Inyokern Four-Lane Project

On U.S. Highway 395 from 1.1 miles south of South China Lake Boulevard to 1 mile north of State Route 14/U.S Highway 395 connection, in Kern County near Ridgecrest, California
06-KER-395 - PM 13.9/30.55
06-443100

Initial Study with Proposed Mitigated Negative Declaration/Environmental Assessment

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 California Department of Transportation under its assumption of responsibility pursuant to 23 U.S. Code 327.

January 2008

Caltrans

General Information About This Document

What's in this document?

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration, has prepared this Initial Study/Environmental Assessment, which examines the potential environmental impacts of alternatives being considered for the proposed project located in Kern County, California. The document describes why the project is being proposed, alternatives for the project, the existing environment that could be affected by the project, potential impacts from each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures.

What should you do?

- Please read this Initial Study/Environmental Assessment. Additional copies of this document as well as the technical studies are available for review at the Caltrans District 6 Environmental Division Office at 2015 E. Shields Avenue, Suite 100, Fresno, CA 93726; the Caltrans District 9 Office at 500 South Main Street, Bishop, CA 93514; and the Ridgecrest Public Library at 131 E. Las Flores Avenue, Ridgecrest, CA 93555.
- We welcome your comments. If you have any concerns regarding the proposed project, please send your written comments to Caltrans by the deadline. Submit comments via U.S. mail to Caltrans at the following address:

  Sarah Gassner, Branch Chief
  Southern Sierra Environmental Analysis Branch
  California Department of Transportation
  2015 E. Shields Avenue, Suite 100
  Fresno, CA 93726

  Submit comments via email to: Sarah_Gassner@dot.ca.gov.
- Submit comments by the deadline: March 31, 2008

What happens next?

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

It should be noted that at a future date, Caltrans, acting through the Federal Highway Administration, or another federal agency may publish a notice in the Federal Register, pursuant to 23 U. S. Code Section 139(l), indicating that a final action has been taken on this project by Caltrans or another federal agency. If such notice is published, a lawsuit or other legal claim will be barred unless it is filed within 180 days after the date of publication of the notice (or within such shorter time period as is specified in the federal laws pursuant to which judicial review of the federal agency action is allowed). If no notice is published, then the lawsuit or claim can be filed as long as the periods of time provided by other federal laws that govern claims are met.

For individuals with sensory disabilities, this document is available in Braille, large print, on audiocassette, or computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: Sarah Gassner, Southern Sierra Environmental Analysis Branch, 2015 E. Shields Avenue, Suite 100, Fresno, CA 93726; (559) 243-8243 Voice, or use the California Relay Service TTY number, 1-800-735-2929.

06 KER 395 PM 13.9/30.55
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On U.S. Highway 395 from 1.1 miles south of South China Lake Boulevard to 1 mile north of State Route 14/U.S Highway 395 connection, in Kern County near Ridgecrest, California

INITIAL STUDY
with Proposed 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

1/28/08
Date of Approval

Christine Cox-Kovacevich, Office Chief
Office of Environmental Management, North
Central Region Environmental Division
California Department of Transportation

Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation proposes to convert approximately 15.5 miles of the existing two-lane conventional highway into a four-lane, divided, controlled-access expressway from post miles 13.9 to 30.55. The new facility would have four 12-foot lanes and a variable median width from 60 to 100 feet. The two new lanes of the expressway would have 5-foot inside and 10-foot outside paved shoulders. This project also proposes overlaying the existing lanes with asphalt concrete, while maintaining a 5- to 8-foot inside shoulder and widening the outside shoulder to 10 feet, constructing new El Paso Wash bridges, upgrading the South China Lake Boulevard/Brown Road, Bowman Road, and Athel Avenue intersections to meet current design standards, and improving the curve from post mile 14.1 to post mile 15.2. The project would also involve widening the interchange at State Route 178 and creating an overhead at Brown Road (post mile 25.1). A 2,500-foot auxiliary lane would be constructed at the interchange of State Route 14 and U.S. Highway 395. Frontage roads would be constructed north of State Route 178. Drainage improvements consist of constructing new box culverts at three wash locations and installing smaller culverts throughout the project limits.

Determination

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

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

- The proposed project would not create a significant encroachment upon the floodplain. The proposed project would not increase seismic hazards. There would be no effects on recreational or educational facilities or on any park. There would be no effects on air quality, water quality, or sensitive noise receptors.
- There would be no effects on wetlands or riparian vegetation.
- The character and composition of traffic would not be affected. The project would not affect planned land use.
- Paleontology resources would not be affected.

The proposed project would have no significantly adverse effects on threatened and endangered species, housing relocations, visual/aesthetics, and utilities because the following mitigation measures would reduce potential effects to insignificance:

- Impacts to threatened or endangered species would be mitigated in accordance with a Biological Opinion rendered by the U.S. Fish and Wildlife Service and with a Section 2081 Incidental Take Permit issued by the California Department of Fish and Game.
- Residents displaced by the project would receive assistance through the Relocation Assistance Program in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act.
- Implementation of mitigation measures for visual/aesthetics would include contour grading cut and fill slopes to a non-uniform profile to blend with the adjacent slopes. The selection of materials and methods for the revegetation project is critical for erosion control and restoring the visual quality. To preserve the native seed stock and natural chemical compounds, it is critical to collect and store topsoil/duff for placement on disturbed areas before replanting. A plan would be instituted to minimize the removal of existing vegetation wherever feasible.
- Utilities affected by the project would be relocated in coordination with utility companies.
- Impacts to cultural resources would be mitigated under the provisions of the Caltrans, Federal Highway Administration, and State Historic Preservation Officer Programmatic Agreement.

_____ _____

Christine Cox-Kovacevich, Office Chief
Office of Environmental Management, North
Central Region Environmental Division
California Department of Transportation

Date

Summary

The California Department of Transportation proposes to convert approximately 15.5 miles of the existing two-lane conventional highway into a four-lane, divided, controlled-access expressway from post mile 13.9, 1.1 mile south of South China Lake Boulevard, to post mile 30.55, in Kern County near Ridgecrest, California. The purpose of this project is to improve the safety of U.S. Highway 395, provide four-lane route continuity for future expansion along the entire length of the highway, and improve safety and operations at intersections with local roads. This project is included in the 2006 Kern County Regional Transportation Improvement Program.

Five alternatives are being considered for the U.S. Highway 395 Inyokern Four-Lane Project: four build alternatives and a no-build alternative. Alternatives 1, 1A, 2, and 2A propose to convert the conventional two-lane undivided highway into a four-lane divided expressway, with a maximum 100-foot wide median, by constructing two new southbound lanes to the west (Alternative 1 and 1A) or two new northbound lanes to the east (Alternative 2 and 2A) of the existing highway. These alternatives would include upgrading the Athel Avenue, Bowman Road, and South China Lake Boulevard/Brown Road intersections to current design standards. The project would also involve widening the interchange at State Route 178 and creating an overhead at Brown Road (post mile 25.1). Frontage roads would be constructed north of State Route 178 (see Appendix F). A 2,500-foot auxiliary lane would be constructed at the interchange of State Route 14 and U.S. Highway 395. New bridges would be constructed where El Paso Wash crosses U.S. Highway 395, and drainage improvements would consist of constructing new box culverts at three wash locations and installing smaller culverts throughout the project limits.

Alternatives 1A and 2A are similar to Alternatives 1 and 2 except they propose a grade-separated interchange at South China Lake Boulevard and U.S. Highway 395.

The No-Build Alternative would leave this segment of U.S. Highway 395 as a two-lane highway. This would not address the project's purpose and need to improve safety and route continuity throughout the route. The No-Build Alternative would not improve operations at the intersection of U.S. Highway 395 and South China Lake Boulevard/Brown Road.

Table S.1, Summary of Major Potential Impacts from Alternatives, compares the potential impacts of Alternative 1, Alternative 1A, Alternative 2, Alternative 2 A, and the No-Build Alternative.

Table S.1 Summary of Major Potential Impacts from Alternatives

Potential Impact		Alternative 1	Alternative 1A	Alternative 2	Alternative 2A	No-Build Alternative
Land Use	**Consistency with the Kern County General Plan**	Consistent	Consistent	Consistent	Consistent	Not consistent
Relocation	**Housing displacements**	4	4	6	6	No change
	Utility service relocation	No Impact	No Impact	Power lines would require relocation.	Power lines would require relocation.	No change
Visual/Aesthetics		Disturbance and removal of native vegetation would occur during construction.	Disturbance and removal of native vegetation would occur during construction.	Disturbance and removal of native vegetation would occur during construction.	Disturbance and removal of native vegetation would occur during construction.	No change
Cultural Resources		Three cultural sites are within the Area of Potential Effects. Two would not be adversely affected and the other has not been evaluated.	Three cultural sites are within the Area of Potential Effects. Two would not be adversely affected and the other has not been evaluated.	One cultural site is within the Area of Potential Effects, but would not be adversely affected.	One cultural site is within the Area of Potential Effects, but would not be adversely affected.	No change
Threatened and Endangered Species		Impacts to 490 acres of desert tortoise and Mohave ground squirrel habitat.	Impacts to 520 acres of desert tortoise and Mohave ground squirrel habitat.	Impacts to 480 acres of desert tortoise and Mohave ground squirrel habitat.	Impacts to 510 acres of desert tortoise and Mohave ground squirrel habitat.	No change

Table of Contents

List of Figures

List of Tables

List of Abbreviated Terms

Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
FHWA	Federal Highway Administration
PM	post mile

Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation proposes to convert approximately15.5 miles of the existing two-lane conventional highway into a four-lane, divided, controlled-access expressway from post mile 13.9, 1.1 mile south of South China Lake Boulevard to post mile 30.55 near Ridgecrest in Kern County. Figures 1-1 and 1-2 show the project vicinity and location maps.

It is anticipated that much of the earthen material needed for this project would be acquired from a short segment of cut area starting about 1.5 miles north of South China Lake Boulevard, and a short segment just south of Bowman Road. Excavation is expected in both the median and on the shoulders at these locations. Additional sites and commercially available material would be considered and evaluated at a later time if needed.

The U.S. Highway 395 Inyokern Four-Lane Project was identified in the 2000 Caltrans District 9 Transportation Concept Report for U.S. Highway 395. The project was programmed in the 2002 State Transportation Improvement Program. The project is included in the 2007 Kern County Regional Transportation Plan and 2007 Augmentation of the Kern County Regional Transportation Improvement Program. The project is also included in the 2007 Federal Transportation Improvement Program, which was regionally adopted on July 20, 2006. The 2007 Federal Transportation Improvement Program is included in the 2007 Federal Statewide Transportation Improvement Program that was approved by the Federal Highway Administration and the Federal Transit Administration on October 2, 2006.

The California Department of Transportation submitted a project change request to the Kern Council of Governments requesting that the postmiles of this project be changed in all the planning documents to match the postmiles of this document.

1.2 Purpose and Need

1.2.1 Purpose

The purpose of the project is to:

- Improve safety for motorists

- Accommodate increased traffic demands
- Provide route continuity

1.2.2 Need

1.2.2.1 Safety

Because of the rural nature of the region, drivers of passenger cars tend to travel at a high rate of speed along the route. Trucks and recreational vehicles cannot always keep up with the cars, so traffic starts to "queue" (line up) behind the larger, slower-moving vehicles traveling in the same direction in the same lane. Drivers wanting to pass may attempt unsafe passing maneuvers increasing the risk for accidents. Upgrading the existing two-lane conventional highway to a four-lane expressway would help alleviate the problems associated with traffic queuing.

Total accident rates throughout the project limits are below the statewide average. Thirty-seven collisions occurred between post miles 13.9 and 30.55 during the five-year period, with the majority of the collisions resulting from failure to yield right-of-way, improper turns, and unsafe passing maneuvers. Almost half of these accidents resulted in broadside collisions, followed by sideswipes, vehicle overturn, and hitting a fixed object.

The accident rates at South China Lake Boulevard and U.S. Highway 395 are 2.8 times the statewide average. A total of 19 collisions occurred at this intersection, some resulting in injuries. Most of these accidents are a result of improper turns associated with the heavy amount of southbound traffic from South China Lake Boulevard turning left onto U.S. Highway 395; or northbound traffic turning right onto South China Lake Boulevard from U.S. Highway 395. Additional causes of these accidents include unsafe speeds and failure to yield right-of-way. The intersections of State Route 178 and Brown Road with U.S. Highway 395 have elevated accident rates as well. The northbound onramp from State Route 178 onto U.S. Highway 395 had 3 property-damage-only accidents that resulted in an accident rate 3.9 times the statewide average. The southbound ramp to Brown Road had one fatal and one injury accident resulting in an accident rate of 8.1 times the statewide average (see Table 1.1).

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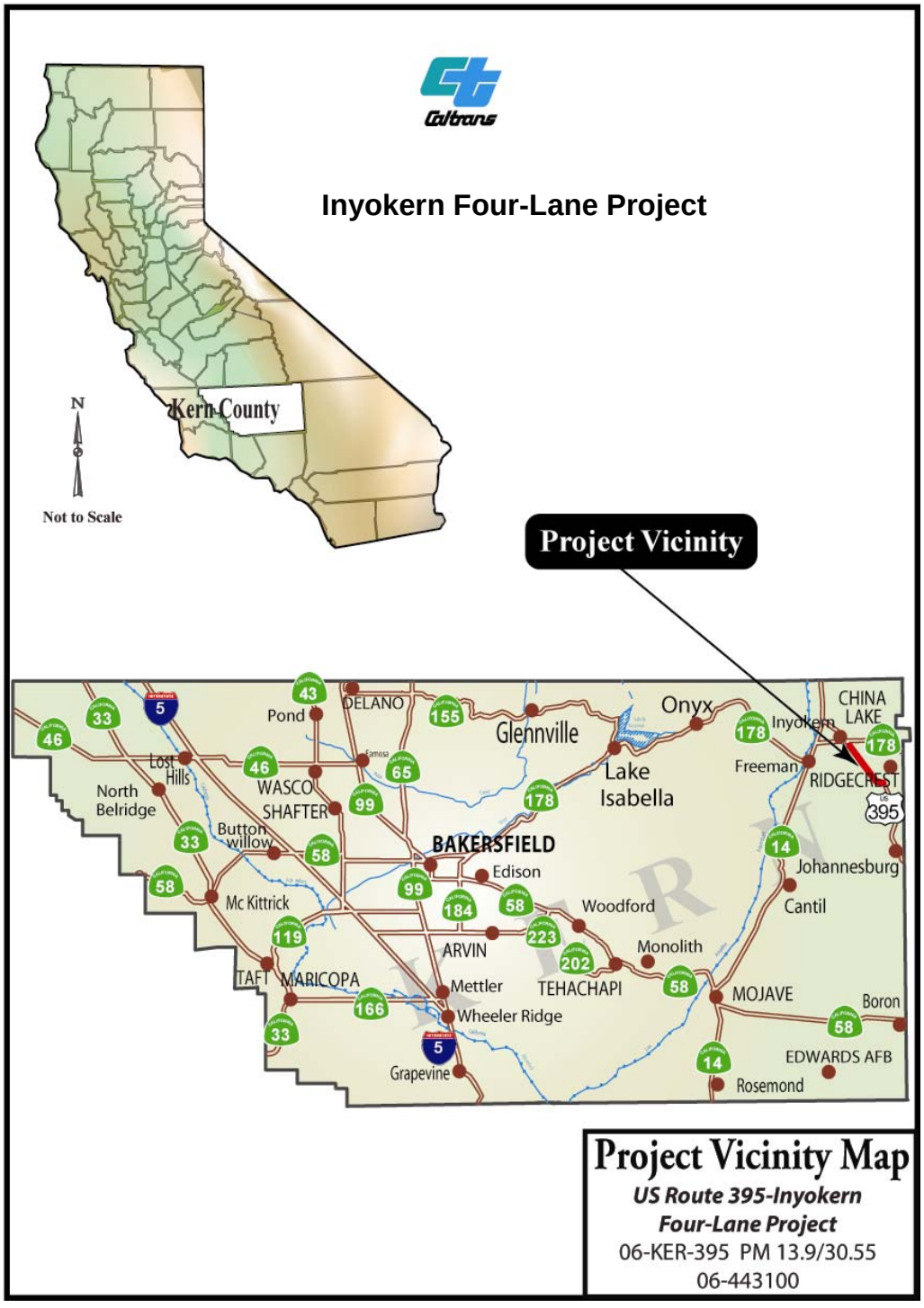


Figure 1-1 Project Vicinity Map

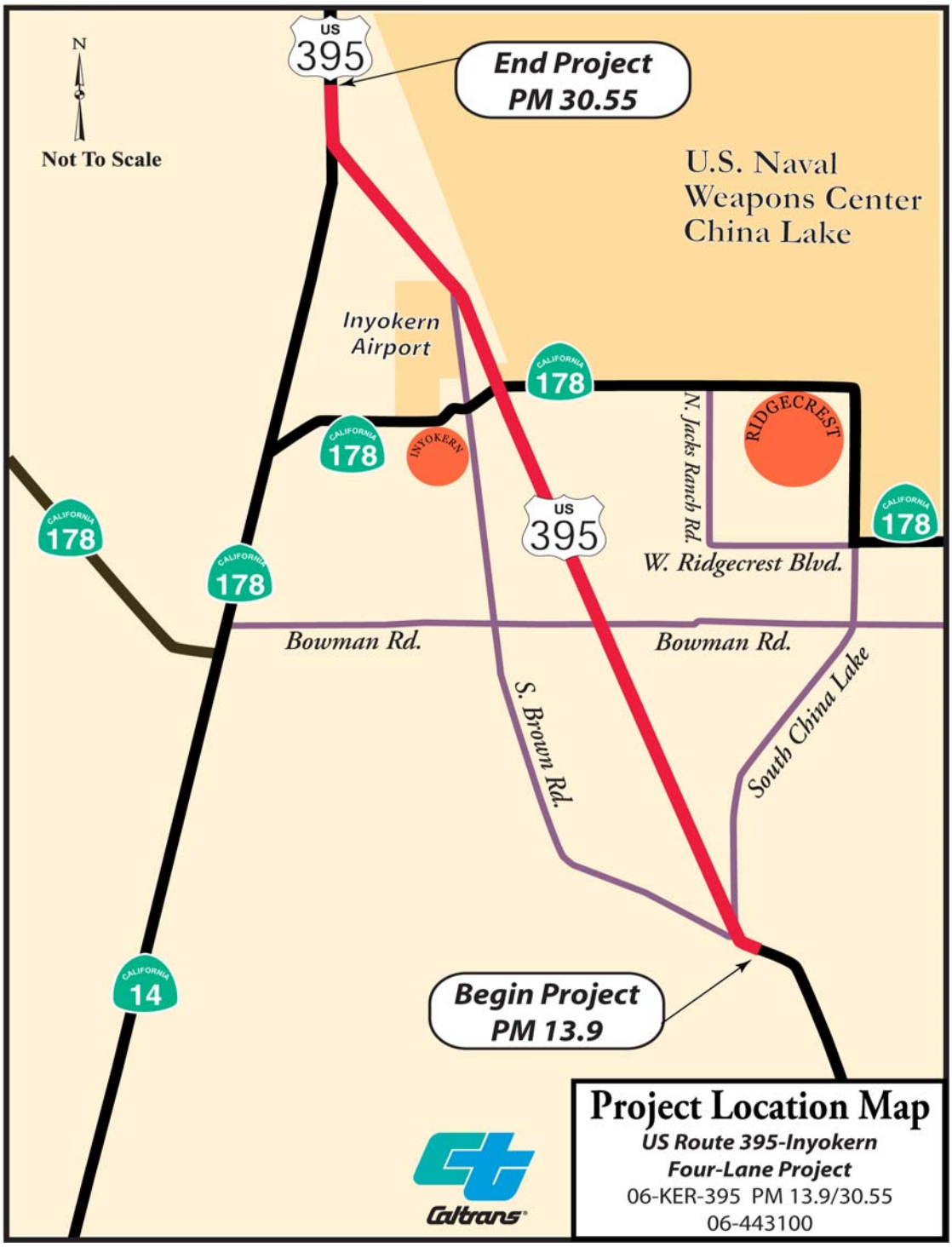


Figure 1-2 Project Location Map

Table 1.1 Accident Rates
August 1, 2000 – July 31, 2005

	Actual			Statewide Average		
	Fatal	**Fatal + Injury**	**Total***	**Fatal**	**Fatal + Injury**	**Total**
U.S. Highway 395 between post miles 13.9 and 14.6						
Accident Rates *(Accidents per million vehicle miles)*	0	0.17	0.33	0.036	0.46	0.95
Accidents	0	1	2	-	-	-
U.S. Highway 395 between post miles 14.6 and 23.5						
Accident Rates *(Accidents per million vehicle miles)*	0.021	0.25	0.54	0.023	0.28	0.60
Accidents	1	12	26	-	-	-
U.S. Highway 395 between post miles 23.5 and 30.55						
Accident Rates *(Accidents per million vehicle miles)*	0	0.07	0.31	0.023	0.29	0.61
Accidents	0	2	9	-	-	-
Intersection of U.S. Highway 395 and South China Lake Boulevard/ Brown Road						
Accident Rates *(Accidents per million vehicles)*	0	0.53	2.01	0.009	0.310	0.70
Intersection of U.S. Highway 395 and Bowman Road						
Accident Rates *(Accidents per million vehicles)*	0	0.19	0.19	0.008	0.16	0.33
Intersection of U.S. Highway 395 and State Route 178 Ramps**						
Accident Rates *(Accidents per million vehicles)*	0	0	2.97	0.002	0.17	0.75
Intersection of U.S. Highway 395 and Brown Road Ramps***						
Accident Rates *(Accidents per million vehicles)*	4.683	9.35	9.35	0.014	0.43	1.15
Intersection of U.S. Highway 395 and Athel Street						
Accident Rates *(Accidents per million vehicles)*	0	0	0	0.008	0.16	0.33

*Total includes "Property Damage Only" Accidents
**2.97 Actual Total reflects 3 "Property Damage Only" accidents on the northbound ramp of State Route 178 only.
***Actual rates reflect 1 fatal and 1 injury accident on the southbound ramp to Brown Road only.

All the build alternatives would substantially reduce the accident rates for this segment of U.S. Highway 395. Having two lanes in each direction of travel would allow faster-moving traffic to safely pass slower-moving vehicles. Installing wider paved shoulders would create an emergency recovery area for drivers. Wider shoulders would also allow disabled vehicles to move completely out of the traffic lanes in case of an emergency.

In addition, all of the build alternatives propose to widen the median to further separate opposing lanes of traffic and provide refuge for large vehicles needing to cross the median.

The grade-separated interchange at South China Lake Boulevard (Alternatives 1A and 2A) would provide a substantial improvement to traffic operations on U.S. Highway 395, and would correct conditions that contribute to an above average statewide accident rate at this location. These alternatives would improve local traffic circulation patterns by reducing conflicts between local traffic and through traffic, which is important to the local residents. The interchange would also reduce the risk of accidents because drivers would not have to cross four lanes and a 100-foot median.

1.2.2.2 Traffic Demands

The proposed project would improve the level of service of the roadway and would provide increased capacity to meet present and future traffic demands. Caltrans District 9 Office of System Planning identifies a conceptual level of service of B for the existing highway. Level of service is a measure of how free or constrained traffic travels along a road segment or through an intersection ranging from A (free flowing) to F (extremely congested). The southern section of the project (post mile 13.9 to 14.6) would deteriorate to a level of service D by 2040, and the section U.S. Highway 395 between State Route 178 and State Route 14/U.S. Highway 395 intersection (post mile 23.5 to 30.55) would deteriorate to a level of service C by 2040 due to increased truck and recreational vehicle use.

The existing and future level of service at the intersection of U.S. Highway 395 and South China Lake Boulevard/Brown Road is C, which is lower than the conceptual level of service of this project.

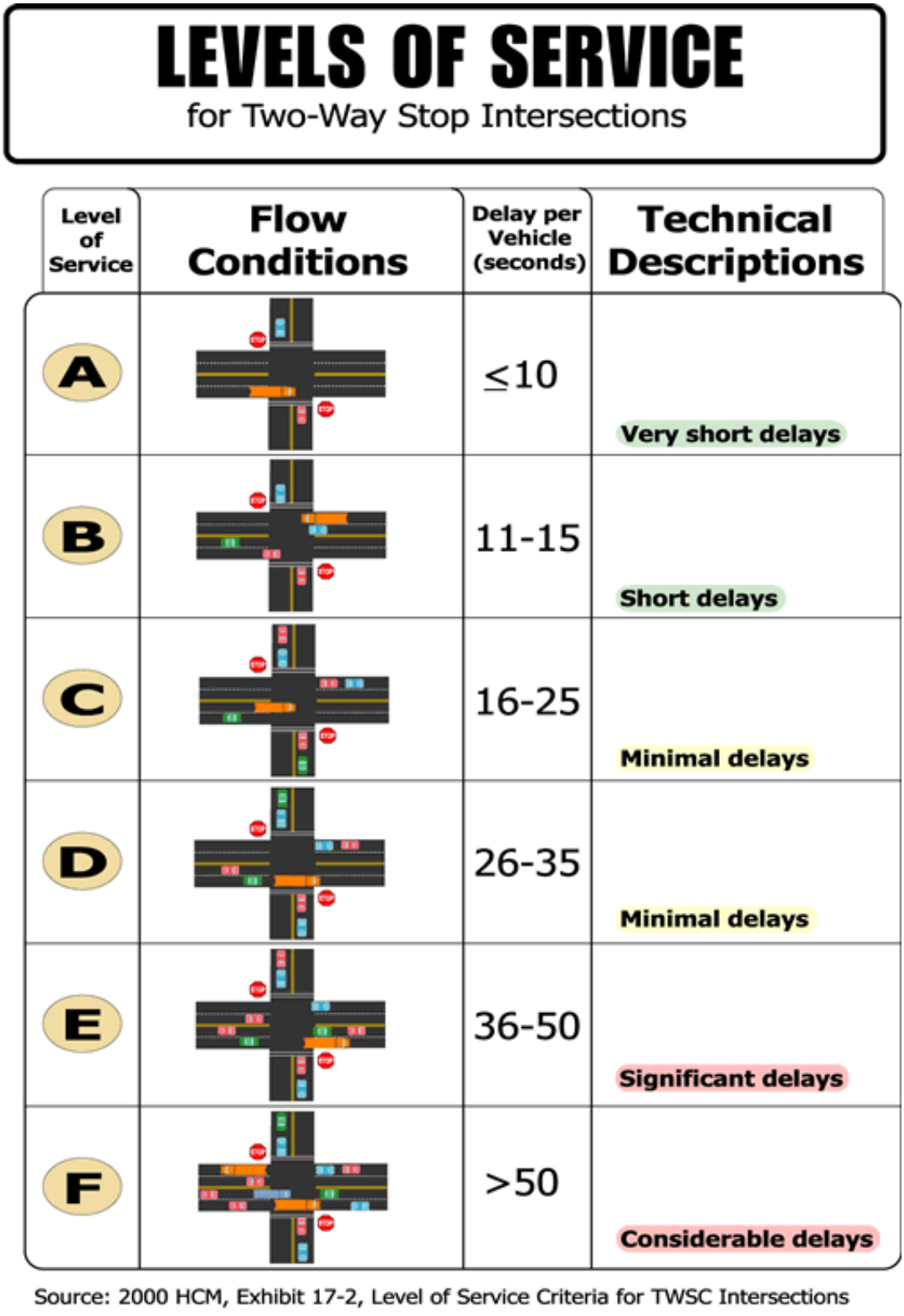
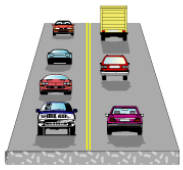


Figure 1-3 Level of Service Chart for Two-Way Stop Intersections

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 1-4 Level of Service Chart for Two-Lane Highways

Table 1.2 Existing and Future Level of Service Without the Project

Location	Existing Level of Service	Construction Year Level of Service (2020)	No-Build Level of Service (2040)
U.S. Highway 395 between post miles 13.9 and 14.6	C	C	D
U.S. Highway 395 between post miles 14.6 and 23.5	B	B	B
U.S. Highway 395 between post miles 23.5 and 30.55	B	B	C
Intersection of U.S. Highway 395 and South China Lake Boulevard/Brown Road (At-Grade Intersection)	C	C	C
Intersection of U.S. Highway 395 and South China Lake Boulevard/Brown Road (Separated-Grade Interchange)	C	C	C

1.2.2.3 Continuity

U.S. Highway 395 in California is functionally classified as a Rural Principal Arterial and is included in the California Freeway and Expressway System. It is also included in the National Highway System as classified by the United States Department of Transportation's "Intermodal Surface Transportation Efficiency Act of 1991."

In the early 1990s a Corridor Study was initiated to upgrade U.S. Highway 395 to freeway/expressway standards. Due to budgetary constraints, capacity improvements to U.S. Highway 395 never became a reality. In June of 1998, the California Department of Transportation's Interregional Transportation Strategic Plan was adopted. It identified U.S. Highway 395 as a "Focus Route" and earmarked it as a top priority to upgrade to a four-lane expressway.

Kern County is the fourth fastest growing county in California with a population increase of almost 18 percent from 2000 to 2006. The city of Ridgecrest grew by almost 7 percent during this same time. The County's rapid population growth is expected to more than double by 2050, rising to over 1.5 million people—an increase of over 133 percent. The demand on this two-lane roadway would continue to

increase with the continued population growth in Kern County and because of the recreation and goods movement in and through Kern County to Inyo and Mono counties. Kern, Inyo, and Mono County planning agencies, along with the city of Ridgecrest, the community of Inyokern, and the California Department of Transportation agreed to propose a four-lane expressway corridor at this location and to use it as an anchor point for future expansion of U.S. Highway 395 to the south. U.S. Highway 395 is already a four-lane divided highway at the north end of this project.

