Linden Avenue & Casitas Pass Road Interchanges Project

In the City of Carpinteria, 0.4 kilometer (0.2 mile) south of Carpinteria Creek Bridge to 0.5 kilometer (0.3 mile) north of Linden Avenue Overcrossing
05-SB-101-KP 3.5/5.5 (PM 2.2/3.4)
05-4482U0
SCH# 2008041158

Draft Environmental Impact Report/ Environmental Assessment

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.

December 2008

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 Environmental Impact Report/Environmental Assessment, which examines the potential environmental impacts of alternatives being considered for the proposed project located in the County of Santa Barbara, 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 Environmental Impact Report/Environmental Assessment. Additional copies of this document as well as the technical studies are available for review at: the Caltrans district office at 50 Higuera Street in San Luis Obispo, CA 93401; City of Carpinteria City Hall at 5775 Carpinteria Avenue in Carpinteria, CA 93013, phone (805) 684-5405; and the Carpinteria Branch Santa Barbara Public Library at 5141 Carpinteria Avenue in Carpinteria, CA 93013, phone (805) 684-4314.
- Attend the public information meeting or public hearing on Thursday, January 22, 2009 at:

  Canalino Elementary School Cafeteria
  1480 Linden Ave.
  Carpenteria, CA 93013

- We welcome your comments. If you have any concerns regarding the proposed project, please attend the public information meeting or public hearing, or send your written comments to Caltrans by the deadline. Submit comments via U.S. mail to Caltrans at the following address:

  Matt Fowler
  Central Coast Environmental Analysis
  California Department of Transportation
  50 Higuera Street
  San Luis Obispo, CA 93401

- Submit comments via email to: matt_c_fowler@dot.ca.gov.
- Submit comments by the deadline: February 14, 2009.

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.

For individuals with sensory disabilities, this document is available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: Matt Fowler, Central Coast Environmental Analysis, 50 Higuera Street, San Luis Obispo, CA 93401; (805) 542-4689 Voice, or use the California Relay Service TTY number, 800-735-2922.

SCH# 2008041158
05-SB-101-KP 3.5/5.5 (PM 2.2/3.4)
EA 4482U0

Reconstruct two interchanges on US 101
from KP 3.5 (PM 2.2) to KP 5.5 (PM 3.4)

DRAFT ENVIRONMENTAL IMPACT REPORT /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

12/16/08
Date of Approval

Richard Krumholz
District Director
California Department of Transportation

Summary

Effective July 1, 2007, the California Department of Transportation (Caltrans) has been assigned environmental review and consultation responsibilities under the National Environmental Policy Act pursuant to 23 U.S. Code 327.

Overview of Project Area

The project is located in southern Santa Barbara County on Route 101 from just east of Carpinteria Creek to just west of Franklin Creek. The project covers a distance of 1.9 kilometers (1.2 miles), from kilometer post 3.5 (post mile 2.2) to about kilometer post 5.5 (post mile 3.4). Within the limits of the project, Route 101 is a four-lane urban freeway with two 3.6-meter (12-foot) lanes in each direction. Inside and outside shoulders are 1.5 meters (5 feet) and 2.4 meters (8 feet), respectively.

Purpose and Need

The purpose of the project is to improve access and operations at two interchanges on Route 101; improve operations on Route 101; reduce use of Route 101 for local trips; and improve local vehicular, bicycle, and pedestrian circulation.

The project is needed because the Linden Avenue and Casitas Pass Road overcrossings have nonstandard vertical clearance over Route 101; on-ramps within the project limits have nonstandard spacing and merging lengths; three discontinuous sections of Via Real create difficulties for local traffic on the north side of Route 101, including bicycles, pedestrians, and emergency vehicles; the northbound on-ramp at Casitas Pass Road interchange is combined with two-way traffic on Via Real, including traffic from Vallecito Road and Hales Lane; pedestrian facilities are provided on only one side of both the Linden Avenue overcrossing and the Casitas Pass Road overcrossing, and there is insufficient room to provide bicycle lanes.

Proposed Action

Caltrans proposes to make operational improvements to Route 101 within the City of Carpinteria, including: reconstructing the Linden Avenue and Casitas Pass Road interchanges, reconfiguring on- and off-ramps, replacing Route 101 bridges over Carpinteria Creek, extending the Via Real frontage road from Bailard Avenue through to Casitas Pass Road, adding a new bridge over Carpinteria Creek at Via Real, and reconstructing bike paths.

The project would take place on Route 101 and adjacent streets from west of Franklin Creek to just east of Carpinteria Creek. The project area is about 1.6 kilometers (1 mile) long, located in the City of Carpinteria in Santa Barbara County.

Four build alternatives (Alternatives 1, 2, 3 and 4) have been studied. All alternatives are identical on the east end of the project and include: replacing the bridges at Route 101 over Carpinteria Creek; reconstructing the Casitas Pass Road overcrossing and reconfiguring the northbound on- and off-ramps; extending Via Real to Linden Avenue; and reconstructing bicycle paths.

Alternatives 1 and 4 would relocate the northbound on-ramp with a direct connection to the north side of Linden Avenue, requiring a five-lane overcrossing. The additional lane would provide for left-turns. The intersection at Ogan Road and Via Real would be a standard "T" intersection with a slightly different configuration of Via Real for each of the alternatives (1 and 4). Alternatives 2 and 3 would mimic the existing northbound loop on-ramp and require a four-lane overcrossing at Linden Avenue. Alternative 2 would have a standard "T" intersection at Ogan Road and Via Real and another standard "T" intersection at Via Real and the northbound loop on-ramp. Alternative 3 would use a roundabout at the intersection of Via Real, Ogan Road, and the northbound on-ramp.

Joint California Environmental Quality Act/National Environmental Policy Act Document

The proposed project is a joint project by Caltrans and the Federal Highway Administration and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act and the National Environmental Policy Act. Caltrans is the lead agency under the California Environmental Quality Act. In addition, the Federal Highway Administration's responsibility for environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being carried out by Caltrans under its assumption of responsibility pursuant to 23 U.S. Code 327.

Some impacts determined to be significant under the California Environmental Quality Act may not lead to a determination of significance under the National Environmental Policy Act. Because the National Environmental Policy Act is concerned with the significance of the project as a whole, it is quite often the case that a "lower level" document is prepared for the National Environmental Policy Act. One

of the most commonly seen joint document types is an Environmental Impact Report/Environmental Assessment.

Following receipt of public comments on the Draft Environmental Impact Report/Environmental Assessment and certification of the Final Environmental Impact Report/Environmental Assessment, Caltrans will determine whether to issue Findings and a Statement of Overriding Considerations under the California Environmental Quality Act. Caltrans will also decide whether to issue a Finding of No Significant Impact or require an Environmental Impact Statement under the National Environmental Policy Act.

Project Impacts

The following table lists potential impacts resulting from the project.

