populations in protected areas representative of the former geographic and topographic range of the species and in a variety of appropriate natural communities. The recovery task with the highest priority is to protect existing habitat within the San Joaquin Valley.

The historic range of the SJWT included the Valley floor, the hills west of the Valley, and the Cuyama Valley. Occurrences were found in Fresno, Kings, Kern, San Benito, San Luis Obispo, and Santa Barbara counties. Currently, populations can be found on the Carrizo Plain (San Luis Obispo County), near Lost Hills (Kern County), in the Kettleman Hills (Kings and Fresno counties), in the Jacalitos Hills and Panoche Hills (Fresno and San Benito counties, respectively), in the Bakersfield area (Kern County), and in the Cuyama Valley (San Luis Obispo and Santa Barbara counties).

Mr. Zachary Parker

36

The SJWT occurs in grassland and scrubland habitats. The species generally occupies microhabitats with less than 10 percent shrub cover, although herbaceous cover may be sparse or dense, and cryptogamic crust may or may not be present. The SJWT occurs on neutral to sub-alkaline soils. On the San Joaquin Valley floor, the species typically is found on sandy or sandy-loam soils, whereas on the Carrizo Plain it occurs on silty soils. The species frequently occurs on sand dunes and sandy ridges as well as along the high-water line of washes and on adjacent terraces. Habitat loss is the reason for the decline of the species on the floors of the San Joaquin and Cuyama valleys. Intensive agriculture led to the loss of the majority of the occurrences in the valleys, with other sites being destroyed by urban development in and around Bakersfield and intensive oilfield development between Lokern and Lost Hills.

The SJWT once ranged throughout the floor of the San Joaquin Valley from western Fresno County and eastern Tulare County south to the foothills of the Tehachapi Mountains, reaching into San Benito County (Taylor, 1989). Four metapopulations and several small, isolated populations occur in the hills and plateaus west of the San Joaquin Valley. The largest metapopulation occurs on the Carrizo Plain, where the occupied habitat totaled over 1,100 hectares (2,800 ac) in 1993, a particularly favorable year. Much smaller metapopulations are found in Kern County near Lost Hills, in the Kettleman Hills of Fresno and Kings Counties, and in the Jacalitos Hills of Fresno County. Several isolated occurrences are known from the Panoche Hills in Fresno and San Benito Counties, the Bakersfield vicinity, and the Cuyama Valley (Service, 1998). The species has been extirpated from Tulare County.

It appears to favor non-alkaline soils of sandy or silty sand texture and an arid climatic regime (Taylor, 1989). It is thought to be a poor competitor with introduced annual grasses (Ibid), but specific competitive effects have not yet been documented by scientific study. Much of the habitat for SJWT has been eliminated by conversion of annual grassland sites to agriculture. It currently is known to occupy scattered areas that total approximately 3,000 ac of pastures in the Carrizo and Elkhorn Plains (Service, 1998).

Environmental Baseline

Status of the Species within and in the vicinity of the action area

Giant kangaroo rat

The action area is located within one of six fragmented but extant geographic units comprising the current distribution of the species population: the western Kern County unit covers the areas of Lokern, Elk Hills (NPR-1), and other uplands around the McKittrick and Buena Vista Valleys, NPR-2, Taft, and Maricopa (Williams *et al.*, 1995; Service, 1998). Suitable habitat in the form of a mosaic of disturbed Valley Saltbush Scrub, non-native grassland, and ruderal lands exists for the GKR in the action area; Valley Saltbush Scrub and grassland habitats adjacent to the project footprint have also been sites of documented GKR occurrences [California Natural Diversity Database (CNDDB), CDFG, 2008)]. Specifically, according to the CNDDB (2010), there are 17 recorded occurrences of the GKR found within the USGS Taft and Mouth of Kern 7.5- minute

Mr. Zachary Parker

37

quadrangles, the quadrangles within which the action area is located. Of these, several are located approximately one to several miles from the action area.

No GKR individuals were identified within the action area among those species captured during two sets of surveys carried out by Caltrans and its contractor in 2002 and 2003 (the Heermann's kangaroo rat being the most commonly trapped in both years, followed by the short-nosed kangaroo rat and other species). However, according to the CDFG, field surveys conducted in 2004 discovered GKR within 0.5 mi of the proposed new alignment. Individuals were captured along the southern edge of Sections 27 and 28 of Township 31 south, Range 24 east. To establish a continuing inclusive picture of the status of the species adjacent to the action area, Quad Knopf (2006), between 2001 and 2005, surveyed the number of active GKR precincts on the northern (i.e., Lokern) and southern (i.e., Buena Vista Valley) flanks of the Elk Hills (i.e., NPR-1). NPR-1 is located directly to the north of the action area. In 2005, active GKR precincts were reported in 11 out of 13 640 ac sections surveyed. A total of 275 active GKR precincts were observed in 2005 compared to 199 precincts reported in 2004.

The status of the western Kern County GKR sub-population has been, and continues to be, impacted by past and present Federal, State, private, and other human activities and natural factors. Urban and industrial developments, petroleum and mineral exploration and extraction, new energy and water conveyance facilities, and construction of transportation infrastructure continue to destroy habitat for the GKR (Service, 1998). Henry (1995a, 1995b) argued that the sale of NPR-1, situated immediately to the north of the existing SR 119 alignment, could represent a threat to this population, one of the three largest regional populations of GKR, if rates of exploration and production increased. The population in western Kern County is isolated from all others and therefore can be particularly vulnerable. However, the NPR-1 also holds some value for the GKR as it contains a large extent of habitat of varying quality and has connectivity to adjacent habitat in the Lokern area further north (Service, 1998).

The Service anticipates that the GKR is reasonably certain to occur based on the biology and ecology of the species, the presence of suitable foraging and burrowing habitat necessary for life cycle functioning, and known occurrences of the species in proximity to the action area.

San Joaquin kit fox

The largest extant populations of SJKF are found in western Kern County on and around the Elk Hills NPR and Buena Vista Valley, Kern County and in the Carrizo Plain Natural Area of San Luis Obispo County to the immediate west (Service, 1998). The action area falls within the Western Kern SJKF core population, as identified for recovery purposes. The project area in its entirety provides suitable denning and foraging habitat for the SJKF and the species could be potentially found in all of the vegetation types present in the action area. According to the CNDDDB (2010) there are 36 documented sightings of the SJKF within the USGS Taft and Mouth of Kern 7.5-minute quadrangles. Five of these occurrences were observed within the action area, the expanse of their documented range covering the majority of the area, with the most recent dated from 2002.

Mr. Zachary Parker

38

Earlier population estimates are available for the NPR and the Carrizo Plain National Monument. Surveys on the 77,000 ac NPR in western Kern County provided population estimates that ranged from 262 individuals down to 74 in the period from 1981 to 1983 (Harris, 1987), and that fluctuated between 46 and 363 adults from 1983 to 1995 (Warrick and Harris, 2001). Due to the wide and rapid fluctuations in population abundance over the 15-year study, the population was shown to be vulnerable to extinction in as little as three to four years under poor environmental conditions, and to potentially lack viability in the long-term (Cypher *et al.*, 2000; Dennis and Otten, 2000).

Several surveying methodologies were employed by Caltrans and its contractor in the spring and summer of 2002 to obtain current data on the presence of the SJKF in the action area; methods included line transects/den searches, night spotlighting, and scent stations. The SJKF was more commonly observed in the lower elevations of the Elk Hills compared with other portions of the action area, but were not detected in the developed areas in immediate proximity to Dustin Acres and Valley Acres. Approximately 11 known and potential SJKF dens were observed during surveys; these were clumped in undeveloped lots within the eastern part of Dustin Acres, with one potential den identified in an undeveloped area north of the town and one den southeast of the town. Additional potential dens were also documented north and southwest of Valley Acres. During spotlighting surveys, eight SJKF were detected in undeveloped areas around both towns. SJKF tracks were also marked at 42 out of 70 scent stations and appeared to be relatively uniform at stations throughout the action area, including the northernmost part of the Elk Hills.

The status of the Western Kern core SJKF population has been, and continues to be, impacted by past and present Federal, State, private, and other human activities and natural factors. Similar to the GKR, habitat loss and degradation from agricultural and industrial development and urbanization has occurred and continues for the SJKF (Service, 1998). However, Berry *et al.* (1987) found a more positive trend, i.e., the impacts of oil activities at NPR-1 immediately to the north of the action area on SJKF population density, reproduction, dispersal, and mortality appeared similar in both developed and undeveloped areas of the reserve. Traffic-related mortality, resulting from road development and infrastructure construction, has been and will continue to be a concurrent factor. This may be particularly relevant for those SJKF living on oil fields like the NPR or those moving through oil fields to other locales populated by larger road networks like that of the action area, which is marked by busy highways like SR 119 and the proposed bypass. This, combined with smaller road networks associated with the two towns of Dustin Acres and Valley Acres, can pose traffic mortality dangers to the SJKF.

Blunt-nosed leopard lizard

In the southern San Joaquin Valley, extant populations of BNLL are known to occur, including in western Kern County in the area around the towns of Maricopa, McKittrick and Taft, as well as in the Elk Hills (Service, 1998), which is located immediately north of the action area. According to the CNDDDB (2010), there are nine recorded occurrences of BNLL within the USGS Taft and Mouth of Kern 7.5-minute quadrangles, although none fall within the action area itself. However, one individual from 1994 was observed approximately 0.5 mi south of the

Mr. Zachary Parker

39

southern end of the bypass alignment in saltbush shrub habitat, while one from 1992 was sighted one mi southwest of the town of Valley Acres. Several others have been observed in earlier years on the NPR, situated directly north. There is suitable habitat for the BNLL present in the action area; however, it is possible that effects stemming from the numerous roads and staging areas utilized for petroleum exploration and historical petroleum maintenance activities could be problematic (Caltrans, B.A., 2009).

During protocol-level surveys conducted by Caltrans and its contractor from June 2000 to September 2002, no BNLL were positively identified. A possible occurrence was observed approximately 0.6 mi north of Valley Acres within the action area, but was not possible to confirm given the short observation period available. Another potential BNLL was seen approximately 0.3 mi north of the alignment but outside of the action area, adjacent to Buena Vista Creek.

More recently, BNLL population trends were monitored in spring and early fall by means of road and foot surveys from 2001 to 2005 in the North Flank and Buena Vista Valley lands of the Elk Hills Conservation Area (Quad Knopf, 2006). Population density estimates from 2000-2005 — calculated from the average sightings per mile of road survey — remained below 0.02 BNLL per hectare (0.008 BNLL per ac) in both the North Flank and Buena Vista Valley (J. Jones, Quad Knopf, Inc., pers. comm., 2006). Foot surveys conducted during the same time periods supported these low observation numbers, and reported 0.01 BNLL per hectare (0.004 BNLL per ac) in the North Flank and from 0.01-0.07 BNLL per hectare (0.004 -0.03 BNLL per ac) in Buena Vista Valley.

The status of the clusters of populations of BNLL has been, and continues to be, impacted by past and present Federal, State, private, and other human activities and natural factors. Primary causes of the decline of the BNLL have been attributed to modification and alteration of land for petroleum and mineral extraction, pesticide applications, off-road vehicle use, and transportation infrastructure (Service, 1998). Habitat disturbance, destruction, and fragmentation continue as the greatest threats to the species; construction of facilities related to oil such as storage tanks and service roads is an example of this (Service, 1998). Such activities are linked to this project's action area since oil infrastructure is situated immediately north of the existing SR 119; the addition of new service and access roads is a probable outcome. On the positive side, O'Farrell and Kato (1980) found that the BNLL can occur in areas of light petroleum developments and can recolonize oil fields that have been abandoned. Although the authors further found that BNLL population densities tend to decrease as oil activity increases, they posited that this is not always the case. However, 83% of the BNLL population on the NPR-1 was found to inhabit areas where little or no petroleum-related activity had taken place (Kato and O'Farrell, 1986).

California jewelflower

The CJF historically occurred in slightly alkaline sandy loam in native grasslands of the southern San Joaquin Valley, with Kern County being one of the locales (Service, 1998). The Elk Hills

Mr. Zachary Parker

40

region of the action area is a site in which the CJF has been extirpated; however additional individuals and/or populations may persist, where potential habitat remains in rangeland (Service, 1998). The primary reason for the decline of this plant is attributed to loss of habitat, either through conversion to agriculture or by urbanization. The Carrizo Plain, located to the west of the action area, is one of the three known sites in which extant populations of the CJF exist. There, the CJF occurs primarily within and around the precincts or burrows of the GKR. Although the GKR eat some of the plants, their activities appear to reduce mulch and non-native seeds within their precincts, especially during the dry season, which may promote CJF growth during the following year (Cypher, 1993; CDFG, 2005).

According to the CNDDDB (2010), there is one documented occurrence from 1935 of CJF presence within the USGS Taft and Mouth of Kern 7.5- minute quadrangles, located within the action area along SR 119, likely situated at the eastern end of the alignment. The area was resurveyed in 1986, but no CJF was observed.

Rare plant transect-surveys conducted by Caltrans' contractor in the spring of 2002 and the spring and summer of 2003, found no CJF individuals. The 2003 surveys focused on specific locations within the action area where potentially suitable habitat for listed plants were identified in 2002. However, the 2002 surveys were likely influenced by below average rainfall during the 2001-2002 season; thus Caltrans acknowledges that many more native species could have been present in the event of a good rain year (Caltrans, B.A., 2009). Additionally, although spring rainfall for the 2002-2003 season was plentiful, it followed a period of deficient winter rainfall, which also likely influenced the low diversity of plant species present.

The status of the clusters of populations of CJF has been, and continues to be, affected by past and present Federal, State, private, and other human activities and natural factors. The primary reason behind the CJF's decline has stemmed from habitat destruction. According to the Recovery Plan (Service, 1998), plant sites closest to Bakersfield were destroyed by urbanization, as well as oilfield activity. Given that NPR-1 is located directly north of the action area, (with a standard oil tank farm located approximately 0.3 mi north of the action area's northern boundary), oilfield activity could certainly persist as a factor in the CJF's decline, in addition to its ability to re-colonize the area.

However, given the biology and ecology of the species, the presence of suitable habitat for growth, and a known historic occurrence in the action area, the Service anticipates that the CJF could reasonably occur in the project area.

San Joaquin woolly-threads

Part of the historical range of the SJWT occurred in the hills west of the San Joaquin Valley, with extirpated concentrations of SJWT localized in eight areas, the two closest to the action area being: 1) Bakersfield to Shafter in Kern County, and 2) the Carrizo and Elkhorn Plains in San Luis Obispo County (Service, 1998). Since 1986, many new sightings have been discovered, again in the hills and plateaus west of the San Joaquin Valley. There have been isolated

Mr. Zachary Parker

41

occurrences of the plant, with two extant SJWT located just east of Interstate-5, within 10 mi of the action area. This species occurs in grassland and Valley Saltbush Scrub type habitats.

No CNDDDB records exist for the SJWT within the USGS Taft and Mouth of Kern 7.5- minute quadrangles and no individuals were observed during the rare plant surveys conducted during 2002 and 2003 by Caltrans' contractor. However, as discussed above in regards to the CJF, unusual rainfall activity during those seasons could likely have affected species growth and subsequent survey results. In any case, the CNDDDB (2010) contains one very recent sighting recorded from March 2009 documenting 536 plants in the Panorama Hills 7.5-minute quadrangle in San Luis Obispo County, approximately 17 mi from the western end of the action area. There are also two CNDDDB records for the Stevens 7.5-minute quadrangle to the northeast of the action area. Two sets of observations also dating from March 2009 provide evidence of SJWT presence; 100 and 25 plants, respectively, were observed within the Strand Oil Field and in an area southeast of the oil field.

Given that there is potentially suitable habitat present in the action area and both historic and extant observations act as buffers both northeast and southwest of the action area, the Service anticipates that the SJWT could reasonable occur on-site.

The status of the clusters of populations of SJWT has been, and continues to be, impacted by past and present Federal, State, private, and other human activities and natural factors. Like the CJF, a primary cause of decline has been attributed to habitat loss, with the majority of occurrences eliminated by intensive agriculture. Closest to the action area were several occupied sites located in and around Bakersfield that were lost through urban development. Several other occurrences west of Bakersfield occur in low-density oilfields; at the time the recovery plan was written (Service, 1998), the plants were not deemed threatened by the current level of activity in the area, but it was acknowledged that the species could disappear if use of the area intensified.

Factors affecting all listed species within the action area

Historical disturbance within the action area includes the construction of the segment of the existing SR 119 alignment, the building of the towns of Dustin Acres and Valley Acres, plus the conversion of natural lands to agricultural land use. Within the two communities, current development consists of an occasional single-family home or mobile home built on a parcel one acre or greater. Residential development has more recently concentrated in the Sunridge area (south of Sunridge Avenue) in southern Dustin Acres.

A private action that has occurred within the project action area providing a more positive effect, is the dedication of approximately 600 ac of conservation land by Occidental of Elk Hills, Inc. in habitat located to the north of SR 119. Species moving to and from the action area are likely to be afforded increased protection from the protection of this land.

Mr. Zachary Parker

42

Analytical Framework for the Jeopardy/No Jeopardy Determination

In accordance with policy and regulation, the following analysis relies on four components to support the jeopardy/no jeopardy determination for the GKR, SJKF, BNLL, CJF, and the SJWT: (1) the *Status of the Species*, which evaluates the species' range-wide condition, the factors responsible for that condition, and their survival and recovery needs; (2) the *Environmental Baseline*, which evaluates the condition of all of the species in the action area, the factors responsible for that condition, and the role of the action area in the species' survival and recovery; (3) the *Effects of the Action*, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on the species; and (4) *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on the species.

In accordance with policy and regulation, the jeopardy/no jeopardy determination is made by evaluating the effects of the proposed Federal action in the context of the species' current status, taking into account any cumulative effects, to determine if implementation of the proposed action is likely to cause an appreciable reduction in the likelihood of both the survival and recovery of the GKR, SJKF, BNLL, CJF, and the SJWT in the wild.

The following analysis places an emphasis on consideration of the range-wide survival and recovery needs of the species and the role of the action area in meeting those needs as the context for evaluating the significance of the effects of the proposed Federal action, combined with cumulative effects, for purposes of making the jeopardy/no jeopardy determination. In short, a non-jeopardy determination is warranted if the proposed action is consistent with maintaining the role of habitat and the species' populations in the action area for the survival and recovery of these five species.

Effects of the Proposed Action

Habitat Loss and Degradation

Permanent effects will occur within the existing ROW along SR 119 and within undeveloped land north and south of the current alignment. Undeveloped land will be altered and lost to accommodate the new four-lane expressway, a bypass situated south of the existing SR 119 alignment, skirting south of the small towns of Valley Acres and Dustin Acres. Permanent effects will also include the areas in which vegetation will be removed but allowed to naturally grow back. If it were not for the fact that these areas will take several years to once again reach the current maturity growth levels of the existing vegetation, these effects would have been considered temporary in nature. Thus, all impacts associated with the proposed project will be considered permanent.

Activities associated with construction of the bypass, excavation of borrow pits for fill material, the additions of three new driveways and two new intersections west of Cherry Ave. and at Golf Course Road, and the closure of the existing southern connection of the intersection at Elk Hills

Mr. Zachary Parker

43

Road and its realignment to the north, will result in the permanent loss of and disturbance to 173.52 ac of habitat. This habitat consists of Valley Salt Scrub and Bush Seepweed Scrub, suitable types for the SJKF, BNLL, GKR, CJF, and SJWT to inhabit and utilize for shelter, escape from predators, foraging, breeding, and development.

The project has been designed to avoid effects to Saltbush Scrub habitat within the sensitive Elk Hills Unit, 0.33 mi of land owned by Occidental of Elk Hills, Inc., but which is not currently protected under a conservation easement. Effects instead are confined to habitat within the existing Caltrans ROW. Habitat between the new ROW fence line and the new alignment will be temporarily affected but vegetation there also will be allowed to grow back once construction is finished. However, as discussed earlier, such areas will take more than two years to reach the same current level of maturity, and effects will be considered permanent.

Removal, Displacement, and Entombment

Prior to the beginning of construction, when vegetation removal is carried out during the clearing and grubbing process for the purposes of providing areas for storage and staging, for any off-road project traffic, for the grading of shoulders, and for utility work, the uprooting of potential CJF and SJWT individuals present on-site could occur. To address this, Caltrans proposes to carry out preconstruction surveys within the action area prior to groundbreaking activities, and to follow the updated, current protocols approved by both the Service and the CDFG. The loss of soil structure, fertility, and water holding capacity due to the clearing and grubbing process also presents potential concerns for the eventual re-growth of vegetation in these locations, as well as for the potential colonization of any CJF and SJWT individuals at a later time. Caltrans proposes to minimize these effects by first salvaging the top-soil of the soon to be degraded habitat down to a depth of six inches following seed germination so as to maximize seed collection potential, then stockpiling it during the course of construction, and eventually replacing the soil in the disturbed sites once construction is finished.

Like the flattening and uprooting of the plant species, the risk of crushing and entombing the SJKF, BNLL, and GKR in their dens and burrows (both natural and man-made) during groundbreaking activities and major construction, also is a likely effect. Sizeable construction activities using heavy machinery and equipment run the risk of burying or permanently displacing individuals, which can end up influencing local population abundance and distribution. Destruction of shelters could also affect SJKF, GKR, and BNLL survival by reducing the number and distribution of escape refuges from predators. To help counteract these effects, Caltrans biologists propose to conduct preconstruction surveys for the species. Active dens or burrows found within the project footprint will be fenced or buffered and avoided; if construction activity cannot be avoided, Caltrans proposes to work with the Service on the safest way to excavate and collapse them. Additionally, Caltrans will check equipment and cover holes, trenches, and piping in order to both discourage the species from using man-made materials and structures as shelter and to locate any inadvertently trapped individuals.

Although surveys were initially performed and preconstruction surveys for all five species will be carried out prior to the beginning of groundbreaking activity, 372.80 ac were not originally

Mr. Zachary Parker

44

surveyed by Caltrans due to a lack of legal access to these properties. However, the majority of these lands do not fall within the action area, with the exception of 63.5 ac. It is possible that such sites may be suitable habitat for all species discussed herein and may present missed opportunities for recording species' presence.

Barrier Effects, Road Mortality, and Wildlife Crossing Viability

The efficacy of wildlife passageway structures and crossings in facilitating safe travel routes and preventing injury or mortality due to vehicle collisions remains an issue of ongoing discussion, as many variables influence the value of such designs and whether species will utilize them. These include such factors as the specific location in which a structure will be built based on wildlife habitat linkage and connectivity needs; the size and type of crossing structure design appropriate to the species and project needs; the degree of naturalness exhibited by the structure; the mode of approach species have towards a structure (e.g. presence of vegetation and line of sight); the materials used in the bottom of a crossing structure; and fencing placement (Ruediger & DiGiorgio, 2007).

To develop effective wildlife crossings is to address and manage multiple variables simultaneously. Caltrans discussed such appropriate issues with SJKF expert, Brian Cypher, of the ESRP, in order to effectively reach design and placement decisions believed to present the greatest value to the species. The seven box culverts proposed for installation every 1,000 ft along the bypass will allow the SJKF and other wildlife greater facility in crossing the new alignment at appropriate sites. Fencing along the bypass will serve to discourage road crossing at all other locations and to direct species to the culvert underpass structures. The fencing, however, will likely also serve as a barrier, interrupting migratory and crossing routes for the SJKF, GKR, and BNLL; yet, openings at the driveway entrances intended for landowner and resident usage and at the intersections at Elk Hills Road, Golf Course Road, and west of Cherry Avenue, will allow for some passage. Furthermore, barbed wire fencing will be used within the segment of the alignment east of Dustin Acres in the Elk Hills to permit movement and to minimize barrier creation in this area. No concrete or median barriers will be used so this removes the likelihood of obstructive effects to species' movement created by these structures.