1.3 Alternatives

This section describes the design alternatives that were identified in the planning and environmental analysis phases. Five alternatives were evaluated for the proposed U.S. Highway 395 Inyokern four-lane divided expressway project. The alternatives consist of the four build alternatives (Alternatives 1, 1A, 2, and 2A) and the No-Build Alternative. The proposed alignments and typical cross sections of the four build alternatives are shown in Appendix F.

1.3.1 Build Alternatives

Final selection of an alternative would not be made until after the full evaluation of environmental impacts, consideration of public and agency comments, and approval of the draft environmental document.

Common Design Features of the Build Alternatives

Each of the four build alternatives proposes to convert the existing two-lane conventional highway into a four-lane, divided, controlled-access expressway with four 12-foot lanes and a variable median width from 60 to 100 feet. The two new lanes of the expressway would have 5-foot inside and 10-foot outside paved shoulders.

This project also proposes overlaying the existing lanes with asphalt concrete, while maintaining a 5- to 8-foot inside shoulder and widening the outside shoulder to 10 feet, constructing new El Paso Wash bridges, upgrading the South China Lake Boulevard/Brown Road, Athel Avenue and Bowman Road intersections to meet current design standards, and improving the curve from post mile 14.1 to post mile 15.2.

The project would also involve upgrading the interchange with State Route 178 and creating a separation at that location, and creating an overhead at Brown Road (post mile 25.1). Drainage improvements consist of constructing new box culverts at three wash locations and installing smaller culverts throughout the project limits. All the alternatives propose frontage roads north of State Route 178 and on the east side of U.S. Highway 395 (see Appendix F).

Unique Features of Build Alternatives

Alternative 1

Alternative 1 proposes to add 15.5 miles of two additional lanes, with 5-foot inside and 10-foot outside shoulders and a maximum100-foot-wide median to the west of the existing highway. The existing roadway would become the northbound lanes and the new lanes would be the southbound lanes, thus converting this segment to a four-lane expressway. Improvements would also include bringing the existing South China Lake Boulevard/Brown Road intersection up to current at-grade intersection design standards.

Currently, the estimated project cost for this alternative, including right-of-way acquisition and utilities relocation, is $97,800,000.

Alternative 1A

Alternative 1A is the same as Alternative 1 except that it proposes to construct a grade-separated interchange at South China Lake Boulevard/Brown Road and U.S. Highway 395 rather than relocating and bringing the South China Lake Boulevard/Brown Road intersection up to current at-grade intersection design standards.

Currently, the estimated project cost for this alternative, including right-of-way acquisition and utilities relocation, is $129,700,000.

Alternative 2

Alternative 2 proposes to add 15.5 miles of two additional lanes with 5-foot inside and 10-foot outside shoulders and a maximum100-foot-wide median to the east of the existing highway. The existing roadway would become the southbound lanes and the new lanes would be the northbound lanes, thus converting this segment to a four-lane expressway. Improvements would include bringing the existing South China Lake Boulevard/Brown Road intersection up to current at-grade intersection design standards. A 2,500-foot auxiliary lane would be constructed at the interchange of State Route 14 and U.S. Highway 395.

Currently, the estimated project cost for this alternative, including right-of-way acquisition and utilities relocation, is $102,100,000.

Alternative 2A

Alternative 2A is the same as Alternative 2 except that it proposes to construct a grade-separated interchange at South China Lake Boulevard/Brown Road and U.S. Highway 395 rather than relocating and bringing the South China Lake Boulevard/Brown Road intersection up to current at-grade intersection design standards.

Currently, the estimated project cost for this alternative, including right-of-way acquisition and utilities relocation, is $122,000,000.

1.3.2 No-Build Alternative

Under the No-Build Alternative, this segment of U.S. Highway 395 would remain in its current condition. Without the proposed improvements, as traffic increases over time, accident rates and maintenance costs would increase. The No-Build Alternative does not meet the project purpose and need.

1.3.3 Comparison of Alternatives

An analysis of the project alternatives indicated that all four build alternatives would satisfy the project's purpose and need regarding safety, traffic demands, and route continuity goals.

Alternative 1 and 2 would provide better Level of Service at the intersection South China Lake Boulevard / Brown Road and U.S. Highway 395. It's also anticipated that these alternative would be safer than Alternatives 1A and 2A.

In regard to property relocations, Alternatives 1 and 1A would each result in 4 residential displacements. Alternatives 2 and 2A would result in 6 residential displacements.

Of the build alternatives, Alternatives 1 and 2 could be constructed with less of an impact to biological habitat than Alternatives 1A and 2A. Alternative 1 could be constructed at the least cost.

After the public circulation period, all comments will be considered, and Caltrans will select a preferred alternative and make the final determination of the project's effect

on the environment. In accordance with the California Environmental Quality Act, if no immitigable significant adverse impacts are identified, Caltrans will prepare a Negative Declaration or Mitigated Negative Declaration. Similarly, if Caltrans determines the action does not significantly impact the environment, Caltrans, as assigned by the Federal Highway Administration, will issue a Finding of No Significant Impact in accordance with the National Environmental Policy Act.

1.4 Permits and Approvals Needed

Table 1.3 lists the permits, reviews and approvals that would be required for project construction:

Table 1.3 Summary of Permits, Reviews, and Approvals

Agency	Permit/Approval	Status
U.S. Fish and Wildlife Service	Section 7 Consultation for Threatened and Endangered Species	The Biological Assessment will be prepared once a preferred alternative is selected and formal consultation leading to a Biological Opinion will be initiated.
California Department of Fish and Game	1602 Agreement for Streambed Alteration. Section 2081(b) permit for Threatened and Endangered Species	Application for 1602 agreement and Section 2081 permit anticipated before construction.
State Historic Preservation Officer	Section 106 Finding of No Adverse Effect with Standard Conditions or Finding of Adverse Effect and Memorandum of Agreement	Finding of No Adverse Effect with Standard Conditions was completed on January 9, 2007.

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 or cumulative 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.

- Agriculture Resources — This project has no prime farmland, unique farmland, or land of statewide or local importance as defined by the Farmland Protection Policy Act. This project does not propose to convert Williamson Act contract land to non-agricultural uses as required under the California Environmental Quality Act (see Appendix K).

- Public Services — This project would not affect public services within the area. (Kern County and City of Ridgecrest General Plans)

- Recreation — This project would not impair any parks, recreational facilities, or wildlife refuges found within or adjacent to the project area (see Appendix B).

- Paleontology—This project would not likely affect paleontological resources (Caltrans Paleontological Identification Report, 2006).

2.1 Human Environment

2.1.1 Land Use

2.1.1.1 Existing and Future Land Use

Affected Environment

Most of the project area is open desert with a few parcels zoned as Open Space, Natural Resource, Limited and Exclusive Agriculture, or Estate. Much of the land is open with large parcels. A few of these parcels have single-family homes and/or mobile homes on them. The majority of the homes are on the east side of U.S. Highway 395, with open desert on the west side. There are no businesses within the project limits.

Much of the land in the project area is owned by the Bureau of Land Management and is designated as Resource Management in the Kern County General Plan. Areas with this designation in Eastern Kern County are set aside for uses such as recreation, mining, grazing, conservation areas, and commercial filming.

Environmental Consequences

The project is consistent with local and regional land use and transportation planning.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation would be required.

2.1.1.2 Consistency with State, Regional, and Local Plans

Affected Environment

The high truck volumes, strategic location, and environmental setting of U.S. Highway 395 have resulted in numerous special designations for the route by the State of California and the federal government. U.S. Highway 395, constructed on its present alignment in 1925, currently operates as a two-lane conventional highway; however, the roadway was intended to eventually be a four-lane divided expressway.

The Kern County General Plan dictates land use and circulation policy in the project area. The circulation element of the Kern County General Plan (2004) designates U.S. Highway 395 as an arterial within the project limits. Standards for arterial streets established by the general plan call for a typical right-of-way of 110 feet. The

Inyokern Four-Lane Project supports the land use and circulation element of the general plan.

The Inyokern Four-Lane Project lies in an area served by the Eastern California Transportation Planning Partnership. This partnership is composed of Inyo and Mono Regional Transportation Planning Agencies, the Southern California Association of Governments, and the Kern and San Bernardino Metropolitan Planning Organizations. All parties involved have acknowledged the need for and benefits of upgrading the U.S. Highway 395 corridor. As a result, Memoranda of Understanding have been developed by member agencies to assist in funding various projects throughout the planning area.

The U.S. Highway 395 Inyokern Four-Lane Project was identified in the 2000 Caltrans District 9 Transportation Concept Report for U.S. Highway 395. The project was programmed in the 2002 State Transportation Improvement Program. The project is included in the 2007 Kern County Regional Transportation Plan and 2007 Augmentation of the Kern County Regional Transportation Improvement Program. The project is also included in the 2007 Federal Transportation Improvement Program, which was regionally adopted on July 20, 2006. The 2007 Federal Transportation Improvement Program is included in the 2007 Federal Statewide Transportation Improvement Program that was approved by the Federal Highway Administration and the Federal Transit Administration on October 2, 2006.

The California Department of Transportation submitted a project change request to the Kern Council of Governments requesting that the post miles of this project be changed in all the planning documents to match the post miles of this document.

Environmental Consequences

The proposed project is consistent with local planning.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation would be required.

2.1.2 Growth

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 secondary impacts. Secondary impacts may include changes in land use, economic vitality, and population density, which are all elements of growth.

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

Affected Environment

Existing and future land use is described in Section 2.1.1.1.

The project lies about two miles outside the City of Ridgecrest's outer city limits. According to the City of Ridgecrest General Plan, the majority of population growth in the Indian Wells Valley is expected to occur within the current city limits. The City's growth rate is 1 percent per year and by 2030 the population of Ridgecrest is expected to grow to 33,667. The City of Ridgecrest's planned sewage and water facilities are expected to support a growth rate of more than 3 percent a year. The City of Ridgecrest is bordered by the China Lake Navel Weapons Center to the North and surrounded by U.S. Bureau of Land Management land on the other sides. There are a few pockets of privately owned land interspersed within the Bureau of Land Management land at the north end of the project. Growth in Bureau of Land Management land is unlikely. Neither Ridgecrest nor Kern County has plans for development within the project area.

Environmental Consequences

According to the City of Ridgecrest's General Plan, the U.S. Bureau of Land Management's West Mojave Plan, and Kern County's General Plan, population and economic growth is not expected to exceed planned growth. This project is not expected to directly or indirectly promote unplanned growth in this area.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation would be required.

2.1.3 Community Impacts

2.1.3.1 Relocations

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 would 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

Caltrans prepared a Draft Relocation Impact Statement, dated September 7, 2006 for this project.

The Bureau of Land Management owns the majority of land adjoining U.S. Highway 395 throughout the project limits. There are also a few pockets of privately owned land interspersed within the Bureau of Land Management land at the north end of the project.

Environmental Consequences

Four build alternatives are being considered for this project. Each of these build alternatives requires acquiring strips of land from the parcels adjoining U.S. Highway 395. Table 2.1 is a summary of potential residential displacements according to each of four build alternatives. No businesses would be displaced.

Table 2.1 Summary of Potential Residential Displacements by Alternative

Unit	Alternative 1	Alternative 1A	Alternative 2	Alternative 2A	No-Build Alternative
Single-family Units	2	2	2	2	None
Mobile Homes	2	2	4	4	None
Multi-family Units	None	None	None	None	None
Estimated Total of Residential Displacements	4 units 12 residents*	4 units 12 residents*	6 units 18 residents*	6 units 18 residents*	None

*The estimate of residential displacements is based on an average of 3.0 residents per household as determined by the Department of Finance Demographic Research Unit for January 2005 for Kern County.

Avoidance, Minimization, and/or Mitigation Measures

Upon review of listings provided by Coldwell Banker, Best Realty, Vaughn Realty, and the Ridgecrest Daily Independent's classified section, over 200 listings within an approximate range of 25 miles surrounding the Ridgecrest and Inyokern town limits were found for rent or for sale. This suggests that the real estate market would be able to absorb with ease the six single-family resident owners who may become displaced by this project.

Funding would be available to relocate or re-establish any home affected by the project. The Relocation Assistance 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 (see Appendix D).

2.1.3.2 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 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 2007, this was $20,650 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 of Caltrans (see Appendix C of this document).

Affected Environment

Most of the project area is open desert with a few parcels zoned as Open Space, Natural Resource, Limited and Exclusive Agriculture, or Estate. A few single-family homes and mobile homes dot both sides of U.S. Highway 395 within the project limits.

According to the U.S. Census, the median household income in the project's census tract is $51,000, which is well above the Department of Health and Human Services poverty threshold of $20,650 for a family of four. The Census reports the racial makeup of the census tract as 90 percent white, compared to the Kern County average of 61.6 percent. The other 10 percent of the population consists of black, American Indian, Asian, native Hawaiian and other Pacific islander, other race, and mixed race; none of these groups consist of more than 3.3 percent of the population.

Environmental Consequences

Because there are no readily identifiable groups or clusters of minority or low-income persons in the project study area, it is expected that the proposed project would not cause disproportionately high and adverse effects on any minority or low-income populations.

Avoidance, Minimization, and/or Mitigation Measures

No minority or low-income populations have been identified that would be adversely affected by the proposed project as determined above. Therefore, this project is not subject to the provisions of Executive Order 12898.

2.1.4 Utilities/Emergency Services

Affected Environment

Six steel power poles and lines belonging to Edison Power Company cross U.S. Highway 395 just south of State Route 178.

Fire protection and law enforcement are stationed near the project in the cities of Inyokern and Ridgecrest.

Environmental Consequences

Alternative 2 or 2A would require the relocation of the steel power poles supporting the power lines. It is not expected that the lines would move from their present location except to attach to the power poles at different locations. The relocation of these poles and lines would not result in a significant impact on the environment or sensitive areas adjacent to the project. Relocation of these poles and lines would be exempt under Public Utility Commission General Order 131-D Section III, B1a, b, and c. Alternatives 1 and 1A would avoid these power lines by reducing the median at this location to 60 feet. For Alternatives 2 and 2 A, additional studies may be required if the scope of work to move these poles goes beyond the area studied in Appendix F.

Proposed improvements would provide emergency services such as fire protection and law enforcement with increased room and improved sight distance for making safer turns onto and off U.S. Highway 395, and would give motorists ample room to pull over for emergency vehicles to pass, resulting in better emergency response times.

Avoidance, Minimization, and/or Mitigation Measures

Before construction, public utilities affected by the project would be relocated.

In addition, U.S. Highway 395 and adjoining roads would remain accessible to avoid delays in emergency service. Efforts to inform or coordinate with emergency and other public services during construction would minimize disruption.

2.1.5 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 general public would be provided to persons with disabilities.

Affected Environment

The existing roadway within the proposed project limits currently operates as a two-lane conventional highway with 8-foot outside shoulders and no median. The intersections of Athel Avenue, Bowman Road, and South China Lake Boulevard/Brown Road do not meet the current design standards because they do not intersect with U.S. Highway 395 at 90-degree angles. Additionally, there is a curve in the alignment of U.S. Highway 395 just south of South China Lake Boulevard that does not allow the standard sight distance and does not meet current design standards.

Bicyclists use this portion of U.S. Highway 395 to access nearby trails. Currently, there are no dedicated bike lanes and there are no plans to provide them in the future.

The existing and future level of service at the intersection of U.S. Highway 395 and South China Lake Boulevard/Brown Road is C, which is lower than the conceptual Level of Service of this project.

Environmental Consequences

This project proposes to convert approximately15.5 miles of the existing two-lane conventional highway into a four-lane, divided, controlled-access expressway from post miles 13.9 to 30.55. The new facility would have four 12-foot lanes and a variable median width from 60 to 100 feet. The two new lanes of the expressway would have 5-foot inside and 10-foot outside paved shoulders. This project also proposes overlaying the existing lanes with asphalt concrete, while maintaining a 5- to 8-foot inside shoulder and widening the outside shoulder to 10 feet, constructing new El Paso Wash bridges, upgrading the South China Lake Boulevard/Brown Road, Bowman Road, and Athel Avenue intersections to meet current design standards, and improving the curve from post mile 14.1 to post mile 15.2. The project would also involve widening the interchange at State Route 178 and creating an overhead at Brown Road (post mile 25.1). A 2,500-foot auxiliary lane would be constructed at the interchange of State Route 14 and U.S. Highway 395.

Traffic flow is defined through the use of a Level of Service rating. Level of Service indicates how freely or constrained traffic flows along a road segment or through an

intersection. A Level of Service rating ranges from "A," indicating free-flowing traffic, to "F," indicating substantial congestion with traffic demand exceeding capacity (see Figures 1-3 and 1-4).

All build alternatives of the proposed project would improve this segment of U.S. Highway 395 to a Level of Service A, except for the at grade intersection at South China Lake Boulevard, which would improve to a Level of Service B (see Table 2.2).

The southern section of the project (post mile 13.9 to 14.6) would deteriorate to a Level of Service D by 2040, and the section U.S. Highway 395 between State Route 178 and State Route 14/U.S. Highway 395 intersection (post mile 23.5 to 30.55) would deteriorate to a Level of Service C by 2040 due to increased truck and recreational vehicle use (see Table 2.2).

Table 2.2 Existing and Future Level of Service

Location	Existing Level of Service	Construction Year Level of Service (2020)	No-Build Level of Service (2040)	Build Alternatives 1 and 2 Level of Service (2040)	Build Alternatives 1A and 2A Level of Service (2040)
U.S. Highway 395 between post miles 13.9 and 14.6	C	C	D	A	A
U.S. Highway 395 between post miles 14.6 and 23.5	B	B	B	A	A
U.S. Highway 395 between post miles 23.5 and 30.55	B	B	C	A	A
Intersection of U.S. Highway 395 and South China Lake Boulevard/ Brown Road (At-Grade Intersection)	C	C	C	B	B
Intersection of U.S. Highway 395 and South China Lake Boulevard/Brown Road (Separated-Grade Interchange)	C	C	C	B	A

The project would ultimately improve safety and operation on this portion of U.S. Highway 395. An additional through lane in each direction would improve the operation of the roadway by removing passing restrictions, easing peak traffic congestion and queuing, and increasing capacity. The installation of a median would further separate opposing traffic. Widened paved shoulders would provide an emergency area for motorists to pull off the roadway and provide bicyclists with a safer place to ride. The proposed frontage roads would also provide bicyclists with a safer place to ride.

Upgrading the intersections and increasing the curve radius should provide motorists with improved sight distance and safer turning capability. The proposed interchange at South China Lake Boulevard (Alternative 1A and 2A) would separate cross traffic, allowing motorists to merge onto U.S. Highway 395, while bringing the intersection level of service to A. An at-grade intersection at this location built to current design standards would only improve the level of service to B and would not separate cross traffic or provide the same degree of accident reduction that the interchange would provide (see Table 2.2).

During construction of the proposed project, temporary impacts to traffic would occur. However, this portion of U.S. Highway 395 would remain open to traffic.

Traffic would continue to operate on the existing roadway as construction of the new lanes is taking place at least 60 feet away from the existing alignment. However, during the construction of the alignment shift and the improvements at the intersections, Caltrans would employ one-way traffic control during non-peak hours.

Avoidance, Minimization, and/or Mitigation Measures

During 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 message signs, lane and road closures, advance warning signs, alternate routes, reverse and alternate traffic control, and a traffic contingency plan for unforeseen circumstances and emergencies. The Caltrans Public Affairs Office would keep the local media informed of construction progress and information pertaining to delays, closures, and major changes in traffic patterns. The resident engineer would provide this information through both the Caltrans District 6 Transportation Management Center and Caltrans District 9's Traffic Branch.

2.1.6 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

This project is located in the high desert region of the Mojave Desert. The area is known locally as the Indian Wells Valley, and is surrounded by four distinct mountain ranges. To the west, is the grand vista of the Sierra Nevada with Owens Peak at the elevation of 8,453 feet. To the north, are the Coso Mountains with Coso Peak in the distance at an elevation of 8,160 feet. The Argus Range with Matarango Peak at an elevation of 8,839 feet is on the east, and the dark volcanic ridges of the El Paso Mountains are on the south. The floor of the valley is desert consisting of sandy soils.

The Visual Impact Assessment defined and studied landscape units in and around the proposed project. There is one landscape unit in the project area seen by the traveling public, the high desert creosote bush scrub vegetation series, a plant series of evergreen and deciduous shrubs. The creosote bush scrub vegetation covers the ground from the edge of the highway up to the mountainsides.

Environmental Consequences

This project would have little impact on the visual quality of the surrounding regional scenery. Expanding the existing two-lane highway to four lanes may actually allow motorists a clearer view of the surrounding desert and distant mountain ranges.

The visual impacts that would occur would be a result of disturbance and removal of native vegetation during construction activities. These impacts may be considered temporary impacts because the reestablishment of creosote scrub and grasses may take up to five years or more depending on precipitation and other climatic factors. Measures to preserve and protect existing vegetation would greatly enhance post construction visual quality. Altering landforms by creating cuts and fills in the adjacent terrain during construction has the potential to create permanent visual impacts.

Avoidance, Minimization, and/or Mitigation Measures

The following measures would be taken to minimize the impacts to visual resources:

1. Cut and fill slopes would be contour graded to a non-uniform profile to blend with the adjacent slopes. Slope grades would be constructed to facilitate planting, erosion control, and ease of maintenance by increasing slope rounding at the top and bottom of cuts and fills, and by creating liberal slope variances.

2. The selection of materials and methods for the revegetation project is critical for erosion control and restoring the visual quality. This project would not be irrigated. It is critical that compacted grades on slopes and in the median be cultivated before the installation of topsoil and seed. This would enable the deep rooting of new vegetation, allowing it to survive the summer extremes of drought. The seed mix, application rates, and planting methods should be determined by or approved in cooperation with a Caltrans Landscape Architecture representative.

3. To preserve the native seed stock and natural chemical compounds, it is critical to collect and store topsoil/duff for placement on disturbed areas before replanting.

4. A plan would be instituted to minimize the removal of existing vegetation wherever feasible.

2.1.7 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 any archaeological resource on such land can take place.

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 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 in 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 December 2006 for the extent of the undertaking up to that time. The report addressed three of the Federal Highway Administration's responsibilities under Section 106 of the National Historic Preservation Act: (1) determination of the Area of Potential Effects; (2) identification of potential historic properties located within the undertaking's Area of Potential Effects; and, (3) evaluation of potential historic properties for eligibility for the National Register of Historic Places. Subsequent design changes—the addition of a 5.8-mile-long segment to the northern end of the undertaking—prompted the completion of a Supplemental Historic Property Survey Report in December 2007 to address these three Section 106 responsibilities for the new segment.

Caltrans consulted archival sources and conducted field investigations to identify historic properties in the Area of Potential Effects. A record search at the San Joaquin Valley Information Center of the California Historical Resources Information System at the California State University, Bakersfield included base maps, pertinent reports, and site records on file for previous recorded ethnographic, historic, and prehistoric sites within one mile of the project corridor. The record search found that none of the recorded sites or historical resources listed on the following directories are within the project's Area of Potential Effects: the National Register of Historic Places, the California Register of Historical Resources, the California Inventory of Historic Resources, the State Office of Historic Preservation, and California Historical Landmarks.

Additional sources included the Maturango Museum and Historical Society of the Upper Mojave Desert in Ridgecrest; the libraries at California State University in Fresno and Sacramento; the Earth Sciences Library at University of California, Berkeley; the Caltrans District 6 and District 9 project files and historic maps; and Caltrans Cultural Resources Library in Sacramento.

The United States Bureau of Land Management administers much of the property adjacent to the project. Caltrans archaeologists consulted with Bureau of Land Management staff during their surveys of the project site.

Native American consultation efforts included contacts with the Native American Heritage Commission, the Kern Valley Indian Community, and the Tehachapi Indian Tribe. To date, no Native American concerns with respect to the project have been received.

The Area of Potential Effects encompassed the areas within the existing and proposed right-of-way boundaries for all of the project alternatives, except where potential archaeological sites extended beyond the boundaries of the Area of Potential Effects. In those spots, the Area of Potential Effects extended beyond the proposed right-of-way and around the site boundaries.

Caltrans conducted field surveys of the proposed project area in the fall of 2002 and the winter of 2003. A supplemental survey was completed in the spring of 2005 and in the summer of 2006 to examine an enlarged Area of Potential Effects that included the area necessary for the proposed interchange and curve realignment at the southern end of the project. A second supplemental survey was completed in the summer of 2007 to examine the area necessary for the segment added to the northern end of the undertaking.

The Historic Property Survey Report describes seven cultural resources within the Area of Potential Effects. Three of the cultural resources are small trash scatters less than 50 years old and do not warrant an evaluation for eligibility on the National Register of Historic Places. Four sites were evaluated for potential eligibility for listing on the National Register of Historic Places. Caltrans determined that two of these sites, CA-KER-6835H and CA-KER-1671, are eligible for the National Register of Historic Places only for the purposes of this project due to their potential to address important research questions:

CA-KER-6835H is a surface scatter of approximately 50 artifacts associated with an area of charcoal and metal slag from an itinerant blacksmith event during the early part of the last century.

CA-KER-1671 is a lithic scatter (grouping of stone tool manufacturing debris). Only a portion of this site is within the area planned for highway construction. An archaeological test excavation was done on the portion of this site within Caltrans current and proposed right-of-way. The excavations recovered 176 artifacts consisting of flaked stone tools and tool manufacturing debris.

Two other cultural resources, a lithic scatter and a segment of remnant wagon trail, were evaluated and determined to be not eligible for the National Register of Historic Places. The State Historic Preservation Officer concurred with these eligibility determinations in his letter of January 2007.

The Supplemental Historic Property Survey Report describes an additional five cultural resources within the northern segment of the Area of Potential Effects. Two of the cultural resources are trash dumps that lack specific cultural and spatial associations and do not warrant an evaluation for eligibility on the National Register of Historic Places. Two other cultural resources, an abandoned railroad grade and a segment of a freight road, are minor fragmentary infrastructure elements that do not warrant evaluation for eligibility on the National Register of Historic Places. The fifth cultural resource contains the dual components of a prehistoric scatter of stone tool manufacturing debris and an historic period house site and trash dump. This cultural resource has not been evaluated for its eligibility to be listed on the National Register of Historic Places.

Environmental Consequences

CA-KER-6835H is considered to be eligible for the National Register of Historic Places for the purposes of this project. It is situated within the existing highway right-of-way and so cannot be excluded from the Area of Potential Effects. However, this small site area can be excluded from the effects of the project through its designation as an Environmentally Sensitive Area and the implementation of appropriate avoidance measures.

The portion of CA-KER-1671 that is within the new and existing right-of-way was examined with subsurface investigations and determined not to contribute to the National Register of Historic Places eligibility of the property as a whole. As a result, the construction activities would not result in an adverse effect to this portion of the archaeological site, and no further consideration is necessary for that portion of the site. The uninvestigated portion of CA-KER-1671 outside the Area of Potential Effects is determined to be eligible for the National Register of Historic Places for the purposes of this project only and can be excluded from the effects of the project through its designation as an Environmentally Sensitive Area and the implementation of appropriate avoidance measures.

The dual component prehistoric and historic period site has not been evaluated for its eligibility to be listed on the National Register of Historic Places. Its evaluation would require a program of excavation that is inherently destructive in its nature. The site is situated predominately within Alternative 1 (and 1A) and might be avoided entirely should the other alternatives be selected for construction. To avoid unnecessary destruction of this resource, the evaluation and consideration of effects to

this site has been deferred until the selection of the preferred alternative has been made.

Under the authority of the Federal Highway Administration, Caltrans has determined a Finding of No Adverse Effect with Standard Conditions for both CA-KER-6835H and CA-KER-1671. The State Historic Preservation Officer concurred with this finding on January 9, 2007 (see Appendix J).

Avoidance, Minimization, and/or Mitigation Measures

An Environmentally Sensitive Area Action Plan would be implemented to protect CA-KER-6835H and CA-KER-1671 from construction impacts associated with this project. The evaluation and consideration of effects to the dual component prehistoric and historic period site would be made once the preferred alternative has been selected.

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.

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

A Location Hydraulic Study was completed on September 7, 2006.

The project is situated within the Indian Wells Valley and is surrounded by four distinct mountain ranges (Sierra Nevada, Coso, Argus, and El Paso mountains). Vegetation found in the area is composed primarily of creosote bush. The soil is sandy with some bare rock outcroppings higher up in the basin. The climate within the project area is arid with annual rainfall of about 4 inches per year. Floods in the area have usually resulted from local high intensity thunderstorms spawned by monsoon moisture from the south. Mean temperatures range from 45 degrees Fahrenheit in January to 84 degrees Fahrenheit in July.

Numerous temporary washes and four major drainage courses cross U.S. Highway 395 within the project limits. They are Little Dixie Wash, Calvert Wash, South El Paso Wash, and North Ridgecrest Wash. The project is within the 100-year floodplain and flash flood waters have occasionally overtopped U.S. Highway 395 at Little Dixie Wash.

Environmental Consequences

The project proposes to convert the existing two-lane conventional highway into a four-lane divided controlled-access expressway. It would cross the base floodplain, with no longitudinal encroachments. There are no substantial risks associated with the implementation of the proposed project. This project will not support probable

floodplain development nor will there be substantial impacts on natural and beneficial floodplain values. Therefore, none of the build alternatives of the project would constitute a significant floodplain encroachment as defined under 23 Code of Federal Regulations, Section 650.105(q).

Avoidance, Minimization, and/or Mitigation Measures

The proposed project would not have a significant impact on the floodplain if the new alignment is maintained at the same elevation or lower than the existing profile. Additionally, the new bridges at El Paso Wash would help the conveyance of drainage flows at this location and may improve the upstream base flood elevations.

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 from the U.S. Army Corps of Engineers to dredge or fill within a water 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

A Water Quality evaluation was completed in October 2004 and updated in October 2006.