Summary of Major Potential Impacts from Alternatives

Potential Impact	Alternative 1	Alternative 2	Alternative 3	Alternative 4	No-Build Alternative
Land Use	2.1 hectacres (5.2 acres) of farmland and 1.0 hectares (2.51 acres) of Open Space-Recreation land would be needed to extend Via Real and reconstruct the Casitas Pass Road diamond interchange. The land would be rezoned Transportation Corridor.				The land uses would remain unchanged.
Consistency with Carpinteria General Plan/Local Coastal Plan	Potentially inconsistent with the City's Local Coastal Plan due to removal of 2.1 hectacres (5.2 acres) of farmland. The Local Coastal Program does not contain an exception to the required 100-foot setback/buffer along the upland limits of all wetlands. Project components would encroach into the required setback/buffer. Therefore, the project cannot meet this requirement and will require an Amendment to the Coastal Land Use Plan.				The land uses would remain unchanged.
Parks and Recreation	New public access to the park would be provided from the proposed extension of Via Real. The Class I bicycle path would be replaced with an Americans with Disabilities Act-compliant bicycle path. The new bicycle path would extend the existing Class II bicycle path along the proposed extension of Via Real.				The Class I bicycle path and access to the Carpinteria Creek Park would remain unchanged.
Farmland	2.1 hectacres (5.2 acres) of farmland would be needed to extend Via Real and reconstruct the Casitas Pass Road diamond interchange. The land would be rezoned Transportation Corridor.				The land uses would remain unchanged.
Housing Displacements	One residence would be demolished requiring the relocation of 1-3 residents.				No residents would be displaced.
Utilities/Emergency Services	Approximately 3700 cubic meters (3 acre-ft) per year would be required for irrigation during plant establishment (three years) after the project is constructed. No wastewater would be created by this project.				No water would be required for the plant establishment period.
Traffic and	**2016**				

Potential Impact		Alternative 1	Alternative 2	Alternative 3	Alternative 4	No-Build Alternative
Transportation	Mainline	The northbound direction would operate at level of service F from State Route 150 to north of the Linden Avenue interchange during the AM peak hour. In the southbound direction, traffic operations would degrade to level of service D or worse from Reynolds Avenue to State Route 150 during the PM peak hour.				Route 101 would operate at level of service F in the northbound direction during the AM peak hour from State Route 150 to north of the Linden Avenue interchange. In the southbound direction, traffic operations would degrade to level of service D or worse from Reynolds Avenue to State Route 150 during the PM peak hour.
	Intersections	Twelve of the 20 study intersections would operate at level of service C conditions or better.	Fourteen of the 20 study intersections would operate at level of service C or conditions or better.		Twelve of the 20 study intersections would operate at level of service C conditions or better.	Eleven of the 20 study intersections would operate at level of service D conditions or worse.
		2036				

Potential Impact		Alternative 1	Alternative 2	Alternative 3	Alternative 4	No-Build Alternative
	Mainline	The northbound direction would generally operate at level of service D or better during the AM peak hour and level of service C during the PM peak hour. The southbound direction would generally operate at level of service C or better during the AM peak hour and level of service F during the PM peak hour.				The northbound direction would generally operate at level of service D or better during the AM peak hour and level of service C during the PM peak hour. The southbound direction would generally operate at level of service C or better during the AM peak hour and level of service F during the PM peak hour.
	Intersections	Ten of the 20 study intersections would operate at level of service C or better.	Eleven of the 20 study intersections would operate at level of service C or better.	Eleven of the 20 study intersections would operate at level of service C or better.	Ten of the 20 study intersections would operate at level of service C or better.	Thirteen of the 20 study intersections would operate at level of service D or worse.
Visual/Aesthetics		The project would cause an increased urbanized appearance due to additional pavement, larger bridge structures, new soundwalls and retaining walls, and loss of mature vegetation. An analysis of the project indicates that each alternative would cause at a minimum a short-term (up to 5 years) reduction in existing visual quality. Short-term impacts would diminish as the proposed replanting matures. The long-term visual impacts would be substantially reduced with the implementation of recommended mitigation measures.				No changes to the visual character of the area would occur.
Cultural Resources		The proposed project would not have an effect on National Register of Historic Places properties.				No impacts to National Resister of Historic Places would occur.

Potential Impact	Alternative 1	Alternative 2	Alternative 3	Alternative 4	No-Build Alternative
Hydrology and Floodplain	All four alternatives would eliminate an encroachment onto a floodplain by reconstructing the Carpinteria Creek bridges.				The encroachment on a floodplain would continue to exist with associated downstream and upstream impacts to the floodplain.
Water Quality and Storm Water Runoff	The project would add 1.6 to 2 hectares (4 to 5 acres) of impervious surface, increasing the stormwater discharge. Carpinteria Creek would experience higher stormwater discharge rates and volumes with subsequent changes to creek geomorphology, increases in sediments and toxicity. Application of construction and treatment best management practices would help to minimize impacts to surface water bodies.				No additional impervious surface would be added.
Geology/Soils/Seismic/ Topography	Seismic activity and liquefaction would not be affected by the project; however seismic activity could affect construction of the project and the built project.				No changes would occur.
Paleontology	The Paleontology Identification Report for the project indicates a low potential for encountering sensitive paleontological resources.				No paleontological resources would be encountered.
Hazardous Waste/Materials	Three identified hazardous waste sites present little to no risk to the project.				No hazardous waste sites would be disturbed.
Air Quality	No long-term air quality impacts are anticipated from the proposed project.				Air quality may deteriorate as traffic congestion continues to worsen.
Noise	Predicted noise levels with the proposed project would increase between 2 and 7 decibels. In some cases, the noise levels would decrease due to the construction of Via Real, which would act as a noise barrier for receptors to the north. Nine soundwalls are proposed at many locations throughout the project area to reduce noise impacts of the proposed project.				Noise levels would not be elevated without the project, but several receptors would continue to experience elevated noise levels because soundwalls and the extension of Via Real

Potential Impact	Alternative 1	Alternative 2	Alternative 3	Alternative 4	No-Build Alternative
					would not be constructed.
Natural Communities	Temporary impacts to riparian vegetation on both banks of Carpinteria Creek total 0.11 hectares (0.27 acres) of disturbance. Permanent removal of riparian vegetation on both banks of Carpinteria Creek total 0.07 hectares (0.17 acres). Eight oak trees would be removed.				No impacts to Natural Communities would occur.
Wetlands and other Waters	0.1 hectare (0.3 acre), of a combined wetland/waters area would be permanently filled. 010 hectares (0.25 acres) of waters of the US would be permanently affected. 0.03 hectares (0.07 acres) of waters of the U.S. would be temporarily affected at Carpinteria Creek. Removal of the concrete low-flow bike/pedestrian crossing would allow for the restoration of 145 square meters (1,560 square feet) of waters of the U.S.				Temporary and permanent impacts would not occur. The low-flow bike/pedestrian crossing would not be removed and restored.
Animal Species	Temporary impacts and loss of nesting habitat for two to three seasons are anticipated for migratory birds. Eucalyptus trees used by red-tailed hawks for nesting are currently proposed for removal.				No impacts to animal species would occur.
Threatened and Endangered Species	Temporary impacts to steelhead trout and tidewater goby would occur due to creek dewatering activities. Removal of the concrete low-flow bike/pedestrian crossing would benefit both species by removing a barrier to fish passage along Carpinteria Creek.				No temporary impacts would occur to threatened and endangered species, however, the low-flow bike/pedestrian crossing would not be removed and restoration of fish passage would not occur.
Construction Impacts					
Utilities/Emergency Services	Emergency services may experience minor delays in response times to properties on the north side of Route 101. Required relocation of utility service lines may cause temporary disruption of services.				Neither delays nor utility disruptions would occur.
Traffic and	Temporary traffic delays an/or detours due to lane closures.				Congestion would

Potential Impact	Alternative 1	Alternative 2	Alternative 3	Alternative 4	No-Build Alternative
Transportation/Pedestrian and Bicycle Facilities					continue to occur and get worse as traffic volume increases. Traffic operations would degrade and operate at level of service F.
Water Quality and Stormwater Runoff	Potential discharges of pollutants to surface water.				No impacts
Hazardous Waste	Temporary exposure to soil and water contamination, although identified hazardous waste sites present little to no risk to the project.				No impacts
Air Quality	Temporary increase to particulate matter and ozone during construction, yet no adverse effects.				No impacts
Noise	Temporary noise levels would be elevated due to construction equipment.				No impacts
Natural Communities	0.11 hectares (0.27 acres) of temporary impacts to riparian habitat expected with each build alternative.				Riparian vegetation will be routinely cleared for flood control maintenance. No removal of oak woodlands would occur.
Wetlands and Other Waters	0.3 hectares (0.7 acres) of jurisdictional waters of the U.S. would be temporarily affected as a result of dewatering of the creek, bridge removal and construction of the new bridges.				No impacts
Animal Species	Temporary impacts to wildlife are anticipated during construction. Both temporary and permanent impacts to aquatic wildlife and migratory birds are expected.				No impacts
Threatened and Endangered Species	Dewatering during construction could have an adverse effect on tidewater goby and steelhead trout.				No impacts
Invasive Species	During construction a stand of giant reed (*Arundo donax*) would be removed from Carpinteria Creek within the project limits.				No impacts.
Vibration	Temporary vibration impacts are expected to occur resulting from pile driving, structure demolition, and pavement breaking, which may affect structures and annoy individuals.				No impacts
Cumulative Impacts					