Van der Ree et al. (2009) conducted a population viability modeling study to assess the effectiveness of tunnel crossings for the endangered Mountain Pygmy-possum (*Burramys parvus*) in Australia. This study's design structure and simulation are relevant to the current project, despite the difference in species and location; it supports the value of tunnels in restoring habitat continuity and population processes and even quantifies the extent to which such structures reduce the road barrier effect. This in itself is unique since most other modeling assumes success only after recording actual presence of animals using the structure via track observation or camera capture. Ultimately, even though tunnels did much to restore population processes in the study, they did not completely bar road effects altogether. Roads will always present some effect to species.

Knapp (1978) monitored movements of radio-collared SJKF in the vicinity of I-5 in Kern County. Many of the SJKF utilized areas within two mi of the highway and most exhibited

Mr. Zachary Parker

45

movement and home range patterns paralleling the highway, but not crossing it. SR 119 is a sufficiently high capacity highway that it could affect SJKF use patterns and restrict movement. SJKF mortality and injury will occur when individuals attempt to cross roads and are hit by cars, trucks, and other vehicles. The majority of strikes likely occur at night when the species is most active. Driver visibility is also lower at night, increasing the potential for hits. Sources of SJKF mortality were assessed during 1980-1995 at the NPR (Cypher *et al.*, 2000), located just north of the action area. Using radio telemetry, 341 adult foxes were monitored and 225 of these were found dead. Of these, 20 were definitively hit by vehicles. Furthermore, 184 juveniles (>1 year old) were monitored and of these, 142 were found dead, with 11 killed on the road. Over the period, vehicle strikes accounted for less than 10 percent of all deaths in the majority of years, but in some, vehicles were the cause of approximately 20 percent of deaths.

Additionally, 70 SJKF, both radio collared and non-collared, were found dead on roads in and around the Reserves during 1980-1991 (U.S. Department of Energy, 1993). Of these, 34 were hit by vehicles on the approximately 990 mi of roads on site and 36 were struck on the surrounding 50 mi of State and County roads, including SR 119 and Elk Hills Road, both within the project's action area. These were considered to have higher traffic volumes and average vehicle speeds. Morrel (1970) notes that there can be some bias, however, since road-killed SJKF are conspicuous and easily observed compared to animals dying from other causes.

The negative effects of roads to populations of species can also extend a distance away from the actual road. Forman and Deblinger (1998) described this effect as the "road effect" zone. Forman (2000) estimated the effect along primary roads and discovered that the zone extended approximately 1,197 ft in grasslands and 2,657 ft. in natural lands near urban areas. This latter natural lands estimate is relevant to the region along the proposed bypass in the action area. The "road effect" zone has not been investigated specifically in relation to the SJKF, GKR, or BNLL; however, it is likely to be relevant given the documented consequences of road mortality. One such consequence is heavy metal accumulation from vehicle exhaust. Trombulak and Frissell (2000) found that such concentrations of contaminants were greatest within 66 ft of the road, although this could extend to a distance greater than 660 ft away. The significance of this applies to the SJKF, GKR, and BNLL. These species may use and inhabit areas within this documented roadside distance for purposes of foraging and burrowing; thus, ingestion of and exposure to contaminants are likely. Colonizing CJF and SJWT individuals moving into the area are no exception and could also be at risk. Thus, exposure to contaminants is a likely effect. Continuing on-topic, equipment leaks resulting from faulty project vehicles and equipment could also contaminate soil. However, to address this effect, Caltrans will properly maintain all such equipment and promptly repair any defects or damages.

Noise Harassment

The addition of a new, busy four-lane bypass highway winding its way through previously undeveloped land, could result in noise disturbance effects to the GKR, BNLL, and SJKF in particular. According to Cypher (2000), the SJKF may not be significantly affected by such disturbance, even when the source is prolonged or continuous; but individual animals will be different and may respond variably. Even so, it is unlikely that an increase in the ambient noise

Mr. Zachary Parker

46

level itself would directly alarm or agitate these three species. It is not known whether disturbance due to a factor such as increased noise levels could result in reduced local abundance. Noise to some extent, however, is unavoidable. Disturbance arising directly from personnel on-site is less likely to occur due to two main minimization measures proposed for implementation: employee education, which will inform workers of appropriate behavior towards species prior to, during, and following construction, as well as the presence of the Service-approved biologist(s) on location to monitor construction activities.

Trash and Debris

If trash and debris are not properly disposed of on-site, this could likely attract predators such as coyotes and bobcats, and scavengers like raccoons, which would prey opportunistically upon the SJKF and GKR, respectively. Between 1980 and 1995, bobcats and coyotes were already considered to be the primary source of mortality at the NPR (Cypher *et al.*, 2000), so trash left behind in the action area would serve to amplify the level of predation. Caltrans will thus be expected to remove garbage daily and to properly dispose of it.

There is also the possibility that the BNLL and GKR could get caught in erosion netting. To prevent such occurrences from happening, Caltrans will use appropriate approved materials as netting which will not risk entangling the species.

Community Development and Highway Growth

Facilitating traffic flow could be expected to catalyze growth in Kern County, particularly in Valley Acres and Dustin Acres. These two towns, located approximately 24 mi southwest of the city of Bakersfield, likely already have a significant portion of their residents commuting to Bakersfield for work. SR 119 is an important intra-regional roadway between the communities of Ford City, Valley Acres, Dustin Acres, and Pumpkin Center, and also serves as a commuter route between Taft and Bakersfield, easily accessible to those smaller communities en route. With single-family home prices in Dustin Acres and Valley Acres (median value \$201,000 in 2008) averaging approximately eighty percent of home prices in the Bakersfield area (median value ~\$251,000 in 2008) (City-Data.com, 2010), workers in the Bakersfield area are more likely to purchase homes in Dustin Acres and Valley Acres if traffic to metro-Bakersfield or Taft is eased with the addition of the proposed SR 119 bypass. Much of western Kern County consists of zones for cattle grazing and public open space, and supports important habitat for the SJKF and the other upland species considered here. Indirect effects in the forms of induced population growth and development in the two towns, associated with the introduction of the proposed bypass, could thus lead to further loss and fragmentation of suitable habitat for the species.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Mr. Zachary Parker

47

According to the County of Kern's Roads Department (Kern County Council, 2010), there are no relevant projects occurring within the action area itself, but the County's Construction Services projects include the Harrison Street - SR 119 to Ash Street Project, located to the southwest of the action area. This project is currently in the design phase and involves an asphalt concrete overlay and addition of wheelchair ramps.

Additionally, Occidental of Elk Hills, Inc. holds approximately 600 ac of land, portions of which fall within and directly adjacent to the action area; these are intended to help minimize effects to species as a result of future oil-based activities. This land is dedicated to conservation purposes with the parcels ultimately set aside for future preservation and management. The acreages are fenced and once the easement and endowments are in place, will provide additional protection for the listed species discussed here through provision of protected habitat.

Conclusion

Project effects and the level of take associated with the five species will be minimized as a result of the conservation measures set forth for implementation before, during, and following project work. Effects and take level also will be minimal in regards to the wider subpopulations of GKR, SJKF, BNLL, CJF, and SJWT present outside the action area and within the larger Kern County. After reviewing the current status of the GKR, the SJKF, the BNLL, the CJF, and the SJWT, the environmental baseline for the action area for each species, the effects of the proposed Cherry Avenue Four-Lane Project on all species, and the cumulative effects, it is the Service's biological opinion that the project, as proposed, is not likely to jeopardize the continued existence of the GKR, the SJKF, the BNLL, the CJF, and the SJWT.

INCIDENTAL TAKE STATEMENT

Section 9(a)(1) of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened fish and wildlife species without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by impairing behavioral patterns including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with this Incidental Take Statement.

The measures described below are non-discretionary, and must be implemented by Caltrans so that they become binding conditions of project authorization for the exemption in section 7(o)(2) to apply. Caltrans has a continuing duty to regulate the activity covered by this Incidental Take

Mr. Zachary Parker

48

Statement. If Caltrans (1) fails to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

Sections 7(b)(4) and 7(o)(2) of the Act, which refer to terms and conditions and exemptions on taking listed fish and wildlife species, do not apply to listed plant species. However, section 9(a)(2) of the Act prohibits removal, reduction to possession, and malicious damage or destruction of listed plant species on Federal lands and the removal, cutting, digging up, or damaging or destroying of such species in knowing violation of any State law or regulation, including State criminal trespass law. Actions funded, authorized, or implemented by a Federal agency that could incidentally result in the damage or destruction of such species on Federal lands are not a violation of the Act, provided the Service determines in a biological opinion that the actions are not likely to jeopardize the continued existence of the species.

Amount or Extent of Take

Giant kangaroo rat

It is expected that incidental take of the GKR will be difficult to detect because of its small body size, thus making the discovery of a dead individual unlikely. Additionally, this species spend much of their time below ground in burrows and seasonal fluctuations in population numbers can also camouflage losses. Therefore, it is problematic to quantify an exact number of GKR individuals that are anticipated to be taken as a result of the proposed action. In instances when take calculations are infeasible to accurately calculate, the Service may estimate take in numbers of individuals per acre of permanently lost or degraded habitat as a result of the project action, as these effects reflect a significant biological effect to the species. Therefore, the Service anticipates take incidental to this project as all GKR inhabiting, using, or moving through up to 173.52 ac of suitable habitat. Upon implementation of the *Reasonable and Prudent Measures* and *Terms and Conditions*, and the *Conservation Measures* considered herein, incidental take within this acreage in the forms of harm and harassment stemming from habitat loss and degradation during construction of the bypass and intersections; road barrier effects, trash and debris; and noise harassment, and in the forms of injury and mortality due to potential entombment in burrows with the presence of heavy construction equipment; and road mortality, will become exempt from the prohibitions described under section 9 of the Act.

San Joaquin kit fox

The Service anticipates that incidental take of the SJKF will be difficult to quantify for the following reasons: when not foraging, mating, or otherwise being active on the surface, the SJKF inhabits dens or burrows, making detection problematic; it may range over a large territory; it is primarily active at night; and it is an intelligent but shy animal likely to avoid human presence. It is difficult to quantify an exact number of SJKF that will be taken as a result of the proposed action, so in instances when specific take calculations are problematic to produce, the Service may estimate take in numbers of individuals per acre of permanently lost or

Mr. Zachary Parker

49

degraded habitat as a result of the project action, since this reflects a significant adverse biological effect to the species. Therefore, the Service anticipates take incidental to this project as all SJKF inhabiting, using, or moving through 173.52 ac of suitable habitat. Upon implementation of the *Reasonable and Prudent Measures* and *Terms and Conditions*, and the *Conservation Measures* considered herein, incidental take within this acreage in the forms of harm and harassment due to habitat loss and disturbance; displacement; road barrier effects; noise harassment; and garbage pollution, and in the forms of injury and mortality due to burial in dens; road mortality; and increased predation due to trash, will become exempt from the prohibitions described under section 9 of the Act.

Blunt-nosed leopard lizard

The Service anticipates that incidental take of the BNLL will be difficult to quantify due to its small size, its tendency to escape underground into burrows, its dependence on weather and time of the year, and activity patterns; these all serve to bias the discovery of dead individuals, or indeed to make the finding of such individuals unlikely. It is therefore difficult to quantify an exact number of BNLL that will be taken as a result of the proposed action, so in instances when specific take calculations are problematic to produce, the Service may estimate take in numbers of individuals per acre of permanently lost or degraded habitat as a result of the project action, since this reflects a significant adverse biological effect to the species. Therefore, the Service anticipates take incidental to this project as all BNLL inhabiting, using, or moving through 173.52 ac of suitable habitat. Upon implementation of the *Reasonable and Prudent Measures* and *Terms and Conditions*, and the *Conservation Measures* considered herein, incidental take within this acreage in the form of harm and harassment due to habitat loss and disturbance; displacement; road barrier effects; noise harassment; and garbage pollution will become exempt from the prohibitions described under section 9 of the Act. The BNLL is a fully protected species under California law (California Fish and Game Code § 5050); no injury or mortality of this species is exempted from section 9 prohibitions.

Effect of the Take

In the accompanying biological opinion, the Service has determined that this level of anticipated take is not likely to jeopardize the continued existence of the GKR, the SJKF, and the BNLL.

Reasonable and Prudent Measures

The following reasonable and prudent measures are necessary and appropriate to minimize the effect of the proposed action on the SJKF, GKR, and BNLL.

1. All of the conservation measures proposed in the biological assessment, the *Project Description*, and as supplemented and modified below, must be fully implemented.
2. Trash must be handled in a manner so as to minimize the potential for take of the SJKF, GKR, and BNLL.

Mr. Zachary Parker

50

3. Appropriate measures regarding usage of borrow and fill materials must be undertaken, so as to minimize the potential for take of the SJKF, GKR, and BNLL.
4. There must be an expiration date on this B.O. so as to ensure re-evaluation of project activities if conditions and status in the action area for species and habitat have changed or if guidelines and baselines have significantly altered over an extended period of time.
5. To maintain an active accounting of project progress and take levels, reporting updates must be submitted to the Service at appropriate intervals during construction.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, Caltrans, as well as any contractor acting on its behalf, must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These Terms and Conditions are nondiscretionary.

The following Terms and Conditions implement Reasonable and Prudent Measure one:

1. All equipment shall be maintained such that there will be no leaks of fluids, such as gasoline, oils, or solvents.
2. The Service-approved biologist shall have oversight over implementation of all the measures described in this biological opinion and he/she shall have the authority to stop project activities, through communication with the Caltrans Resident Engineer, if any of the requirements associated with these measures are not being fulfilled. Any stop work requests due to take of listed species shall be communicated to the Service and CDFG within one day.
3. The Service-approved biologist and/or the Contractor shall check for SJKF, GKR, and BNLL under any equipment such as vehicles and stored pipes before the start of work each day. He/she shall check all excavated, steep-walled holes or trenches greater than six inches deep and these shall be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they must be thoroughly inspected for trapped animals.
4. Plastic mono-filament netting (erosion control matting) or similar material shall not be used onsite because the GKR or BNLL may become entangled or trapped in it. Acceptable substitutes include coconut coir matting or tactified hydroseeding compounds.
5. Conservation easements obtained by Caltrans shall include, but not be limited to, provisions and responsibilities of the project proponent and the landowner(s) approved by

Mr. Zachary Parker

51

the Service for the protection of all habitat set aside, including any future transfers of the easements that may be anticipated. The easements shall specify the purposes for which they are established. Caltrans shall also provide the Service with a copy of the recorded easement within 30 calendar days of its recordation. The easement shall include a list of prohibited activities that are inconsistent with the maintenance of the land(s) for the listed species. For example:

- a. Leveling, grading, landscaping, cultivation, or other alterations of existing topography for any purposes, including the exploration for, or development of, mineral resources;
 - b. Placement of any new structures on the land, including buildings and billboards;
 - c. Discharge, dumping, burning, or storing of rubbish, garbage, grass clippings, dredge material, household chemicals, or other wastes or fill materials;
 - d. Building of any roads or trails within the preserve areas;
 - e. Killing, removal, alteration, or replacement of any existing native vegetation except in Service-approved prescribed burning situations, or as otherwise authorized in writing by the Service;
 - f. Activities that may alter the hydrology of the land and the associated watersheds, including but not limited to: excessive pumping of groundwater, manipulation or blockage of natural drainages, inappropriate water application or placement of storm water drains, etc. unless authorized in writing by the Service;
 - g. Incompatible fire protection activities;
 - h. Use of pesticides, herbicides, or rodenticides on the land or within the watershed that can contaminate the land, except as authorized in writing by the Service; and
 - i. Introduction of any exotic species or species not native to the area, except as approved by the Service.
6. Land parcels on which Caltrans shall consider pursuing conservation easements shall:
 - 1) be of equal or superior habitat to that of the disturbed habitat; 2) contain the elements vital to the continued existence of the SJKF, GKR, and BNLL; 3) be of similar habitat type(s); and 4) maintain close geographic connection to disturbed areas within a 4.5 mi radius of the centerline of the proposed bypass.
 7. Caltrans shall obtain the written approval of the Service that the parcel(s) is suitable for all species prior to acquiring interest in those lands. Conservation easements for the 520.56 ac (173.52 ac at 3:1) shall be obtained by Caltrans at least 60 calendar days prior to the date of initial groundbreaking.
 8. Should a Service-approved conservation bank become available in western Kern County by the time the project reaches its ready-to-list date, and this bank has a service area that covers the project action area, and specifically includes the GKR, SJKF and BNLL,

Mr. Zachary Parker

52

Caltrans shall have the option to minimize the loss of the 173.52 ac of habitat by using a 3:1 ratio to purchase 520.56 credits at this bank, in-lieu of the conservation easement option. If the conservation bank is available, includes the appropriate species, and is Caltrans' preferred option, credit sales shall be completed at least 60 calendar days prior to the date of initial groundbreaking.

9. Following project completion, any and all construction debris/stockpiled materials from the project site shall be removed.

The following Term and Condition implements Reasonable and Prudent Measure two:

1. To minimize both pollution to habitat and opportunistic predatory effects to the SJKF, GKR, and BNLL, Caltrans shall require that trash be removed daily from the project site and disposed of off-site. All litter, debris, and unused materials, must be removed from the staging areas at the end of each day in order to keep predators and scavengers away.

The following Term and Condition implements Reasonable and Prudent Measure three:

1. Since the use of borrow/fill material is planned, Caltrans shall require documentation from the contractor that aggregate, fill, and/or borrow material provided for the project is obtained in compliance with the Act. Evidence of compliance with the Act shall be demonstrated by providing the Resident Engineer with any one of the following:
 - a. A letter from the Service stating use of the borrow pit area shall not result in the incidental take of listed species;
 - b. An incidental take permit for contractor-related activities issued by the Service pursuant to section 10(a)(1)(B) of the Act;
 - c. A biological opinion or a letter concurring with a 'not likely to adversely affect' determination issued by the Service to Caltrans.
 - d. Contractor submittal of information to the Caltrans Resident Engineer indicating compliance with the State Mining and Reclamation Act (SMARA) and providing the County land use permits and California Environmental Quality Act (CEQA) clearance.
 - e. Report to the Service from where the fill/borrow materials will be taken, once the site is identified.

The following Term and Condition implements Reasonable and Prudent Measure four:

1. Project construction is not anticipated to begin for many years, until at least 2016. Therefore there is potential for significant changes in status and baselines concerning the

Mr. Zachary Parker

53

SJKF, GKR, and BNLL in the action area and their wider ranges, as well as changes in minimization guidelines. Thus, Caltrans shall reinstate formal consultation if initial ground-breaking is greater than eight years from the date of issuance of this B.O.

The following Term and Condition implements Reasonable and Prudent Measure five:

1. Caltrans shall inform the Service in writing of the intended construction start date 30 days prior to this date. Caltrans shall also submit a progress update every six months during construction. The updates shall detail any changes to the project footprint and to the extent of GKR, SJKF, and BNLL habitat directly or indirectly affected by the project, and hence to the level of take; as well as any known effects of construction activities on these species.

Reporting Requirements

1. Before construction starts on this project, the Service shall be provided with the final documents related to protection of conservation acres, including but not limited to, proof of conservation easements or purchase of conservation bank credits.
2. A post-construction report detailing compliance with the project design criteria described under the *Description of the Proposed Action* section of this biological opinion shall be provided to the Service within 30 calendar days of completion of the project. The report shall include: (1) dates of project groundbreaking and completion; (2) pertinent information concerning the success of the project in meeting compensation and other conservation measures; (3) an explanation of failure to meet such measures, if any; (4) known project effects on the GKR, SJKF, BNLL, CJF, and SJWT, if any; (5) occurrences of incidental take of the GKR, SJKF, and BNLL; and, (6) any other pertinent information.
3. New sightings of GKR, SJKF, and BNLL or any other sensitive animal species shall be reported to the CNDDDB. A copy of the reporting form and a topographic map clearly marked with the location in which the animals were observed also should be provided to the Service.

Disposition of Individuals Taken

In the case of injured and/or dead GKR, SJKF, and BNLL, the Service shall be notified within one day and the animals shall only be handled by a Service-approved, permitted biologist.

Injured GKR, SJKF, and BNLL shall be cared for by a licensed veterinarian or other qualified person. In the case of a dead animal, the individual animal shall be preserved, as appropriate, and held in a secure location until instructions are received from the Service regarding the disposition of the specimen or until the Service takes custody of the specimen. Caltrans must report to the Service within one calendar day any information about take or suspected take of federally-listed species not authorized in this opinion. Notification must include the date, time,

Mr. Zachary Parker

54

and location of the incident or of the finding of a dead or injured animal. The Service contacts are Mr. Daniel Russell, Division Chief, Endangered Species Program, Sacramento, at (916) 414-6600 and Mr. Daniel Crum, the Resident Agent-in-Charge of the Service's Law Enforcement Division at (916) 414-6660. The CDFG contact is the Fresno Office at (559) 243-4017.

Any contractor or employee who, during routine operations and maintenance activities inadvertently kills or injures a listed wildlife species must immediately report the incident to his representative at his contracting/employment firm or to Caltrans. This representative must contact the Service within one calendar day in the case of a federally-listed species and contact the CDFG in the case of a dead or injured State-listed species.

CONSERVATION RECOMMENDATIONS

Conservation recommendations are suggestions of the Service regarding discretionary measures to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, or regarding the development of new information. These measures may serve to minimize or avoid further adverse effects of a proposed action on listed, proposed, or candidate species, or on designated critical habitat. They may also serve as suggestions on how action agencies can assist species conservation in furtherance of their responsibilities under section 7(a)(1) of the Act, or recommend studies improving an understanding of a species' biology or ecology. Wherever possible, conservation recommendations should be tied to tasks identified in recovery plans. The Service is providing you with the following conservation recommendations:

1. It is recommended that since project construction is expected to be a number of years away, Caltrans conduct annual small mammal trapping for kangaroo rats and botanical surveys for the CJF and SJWT in particular, in order to provide an inclusive and thorough analysis of species presence/absence data during the interim period.
2. It is recommended that Caltrans continue to include culverts, tunnels, or undercrossings at regular intervals along roads and highways, and particularly in core and satellite population lands to allow for the safe passage of the SJKF. It is also recommended to include passageway structure designs appropriate for smaller species such as the BNLL and GKR. Such crossing structures would create safe dispersal corridors for multiple wildlife species, and would help reduce road mortalities and enhance public safety. It would be beneficial to the Service if Caltrans were to include photographs, plans, and other information in its biological assessments concerning the incorporation of wildlife passageway designs into future projects.
3. It is recommended that Caltrans continue to assist the Service in the implementation of recovery efforts for the GKR, SJKF, BNLL, CJF, and SJWT.

Mr. Zachary Parker

55

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION—CLOSING STATEMENT

This concludes the Service's review of the proposed Cherry Avenue Four-Lane, State Route 119 Project, as outlined in your July 20, 2009 letter. As provided in 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if (1) the amount or extent of incidental take is exceeded, (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or an extent not considered in this biological opinion, (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this biological opinion, or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending re-initiation.

Please contact Jen Schofield or Susan P. Jones at the letterhead address or at (916) 414-6600 if you have any questions regarding this letter on the proposed Cherry Avenue Four-Lane, State Route 119 Project. The Service wishes to thank you for your continued efforts and dedication to the conservation of America's wildlife resources.

Sincerely,



Susan K. Moore
Field Supervisor

F012

cc:

Walter C. Waidelich, Jr., Division Administrator, Federal Highway Administration, Sacramento, California

Julie Vance, California Department of Fish and Game, Fresno, California

Mr. Zachary Parker

56

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Mr. Zachary Parker

67

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68

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69

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Mr. Zachary Parker

70

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Mr. Zachary Parker

71

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Appendix N Comments and Responses

This appendix contains the comments received during the public circulation and comment period from August 6, 2008 to September 8, 2008. A Caltrans response follows each comment presented.