Several drainage channels cross U.S. Highway 395 within the project limits. These include the Little Dixie Wash (post mile 22.05), Calvert Wash (post mile 20.4), South El Paso Wash (post mile 19.7), North Ridgecrest Wash (post mile 18.01), and several unnamed washes. All washes are tributaries to China Dry Lake.

Throughout the length of the project, storm water is currently directed to areas beyond the shoulders on both the west and east side of U.S. Highway 395.

Environmental Consequences

The project would require the construction of new bridges at El Paso Wash. Several of the drainage crossings within the project limits would be upgraded to reinforced concrete boxes and the smaller washes would be upgraded to 18-inch corrugated metal culverts.

After the project is completed, storm water runoff would continue to be directed to areas beyond the shoulders. The volume of runoff after completion of the project would be greater due to precipitation falling on the additional lanes and paved shoulders. Aside from an increased runoff volume, the quality of storm water runoff is unlikely to be different from the quality of the present storm water runoff.

Avoidance, Minimization, and/or Mitigation Measures

Construction site pollutants are controlled by the use of structural devices, such as silt fences and straw bales, and non-structural activities such as good housekeeping and construction-related waste management. These devices and activities are called Best Management Practices. The objective for using water pollution control Best Management Practices on construction projects is to reduce water pollutants coming from Caltrans construction projects as much as possible.

A Storm Water Pollution Prevention Plan would be prepared by the contractor and implemented during construction to the satisfaction of the resident engineer. The Storm Water Pollution Prevention Plan would identify the sources of sediment and other pollutants that affect the quality of storm water discharges. The plan would also describe and ensure the implementation of Best Management Practices to reduce or eliminate sediment and other pollutants in storm water as well as non-storm water discharges.

Caltrans and the contractor for the project would address all potential water quality impacts that may occur during construction. Since the potential water quality impacts would be correctly identified and mitigated by Best Management Practices, it is unlikely that the proposed project would have any adverse effect on surface or groundwater quality.

2.2.3 Geology/Soils/Seismic/Topography

Regulatory Setting

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

This section also discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. Caltrans' Office of Earthquake Engineering is responsible for assessing the seismic hazard for Caltrans projects. The current policy is to use the anticipated Maximum Credible Earthquake from young faults in and near California. The Maximum Credible Earthquake is defined as the largest earthquake that can be expected to occur on a fault over a particular period of time.

Affected Environment

A registered geologist conducted paleontology studies in August 2007.

This project is located in the high desert region of the Mojave Desert. The area is known locally as the Indian Wells Valley, and is surrounded by four distinct mountain ranges (Sierra Nevada, Coso, Argus, and El Paso mountains). The Indian Wells Valley is comprised of alluvial sediments such as gravel, sand, silt, and clay, which have been washed down from the surrounding mountain ranges. There are some outcroppings of bare rock at the higher elevations, however none are natural landmarks or unique geologic features. Seismic faults are known to be present in the region. There are sand and gravel operations in the area but all the mines are more than a mile away from the project.

Environmental Consequences

This project is not expected to adversely affect sand and gravel operations in the area or expose the public to geologic hazards. This project would have little impact on the visual quality of the surrounding regional scenery and topographic features (see Section 2.1.6 Visual/Aesthetics).

Avoidance, Minimization, and/or Mitigation Measures

Caltrans will design and construct the structures in this project to seismic standards. Soil types and topography would be considered in the design and construction of this project. Visual resources will be mitigated according Section 2.1.6 (Visual/ Aesthetics) of this document, and erosion control will be managed according to Section 2.2.2 (Water Quality) of this document.

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

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

Affected Environment

Caltrans prepared an Initial Site Assessment for this project in October 2006. Caltrans updated the Initial Site Assessment by preparing an addendum, dated August 21, 2007.

Caltrans investigations found only one property of concern with the potential to contain hazardous waste/substances.

The project proposes to take a portion of the Inyokern Wastewater Treatment Plant located on the west side of U.S. Highway 395 near post mile 24.75. This site contains settling ponds and drying beds.

Environmental Consequences

The Inyokern Wastewater Treatment Plant has a medium risk to encounter hazardous waste. Further hazardous waste evaluations would need to be conducted at this parcel to determine if heavy metals are present.

There is a low risk associated with household hazardous waste on properties with dwellings, a low risk for lead-based paint in the yellow road striping on U.S. Highway 395, and a low risk for aerially deposited lead on the shoulders of U.S. Highway 395.

Avoidance, Minimization, and/or Mitigation Measures

The appropriate Standard Special Provisions would be developed for this project to ensure that hazardous waste/substances discovered during construction activities would be handled appropriately.

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 (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM), lead (Pb), and sulfur dioxide (SO_2).

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 in California 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 (CO) 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 prepared an Air Quality Report for this project on September 12, 2006.

The project is located in the Mojave Desert Air Basin, along the western edge of the Mojave Desert. The Mojave Desert lies in the rain shadow of the Sierra Nevada where the climate has extreme fluctuations of daily temperatures and strong seasonal winds. In late winter and early spring, the wind is a prominent feature, with dry winds blowing in the afternoon and evening. Winds in excess of 25 miles per hour, with gusts of 75 miles per hour or more are not uncommon. The average annual precipitation is 4 inches.

The landforms of the Mojave Desert define the region as part of the Basin and Range Physiographic Province. This province is characterized by hundreds of long, narrow, and roughly parallel mountain ranges that are separated by deep valleys.

The Kern County Air Pollution Control District administers air quality regulations developed at the federal, state, and local levels. Ozone and particulate matter are generally considered to be regional pollutants because they or their precursors affect air quality on a regional scale. Pollutants such as carbon monoxide, nitrogen dioxide,

lead, and sulfur dioxide are considered to be local pollutants because they tend to accumulate in the air locally (see Table 2.3). Particulate matter is also considered as a local pollutant. Particulate matter is of particular concern within the area of the proposed project site.

Table 2.3 Air Quality Emissions Analysis for Eastern Kern County

Criteria Pollutant	**Federal Standard** (National Ambient Air Quality Standards)	**Federal Attainment Status**	**State Standard**	**State Attainment Status**
Carbon Monoxide (CO)	35 ppm (1-hour average) 9 ppm (8-hour average)	Attainment/ Unclassified	20 ppm (1-hour average) 9 ppm (8-hour average)	Unclassified
Nitrogen Dioxide (NO_2)	0.053 ppm (annual arithmetic mean)	Attainment/ Unclassified	0.25 ppm (1-hour average)	--
Ozone (O_3)	No 1-hour average 0.08 ppm (8-hour average)	Attainment (Maintenance)	0.09 ppm (1-hour average) 0.07 ppm (8-hour average)	Non-Attainment
Particulate Matter (PM_{10})	50 $\mu g/m^3$ (annual arithmetic mean)	Attainment/ Maintenance	20 $\mu g/m^3$ (annual arithmetic mean)	Non-Attainment
Particulate Matter ($PM_{2.5}$)	15 $\mu g/m^3$ (annual arithmetic mean)	Attainment	12 $\mu g/m^3$ (annual arithmetic mean)	Non-Attainment
Sulfur Dioxide	0.030 ppm (annual arithmetic mean)	--	0.25 ppm (1-hour average)	Attainment
Hydrogen Sulfide	No federal standard	--	0.03 ppm (1-hour average)	Unclassified

ppm = parts per million; $\mu g/m^3$=micrograms per cubic meter
Source: Air Resources Board: May 17, 2006

Environmental Consequences

The proposed project is a capacity-increasing project and is not exempt from the requirement that a conformity determination be made. The project does not interfere with the timely implementation of traffic control measures.

Regional Analysis

Air quality conformity was conducted for the construction year of 2020 and found to conform to the 2007 Federal Transportation Improvement Program and the 2007 Regional Transportation Plan for Kern County on May 17, 2007. The Federal Highway Administration and Federal Transit Administration adopted the air quality conformity finding on June 29, 2007.

The U.S. Highway 395 Inyokern Four-Lane Project was identified in the 2000 Caltrans District 9 Transportation Concept Report for U.S. Highway 395. The project was programmed in the 2002 State Transportation Improvement Program. The project is included in the 2007 Kern County Regional Transportation Plan and 2007 Augmentation of the Kern County Regional Transportation Improvement Program. The project is also included in the 2007 Federal Transportation Improvement Program, which was regionally adopted on July 20, 2006. The 2007 Federal Transportation Improvement Program is included in the 2007 Federal Statewide Transportation Improvement Program that was approved by the Federal Highway Administration and the Federal Transit Administration on October 2, 2006.

The California Department of Transportation submitted a project change request to the Kern Council of Governments requesting that the post miles of this project be changed in all the planning documents to match the post miles of this document.

Project-Level Analysis

Carbon Monoxide Hot Spot Analysis

The proposed project is located in an area classified as "attainment/unclassified" with respect to the federal standard for carbon monoxide.

When evaluated in accordance with the *Transportation Project-Level Carbon Monoxide Protocol, Revised December 1997 (UCD-ITS-RR-97-21)*, the project was determined to be satisfactory, requiring no hot spot analysis or further carbon monoxide analysis.

Particulate Matter Hot Spot Analysis

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

The proposed project is located in an area classified as "attainment/maintenance" with respect to the federal standard for particulate matter. According to the California Air Resources Board, the highest PM_{10} concentration measured near the project area in 2003 was 162 micrograms per cubic meter measured at the 100 West California Avenue station in Ridgecrest. During the same period, the highest measurement recorded at the China Lake-Powerline Road Station near China Lake was 115 micrograms per cubic meter. These particulate matter measurements indicate the

PM_{10} concentrations did exceed the federal PM_{10} standards of 150 micrograms per cubic meter. Additional evaluations of the maximum PM_{10} concentrations and the annual average PM_{10} concentrations were conducted at the 100 West California Avenue station. These evaluations indicate that the recent PM_{10} concentrations exceeded the Federal Standard only once in the past four years. It is possible that a localized dust storm contributed to the high PM_{10} concentrations on the one occasion.

The project lies in an area classified as "attainment/unclassified" with respect to the federal standard for $PM_{2.5}$.

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

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 (e.g., airplanes), area sources (e.g., dry cleaners), and stationary sources (e.g., factories or refineries). Mobile Source Air Toxics are a subset of the 188 air toxics defined by the Clean Air Act. The 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 the 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 quantitative basis.

This Initial Study/Environmental Assessment includes a basic analysis of the likely Mobile Source Air Toxics emission impacts of this project. However, available technical tools do not enable the ability to predict the project-specific health impacts of the emission changes associated with the alternatives in this Initial Study/Environmental Assessment. Evaluating the environmental and health impacts from Mobile Source Air Toxics on a proposed highway project would involve several key elements, including emissions modeling, dispersion modeling to estimate ambient concentrations resulting from the estimated emissions, exposure modeling to estimate human exposure to the estimated concentrations, and then final determination of health impacts based on the estimated exposure. Each of these steps is encumbered by technical shortcomings or uncertain science that prevents a more complete determination of the Mobile Source Air Toxics health impacts of this project.

As discussed above, technical shortcomings of emissions and dispersion models and uncertain science with respect to health effects prevent meaningful or reliable estimates of Mobile Source Air Toxics emissions and effects of this project. However, 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 Mobile Source Air Toxics emissions 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 qualitative assessment presented below is derived in part from a study conducted by the Federal Highway Administration entitled *A Methodology for Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives*, found at: www.fhwa.dot.gov/environment/airtoxic/msatcompare/msatemissions.htm

For each alternative in this Initial Study/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 vehicle miles traveled estimated 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 Mobile Source Air Toxics emissions for the selected build alternative along the highway corridor, along with a corresponding decrease in Mobile Source Air

Toxics emissions along the parallel routes. The emissions increase is offset somewhat by lower Mobile Source Air Toxics emission rates 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 proposed alternatives are nearly the same, varying by less than one percent, it is expected there would be no appreciable difference in overall Mobile Source Air Toxics emissions among the various alternatives. Also, regardless of the alternative chosen, emissions will likely be lower than present levels in the design year as a result of the Environmental Protection Agency's national control programs that are projected to reduce Mobile Source Air Toxics emissions by 57 to 87 percent between 2000 and 2020.

Local conditions may differ from these national projections in terms of fleet mix and turnover, vehicle miles traveled growth rates, 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 Toxics emissions in the study area are likely to be lower in the future in nearly all cases.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation measures are required for long-term operational air quality effects.

Caltrans Standard Specifications pertaining to dust control and dust palliative requirements are a required part of all construction contracts and should effectively reduce and control emission impacts during construction. The provisions of Caltrans Standard Specifications, Section 7-1.01F "Air Pollution Control" and Section 10 "Dust Control" requires the contractor to comply with the Kern County Air Pollution Control District's rules, ordinances, and regulations.

With respect to diesel emissions during construction, Caltrans would take all minimization measures that are listed in Caltrans Standard Specifications to reduce particulate emissions.

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).

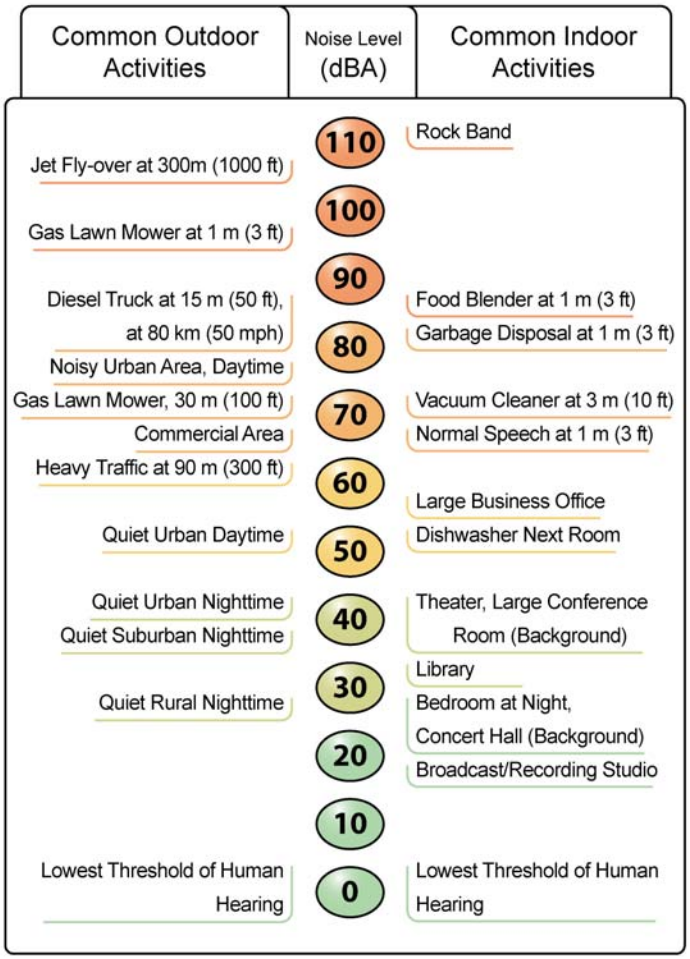
Table 2.4 lists the noise abatement criteria for use in the National Environmental Policy Act and 23 Code of Federal Regulations 772 analysis and Table 2.5 shows the noise levels of typical activities.

Table 2.4 Activity Categories and Noise Abatement Criteria

Activity Category	Noise Abatement Criteria, A-weighted Noise Level, Average Decibels Over 1 Hour	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: Caltrans Traffic Noise Analysis Manual, 1998
A-weighted decibels are adjusted to approximate the way humans perceive sound

Table 2.5 Noise Levels for Typical Activities



Affected Environment

Land use in the project area consists mainly of vacant land with some scattered residences. Four areas in the project limits were studied for potential noise impacts. Each of these locations is a representative sample of noise at residences located at the same distance from the edge of the roadway. Location 1 was located just north of post mile 23.7 about 100 feet east of U.S. Highway 395. Location 2 was located just north of post mile 22.5 about 400 feet east of U.S. Highway 395. Location 3 was located between post mile 20.7 and post mile 21.0 about 800 feet west of U.S. Highway 395. Location 4 was located just north of post mile 30.0 about 200 feet west of U.S. Highway 395. See the noise receptor maps in Appendix L.

In accordance with Caltrans' *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, October 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.

Environmental Consequences under the National Environmental Policy Act

Projected traffic noise was evaluated for the year 2032 for each build alternative. Traffic volumes counted during ambient noise monitoring were used (along with measured noise levels) to determine the existing noise levels. The existing conditions were then compared to the modeled results to determine whether a substantial noise increase would occur in the future due to any of the proposed project alternatives.

The forecast model indicated that none of the alternatives would substantially affect residences in the project limits.

Table 2.6 shows the results of the noise impact analysis and whether noise barriers (soundwalls) would be reasonable and feasible.

Noise produced by construction equipment would occur with varying intensity and duration during the various phases of construction.

Table 2.6 Noise Impact Analysis

Site	Location	Existing Hourly Noise Level (dBA)	Predicted Noise Level without Project (dBA)	Calculated Hourly Noise Level with Project (dBA)	Soundwalls Reasonable and Feasible?
1	Just north of post mile 23.7 about 100 feet east of U.S. Highway 395	51.9	54.9	54.9	No
2	Just north of post mile 22.5 about 400 feet east of U.S. Highway 395	54.4	57.4	57.4	No
3	Between post mile 20.7 and post mile 21.0 about 800 feet west of U.S. Highway 395	56.0	56.0	56.0	No
4	Just north of post mile 30.0 about 200 feet west of U.S. Highway 395	55.2	55.2	55.2	No

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

Because noise impacts are not substantial (an increase of 12 dBA or more) and do not approach the noise abatement criterion of 67 dBA, no noise barriers (soundwalls) would be required for the proposed project.

Standard Provision Section 7-1.01I "Sound Control Requirements" of the Standard Specifications would be included in the construction contract to minimize noise impacts.

Environmental Consequences under the California Environmental Quality Act

When determining whether a noise impact is significant under the California Environmental Quality Act, comparison is made between the no-build noise level and the build noise level. The California Environmental Quality Act noise analysis is completely independent of the National Environmental Policy Act analysis discussed above, which is centered on noise abatement criteria. Under the California Environmental Quality Act, the assessment entails looking at the setting of the noise impact and then how large or perceptible any noise increase would be in the given area. Key considerations include the uniqueness of the setting, the sensitive nature of the noise receptors, the magnitude of the noise increase, the number of residences affected, and the absolute noise level.

The existing noise level at residential site 1 is 51.9 dBA; the predicted noise level under each build alternative is 54.9 dBA. At site 2, the existing noise level is 54.4 dBA and the predicted noise level under each build alternative is 57.9. This 3-dBA increase between existing noise levels and the build alternatives at these two sites would be barely perceptible to the human ear. At site 3, the existing noise level of 56 dBA is expected to be the same under any of the build alternatives. The existing noise level of 55.2 dBA at site 4 is also expected to be the same under any of the build alternatives. Since the largest increase in noise levels with the project would be 3 dBA at sites 1 and 2, no significant noise impact would occur under the California Environmental Quality Act as a result of the project.

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

Since no significant noise impact would occur as a result of the project, no mitigation is required.

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.

Affected Environment

A Natural Environment Study for this project was completed in August 2007.

The biological study area runs the length of the project and is mostly 426 feet wide. In several areas, the biological study area was wider, up to 1,475 feet, to accommodate either frontage roads or the intersections of U.S. Highway 395.

The project is located in the western Mojave Desert in the Indian Wells Valley, just south of China Lake. The area ranges in elevation from 2,400 to 2,900 feet. The El Paso Mountain range lies to the south of the project with the Scodie Mountains to the west. Water drains from these mountain ranges through desert washes that intersect the project in various locations. These desert washes are tributaries to China Dry Lake, which lies about 20 miles to the east of the project.

The soil within the biological study area consists of course and fine sandy alluvial deposits (earth and sand left by rivers and floods). The area has been moderately disturbed by off-highway vehicle trails and residential development.

Biological communities in the biological study area consist of Mojave creosote bush scrub and desert wash.

Mojave Creosote Bush Scrub

This habitat is dominated by creosote bush (*Larrea tridentata*) and burro-weed (*Ambrosia dumosa*), which are widely spaced, usually with bare ground between. Common annual species included checker fiddleneck (*Amsinckia tessellata var. tessellata*), red-stemmed filaree (*Erodium cicutarium*), and goldfields (*Lasthenia californica*). Silver cholla plants (*Opuntia echinocarpa*) were observed slightly scattered throughout the biological study area.

This habitat is an alluvial fan with coarse-textured soils. An alluvial fan is a fan-shaped area of soil deposited where a mountain stream first enters a valley or plain. Mojave creosote bush scrub habitat makes up roughly 99 percent of the biological study area.

Desert Wash

This habitat is dominated by scale-broom (*Lepidospartum squamatum*) and allscale (*Atriplex polycarpa*). Common annual species include red-stemmed filaree, schismus, and blazing star (*Mentzelia albicaulis*).

Desert wash habitat makes up less than 1 percent of the biological study area.

Environmental Consequences

The biological study area consists of Mojave creosote bush scrub habitat and desert wash habitat. These natural communities would be directly affected by the construction-related activities of any selected build alternative. See Table 2.7 in Section 2.3.5 for total habitat acres affected.

Avoidance, Minimization, and/or Mitigation Measures

The Mojave creosote bush scrub within the biological study area is suitable habitat for state and federally listed special-status animal species (the desert tortoise and Mohave ground squirrel). Under any build alternative, Caltrans would acquire and preserve habitat at a 3 to 1 ratio. See Table 2.7 in Section 2.3.5.

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 main 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, based on presence of: hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils subject to saturation/inundation). All three must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the Clean Water Act.

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

The Executive Order for the Protection of Wetlands (Executive Order 11990) also regulates the activities of federal agencies with regard to wetlands. 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 Natural Environment Study for this project was completed on August 2007.

There are four major drainage courses that cross U.S. Highway 395 within the project limits. They are Little Dixie Wash, Calvert Wash, South El Paso Wash, and North Ridgecrest Wash. No wetlands lie in the biological study area.

Environmental Consequences

The project would require the construction of new bridges at El Paso Wash. Several of the drainage crossings within the project limits would be upgraded to reinforced concrete boxes. The larger drainage boxes would improve the flow of water and allow ample room for machinery during routine maintenance.

Avoidance, Minimization, and/or Mitigation Measures

On April 11, 2006, the U.S. Army Corps of Engineers determined that they would not take jurisdiction over the washes (see Appendix I). Therefore, no mitigation would be required.

Additionally, per Section 401 of the Clean Water Act, Caltrans would coordinate with the Regional Water Quality Control Board to determine if a Section 401 Water Quality certification would be warranted for the project.

On Februrary 2, 2005, Caltrans performed a field review of the proposed project site with Mr. Clarence Mayott, a Department of Fish and Game biologist. The focus of

the review was to survey various desert washes that cross the proposed project limits. It was confirmed that Caltrans would also submit a notification to the California Department of Fish and Game for a Streambed Alteration Agreement per Section 1602 of the California Fish and Game Code for the washes that cross the project. The following washes would be included in the notification: Little Dixie Wash, Calvert Wash, South El Paso Wash, and North Ridgecrest Wash.

2.3.3 Plant Species

Regulatory Setting

The U.S. Fish and Wildlife Service and the California Department of Fish and Game share regulatory responsibility for the protection of special-status plant species. "Special-status" species are protected 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, Sections 1900-1913, and the California Environmental Quality Act, Public Resources Code, Sections 2100-21177.

Affected Environment

Plant species surveys were conducted from March 24 to April 24, 2003, on April 6, 2004, from March 16-17, 2005, and from April 23-26, 2007. The surveys were timed to coincide with the spring flowering periods for Red Rock poppy (*Eschscholzia*

minutiflora) and Charlotte's phacelia (*Phacelia nashiana*), special-status plants that have the potential to occur in the biological study area. Flowering periods were confirmed as listed in the California Native Plant Society's Inventory of Rare and Endangered Plants of California.

These plants were not observed within the biological study area and would have been visible had they been present (see Appendix H).

Environmental Consequences

Although Red Rock poppy and Charlotte's phacelia were not identified during surveys, suitable potential habitat for these species would be affected by construction-related activities. The potential impact to Red Rock Poppy and Charlotte's phacelia would be the loss of Mojave creosote scrub habitat that would be permanently disturbed by construction-related activities.

Avoidance, Minimization, and/or Mitigation Measures

Plant seed may be scattered for erosion control or revegetation purposes in sections of the project. To avoid the introduction of non-native plants, any reseeding efforts would use only seeds collected or propagated from native plants that occur in the area of the project (see Section 2.3.6 Invasive Species).

Compensatory mitigation for impacts to desert tortoise and Mohave ground squirrel habitat (see Section 2.3.5 Threatened and Endangered Species) may consist of similar potentially suitable habitat that may benefit Red Rock poppy and Charlotte's phacelia.

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

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 (city or county) regulations 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 the regulations, policies, and Habitat Conservation Plans of those agencies are followed.

Affected Environment

A Natural Environment Study was completed August 2007 for this project.

According to the sensitive species lists obtained from the Ventura Field Office of the U.S. Fish and Wildlife Service (Appendix G) and the California Department of Fish and Game Natural Diversity Database list, a total of 17 special-status animal species have the potential to occur in the project area.

Only six special-status animal species are likely to occur in the biological study area: the western burrowing owl (*Athene cunicularia hypugaea*), prairie falcon (*Falco mexicanus*), Le Conte's thrasher (*Toxostoma lecontei*), American badger (*Taxidea taxus*), desert tortoise (*Gopherus agassizi*), and Mohave ground squirrel (*Spermophilus mohavensis*). See Appendix H. The desert tortoise and Mohave ground squirrel are discussed in Section 2.3.5 Threatened and Endangered Species.

Burrowing owls nest in the ground, usually in abandoned small mammal burrows. They are most active at dusk and dawn, hunting for large insects and small mammals. Although the western burrowing owl was not seen during the biological surveys,

there are known occurrences less than seven miles from the project site. Potential suitable nesting and foraging habitat exists for this species in the biological study area.

The prairie falcon was not seen during surveys. The biological study area would provide good foraging habitat. Potential nesting habitat for prairie falcon, however, does not exist within the biological study area. According to the Natural Diversity Database, there are known occurrences less than seven miles from the project site.

The Le Conte's thrasher was not seen during biological surveys, but there are known California Natural Diversity Database occurrences within three miles from the project site, and suitable desert scrub habitat is present in the project area.

The American badger was not seen during surveys. The biological study area would provide good burrowing and foraging habitat. According to the Natural Diversity Database, there are known occurrences less than four miles from the project site.

Environmental Consequences

Direct effects to the western burrowing owl might include the displacement of the owl to another area or the loss of suitable nesting and foraging habitat. Indirect effects might include the long-term degradation of the quality of foraging habitat. Potential impacts for the western burrowing owl would be similar to the habitat impacts for the desert tortoise and Mohave ground squirrel habitat (see Section 2.3.5). Project impacts, both direct and indirect, may affect the western burrowing owl but are not likely to result in listing for the species.

Potential impacts for the prairie falcon would include loss of suitable foraging habitat. Habitat impacts for the prairie falcon would be similar to the habitat impacts for the desert tortoise and Mohave ground squirrel (see Section 2.3.5). Project impacts may directly affect the prairie falcon but are not likely to result in listing for the species.

The Le Conte's thrasher was not seen at the project site, so it is difficult to assess potential impacts. But, potential direct effects to this species may be defined as the loss of suitable habitat due to construction-related activities. Habitat impacts for the Le Conte's thrasher would be similar to the habitat impacts for desert tortoise and Mohave ground squirrel habitat (see Section 2.3.5). Indirect effects to the Le Conte's thrasher are not expected to occur as a result of this project. Project impacts may directly affect the Le Conte's thrasher but are not likely to result in listing for the species.

Potential impacts for the American badger would include loss of suitable burrowing and foraging habitat. Habitat impacts for the American badger would be similar to the habitat impacts for the desert tortoise and Mohave ground squirrel (see Section 2.3.5). Project impacts may directly affect the American badger but are not likely to result in listing for the species.

Avoidance, Minimization, and/or Mitigation Measures

Although the western burrowing owl was not seen in the project area, Migratory Bird Special Provisions would be included in the construction contract. These provisions would require pre-construction surveys for nesting migratory birds, including burrowing owl, so that, if the bird is seen, measures can be taken to avoid impacts.

The compensation mitigation for the desert tortoise and Mohave ground squirrel habitat would also provide suitable habitat to benefit the western burrowing owl, prairie falcon, Le Conte's thrasher, and American badger (see Table 2.8 in Section 2.3.5).

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 was completed in August 2007 for this project.

Desert Tortoise

The desert tortoise is a large, herbivorous reptile that lives throughout the Mojave and Colorado deserts from below sea level to 4,130 feet or higher. Desert tortoises are found in creosote bush scrub, saltbush scrub, and Joshua tree woodland. Tortoises are most active during the spring and early summer when annual plants are most common. Additional activity occurs during warmer fall months and occasionally after summer rainstorms. Desert tortoises spend the remainder of the year in burrows, escaping extreme conditions of the desert. This species is undergoing a decline due to off-highway vehicle use, competition with livestock, disease, predation, deliberate killing, and general forms of harassment, such as collection. This species is also experiencing habitat loss and degradation.

In 2003, the U.S. Fish and Wildlife Service agreed to modify the survey protocol for desert tortoise by only surveying the biological study area and not conducting a "zone of influence" survey. This change was approved as long as evidence of a tortoise was observed within the biological study area.

A live female desert tortoise was observed in El Paso Wash about 427 feet from the U.S. Highway 395 crossing. In addition to a live tortoise, evidence of tortoise presence was observed in the biological study area.

Mohave Ground Squirrel

The Mohave ground squirrel is a small squirrel with a total length of nine inches. It is uniformly grayish-brown above and lighter on its underside with a distinctive white eye ring. It eats a variety of green vegetation, seeds, and fruits and forages on the ground or in shrubs and Joshua trees. This squirrel uses a variety of habitat types within several vegetation communities dominated by creosote, shadscale, or Joshua tree.