Potential Impact	Alternative 1	Alternative 2	Alternative 3	Alternative 4	No-Build Alternative
Visual/Aesthetic resources	Project would result in an overall alteration of visual quality along the Route 101 corridor due to installation of wider bridges, frontage road, new and relocated ramps, soundwalls, and landscaping alteration. Emerging perception that the corridor is undergoing a visual change from suburban to urban.				No impacts
Natural Communities	Santa Barbara County Flood Control District Annual Maintenance Plan potentially affects riparian vegetation.				Riparian vegetation will be routinely cleared for flood control maintenance.
Wetlands and Other Waters	Planned South Coast 101 High Occupancy Vehicle Project may affect wetlands and waters of the U.S.				No impacts
Animal Species	Potential impact on local wildlife population.				No impacts

Coordination with Other Agencies

The following permits would be required for this project:

- Coastal Development Permit and Conditional Use Permit from the City of Carpinteria under authority of the California Coastal Commission; Coastal Land Use Plan Amendment
- Section 404 permit from the U.S. Army Corps of Engineers
- 1602 permit from the California Department of Fish and Game
- Section 401 certification from the Regional Water Quality Control Board

Additionally, Caltrans would be required to consult with the U.S. Fish and Wildlife Service due to the presence of tidewater goby and with the National Oceanic and Atmospheric Administration Fisheries due to the presence of steelhead trout, both endangered species protected under the Endangered Species Act.

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List of Abbreviated Terms

Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
FHWA	Federal Highway Administration
GHG	greenhouse gas
KP	kilometer post
NEPA	National Environmental Policy Act
PM	post mile

Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans), in cooperation with the City of Carpinteria and Santa Barbara County Association of Governments, proposes to improve traffic operations on Route 101 and local vehicular, bicycle, and pedestrian circulation between kilometer posts 3.5 and 5.5 (post miles 2.2 and 3.4) in the City of Carpinteria in Santa Barbara County.

Traffic flow on Route 101 is hindered at the Linden Avenue and Casitas Pass Road interchanges by vertical clearance, interchange spacing, geometry, and traffic-merging lengths. The discontinuity of the Via Real frontage road forces some local motorists to travel out of their way or use Route 101 to make up for the gaps. In addition, bicycle and pedestrian facilities are limited on the local roads and the two interchange overcrossings. The proposed improvements would reconstruct the interchanges at Linden Avenue and Casitas Pass Road and connect and extend the Via Real frontage road. Figures 1.1 and 1.2 show the project vicinity and location maps.

The project lies in southern Santa Barbara County on Route 101 from just east of Carpinteria Creek to just west of Franklin Creek. The project covers 1.9 kilometers (1.2 miles). Within the project limits, Route 101 is a four-lane urban freeway with two 3.6-meter (12-foot) lanes in each direction. Inside and outside shoulders are 1.5 meters (5 feet) and 2.4 meters (8 feet), respectively.

The project is included in the Fiscal Year 2011 State Transportation Improvement Program and is proposed for funding from the Regional Improvement Program.

The project is one of several operational improvements on Route 101 that have evolved from a 1987 proposal to relieve congestion on the route by widening it to a six-lane highway throughout the south coast portion of Santa Barbara County (from Milpas Street in the City of Santa Barbara to the Ventura County line). Release of the draft environmental document for the widening project in 1993 generated public concern over the loss of landscaping and impacts to historic structures, residential homes, and community character.

In response to public concerns, the Santa Barbara County Association of Governments' Board of Directors decided to put the funds on hold and designated a

community-based task force to study alternatives to the widening project, such as public transit systems, ramp metering, new bikeways, and light rail systems. This study looked at ways to accommodate current and future travel through the use of alternative transportation modes and related policies that would lessen the need to widen Route 101 between Milpas Street and the Ventura County line before the year 2015.

The task force recommended a number of highway and local street projects in the June 5, 1996 report "Highway 101 Operations – Consensus Recommendations." The Santa Barbara County Association of Governments approved 11 of those projects, including the Linden Avenue and Casitas Pass Road interchanges improvements, to be incorporated into the 1996 State Transportation Improvement Program.

The local circulation improvements of the proposed project, mainly the extension of Via Real from its current end west of Bailard Avenue to Casitas Pass Road and from Vallecito Avenue to Linden Avenue, are included in the city's Master Facility Plan (1993).

1.2 Purpose and Need

The project's purpose and need was developed jointly by the City of Carpinteria, Santa Barbara County Association of Governments, and Caltrans. The project "need" is the transportation deficiency that the project was initiated to address. The project "purpose" is a set of objectives the project intends to meet.