Comment from the State Clearinghouse and Planning Unit



ARNOLD SCHWARZENEGGER
GOVERNOR

STATE OF CALIFORNIA
GOVERNOR'S OFFICE of PLANNING AND RESEARCH
STATE CLEARINGHOUSE AND PLANNING UNIT



CYNTHIA BRYANT
DIRECTOR

September 8, 2008

Stephen Ruiz
California Department of Transportation, District 6
2015 E. Shields Avenue, Suite 100
Fresno, CA 93726

Subject: Cherry Avenue Four-Lane Project
SCH#: 2008081019

Dear Stephen Ruiz:

The State Clearinghouse submitted the above named Joint Document to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on September 5, 2008, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

"A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Terry Roberts
Director, State Clearinghouse

Enclosures
cc: Resources Agency

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
(916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

**Document Details Report
State Clearinghouse Data Base**

SCH# 2008081019
Project Title Cherry Avenue Four-Lane Project
Lead Agency Caltrans #6

Type JD Joint Document
Description NOTE: Joint Document consists of MND and EA

The California Department of Transportation (Caltrans) proposes two alternatives to widen a portion of State Route 119 from the existing two-lane highway to a four-lane highway in Kern County. The first alternative proposes to widen 7.3 miles of State Route 119 from 0.26 mile west of Cherry Avenue (post mile 6.0) to Tupman Road (post mile R13.3). This alternative would widen the existing highway through the communities of Valley Acres and Dustin Acres (from post miles 6.26 to R9.1). The second alternative proposes a four-lane expressway for 7.8 miles from 0.75 mile west of Cherry Avenue (post mile 5.5) to Tupman Road (post mile R13.3). This alternative proposes a southern bypass around the communities of Valley Acres and Dustin Acres.

Lead Agency Contact

Name Stephen Ruiz
Agency California Department of Transportation, District 6
Phone (559) 243-8232 **Fax**
email
Address 2015 E. Shields Avenue, Suite 100
City Fresno **State** CA **Zip** 93726

Project Location

County Kern
City
Region
Lat / Long
Cross Streets Begins west of Cherry Avenue/SR 119 and ends at Tupman Road/SR 119
Parcel No.
Township **Range** **Section** **Base**

Proximity to:

Highways
Airports
Railways
Waterways Buena Vista Creek and Broad Creek
Schools
Land Use Mostly residential, agricultural, and mineral and petroleum land uses with some State and Federal, industrial, and commercial land uses.

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Economics/Jobs; Flood Plain/Flooding; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Soil Erosion/Compaction/Grading; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Wetland/Riparian; Wildlife; Growth Inducing; Landuse; Cumulative Effects

Reviewing Agencies Resources Agency; Department of Fish and Game, Region 4; Department of Parks and Recreation; Department of Water Resources; Office of Emergency Services; California Highway Patrol; Air Resources Board, Transportation Projects; Regional Water Quality Control Bd., Region 5 (Fresno); Department of Toxic Substances Control; Native American Heritage Commission

Date Received 08/07/2008 **Start of Review** 08/07/2008 **End of Review** 09/05/2008

Note: Blanks in data fields result from insufficient information provided by lead agency.

Response to comment from the State Clearinghouse and Planning Unit

The State Clearinghouse letter acknowledges that Caltrans has complied with review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Comment from the California Department of Fish and Game



State of California – The Resources Agency
DEPARTMENT OF FISH AND GAME
<http://www.dfg.ca.gov>
Central Region
1234 East Shaw Avenue
Fresno, California 93710
(559) 243-4005

ARNOLD SCHWARZENEGGER, Governor



September 5, 2008

Sarah Gassner
Department of Transportation, District 6
2015 East Shields Avenue, Suite 100
Fresno, California 93726

Subject: Initial Study with Proposed Mitigated Negative Declaration (MND)
Cherry Avenue Four-Lane Widening Project
06-KER-119 PM 5.5-R13.3
SCH No. 2008081019

Dear Ms. Gassner:

The Department of Fish and Game (DFG) has reviewed the MND submitted by the California Department of Transportation (Caltrans) for the above Project. The proposed Project includes two alternatives for the widening of State Route (SR) 119 from a two-lane conventional highway to four-lanes, from west of Cherry Avenue to Tupman Road at Post Mile (PM) R13.3. The eastern half of the Project is the same for both alternatives. Both alternatives would result in construction of a four-lane expressway which would pass to the north of a DFG-owned mitigation parcel (Elk Hills) and through the Coles Levee Ecological Preserve (CLEP), an area over which DFG holds conservation easements. Alternative 1 (Alt 1) would convert the existing two-lane conventional highway into a four-lane conventional highway from 0.26 miles west of Cherry Avenue (PM 6.0) to Golf Course Road (PM R9.1) and would pass through the communities of Valley Acres and Dustin Acres. Alternative 10 (Alt 10 bypass) proposes to build a new four-lane expressway from 0.75 miles west of Cherry Avenue (PM 5.5) to PM R10.0 that would bypass the communities of Valley Acres and Dustin Acres to the southeast. DFG has been informed that the Alt 10 bypass is the preferred alternative. Page 120 of the MND states that the Alt 10 bypass would have greater impacts to potentially suitable habitat for special status species (an additional 159 acres permanently impacted); DFG concurs that the Alt 10 will result in significantly greater impacts to rare biological resources than Alt 1.

DFG has concerns about the likely Project-related impacts to special status species habitat, as well as regarding impacts to areas that have been set aside in perpetuity for the purposes of threatened and endangered species conservation. DFG offers the following comments.

DEPARTMENT JURISDICTION

Trustee Agency Authority: DFG is a Trustee Agency with responsibility under the California Environmental Quality Act (CEQA) for commenting on projects that could impact plant and wildlife resources. Pursuant to Fish and Game Code Section 1802,

Conserving California's Wildlife Since 1870

Sarah Gassner
 September 5, 2008
 Page 2

DFG has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and the habitat necessary for biologically sustainable populations of those species. As a Trustee Agency for fish and wildlife resources, DFG is responsible for providing, as available, biological expertise to review and comment upon environmental documents and impacts arising from project activities, as those terms are used under CEQA (Division 13 (commencing with Section 21000) of the Public Resources Code).

1

Responsible Agency Authority: DFG has regulatory authority over projects that could result in the "take" of any species listed by the State as threatened or endangered, pursuant to Fish and Game Code Section 2081. If the Project could result in the "take" of any species listed as threatened or endangered under the California Endangered Species Act (CESA), DFG may need to issue an Incidental Take Permit for the Project. CEQA requires a Mandatory Finding of Significance if a project is likely to substantially impact threatened or endangered species (Section 21001{C}, 21083, Guidelines Section 15380, 15064, 15065). Impacts must be avoided or mitigated to less than significant levels unless the CEQA Lead Agency makes and supports Findings of Overriding Consideration (FOC). The CEQA Lead Agency's FOC does not eliminate the Project proponent's obligation to comply with Fish and Game Code Section 2080. The Project has the potential to reduce the number or restrict the range of endangered, rare, or threatened species (as defined in Section 15380 of CEQA), including:

<u>Species</u>	<u>Listing</u>
Blunt-nosed leopard lizard (<i>Gambelia sila</i>)	State and Federally Endangered and Fully Protected
Giant kangaroo rat (<i>Dipodomys ingens</i>)	State and Federally Endangered
San Joaquin kit fox (<i>Vulpes macrotis mutica</i>)	State Threatened and Federally Endangered
San Joaquin antelope squirrel (<i>Ammospermophilus nelsoni</i>)	State Threatened
California jewel-flower (<i>Caulanthus californicus</i>)	State and Federally Endangered

2

DFG also has regulatory authority with regard to activities occurring in streams (which includes ephemeral streams, washes, etc.). The Project will require a Stream Alteration Notification for work that occurs at all waterways jurisdictional under Fish and Game

Sarah Gassner
 September 5, 2008
 Page 3

Code Section 1600 et seq. There are a number of blue line waterways crossing the Project, including Buena Vista Creek. As noted on page 101 of the document, if DFG determines that the Project may substantially and adversely affect fish or wildlife resources, then a Streambed Alteration Agreement would be required.

Other Rare Species: Species of plants and animals need not be officially listed by the State as Endangered, Rare, or Threatened (E, R, or T) to be considered E, R, or T under CEQA. If a species can be shown to meet the criteria for E, R, or T, as specified in the CEQA Guidelines (California Code of Regulations, Title 14, Chapter 3, Section 15380), it should be fully considered in the environmental analysis for the Project. The Project has the potential to reduce the number or restrict the range of the Federally endangered San Joaquin woolly-threads (*Monolopia congdonii*), as well as the following State Species of Special Concern:

3

Species

- Western burrowing owl (*Athene cunicularia hypugaea*)
- San Joaquin Leconte's thrasher (*Toxostoma lecontei macmillanorum*)
- California horned lizard (*Phrynosoma coronatum frontale*)
- San Joaquin coachwhip (*Masticophis flagellum ruddocki*)
- American badger (*Taxidea taxus*)
- Loggerhead shrike (*Lanius ludovicianus*)
- Short-nosed kangaroo rat (*Dipodomys nitratoides brevinasus*)
- Tulare grasshopper mouse (*Onychomys torridus tularensis*)
- San Joaquin pocket mouse (*Perognathus inornatus inornatus*)

Sensitive Plant Species: Sensitive plant species that could also occur in the Project area include:

<u>Species</u>	<u>Listing</u>
Heartscale (<i>Atriplex cordulata</i>)	CNPS 1.B
Lost Hills crownscale (<i>Atriplex vallicola</i>)	CNPS 1.B
Recurved larkspur (<i>Delphinium recurvatum</i>)	CNPS 1.B
Oil neststraw (<i>Stylocline citroleum</i>)	CNPS 1.B
Alkali Mariposa lily (<i>Colochortus striantus</i>)	CNPS 1.B

Sarah Gassner
 September 5, 2008
 Page 4

<u>Species</u>	<u>Listing</u>
Cottony buckwheat (<i>Eriogonum gossypinum</i>)	CNPS 4
Hoover's woolly-star (<i>Eriastrum hooveri</i>)	Fed delisted CNPS 4
Crownscale (<i>Atriplex coronata</i> var. <i>coornata</i>)	CNPS 4
Gypsum-loving larkspur (<i>Delphinium gypsophilum</i> ssp. <i>gypsophilum</i>)	CNPS 4

CNPS = California Native Plant Society

4

Page 165 of the MND (Appendix E) states that 51 species were evaluated for their potential to be present in the biological study area and that 22 were determined to be present. The table does not definitively identify which 22 species Caltrans is presuming present; the rationale is ambiguous for some of these species.

Fully Protected Species: DFG has jurisdiction over fully protected species of birds, mammals, amphibians, reptiles, and fish pursuant to Fish and Game Code Sections 3511, 4700, 5050, and 5515. "Take" of any fully protected species is prohibited and DFG cannot authorize their "take" for development. The blunt-nosed leopard lizard is a fully protected species that is known to occur in the Project area vicinity. Additional comments regarding potential Project-related impacts to this species follow.

5

Bird Protection: DFG also has jurisdiction over actions which may result in the disturbance or destruction of active nest sites or the unauthorized "take" of birds. Sections of the Fish and Game Code that protect birds, their eggs, and nests include Sections 3503 (regarding unlawful "take," possession or needless destruction of the nest or eggs of any bird), 3503.5 (regarding "take," possession, or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful "take" or possession of any migratory nongame bird).

PROJECT RECOMMENDATIONS

6

Blunt-nosed Leopard Lizard (BNLL): This species could be present on the Project site and has been documented in the Project area vicinity. Because BNLL is fully protected and, therefore, no "take" incidental or otherwise can be authorized by DFG, protocol-level surveys must be conducted prior to any ground-disturbing activities in all areas of suitable habitat. Suitable habitat includes all grassland and shrub scrub habitat that contains required habitat elements, such as small mammal burrows. These surveys, the parameters of which were designed to optimize detectability, must be conducted to reasonably assure DFG that "take" of this fully protected species will not occur as a result of disturbance associated with Project implementation. In the event

Sarah Gassner
September 5, 2008
Page 5

that this species is detected during protocol-level surveys, consultation with DFG is warranted to discuss how to implement the Project and avoid "take." Page 122 of the MND states that 30-day preconstruction surveys will be conducted for BNLL. Pre-construction surveys are not adequate to detect this species, especially if these surveys are conducted when the species is dormant or inactive above-ground. Protocol-level surveys, not 30-day preconstruction surveys, should be conducted for the reasons stated above.

Page 122 of the MND also states that in the event that BNLL are detected that the United States Fish and Wildlife Service (USFWS) would be contacted to proceed with the Project and avoid "take" *to the maximum extent practicable*. Since BNLL is also State endangered, and it is a State, not Federal, law that prohibits "take" of this species, DFG should also be consulted in the event that BNLL are observed. In addition, to comply with State law, complete avoidance of BNLL is necessary, not just avoidance "to the extent practicable."

Pages 120 and 121 refer to mitigation proposed for San Joaquin kit fox (SJKF) and BNLL that would serve to offset Project-related impacts to these species. Since there can be no "take" of BNLL, it should not be listed in conjunction with SJKF in the context of compensation, unless this is purely to address impacts to potential BNLL habitat, as opposed to compensating for impacts associated with direct "take" of BNLL.

Giant Kangaroo Rat (GKR): GKR were not captured during Caltrans trapping efforts conducted during 2002 and 2003, but Live Oak surveys conducted in 2004 found multiple GKR in Section 11 of Township 31 South, Range 24 East. PM R10, where the Alt 10 bypass would rejoin the current SR 119 footprint, is located at the southeast tip of Section 11. Live Oak also found two GKR along the southern edge of Sections 28 and 27, about a ½ mile from the proposed Alt 10 bypass. Given the close proximity of these known occurrences, acquisition of a State Incidental Take Permit (pursuant to Section 2081 of the Fish and Game Code) which would allow for incidental "take" of GKR is strongly recommended in order for Caltrans to comply with CESA.

Page 117 of the MND states that GKR is designated as "fully protected" by DFG, which is incorrect.

San Joaquin Kit Fox: SJKF were observed during Caltrans surveys (Page 118), although neither the method nor the year of the surveys was specified. SJKF are known to occur at high densities throughout the Project area vicinity, and acquisition of a State Incidental Take Permit which would allow for incidental "take" of SJKF is strongly recommended in order for Caltrans to comply with CESA. As noted on page 16, acquisition of a Consistency Determination, pursuant to Fish and Game

Sarah Gassner
September 5, 2008
Page 6

Code 2080.1, is a possibility. However, DFG does not recommend this approach since there are species listed only under CESA that could be impacted by the Project. In general, DFG will not issue a State Incidental Take Permit and a Consistency Determination for the same Project. Please see additional information below regarding additional constraints of Consistency Determinations.

SJKF are less likely to successfully cross wider, busier highways. Further, the Project is likely to additionally increase the likelihood of vehicle strikes and direct mortality beyond that generally expected from a wider or new highway, since oil-field related traffic is largely responsible for the heavy traffic on this portion of SR 119; and commuting hours tend to extend well into the dark morning and evening hours, when kit fox are most active. When characterizing Project-related impacts to biological resources, The MND seems to focus exclusively on direct impacts associated with the Project footprint, and connectivity and other indirect impacts are not described. However, Page 122 of the MND includes a mitigation measure that describes installation of box culverts for the purpose of providing kit fox crossing opportunities underneath the highway. DFG agrees with this approach and design, including the proposed accompanying fencing. It is not clear where these kit fox culverts will be specifically located. DFG is interested in assisting Caltrans with identifying optimum locations for kit fox culverts.

San Joaquin Antelope Squirrel (SJAS): During 2002 biological surveys conducted by Caltrans, a total of 27 SJAS were observed in the biological study area. Because of these observations, as well as the fact that the Project area is within a geographic area known to support high densities of SJAS, acquisition of a State Incidental Take Permit which would allow for incidental "take" of SJAS is strongly recommended in order for Caltrans to comply with CESA. As noted above, and contrary to statements in the MND (Page 137), since SJAS are listed only under CESA, a Consistency Determination cannot be issued for this species.

In order for mitigation that would offset impacts to SJKF to address SJAS (as proposed on Page 122), the mitigation habitat would need to support both species.

Short-nosed Kangaroo Rat (SNKR): There are numerous records of SNKR within the Project area, and 70 individual SNKR were captured during the 2003 trapping effort conducted by Caltrans. The status of SNKR as a Species of Special Concern warrants avoidance and minimization measure to the extent practicable. According to the Recovery Plan for Upland Species of the San Joaquin Valley, California (USFWS, 1998), the long-term protection of natural land in the Elk Hills Naval Petroleum Reserves in California and the Lokern Area are necessary to improve the status of the species.

Sarah Gassner
September 5, 2008
Page 7

8

Burrowing owls (BUOW): BUOW are known to occur in the Project area vicinity. If any ground-disturbing activities occur during BUOW nesting season (approximately February 15 through September 1), implementation of avoidance measures is required. DFG recommends following the survey methodology developed by the California Burrowing Owl Consortium (CBOC, 1993). If the site contains burrows that could be used by BUOW, DFG requires that a pre-construction site survey be conducted by a qualified biologist no more than 30 days before the onset of any ground-disturbing activities. If BUOW occupy the site during the non-breeding season, a passive relocation effort may be instituted. Otherwise, DFG's Staff Report on Burrowing Owl Mitigation (CDFG, 1995) recommends that impacts to occupied burrows be avoided by implementation of a no-construction buffer zone of a minimum distance of 250 feet, unless a qualified biologist approved by DFG verifies through non-invasive methods that either: 1) the birds have not begun egg laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival. Failure to implement this buffer zone could cause adult BUOW to abandon the nest, cause eggs or young to be directly impacted (crushed), and/or result in reproductive failure. Impacts of this nature are violations of Fish and Game Code Sections 3503, 3503.5, and 3513 and the Federal Migratory Bird Treaty Act.

If the Project proposes to evict BUOW that may be present in the area to be impacted during the non-breeding season, the MND should describe methods that would be used to evict owls from burrows, including a monitoring program to ensure that evicted individuals are using a relocation site. DFG's Staff Report on Burrowing Owl Mitigation (DFG, 1995) also recommends that a minimum of 6.5 acres of foraging habitat per pair or unpaired resident BUOW should be acquired and permanently protected to offset the loss of foraging and burrow habitat.

9

American Badgers: It is likely that American badgers are present in the project area; they are routinely observed in the project area vicinity, and there is one CNDDDB record very close to the Alt 10 bypass alignment. All employees working on the project should be educated regarding the identification and status of this species along with the other species listed above. If active badger dens are discovered, then a 250 foot no-construction buffer zone should be observed where feasible.

10

Nesting Birds and Raptors: Trees and shrubs within the Project area can provide nesting habitat for songbirds and/or raptors. Any tree or shrub removal should occur during the non-breeding season (mid-September through January). If construction activities or tree removal must occur during the breeding season (February through mid-September) surveys for active nests should be conducted by a qualified biologist no more than 30 days prior to the start of construction. A minimum no-disturbance buffer of 250 feet should be delineated around active nests until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival.

Sarah Gassner
September 5, 2008
Page 8

11

Plant Species: DFG recommends that repeated floristic surveys for rare, threatened, and endangered plants and natural communities be conducted by a qualified botanist multiple times during the appropriate floristic period(s) in order to adequately assess the potential Project-related impacts to listed plant species (DFG, 2000; USFWS, 2000). Plant surveys were conducted by Caltrans in 2002 and 2003, but given the time elapsed since these surveys, as well as the variable detectability of rare annual species, repeated botanical surveys are recommended.

California Jewel-flower: Although the nearest known extant population of California jewel-flower is approximately 10 miles to the northwest of Elk Hills (Live Oak Assoc. 2006), surveys should still be done at a time optimal for the detection of this species. If State-listed plants, such as the California jewel-flower, are detected during surveys, consultation with DFG is warranted to discuss the potential for "take" under CESA. Plants listed as threatened or endangered under CESA cannot be addressed by methods described in the Native Plant Protection Act without incidental "take" authority secured under Sections 2080.1 or 2081 of the Fish and Game Code.

12

Consistency Determination: In order for DFG to issue a Consistency Determination for a given project, DFG must be able to determine that the conditions specified in the finalized Federal incidental take statement and Biological Opinion (BO) are consistent with CESA Incidental Take Permit issuance criteria. If DFG determines that the Federal incidental take permit/BO is not consistent with CESA, the applicant must then apply for a State Incidental Take Permit under Section 2081(b) of the Fish and Game Code. It is important to note that a Consistency Determination, pursuant to Fish and Game Code Section 2080.1, can be used only for species that are listed under both the Federal Endangered Species Act (FESA) and CESA and cannot be applied to species designated as fully protected or for species that are listed under CESA but are not Federally listed.

Acquisition of 2081(b) permits are usually preferable to 2080.1 Consistency Determinations for the following reasons:

- a) DFG cannot condition the Consistency Determination in any way, including the addition or removal of conditions that would facilitate meeting the full mitigation standard required by CESA. If all mitigation measures and permit issuance criteria required by CESA not included in the Federal permit, DFG must issue an Inconsistency Determination or give the applicant the option to withdraw their request for a Consistency Determination. DFG is willing to work with the USFWS while the Federal permit is being drafted in order to include measures that would facilitate the likelihood that the Federal permit could be used for a Consistency Determination, provided that the USFWS and applicant are willing to coordinate with DFG during the drafting of a Federal permit.

Sarah Gassner
September 5, 2008
Page 9

- b) Often BOs do not contain the detail required by CESA in describing mitigation measures.
- c) The Federal standard for including plants is jeopardy, whereas protection of listed plants and wildlife are not differentiated under CESA.
- d) If pertinent sections of FESA change, the Consistency Determination would become invalid, and we would have to issue a State Incidental Take (2081 (b)) Permit for the Project. This is a likely scenario since there are proposed modifications to Section 7 of FESA currently out for review and comment in the Federal Register (FR Vol. 73, No. 159, 47868).
- e) If there are any substantive changes to the Project as described in the final BO, including changes to the avoidance, minimization, and mitigation measures, or if the USFWS amends or replaces the BO, a new Consistency Determination or a State Incidental Take (2081 (b)) permit would be required to comply with CESA.

13

Impacts to Protected Lands: The following is for clarification of the information on page 133 regarding parcels owned by DFG. Assessor Parcel Number (APN) 184-020-15 is part of our Elk Hills mitigation parcel which is owned by DFG. APN 184-020-31 is part of the CLEP, which is now owned by Aera Energy LLC and is an area over which DFG holds a Conservation Easement. According to the Kern County parcel map there is a strip of land along the northern side of SR 119 which is not included in APN 184-020-31. It is DFG's understanding that this strip of land is included in the Caltrans right-of-way (ROW), but it is still uncertain if Caltrans will be able to stay completely within the ROW or if there will be impacts to up to 5 acres of the CLEP.

While the MND mentions DFG-owned parcels or parcels with Department held easements in the Project area vicinity, it is in the context of describing the habitat present in the Project area. There is no discussion regarding the environmental impacts associated with impacts to lands that were intended to be set aside in perpetuity for threatened and endangered species conservation.