The Mohave ground squirrel occurs in the Western Mojave Desert from southwestern Inyo County, south through eastern Kern County, northeastern San Bernardino County, and northeastern Los Angeles County. It has one of the smallest geographic ranges of the 28 species of ground squirrel. Within this range, there have been four core areas where widespread populations have been identified by Mohave ground squirrel researchers. The project is immediately east of the Little Dixie Wash core area.

The Mohave ground squirrel was not seen during biological surveys, but there are known occurrences surrounding the project site, as well as one known occurrence in the biological study area at the northern end of the project area. The Mojave creosote scrub habitat in the biological study area is suitable for the species.

Informal consultation with the U.S. Fish and Wildlife Service occurred in March 2003 and August 2004. Informal consultation with the California Department of Fish and Game occurred in August 2004. See Chapter 3 for details of these coordination efforts.

Environmental Consequences

Desert Tortoise

Direct effects to the desert tortoise would include construction-related activities that could cause a desert tortoise injury or mortality and cause the loss or destruction of habitat. The desert tortoise could potentially be injured or killed if crushed by a vehicle or other equipment during construction activities. Collapsed or excavated burrows could kill or injure live tortoises or eggs. Predation on desert tortoises may be increased in the work area if common predators, such as common ravens (*Corvus*

corax) are attracted by human activity. Uninformed workers could also move, collect, or vandalize desert tortoises that they may encounter when in work areas. Improper handling of desert tortoises by humans could spread organisms that could cause upper-respiratory tract disease in the animals.

As a result of this widening project, desert tortoise habitat would be permanently lost and replaced with pavement, concrete, or continuous grading activities. Within the project area, the desert tortoise shares the same habitat as the Mohave ground squirrel; therefore, the impacts to habitat would be the same for both special-status animal species. Table 2.7 shows the acres of affected habitat for both the desert tortoise and Mohave ground squirrel for each build alternative.

Mohave Ground Squirrel

Direct effects to the Mohave ground squirrel would include construction-related activities that could cause a squirrel injury or mortality and cause the loss or destruction of habitat. The Mohave ground squirrel could potentially be injured or killed if crushed by equipment during construction activities. Collapsed or excavated burrows could kill or injure squirrels.

As a result of this widening project, Mohave ground squirrel habitat would be permanently lost and replaced with pavement, concrete, or continuous grading activities. Since the Mohave ground squirrel shares the same habitat with the desert tortoise, the amount of affected habitat would be the same for both animals. Table 2.7 shows the acres of affected habitat for the Mohave ground squirrel and desert tortoise for each build alternative.

Table 2.7 Acres of Affected Desert Tortoise and Mohave Ground Squirrel Habitat

Project Alternative	Acres of Impact
1	490
1A	520
2	480
2A	510

Cumulative Impacts

A detailed cumulative impact analyses was conducted in the Natural Environmental Study to comply with Section 7 of the federal Endangered Species Act. The Inyokern Four-Lane Project on U.S. Highway 395 is not expected to cause measurable cumulative effects to any natural resources in the area. The Freeman Gulch Four-Lane Project, located about 8 miles west on State Route 14, may affect some of the special-status species discussed in this document. It is estimated that the maximum total acreage impacted by both projects combined would total 1,786 acres. Mitigation measures would be taken for each of the potential impacts, and a biological opinion would be obtained from the U.S. Fish and Wildlife Service as appropriate.

Avoidance, Minimization, and/or Mitigation Measures

Caltrans would compensate for direct impacts to the desert tortoise and Mohave ground squirrel as well as their habitat by preserving habitat in areas that are important for the recovery of the desert tortoise and Mohave ground squirrel populations.

Caltrans also would replace each acre of lost habitat with 3 acres of quality habitat at a location approved by the U.S. Fish and Wildlife Service and California Department of Fish and Game. Total compensation acreages for each build alternative are shown in Table 2.8.

A Biological Opinion from the U.S. Fish and Wildlife Service for the potential adverse effects to the federally listed desert tortoise would be required for this project. See Chapter 3 for details of Caltrans coordination efforts with the U.S. Fish and Wildlife Service.

Once a preferred alternative is selected, Caltrans will initiate formal consultation with the U.S. Fish and Wildlife Service pursuant to Section 7 of the Endangered Species Act of 1973.

Table 2.8 Compensatory Mitigation for Impacts to the Desert Tortoise and Mohave Ground Squirrel

Project Alternative	Acres of Impact	Mitigation Ratio	Total Acres of Compensation
1	490	3:1	1,470
1A	520	3:1	1,560
2	480	3:1	1,440
2A	510	3:1	1,530

Desert Tortoise

Worker education programs and well-defined operational procedures would be implemented to avoid the take of desert tortoises and minimize loss of their habitat during construction activities.

- All persons employed on the construction project would receive instruction regarding the desert tortoise before performing onsite work. Instruction would include the importance of the desert tortoise to the environment, recovery efforts for the desert tortoise, implications of the Endangered Species Act, and the importance of following all terms and conditions provided in the U.S. Fish and Wildlife Service Biological Opinion and Department of Fish and Game 2081(b) Incidental Take Permit. Employees would be notified that they are not authorized to handle or otherwise move desert tortoises encountered on the project site.

- Only biologists authorized by U.S. Fish and Wildlife Service and Department of Fish and Game would handle a desert tortoise. When handling a desert tortoise, the authorized biologist(s) would follow the guidelines established in the *"Guidelines for Handling Desert Tortoise During Construction Projects."*

- Permanent or temporary desert tortoise fencing would be installed around the perimeter of the project area before the start of onsite construction. A qualified biologist would monitor installation of the desert tortoise fencing to ensure that tortoises are not killed or injured during this activity. The permanent fencing would be constructed together with the Caltrans right-of-way fence along the new Caltrans right-of-way. Temporary desert tortoise fencing would be installed in

areas of construction that are beyond the perimeter of the Caltrans right-of-way or in areas where permanent right-of-way fencing would be constructed later due to construction staging. After installation, the tortoise fence would be regularly inspected to ensure its integrity. Cross-country travel for construction purposes outside areas of desert tortoise fencing would be prohibited.

- A qualified biologist would survey the entire project area for desert tortoises after installation of the tortoise fencing. Following the procedures and precautions outlined in the Desert Tortoise Council's 1999 Guidelines, all desert tortoise pallets and burrows within the survey areas would be examined and excavated by hand, either by or under the direct supervision of an authorized biologist, and collapsed to prevent re-entry.

- Take of desert tortoises, through injury or death, found within the project area would be reduced through the removal of these animals to undisturbed areas beyond the construction site. When handling or relocating desert tortoises, the authorized biologist would follow the guidelines established in Desert Tortoise Council's 1999 Guidelines. Desert tortoises would be relocated within their own territory, but outside of the construction area, where they may be familiar with alternate burrows. If no burrows were available, artificial burrows would be created following the Desert Tortoise Council's 1999 Guidelines.

- A qualified biologist(s) would be present during all initial brushing or grading activities within the project area. During project implementation, all workers would inform the qualified biologist if a desert tortoise were found within or near project areas. All work in the vicinity of the desert tortoise that could injure or kill the animal would stop and the desert tortoise would be observed until it is moved from harm's way by the authorized biologist.

- Workers would inspect for desert tortoises under vehicles and equipment before such equipment is moved. If a desert tortoise is present, the worker would wait for the desert tortoise to move from under the vehicle. The authorized biologist would also be contacted to remove the desert tortoise.

- All food-related trash items would be placed in a container that precludes entry by wildlife, such as common ravens and coyotes. Food-related trash would be regularly removed from the construction site and disposed of at an approved refuse disposal site. Workers would refrain from deliberate feeding of wildlife.

- The construction contractor would also comply with all requirements specified by the California Department of Fish and Game and the U.S. Fish and Wildlife Service.

- The qualified biologist(s) would maintain a record of all desert tortoises encountered during project activities in the project area.

Mohave Ground Squirrel

Worker education programs would be implemented to avoid the take of Mohave ground squirrels and minimize loss of habitat during construction activities. If a Mohave ground squirrel were found within or near the project areas, a qualified biologist would be notified immediately. All work in the vicinity of the Mohave ground squirrel that could injure or kill the animal would cease until the Mohave ground squirrel is moved from harm's way by the authorized biologist or it moves from the construction area on its own accord.

If the authorized biologist identifies a Mohave ground squirrel using burrows within the project area, the California Department of Fish and Game would be consulted regarding the need for a trapping effort to relocate these animals to a safe site. The construction contractor would also comply with the requirements specified by the California Department of Fish and Game and the U.S. Fish and Wildlife Service.

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.

Affected Environment

A Natural Environment Study was completed August 2007 for this project. No invasive species listed on the California Department of Food and Agriculture Noxious Weed List was not identified within the biological study area during botanical surveys.

Environmental Consequences

It is unlikely that this project will introduce or spread invasive species since invasive species listed on the California Department of Food and Agriculture Noxious Weed List were not identified within the biological study area during botanical surveys.

Avoidance, Minimization, and/or Mitigation Measures

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.

2.4 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.

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 Air Resources Board to develop and implement regulations to reduce automobile and light truck greenhouse gas emissions; these regulations will apply to automobiles and light trucks beginning with the 2009-model year. Greenhouse gases related to human activity include carbon dioxide, methane, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur

hexafluoride, HFC-23 (fluoroform), HFC-134a (1,1,1,2-tetrafluoroethane), and HFC-152a (difluoroethane).

On June 1, 2005, 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 Air Resources Board create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06, signed on October 17, 2006, further directs state agencies to begin implementing Assembly Bill 32, including the recommendations made by the state's Climate Action Team.

Climate change and greenhouse gas reduction is also a concern at the federal level; however, at this time, no legislation or regulations have been enacted specifically addressing greenhouse gas emissions reductions and climate change.

Affected Environment

According to *Recommendations by the Association of Environmental Professionals on How to Analyze Greenhouse Gas Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), an individual project does not generate enough greenhouse gas emissions to significantly influence global climate change. Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of greenhouse gases.

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 (December 2006).

One of the main strategies in 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. Relieving congestion by enhancing operations and improving travel times in high congestion travel corridors will lead to an overall reduction in greenhouse gas emissions.

Environmental Consequences

Each of the four build alternatives proposes to convert the existing two-lane conventional highway into a four-lane, divided, controlled-access expressway with four 12-foot lanes, 5-foot inside and 10-foot outside paved shoulders, and a widened median. With an additional through lane in each direction of travel, peak traffic congestion and queuing would be eased. Due to the improved traffic flow, carbon dioxide emissions should be reduced despite an increase over time in vehicles using the highway.

Caltrans recognizes the concern that carbon dioxide emissions raise for climate change. However, modeling and gauging the impacts associated with an increase in greenhouse gas emission levels, including carbon dioxide, at the project level is not currently possible. No federal, state, or regional regulatory agency has provided methodology or criteria for greenhouse gas emissions and climate change impact analysis. Therefore, Caltrans is unable to provide a scientific- or regulatory-based conclusion regarding whether the project's contribution to climate change is cumulatively considerable.

Avoidance, Minimization, and/or Mitigation Measures

Caltrans continues to be actively involved on the Governor's Climate Action Team as the Air Resources Board works to implement Assembly Bills 1493 and 32. As part of the Climate Action Program at Caltrans (December 2006), Caltrans is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, 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. However, it is important to note that control of fuel economy standards is held by the United States Environmental Protection Agency and the 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 Davis.

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 and interagency coordination meetings. This chapter summarizes Caltrans' efforts to identify, address, and resolve project-related issues through early and continuing coordination.

As part of the scoping process, Caltrans environmental technical staff gathered information for the project through record searches and field surveys. Based on these early results and observations, a Preliminary Environmental Analysis Report was completed on April 20, 2001. The report presented an overview of potential environmental issues and constraints that might be encountered if the proposed project were to move forward with construction.

A project development team meeting was conducted on July 18, 2002 in the Ridgecrest City Hall Council Chambers. Attendees included Caltrans District 6 and 9 staff from project management, design engineering, environmental planning, right-of-way, construction, maintenance and operations, hydraulics, and visual landscaping. Also invited to the meeting were representatives from the Kern Council of Governments, Kern County Roads Department, City of Ridgecrest, City of Mammoth, Inyo County Local Transportation Commission, and Mono County Local Transportation Commission. Topics discussed at the meeting included the project scope, resources, design issues, right-of-way estimates, and the status of early environmental studies.

On January 14, 2003, a Caltrans biologist requested a species list from the U.S. Fish and Wildlife Service office in Ventura, California.

On March 6, 2003, a Caltrans biologist talked with Mr. Tim Thomas, a biologist with the U.S. Fish and Wildlife Service, about modifying the survey protocol for desert tortoise by only surveying the biological study area and not conducting a "zone of influence" survey. Mr. Thomas approved of the change as long as evidence of a tortoise was observed within the biological study area.

On April 29, 2003, a Caltrans biologist received a species list for the proposed project from the U.S. Fish and Wildlife Service office in Ventura.

On August 5, 2004, Virginia VonBerg, a Caltrans biologist, held a meeting with Mr. Clarence Mayott, a Department of Fish and Game biologist, regarding project scope, biological survey results, anticipated project impacts, and a proposed plan of mitigation. Caltrans proposed standard minimization measures, compensation for affected desert tortoise and Mohave ground squirrel habitat at a 3:1 ratio, and temporary tortoise fencing. Caltrans agreed to submit an application for a Section 2081 Incidental Take Permit for the potential take of listed species and an application for a Section 1602 Streambed Alteration Agreement for impacts to desert washes.

On August 10, 2004, Virginia VonBerg, Caltrans biologist, met with U.S. Fish and Wildlife Service biologists Robert McMorran, Doug Threloff, Bridgett Clayton, and Brian Croft to discuss the project scope, biological survey results, anticipated project impacts, and the proposed plan of mitigation. Caltrans proposed standard minimization measures, compensation for affected tortoise habitat at a 3:1 ratio, and temporary tortoise fencing. The U.S. Fish and Wildlife Service agreed on the mitigation, but requested permanent tortoise fencing if possible.

On February 2, 2005, Caltrans performed a field review of the proposed project site with Mr. Clarence Mayott, a Department of Fish and Game biologist. The focus of the review was to survey various desert washes that cross the proposed project limits. It was confirmed that Caltrans would submit a notification to the Department of Fish and Game for a Section 1602 Streambed Alteration Agreement for Little Dixie Wash, Calvert Wash, South El Paso Wash, and North Ridgecrest Wash.

On March 29, 2006, Caltrans submitted a letter to the U.S. Army Corps of Engineers requesting the Corps' determination for jurisdiction of the following washes in the project impact area: Little Dixie Wash, Calvert Wash, South El Paso Wash, and North Ridgecrest Wash.

On April 11, 2006, the U.S. Army Corps of Engineers responded to Caltrans' request for a determination and stated that the Corps would not take jurisdiction over the washes. Therefore, a permit pursuant to Section 404 of the Clean Water Act would not be necessary.

The Native American Heritage Commission was contacted to identify any local Native American Groups and individuals that might have interest in the project. The Commission responded by providing a list of four Native American groups within the vicinity of Indian Wells Valley of which the nearest groups to the study area are the Kern Valley Indian Community and the Tehachapi Indian Tribe. Neither group responded to the initial correspondence requesting information about the study area.

On June 20, 2006 Caltrans held a Public Information Meeting for the Inyokern Four-Lane Project at the Kerr McGee Community Center located at 100 W. California Avenue in Ridgecrest, California from 4:00 p.m. to 7:00 p.m. A public notice was published in the Ridgecrest Daily Independent and the Bakersfield Californian on May 30 and June 6, 2006. The purpose of the meeting was to provide the public and interested parties with an overview of the project and gain input on the four proposed build alternatives. Approximately 17 people attended the Public Information Meeting. Attendees generally favored Alternative 1A as the preferred alternative.

In June of 2006, Caltrans submitted the Historic Property Survey Report to the State Historic Preservation Officer for review and concurrence.

On January 9, 2007, the State Historic Preservation Officer concurred with Caltrans' determinations on the National Register of Historic Places eligibility of several cultural resources in the proposed project's Area of Potential Effects.

Chapter 4 List of Preparers

This document was prepared by the following Caltrans Central Region staff:

Heather Baker, Associate Environmental Planner (Natural Sciences). B.A., Natural Sciences/Biology, California State University, Fresno; 8 years biology experience. Contribution: Coordinated with the Federal Highway Administration, U.S. Fish and Wildlife Service, and the California Department of Fish and Game.

Catherine Crandall, Graphic Designer II. Fine Art studies at State University of New York, Oneonta and Louisiana State University; 18 years graphics experience. Contribution: Prepared graphics.

Rajeev Dwivedi, Engineering Geologist. Doctorate in Environmental Science and Master of Science in Civil Engineering from Oklahoma State University. 17 years experience in environmental engineering and geology. Contribution: Prepared technical studies in Air Quality and Noise.

Sarah Gassner, Chief, Southern Sierra Environmental Analysis Branch. B.A., Anthropology, California State University, Fresno; M.A., Cultural Resources Management, Sonoma State University; 12 years archaeological experience; 7 years cultural resource management and environmental planning experience with Caltrans. Contribution: Environmental Unit Supervisor.

Peter Hansen, Environmental Planner. B.S., Geology, California State University, Fresno; 2 years experience in Paleontology/Geology. Contribution: Prepared the Initial Paleontology Study.

R. Steve Miller, District Landscape Architect. Bachelors of Landscape Architecture, 1975, University of Idaho in Moscow, Idaho; registered to practice in California since 1987. Contribution: Wrote the Visual Impact Assessment.

Frank Momen, Project Manager. B.S., Civil Engineering; 20 years of experience. Contribution: Project Development.

Matthew Palmer, Caltrans, Associate Environmental Planner, Masters in Organizational Management from University of Phoenix, Bachelors in Environmental Science from California State University, Fresno; 7 years

environmental planning experience. Contribution: Environmental Coordination and wrote the Draft Initial Study/Environmental Assessment.

Lora Rischer, Associate Right-of-Way Agent. B.S., Sports Medicine, California State University, Sacramento; 16 years experience in Right-of-Way. Contribution: Wrote the Draft Relocation Impact Report.

Patricia Scrivner, Transportation Engineer. B.S., Civil Engineering, California State University, Fresno; 10 years experience in transportation design. Contribution: Participated on the design of the alignments for the project's alternatives.

Scott Shaver, Senior Transportation Engineer. M.S., Civil Engineering, California State University, Fresno; 19 years experience in civil engineering. Contribution: Project Development Unit Supervisor.

Richard Stewart, Engineering Geologist P.G. B.S., Geology, California State University, Fresno; 18 years hazardous waste and water quality experience. Contribution: Wrote the technical reports for Hazardous Waste and Water Quality.

Brian Wickstrom, Associate Environmental Planner (Archaeology). Contribution: Conducted archaeological surveys and wrote Archaeological Survey Reports and Historic Property Survey Reports.

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
AESTHETICS - Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	X	☐	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a state scenic highway?	☐	☐	☐	X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	X	☐	☐
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	☐	☐	☐	X
AGRICULTURE RESOURCES - In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	X
c) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	X
AIR QUALITY - Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	X

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

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
Plan, or other approved local, regional, or state habitat conservation plan?				
CULTURAL RESOURCES - Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	X	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	Archaeological resources are considered "historical resources" and are covered under a).			
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	X
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	X
GEOLOGY AND SOILS - Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	X
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	X
ii) Strong seismic ground shaking?	☐	☐	☐	X
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	X
iv) Landslides?	☐	☐	☐	X
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	X
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☐	X
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.	☐	☐	☐	X

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

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

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

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

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

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	X
e) Result in determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	X
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	X
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	X
MANDATORY FINDINGS OF SIGNIFICANCE -				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, or cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	X	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	X
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	X

Appendix B 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 proximity impacts do not result in constructive use.

On the southwest corner of U.S. Highway 395 and Brown Road there is an area belonging to the U.S. Bureau of Land Management that has been designated as a limited use area for the public. The City of Ridgecrest has created a bicycle timed trial track in this area for public use. Currently, the project would not have any direct, indirect, or cumulative effects on this property. Caltrans is proposing a cul-de-sac at the end of Brown Road to allow parking for cyclists using this area. The U.S. Bureau of Land Management property adjacent to the project is unclassified.

The proposed project would not cause a constructive use of this property because the proximity impacts would not substantially impair the protected activities, features, or attributes of the public recreation land.

Appendix C Title VI Policy Statement

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

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
1120 N STREET
P. O. BOX 942873
SACRAMENTO, CA 94273-0001
PHONE (916) 654-5266
FAX (916) 654-6608
TTY (916) 653-4086

Flex your power!
Be energy efficient!

January 14, 2005

TITLE VI
POLICY STATEMENT

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

WILL KEMPTON
Director

"Caltrans improves mobility across California"

Appendix 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

To request a copy of the Relocation Assistance for Residential Relocation brochure or any brochure referenced in the sections immediately below, please contact the following individual (please specify the project name: Inyokern Four-Lane Project):

Matthew Palmer, Associate Environment Planner
San Joaquin Valley Analysis Branch
California Department of Transportation
2015 E. Shields Avenue, Suite 100
Fresno, CA 93726

Or access the brochure via the Internet at the following links (the first link listed is for the English version of the brochure; the second link listed is for the Spanish version):

http://www.dot.ca.gov/hq/row/pubs/residential_english.pdf
http://www.dot.ca.gov/hq/row/pubs/residential_spanish.pdf

For a brochure pertaining to residential displacement of mobile homes, access the following (first link is for the English version; second link is for the Spanish version):

http://www.dot.ca.gov/hq/row/pubs/mobile_eng.pdf
http://www.dot.ca.gov/hq/row/pubs/mobile_sp.pdf

The Business and Farm Relocation Assistance Program

For the Relocation Assistance for Businesses and/or Farms brochure, access the following (first link is for the English version; second link is for the Spanish version):

http://www.dot.ca.gov/hq/row/pubs/business_farm.pdf
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 9
500 South Main Street
Bishop, CA 93514

Appendix E Minimization and/or Mitigation Summary

Relocations

Funding would be available to relocate or re-establish any home 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 (see Appendix D).

Utilities/Emergency Services

Before construction, public utilities affected by the project would be relocated.

In addition, U.S. Highway 395 and adjoining roads would remain accessible to avoid delays in emergency service. Efforts to inform or coordinate with emergency and other public services during construction would minimize disruption.

Traffic and Transportation

During 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 message signs, lane and road closures, advance warning signs, alternate routes, reverse and alternate traffic control, and a traffic contingency plan for unforeseen circumstances and emergencies. The Caltrans Public Affairs Office would keep the local media informed of construction progress and information pertaining to delays, closures, and major changes in traffic patterns. The resident engineer would provide this information through both the Caltrans District 6 Transportation Management Center and Caltrans District 9's Traffic Branch.

Visual/Aesthetics

1. Cut and fill slopes would be contour graded to a non-uniform profile to blend with the adjacent slopes. Slope grades would be constructed to facilitate planting, erosion control, and ease of maintenance. Increased slope rounding at the top and bottom of cuts and fills, along with liberal slope variances would be determined by or approved in cooperation with a Caltrans Landscape Architecture representative.

2. The selection of materials and methods for the revegetation project is critical for erosion control and restoring the visual quality. This project would not be irrigated. It is critical that compacted grades on slopes and in the median be cultivated before the installation of topsoil and seed. This would enable the deep rooting of new vegetation, allowing it to survive the summer extremes of drought. The seed mix, application rates, and planting methods should be determined by or approved in cooperation with a Caltrans Landscape Architecture representative.

3. To preserve the native seed stock and natural chemical compounds, it is critical to collect and store topsoil/duff for placement on disturbed areas before replanting.

4. A plan would be instituted to minimize the removal of existing vegetation wherever feasible.

Cultural Resources

An Environmentally Sensitive Area Action Plan would be implemented to protect CA-KER-6835H and CA-KER-1671 from construction impacts associated with this project. The evaluation and consideration of effects to the dual component prehistoric and historic period site will be made once the build alternative has been selected.

Water Quality and Storm Water Runoff

Construction site pollutants are controlled by the use of structural devices, such as silt fences and straw bales, and non-structural activities such as good housekeeping and construction-related waste management. These devices and activities are called Best Management Practices. The objective for using water pollution control Best Management Practices on construction projects is to reduce water pollutants coming from Caltrans construction projects as much as possible.

A Storm Water Pollution Prevention Plan would be prepared by the contractor and implemented during construction to the satisfaction of the resident engineer. The Storm Water Pollution Prevention Plan would identify the sources of sediment and other pollutants that affect the quality of storm water discharges. The plan would also describe and ensure the implementation of Best Management Practices to reduce or eliminate sediment and other pollutants in storm water as well as non-storm water discharges.

Hazardous Waste and Materials

The appropriate Standard Special Provisions would be developed for this project to ensure that hazardous waste/substances discovered during construction activities would be handled appropriately.

Air Quality

Caltrans Standard Specifications pertaining to dust control and dust palliative requirements are a required part of all construction contracts and should effectively reduce and control emission impacts during construction. The provisions of Caltrans Standard Specifications, Section 7-1.01F "Air Pollution Control" and Section 10 "Dust Control" requires the contractor to comply with the Kern County Air Pollution Control District's rules, ordinances, and regulations.

With respect to diesel emissions during construction, Caltrans would take all minimization measures that are listed in Caltrans Standard Specifications to reduce particulate emissions.

Noise

Standard Provision Section 7-1.01I "Sound Control Requirements" of the Standard Specifications would be included in the construction contract to minimize noise impacts.

Biology

Project Compensatory Mitigation

Caltrans would compensate for direct impacts to desert tortoise and Mohave ground squirrel and their habitats by preserving habitat in areas that are important for the recovery of the desert tortoise and Mohave ground squirrel populations.

Caltrans also proposes to replace each acre of lost habitat with 3 acres of quality habitat at a location approved by the U.S. Fish and Wildlife Service and California Department of Fish and Game. Total compensation acreages for each of the build alternatives are presented in the following table.

Compensatory Mitigation for Impacts to the Desert Tortoise and Mohave Ground Squirrel

Build Alternative	Acres of Impact	Mitigation Ratio	Total Acres of Compensation
1	490	3:1	1,470
1A	520	3:1	1,560
2	480	3:1	1,440
2A	510	3:1	1,530

Desert Tortoise

Worker education programs and well-defined operational procedures would be implemented to avoid the take of desert tortoises and minimize loss of their habitat during construction activities.

- All persons employed on the construction project would receive instruction regarding the desert tortoise before performing onsite work. Instruction would include the importance of the desert tortoise to the environment, recovery efforts for the desert tortoise, implications of the Endangered Species Act, and the importance of following all terms and conditions provided in the U.S. Fish and Wildlife Service Biological Opinion and Department of Fish and Game 2081(b) Incidental Take Permit. Employees would be notified that they are not authorized to handle or otherwise move desert tortoises encountered on the project site.

- Only biologists authorized by U.S. Fish and Wildlife Service and Department of Fish and Game would handle a desert tortoise. When handling a desert tortoise, the authorized biologist(s) would follow the guidelines established in the *"Guidelines for Handling Desert Tortoise During Construction Projects."*

- Permanent or temporary desert tortoise fencing would be installed around the perimeter of the project area before the start of onsite construction. A qualified biologist would monitor installation of the desert tortoise fencing to ensure that tortoises are not killed or injured during this activity. The permanent fencing would be constructed together with the Caltrans right-of-way fence along the new Caltrans right-of-way. Temporary desert tortoise fencing would be installed in areas of construction that are beyond the perimeter of the Caltrans right-of-way or in areas where permanent right-of-way fencing would be constructed later due to construction staging. After installation, the tortoise fence would be regularly

inspected to ensure its integrity. Cross-country travel for construction purposes outside areas of desert tortoise fencing would be prohibited.

- A qualified biologist would survey the entire project area for desert tortoises after installation of the tortoise fencing. Following the procedures and precautions outlined in the Desert Tortoise Council's 1999 Guidelines, all desert tortoise pallets and burrows within the survey areas would be examined and excavated by hand, either by or under the direct supervision of an authorized biologist, and collapsed to prevent re-entry.

- Take of desert tortoises, through injury or death, found within the project area would be reduced through the removal of these animals to undisturbed areas beyond the construction site. When handling or relocating desert tortoises, the authorized biologist would follow the guidelines established in Desert Tortoise Council's 1999 Guidelines. Desert tortoises would be relocated within their own territory, but outside of the construction area, where they may be familiar with alternate burrows. If no burrows were available, artificial burrows would be created following the Desert Tortoise Council's 1999 Guidelines.

- A qualified biologist(s) would be present during all initial brushing or grading activities within the project area. During project implementation, all workers would inform the qualified biologist if a desert tortoise were found within or near project areas. All work in the vicinity of the desert tortoise that could injure or kill the animal would stop and the desert tortoise would be observed until it is moved from harm's way by the authorized biologist.

- Workers would inspect for desert tortoises under vehicles and equipment before such equipment is moved. If a desert tortoise is present, the worker would wait for the desert tortoise to move from under the vehicle. The authorized biologist would also be contacted to remove the desert tortoise.