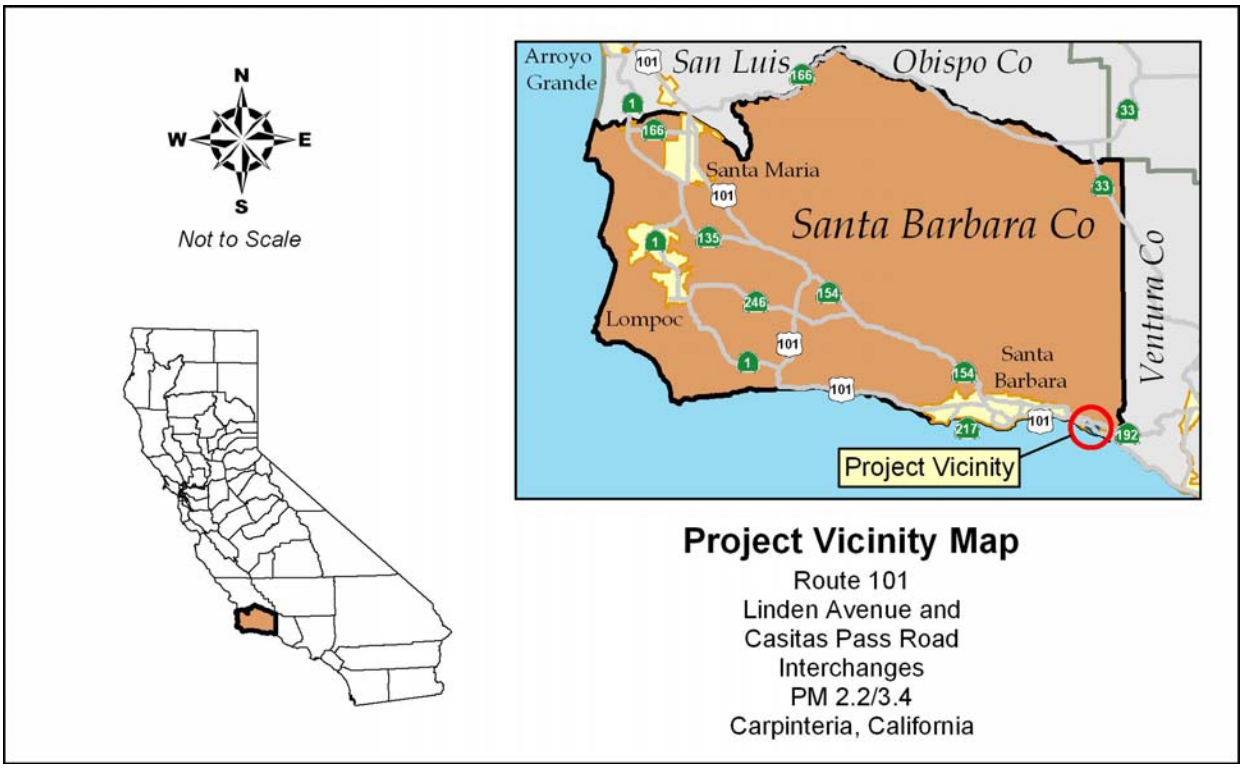


Figure 1.1 Project Vicinity Map

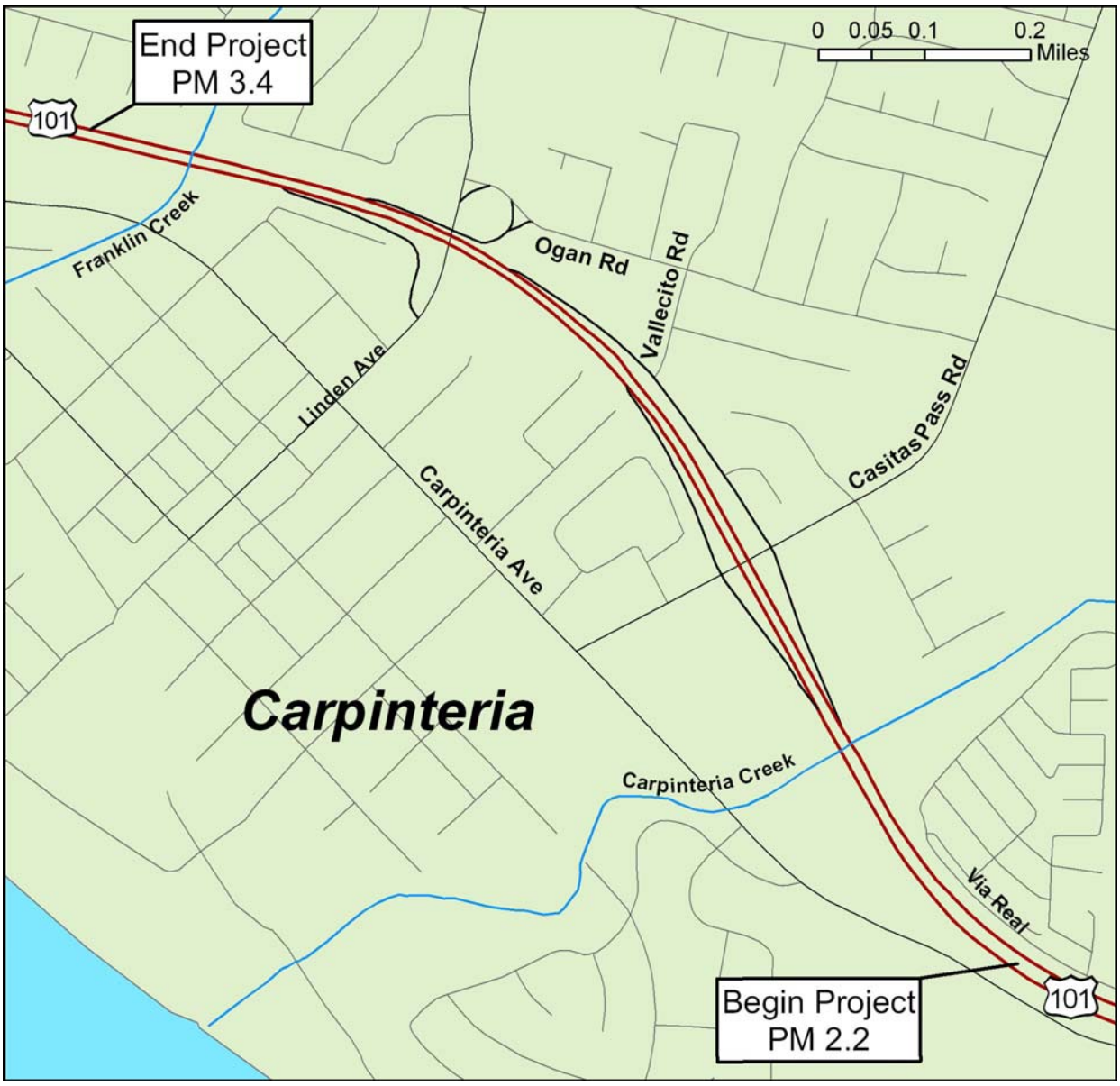


Figure 1.2 Project Location Map

1.2.1 Purpose

The purpose of the project is to:

- Improve access to and operations at the Linden Avenue and Casitas Pass Road interchanges with Route 101
- Improve operations on Route 101 in the project vicinity
- Reduce use of Route 101 for local trips
- Improve local circulation, including connectivity on Via Real between Bailard Avenue and Linden Avenue
- Improve local bicycle and pedestrian connectivity

1.2.2 Need

Route 101 and the local road network in the City of Carpinteria, local interchanges, on- and off-ramps, and a parallel arterial have a number of deficiencies, including:

Casitas Pass Road: The interchange spacing between Casitas Pass Road and Linden Avenue is 0.7 kilometer (0.4 mile), which is shy of the 1.5-kilometer (1-mile) standard. The Casitas Pass road separation has two 4-meter (13-foot) lanes and one 1.5-meter (5-foot) sidewalk on the north side. The southbound on-ramp at Casitas Pass Road has nonstandard access control at the intersection. The northbound on-ramp, accessed from the end of Via Real, is a nonstandard distance from the next consecutive on-ramp and has a nonstandard acceleration length of about 140 meters (460 feet). Standard acceleration length is 330 meters (1,082.7 feet). The overcrossing's vertical clearance of 4.6 meters (15.1 feet) and vehicular barrier railing are nonstandard. Standard vertical clearance is 5.1 meters (16.5 feet).

Linden Avenue: The Linden Avenue overcrossing has two 4-meter (13-foot) lanes and one 1.5-meter (5-foot) sidewalk on the north side. The northbound loop on-ramp is a nonstandard distance from the previous northbound on-ramp. The standard distance for loop on-ramps is 500 meters (1,640.4 feet). The southbound off-ramp has nonstandard access control (access to private property is shared with traffic at the end of the off-ramp). Since there is no southbound on-ramp, traffic must use Carpinteria Avenue and Casitas Pass Road, a downtown business route, to access Route 101. This contributes to traffic delays along Carpinteria Avenue and Casitas Pass Road.

Without a northbound off-ramp, traffic coming from the south on Route 101 exits at Casitas Pass Road and uses Via Real in conjunction with Vallecito Road and Ogan Road to reach Linden Avenue, thereby traveling through residential neighborhoods. The overcrossing's vertical clearance of 4.5 meters (14.8 feet) and vehicular barrier railing are nonstandard.

Via Real: The Via Real frontage road exists in two discontinuous sections within the project limits. Near the southern project limits, it runs parallel with northbound Route 101, ending in a cul-de-sac at the southwest corner of the San Roque Mobile Home Park, just short of the south bank of Carpinteria Creek. This first portion consists of two 3.8-meter (12.5-foot) lanes, and one 2.5-meter (8.2-foot) shoulder and a 1.4-meter (4.6-foot) sidewalk, both on the north side of the street only. The second existing section of Via Real begins at its intersection with Casitas Pass Road, continues on past the neighborhoods of Hales Lane and Cameo Road, intersecting with Vallecito Road before ending into a northbound slip on-ramp to Route 101. This portion of Via Real has two 4.2-meter (13.8-foot) lanes and includes a dedicated two-way bicycle path 3.2 meters (10.5 feet) wide that runs parallel to the roadway on the north side. The Class I bikeway is separated from vehicular traffic with a 0.6-meter-wide (2-foot-wide) raised island. This bicycle facility has a 1.5-meter-wide (5-foot-wide) sidewalk on the north side, beginning at the intersection of Via Real and Casitas Pass Road and ending at Via Real's intersection with Vallecito Road.

Considering the above factors, Caltrans in cooperation with the City of Carpinteria and the Santa Barbara County Association of Governments identified the following as the need for the project:

- The Linden Avenue overcrossing and Casitas Pass Road overcrossing have nonstandard vertical clearance over Route 101, causing taller trucks to divert onto city streets.