Both the Elk Hills mitigation parcel and the CLEP are lands that were set aside in perpetuity to mitigate impacts from other projects to threatened and endangered species habitat. As a result, any activities, such as implementation of the proposed Project, which could degrade the habitat quality, directly impact wildlife utilizing these areas, or limit the habitat connectivity in these areas, should mitigate these impacts by protection in perpetuity of an additional appropriate amount of acreage in the Project area vicinity. Since land could be impacted which has been already secured as mitigation for other projects, mitigation for Project-related impacts to these lands should occur in

Sarah Gassner
September 5, 2008
Page 10

advance of Project implementation at a minimum of twice the standard (e.g., 3:1 x 2=6:1) mitigation rate. This is above and beyond the mitigation that would be required in a State Incidental Take Permit for Project-related impacts to State-listed species.

Mitigation Lands: The MND (page 122) mentions the Kern Water Bank (KWB) as a potential location to purchase mitigation credits to offset Project-related impacts to listed species such as kit fox. Both DFG and the USFWS must approve the sale of mitigation credits at KWB in order for KWB. DFG would not approve of use of the Kern Water Bank's Conservation Bank for this Project for the following reasons:

- 1) Both DFG and USFWS generally only approve KWB conservation credit sales for relatively small footprint projects (e.g., less than 20 acres in size); the average number of credit sales for any one transaction is 14, meaning that the average project size was only 3-14 acres in size. While exceptions to the "small project" are occasionally made on a case-by-case, there are other reasons, explained below, that make KWB an inappropriate mitigation option.
- 2) The Project will result in impacts to both SJAS and GKR, species which are not present at KWB. As a result, KWB would not be acceptable mitigation for a State Incidental Take Permit. USFWS will likely have similar concerns regarding GKR.
- 3) The KWB is outside the range of SNKR. If the mitigation for impacts to listed species was envisioned to address CEQA-related biological impacts to special status species, the mitigation lands should occur within the range of SNKR.
- 4) The proposed Project is located in an area known to support high densities of SJKF, GKR, SJAS, and BNLL. DFG recommends that mitigation lands are secured in this same geographical area as opposed to east of the California Aqueduct or in areas much further north.

Page 122 of the MND mentions that if KWB is not used for mitigation that another "U.S. Fish and Wildlife Service" bank would be used. It is important to note that there are no approved banks that support GKR and/or SJAS. Additionally, in order for mitigation "banks" to meet State Incidental Take Permit issuance criteria, the banks also have to be also approved by DFG. Given the rare biological resources present in the Project area, it is likely that Caltrans will need to independently secure mitigation lands, as opposed to purchasing credits from any established banks. Because of the need for substantive acreage of mitigation lands to offset impacts associated with oil and gas development, there is a lot of demand for acquisition of threatened and endangered species habitat in the Project area vicinity. Because securing appropriate mitigation lands will likely be difficult given the purchasing competition from multiple entities, DFG

Sarah Gassner
September 5, 2008
Page 11

recommends that Caltrans attempt to identify and secure such lands early and well in advance of project implementation. DFG is willing, as always, to provide early feedback on the suitability of any proposed mitigation lands.

We appreciate the opportunity to comment on this Project and for your willingness to involve DFG in the development of this Project. If you have any questions regarding these issues, please contact Laura Peterson-Diaz, Environmental Scientist, at the address provided on this letterhead, by e-mail at lpdiaz@dfg.ca.gov, or by telephone at (559) 243-4017, extension 225.

Sincerely,



W. E. Loudermilk
Regional Manager

cc: Zachary Parker
Department of Transportation, District 6
2015 East Shields Avenue, Suite 100
Fresno, California 93726

Tim Kuhn
United States Fish and
Wildlife Service
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

State Clearinghouse
Office of Planning and Research
Post Office Box 3044
Sacramento, California 95812-3044

ec: Laura Peterson-Diaz
Department of Fish and Game

Sarah Gassner
September 5, 2008
Page 12

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Response to comments from the California Department of Fish and Game

Thank you for your comments on the project.

Response to comment #1: Section 2.3.5 has been revised. Caltrans would apply for a 2081 Incidental Take Permit for the San Joaquin kit fox, the San Joaquin antelope squirrel, and the giant kangaroo rat. Caltrans would not apply for an Incidental Take Permit for the blunt-nose leopard lizard or the California jewel flower. A permit would not be issued for the blunt-nose lizard because it is a fully protected species. Caltrans would not apply for a permit for the California jewel flower unless the project would directly affect a known population of the plant. The flower was not found during botanical surveys.

Response to comment #2: Caltrans would apply for a Streambed Alteration Permit before construction.

Response to comment #3: Impacts to these and other special-status species potentially found in the study area have been addressed in the Natural Environment Study done for this project. In addition, botanical surveys and mitigation efforts would also be conducted for recurved larkspur (*Delphinium recurvatum*) and oil neststraw (*Stylocline citroleum*).

Response to comment #4: Appendix E now indicates presumed presence with asterisks.

Response to comment #5: A special provision for migratory birds was included in Section 2.3.4 Avoidance, Minimization, and/or Mitigation section and would be included in the bid package to avoid impacts to any nesting birds or raptors.

Response to comments #6: Section 2.3.5 has been revised. The project would not result in any take of the blunt-nosed leopard lizard. Avoidance and minimization efforts would ensure no impacts to this species. The proposed mitigation measures would compensate for the loss of lizard habitat.

Caltrans would obtain a 2081 incidental take permit for the giant kangaroo rat from the California Department of Fish and Game.

Caltrans conducted spotlighting and scent station surveys for the San Joaquin kit fox in spring and summer of 2002. Due to the potential impacts to the San Joaquin kit fox from the proposed Cherry Avenue project, Caltrans would obtain a 2081 permit for the San Joaquin kit fox from the California Department of Fish and Game.

A map of the proposed box culvert locations for Alternative 1, Alternative 10, and Alternative 11 (the preferred alternative) was added to Appendix K of this environmental document.

Response to comments #7: Caltrans would ensure that all lands obtained for mitigation purposes would be suitable and adequate for each species identified as being affected by the project. Caltrans would obtain a 2081 incidental take permit for the San Joaquin antelope squirrel from the California Department of Fish and Game.

Response to comment #8: Section 2.3.4 has been revised to include methods to evict owls from burrows and to monitor their status.

Response to comment #9: If active badger dens are discovered, then avoidance measures would be included where feasible. Information about this species would also be included in the preconstruction training.

Response to comment #10: A special provision for migratory birds would be included in the bid package to avoid impacts to any nesting birds or raptors.

Response to comment #11: Section 2.3.5 has been revised to include preconstruction surveys for California jewel-flower and San Joaquin woolly-threads. In addition, surveys would encompass the following California Native Plant Society listed plant species: heartscale (*Atriplex cordulata*), crownscale (*Atriplex coronata* var. *coronata*), Lost Hills heartscale (*Atriplex vallicola*), alkali Mariposa lily (*Calochortus striatus*), gypsum-loving larkspur (*Delphinium gypsophilum* ssp. *gypsophilum*), recurved larkspur (*Delphinium recurvatum*), Hoover's woolly-star (*Eriastrum hooveri*), cottony buckwheat (*Eriogonum gossypinum*) and oil neststraw (*Stylocline citroleum*). Surveys would be conducted within the appropriate blooming period for each species.

Response to comment #12: Section 2.3.5 has been revised. Caltrans would not pursue a Consistency Determination (2080.1); instead, an incidental take permit would be obtained.

Response to comment #13: All three of the build alternatives would avoid impacts to the privately owned Coles Levee Ecosystem Preserve at the east end of the project area. No alternative would require the acquisition of land from the preserve. For Alternatives 1 and 10, Caltrans has revised the slopes within the Caltrans right-of-way adjacent to the Coles Levee from 4:1 to 2:1 to avoid impacts to the preserve. Alternative 11 would avoid the preserve by ending at post mile R10.4.

Response to comment #14: Caltrans acknowledges that the Kern Water Bank is not approved by the California Department of Fish and Game for the giant kangaroo rat and the San Joaquin antelope squirrel. Caltrans would pursue the acquisition of mitigation land or conservation easements within the project area and range of affected species to compensate for the impacts associated with the project.

Comment from the Native American Heritage Commission

STATE OF CALIFORNIA

Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION

915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
(916) 657-5390 - Fax



August 25, 2008

Stephen Ruiz
California Department of Transportation
2015 E. Shields Avenue, Suite 100
Fresno, CA 93726

RE: SCH# 2008081019 Cherry Avenue Four-Lane Project: Kern County.

Dear Mr Ruiz:

The Native American Heritage Commission has reviewed the Notice of Completion (NOC) regarding the above referenced project. The California Environmental Quality Act (CEQA) states that any project that causes a substantial adverse change in the significance of an historical resource, which includes archeological resources, is a significant effect requiring the preparation of an EIR (CEQA guidelines 15064(b)). To adequately comply with this provision and mitigate project-related impacts on archaeological resources, the Commission recommends the following actions be required:

- ✓ Contact the appropriate Information Center for a record search to determine:
 - If a part or all of the area of project effect (APE) has been previously surveyed for cultural resources.
 - If any known cultural resources have already been recorded on or adjacent to the APE.
 - If the probability is low, moderate, or high that cultural resources are located in the APE.
 - If a survey is required to determine whether previously unrecorded cultural resources are present.
- ✓ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
 - The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure.
 - The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological information center.
- ✓ Contact the Native American Heritage Commission for:
 - A Sacred Lands File Check. **Sacred Lands File check completed, no sites indicated**
 - A list of appropriate Native American Contacts for consultation concerning the project site and to assist in the mitigation measures. **Native American Contacts List attached**
- ✓ Lack of surface evidence of archeological resources does not preclude their subsurface existence.
 - Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) §15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.
 - Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans.
 - Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5(e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

Sincerely,

Katy Sanchez
Program Analyst
(916) 653-4040

CC: State Clearinghouse

Native American Contacts

Kern County
August 25, 2008

Tule River Indian Tribe
Neil Peyron, Chairperson
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Yokuts

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Tubatulabal
Kawaiisu
Koso
Yokuts

Kern Valley Indian Council
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Southern Paiute
Kawaiisu
Tubatulabal
Koso
Yokuts

Esohm Valley Band of Indians
Kenneth Woodrow, Chairperson
1179 Rock Haven Ct.
Salinas, CA 93906
831-443-9702

Foothill Yokuts
Mono

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH# 2008081019 Cherry Avenue Four-Lane Project; Kern County.

Response to comments from the Native American Heritage Commission

Thank you for your comments on the project.

Section 2.1.8 and Appendix A of this environmental document demonstrate Caltrans' compliance with California Environmental Quality Act guidelines regarding identification of historical resources. All efforts met and/or exceeded California Environmental Quality Act guidelines, as they also comply with Section 106 of the National Historic Preservation Act, the *Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California*, and the National Environmental Policy Act.

Caltrans determined that no historic properties or historical resources were present within the project Area of Potential Effects. Caltrans submitted these findings within the August 2007 *Historic Property Survey Report Cherry Avenue Four-Lane Project* to the State Historic Preservation Officer. A letter of concurrence from the State Historic Preservation Officer, dated September 18, 2007, is shown in Appendix J of this environmental document.

Comments from the San Joaquin Valley Air Pollution Control District

An information sheet about Indirect Source Review was attached with this comment letter.



October 9, 2008

Stephen Ruiz
Caltrans – District 6
2015 E. Shields Ave., Suite 100
Fresno, CA 93726

Project: Cherry Avenue Four-Lane Widening
Subject: District Rule 9510: Indirect Source Review (ISR) applicability
District Reference No: 20080502

Dear Mr. Ruiz:

The San Joaquin Valley Unified Air Pollution Control District (District) has reviewed the project referenced above and determined that the project may be subject to District Rule 9510 (Indirect Source Review). Rule 9510 requires applicants subject to the rule to provide information that enables the District to quantify construction, area and operational emissions, and potentially mitigate a portion of those emissions. An application must be filed with the District no later than concurrent with application with a local agency for the final discretionary approval.

For your convenience, a document is enclosed which addresses frequently asked questions regarding Indirect Source Review (ISR). This may be used as a reference to better understand ISR, and how the District processes applications. For additional information, please visit the District's ISR website: <http://www.valleyair.org/ISR/ISRHome.htm>.

District staff is available to meet with you and/or the applicant to further discuss the regulatory requirements that are associated with this project. If you have any questions or require further information, please call the District at (559) 230-6000 and ask to speak with the CEQA/ISR staff. When submitting an ISR application to the District, please include District reference number **20080502**.

Sincerely,

David Warner
Director of Permit Services

A handwritten signature in blue ink that reads "Arnaud Marjollet".

Arnaud Marjollet
Permit Services Manager

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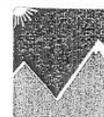
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San Joaquin Valley Air Pollution Control District



Frequently Asked Questions Regarding Indirect Source Review

Q: What is the purpose of Indirect Source Review (ISR)?

A: As land development and population in the San Joaquin Valley continues to increase, so will indirect air emissions that negatively effect air quality. The emissions are called indirect because they don't come directly from a smokestack, like traditional industry emissions, but rather the emissions are indirectly caused by this growth in population. As a consequence, the San Joaquin Valley Air Pollution Control District (District) adopted Indirect Source Review (Rule 9510) to reduce the impacts of growth in emissions from all new land development in the San Joaquin Valley.

Q: When is a project subject to ISR?

A: A project is subject to ISR if all of the following are applicable:

- The project received its **final discretionary approval** from the land use agency on or after **March 1, 2006**.
- The project meets or exceeds the following District applicability thresholds:

- 2,000 square feet commercial	- 25,000 square feet light industrial	- 100,000 square feet heavy industrial
- 20,000 square feet medical office	- 39,000 square feet general office	- 9,000 square feet educational
- 10,000 square feet governmental	- 20,000 square feet recreation space	- 50 residential units
- 9,000 square feet of space not included in the list		

- The project's primary functions are not subject to District Rule 2201 (New and Modified Stationary Source Review Rule), or District Rule 2010 (Permits Required).

For more information on the applicability of ISR regarding a specific project, please contact the District at (559) 230-6000 or visit the District's website at <http://www.valleyair.org/ISR/ISRHome.htm>.

Q: For the purposes of Rule 9510, what is final discretionary approval?

A: A decision by a public agency that requires the exercise of judgment or deliberation when the public agency or body decides to approve or disapprove a particular development project, as distinguished from situations where the public agency merely has to determine whether there has been conformity with applicable statutes, ordinances, or regulations. Examples of discretionary approvals include Tentative Tract Maps, Site Plans, and Conditional Use Permits. A building permit would be an example of a ministerial approval.

Q: What pollutants does ISR target?

A: The ISR rule looks to reduce the growth in NO_x and PM_{10} emissions associated with the construction and operation of new development projects in the San Joaquin Valley. The rule requirement is to reduce construction NO_x and PM_{10} emissions by 20% and 45%, respectively, as well as reducing operational NO_x and PM_{10} emissions by 33.3% and 50%, respectively, when compared to unmitigated projects.

Q: What are NO_x and PM_{10} ?

A: Nitrogen oxide (NO_x) is an ozone precursor, or principal component of ozone. Ozone is a colorless, odorless reactive gas comprised of three oxygen atoms. It is found naturally in the earth's stratosphere, where it absorbs the ultraviolet component of incoming solar radiation that can be harmful to life. Ozone is also found near the earth's surface, where pollutants emitted from society's activities react in the presence of sunlight to form ozone. Hot sunny weather with stagnant wind conditions favors ozone formation, so the period from May through September is when high ozone levels tend to occur in the San Joaquin Valley Air Basin.

Particulate matter (PM) is a generic term used to describe a complex group of air pollutants that vary in composition. PM_{10} particles have a diameter of 10 microns (micrometers) or less. The sources of PM can vary from wind blown dust particles to fine particles directly emitted from combustion processes, or may be formed from chemical reactions occurring in the atmosphere.

Q: What is URBEMIS?

A: URBEMIS (Urban Emissions) is a computer modeling program that estimates construction, area source and operational emissions of NO_x and PM_{10} from potential land uses. This program uses the most recent approved version of relevant Air Resources Board (ARB) emissions models and emission factors.

Q: How can a project's emissions be reduced to lessen the impact on air quality?

A: A project's emissions can be reduced by incorporating District approved mitigation measures. These include, but are not limited to, the following:

- Bicycle lanes throughout the project
- Proximity to existing or planned bus stops
- Proximity to existing or planned local retail
- Eliminate woodstoves and fireplaces from the project
- Cleaner fleet construction vehicles
- Energy efficiency beyond Title 24 requirements

For more information on additional measures that help reduce emissions, please contact the District at (559) 230-6000.

Q: What will I receive from the District once the Air Impact Assessment (AIA) has been approved?

A: When the AIA is approved the applicant will receive an approval letter, along with the following:

- Off-site emissions estimator worksheet (see below)
- Fee estimator worksheet (see below)
- Monitoring and Reporting Schedule (MRS), if applicable
- Project invoice, if applicable

Q: What is the Off-site Emissions Estimator Worksheet?

A: This Excel worksheet uses the project's total tons of NO_x and PM₁₀ as calculated using URBEMIS and compares the unmitigated emissions against the mitigated emissions, determining whether the reduction in emissions is sufficient to satisfy the rule. If the reduction is not sufficient, the required off-site emission reductions are calculated using the District's off-site emission reduction equations, which can be found on the District's website at <http://www.valleyair.org/rules/currentrules/r9510.pdf> (Sections 7.0 through 7.1.2.2)

Q: What is the Fee Estimator Worksheet?

A: The Fee Estimator is an Excel worksheet used to calculate the total dollar amount of off-site fees that must be paid to the District in order to cover the District's cost of obtaining the required off-site emission reductions, and therefore fulfill the rule requirement. This fee amount is derived by multiplying the total tons of off-site reductions by the applicable rate.

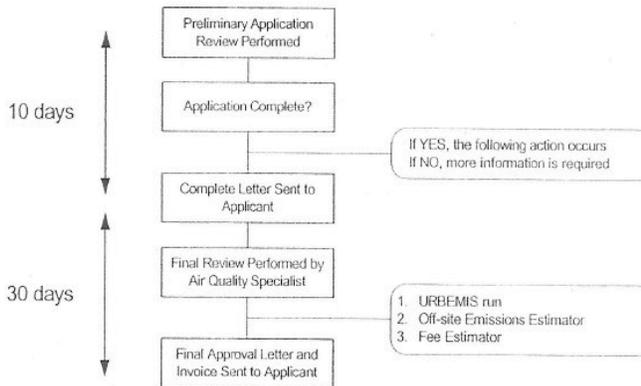
Q: Why are mitigation fees collected, and how are they used by the District?

A: When a development project cannot reduce its NO_x and PM₁₀ emissions to the level required by the rule, then the difference must be mitigated through the payment of a fee. The monies collected from this fee will be used by the District to reduce emissions in the San Joaquin Valley on behalf of the project, with the goal of offsetting the emissions increase from the project by decreasing emissions elsewhere. More specifically, the fees received by the District are used in the District's existing Emission Reduction Incentive Program (ERIP) to fund emission reduction projects.

Q: How can additional information on the Indirect Source Review Program be found?

A: Additional information can be found by visiting the District's website at <http://www.valleyair.org/ISR/ISRHome.htm> or by calling the District at (559) 230-6000.

ISR Processing Flow Chart



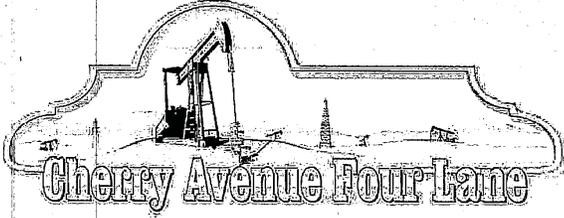
1990 E. GETTYSBURG AVENUE, FRESNO, CA 93726-0244 / (559) 230-6000 TEL. / www.valleyair.org

Response to comment from the San Joaquin Valley Air Pollution Control District

Thank you for your comments on the project.

So long as it remains legally valid, Caltrans intends to comply with Indirect Source Review, Rule 9510. An Air Impact Analysis will be submitted to the San Joaquin Valley Air Pollution Control District before construction of this project.

Comment from City of Taft



Cherry Avenue Four-Lane

Comment Card

NAME: Craig Jones Public Works Director
ADDRESS: 209 E Kernl ST. CITY: TAFT ZIP: 93268
REPRESENTING: CITY OF TAFT

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:
Mail to: CALTRANS DISTRICT 6
Sarah Gassner, Senior Environmental Planner
Caltrans Environmental Branch/Unit 894
2015 E. Shields Avenue, Suite 100
Fresno, CA 93726

I would like to submit the following comments (please print clearly):
CITY OF TAFT Would Like to see ALTERNATIVE 10
Route Please Contact Me for ANY Question
661-763-1222 EX 23

Thanks,
Craig Jones

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: On Going Efforts w/ City

(12/21/04) ec

Response to comment from City of Taft

Thank you for your comments on the project.

Comments from the West Kern Water District

Mapping of the Water District's facilities in the project area were attached with this comment letter.



August 21, 2008

Mr. Steve Milton
Project Manager
Dept. of Transportation
215 East Shields Avenue, Ste 100
Fresno, CA 93726-5428

RE: Consultation Process on Draft Initial Study/Environmental Assessment

Dear Mr. Milton:

In response to the California Department of Transportation (Caltrans) Draft Initial Study/Environmental Assessment dated August 12, 2008, proposing two build alternatives to widen State Route 119 from a two-lane highway to a four-lane highway from west of Cherry Avenue to Tupman Road, please be advised of the following:

West Kern Water District has the following facilities that will be impacted by Alternative 1.

- 3" steel main located on the south side of Highway 119 thru Valley Acres.
- There are also several domestic ¾" services connections that cross Highway 119 to the north side.
- 8" AC pipe main crossing Highway 119 at Orange, running South to North.
- 2-1/2" steel main on the north side of Highway 119 and an 8" PVC main on the south side of Highway 119 thru Dustin Acres.
- The District has 2 highway crossings - one 2" and one 8" in Dustin Acres.
- Between Dustin Acres and Valley Acres the District has an 8" PVC main running approximately 50' North along Highway 119. Between Tank Farm Road and Tamarisk Ranch turn-in.
- 6" steel main, crossing at Hwy 119 and Tank Farm Road.

Board of Directors
Stephen J. Steinhoffer
President

David A. Wells
Vice President

Charles H. Comfort
Jesus R. Fernandez
Thomas M. LeClair

Jerry W. Pearson
General Manager

J.D. Bramlet
*Assistant General Manager
Operations Manager*

E. Dawn Cole
*Assistant General Manager
Human Resources Director*

Sanjay "Sunny" Kapoor
Director of Finance

Alternative 10 will impact the following:

- The District has a 16" high pressure steel main line, a 48" high pressure D.I. main line, and a 30" high pressure main line (out of service).
- Various 8" and 12" steel high pressure mains to Dustin Acres and Valley Acres.
- Thru the effected Tracts we have 8" mains and various service connections.
- The District has an abandoned 8" PVC on the east side of the Phillips Tract running south to north from Highway 119 to the 16" high pressure steel main line.

Please notify the District a minimum of 5 working days in advance of the proposed construction start date to facilitate scheduling an inspector. Your assistance in this matter is greatly appreciated. Feel free to contact my office if additional information is required.

Sincerely,



J.D. Bramlet
Assistant General Manager / Operations Manager

JDB:ks

Enclosures

Response to comments from the West Kern Water District

Thank you for your comments on the project. Alternative 11, a shortened version of Alternative 10 that includes its bypass design, has been selected as the preferred alternative. On the development and selection of Alternative 11, see Chapter 1.

Utilities would be identified during the design phase of the project, and potential impacts would be resolved through the utility relocation process.

Comments in Support of Alternative 10

Comments in support of Alternative 10, the southern bypass, were received from 14 residents of Valley Acres or Dustin Acres. Comments were also received from 20 Taft residents, one Maricopa resident, and one Bakersfield resident. Other comments in support of Alternative 10 are found in the court reporter transcripts, documented later in this appendix.