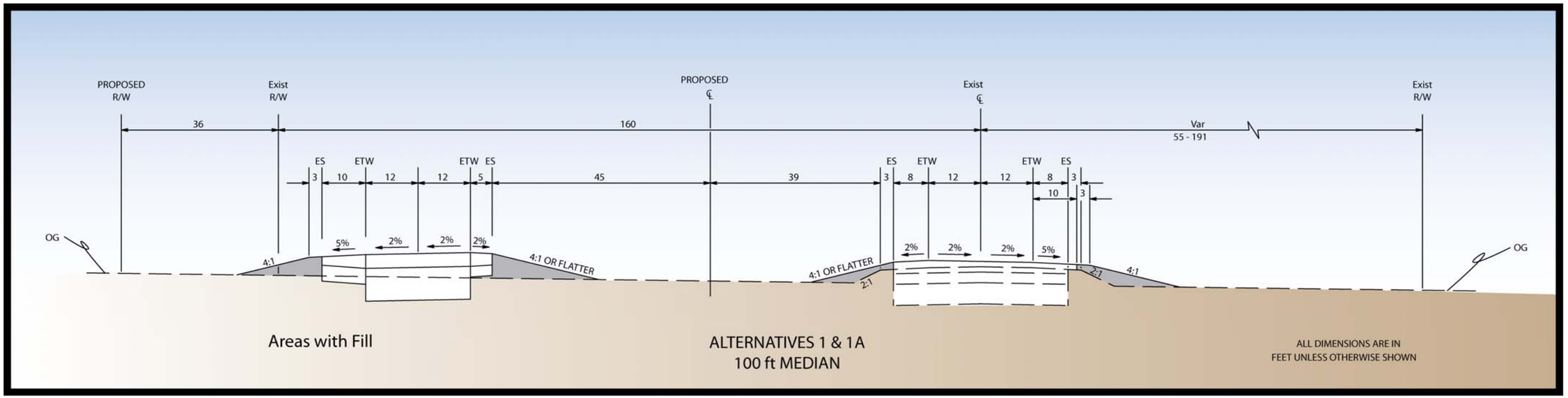
- All food-related trash items would be placed in a container that precludes entry by wildlife, such as common ravens and coyotes. Food-related trash would be regularly removed from the construction site and disposed of at an approved refuse disposal site. Workers would refrain from deliberate feeding of wildlife.

- The construction contractor would also comply with all requirements specified by the California Department of Fish and Game and the U.S. Fish and Wildlife Service.

- The qualified biologist(s) would maintain a record of all desert tortoises encountered during project activities in the project area.

Mohave Ground Squirrel

Worker education programs would be implemented to avoid the take of Mohave ground squirrels and minimize loss of habitat during construction activities. If a Mohave ground squirrel were found within or near the project areas, a qualified biologist would be notified immediately. All work in the vicinity of the Mohave ground squirrel that could injure or kill the animal would cease until the Mohave ground squirrel is moved from harm's way by the authorized biologist or it moves from the construction area on its own accord. If the authorized biologist identifies a Mohave ground squirrel using burrows within the project area, the California Department of Fish and Game would be consulted regarding the need for a trapping effort to relocate these animals to a safe site. The construction contractor would also comply with the requirements specified by the California Department of Fish and Game and the U.S. Fish and Wildlife Service.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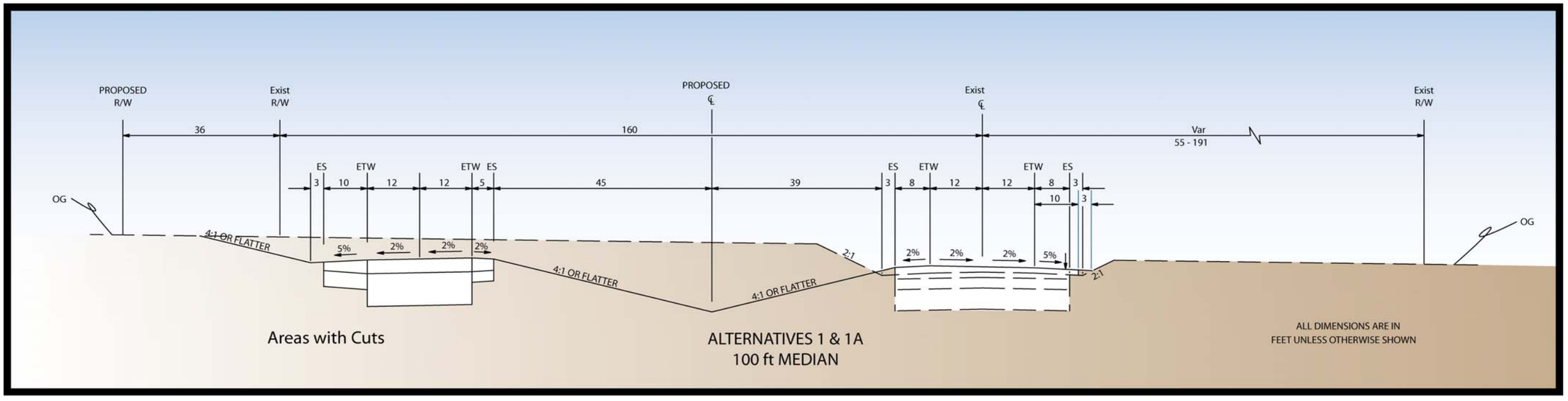
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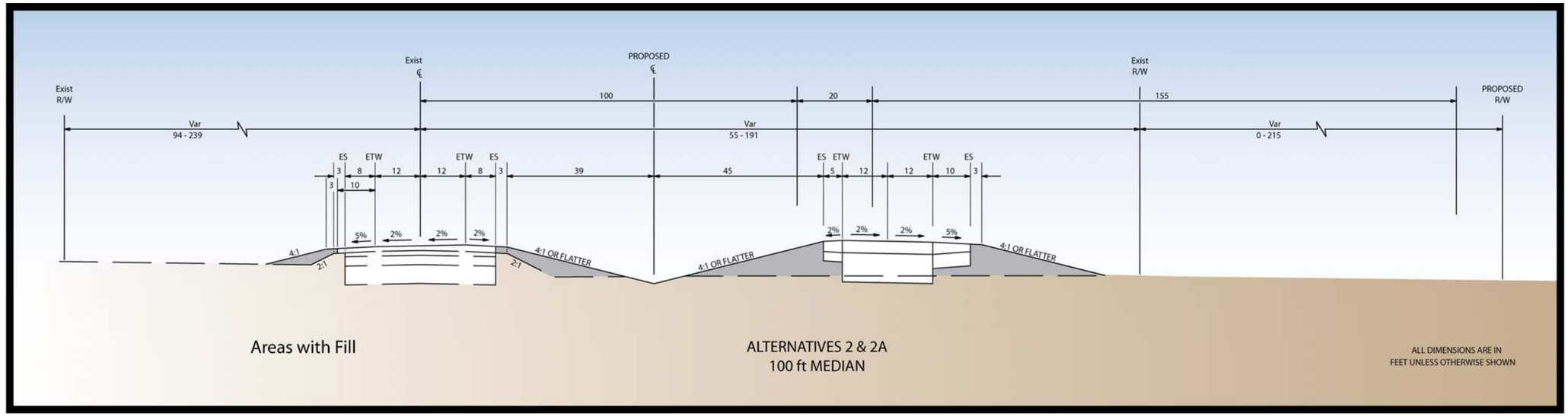
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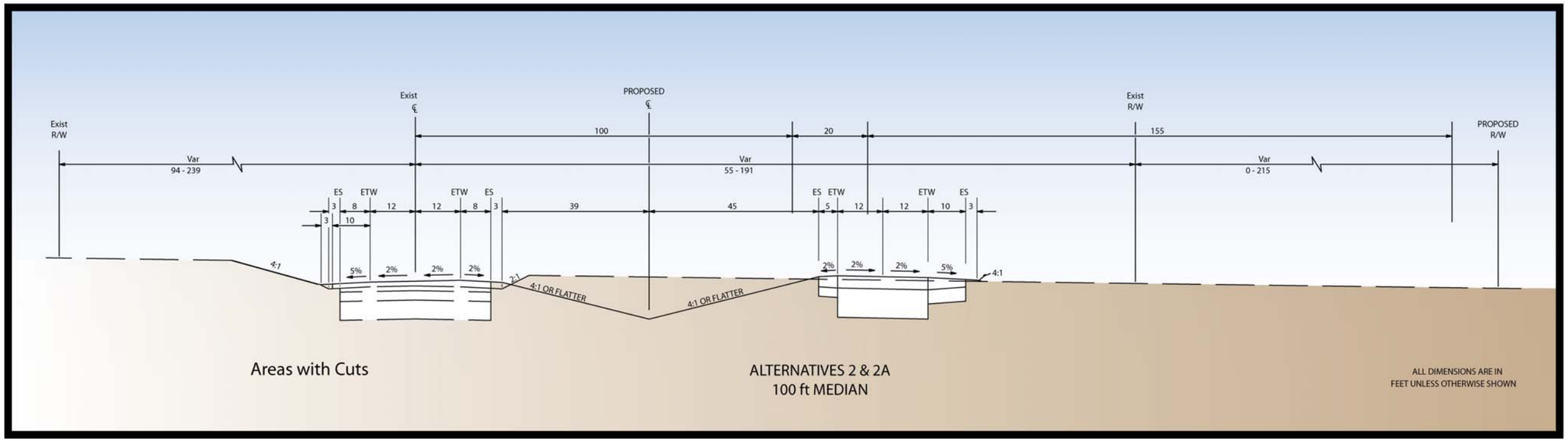
Areas with Fill
ALTERNATIVES 2 & 2A
100 ft MEDIAN
ALL DIMENSIONS ARE IN
FEET UNLESS OTHERWISE SHOWN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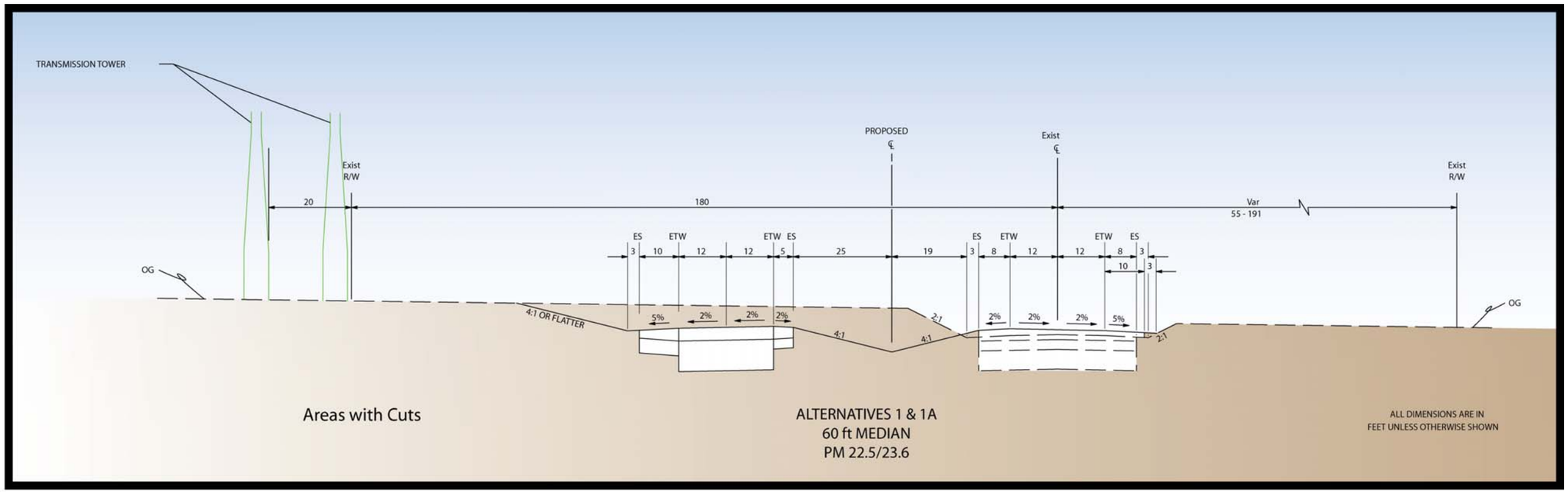
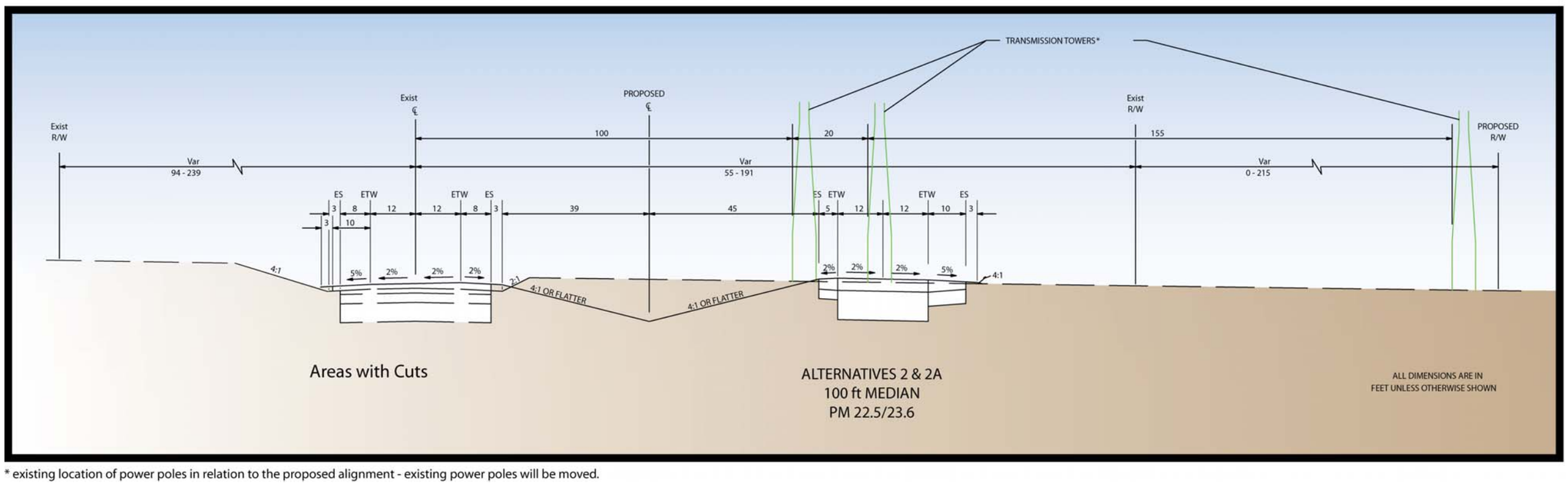
Areas with Cuts
ALTERNATIVES 2 & 2A
100 ft MEDIAN
ALL DIMENSIONS ARE IN
FEET UNLESS OTHERWISE SHOWN

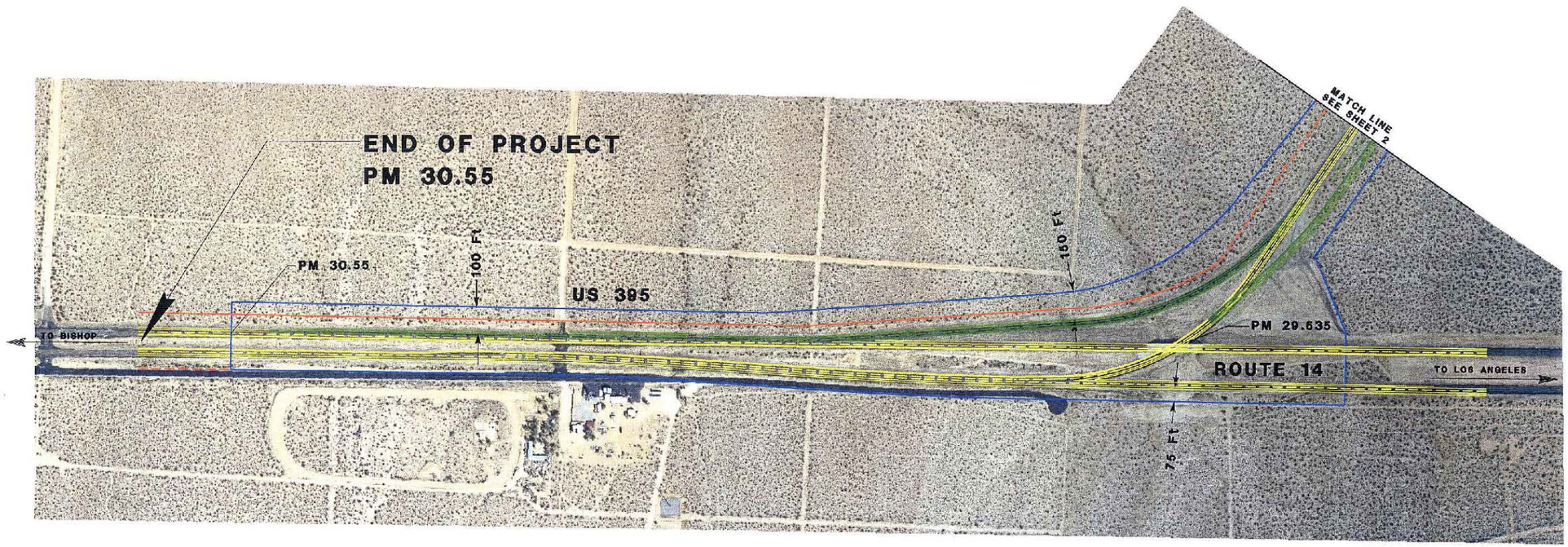




* existing location of power poles in relation to the proposed alignment - existing power poles will be moved.

LEGEND

- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- PROPOSED FRONTAGE ROADS
- PROPOSED ALIGNMENT AND RAMPS
- EXISTING ALIGNMENT
- PROPOSED PRIVATE EASEMENT
- PROPOSED AREA OF POTENTIAL EFFECT



ALTERNATIVE 1A WEST SIDE WIDENING

KERN ROUTE 395
INYOKERN 4-LANE
EA 06-443100

SHEET 1

SCALE 1" = 500'

01-29-08

44310\DESIGN\400 DISTRICT CORRESPONDENCE\420 ENVIRONMENTAL\VIRGINIA VONBERG\500 SCALE* SCALE\395 APE SCALE 500 SHT1.DGN

LEGEND

- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- PROPOSED FRONTAGE ROADS
- PROPOSED ALIGNMENT AND RAMPS
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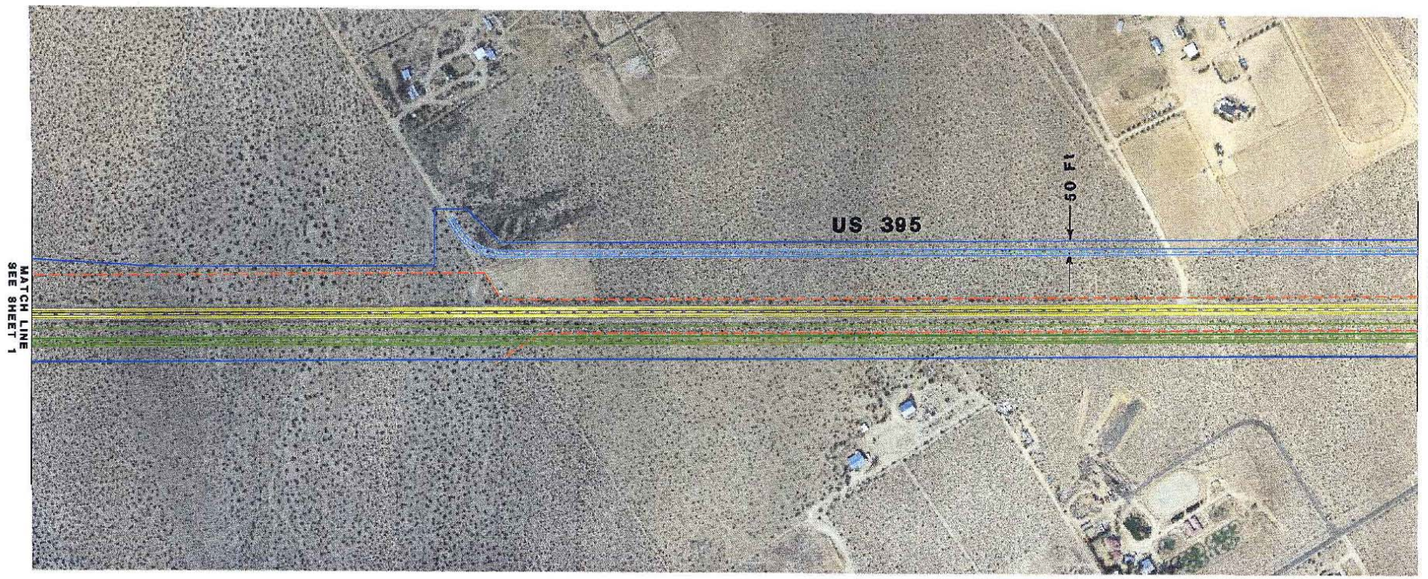
- PROPOSED PRIVATE EASEMENT
- PROPOSED AREA OF POTENTIAL EFFECT



ALTERNATIVE 1A WEST SIDE WIDENING

KERN ROUTE 395
INYOKERN 4-LANE
EA 06-443100

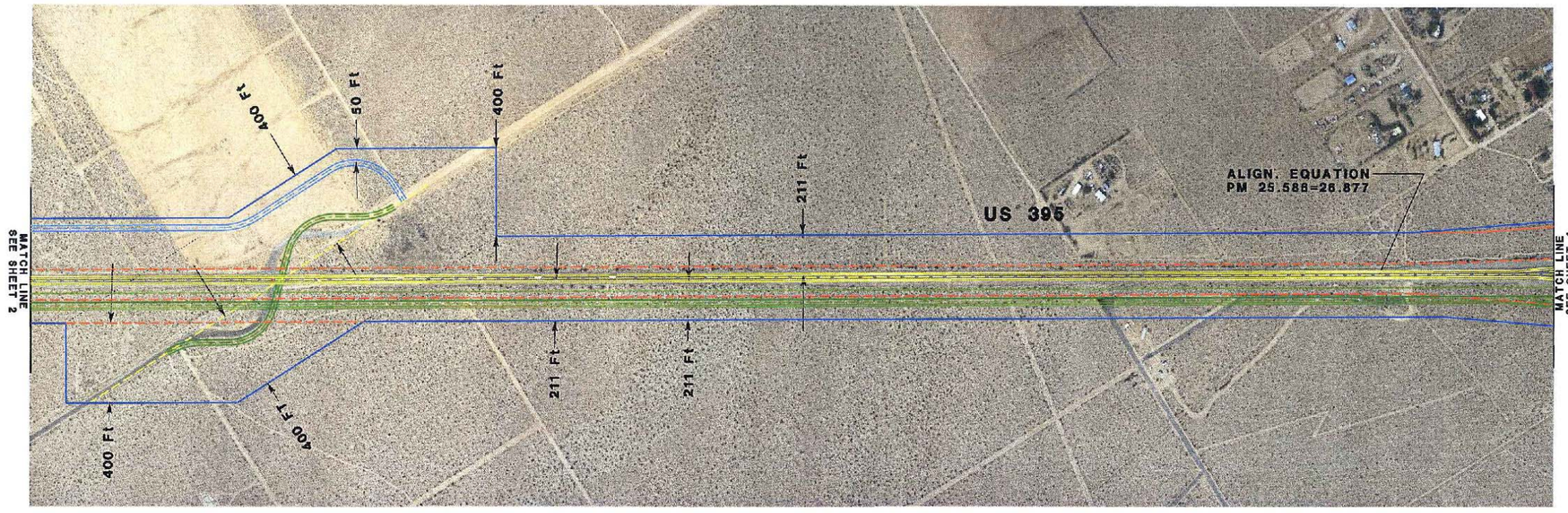
SCALE: 1" = 500' SHEET 2

01-29-08

44310\DESIGN\400 DISTRICT CORRESPONDENCE\420 ENVIRONMENTAL\VIRGINIA VONBERG\500 SCALE# SCALE\395 APE SCALE 500 SHT2.DGN

LEGEND

- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- PROPOSED FRONTAGE ROADS
- PROPOSED ALIGNMENT AND RAMPS
- EXISTING ALIGNMENT
- PROPOSED PRIVATE EASEMENT
- PROPOSED AREA OF POTENTIAL EFFECT



ALTERNATIVE 1A WEST SIDE WIDENING

KERN ROUTE 395
INYOKERN 4-LANE
EA 06-443100

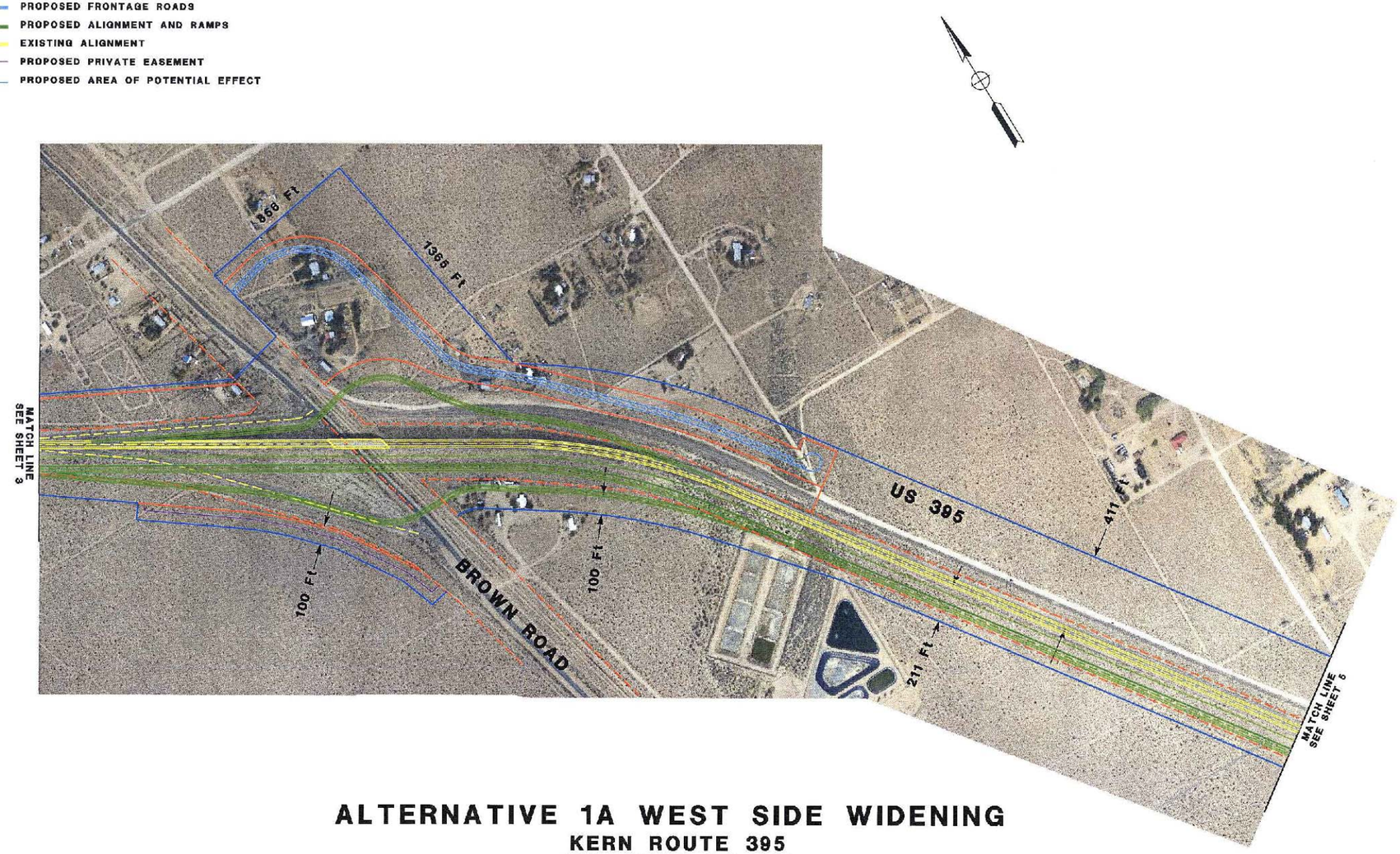
SCALE: 1" = 500' SHEET 3

01 29 08

44310\DESIGN\400 DISTRICT CORRESPONDENCE\20 ENVIRONMENTAL\VIRGINIA VONBERG\500 SCALE\395 APE SCALE 500 SHT3.DGN

LEGEND

EXISTING RIGHT OF WAY
PROPOSED RIGHT OF WAY
PROPOSED FRONTAGE ROADS
PROPOSED ALIGNMENT AND RAMPS
EXISTING ALIGNMENT
PROPOSED PRIVATE EASEMENT
PROPOSED AREA OF POTENTIAL EFFECT