- On-ramps within the project limits have nonstandard spacing and merging lengths, resulting in operational difficulties on Route 101.

- There are three discontinuous sections of Via Real, a parallel arterial on the north side of Route 101 in the city. This creates difficulties for local traffic on the north side of Route 101, including bicycles, pedestrians, and emergency vehicles, requiring out-of-direction travel and/or freeway use to access properties on the north side of Route 101.

- The northbound on-ramp at Casitas Pass Road interchange is combined with two-way traffic on Via Real, which includes traffic from Vallecito Road and Hales Lane. This is a non-standard geometric design for the interchange. Speed differentials between the ramp and the intersections discourage a free flow of traffic through the area.

- Pedestrian facilities are provided on only one side of both the Linden Avenue overcrossing and Casitas Pass Road overcrossing. The width of these overcrossings is insufficient for bicycle lanes. Several schools nearby create higher than average pedestrian and bicycle traffic on these streets.

Table 1.1 shows the average daily traffic counts for segments of Route 101, Via Real, and Ogan Road between Casitas Pass Road and Linden Avenue, the segment of Linden Avenue from Ogan Road to Sawyer Avenue, and the segment of Casitas Pass Road from the existing Route 101 northbound off-ramp to the Route 101 ramps.

Table 1.1 Route 101, Ramp, and Local Road Traffic Volume Summary

Location	Current (2005)	No-Build (2016)	Build (2016)	No-Build (2036)	Build (2036)
	ADT	ADT	ADT	ADT	ADT
NB Route 101	30,327	48,686	48,686	58,166	58,166
SB Route 101	33,202	42,495	42,495	63,392	63,392
NB Casitas Off-ramp	4,810	7,300	3,900	8,100	6,200
NB Casitas On-ramp	0	0	5,300	0	5,500
SB Casitas On-ramp	4,090	5,900	4,400	7,900	6,000
SB Casitas Off-ramp	2,840	3,700	4,300	5,600	6,100
NB Via Real On-ramp	3,340	7,500	0	5,900	0
NB Linden On-ramp	4,290	6,300	9,400	6,700	7,500
SB Linden Off-ramp	4,290	3,700	3,700	5,500	5,600
Via Real	4,110	7,614	5,600	13,195	6,800
Ogan Road	3,140	3,500	1,190	3,700	1,340
Linden Avenue	10,300	12,188	11,500	14,890	15,200
Casitas Pass Road	12,080	16,468	17,980	25,812	23,530

Source: Draft Project Report, December 2008.

1.3 Alternatives

This section describes the proposed action and the design alternatives that were developed by a multi-disciplinary team to achieve the project purpose and need while

avoiding or minimizing environmental impacts. Under consideration are four build alternatives (Alternatives 1 through 4) and a No-Build Alternative.

The project lies in southern Santa Barbara County on Route 101 from just west of Franklin Creek to just east of Carpinteria Creek. The project covers 1.9 kilometers (1.2 miles). Within the project limits, Route 101 is a four-lane urban freeway with two 3.6-meter (12-foot) lanes in each direction. Inside and outside shoulders are 1.5 meters (5 feet) and 2.4 meters (8 feet), respectively. The purpose of the project is to improve access and operations at two interchanges on Route 101; improve operations on Route 101; reduce use of Route 101 for local trips; and improve local vehicular, bicycle, and pedestrian circulation.

1.3.1 Build Alternatives

Common Design Features of the Build Alternatives

For the Casitas Pass Road portion of the project, from the southern limit at kilometer post 3.5 (post mile 2.2) to about 0.3 kilometer (0.2 mile) south of the Linden Avenue overcrossing, the project design is identical in all four build alternatives. These common improvements, which can be seen in Figure 1.3 and in the alternative layout sheets in Appendix I, include the following:

- Replace, widen, lengthen, and raise the northbound and southbound Route 101 Carpinteria Creek Bridges. Raising and lengthening the bridges would remove an encroachment onto a floodplain, allowing the restoration of flows to the Carpinteria Creek.

- Extend Via Real from the current cul-de-sac at the San Roque Mobile Home Park over Carpinteria Creek to Vallecito Road, building a new bridge for Via Real over Carpinteria Creek (one lane in each direction, one Class II bike lane in each direction, and a sidewalk on the north side).

- Remove the existing bike path that crosses Carpinteria Creek connecting to the end of Via Real and add two new bike paths connecting the bike path on the north bank of Carpinteria Creek to northbound and southbound Via Real and Casitas Pass Road.

- Reconstruct the Casitas Pass Road southbound on- and off-ramps.

- Remove the existing Casitas Pass Road northbound off-ramp and on-ramp, and build new northbound on- and off-ramps to be accessed from the new Via Real frontage road extension.
- Replace the Casitas Pass Road overcrossing with a 5-lane structure including bike lanes and sidewalks on both sides.
- Install signals at the intersections of Via Real and the northbound Casitas Pass Road on- and off-ramps, Casitas Pass Road and Via Real, and Casitas Pass Road and the southbound Route 101 on- and off-ramps.

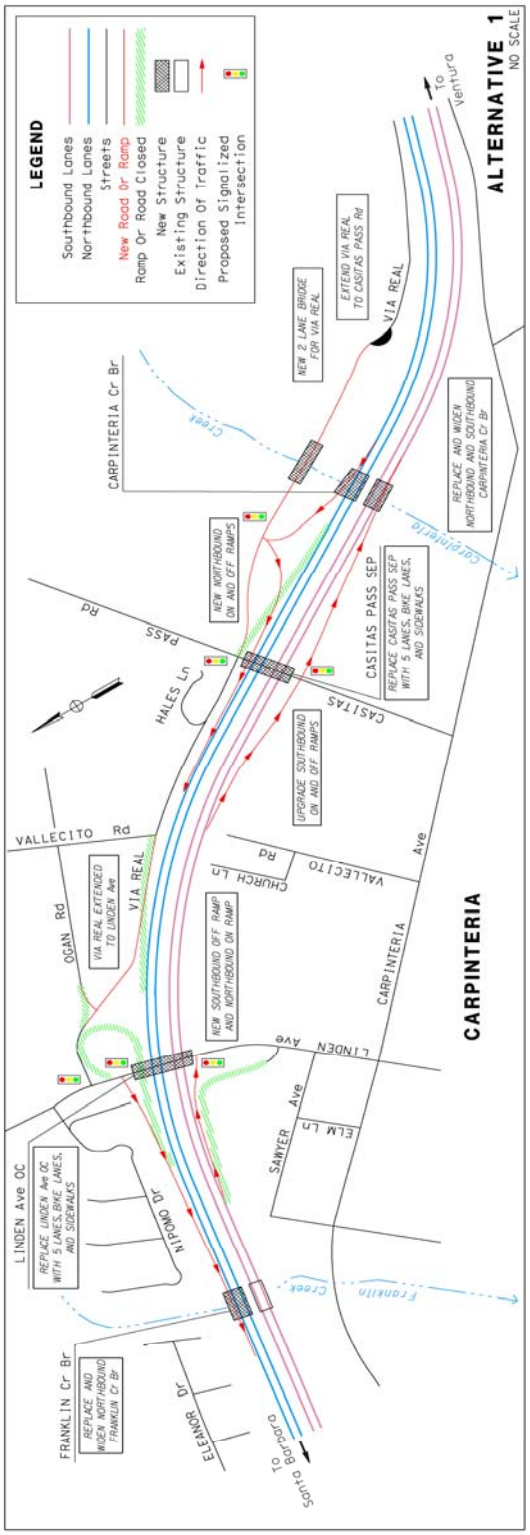


Figure 1.3 Alternative 1 Map

Unique Features of the Build Alternatives

Although Alternatives 1 and 4, and Alternatives 2 and 3, are similar to one another, each of the four build alternatives has developed a different configuration at the Linden Avenue portion of the project from Vallecito Road north.