Comment Card

NAME: Ida Ellen Ault
ADDRESS: 5196 Alpine CITY: Taft ZIP: 919324
REPRESENTING: _____

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
Sarah Gassner, Senior Environmental Planner
Caltrans Environmental Branch/Unit 894
2015 E. Shields Avenue, Suite 100
Fresno, CA 93726

I would like to submit the following comments (please print clearly):

It took with me alternative 10 bypass

ALTERNATIVE 10 BYPASS ALL THE WAY

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: _____





Comment Card

NAME: Doyt Ault
 ADDRESS: 519 Alpine CITY: Taft Ca ZIP: 93268
 REPRESENTING: Self

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
 Sarah Gassner, Senior Environmental Planner
 Caltrans Environmental Branch/Unit 894
 2015 E. Shields Avenue, Suite 100
 Fresno, CA 93726

I would like to submit the following comments (please print clearly):

I do ok with the Alternative 10 bypass
ALTERNATIVE 10 BYPASS

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: _____





Comment Card

NAME: Mr + Mrs Ken Bishop
 ADDRESS: 200 Snathack Ave CITY: Taft ZIP: 93228
 REPRESENTING: Ken Bishop / Samantha Bishop

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
 Sarah Gassner, Senior Environmental Planner
 Caltrans Environmental Branch/Unit 894
 2015 E. Shields Avenue, Suite 100
 Fresno, CA 93726

I would like to submit the following comments (please print clearly):

Please go outside and around
Valley + Dustin Aves. A 4 lane
highway is too much for the little
town to deal with. There is no
way to make it safe for pedestrians
if you go through town. There will
be more accidents.
GO AROUND THE TOWNS! ALTERNATIVE 10

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: _____





Comment Card

NAME: David Boyd
 ADDRESS: 26032 Cherry Ave CITY: Taft ZIP: 93268
 REPRESENTING: Resident

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
 Sarah Gassner, Senior Environmental Planner
 Caltrans Environmental Branch/Unit 894
 2015 E. Shields Avenue, Suite 100
 Fresno, CA 93726

I would like to submit the following comments (please print clearly):

I would like to see Alternative 10 for
everyone's safety. I have lived here for 15 years
and I had planned to retire here

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: _____



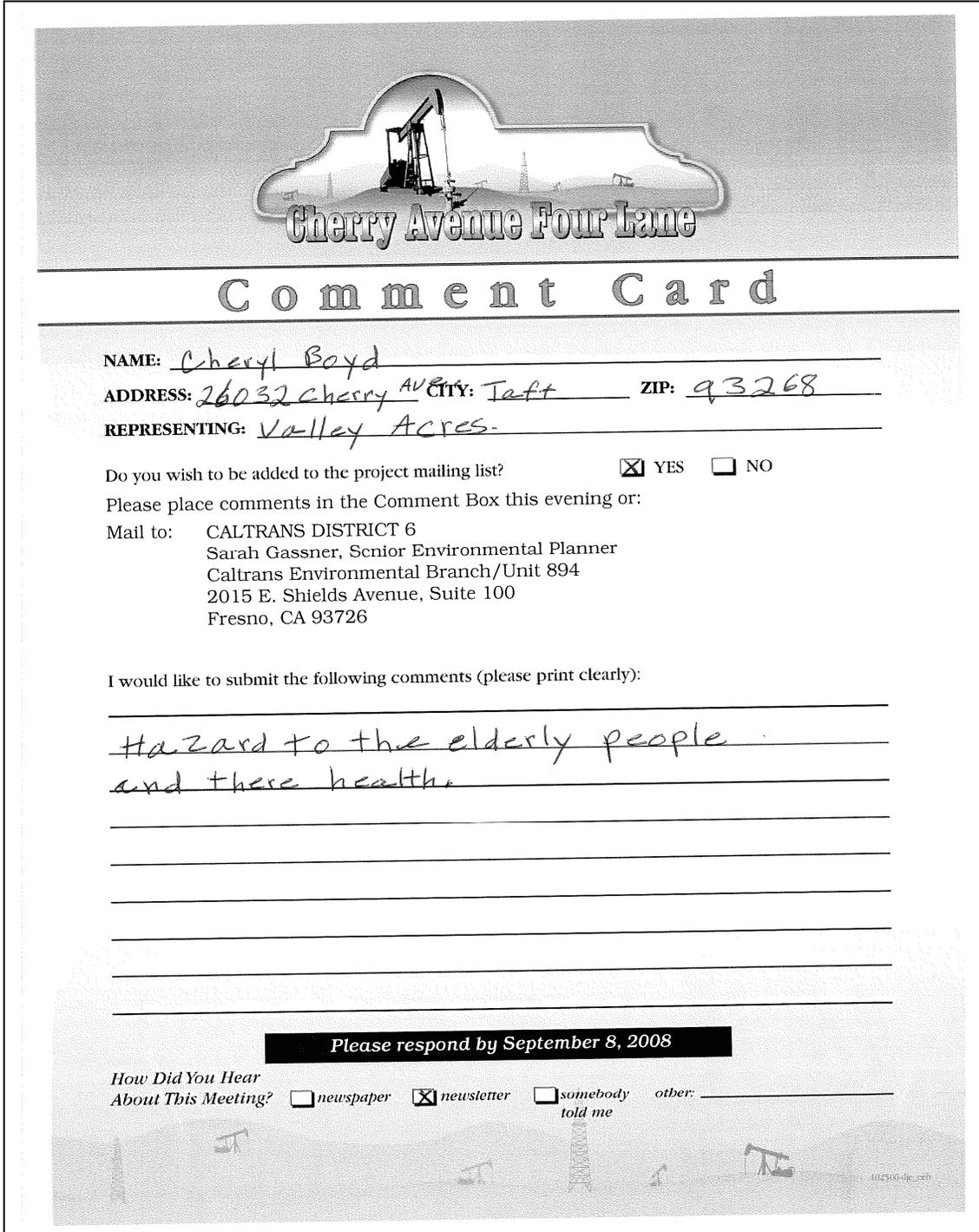
David Boyd
26032 Cherry Ave

Our biggest concerns:

- Traffic too close to the house.
- Increase in speed limit.
- It's very common for traffic to speed through the town at over 65 mph now and with passing lanes the speed will increase just like being on the freeway.
- Crossing at least 2 lanes of oncoming traffic causing danger entering the highway.
- Hazard from highway entering private driveways
- Hazard entering and leaving local market.
- Losing part of our land to construction zone.
- Custom fencing will have to be demolished.
- Hazard to children waiting for bus and crossing highway.
- Unfortunate loss of property to residents of Dustin and Valley Acres.
- Many people will lose their homes because the 4 lane hwy will be too close or over their property line.
- Inability to have a safe play zone out front for children and pets.
- Pollution-many have swamp coolers and the exhaust and dust will be coming into their homes causing health issues
- Total disruption of life for the residents

Would you like living in this type of environment!

**Please enable traffic to travel around the towns
and not through them.**



The form is titled "Cherry Avenue Four Lane Comment Card" and features a header image of an oil pumpjack. The card contains fields for name, address, city, and zip code, with handwritten entries: "Cheryl Boyd", "26032 Cherry", "Taft", and "93268". It also includes a "REPRESENTING:" field with "Valley Acres" written in. A checkbox section asks if the respondent wishes to be added to a mailing list, with "YES" checked. A section for comments includes the address of Caltrans District 6 and a handwritten comment: "Hazard to the elderly people and there health". A deadline of "September 8, 2008" is highlighted in a black box. A final section asks how the respondent heard about the meeting, with "newletter" checked.

Cherry Avenue Four Lane

Comment Card

NAME: Cheryl Boyd

ADDRESS: 26032 Cherry AVENUE CITY: Taft ZIP: 93268

REPRESENTING: Valley Acres

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
Sarah Gassner, Senior Environmental Planner
Caltrans Environmental Branch/Unit 894
2015 E. Shields Avenue, Suite 100
Fresno, CA 93726

I would like to submit the following comments (please print clearly):

Hazard to the elderly people
and there health

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: _____

004500-06.ctb

Veryl Boyd
26032 Cherry Ave

Our biggest concerns:

- Traffic too close to the house.
- Increase in speed limit.
- It's very common for traffic to speed though the town at over 65 mph now and with passing lanes the speed will increase just like being on the freeway.
- Crossing at least 2 lanes of oncoming traffic causing danger entering the highway.
- Hazard from highway entering private driveways
- Hazard entering and leaving local market.
- Losing part of our land to construction zone.
- Custom fencing will have to be demolished.
- Hazard to children waiting for bus and crossing highway.
- Unfortunate loss of property to residents of Dustin and Valley Acres.
- Many people will lose their homes because the 4 lane hwy will be too close or over their property line.
- Inability to have a safe play zone out front for children and pets.
- Pollution-many have swamp coolers and the exhaust and dust will be coming into their homes causing health issues
- Total disruption of life for the residents

Would you like living in this type of environment!

**Please enable traffic to travel around the towns
and not through them.**



Cherry Avenue Four Lane

C o m m e n t C a r d

NAME: RAY BROWN

ADDRESS: 701 FRONT ST **CITY:** TARI **ZIP:** 93268

REPRESENTING: TONI MYERS

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:
Mail to: CALTRANS DISTRICT 6
Sarah Gassner, Senior Environmental Planner
Caltrans Environmental Branch/Unit 894
2015 E. Shields Avenue, Suite 100
Fresno, CA 93726

I would like to submit the following comments (please print clearly):

PLEASE INSTALL THE ALTERNATIVE ROUTE
TO SAVE TONI'S HOME AND THE OTHERS. ALSO.
PLEASE BY-PASS VALLEY ACRES -
THANK YOU
RAY BROWN

GO ALTERNATIVE 10

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: _____



012501-06.rtf



Comment Card

NAME: MIA CALLAGHAN
ADDRESS: 641 Hazelton CITY: Maricopa ZIP: 93252
REPRESENTING: Self

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
Sarah Gassner, Senior Environmental Planner
Caltrans Environmental Branch/Unit 894
2015 E. Shields Avenue, Suite 100
Fresno, CA 93726

I would like to submit the following comments (please print clearly):

alternative (10) I hoped it will ^{be} approved.
Thank you!
Alex Gray

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: _____





Cherry Avenue Four Lane

Comment Card

NAME: Mary L. Caldwell

ADDRESS: 604 Rose Ave **CITY:** Left **ZIP:** 93268

REPRESENTING: _____

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
 Sarah Gassner, Senior Environmental Planner
 Caltrans Environmental Branch/Unit 894
 2015 E. Shields Avenue, Suite 100
 Fresno, CA 93726

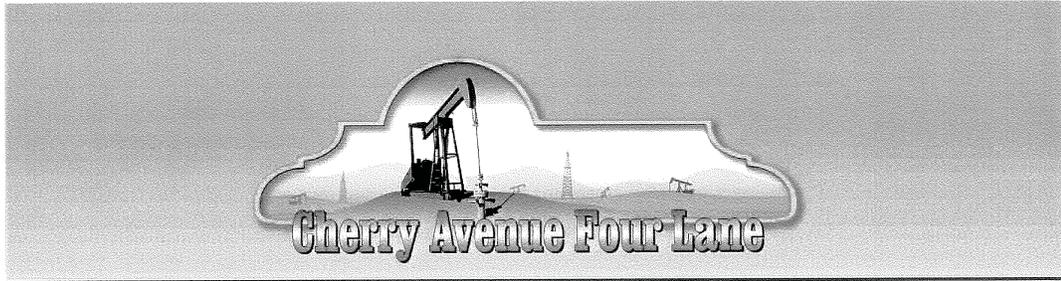
I would like to submit the following comments (please print clearly):

I'm all for it!! Alternative 10

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: _____

1025-00-djc.rctb



Comment Card

NAME: Betty J. Cramer
ADDRESS: 500 Jackson CITY: Fair ZIP: 93268
REPRESENTING: _____

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
Sarah Gassner, Senior Environmental Planner
Caltrans Environmental Branch/Unit 894
2015 E. Shields Avenue, Suite 100
Fresno, CA 93726

I would like to submit the following comments (please print clearly):

alternative to go around Austin Valley
Access

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: _____



Comment Card

NAME: Cassandra Crawford
ADDRESS: 513 A St. CITY: Taft ZIP: 93268
REPRESENTING: Self

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
Sarah Gassner, Senior Environmental Planner
Caltrans Environmental Branch/Unit 894
2015 E. Shields Avenue, Suite 100
Fresno, CA 93726

I would like to submit the following comments (please print clearly):

Alternate 10 would be better!!
It would not affect any homeowners!!

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: _____



Comment Card

NAME: Lion Ductor
ADDRESS: 307 Kellmark CITY: Taft ZIP: CA
REPRESENTING: Self

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
Sarah Gassner, Senior Environmental Planner
Caltrans Environmental Branch/Unit 894
2015 E. Shields Avenue, Suite 100
Fresno, CA 93726

I would like to submit the following comments (please print clearly):

ALTERNATIVE 10
I hope that deprobs thank you

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: X





Comment Card

NAME: Lois M. Haney
 ADDRESS: 2018th #80 CITY: Yast ZIP: 93268
 REPRESENTING: Alternative 10

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
 Sarah Gassner, Senior Environmental Planner
 Caltrans Environmental Branch/Unit 894
 2015 E. Shields Avenue, Suite 100
 Fresno, CA 93726

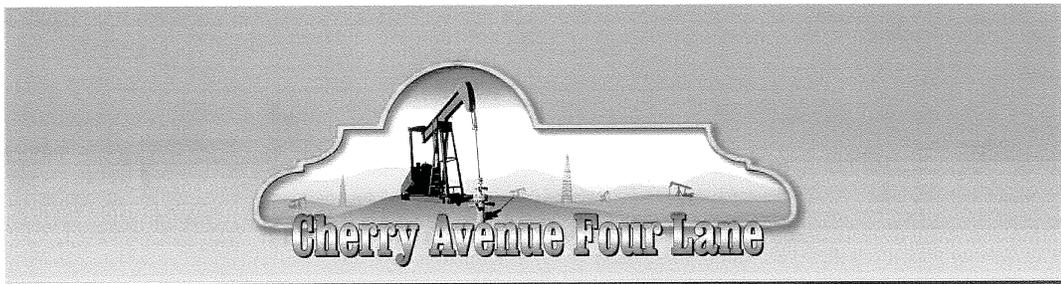
I would like to submit the following comments (please print clearly):

It only seems reasonable to go forward
the time I will disturb anyone in detailish
any hours.

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: _____





Comment Card

NAME: Nanette J. Kattred
ADDRESS: 2057 Elm St CITY: Laft, Ca ZIP: 93268
REPRESENTING: Self

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
Sarah Gassner, Senior Environmental Planner
Caltrans Environmental Branch/Unit 894
2015 E. Shields Avenue, Suite 100
Fresno, CA 93726

I would like to submit the following comments (please print clearly):

I would like the alternative 10 bypass.
I hope it will approved by the
Caltrans. Thank you.

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: _____





Comment Card

NAME: Joyce Hablos
ADDRESS: 201- 8th st #4C CITY: Taft ZIP: 93268
REPRESENTING: Self

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
Sarah Gassner, Senior Environmental Planner
Caltrans Environmental Branch/Unit 894
2015 E. Shields Avenue, Suite 100
Fresno, CA 93726

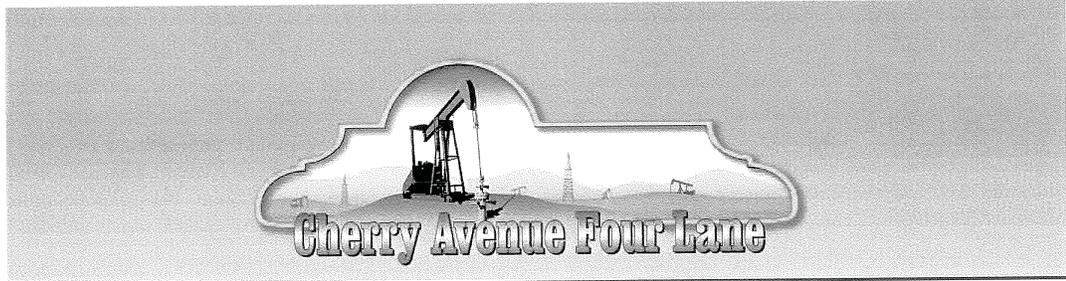
I would like to submit the following comments (please print clearly):

Please bypass homes on route - do not
destroy people's homes - find alternate
route.

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: _____





Comment Card

NAME: MARJORIE F. HOWARD
ADDRESS: 212 JACKSON CITY: Taft ZIP: 99268
REPRESENTING: Alternative 10

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
Sarah Gassner, Senior Environmental Planner
Caltrans Environmental Branch/Unit 894
2015 E. Shields Avenue, Suite 100
Fresno, CA 93726

I would like to submit the following comments (please print clearly):

PLEASE USE ROUTE AROUND HOMES TO
EXTEND 119. ALTERNATIVE 10 BYPASS

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: _____





Comment Card

NAME: Deborah D. Barrow
ADDRESS: 509 Shattuck Ave CITY: Taft ZIP: 93268
REPRESENTING: Self

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
Sarah Gassner, Senior Environmental Planner
Caltrans Environmental Branch/Unit 894
2015 E. Shields Avenue, Suite 100
Fresno, CA 93726

I would like to submit the following comments (please print clearly):

If the Alternate 10 will
not affect any homes, I
would prefer that option.
Thank you.

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: _____





Comment Card

NAME: LAURENCE ARTHUR JOY
ADDRESS: 100 FRANKLIN CITY: TAFT ZIP: 93268
REPRESENTING: _____

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
Sarah Gassner, Senior Environmental Planner
Caltrans Environmental Branch/Unit 894
2015 E. Shields Avenue, Suite 100
Fresno, CA 93726

I would like to submit the following comments (please print clearly):

I REQUEST THAT YOU CONTINUE AROUND BOTH
VALLEY ALKES AND DESTIN AS SHOWN ON PROPOSED
MAP

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: _____





Cherry Avenue Four Lane

Comment Card

NAME: Rosario Magana
ADDRESS: 520 Ash CITY: Taft Ca ZIP: 93268
REPRESENTING: Self

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
Sarah Gassner, Senior Environmental Planner
Caltrans Environmental Branch/Unit 894
2015 E. Shields Avenue, Suite 100
Fresno, CA 93726

I would like to submit the following comments (please print clearly):

We want Alternative #10 bypass:

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: _____





Comment Card

NAME: Shelma M. McCracken
ADDRESS: 3201 Gardner Blvd CITY: ca ZIP: 93306
REPRESENTING: Self

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
Sarah Gassner, Senior Environmental Planner
Caltrans Environmental Branch/Unit 894
2015 E. Shields Avenue, Suite 100
Fresno, CA 93726

I would like to submit the following comments (please print clearly):

other alternative 10

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: _____



Kyle Melton
Staci Melton

Our biggest concerns:

- Traffic too close to the house.
- Increase in speed limit.
- It's very common for traffic to speed through the town at over 65 mph now and with passing lanes the speed will increase just like being on the freeway.
- Crossing at least 2 lanes of oncoming traffic causing danger entering the highway.
- Hazard from highway entering private driveways
- Hazard entering and leaving local market.
- Losing part of our land to construction zone.
- Custom fencing will have to be demolished.
- Hazard to children waiting for bus and crossing highway.
- Unfortunate loss of property to residents of Dustin and Valley Acres.
- Many people will lose their homes because the 4 lane hwy will be too close or over their property line.
- Inability to have a safe play zone out front for children and pets.
- Pollution-many have swamp coolers and the exhaust and dust will be coming into their homes causing health issues
- Total disruption of life for the residents

Would you like living in this type of environment!

**Please enable traffic to travel around the towns
and not through them.**

To Whom It May Concern:

I would like you to consider using an alternate route of express way other than going right threw the middle of Valley and Dustin acres. The alternate route 10 would be the best choice of express way rather than alternate 1. A group of us from Valley acres got together and talked about the concerns we had with a 4 lane express freeway going right threw the middle of out towns. Some of the concerns we had were,

- 1) Traffic to close to the houses. There is literally going to be a highway in our front yards if this route goes in.
- 2) Increase of speed limit. At this time, there is a 50 mph speed limit through Dustin and Valley acres. With the addition of the "express way" the speed limit will increase making it difficult to access the road from our homes.
- 3) Crossing at least 2 lanes of oncoming traffic for residents to head to Taft or Bakersfield. This is very dangerous for the people in both communities either going to Taft or heading to Bakersfield. It is also extremely life threatening for people to cross 2 lanes of high speed traffic in the fog which is a problem every winter in both Valley and Dustin Acres.
- 4) Losing part of our property to the construction zone. There is going to have to be a lot of land bought from residents in order for this route to work. All the houses on the highway should be bought at market value if the route is to go in.
- 5) Hazard to children waiting for the school bus and crossing the highway. There are kids that are picked up and dropped off during the school year at a designated location. How do you expect traffic on an express freeway to stop for them or pay attention when there dropped off?

Please take these things into consideration when making you final decision on the "express freeway". Thank you for your time.

Sincerely,
Matt Melton
27567 Hwy 119
661-623-2399



Comment Card

NAME: Margaret Moore
ADDRESS: 405 Fillmore CITY: Folsom ZIP: 95630
REPRESENTING: Alternative 10

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
Sarah Gassner, Senior Environmental Planner
Caltrans Environmental Branch/Unit 894
2015 E. Shields Avenue, Suite 100
Fresno, CA 93726

I would like to submit the following comments (please print clearly):

Please use the Alternative route 10
around Cluster Acres & Valley Acres

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: _____





Comment Card

NAME: Charles D. Morris
 ADDRESS: 405 Fillmore St CITY: Taft ZIP: 93268
 REPRESENTING: Tony

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
 Sarah Gassner, Senior Environmental Planner
 Caltrans Environmental Branch/Unit 894
 2015 E. Shields Avenue, Suite 100
 Fresno, CA 93726

I would like to submit the following comments (please print clearly):

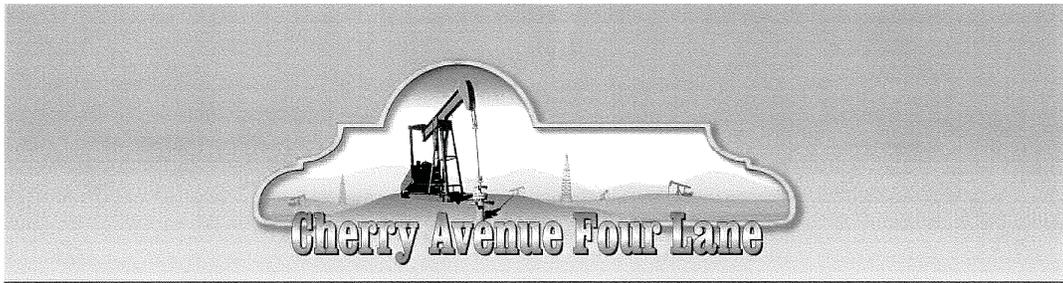
To see the Four lanes that has been in
the plans for the last 50 years be
completed.
Go ALTERNATIVE 1D

Charles D. Morris

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: News Media

10500-de.crb



Comment Card

NAME: Melvin Morrison
ADDRESS: 27501 Cherry Ave CITY: Taft ZIP: CA
REPRESENTING: Home owner

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
Sarah Gassner, Senior Environmental Planner
Caltrans Environmental Branch/Unit 894
2015 E. Shields Avenue, Suite 100
Fresno, CA 93726

I would like to submit the following comments (please print clearly):

Go Around with #10 for our safety
Use Traffic lights & Waring
I Have lived in Vally Acres for 50 years
Would like to Retire & Raise my Grand childer
Here
Thank You Mel Mo

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: _____



Melvin MORRISON
27501 CHERRY AVE

Our biggest concerns:

- Traffic too close to the house.
- Increase in speed limit.
- It's very common for traffic to speed through the town at over 65 mph now and with passing lanes the speed will increase just like being on the freeway.
- Crossing at least 2 lanes of oncoming traffic causing danger entering the highway.
- Hazard from highway entering private driveways
- Hazard entering and leaving local market.
- Losing part of our land to construction zone.
- Custom fencing will have to be demolished.
- Hazard to children waiting for bus and crossing highway.
- Unfortunate loss of property to residents of Dustin and Valley Acres.
- Many people will lose their homes because the 4 lane hwy will be too close or over their property line.
- Inability to have a safe play zone out front for children and pets.
- Pollution-many have swamp coolers and the exhaust and dust will be coming into their homes causing health issues
- Total disruption of life for the residents

Would you like living in this type of environment!