ALTERNATIVE 1A WEST SIDE WIDENING

KERN ROUTE 395
INYOKERN 4-LANE
EA 06-443100

SCALE: 1" = 500' SHEET 4

01-29-08

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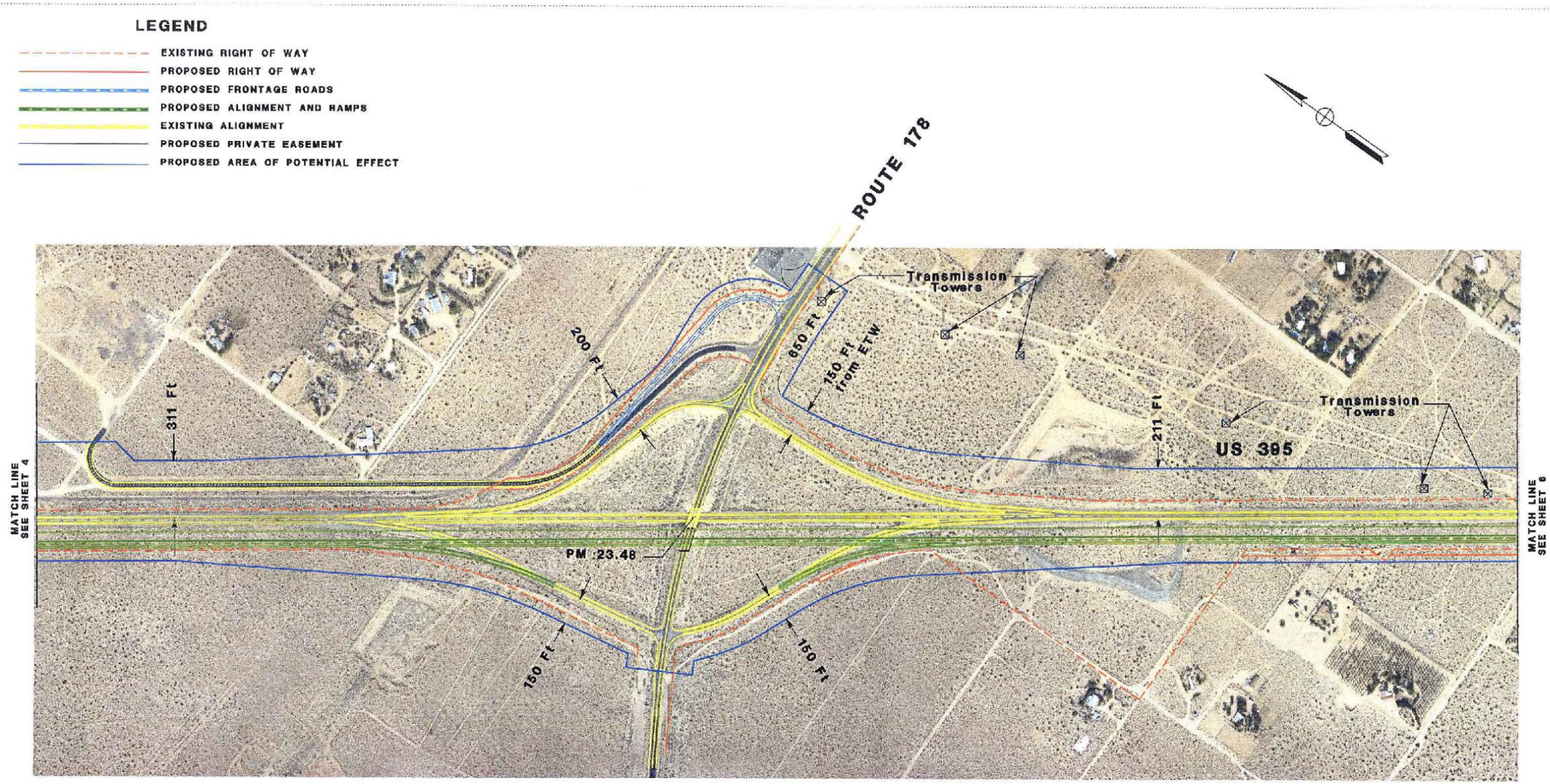


ALTERNATIVE 1A WEST SIDE WIDENING

KERN ROUTE 395
INYOKERN 4-LANE
EA 06-443100

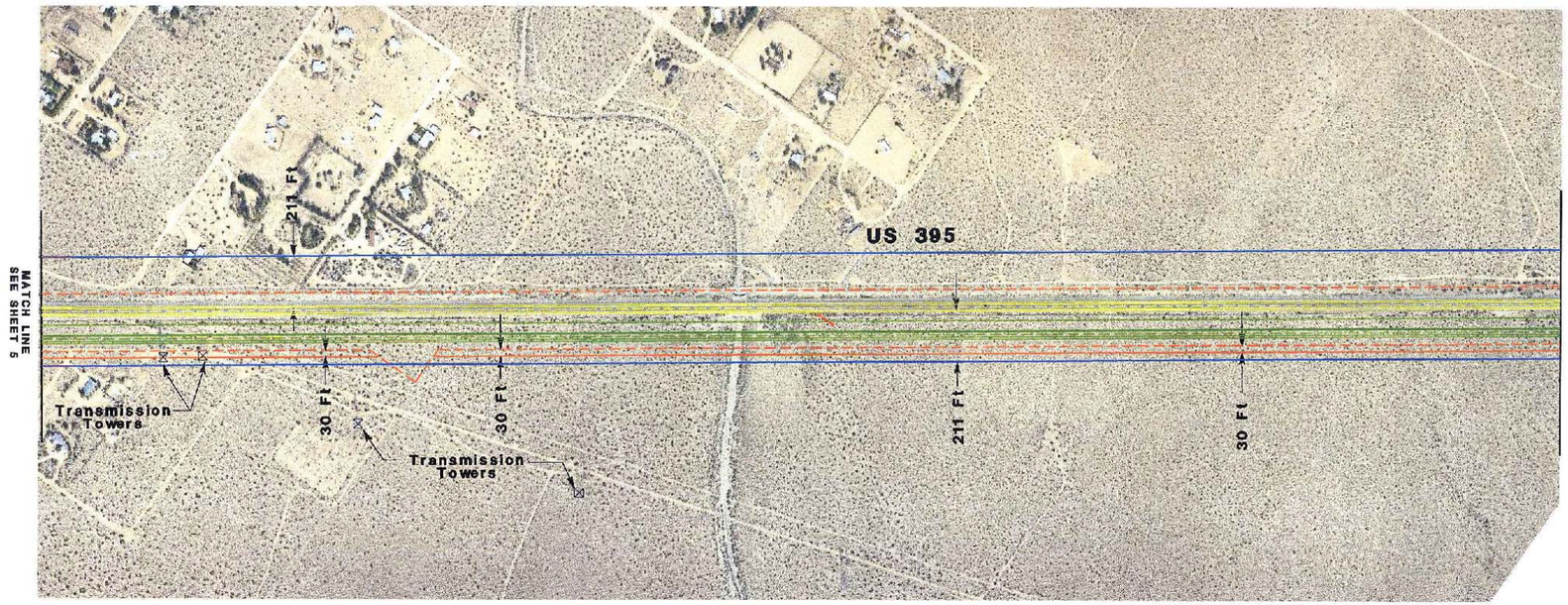
SCALE: 1" = 500' SHEET 5

01-29-08

44310\DESIGN\400 DISTRICT CORRESPONDENCE\420 ENVIRONMENTAL\VIRGINIA VONBERG\500 SCALE\395 APE SCALE 500 SHT5.DGN

LEGEND

- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- PROPOSED FRONTAGE ROADS
- PROPOSED ALIGNMENT AND RAMPS
- EXISTING ALIGNMENT
- PROPOSED PRIVATE EASEMENT
- PROPOSED AREA OF POTENTIAL EFFECT



ALTERNATIVE 1A WEST SIDE WIDENING

KERN ROUTE 395
INYOKERN 4-LANE

EA 06-443100

SCALE: 1" = 500'

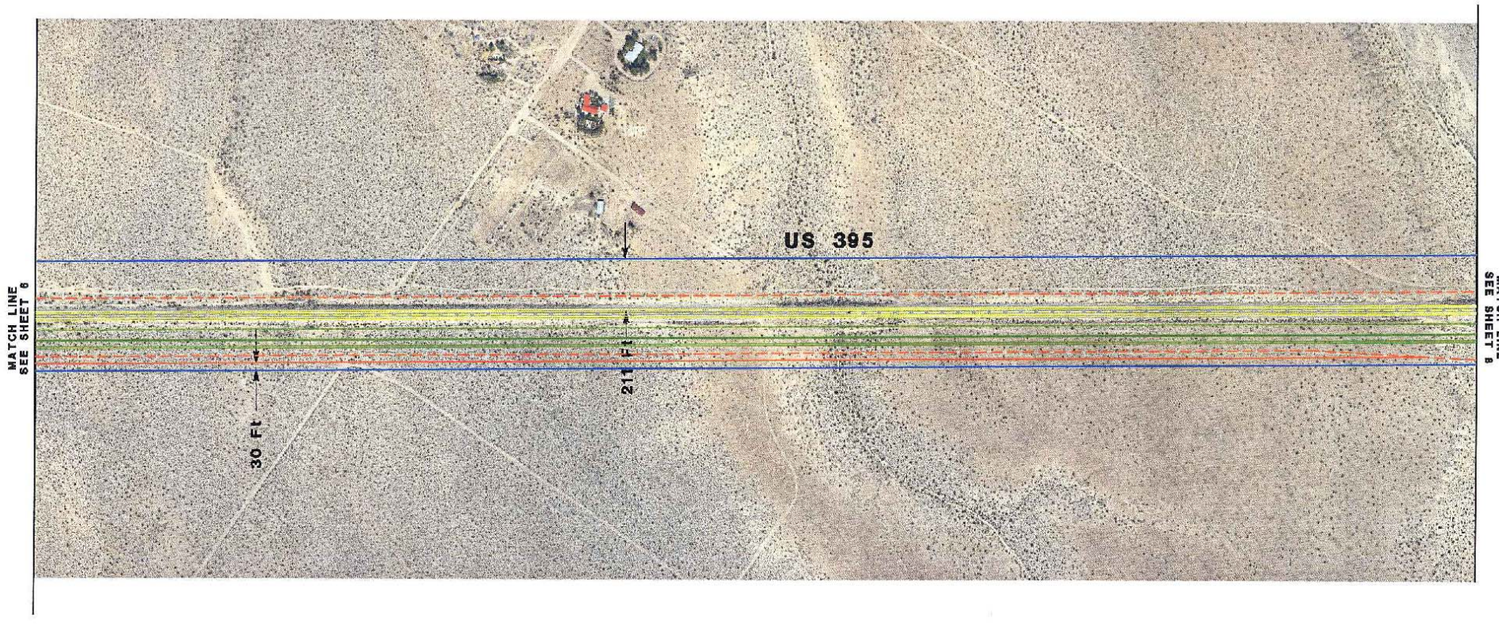
SHEET 6

01-29-08

443:ONDESIGN\400 DISTRICT CORRESPONDENCE\470 ENVIRONMENTAL\VIRGINIA VONBERG\560 SCALE\395 APE SCALE 500 SHT7.DGN

LEGEND

- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- PROPOSED FRONTAGE ROADS
- PROPOSED ALIGNMENT AND RAMPS
- EXISTING ALIGNMENT
- PROPOSED PRIVATE EASEMENT
- PROPOSED AREA OF POTENTIAL EFFECT



ALTERNATIVE 1A WEST SIDE WIDENING

KERN ROUTE 395
INYOKERN 4-LANE
EA 06-443100

SCALE: 1" = 500'

SHEET 7

01-29-08

Z:\DESIGN\400 DISTRICT CORRESPONDENCE\420 ENVIRONMENTAL\VIRGINIA VONBERG\500 SCALE\395 APE SCALE 500 S-T7.DGN

LEGEND

- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- PROPOSED FRONTAGE ROADS
- PROPOSED ALIGNMENT AND RAMPS
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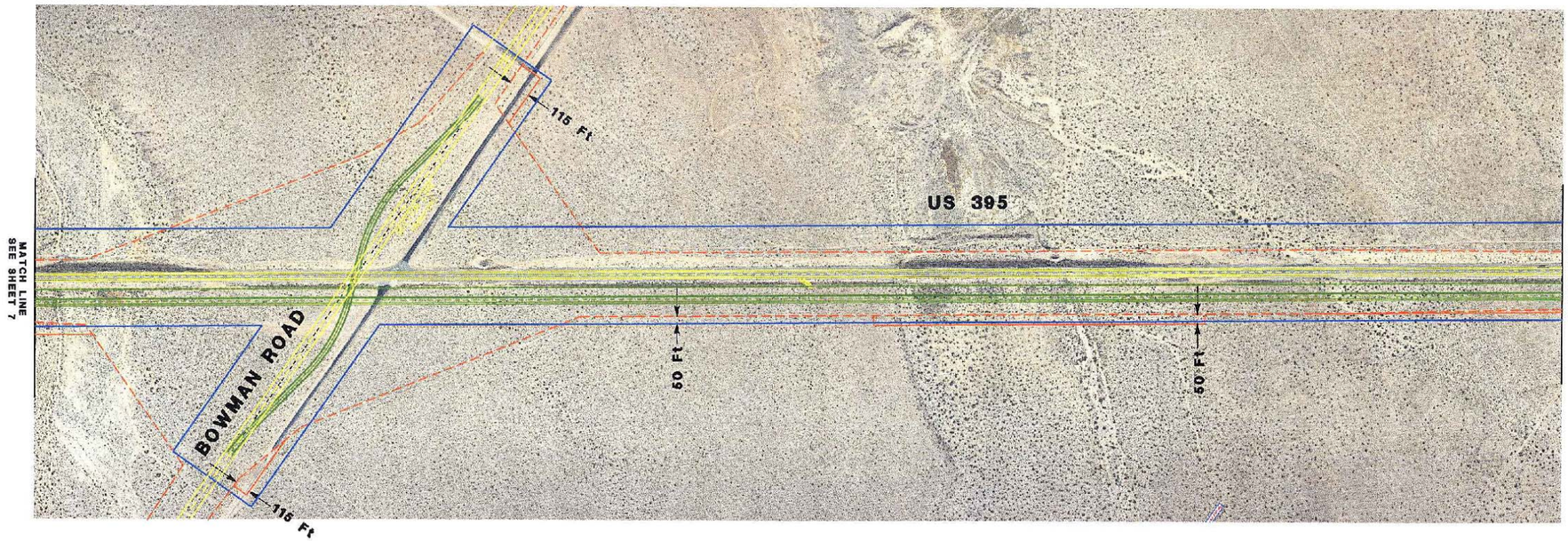
- PROPOSED PRIVATE EASEMENT
- PROPOSED AREA OF POTENTIAL EFFECT



ALTERNATIVE 1A WEST SIDE WIDENING

KERN ROUTE 395
INYOKERN 4-LANE
EA 06-443100

SCALE: 1" = 500'

SHEET 8

01-29-08

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LEGEND

- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- PROPOSED FRONTAGE ROADS
- PROPOSED ALIGNMENT AND RAMPS
- EXISTING ALIGNMENT
- PROPOSED PRIVATE EASEMENT
- PROPOSED AREA OF POTENTIAL EFFECT

ALTERNATIVE 1A WEST SIDE WIDENING

KERN ROUTE 395
INYOKERN 4-LANE
EA 06-443100

SCALE: 1" = 500'

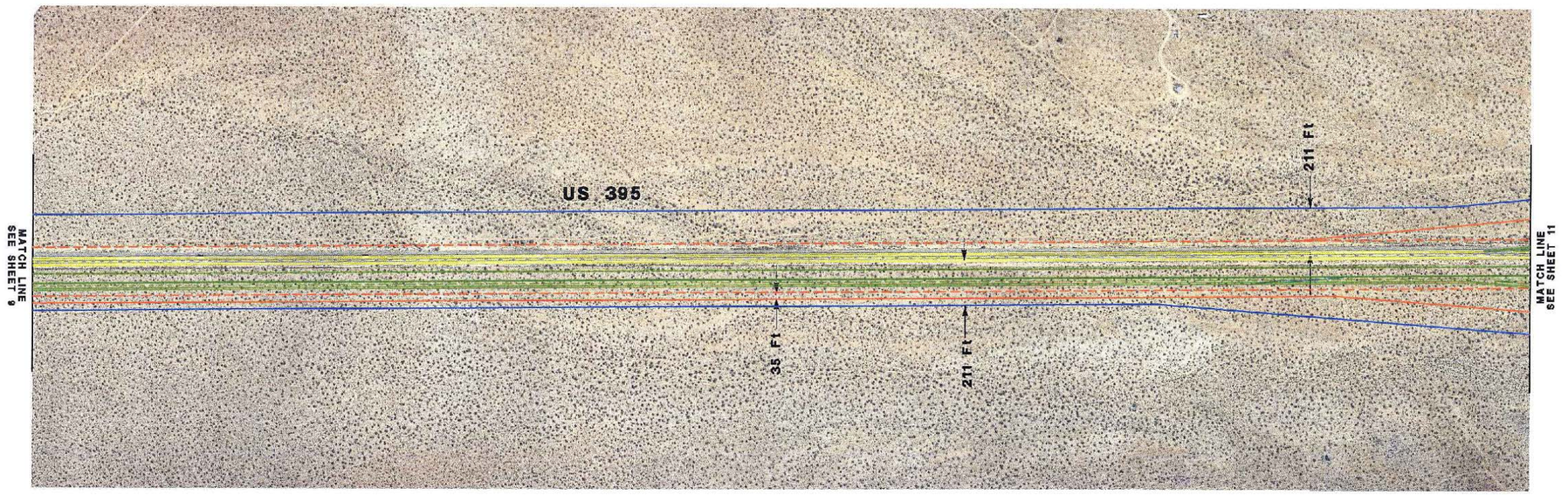
SHEET 9

01-29-08

44310\DESIGN\400 DISTRICT CORRESPONDENCE\420 ENVIRONMENTAL\VERGINIA VOSBERG\550 SCALE\385 A-E SCALE 550 SHT9.DGN

LEGEND

- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- PROPOSED FRONTAGE ROADS
- PROPOSED ALIGNMENT AND RAMPS
- EXISTING ALIGNMENT
- PROPOSED PRIVATE EASEMENT
- PROPOSED AREA OF POTENTIAL EFFECT



ALTERNATIVE 1A WEST SIDE WIDENING

KERN ROUTE 395
INYOKERN 4-LANE
EA 06-443100

SCALE: 1" = 500'

SHEET 10

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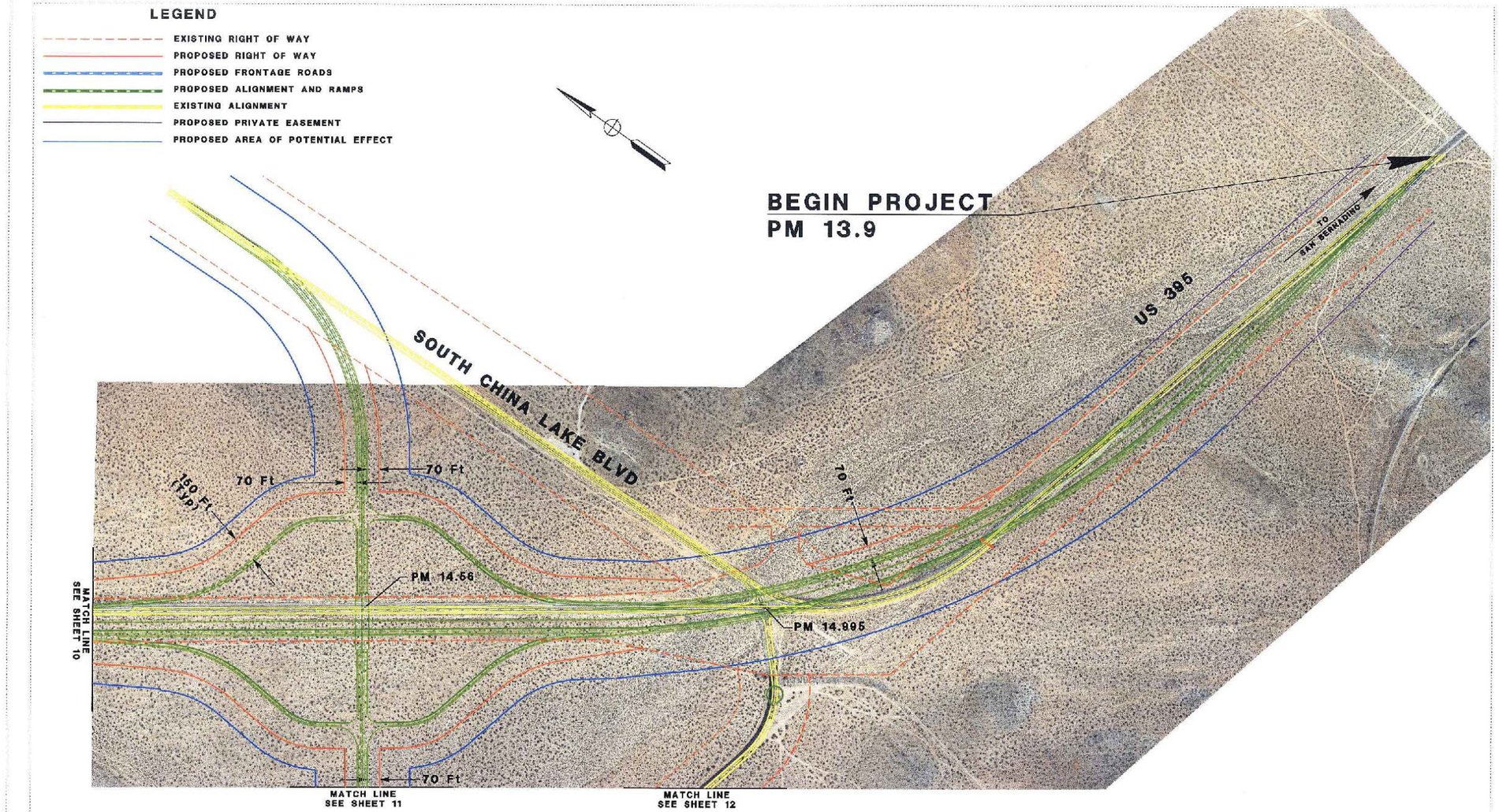
443'0\DESIGN\400 DISTRICT CORRESPONDENCE\420 ENVIRONMENTAL\VIRGINIA VONBERG\500 SCALE\395 APE SCALE 500 SHT10.DGN



ALTERNATIVE 1A WEST SIDE WIDENING
KERN ROUTE 395
INYOKERN 4-LANE
EA 06-443100

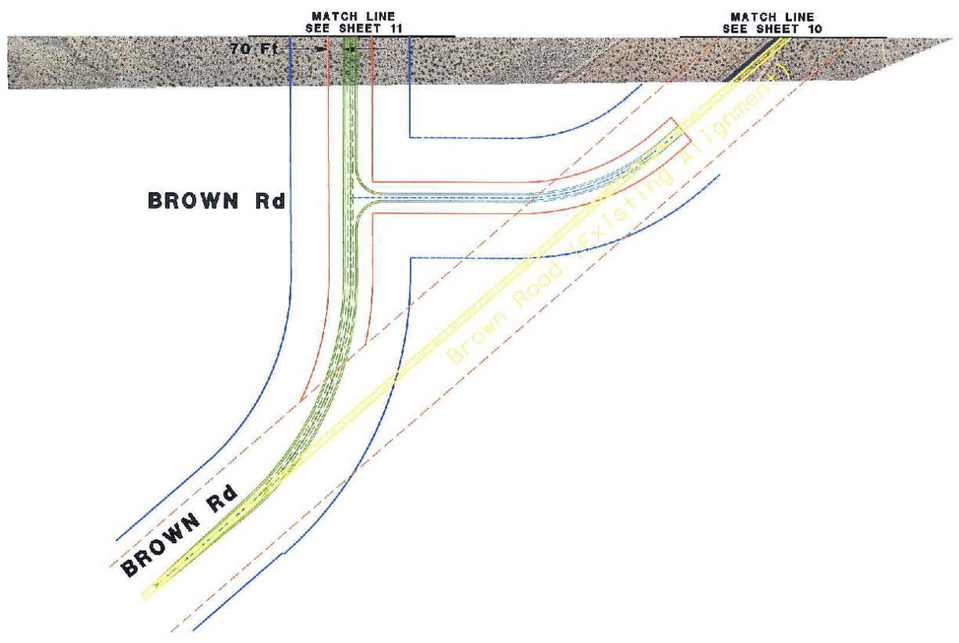
SCALE: 1" = 500' SHEET 11

01-29-06

443100\DESIGN\MCO DIST.01 CORRESPONDENCE\420 ENVIRONMENTAL\VIRGINIA VONBERG\500 SCALE\385 APE 500 SCA F SHT 1.DGN

LEGEND

- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- PROPOSED FRONTAGE ROADS
- PROPOSED ALIGNMENT AND RAMPS
- EXISTING ALIGNMENT
- PROPOSED PRIVATE EASEMENT
- PROPOSED AREA OF POTENTIAL EFFECT



ALTERNATIVE 1A WEST SIDE WIDENING

KERN ROUTE 395
INYOKERN 4-LANE
EA 06-443100

SCALE: 1" = 500'

SHEET 12

01-29-08

443100\DESIGN\420 DISTRICT CORRESPONDENCE\420 ENVIRONMENTAL\VIRGINIA VONDERA\500 SCALE\395 APE 500 SCALE SHT 12.DGN

LEGEND

EXISTING RIGHT OF WAY
PROPOSED RIGHT OF WAY
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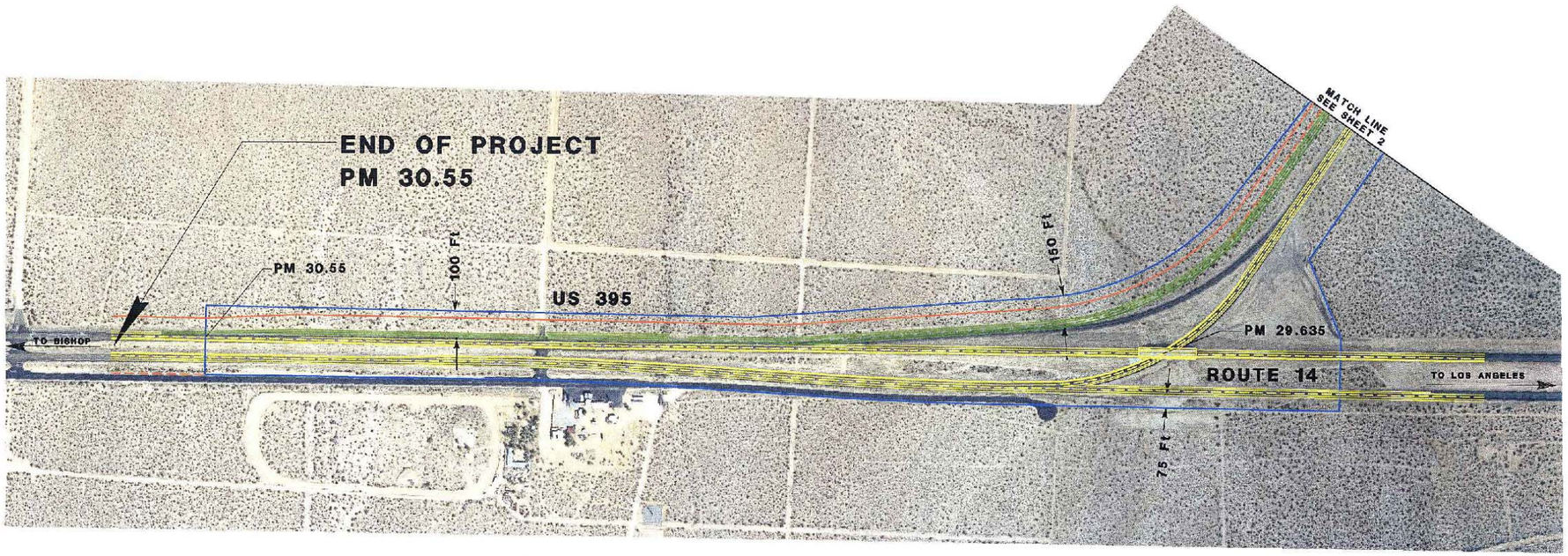
PROPOSED ALIGNMENT AND RAMPS
EXISTING ALIGNMENT
PROPOSED PRIVATE EASEMENT
PROPOSED AREA OF POTENTIAL EFFECT



ALTERNATIVE 2A EAST SIDE WIDENING

KERN ROUTE 395
INYOKERN 4-LANE
EA 06-443100

SHEET 1

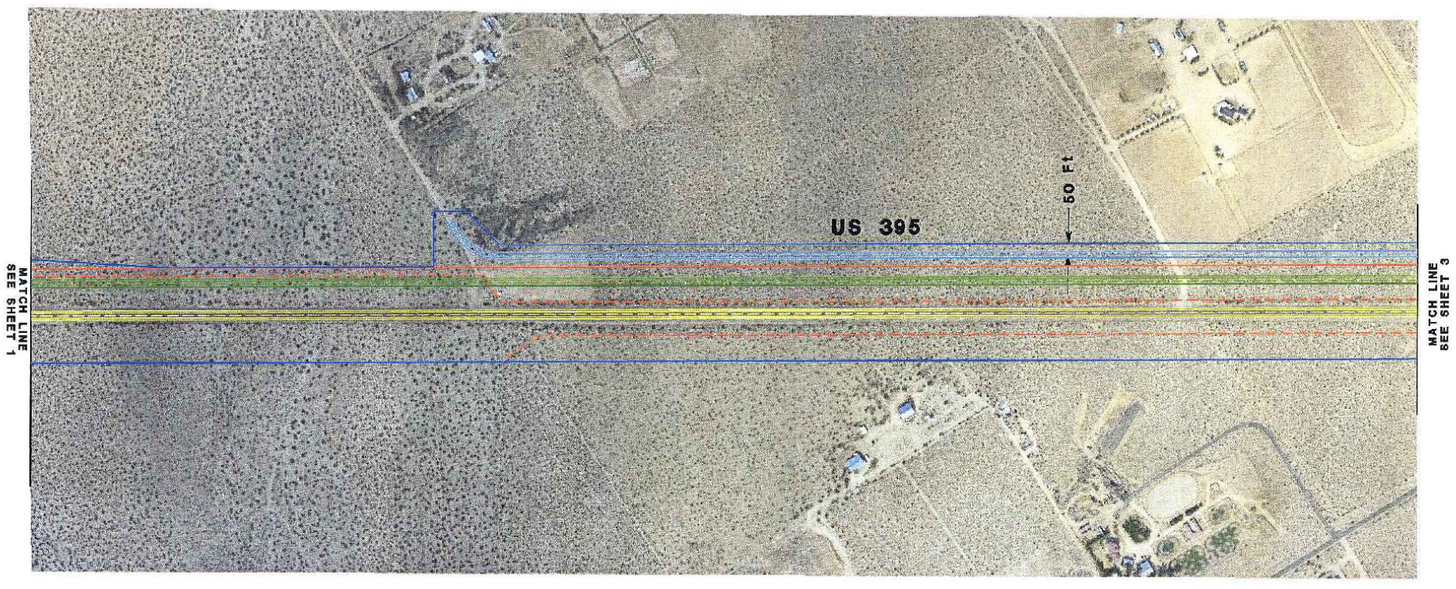
SCALE 1" = 500'

01 29 08

443T0\DESIGN\400 DISTRICT CORRESPONDENCE\420 ENVIRONMENTAL\VIRGINIA VONDERGNALTERNATIVE 2A\395 APE ALT 2A SCALE 500 SHT1.DGN