**Please enable traffic to travel around the towns
and not through them.**

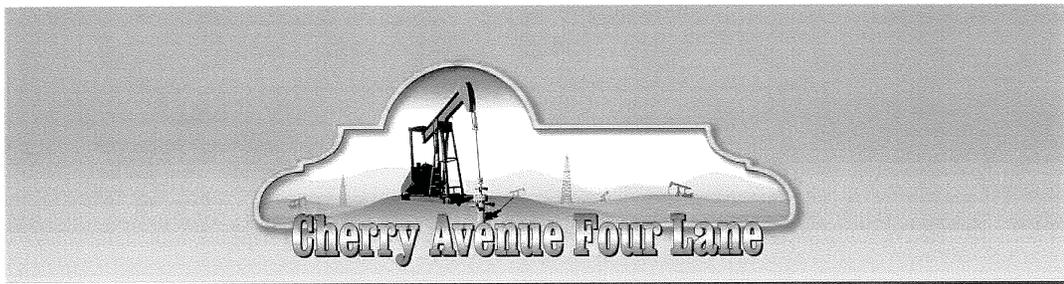
RAYMOND MORRISON
275988 TAFT HWY

Our biggest concerns:

- Traffic too close to the house.
- Increase in speed limit.
- It's very common for traffic to speed through the town at over 65 mph now and with passing lanes the speed will increase just like being on the freeway.
- Crossing at least 2 lanes of oncoming traffic causing danger entering the highway.
- Hazard from highway entering private driveways
- Hazard entering and leaving local market.
- Losing part of our land to construction zone.
- Custom fencing will have to be demolished.
- Hazard to children waiting for bus and crossing highway.
- Unfortunate loss of property to residents of Dustin and Valley Acres.
- Many people will lose their homes because the 4 lane hwy will be too close or over their property line.
- Inability to have a safe play zone out front for children and pets.
- Pollution-many have swamp coolers and the exhaust and dust will be coming into their homes causing health issues
- Total disruption of life for the residents

Would you like living in this type of environment!

**Please enable traffic to travel around the towns
and not through them.**



Comment Card

NAME: Antonia Myers Taft CA
 ADDRESS: 27505 Taft CITY: Hwy 119 ZIP: 93268
 REPRESENTING: Self

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
 Sarah Gassner, Senior Environmental Planner
 Caltrans Environmental Branch/Unit 894
 2015 E. Shields Avenue, Suite 100
 Fresno, CA 93726

I would like to submit the following comments (please print clearly):

Alternative 10 Bypass all the way
Thank you

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: X





Cherry Avenue Four Lane

Comment Card

NAME: Antonia Myers

ADDRESS: 27505 Taft Hwy. 119 **CITY:** Taft **ZIP:** 93268

REPRESENTING: Self

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
 Sarah Gassner, Senior Environmental Planner
 Caltrans Environmental Branch/Unit 894
 2015 E. Shields Avenue, Suite 100
 Fresno, CA 93726

I would like to submit the following comments (please print clearly):

I would like very much to go Alternative 10 Bypass
Again, please go to Alternative 10 Bypass.

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: Letter from Caltrans

10_2500-06_csb



Comment Card

NAME: Gerald Myers
ADDRESS: 27505 Telford Hwy 119 CITY: Taft Ca ZIP: 93268
REPRESENTING: Self

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

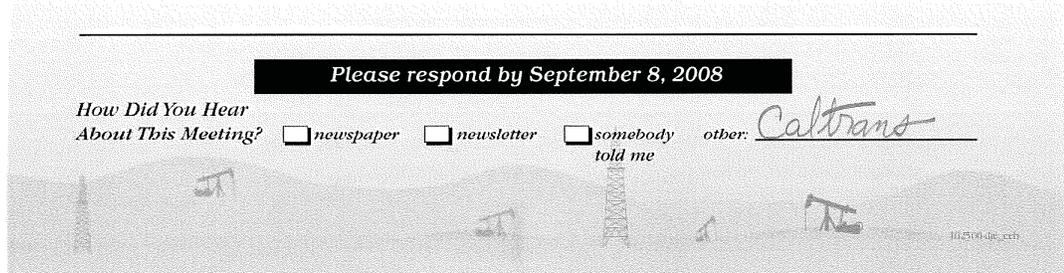
Mail to: CALTRANS DISTRICT 6
Sarah Gassner, Senior Environmental Planner
Caltrans Environmental Branch/Unit 894
2015 E. Shields Avenue, Suite 100
Fresno, CA 93726

I would like to submit the following comments (please print clearly):

Would like to go Alternative 10 Bypass

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: Caltrans





Comment Card

NAME: GERALD MYERS
 ADDRESS: 27505 Taft Hwy 119 CITY: Taft CA ZIP: 93268
 REPRESENTING: Self

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
 Sarah Gassner, Senior Environmental Planner
 Caltrans Environmental Branch/Unit 894
 2015 E. Shields Avenue, Suite 100
 Fresno, CA 93726

I would like to submit the following comments (please print clearly):

I prepare ALTERNATIVE 10 ByPass - Because
speeders, drunks and people on drugs
driving through here 80 and 90 miles an hour,
they won't even slow down if you trying to
walk from one side of the highway to the
other and the speed limits is 55 miles to
Valley Acres and Dustin Acres.

Thank You Very much

Gerald Myers

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other:



Gerald Myers
27505 Taft Hwy

Our biggest concerns:

- Traffic too close to the house.
- Increase in speed limit.
- It's very common for traffic to speed through the town at over 65 mph now and with passing lanes the speed will increase just like being on the freeway.
- Crossing at least 2 lanes of oncoming traffic causing danger entering the highway.
- Hazard from highway entering private driveways
- Hazard entering and leaving local market.
- Losing part of our land to construction zone.
- Custom fencing will have to be demolished.
- Hazard to children waiting for bus and crossing highway.
- Unfortunate loss of property to residents of Dustin and Valley Acres.
- Many people will lose their homes because the 4 lane hwy will be too close or over their property line.
- Inability to have a safe play zone out front for children and pets.
- Pollution-many have swamp coolers and the exhaust and dust will be coming into their homes causing health issues
- Total disruption of life for the residents

Would you like living in this type of environment!

**Please enable traffic to travel around the towns
and not through them.**



Comment Card

NAME: Tonie Myers
 ADDRESS: 27505 Taft Hwy 119 CITY: Taft CA ZIP: 93268
 REPRESENTING: _____

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
 Sarah Gassner, Senior Environmental Planner
 Caltrans Environmental Branch/Unit 894
 2015 E. Shields Avenue, Suite 100
 Fresno, CA 93726

I would like to submit the following comments (please print clearly):

I would like ALTERNATIVE 10
Our children have a hard time to
cross two lane of traffic when they go to
school to take there bus. We do not need
four lanes. also there a lot a children
also retired live here. Thank you very
for your considering my comment
Tonie Myers

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: X



Our biggest concerns:

- Traffic too close to the house.
- Increase in speed limit.
- It's very common for traffic to speed through the town at over 65 mph now and with passing lanes the speed will increase just like being on the freeway.
- Crossing at least 2 lanes of oncoming traffic causing danger entering the highway.
- Hazard from highway entering private driveways
- Hazard entering and leaving local market.
- Losing part of our land to construction zone.
- Custom fencing will have to be demolished.
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- Inability to have a safe play zone out front for children and pets.
- Pollution-many have swamp coolers and the exhaust and dust will be coming into their homes causing health issues
- Total disruption of life for the residents

Would you like living in this type of environment! ???

**Please enable traffic to travel around the towns
and not through them.**

OR WIDEN WHERE THERE ARE
NO HOMES - THIS IS IDIOTIC !!



Cherry Avenue Four Lane

Comment Card

NAME: Julie Reeves

ADDRESS: P.O. Box 1053 **CITY:** TUST **ZIP:** 93268

REPRESENTING: _____

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
 Sarah Gassner, Senior Environmental Planner
 Caltrans Environmental Branch/Unit 894
 2015 E. Shields Avenue, Suite 100
 Fresno, CA 93726

I would like to submit the following comments (please print clearly):

Kept it out of town/ALTERNATIVE 10

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: _____

10250746_c1b



"Karla Rockberg"
<KROCKBERG@cityofsacramento.org>

08/19/2008 08:48 AM

To "Stephen Ruiz" <stephen_ruiz@dot.ca.gov>

cc

bcc

Subject Hwy 119 in Valley Acres

Hi - I hope you are doing well.

I got the latest letter about the Draft Environmental Document. The letter reads like the plan is now to go ahead with widening Hwy 119 through Valley Acres instead of a by-pass.

My Mom has moved to Carmichael, CA. Her new mailing address is: Elsie Rockberg 5935 Denver Drive, Carmichael, CA 95608. Would you please be so kind to make that change?

While her home and adjacent lot are up for sale, we are still opposed to the widening of Hwy. 119 through Valley Acres and Dustin Acres and would support a by-pass around Valley Acres and Dustin Acres that does not cause any resident in these two communities to lose their home.

Karla Rockberg
Elsie Rockberg
916/808-1933



Cherry Avenue Four Lane

Comment Card

NAME: E. SCHEIDEMANTEL

ADDRESS: 708 HILMORE **CITY:** TAFT **ZIP:** 93268

REPRESENTING: Self

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
 Sarah Gassner, Senior Environmental Planner
 Caltrans Environmental Branch/Unit 894
 2015 E. Shields Avenue, Suite 100
 Fresno, CA 93726

I would like to submit the following comments (please print clearly):

I DO NOT LIKE THE IDEA OF DISPLACING
THE RESIDENTS WHEN YOU CAN DO SOMETHING
DIFFERENT. THEREFORE I THINK ALTERNATE 10
WOULD BE BEST.

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: _____

102500-01e.ctb



Comment Card

NAME: W. H. Spangler
ADDRESS: 7 Westpark Way CITY: Ft. Co. ZIP: 93268
REPRESENTING: Self

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
Sarah Gassner, Senior Environmental Planner
Caltrans Environmental Branch/Unit 894
2015 E. Shields Avenue, Suite 100
Fresno, CA 93726

I would like to submit the following comments (please print clearly):

Alternative 10

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: _____





Comment Card

NAME: Alexis Strand
 ADDRESS: 27565 Valley West CITY: Tulsa ZIP: 93268
 REPRESENTING: Self-residential

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
 Sarah Gassner, Senior Environmental Planner
 Caltrans Environmental Branch/Unit 894
 2015 E. Shields Avenue, Suite 100
 Fresno, CA 93726

I would like to submit the following comments (please print clearly):

I am against alternative 1, I believe it is a safety risk for the residents of Valley and West areas. The speed would be increased and the severity of the accident would increase. I also believe the number of fatalities would increase due to pedestrian traffic in the area. Alternative 10 is a great alternative with very low impact to current residents.

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: _____

*Favoring alternative 10
Sound bypass* *661343-2848*
Kenise Strand
Our biggest concerns: *27565 Valley West Rd*
Soft, Ca 93268

- Traffic too close to the house.
- Increase in speed limit.
- It's very common for traffic to speed though the town at over 65 mph now and with passing lanes the speed will increase just like being on the freeway.
- Crossing at least 2 lanes of oncoming traffic causing danger entering the highway.
- Hazard from highway entering private driveways
- Hazard entering and leaving local market.
- Losing part of our land to construction zone.
- Custom fencing will have to be demolished.
- Hazard to children waiting for bus and crossing highway.
- Unfortunate loss of property to residents of Dustin and Valley Acres.
- Many people will lose their homes because the 4 lane hwy will be too close or over their property line.
- Inability to have a safe play zone out front for children and pets.
- Pollution-many have swamp coolers and the exhaust and dust will be coming into their homes causing health issues
- Total disruption of life for the residents

Would you like living in this type of environment!
Please enable traffic to travel around the towns
and not through them.



Cherry Avenue Four Lane

Comment Card

NAME: Helen Sweaverson

ADDRESS: 304 Woodlan **CITY:** FCA **ZIP:** 93268

REPRESENTING: _____

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
 Sarah Gassner, Senior Environmental Planner
 Caltrans Environmental Branch/Unit 894
 2015 E. Shields Avenue, Suite 100
 Fresno, CA 93726

I would like to submit the following comments (please print clearly):

Alternative 10 Bypass

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: _____

10290-dp-001



Comment Card

NAME: Osiel Torres
ADDRESS: 520 Ash CITY: ft ZIP: 93268
REPRESENTING: Self

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

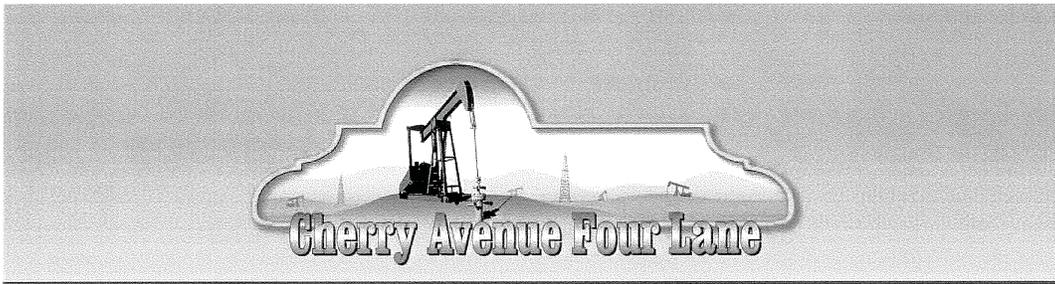
Mail to: CALTRANS DISTRICT 6
Sarah Gassner, Senior Environmental Planner
Caltrans Environmental Branch/Unit 894
2015 E. Shields Avenue, Suite 100
Fresno, CA 93726

I would like to submit the following comments (please print clearly):

PLEASE USE THE ALTERNATE 10, this will not affect
homes.

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: _____



Comment Card

NAME: Jack Whitney

ADDRESS: 708 Taylor St CITY: Taft ZIP: 93268

REPRESENTING: Self

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
Sarah Gassner, Senior Environmental Planner
Caltrans Environmental Branch/Unit 894
2015 E. Shields Avenue, Suite 100
Fresno, CA 93726

I would like to submit the following comments (please print clearly):

alter schedule

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: Janice Lewis



Response to comments from residents in support of Alternative 10

Thank you for your comments on the project.

After comparing and weighing the benefits and impacts of all the feasible alternatives and reviewing public comments and local agency input, Caltrans selected Alternative 10 as the preferred alternative on September 29, 2008. However, due to funding constraints for Alternative 10, Alternative 11, a shorter version of Alternative 10 by 2.9 miles was developed. The Project Development Team determined the bypass portion of the project including a portion of Elk Hills from Golf Course Road (post miles R9.2) to 0.4 miles east of Elk Hills Road (post mile R10.4) to be the project limits for Alternative 11. On April 8, 2009, Alternative 11 was selected as the Preferred Alternative because it proposes the same bypass design as Alternative 10, avoiding Valley Acres and Dustin Acres to the south. Alternative 11 would meet the project's purpose and need and have the least negative environmental impacts with mitigation. Alternative 11 would also impact about 60 fewer acres of habitat to threatened and endangered species.

Comment from Dan Harrison



C o m m e n t C a r d

NAME: Dan Harrison
 ADDRESS: 2790 Tank Farm CITY: TAN ZIP: 93268
 REPRESENTING: Home Address (Ders. in Access)

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
 Sarah Gassner, Senior Environmental Planner
 Caltrans Environmental Branch/Unit 894
 2015 E. Shields Avenue, Suite 100
 Fresno, CA 93726

I would like to submit the following comments (please print clearly):

1

I would highly recommend the route Alt. 10
Public Safety of people in valley access
Dustin Access Area would: we access to Mail &
getting out of there drive ways -

2

Further study should be done on the
possible widening 119 from Cherry Ave
To Midway Road. At that point Traffic
splits with 50+90 going up Midway Rd.

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other _____

Response to comments from Dan Harrison

Thank you for your comments on the project.

Response to comment #1: After comparing and weighing the benefits and impacts of all the feasible alternatives and reviewing public comments and local agency input, Caltrans selected Alternative 10 as the preferred alternative on September 29, 2008. However, due to funding constraints for Alternative 10, Alternative 11, a shorter version of Alternative 10 by 2.9 miles was developed. The project development team determined the bypass included a portion of Elk Hills from Golf Course Road (post mile R9.2) to 0.4 miles east of Elk Hills Road (post mile R10.4). This would be the the project limits for Alternative 11. On April 8, 2009, Alternative 11 was selected as the preferred alternative because it proposes the same bypass design as Alternative 10, avoiding Valley Acres and Dustin Acres to the south. Alternative 11 would meet the project's purpose and need and with mitigation would have the least negative environmental impacts. Alternative 11 would also affect about 60 fewer acres of habitat to threatened and endangered species.

Response to comment #2: According to the 2006 State Route 119 Transportation Concept Report, the ultimate plan is to widen State Route 119 between State Route 33 in Taft to State Route 99 in Bakersfield from a two-lane highway to a four- or six-lane highway. This includes widening State Route 119 to a four-lane expressway from Airport Road to the beginning of the project limits at post mile 5.5.



Cherry Avenue Four Lane

Comment Card

NAME: Janet Nelson
 ADDRESS: 27921 Taft Hwy CITY: TAFT ZIP: 93268
 REPRESENTING: Dustin Acres - Valley Acres

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
 Sarah Gassner, Senior Environmental Planner
 Caltrans Environmental Branch/Unit 894
 2015 E. Shields Avenue, Suite 100
 Fresno, CA 93726

I would like to submit the following comments (please print clearly):

FOR ALL THE REASONS LISTED ON THE ENCLOSED PAPER -
IT JUST MAKES NO SENSE TO WIDEN 119 WHEN THE
ENTIRE HIGHWAY IS 2 LANES & YOU PICK A TWO MILE
AREA WHERE THERE ARE HOMES!! WE WHO LIVE ON
THE HIGHWAY CERTAINLY DON'T WANT TRUCKS, ETC
GOING THRU OUR YARDS 65+ MPH - IF WE CAN EVEN
KEEP OUR HOUSES !!! IT WILL BE VERY EXPENSIVE TO
BUY ALL OUR PROPERTIES !! GOING AROUND THE TOWNS
MAKES MORE SENSE - OR WHY NOT START WIDENING AT

Please respond by September 8, 2008

TOPMAN RD &
GO TO BR 7D.

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: notice in the mail



1

2

Response to comments from Janet Nelson

Thank you for your comments on the project.

Response to comment #1: After comparing and weighing the benefits and impacts of all the feasible alternatives and reviewing public comments and local agency input, Caltrans selected Alternative 10 as the preferred alternative on September 29, 2008. However, due to funding constraints for Alternative 10, Alternative 11, a shorter version of Alternative 10 by 2.9 miles was developed. The project development team determined the bypass included a portion of Elk Hills from Golf Course Road (post mile R9.2) to 0.4 miles east of Elk Hills Road (post mile R10.4). This would be the the project limits for Alternative 11. On April 8, 2009, Alternative 11 was selected as the preferred alternative because it proposes the same bypass design as Alternative 10, avoiding Valley Acres and Dustin Acres to the south. Alternative 11 would meet the project's purpose and need and with mitigation would have the least negative environmental impacts. Alternative 11 would also affect about 60 fewer acres of habitat to threatened and endangered species.

Response to comment #2: According to the 2006 State Route 119 Transportation Concept Report, the ultimate plan is to widen State Route 119 between State Route 33 in Taft to State Route 99 in Bakersfield from a two-lane highway to a four- or six-lane highway. This includes widening State Route 119 to a four-lane expressway from Tupman Road to Interstate 5 and a six-lane conventional highway from Interstate 5 to Wible Road in Bakersfield.

Comment from Vern Kalshan for Banducci & Riccomini, LLC

VERN KALSHAN

ATTORNEY, Bar No. 48078
440 Kerwin Street
Cambria CA 93428-4491
Telephone: 805/927-1222
Facsimile: 805/927-5380

August 26, 2008

California Department of Transportation
Environmental Office
Attn: Sarah Gassner
2015 E. Shields Avenue Suite 100
Fresno, CA 93726-5428, NE 58127

re: Cherry Avenue Four-Lane Widening Project
Mitigated Negative Declaration State Route 119

Dear CalTrans,

Please accept our comments on the above referenced project for Banducci & Riccomini, LLC who are the owners of Kern County Assessor's Parcel Number 2981900042 (320 acres). The members of this company are the children of the owners and farmers of this parcel since January 1951.

BACKGROUND

This farm produced barley as a winter crop and cotton as summer crop until the price of cotton made this farming activity not economically feasible. This farm has two wells more than 100 feet deep at the northern boundary and one well more than 100 feet deep at the southern boundary. The discharge of these wells connects to a one mile long concrete culvert which is buried along east side Walnut Street. Farming operations have sometimes required all three wells discharging water into the culvert to irrigate the crops on the northern half of the farm and the southern half of the farm. The wells require 440 volt electrical power.

ADVERSE IMPACTS OF ALTERNATIVE 10 TO PARCEL 2981900042

1. The southern half of the farm would not receive irrigation water from the northern wells which would make the southern half of the farm non farmable.
2. Two driveways, one on each side of the bypass, are required to allow access to the southern half of the farm from the northern half of the farm.
3. The farmer would be trying to cross a busy 55 mile per hour highway with a tractor dragging a plow, cultivator, or other farming tools or the farmer would have to purchase duplicate equipment for each side of the bypass.

1

2

3

OTHER ADVERSE IMPACTS OF ALTERNATIVE 10

1. One-half mile of noise impacts to the residents along the southern boundary of Valley Acres.
2. Aerial photograph (enclosed) indicates that there are now more structures in the Golf Course Road area of Dustin Acres than your drawings show.
3. Partial removal of a residential subdivision in Dustin Acres.
4. Removal of structures on Golf Course Road.

4

A SAFER ALTERNATIVE

We suggest the superior alternative route would be to start near Elks Hills Road and State Route 119 and proceed westerly 3+ miles to avoid development and then turn southerly 2+ miles to return to State Route 119. This would have the least affect on structures, subdivisions, the environment, petroleum activity, and agriculture. An aerial photograph with the proposed route in black is enclosed.

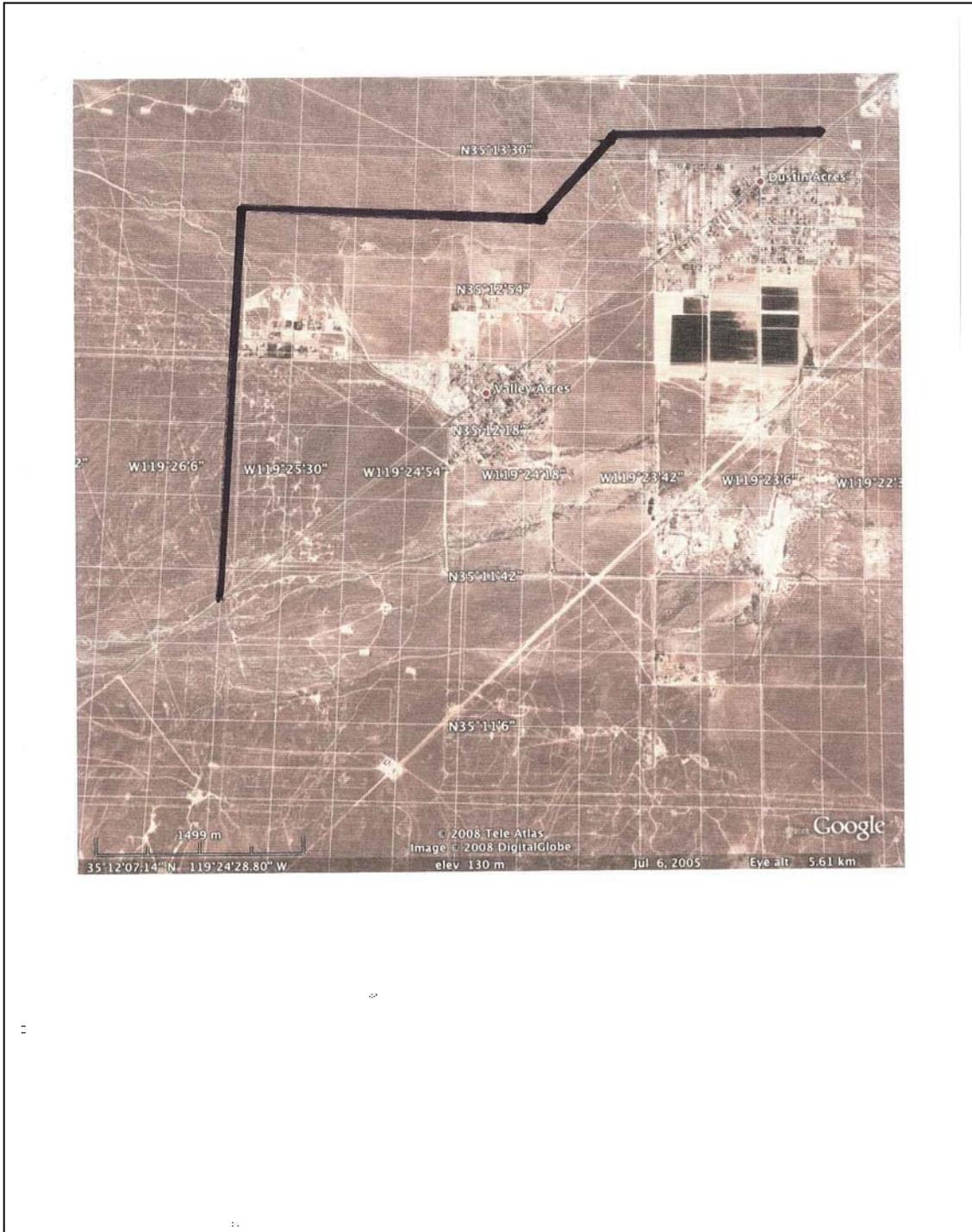
5

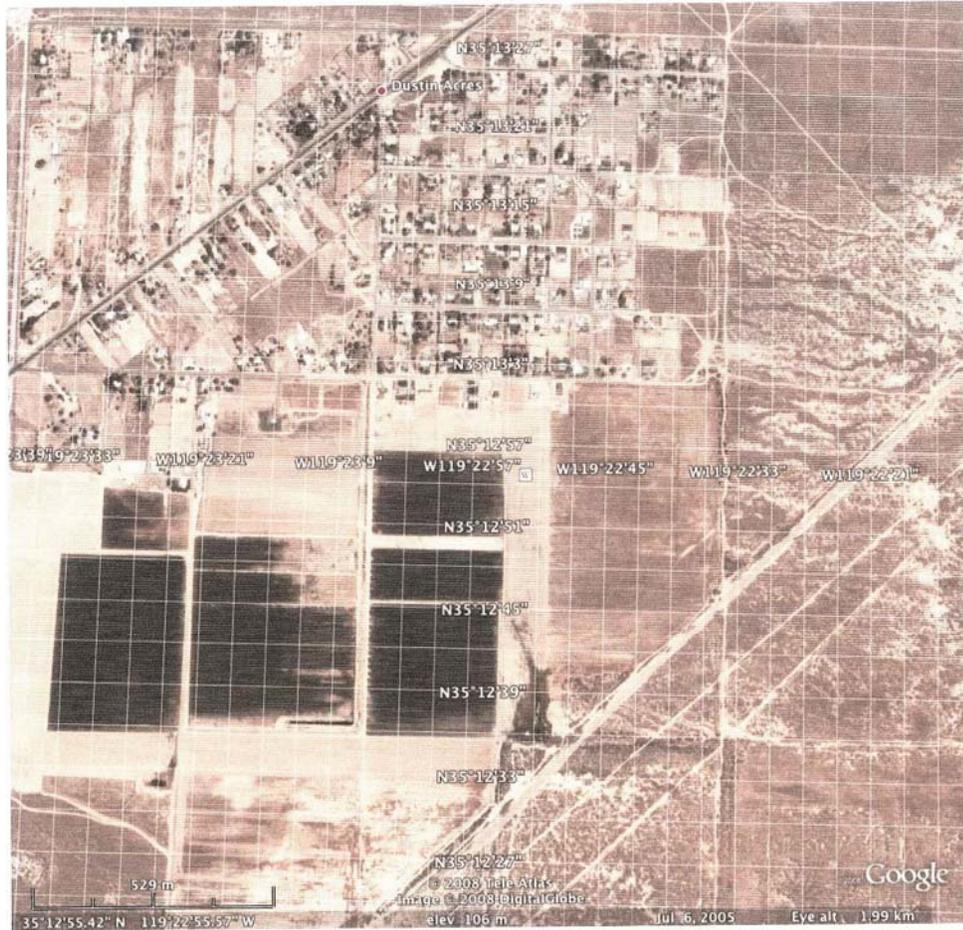
Thank you for your time and consideration in his matter.

Very truly yours,

Vern Kalshan
Vern Kalshan

encl: aerial photographs





Response to comments from Vern Kalshan for Banducci & Riccomini, LLC

Thank you for your comments on the project. Alternative 11, a shortened version of Alternative 10 that includes its bypass design, has been selected as the preferred alternative. On the development and selection of Alternative 11, see Chapter 1.

Response to comment #1: The function of well and irrigation utilities would be considered during the right-of-way phase of the project. After the completion of the bypass, Caltrans would provide the same access to water that existed before construction.

Response to comments #2: A driveway would be provided to the southern half of the property from the eastbound lane of the proposed bypass. The northern half would not be landlocked and would continue to be accessible.

Response to comment #3: As noted in Section 2.2.6 of this environmental document, the Caltrans noise study determined that construction of Alternative 11 would not result in a significant noise impact.

Response to comments #4: Alternative 11 is not anticipated to require the removal of any structures. There are no current plans to develop the proposed subdivision, so no residences would be affected. Final Relocation Impact Memorandum for the project shows that the project is not expected potentially to displace any residential or non-residential units. See Section 2.1.4.2, for further information on potential relocations.

Response to comment #5: The proposed northern bypass option, starting from Airport Road, suggested by the property owners would not meet Caltrans design standards. To meet standards, this option would need to be larger and begin farther west and end farther east than what is suggested by the property owners. This option would potentially have a larger footprint than the southern bypass, Alternative 11, and therefore potentially cause greater environmental impacts. These include potential impacts to farmland, cultural resources, and biological resources. Potential residential displacements could also occur near Golf Course Road.

Alternative 8 proposed another northern bypass similar to the option recommended by the property owners. This alternative was withdrawn in 2006 because it would cause a greater potential impact to the San Joaquin kit fox and potentially cause 13 residential displacements. Alternative 8 proposed an expressway that would bypass

Valley Acres and Dustin Acres to the north from west of Cherry Avenue and merge onto the existing State Route 119 near Buena Vista Inn. Two intersections, one at Valley Acres Road and one east of Tank Farm Road, would have connected to the existing State Route 119. Symmetrical widening would occur from east of Tank Farm Road to Tupman Road. See Section 1.3.5 for further information on alternatives that were withdrawn.

Comments from Anthony and Rebecca Larsen

Caltrans received three comments from the Larsens. One comment was received at the public hearing, and the other two comments were received by mail and email.



Cherry Avenue Four Lane

C o m m e n t C a r d

NAME: Anthony Larsen

ADDRESS: 11840 Brandy **CITY:** Taft **ZIP:** 93269

REPRESENTING: _____

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
Sarah Gassner, Senior Environmental Planner
Caltrans Environmental Branch/Unit 894
2015 E. Shields Avenue, Suite 100
Fresno, CA 93726

I would like to submit the following comments (please print clearly):

you are too close to my house

I have horses and there is plenty
of land to be used away from
my land

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: _____

10/20/08 cc

1

- 2
- 3
- 4
- 5

I live at 11840 Brandy st, Taft Ca. I bought this house 2 years ago. The person I bought this house bought the house next door because it had a built in pool and sold us his. I had a chance to buy a house on 119 but didn't cause of the highway. I paid \$350,000 for this house, and the market has fallen so low now it is worth 250,000. And it would be worse with a highway running in it. But I planned to live here the rest of my life, but not with a highway in my back yard. I have 2 1/2 acres and my horse corrals are against the back fence and you want to put that highway in on my corrals. There is 100 acres of dirt between my backyard and the next property. Please move the highway away from our backyard and out 300 yards or more there is room. I went to the meeting and it was the first I heard about meetings since living here. And Caltrans said it was not in stone yet. There is 4 turns in your new design for the highway and you could move away from my house and far enough and only have to put 3 turns in the design. You don't need to be this close to my land. The people that live on 119 now, chose to live by a highway when they moved there. I did not!!!!!!!!!!!!!! Please change it to give us more room. I will make all meetings you set, please mail or call. I invite you to come look in our backyard I have kids that play in it all over the yard and it also would be a danger with the highway that close to my property.

Anthony Larsen
Call anytime Home phone 661-765-2030
Cell 661-316-9235
E-mail anytime a_larsen@gwc-ltd.com
11840 Brandy st Dustin acres, ca 93268

To whom this may concern,

Page 1 of 1

Anthony Larsen

From: Larsen, Rebecca L (Becky Larsen) [Rebecca.Larsen@ElPaso.com]
Sent: Monday, September 01, 2008 5:06 PM
To: Anthony Larsen
Subject: To whom this may concern

To whom this may concern,
My husband and I are writing this letter in regards to the proposed project, Alternative 10 project [Bypass]. We both strongly disagree and are greatly disturbed with this since you seem to use our very own back yard to build it. Both my husband and I have worked very hard our whole life for our home. This property is what we have always dreamed of. Somewhere to get away from it all. Some place peaceful and serene. I have four very small grandchildren which are the joy of my life. We purchased this property to be able to teach them the good things in life, like how to ride a bike, motorcycle, horses, catch a lizard or two, and to do it without fear of them getting run over by traffic. When we bought this property, we never dreamed of a highway coming to us, or else never would have been interested. I call our home "our peaceful little haven". The thought of this project actually happening deflates us and all of our dreams we have worked so hard to achieve. We have no desire to bother anyone, and only hope we are treated the same. We vote NO to Alternative 10 [bypass].
Sincerely,

Anthony and Rebecca Larsen

This email and any files transmitted with it from the El Paso Corporation are confidential and intended solely for the use of the individual or entity to whom they are addressed. If you have received this email in error please notify the sender.

9/2/2008

Response to comments from Anthony and Rebecca Larsen

Thank you for your comments on the project. Alternative 11, a shortened version of Alternative 10 that includes its bypass design, has been selected as the preferred alternative. On the development and selection of Alternative 11, see Chapter 1.

Response to comments #1: After the public circulation period, Caltrans shifted the southern alignment (Alternative 11), approximately 30 feet southeast from your (the Larsen family) property, which would avoid any potential acquisition of your property.

Please note that, even before the design change, no residential displacement would have occurred and the proposed expressway's roadway would not have crossed your property. However, about 0.4 acre of land of your 2.5-acre property would have been needed for right-of-way. This would have occurred along the southwest portion of the property. The new shift in the bypass alignment would avoid your property and your horse corrals. No land would be required there for right-of-way. The southern alignment crosses behind your property at an angle, from a slight southwest to northeast direction. The new distance from the east side of your property to the new centerline of the roadway would range between 64 to 85 feet.

The alignment shift does not change the impact (amount of acreage directly affected by the project) of the project on biological and farmland resources. Shifting the bypass alignment any farther southeast would potentially cause farmland and cultural resource impacts and potentially cause a residential displacement. This would also potentially cause an increase in biological impacts.

Response to comment #2: Please see Chapter 3 of this environmental document for further information on the two public information meetings held for this project.

The first meeting presented nine build alternatives (Alternatives 1-9) and the No-Build Alternative. Alternatives 1 through 7 proposed various designs for widening through the communities of Valley Acres and Dustin Acres. Alternative 8 proposed a northern alignment bypassing the two communities. Alternative 9 proposed bypassing the communities to the south. The meeting held on November 15 presented the newly proposed southern bypass option, Alternative 10, and reintroduced Alternative 1.

Response to comment #3: Please refer to the response to comment #1. The alignment has been shifted away from the property without changing the number of turns.

Response to comment #4: Like Alternative 10, Alternative 11 would not substantially diminish community character and cohesion by widening the existing alignment. Section 2.1.4.1 of this environmental document provides the results of the Community Impact Assessment conducted for the project. Section 2.1.4.2 contains the results of the Final Relocation Statement.

Alternative 11 would have the least impact on community cohesion because it would not create a physical and/or a psychological divide in the communities or cause seven residential displacements. Alternative 11 would potentially eliminate residents' concerns for traffic and pedestrian safety. Overall, Alternative 11 would have a beneficial effect on the communities because the bypass would divert traffic and noise south of the two communities. Alternative 11 would also convert the existing alignment through the communities to a local county road. As a result, this would potentially leave this segment more pedestrian friendly.

Response to comment #5: A 5-foot-high chain link fence proposed along the bypass would impede child access. In addition to improving congestion and operations, the project would improve safety for pedestrians and motorists on State Route 119 in Valley Acres and Dustin Acres. Congestion and the potential for accidents would increase along this portion of State Route 119 without the proposed improvements that include realignments, lane widening, wider paved shoulders, and improved clear recovery zones.

Comments from Carol Newkirk

Carol Newkirk
28168 Chaparral Ave.
Taft, CA 93268
661-330-5040
August 27, 2008

Re: Highway 119 Upgrade

To Whom It May Concern:

I am writing in response to your proposal for the 4 lane highway upgrade on Highway 119 through Valley and Dustin Acres. I am a resident of Dustin Acres and find this construction project to be a hazard to both Dustin and Valley Acres residents for the following reasons.

1

For my self and other residents I have conversed with, we think adding the 4 lane express way will make it extremely difficult for commuters to access the roadway. There is already extreme danger in the winter accessing the 2 lane highway due to the fog issue in Valley and Dustin Acres. I travel to work in Taft every weekday morning and there is always excessive traffic coming from Bakersfield. It might be a surprise for some to learn that the majority of this traffic is not going to Taft, but to the outlying oilfields located in Fellows, McKittrick, Cymric, Lost Hills, Etc. What makes most sense to me is to bypass Valley and Dustin Acres and construct an alternate route taking these travelers closer to their destinations. For example, branching off 119 across from Golf Course Rd. to extend on the North side of the communities along the base of Elk Hills. Then connecting to Midway Rd which runs into Highway 33. This would bypass the residential areas getting the commuters to their work places in a timelier practical manner.

2

I would also like to suggest another option that would increase vehicle capacity prior to entering Valley and Dustin Acres. I see no reason why Highway 119 can not be expanded to 4 lanes from Highway 43 to Tupman Road, rather than Cherry Ave. to Tupman Road. This would be close to, or more highway than "Alternative 1" and residents would not have to sacrifice their land or their houses. I understand there could be some expense when it came to expanding the bridge over the Aqua Duct, but I can't see it costing more than buying out residents along the proposed "Alternative 1".

3

I appreciate the opportunity to express my concerns about this matter. I would like to thank you for giving the residents of Valley and Dustin Acres a right to speak out. I hope that our opinions will be valued and taken into consideration.

Sincerely,



Carol Newkirk

Response to comments from Carol Newkirk

Thank you for your comments on the project. Alternative 11, a shortened version of Alternative 10 that includes its bypass design, has been selected as the preferred alternative. On the development and selection of Alternative 11, see Chapter 1.

Response to comment #1: Alternative 11 would be a controlled-access expressway. Expressways are typically safer than standard highways because traffic accessing State Route 119 would do so at predictable locations with access control. The project would improve safety for motorists. Congestion and the potential for accidents would increase along this portion of State Route 119 without the proposed improvements that include realignments, lane widening, wider paved shoulders, and improved clear recovery zones. With these improvements, this portion of State Route 119 would meet Caltrans safety design standards.

Response to comment #3: A new alignment connecting State Route 119 with State Route 33 bypassing the City of Taft would be beyond the scope and range of this project. This alignment would not be consistent with existing state and regional plans, including the Kern Council of Governments' Regional Transportation Plan, the Federal Transportation Improvement Program, and the Kern County General Plan.

Response to comment #4: The 2006 State Route 119 Transportation Concept Report plan is to ultimately widen State Route 119 from State Route 33 to State Route 99 in Bakersfield from a two-lane highway to a four- to six-lane highway. This includes widening State Route 119 to a four-lane expressway from the Aqueduct Service Road to Highway 43. The need to widen within the project limits would be consistent with the 2006 Kern County General Plan. The plan points out a safety problem with State Route 119 passing through Valley Acres and Dustin Acres, and its goal to relieve traffic and congestion through the centers of rural communities. Section 1.2 of this environmental document shows that the current State Route 119 within the project limits is insufficient to manage the existing and future traffic volumes and that the total accident rate there is higher than the statewide average.

Comments from Robert E. and Olga B. Ruff

8/27/08

From: Robert E. Ruff
Olga B. Ruff
11806 Brandy St.
Taft, CA 93268
Ph: 661-765-7449

To: DEPT. OF TRANSPORTATION
ATTN: SARAH GASSNER
ATTN: STEPHAN RUIZ
2015 E. Shields Ave.
Suite 100, Fresno, CA 93726

RE: STATE ROUTE 119 Cherry Ave. Six-Lane
Widening Project - Valley Acres / DUSTIN ACRES
ALTERNATIVE 10 (BYPASS)

DEAR SIRs & MAMs,

This letter is to inform you we Disagree with the
Proposed Project - ALTERNATIVE 10 (BYPASS) since it greatly
affects our property located at 11806 Brandy St. - Taft, CA 93268.
This new road project not only decreases the value of
our home property but also will cause an increase in
noise levels as well as air pollution as well as
security issues - All this not to mention the
undesirable scene of having a freeway in your
back yard!

We have loved living in this area for well over
18 years and don't need or want a freeway adjacent
to our property. If this ALTERNATIVE 10 (BYPASS) project
develops further, we will be seeking legal assistance
against it!

Our neighbors at 11840 Brandy St. will also be
doing the same, since they will be affected even
more so than we.

- Continual on Page 42 -

Page 1 of 2

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8/27/08

Continued From Page #1

RE: STATE Route 119 Cherry Ave. Six-Lane
Widening Project ALTERNATIVE 10 (ByPASS)

8

I see from your DATA AND information The ALTERNATIVE 10 (ByPASS) COSTS ARE MORE THAN \$5,000,000 MORE THAN THE ALTERNATIVE 1 PROPOSAL. We believe IF CAL-TRANS HAS ALL THESE MILLIONS OF DOLLARS TO SPEND ON A NEW UNNECESSARY PROJECT SUCH AS THIS, IT WOULD BE MORE WISE TO SPEND IT ON IMPROVING OUR EXISTING ROADS. MANY OF OUR EXISTING ROADS REALLY NEED WORK. ALSO KEEP IN MIND WITH THE EXTREMELY HIGH GASOLINE PRICES - THERE IS REDUCED TRAVELING NOW.

9

I, Robert E. Ruff, Am A SENIOR CITIZEN. I'm STILL EMPLOYED WORKING FOR THE STATE OF CALIFORNIA ALSO. I SERVED MY COUNTRY IN THE U.S. ARMY, HAVE NO CRIMINAL RECORD, AND BELIEVE I DESERVE BETTER THAN THIS! I WISH TO LIVE THE REST OF MY LIFE AND DIE IN PEACE WITHOUT ANY UNDUE STRESS OR DISCOMFORT! THIS PROPOSED PROJECT IS CAUSING STRESS AND DISCOMFORT TO ALL PEOPLES AFFECTED.

CAL-TRANS - YOUR CONSIDERATION TO ABANDON THIS PROJECT WOULD BE MUCH APPRECIATED BY ALL.
WE VOTE NO TO ALTERNATIVE 10 (ByPASS) PROJECT.

PROPERTY OWNER: Robert E. Ruff Olga B. Ruff 8/27/08

SIGNATURES: Robert E. Ruff Olga B. Ruff 8/27/08

Page #2 of 2.

Response to comments from Robert E. and Olga B. Ruff

Thank you for your comments on the project.

Response to comment #1: After the last public circulation period, Caltrans shifted the southern alignment approximately 30 feet southeast from your (the Ruff family) residence, which would avoid any potential acquisition of the property. Even before the shift change, the proposed expressway's roadway would not have crossed your property, but about 75 square feet of land of your 2.5-acre property would have been needed for right-of-way. This would have occurred along the southwest portion of the property. The new shift in the bypass alignment would avoid your property, and no land would be required there for right-of-way. The southern alignment crosses behind your property at a slight angle from southwest to northeast. The new distance from the east side of the property to the new centerline of the roadway would range between 86 to 106 feet.

After comparing and weighing the benefits and impacts of all the feasible alternatives and reviewing public comments and local agency input, Caltrans selected Alternative 10 as the preferred alternative on September 29, 2008. However, due to funding constraints for Alternative 10, Alternative 11, a shorter version of Alternative 10 by 2.9 miles was developed. The Project Development Team determined the bypass portion of the project to be the project limits for Alternative 11. On April 8, 2009, Alternative 11 was selected as the Preferred Alternative because it proposes the same bypass design as Alternative 10, avoiding Valley Acres and Disting Acres to the south. Alternative 11 would meet the project's purpose and need and have the least negative environmental impacts with mitigation.

Alternative 11 would not substantially diminish community character and cohesion by widening the existing alignment. Section 2.1.4.1 of this document provides the results of the Community Impact Assessment conducted for this project. Section 2.1.4.2 provides the results of the Final Relocation Statement.

Like Alternative 10, Alternative 11 would have the least impact on community cohesion because it would not create a physical and/or a psychological divide in the communities or cause seven residential displacements. Alternative 11 would potentially eliminate residents' concerns for traffic and pedestrian safety. Overall, Alternative 11 would have a beneficial effect on the communities because the bypass would divert traffic and noise south of the two communities.

Response to comment #2: Alternative 11 is not expected to reduce the average property values of Valley Acres and Dustin Acres. Overall, the project may potentially benefit community households by diverting traffic, noise, and congestion away from the communities and addressing residents' concern for pedestrian safety. Alternative 11 would also convert the existing alignment through the communities to a local county road. As a result, this would potentially leave this segment more pedestrian friendly.

Response to comment #3: Section 2.2.6 of this document explains the results of Caltrans noise studies for the project. Predicted noise levels in 2034 for this property would be 8 decibels (56 decibels) higher than existing levels (48 decibels). This is a little above the minimum level of change for the average human ear to perceive the difference (5 decibels). The resulting noise level increase would not be substantial (below 12 decibels) and would be below the noise abatement criterion level of 67 decibels for a residence. Therefore, no abatement is recommended at this location.