LEGEND

- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- PROPOSED FRONTAGE ROADS
- PROPOSED ALIGNMENT AND RAMPS
- EXISTING ALIGNMENT
- PROPOSED PRIVATE EASEMENT
- PROPOSED AREA OF POTENTIAL EFFECT



ALTERNATIVE 2A EAST SIDE WIDENING

KERN ROUTE 395
INYOKERN 4-LANE
EA 06-443100

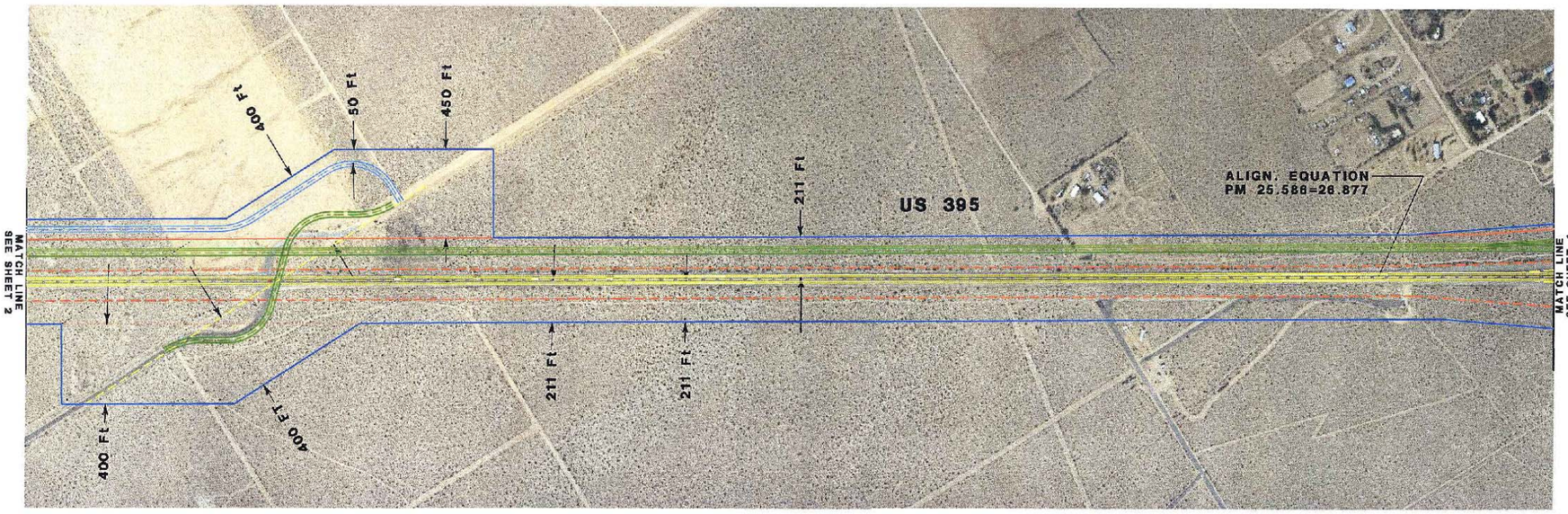
SCALE: 1" = 500' SHEET 2

01-29-08

44310\DESIGN\100 DISTRICT CORRESPONDENCE\120 ENVIRONMENTAL\VERSAJA VONBERNALTERNATIVE 2A\395 APE ALT 2A SCALE 500 SHT2.DGN

LEGEND

EXISTING RIGHT OF WAY
PROPOSED RIGHT OF WAY
PROPOSED FRONTAGE ROADS
PROPOSED ALIGNMENT AND RAMPS
EXISTING ALIGNMENT
PROPOSED PRIVATE EASEMENT
PROPOSED AREA OF POTENTIAL EFFECT



ALTERNATIVE 2A EAST SIDE WIDENING

KERN ROUTE 395
INYOKERN 4-LANE
EA 06-443100

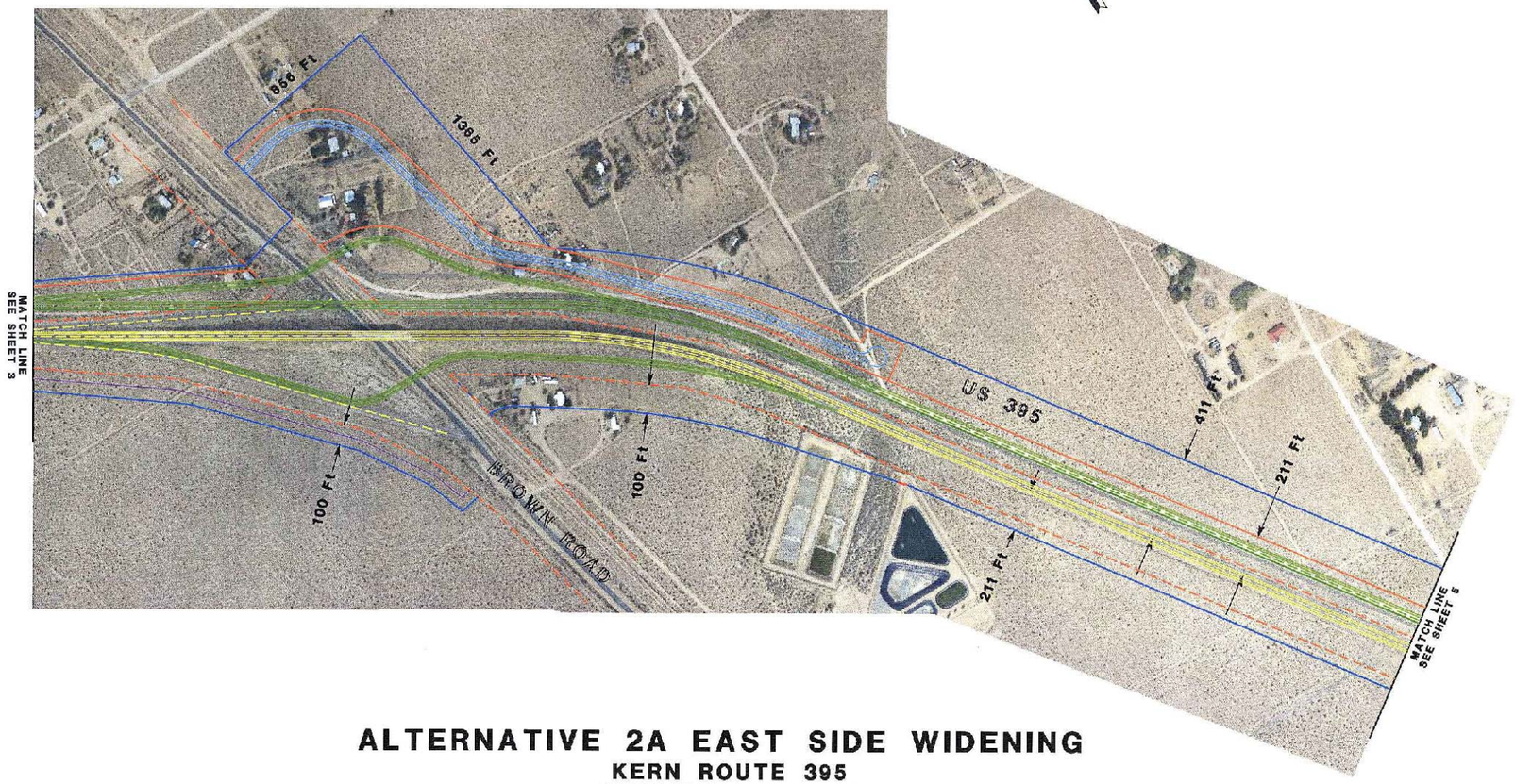
SCALE: 1" = 500' SHEET 3

01-29 08

443100\DESIGN\400 DISTRICT CORRESPONDENCE\420 ENVIRONMENTAL\VIRGINIA VONBERG\ALTERNATIVE 2A\395 APE ALT2A SCALE 500 S-T3.DGN

LEGEND

- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- PROPOSED FRONTAGE ROADS
- PROPOSED ALIGNMENT AND RAMPS
- EXISTING ALIGNMENT
- PROPOSED PRIVATE EASEMENT
- PROPOSED AREA OF POTENTIAL EFFECT

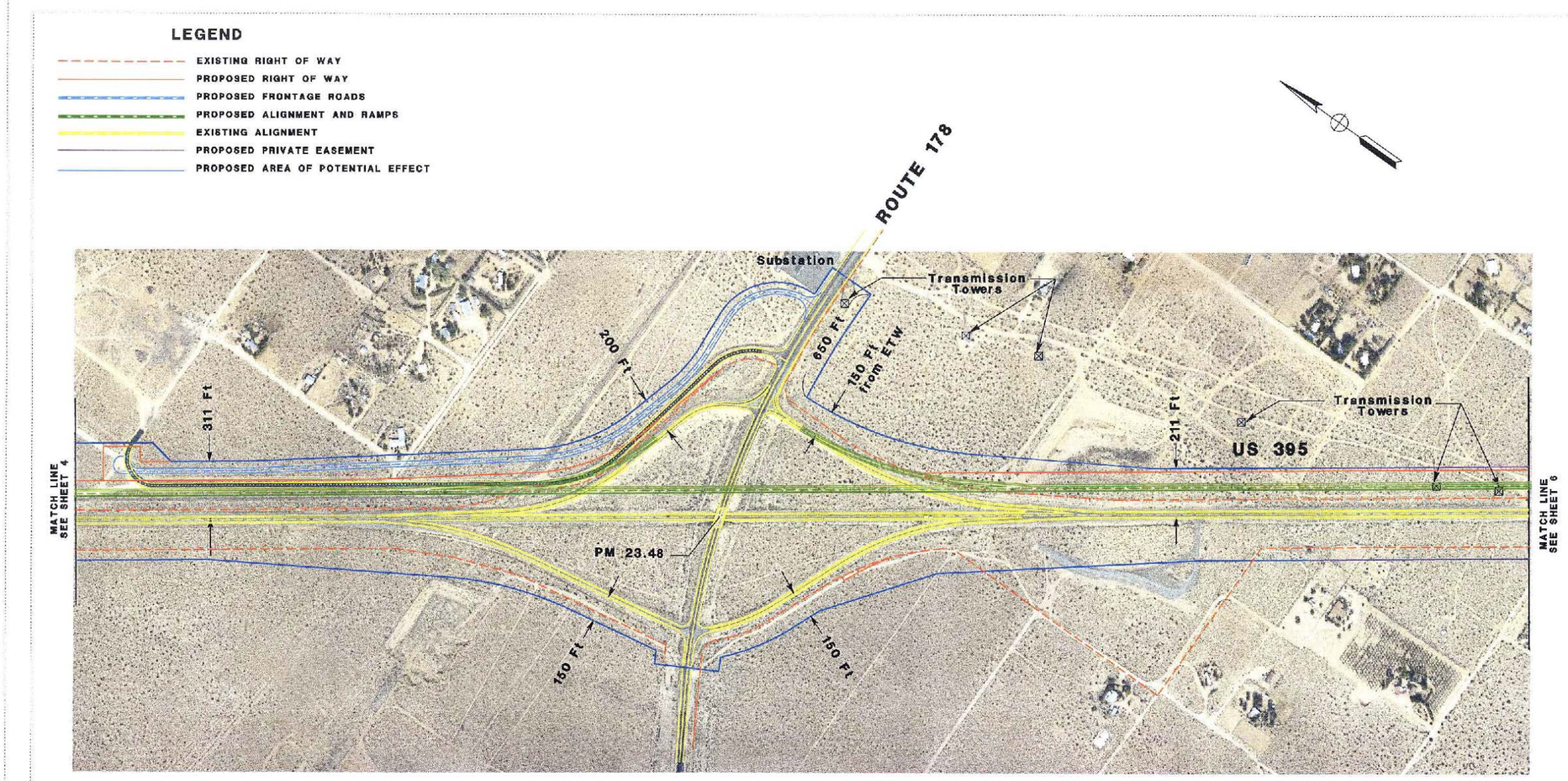


ALTERNATIVE 2A EAST SIDE WIDENING
KERN ROUTE 395
INYOKERN 4-LANE
EA 06-443100

SCALE: 1" = 500' SHEET 4

01-29-08

44310\DESIGN\400 DISTRICT CORRESPONDENCE\420 ENVIRONMENTAL\VIRGINIA VONBERG\ALTERNATIVE 2A\395 APE ALT2A SCALE 500 SHT4.DGN



ALTERNATIVE 2A EAST SIDE WIDENING

KERN ROUTE 395
INYOKERN 4-LANE
EA 06-443100

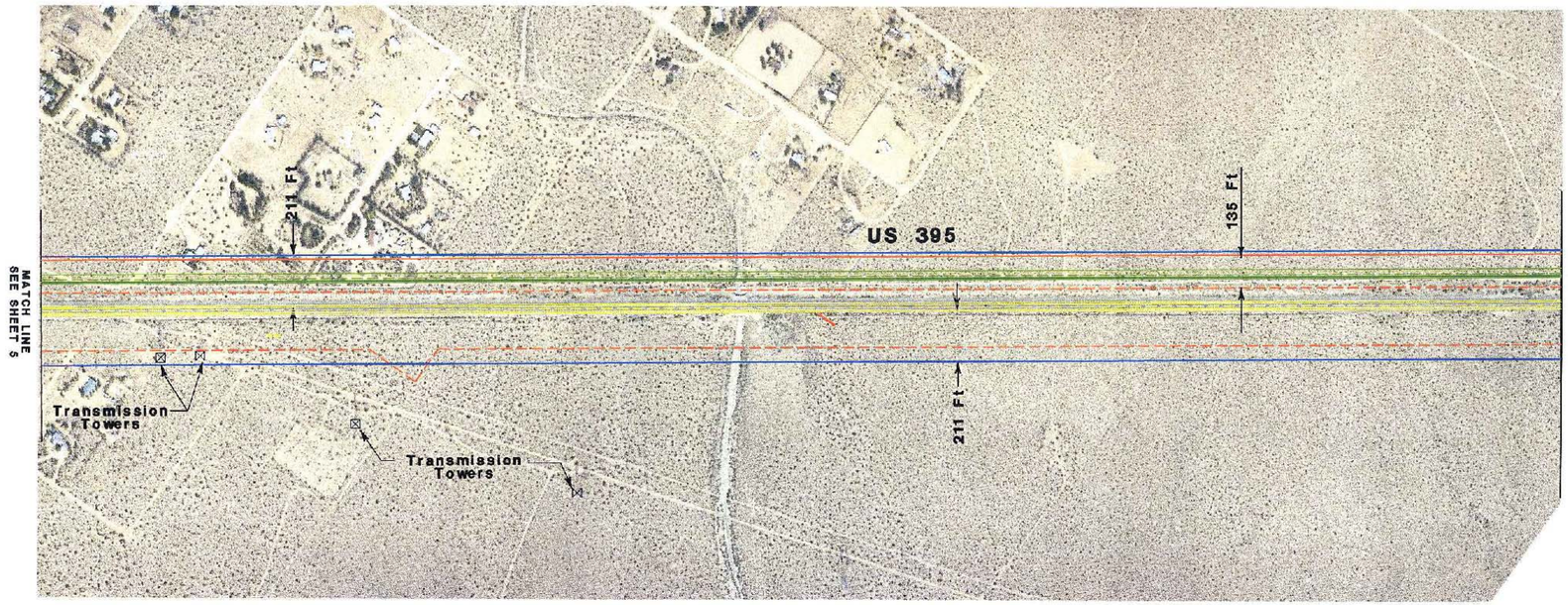
SCALE: 1" = 500' SHEET 5

01-29-08

443100\DESIGN\400 DISTRICT CORRESPONDENCE\20 ENVIRONMENTAL\VIRGINIA VONB-PGNAL ERNATIVE 2A\395 APE ALT2A SCALE 500 SHT5.DGN

LEGEND

- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- PROPOSED FRONTAGE ROADS
- PROPOSED ALIGNMENT AND RAMPS
- EXISTING ALIGNMENT
- PROPOSED PRIVATE EASEMENT
- PROPOSED AREA OF POTENTIAL EFFECT



ALTERNATIVE 2A EAST SIDE WIDENING

KERN ROUTE 395
INYOKERN 4-LANE
EA 06-443100

SHEET 6

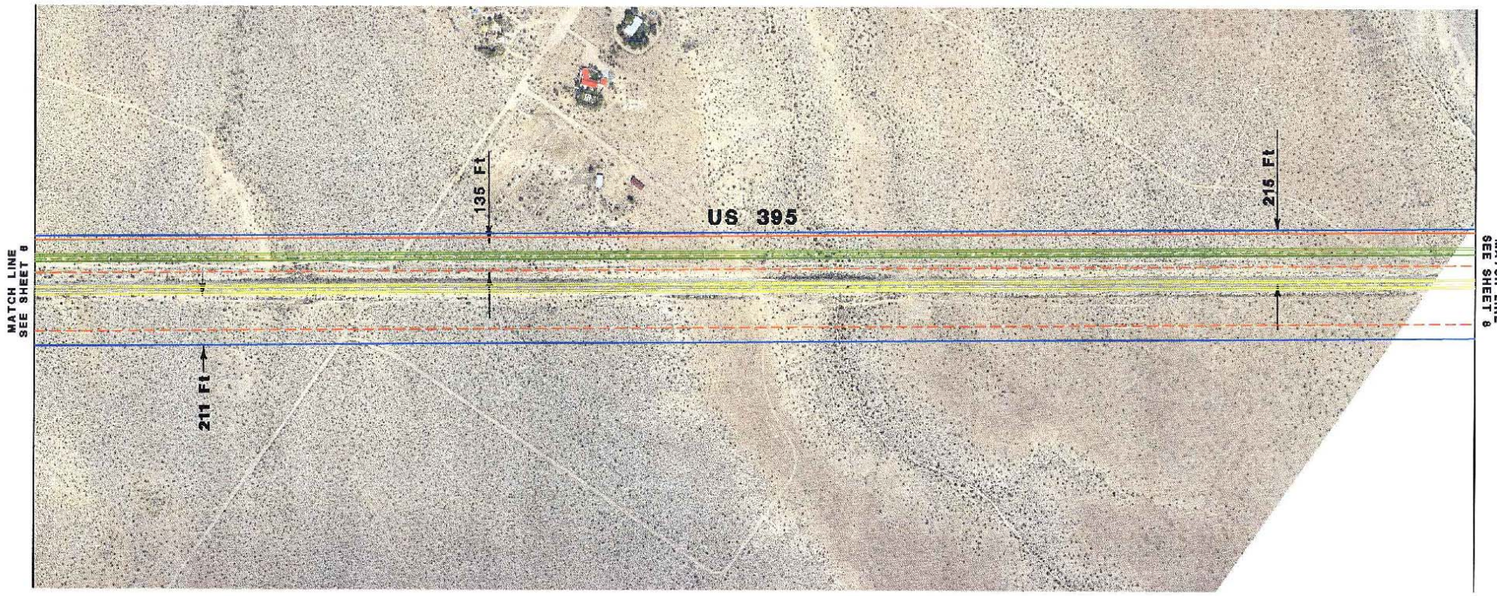
SCALE: 1" = 500'

01-29-08

443100\DESIGN\400 DISTRICT CORRESPONDENCE\420 ENVIRONMENTAL\VIRGINIA VONBERG\ALTERNATIVE 2A\395 ADC ALT2A SCALE 500 S-T6.DGN

LEGEND

- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- PROPOSED FRONTAGE ROADS
- PROPOSED ALIGNMENT AND RAMPS
- EXISTING ALIGNMENT
- PROPOSED PRIVATE EASEMENT
- PROPOSED AREA OF POTENTIAL EFFECT



ALTERNATIVE 2A EAST SIDE WIDENING

KERN ROUTE 395
INYOKERN 4-LANE
EA 06-443100

SCALE: 1" = 500'

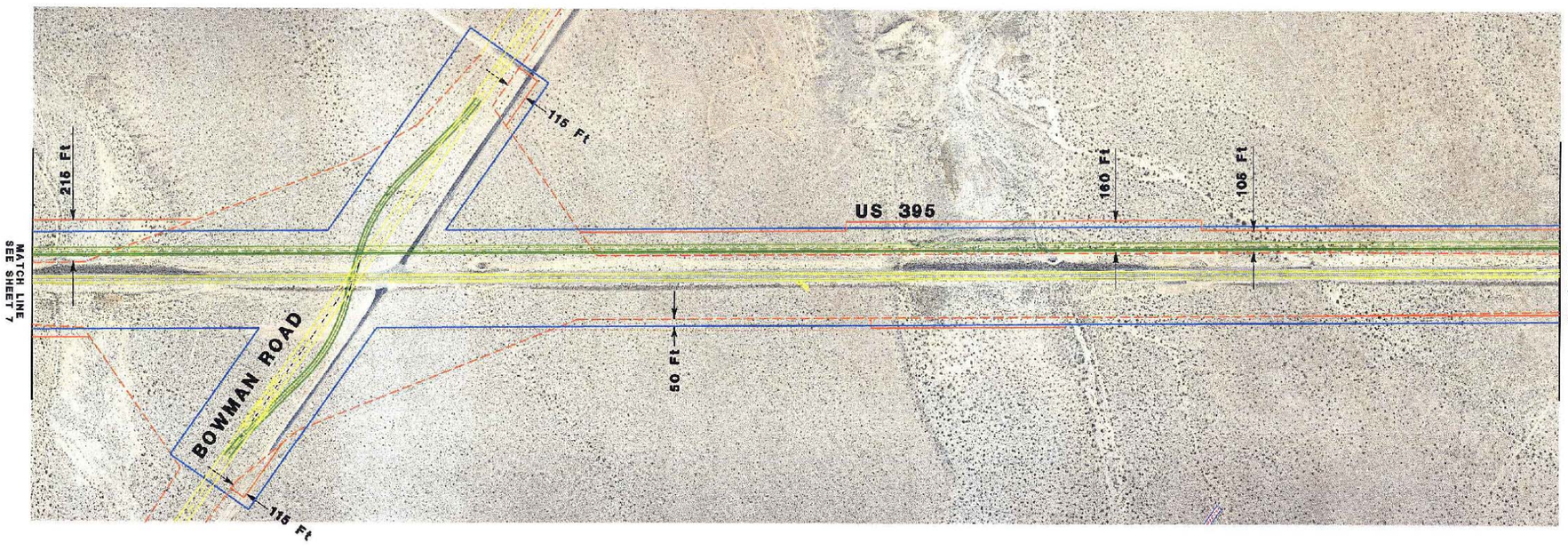
SHEET 7

07 29 08

...431\DESIGN\400 DISTRICT CORRESPONDENCE\420 ENVIRONMENTAL\VIRGINIA YONDER\NA TERNATIVE 2A\395 APE ALT2ASCALE 500 SHT7.DGN

LEGEND

- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- PROPOSED FRONTAGE ROADS
- PROPOSED ALIGNMENT AND RAMPS
- EXISTING ALIGNMENT
- PROPOSED PRIVATE EASEMENT
- PROPOSED AREA OF POTENTIAL EFFECT



ALTERNATIVE 2A EAST SIDE WIDENING

KERN ROUTE 395
INYOKERN 4-LANE

EA 06-443100

SCALE: 1" = 500'

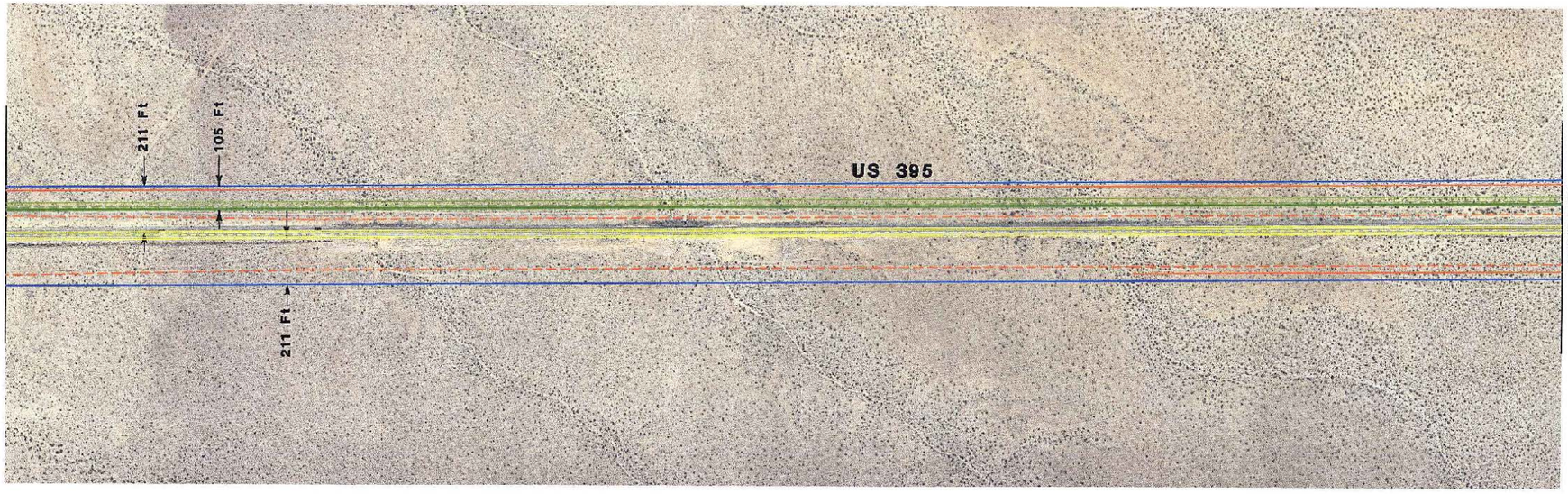
SHEET 8

01-29-08

44310\DESIGN\400 DISTRICT CORRESPONDENCE\420 ENVIRONMENTAL\VIRGINIA VONBERG\ALTERNATIVE 2A\395 ARE ALT2ASCALE 500 SHT8.DGN

LEGEND

- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- PROPOSED FRONTAGE ROADS
- PROPOSED ALIGNMENT AND RAMPS
- EXISTING ALIGNMENT
- PROPOSED PRIVATE EASEMENT
- PROPOSED AREA OF POTENTIAL EFFECT



ALTERNATIVE 2A EAST SIDE WIDENING

KERN ROUTE 395
INYOKERN 4-LANE
EA 06-443100

SCALE: 1" = 500'

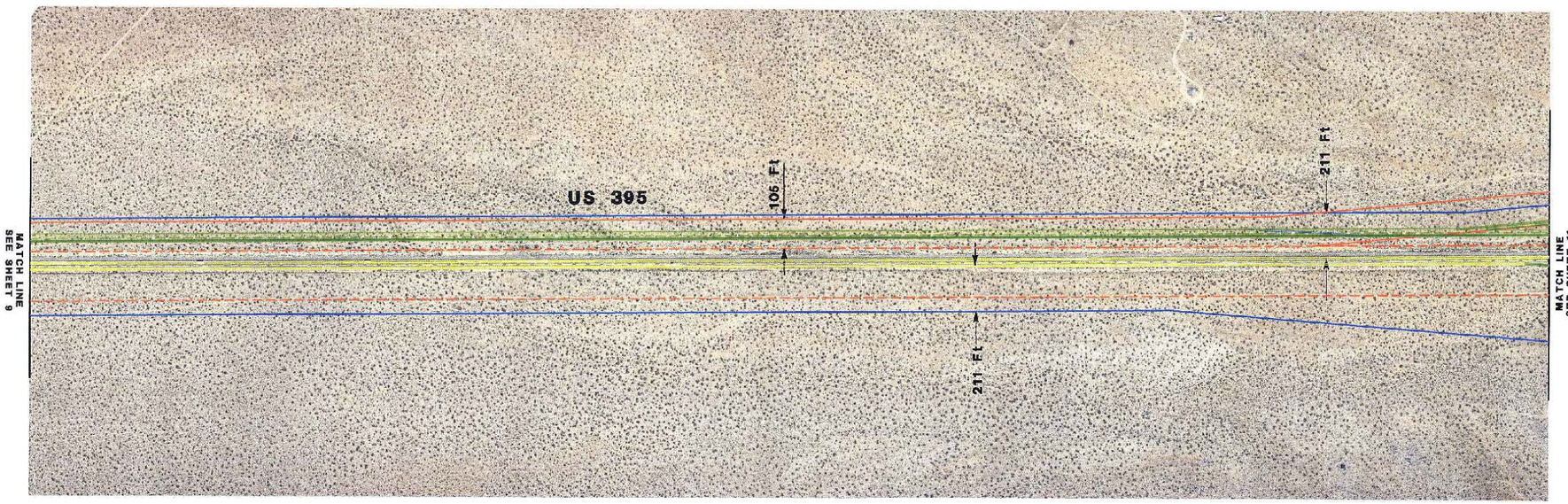
SHEET 9

01-23-08

44310\DESIGN\400 DISTRICT CORRESPONDENCE\420 ENVIRONMENTAL\VIRGINIA VONDERG\ALTERNATIVE 2A\395 APP A T2A SCALE 500 SHT9.DGN

LEGEND

- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- PROPOSED FRONTAGE ROADS
- PROPOSED ALIGNMENT AND RAMPS
- EXISTING ALIGNMENT
- PROPOSED PRIVATE EASEMENT
- PROPOSED AREA OF POTENTIAL EFFECT