Response to comment #4: As noted in Section 2.2.5 of this document, an Air Quality Study Report was conducted for the project. An increase in short-term air pollution during the construction phase of the project is expected. The contractor would be required to follow the San Joaquin Valley Air Pollution Control District's requirements for dust control plans. Without the construction of Alternative 11, air emissions would worsen due to more vehicle idling and stop-and-go traffic along the existing alignment.

Response to comment #5: A threat to any security issue would not increase with the construction of Alternative 11.

Response to comment #6: As noted in Section 2.1.7 of this document, Caltrans conducted a Visual and Scenic Resources Evaluation for the project. Although the bypass portion of Alternative 11 would cause a considerable physical change to the adjacent areas, minimization measures would be implemented. See Section 2.1.7 Visual/Aesthetic. The intersections proposed with the bypass would be at grade and would stay in character with the flat terrain and low-growing native scrub vegetation of the area.

Response to comment #7: Please refer to the Anthony and Rebecca Larsen comments and response to comments, provided earlier in this appendix.

Response to comment #8: Alternative 11, the selected preferred alternative, would have the lowest expected project cost compared to Alternatives 1 and 10. The project cost for Alternative 11 would be about \$45.6 million, while Alternative 1 and Alternative 10 would be about \$57.8 million and 62.2 million, respectively.

In addition to the cost of each alternative, Caltrans considered and weighed other factors in selecting the preferred alternative. See Alternatives, Section 1.3 for further details on each alternative.

The proposed project would improve an existing highway along this portion of State Route 119. The bypass design found that Alternative 11 fulfills the purpose of the project to reduce congestion, increase operational capacity within the project limits, and improve safety for pedestrians and motorists in Valley Acres and Dustin Acres. Please refer to Section 1.2 of this document.

Along State Route 119, eight other improvement projects in various project phases are planned. These projects include pavement rehabilitation and shoulder widening and installation. One shoulder-widening project occurs from west of Airport Road to Dustin Acres. In addition, other state highway projects are planned for Highway 43 and 33.

Response to comment #9: While high gasoline prices may reduce the amount of travelers (highway users) anticipated, the project currently does not meet the required level of service under the Kern County Council of Governments' Regional Transportation Plan. The level of service would still not improve even if continued high gasoline prices reduce projected average daily traffic. Please refer to section 2.1.6 of this document.

Comment from Connie Wheeler



Cherry Avenue Four Lane

Comment Card

NAME: Connie Wheeler

ADDRESS: 27596 Cypress **CITY:** Valley Acres **ZIP:** 93268

REPRESENTING: _____

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
 Sarah Gassner, Senior Environmental Planner
 Caltrans Environmental Branch/Unit 894
 2015 E. Shields Avenue, Suite 100
 Fresno, CA 93726

I would like to submit the following comments (please print clearly):

Please put on other side of Highway

Too close to houses on Cypress

+ Acacia.

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: _____

042500-01c.rctb

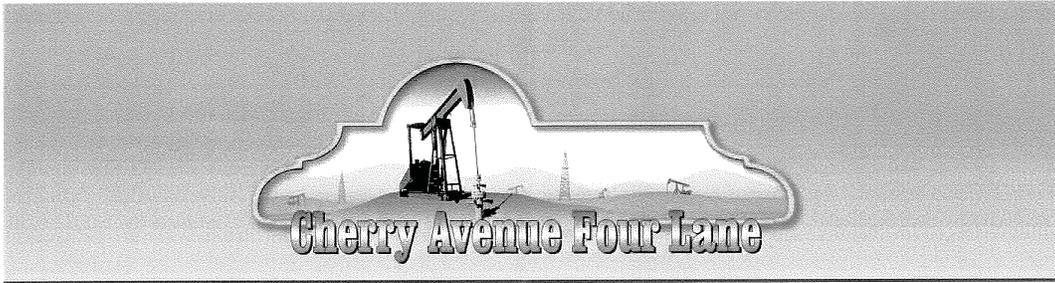
Response to comment from Connie Wheeler

Thank you for your comment on the project.

A northern bypass, Alternative 8, was proposed but withdrawn from further consideration. Please refer to Section 1.3.5. This alternative was eliminated in 2006 because it would cause a greater potential impact to the San Joaquin kit fox and potentially cause 13 residential displacements.

Alternative 11, a shortened version of Alternative 10 that includes its bypass design, has been selected as the preferred alternative. On the development and selection of Alternative 11, see Chapter 1.

Comments from Gary Wheeler



C o m m e n t C a r d

NAME: GARY WHEELER
ADDRESS: 27596 Cypress ST CITY: Taft ZIP: 93268
REPRESENTING: myself

Do you wish to be added to the project mailing list? YES NO

Please place comments in the Comment Box this evening or:

Mail to: CALTRANS DISTRICT 6
Sarah Gassner, Senior Environmental Planner
Caltrans Environmental Branch/Unit 894
2015 E. Shields Avenue, Suite 100
Fresno, CA 93726

I would like to submit the following comments (please print clearly):

- 1
- 2
- 3

Why not widen the Highway
From the west end of Valley Area
to the stoplight,
The road elevates at the west
end. This is what slows traffic -
also put a right turn lane at
Valley west of Airport
Drive

Please respond by September 8, 2008

How Did You Hear About This Meeting? newspaper newsletter somebody told me other: _____



Response to comments from Gary Wheeler

Thank you for your comments on the project.

Response to comment #1: The 2006 State Route 119 Transportation Concept Report plan is to ultimately widen State Route 119 from a two-lane highway to a four- or six-lane highway from State Route 33 in Taft to State Route 99 in Bakersfield. This includes widening State Route 119 to a four-lane expressway from Airport Road to the beginning of the project limits. A State Route 33 to Cherry Avenue Four Lane Widening project is included in the Kern County Council of Governments' Regional Transportation Plan. At this time, there is no funding for that project. The Kern County Council of Governments prioritized this project due to accident levels, congestion levels, and safety concerns within the communities of Valley Acres and Dustin Acres.

The need to widen within the project limits would be consistent with the 2006 Kern County General Plan. The plan points out a safety concern with State Route 119 passing through Valley Acres and Dustin Acres, as well as the goal to relieve traffic and congestion through the centers of rural communities. In Section 1.2 of this environmental document, Caltrans traffic studies indicate that the current State Route 119 within the project limits is insufficient to manage the existing and future traffic volumes. Traffic studies also indicate that within a three-year period the total accident rate within the project limits was higher than the statewide average.

Response to comment #2: Thank you for your input.

Response to comment #3: A left-turn lane at Valley West Road was proposed within the description of Alternative 1. Because Alternative 10 has been selected as the preferred alternative, most of the traffic currently traveling along State Route 119 will bypass the community of Valley Acres; therefore, a left-turn lane at Valley West Road would not be necessary. Airport Road is well outside the project limits. See the response to comment #1 above.

Comments made to the Court Reporter at the Public Hearing (August 27, 2008)

The comments that follow are from residents of either Valley Acres or Dustin Acres. Fourteen of the 16 comments supported Alternative 10. Four comments were made by residents who also submitted a written comment.

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ROUTE 119 CHERRY AVENUE LANE WIDENING PROJECT
PUBLIC HEARING

Wednesday, August 27, 2008

4:00 - 7:00 p.m.

Taken at:

Thomas Jefferson Elementary School
300 Taylor Street, Multipurpose Room
Taft, California 93268

ATKINSON-BAKER, INC.
COURT REPORTERS
www.depo.com
(818) 551-7300

FILE NO.: A207911

REPORTED BY: CHRISTINE SIMERAL, CSR NO. 9881

1 APPEARANCES:

2 CALTRANS DISTRICT 6
3 BY: SARAH GASSNER
4 SENIOR ENVIRONMENTAL PLANNER
5 Caltrans Environmental Branch/Unit 894
6 2015 East Shields Avenue, Suite 100
7 Fresno, California 93726

8 STATEMENTS MADE BY:

9 BILLIE BOONE

10 MELVIN MORRISON

11 ANTONIA MYERS

12 ALAN MELTON

13 RANDY MILLER

14 HOMER EMBERSON

15 JANICE EMBERSON

16 JOHN CAWELTI

17 MARION THOMAS

18 JOHN WILSON

19 DENISE STRAND

20 ELIZABETH SCHEIDEMANTEL

21 EARL DENVER

22 LEONE HARRISON

23 DIANA LEWIS

24 BILL LEWIS

25

1 MS. GASSNER: It's 3:50 on August 27,
2 2008. The public hearing for the Cherry Avenue
3 four-lane project is now open.

4

5 PUBLIC COMMENTS:

6

7 BILLIE BOONE: We live on the corner of
8 Cherry Avenue and 119. And I just have a problem
9 because I know that they're going to have to buy
10 the houses along the road to make this road. Not
11 only are they uprooting us from our homes, but
12 they'll be taking our girls away from their home,
13 away from their school. People will have to live
14 in a different district for schooling. I just
15 think it's a really bad idea to put the road
16 through a town that's going to up the speed limit
17 where there are children residents.

18 I really think they should go around to
19 save, you know -- just to help keep, you know, keep
20 the safety of the town. Because we already have
21 people going -- it's a 50-mile speed limit through
22 there. There's already people that go through
23 there way too fast. If you put a four lane
24 highway, there's people that are going to go
25 through way faster. And it's just a danger to

3

1 other people, other residents that live there.

2 I mean, they might be saving, you know,
3 four or five million dollars going through it, but
4 I feel as taxpayers, if we're willing to pay for
5 them to go around, then they need to go around.
6 And that's good. Thank you.

7
8 MELVIN MORRISON: And I'm -- taking a
9 highway through there is going to be a disaster.
10 I've lived out there all my life. I'm seriously
11 opposed against it. There are alternative routes
12 than through Valley Acres and Dustin Acres. That's
13 about all I got to say. Thank you.

14 Can you add to my statement? In 1986,
15 there was a six-year-old boy run over out there on
16 the Taft Highway. Just about killed him due to
17 speed. And it mentally disabled him for about 12
18 years, and that's due to speed. That's what we got
19 going on out there now. So that's my statement.

20
21 ANTONIA MYERS: Well, I would like them
22 to go to Alternative 10, because we are not able to
23 move or anything. So we would like Alternative 10,
24 please. And I just -- and like I said, we are not
25 able -- my husband is not able to work and so on.

1 So like I said, Alternative 10, please. I guess
2 that's it.

3
4 ALAN MELTON: We definitely want the
5 Alternative 10, going around, you know, the two
6 towns. We do not want it going through our
7 community. And there's some things that, you know,
8 with -- with four lanes going through the town, the
9 traffic is definitely going to increase. The
10 speeds are going to increase. They go fast enough
11 now through our town at 65 miles an hour. We have
12 kids and grandkids that go across the street. They
13 go to the bus stop. They go to the store. And
14 when you put a four-lane through, it's going to be
15 a catastrophe. Especially a hazard to our kids,
16 you know.

17 You're going to be seeing pollution
18 being heavier, more exhaust, and more traffic. And
19 bigger rigs going down, the dust is going to be
20 coming up and causing the pollution. And the
21 majority of people out there in those towns own
22 cooling systems to keep their houses cool versus
23 air conditioning, so you suck in a lot of that
24 pollution. And that's going to be a hazard right
25 there alone.

1 Property values, you know, definitely
2 once they put that four lanes through our towns,
3 our property values are going to come down. So
4 pretty much we're not going to get out of it --
5 we're not going to be able to sell it for what it's
6 worth after that takes place. Basically, it's just
7 going to cause a disruption of life for the
8 residents around there.

9 And what else? And if they do come in,
10 if they don't take our house, well, then they're
11 going to take some of our property. And some of us
12 have custom built homes along there, and that's
13 going to be taken away from us. And it's a hazard
14 right now to go through the town and to turn off
15 into your driveway or to leave your driveway to get
16 out on a two lane. You get four lanes there, now
17 you're going to have to go across two lanes, you
18 know, to get in the proper lane if you're going to
19 the opposite direction. It's definitely a hazard
20 there, unsafe. We don't want to have to deal with
21 that.

22 Anything else? Okay. And pretty much
23 we don't want it going through our town. Would you
24 like living in this type of an environment? And,
25 you know, please enable traffic to travel around

1

1 the towns and not through them. That's basically
2 what we ask.

3

4 RANDY MILLER: I just want -- I
5 understand that they're not going to put a
6 northbound turn lane left into Elk Hills Road into
7 the Occidental property. And I think that there
8 should be a turn lane northbound into the Elk Hills
9 Road onto the Occidental property. That's my only
10 thing. Thank you.

11

12 HOMER EMBERSON: And I'm in favor of
13 Alternate 10. How's that? That's it. I'm happy
14 about that.

15

16 JANICE EMBERSON: We prefer the
17 Alternate 10 because it displaces less people, I
18 think.

19

20 JOHN CAWELTI: 27519 Maple Street.
21 Phone Number (661) 763-5403. And what I want to
22 find out and see if they can do is provide an
23 access from the Valley Acres and Dustin Acres
24 communities that goes to the east for horses,
25 motorcycles, quads, and people to walk. Because

2

3

1 otherwise they're going to be walking across that
2 highway. And because if they go west, they run
3 onto the Naval Petroleum property, and that's
4 fenced and they won't let you up there. So all of
5 the bike riding, all of the horse riding and
6 everything is to the east, and it's right over the
7 top of that freeway. So I suggest they build some
8 way to allow for horses, motorcycles, quads,
9 walking, to get east.

10 Naval Petroleum Reserve has been taken
11 over by Occidental. It's their property and they
12 won't let you on it. So they got it fenced.
13 Nobody wants to go west because of that. You can
14 only go so far and hit their fence and then you
15 can't get any farther. The other side is open up
16 all the way. In fact, I've rode from my house all
17 the way to Maricopa, and you can't do that on the
18 other side. I just don't want the kids hit
19 crossing that road. I think that would be a
20 disaster to have a kid -- even if they follow the
21 law and push it across, it's still a problem.
22 Thank you.

23
24 MARION THOMAS: I just request
25 Alternative 10. That way they can close traffic

8

1 down through the town, because at night there's
2 very little lighting. We have kids out on the
3 street at night. So that that way we can keep the
4 traffic accidents and stuff to a minimum.

5
6 JOHN WILSON: 27525 Highway 119 in
7 Valley Acres. So I've read the negative
8 declaration. I agree with the assessment that
9 they're going to go to Alternative 10, and I prefer
10 that they stay with Alternative 10. I don't know
11 if I need to say any more than that. That pretty
12 well does it for me.

13
14 DENISE STRAND: I would like to give my
15 comment on Alternative 10. I am in favor of
16 Alternative 10. I think that that's the best route
17 to go. And I would like to give a negative comment
18 towards Alternative 1. And Alternative 1 would be
19 a huge safety hazard for all residents that live in
20 Valley Acres and Dustin Acres. And speeds would be
21 increased on those roads if all Alternative 1
22 passed, and there would just be several fatalities.
23 Our children would be more at risk. We would be
24 more at risk sleeping in our houses. So again,
25 Alternative 1, I'm not -- I'm against. And

1 Alternative 10 would be the best for us.

2

3 ELIZABETH SCHEIDEMANTEL: I think that
4 they should go the alternate route. I think it
5 would be safer. Make a nicer neighborhood when
6 they don't have all that traffic going through
7 their area. And I don't think the people need to
8 be -- they've been established there for a long
9 time. They would lose their homes. I know there
10 are a lot of elderly people that live along that
11 way, and it would be hard for them to have to
12 relocate. It's harder for older people than it is
13 for younger people. I know if I lived along there
14 I wouldn't want to up and move. That's my idea. I
15 think the alternate route is a good way to go.

16

17 EARL DENVER: I live at 27913 Taft
18 Highway or 119 in Dustin Acres. And my comments on
19 this thing is I prefer the south bypass, one south.
20 Just widening 119, I believe, would be
21 shortsighted. It would relieve the problem for
22 maybe a few years, but I think that by going south
23 that that would have -- that would be -- would take
24 care of the problem, you know, long-term problem.

25 And also by going south, I think that

1 would have a positive impact on both communities as
2 far as the opportunity for growth, you know. Right
3 now I believe that that is one of the -- especially
4 along the highway, that keeps a lot of people from
5 being able to sell their property, is the fact that
6 it's on the highway and the amount of traffic, you
7 know.

8 And plus, too, the -- it would be a
9 safety issue for me, you know, if they just widen
10 119, because we have a lot of children out there
11 and we have some bus stops where they drop the
12 children off right along the highway in two spots.
13 And then one of them is for the grade school
14 students is at the middle of Dustin Acres. And I
15 have a grandson that comes out to our house every
16 evening or every afternoon after school because his
17 mother works, and I have to go pick him up because
18 I don't like him walking along that highway. And
19 that's about all I have to say. Thank you.

20
21 LEONE HARRISON: I live on Tank Farm
22 Road, 27901, and which is Dustin Acres, actually.
23 And in studying the plans and thinking over the
24 project from the very beginning, there's no way
25 that going on the existing highway can be

1 considered safe for the residents of Valley Acres
2 or Dustin Acres or pertinent to the traffic going
3 through those two valley -- those areas, for
4 several reasons. One, the speed going through
5 there will inhibit people getting in and out of
6 their yards. Two, the mailboxes are all on the
7 west side of the street, and so having four lanes
8 of traffic to cross to go get your mail at any time
9 during the day, but especially in the afternoons
10 between the hours of 2:30 and 5:30, would be
11 extremely dangerous for the person that was
12 crossing the street. Three, the noise factor of
13 having four lanes of traffic that -- heavy traffic
14 that starts at about 4:30 in the morning and --
15 would be extremely irritating and unfair to the
16 neighbors because of all the people that come from
17 Bakersfield to work in the oil fields. And then
18 again in the evenings going home from, there would
19 be the high noise, dust from the traffic. The
20 heavy trucks that run on the highway all night
21 would be -- probably you'd get two of them go
22 through side by side, and that would be another
23 extreme noise factor, more so than what it is now.
24 And just the general appearance and
25 value, property value of homes with having a

1 four-lane highway running right down, because you
2 would lose part of their front yards and easements
3 for getting on and off their properties. It would
4 lower their property values.

5 The Alternative 10 is a much better
6 alternative to the highway. It has no residents on
7 it, so you're not going to be having the safety
8 factor of people going on and off the highway
9 trying to get into their yards. You won't have
10 pedestrian traffic crossing the street or walking
11 along the street to get to the neighbor's house or
12 to the little store or to the church that are in
13 Valley Acres. Your traffic would flow better
14 because they wouldn't -- traffic on the highway
15 wouldn't have to be stopping and watching for
16 people coming on and off the highway. It would
17 eliminate the surprise T-bone accidents, because
18 somebody wouldn't miss a car coming and pulling out
19 in front of them. It would be smoother, more even
20 speeded -- that's not the right word -- flowing
21 traffic if you saw an Alternative 10. The traffic
22 would flow much better. The noise factor would be
23 a lot less, because the prevailing wind is from the
24 northwest and so that would be blowing the noise,
25 on most occasions, away from the homes and traffic

1 instead of being right in the middle of them.

2 I prefer Alternative 10. I think that's
3 all. If I think of anything else I'll write it and
4 mail it in.

5
6 DIANA LEWIS: We're for the Alternative
7 10 route.

8
9 BILL LEWIS: I'm her husband. And we
10 live at 27505 Highway 119 in Valley Acres, and we
11 favor the alternate route. Thank you very much.

12
13 DIANA LEWIS: Keep the traffic out of
14 our yard, further away so we can sleep better at
15 night. That would be wonderful. Thank you.

16
17 MS. GASSNER: It's 7 p.m. This public
18 hearing for the Cherry Avenue four-lane project is
19 now closed.

20 (The proceedings were completed at 7
21 p.m.)

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CERTIFICATE

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I, CHRISTINE SIMERAL, Certified Shorthand Reporter No. 9881, in and for the State of California, do hereby certify:

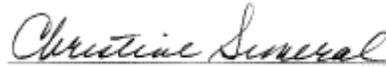
That the foregoing proceedings were taken before me at the time and place as therein set forth;

That said testimony was taken down in shorthand by me and thereafter transcribed into typewriting;

And I hereby certify the foregoing pages contain a full, true, and correct computer-assisted transcription of my shorthand notes so taken.

I further certify that I am not interested in the event of the action.

IN WITNESS WHEREOF, I have hereunto subscribed my name this 15 day of September, 2008, at Ventura, California.


CHRISTINE SIMERAL, CSR NO. 9881

Response to comments submitted to the Court Reporter at the Public Hearing (August 27, 2008)

Thank you for all your comments on the project.

Response to comments from Mr. Boone, Mr. Morrison, Ms. Myers, Mr. Melton, Mr. Emberson, Ms. Emberson, Ms. Thomas, Mr. Wilson, Ms. Strand, Ms. Scheidemantel, Mr. Denver, Mr. Harrison, Ms. Lewis, and Mr. Lewis in support of Alternative 10: After comparing and weighing the benefits and impacts of all the feasible alternatives and reviewing public comments and local agency input, Caltrans selected Alternative 10 as the preferred alternative on September 29, 2008. However, due to funding constraints for Alternative 10, Alternative 11, a shorter version of Alternative 10 by 2.9 miles was developed. The Project Development Team determined the bypass portion of the project (post miles 5.5 to R10.4) to be the project limits for Alternative 11. On April 8, 2009, Alternative 11 was selected as the Preferred Alternative because it proposes the same bypass design as Alternative 10, avoiding Valley Acres and Dustin Acres to the south. Alternative 11 would meet the project's purpose and need and have the least negative environmental impacts with mitigation. Alternative 11 would also impact about 60 fewer acres of habitat to threatened and endangered species.

Like Alternative 10, Alternative 11 would not substantially diminish community character and cohesion by widening the existing alignment. Section 2.1.4.1 of this environmental document provides the results of the Community Impact Assessment conducted for the project. Section 2.1.4.2 contains the results of the Final Relocation Statement.

Alternative 11 would have the least impact on community cohesion because it would not create a physical and/or a psychological divide in the communities or cause seven residential displacements. Alternative 11 would potentially eliminate residents' concerns for traffic and pedestrian safety. Overall, Alternative 11 would have a beneficial effect on the communities because the bypass would divert traffic and noise south of the two communities. Alternative 11 would also convert the existing alignment through the communities to a local county road. As a result, this would potentially leave this segment more pedestrian friendly.

Response to Mr. Miller: The intersection of State Route 119 and Elk Hills Road west of Airport Road is outside the proposed project limits. Currently, there are no planned projects proposing a left-turn lane at this intersection. The 2006 State Route 119 Transportation Concept Report plan is to ultimately widen State Route 119 from

a two-lane highway to a four- or six-lane facility from State Route 33 to State Route 99 in Bakersfield. This includes widening State Route 119 to a four-lane expressway from Midway Road east to the start of the project at post mile 5.5. Improvements that include left-turn lanes could also be included.

Response to Mr. Cawelti: Alternative 11 with controlled access. Access along the roadway would be allowed at the intersection of the proposed State Route 119 and Golf Course Road. Providing access elsewhere within the project area would compromise the safety of the roadway for both expressway users and those trying to cross the expressway. Caltrans cannot provide a facility for public access to private property, and therefore a bridge or undercrossing of the proposed State Route 119 cannot be provided.

List of Technical Studies that are Bound Separately

Draft Relocation Statement

Final Relocation Statement

Air Quality Report

Community Impact Assessment

Noise Study Report

Water Quality Report

Natural Environment Study

Floodplain Evaluation Report

Historical Property Survey Report

- Historic Study Report
- Historic Resource Evaluation Report
- Historic Architectural Survey Report
- Archaeological Survey Report

Hazardous Waste Reports:

- Initial Site Assessment
- Preliminary Site Investigation Report

Visual and Scenic Resource Evaluation

Initial Paleontology Assessment Report

Paleontological Evaluation Report