ALTERNATIVE 2A EAST SIDE WIDENING

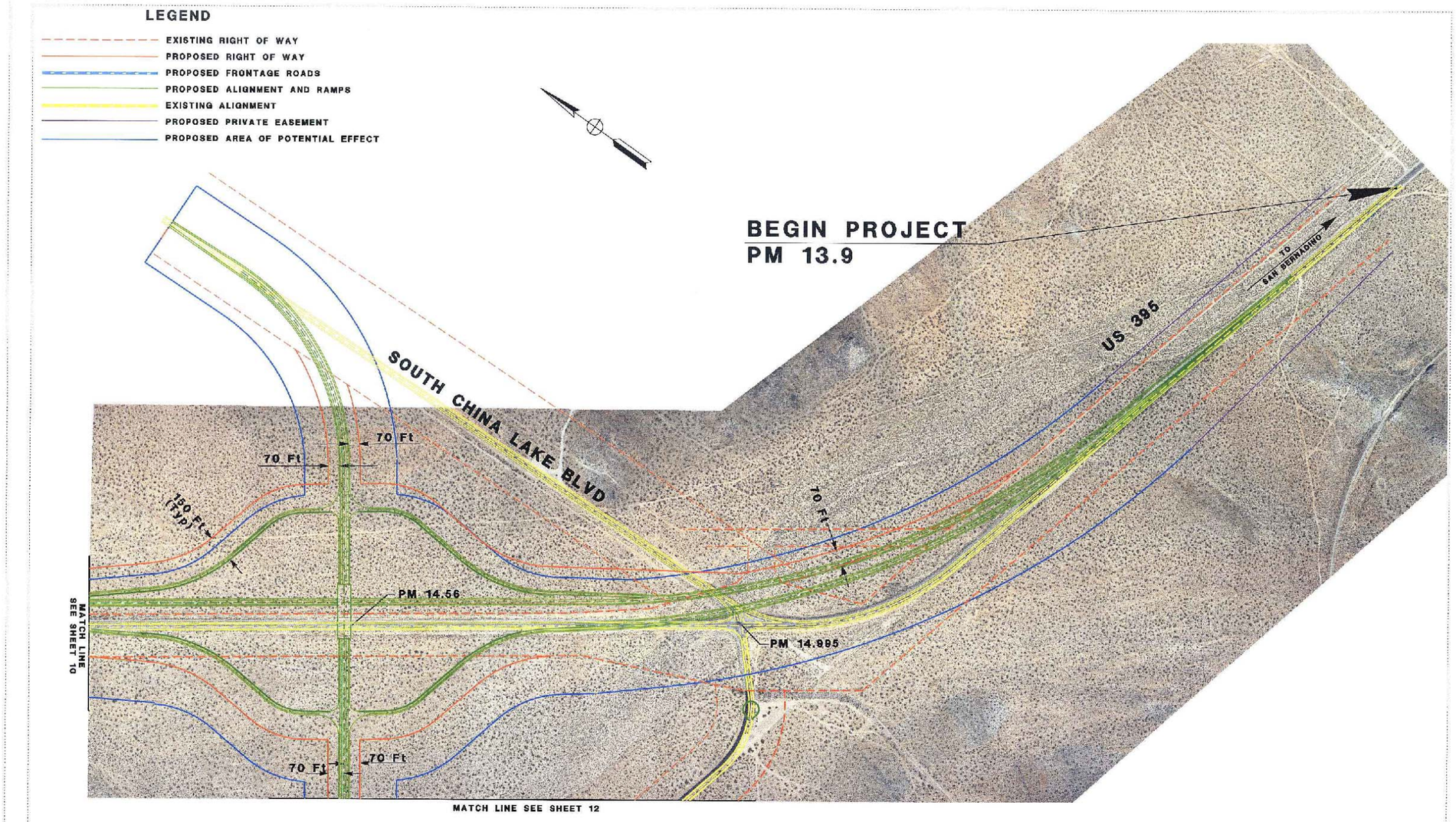
KERN ROUTE 395
INYOKERN 4-LANE
EA 06-443100

SCALE: 1" = 500'

SHEET 10

01-29-08

443\DESIGN\400 DISTRICT CORRESPONDENCE\20 ENVIRONMENTAL\VIRGINIA VONDERG\ALTERNATIVE 2A\395 APE ALT2A SCALE 500 SHT10.DGN



ALTERNATIVE 2A EAST SIDE WIDENING
KERN ROUTE 395
INYOKERN 4-LANE
EA 06-443100

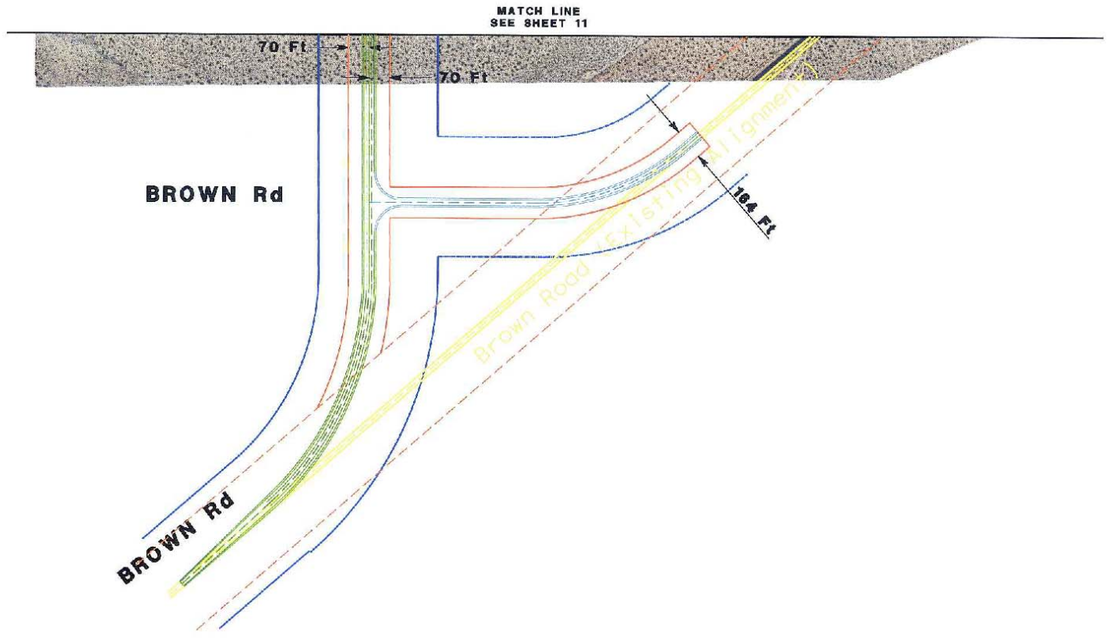
SCALE: 1" = 500' SHEET 11

01-29-08

44310\DESIGN\400 DISTRICT CORRESPONDENCE\420 ENVIRONMENTAL\VIRGINIA VONBERG\ALTERNATIVE 2A\395 ARF A T24500 SCALE SHT11.DGN

LEGEND

- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- PROPOSED FRONTAGE ROADS
- PROPOSED ALIGNMENT AND RAMPS
- EXISTING ALIGNMENT
- PROPOSED PRIVATE EASEMENT
- PROPOSED AREA OF POTENTIAL EFFECT



ALTERNATIVE 2A EAST SIDE WIDENING

KERN ROUTE 395
INYOKERN 4-LANE

EA 06-443100

SCALE: 1" = 500'

SHEET 12

01-29-08

443100\DESIGN\400 DISTRICT CORRESPONDENCE\420 ENVIRONMENTAL\VIRGINIA VONBERG\ALTERNATIVE 2A\395 APE ALT 2A 500 SCALE SH 12.DGN

Appendix G U.S. Fish and Wildlife Service Species List

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003

In Reply Refer To: 281.290.362

April 29, 2003

Paul Sturm
Caltrans Regional Biologist
2015 E. Shields, #100
Fresno, California 93726

Subject: Species List For Proposed Inyokern 4-Lane Project (EA-06-44310), USGS 7.5-Minute Quadrangles: Ridgecrest South, Inyokern SE, and Inyokern, Kern County, California

Dear Mr. Sturm:

This letter is in response to your request dated January 14, 2003, and received by us on January 16, 2003, for information on federally listed, proposed, or candidate species which may be present in or around the following 7.5-minute U.S. Geological Survey quadrangle maps: Ridgecrest South, Inyokern SE, and Inyokern of Kern County, California. The California Department of Transportation, with funding from the Federal Highway Administration (FHWA), proposes to widen an existing two-lane conventional highway into a four-lane divided expressway on Route 395 between post mile 14.8 and 23.0.

The enclosed list of species fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Act. The FHWA, as the lead agency for the project, has the responsibility to review its proposed activities and determine whether any listed species may be affected. If the project is a construction project[1/] which may require an environmental impact statement, the FHWA has the responsibility to prepare a biological assessment to make a determination of the effects of the action on the listed species or critical habitat. If the FHWA determines that a listed species or critical habitat is likely to be adversely affected, it should request, in writing through our office, formal consultation pursuant to section 7 of the Act. Informal consultation may be used to exchange information and resolve conflicts with respect to threatened or endangered species or their critical habitat prior to a written request for formal consultation. During this review process, the FHWA may engage in planning efforts but may not make any irreversible commitment of resources. Such a commitment could constitute a violation of section 7(d) of the Act.

[1/] "Construction project" means any major Federal action which significantly affects the quality of the human environment designed primarily to result in the building of structures such as dams, buildings, roads, pipelines, and channels. This includes Federal actions such as permits, grants, licenses, or other forms of Federal authorizations or approval which may result in construction.

Federal agencies are required to confer with the Service, pursuant to section 7(a)(4) of the Act, when an agency action is likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat (50 CFR 402.10(a)). A request for formal conference must be in writing and should include the same information that would be provided for a request for formal consultation. Conferences can also include discussions between the Service and the Federal agency to identify and resolve potential conflicts between an action and proposed species or proposed critical habitat early in the decision-making process. The Service recommends ways to minimize or avoid adverse effects of the action. These recommendations are advisory because the jeopardy prohibition of section 7(a)(2) of the Act does not apply until the species is listed or the proposed critical habitat is designated. The conference process fulfills the need to inform Federal agencies of possible steps that an agency might take at an early stage to adjust its actions to avoid jeopardizing a proposed species.

Candidate species are those species presently under review by the Service for consideration for federal listing. Candidate species should be considered in the planning process because they may become listed or proposed for listing prior to project completion. Preparation of a biological assessment, as described in section 7(c) of the Act, is not required for candidate species. If early evaluation of your project indicates that it is likely to affect a candidate species, you may wish to request technical assistance from this office.

The take of candidate species is not prohibited by the Act, however, we encourage you to consider their conservation in your planning process in the event they are listed prior to project completion. For information on other species of concern that may occur in the project area, the Service recommends that you review information in the California Department of Fish and Game's (CDFG) Natural Diversity Database and that you contact CDFG at (916)324-3812.

If you have any questions, please contact Robert McMorran of my staff at (805) 644-1766.

Sincerely,

Judy Hohman

Judy Hohman
Division Chief
Mojave/Great Basin Desert

Enclosure

ENDANGERED, THREATENED, AND PROPOSED SPECIES
THAT MAY OCCUR WITHIN THE
RIDGECREST SOUTH, INYOKERN SE, AND INYOKERN QUADRANGLES
KERN COUNTY, CALIFORNIA

Reptile		
Desert tortoise	*Gopherus agassizii*	T
Plants		
Hoover's wooly-star	*Eriastrum hooveri*	T
Kelso Creek monkeyflower	*Mimulus shevockii*	PE

Key:
T Threatened
PE Taxa proposed for listing as endangered

U.S. Fish & Wildlife Service - Ventura Fish & Wildlife Office

Species Lists

Federal Endangered and Threatened Species that may be affected by projects in Kern County

(5 Species)

Key

Type	Common Name	Scientific Name	Status	Date Listed	CH	CH Date	Occurs In
Bird	CALIFORNIA CONDOR	Gymnogyps californianus	Endangered	11-Mar-67	Yes	22-Sep-77	KRN, LA, MNT, SLO, SBA
Bird	LEAST BELL'S VIREO	Vireo bellii pusillus	Endangered	02-May-86	Yes	02-Feb-94	INY, KRN, LA, SBA, SBD, SBE, SCZ, SLO, VEN
Bird	SOUTHWESTERN WILLOW FLYCATCHER	Empidonax traill extimus	Endangered	27-Feb-95	Yes	22-Jul-97	INY, KRN, LA, SBA, SBD, LA
Bird	YELLOW-BILLED CUCKOO	Coccyzus americanus	Candidate	25-Jul-01	No		INY, KRN, LA, MNO, MNT, SBA, SBD, SBE, SCZ, SLO, VEN
Reptile	DESERT TORTOISE	Gopherus agassizii	Threatened	02-Apr-90	Yes	08-Feb-94	INY, KRN, LA, SBD

UNOFFICIAL

2493 Portola Road, Suite B
Ventura, CA 93003
office (805) 644-1766 | fax (805) 644-3958
or to contact the WebMaster by e-mail, click here.

FIRSTGOV.gov

Appendix H Sensitive Species List

Scientific Name	Common Name	Status	Specific Habitat Present/ Absent	Species Present/ Absent	Rationale for Species Presence/Absence Finding
Reptiles:					
Gopherus agassizi	Desert tortoise	FT, ST	P	P	Desert tortoise was seen during surveys of the biological study area.
Birds:					
Athene cunicularia hypugaea	Western burrowing owl	FSC, SSC	P	P	There are confirmed occurrences less than 2 miles from the project area, and suitable habitat exists in the biological study area.
Falco mexicanus	Prairie falcon	SSC	P	P	There are confirmed occurrences within 2 miles of the project area, and suitable habitat exists in the biological study area.
Toxostoma lecontei	Le Conte's thrasher	SSC	P	P	There are confirmed sightings within 1 mile of the project area, and suitable habitat exists in the biological study area.
Mammals:					
Spermophilus mohavensis	Mohave ground squirrel	FSC, ST	P	P	There are confirmed sightings within the project area, and suitable habitat exists in the biological study area.

Scientific Name	Common Name	Status	Specific Habitat Present/ Absent	Species Present/ Absent	Rationale for Species Presence/Absence Finding
Taxidea taxux	American badger	SSC	P	P	There are confirmed sightings within 3.4 miles of the project area and suitable habitat is present within the biological study area.
Plants:					
Eschscholzia minutiflora ssp. twisselmannii	Red Rock poppy	CNPS	P	A	This species blooms from March to May and would have been visible during surveys if it were present. This species was not seen during botanical surveys.
Phacelia nashiana	Charlotte's phacelia	CNPS	P	A	This species blooms from March to May and would have been visible during surveys if it were present. This species was not seen during botanical surveys.

A	No further work is needed
FE	Federally Endangered
FT	Federally Threatened
FC	Federal Candidate for Listing
FSC	Federal Species of Concern
P	General habitat is present and species may be present
SE	State Endangered
ST	State Threatened
SR	State Rare
SSC	State Species of Special Concern
CNPS	California Native Plant Society listing

Appendix I U.S. Army Corps of Engineers Letter

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, CORPS OF ENGINEERS
VENTURA FIELD OFFICE
2151 ALESSANDRO DRIVE, SUITE 110
VENTURA, CALIFORNIA 93001

April 11, 2006

REPLY TO
ATTENTION OF:

Office of the Chief
Regulatory Branch

California Department of Transportation
Environmental Planning Branch
Attention: Virginia VonBerg
2015 East Shields Avenue, Suite 100
Fresno, California 93726-5428

Dear Ms. VonBerg:

Reference is made to your letter (No. 2006-00918-AOA) dated March 29, 2006 for a Department of the Army Permit to widen State Route 14 and 178, including expansion of several existing culverts and bridges, in Little Dixie, Freeman, Bowman and other unnamed desert washes that are tributary to China Drylake, west of Ridgecrest, Kern County, California.

Based on the information furnished in your letter and the recent Solid Waste Agency of Northern Cooke County Supreme Court decision (No. 99-1178), we have determined that the above ephemeral tributaries to China Drylake are isolated, non-navigable drainage features that do not support substantial interstate commerce. As a result, your proposed road widening project does not discharge dredged or fill material into a water of the United States or an adjacent wetland. Therefore, the project is not subject to our jurisdiction under Section 404 of the Clean Water Act and a Section 404 permit is not required from our office.

Furthermore, you are hereby advised that the Corps of Engineers has established an Administrative Appeal Process for jurisdictional determinations which is fully described at 33 CFR Part 331. The Administrative Appeal Process for jurisdictional determinations is diagrammed on the enclosed Appendix C. If you decide not to accept this approved jurisdictional determination and wish to provide new information, please send the information to this office. If you do not supply additional information you may appeal this approved jurisdictional determination by completing the attached "Notification of Administrative Appeal Options and Process and Request for Appeal" form and submitting it directly to the Appeal Review Officer at the address provided on the form.

Please be aware that our determination does not preclude the need to comply with Section 13260 of the California Water Code (Porter/Cologne) and we recommend that you contact the California Regional Water Quality Control Board to insure compliance with the above regulations. Furthermore, our determination does not obviate the need to obtain other Federal, state, or local authorizations required by law.

I am forwarding copies of this letter to: California State Water Resources Control Board, 1001 I Street, Sacramento, California 95814, Attention: Mr. Oscar Balaguer, Chief, Water Quality Certification. California Regional Water Quality Control Board, Region 6, Lahontan Region, Attention: Mr. Harold J. Singer, 2501 Lake Tahoe Blvd., South Lake Tahoe, California 96150.

If you have any questions, please contact Aaron O. Allen, Ph.D. of my staff at (805) 585-2148.

Sincerely,

Antal Szijj
Acting Chief, North Coast Section
Regulatory Branch

Appendix J State Historic Preservation Officer Concurrence Letter

STATE OF CALIFORNIA – THE RESOURCES AGENCY ARNOLD SCHWARZENEGGER, *Governor*

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
P.O. BOX 942896
SACRAMENTO, CA 94296-0001
(916) 653-6624 Fax: (916) 653-9824
calshpo@ohp.parks.ca.gov
www.ohp.parks.ca.gov

9 January 2007 In Reply Refer To FHWA061220A

Lance H. Brangham, Chief
San Joaquin Valley Environmental Analysis Branch
California Department of Transportation
2015 East Shields Avenue, Suite A-100
Fresno, CA 93726-5428

RE: DETERMINATION OF ELIGIBILITY AND NOTIFICATION OF NO ADVERSE EFFECT WITH STANDARD CONDITIONS FOR THE INYOKERN FOUR-LANE PROJECT, KERN COUNTY, CALIFORNIA, 06-KER-395, PM 13.8/23.5, 06-443100 [*SECTION 106 CONSULTATION (RND.01) ON THE **INYOKERN FOUR-LANE PROJECT** ALONG UNITED STATES HIGHWAY 395, KERN COUNTY, CALIFORNIA*]

Dear Mr. Brangham:

This letter is a response to the California Department of Transportation's (Caltrans) submission, on behalf of the Federal Highway Administration, of the December 2006 *Historic Property Survey Report for the Inyokern Four Lane Project, Kern County, California* (2 vols.)(HPSR). Caltrans' submission and my comment on it here are made pursuant to the 1 January 2004 *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*.

Your letter of 20 December 2006 requests that I concur with Caltrans' determinations that prehistoric archaeological site **CA-KER-6295** is not eligible for inclusion in the National Register of Historic Places (National Register), that the portion of prehistoric archaeological site **CA-KER-1671** in the proposed and existing R.O.W. for United States Highway 395 (US 395) would not contribute to the National Register eligibility of that property should it ever be found to be so eligible, and that the portion of the **"Freight Road to Panamint"** in the area of potential effects (APE) for the undertaking would similarly not contribute to the National Register eligibility of that road, as a whole.

On the basis of my review of the HPSR, I concur with the foregoing determinations.

Please direct any questions or concerns that you may have to Project Review Unit archaeologist Mike McGuirt at 916.653.8920 or at mmcgu@parks.ca.gov.

Sincerely,

Susan K Stratton for

Milford Wayne Donaldson, FAIA
State Historic Preservation Officer

MWD:MDM:mdm

Appendix K Farmland Conversion Impact Rating

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(REV.3-02)

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*

3. Date Of Land Evaluation Request: 09/12/07

4. Sheet 1 of 1

1. Name of Project: Inyokern Four – Lane Project

5. Federal Agency Involved: California Department of Transportation

2. Proposed Land Use: Expand 2-Lane highway to 4-lane expressway

6. County and State: Kern County, California

PART II *(To be completed by NRCS)*

1. Date Request Received By NRCS: 9/19/2007

2. Person Completing Form: James Booth

3. Does the corridor contain prime, unique, statewide or local important farmland? YES ☐ NO ☒
(If no, the FPPA does not apply – do not complete additional parts of this form)

4. Acres Irrigated | Average Farm Size

5. Major Crop(s)

6. Farmable Land In Government Jurisdiction
Acres: %

7. Amount of Farmland As Defined in FPPA
Acres: %

8. Name of Land Evaluation System Used

9. Name of State or Local Site Assessment System

10. Date Land Evaluation Returned by NRCS

PART III *(To be completed by Federal Agency)*

	Alternative Corridor For Segment: Corridor A	Corridor B	Corridor C	Corridor d
A. Total Acres To Be Converted Directly	111.7	111.7	142.9	142.9
B. Total Acres To Be Converted Indirectly	0	0	0	0
C. Total Acres In Site	111.7	111.7	142.9	142.9

PART IV *(To be completed by NRCS)* Land Evaluation Information

A. Total Acres Prime And Unique Farmland				
B. Total Acres Statewide Important or Local Important Farmland				
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value				

PART V (To be completed by NRCS) Land Evaluation Criterion
Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)

PART VI *(To be completed by Federal Agency)* Corridor Assessment Criteria
(Criteria are explained in 7 CFR 658.5 b & c. For Non-Corridor project use form AD-1006)

	Maximum Points	Corridor A	Corridor B	Corridor C	Corridor D
1. Area In Non-urban Use	(15)				
2. Perimeter In Non-urban Use	(10)				
3. Percent Of Corridor Being Farmed	(20)				
4. Protection Provided By State and Local Government	(20)				
5. Size Of Present Farm Unit Compared To Average	(10)				
6. Creation Of Non-farmable Farmland	(25)				
7. Availability Of Farm Support Services	(5)				
8. On-Farm Investments	(20)				
9. Effects Of Conversion On Farm Support Services	(25)				
10. Compatibility With Existing Agricultural Use	(10)				
TOTAL CORRIDOR ASSESSMENT POINTS	160				

PART VII *(To be completed by Federal Agency)*

Relative Value Of Farmland *(From Part V)*	100			
Total Corridor Assessment *(From Part VI above or local site assessment)*	160			
TOTAL POINTS ***(Total of above 2 lines)***	260			

1. Corridor Selected:

2. Total Acres of Farmlands to be Converted by Project:

3. Date Of Selection

4. Was A Local Site Assessment Used? YES ☐ NO ☐

5. Reason For Selection:

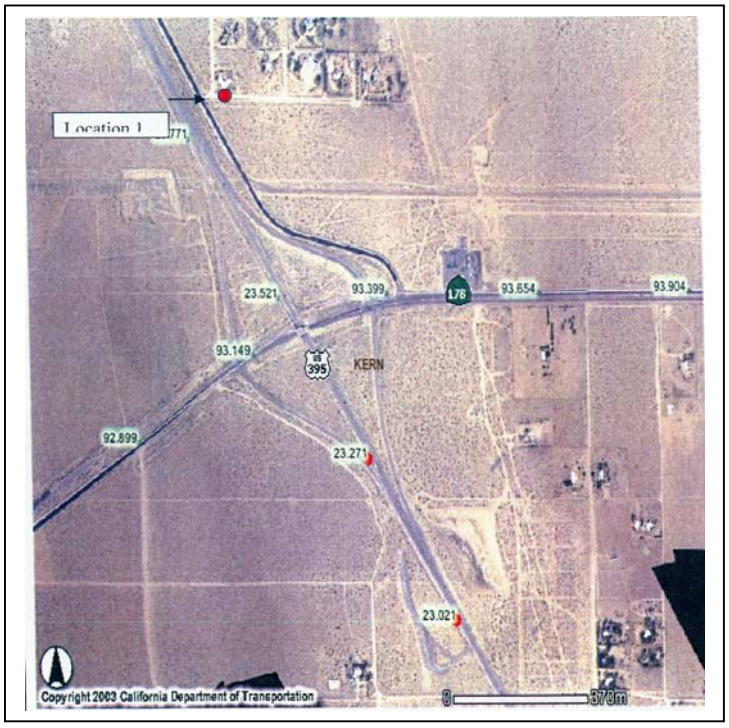
Signature of Federal agency representative completing this form: James U. Booth Date: 9/24/2007

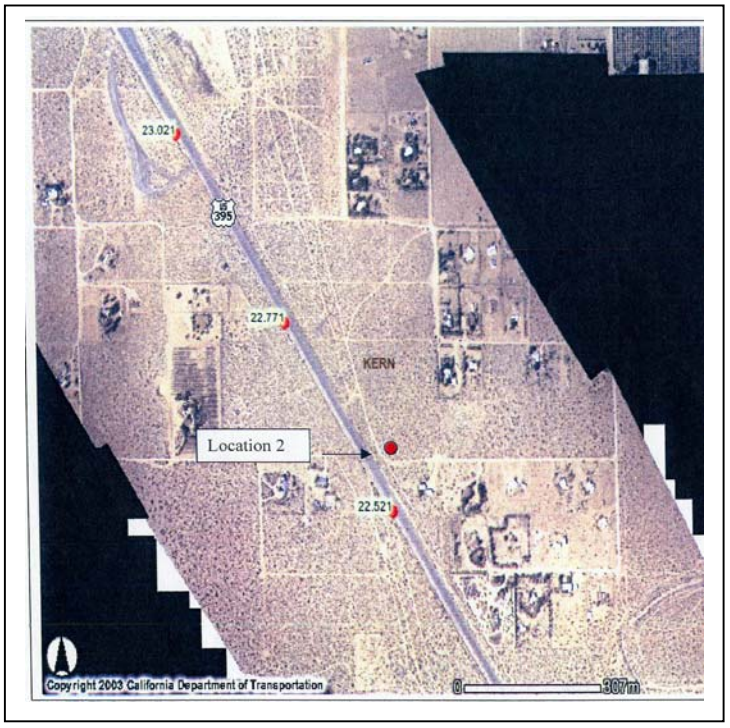
NOTE: Complete one form for each segment with more than one Alternate Corridor

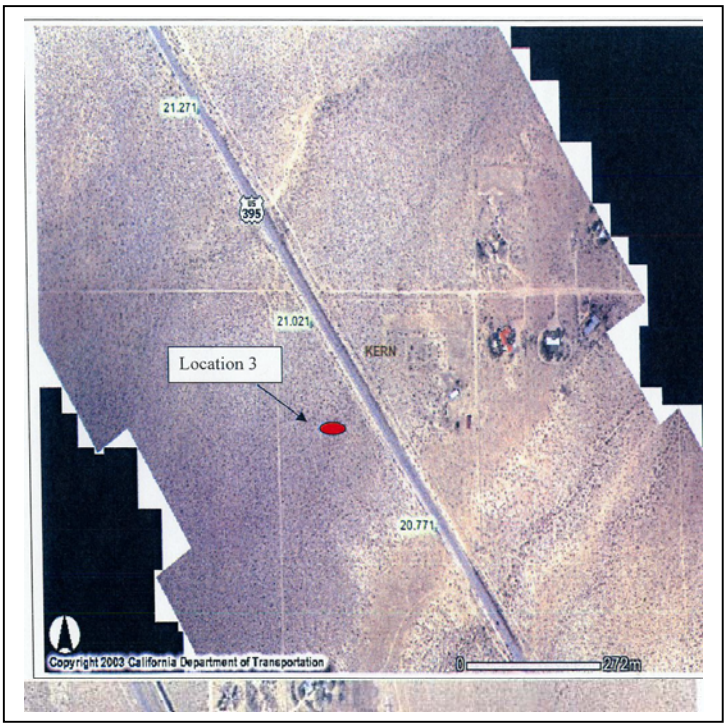
(See Instructions on reverse side)

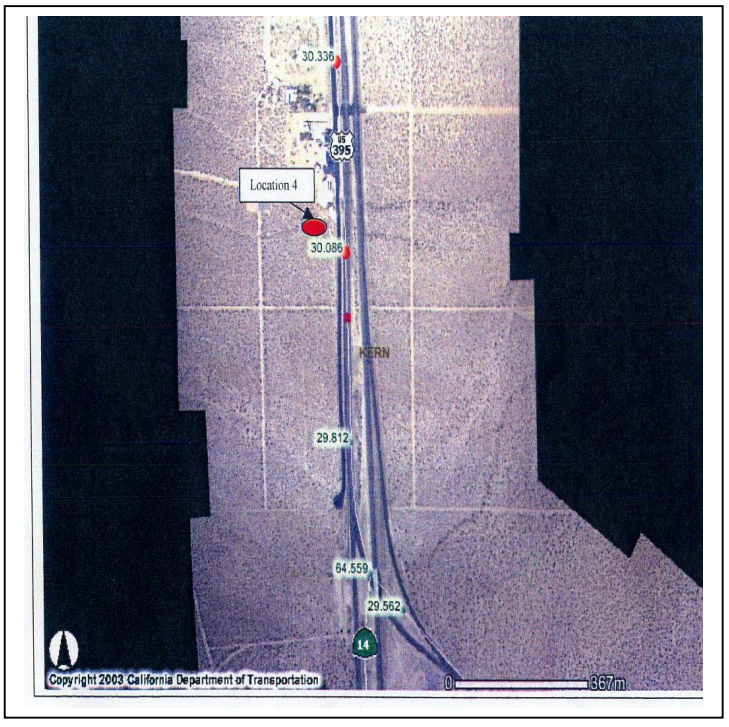
Form NRCS-CPA-106 (03-02)

Appendix L Noise Receptor Locations









List of Technical Studies that are Bound Separately

Draft Relocation Statement
Air Quality Report
Noise Study Report
Water Quality Report
Natural Environment Study
Location Hydraulic Study
Historical Property Survey Report

- Historic Resource Evaluation Report
- Archaeological Survey Report
- Supplemental Archaeological Survey Report
- Extended Phase I Report
- Archaeological Evaluation of CA-KER-1671 and CA-KER-6295

Hazardous Waste Reports:

- Initial Site Assessment
- Preliminary Site Investigation (Geophysical Survey)

Visual Impact Assessment
Initial Paleontology Study