Alternative 1

The following features are unique to the Linden Avenue project portion, from about 0.3 kilometer (0.2 mile) south of the Linden Avenue overcrossing to the northern limit of the project at kilometer post 5.5 (post mile 3.4) for Alternative 1. See Figure 1.3 or the detailed layout sheets in Appendix I for an illustration.

- Remove the existing southbound off-ramp and build a new southbound off-ramp.
- Remove the existing northbound on-ramp and build a new northbound on-ramp.
- Replace the Linden Avenue overcrossing with a 5-lane structure, including bike lanes and sidewalks on both sides.
- Replace and widen the northbound Route 101 Franklin Creek bridge.
- Continue the extension of the Via Real frontage road from Vallecito Road through to Linden Avenue, building a new intersection with Ogan Road.
- Install signals at the intersections of Via Real and Linden Avenue, Linden Avenue and the northbound Route 101 on-ramp, and Linden Avenue and the southbound Route 101 off-ramp.

The Alternative 1 alignment of Via Real was designed to avoid a Verizon switching station facility and is identical to the alignment proposed for Alternative 2.

The estimated cost to build Alternative 1, including right-of-way costs, is $78,391,000.

Alternative 2

The following features are unique to the Linden Avenue portion of Alternative 2, from 0.3 kilometer (0.2 mile) south of the Linden Avenue overcrossing to the northern limit of the project at kilometer post 5.3 (post mile 3.3) and can be seen in Figure 1.4 and in Appendix I:

- Remove the existing southbound off-ramp and build a new southbound off-ramp.
- Remove the existing northbound on-ramp and build a new northbound on-ramp.
- Replace the Linden Avenue overcrossing with a 4-lane structure, including bike lanes and sidewalks on both sides.
- Continue the extension of the Via Real frontage road from Vallecito Road through to Linden Avenue, building a new intersection with Ogan Road.
- Install signals at the intersections of Linden Avenue and Via Real, and Linden Avenue and the southbound Route 101 off-ramp.

The Alternative 2 alignment of Via Real was designed to avoid a Verizon switching station facility and is identical to the alignment proposed for Alternative 1.

The estimated cost to construct Alternative 2, including right-of-way costs, is $73,484,000.

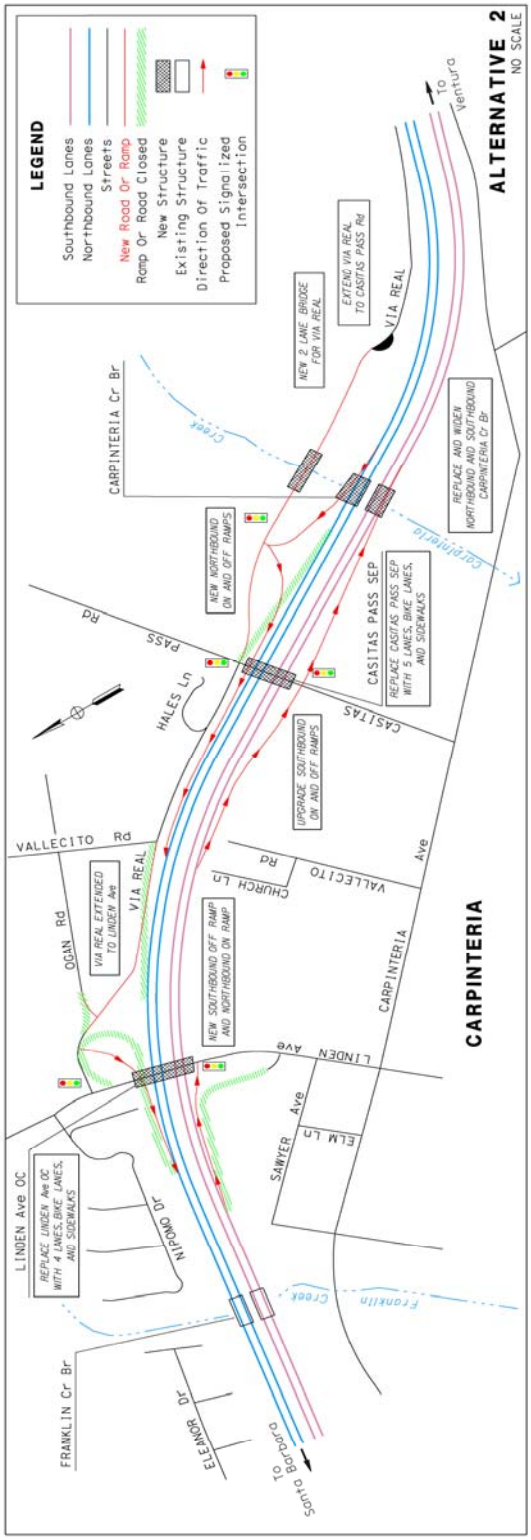


Figure 1.4 Alternative 2 Map

Alternative 3

The following features are unique to the Linden Avenue project portion, from about 0.3 kilometer (0.2 mile) south of the Linden Avenue overcrossing to the northern limit of the project at kilometer post 5.3 (post mile 3.3) for Alternative 3. The following features can be seen in Figure 1.5 and in Appendix I:

- Remove the existing southbound off-ramp and build a new southbound off-ramp.
- Remove the existing northbound on-ramp and build a new roundabout, including the new northbound on-ramp as one of the four legs.
- Replace the Linden Avenue overcrossing with a 4-lane structure, including bike lanes and sidewalks on both sides.
- Continue the extension of the Via Real frontage road from Vallecito Road through to form the second leg of the new roundabout.
- Reconfigure Ogan Road to form a third connection to the new roundabout, located on its northeastern side, and build a fourth leg connecting the northwest area of the roundabout to Linden Avenue.
- Install signals at the intersections of Linden Avenue and Ogan Road, and Linden Avenue and the southbound Route 101 off-ramp.

Like the other three build alternatives, the Alternative 3 alignment of Via Real was designed to avoid a Verizon switching station facility.

The estimated cost to construct Alternative 3, including right-of-way costs, is $73,116,000.

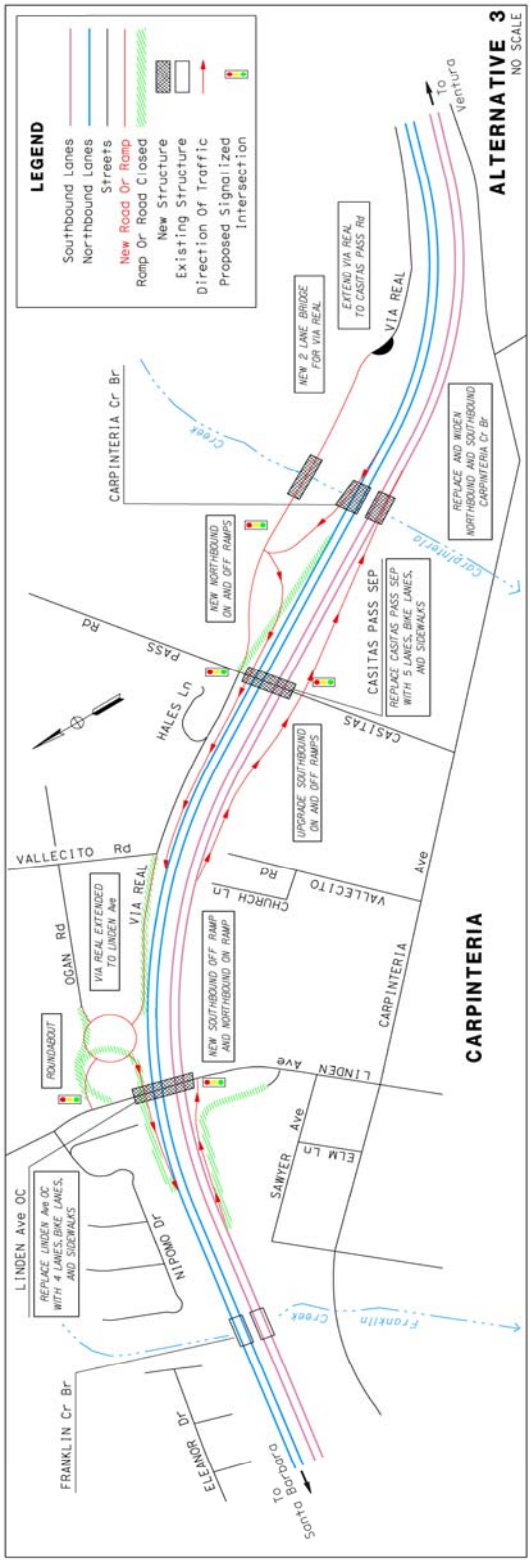


Figure 1.5 Alternative 3 Map

Alternative 4

The following features are unique to the Linden Avenue project portion, from about 0.3 kilometer (0.2 mile) south of the Linden Avenue overcrossing to the northern limit of the project at kilometer post 5.5 (post mile 3.4) for Alternative 4. The following features can be seen in Figure 1.6 and in Appendix I:

- Remove the existing southbound off-ramp and build a new southbound diamond off-ramp.
- Remove the existing northbound on-ramp and build a new northbound diamond on-ramp.
- Replace the Linden Avenue overcrossing with a 5-lane structure, including bike lanes and sidewalks on both sides.
- Replace and widen the northbound Route 101 Franklin Creek bridge.
- Continue the extension of the Via Real frontage road from Vallecito Road through to Linden Avenue, building a new intersection with Ogan Road.
- Install signals at the intersections of Via Real and Linden Avenue, Linden Avenue and the northbound Route 101 on-ramp, and Linden Avenue and the southbound Route 101 off-ramp.

The design of Alternative 4 is virtually identical to that of Alternative 1 except for the alignment of Via Real. In Alternative 4, the alignment of the roadway in the vicinity of a Verizon switching station facility has a smaller curve radius, reducing the amount of right-of-way required from a Verizon-owned undeveloped lot adjacent to the switching station facility.

The estimated cost to construct Alternative 4, including right-of-way costs, is $78,040,000.

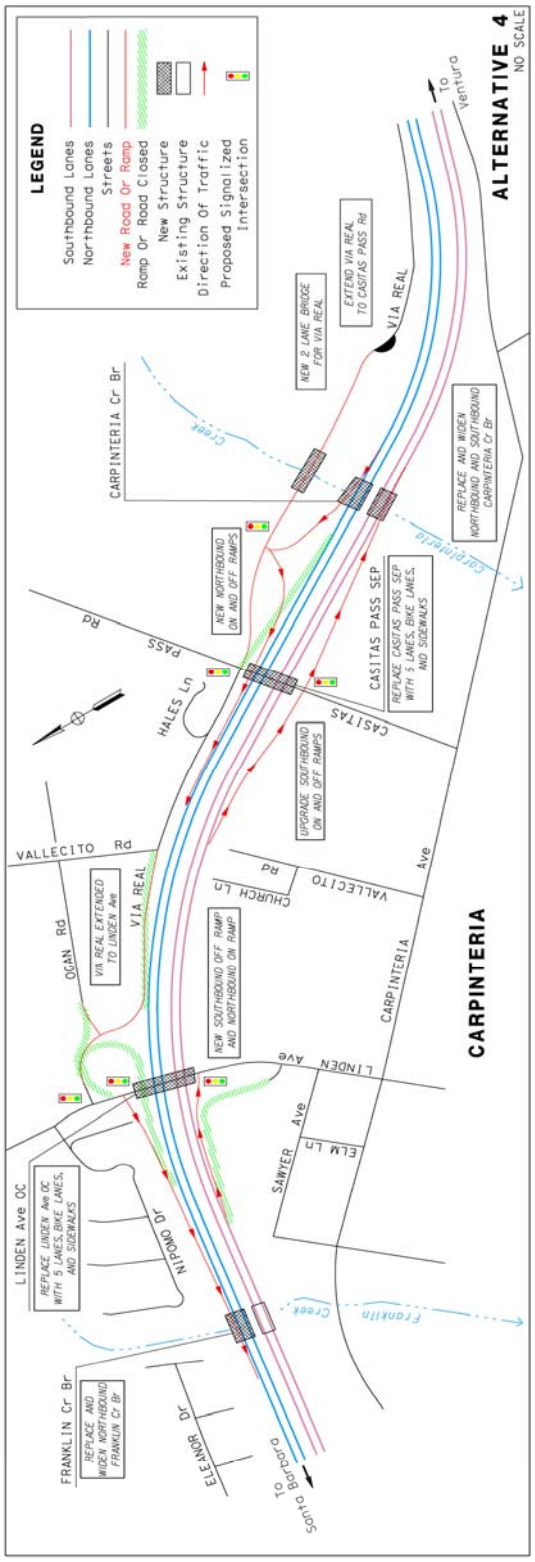


Figure 1.6 Alternative 4 Map

No-Build Alternative

This alternative proposes to do nothing to Route 101, Casitas Pass Road, Linden Avenue, or Via Real, though regular maintenance of these facilities would continue. It is used for comparisons between current conditions versus conditions associated with the viable "build" alternatives. The No-Build Alternative provides a baseline to compare the impacts of making no change to existing conditions with the impacts associated with the viable "build" alternatives. Figure 1.7 shows the No-Build Alternative.

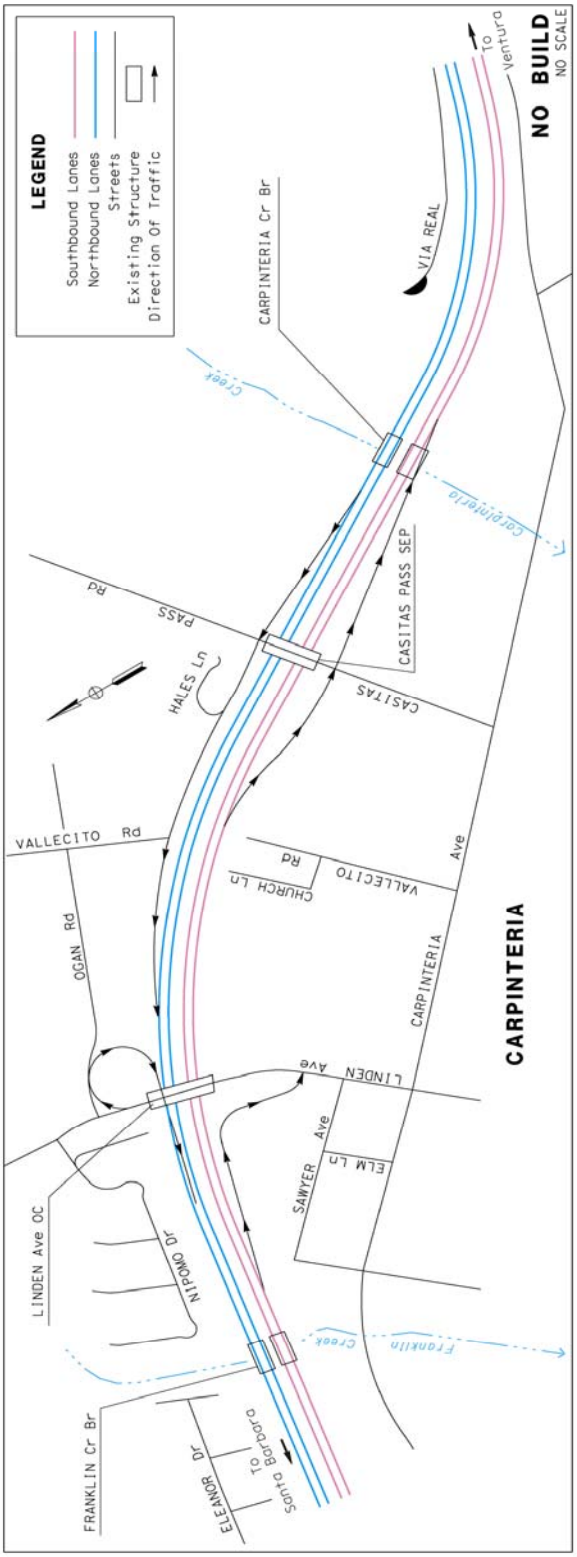


Figure 1.7 No-Build Alternative Map

1.3.2 Comparison of Alternatives

The project development team, including Caltrans, the City of Carpinteria, and the Santa Barbara County Association of Governments, developed a list of guiding principles to direct the evaluation of alternatives, including:

- Compliance with local plans (e.g., the City's General Plan and Local Coastal Plan)
- Allowance of future Route 101 widening projects
- Minimization of right-of-way impacts
- Preservation of existing sense of community and environmental resources
- Facilitation of future transit improvements

The above criteria will help to guide Caltrans in selecting an alternative. All four build alternatives will be weighed against the guiding principles as well as the identified purpose and need of the project. 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, Caltrans will certify that the project complies with the act, prepare findings for all significant impacts identified, prepare a Statement of Overriding Considerations for impacts that will not be mitigated below a level of significance, and certify that the findings and Statement of Overriding Considerations have been considered prior to project approval.

Caltrans will then file a Notice of Determination with the State Clearinghouse that will identify whether the project will have significant impacts, whether mitigation measures were included as conditions of project approval, whether findings were made, and whether a Statement of Overriding Considerations was adopted.

Similarly, if Caltrans, as assigned by the Federal Highway Administration, determines the National Environmental Policy Act action does not significantly impact the environment, Caltrans will issue a Finding of No Significant Impact in accordance with the National Environmental Policy Act.

1.3.3 Alternatives Considered but Eliminated from Further Discussion

Seventeen project alternatives, described below, were considered but rejected from further consideration. See Appendix J for a map showing the 17 locations.

A. Widen Northbound Carpinteria Creek Bridge

This alternative proposed widening the existing northbound Route 101 Carpinteria Creek bridge to accommodate the proposed Casitas Pass off-ramp. Caltrans' Division of Structures reported that the bridge would require retrofitting, and Caltrans' Hydraulic Department reported that the bridge is below the 100-year floodplain elevation. Widening the bridge would place it even farther below the floodplain. Due to the increased impacts to the floodplain, widening the bridge was found infeasible.

B. Widen Southbound Carpinteria Creek Bridge, Northbound Linden Avenue Hook Ramps

This alternative proposed widening the existing southbound Route 101 Carpinteria Creek bridge to accommodate the proposed Casitas Pass on-ramp. The northbound Linden Avenue ramps would be hook ramps. Caltrans' Division of Structures reported that both southbound and northbound bridges would require retrofitting, and the southbound bridge required a bridge rail replacement. A retrofit and bridge rail replacement would be added to the widened southbound bridge. The northbound Route 101 Carpinteria Creek bridge would remain unchanged except that a retrofit would be added. Instead, a new bridge over Carpinteria Creek would be added to accommodate the northbound Casitas Pass off-ramp.

Caltrans' Hydraulics Department reported that both bridges are below the 100-year floodplain elevation. This creates a diversion of flow down Route 101 when storm water from Carpinteria Creek flows over the Route 101 bridges and flows down Route 101 into Franklin Creek. Due to the impacts to the floodplain and the need to remedy the existing diversion, widening the southbound Route 101 Carpinteria Creek bridge was found infeasible.

C. Widen Southbound Carpinteria Creek Bridge, Northbound Linden Avenue Diamond Ramps

This alternative was very similar to rejected Alternative B above. The difference with this alternative was that the northbound Linden Avenue ramps would be diamond ramps. As with rejected Alternative B, widening the southbound Route 101 Carpinteria Creek bridge was found infeasible due to the impacts to the floodplain and the need to remedy the existing diversion.

D. Northbound Casitas Pass Road Separated Hook Ramps

This alternative proposed separating the northbound Casitas Pass Road hook ramps to avoid either widening the northbound Route 101 Carpinteria Creek bridge or constructing a bridge for the off-ramp. Carpinteria Creek would have separated the hook ramps. Due to the potential for wrong-way movements onto the ramps, driver confusion, and the floodplain issues discussed in the previous rejected alternatives, creating separated hook ramps was found infeasible.

E. Northbound Casitas Pass Road Off-Ramp and Via Real "Hour-Glass"

This alternative proposed constructing one bridge shared by the northbound Casitas Pass Road off-ramp and Via Real, thereby creating a rough "hour-glass" shape with the two roadways. This would avoid either widening the northbound Route 101 Carpinteria Creek bridge or constructing a bridge for the off-ramp. The off-ramp would be nonstandard in design and extremely long. Via Real would have a design speed below the acceptable minimum American Association of State Highway and Transportation Officials standards, and there would be sight distance issues at the driveway for the San Roque Mobile Home Park.

In addition, the bridge would need to be very large to accommodate both facilities, both with different profiles. Finally, pedestrians might try to cross the off-ramp to access the bike path. Due to the nonstandard frontage road and off-ramp design, large and complicated bridge structure, potential for pedestrian conflicts, and the floodplain issues discussed in the previous rejected alternatives, sharing a bridge between Via Real and the off-ramp was found infeasible.

F. Southbound One-Way Frontage Road

This alternative proposed replacing the southbound Linden Avenue on-ramp and Casitas Pass Road off-ramp with a southbound one-way frontage road. Via Real and the northbound ramps would remain as proposed in the build alternatives. Construction of a southbound one-way frontage road would require additional full or partial acquisitions of three commercial properties, a condominium complex, an apartment complex, and four residences. Due to the potential for wrong way traffic on the frontage road and the excessive right-of-way cost, construction of a southbound one-way frontage road was found infeasible.

G. Northbound and Southbound One-Way Frontage Roads

This rejected alternative is similar to the above Rejected Alternative F, with the addition of Via Real becoming a northbound one-way frontage road to replace the

northbound Casitas Pass Road on-ramp and Linden Avenue off-ramp. Converting Via Real to a northbound one-way frontage road would require removing the Via Real extension from south of Carpinteria Creek to Casitas Pass Road. A northbound one-way frontage road would increase travel time and distance for trips starting east of Route 101 with destinations to the south. This would be met with local opposition. Both the removal of the Via Real extension and the increase to local circulation are contrary to the scope of this project. Construction of a southbound one-way frontage road would require the right-of-way acquisitions listed in rejected Alternative F. Due to the conflict with the project scope, increased local traffic, potential for wrong way traffic on the frontage roads, and the excessive right-of-way cost, construction of northbound and southbound one-way frontage roads was found infeasible.

H. Northbound Two-Way and Southbound One-Way Frontage Roads

This rejected alternative is similar to the above rejected Alternative G, except that the northbound frontage road would be two-way. The northbound frontage road would still replace the northbound Casitas Pass Road on-ramp and Linden Avenue off-ramp. As stated above, the Via Real extension would be removed. The northbound two-way frontage road would create potential for wrong way traffic on the northbound Casitas Pass Road off-ramp. Construction of a southbound one-way frontage road would require the right-of-way acquisitions listed in rejected Alternative F. Due to the conflict with the project scope, potential for wrong way traffic on the northbound Casitas Pass Road off-ramp and southbound frontage road, and the excessive right-of-way cost, construction of a northbound two-way and southbound one-way frontage road was found infeasible.

I. Southbound Linden Avenue Hook On-Ramp

This rejected alternative proposed constructing a southbound Linden Avenue hook on-ramp. Construction of the hook ramp would require acquisition of a condominium complex and a residence. Linden Avenue would need to be raised, and the overcrossing structure lengthened, to allow the ramp to pass underneath. Due to the excessive right-of-way, structure, and roadway costs, construction of a southbound Linden Avenue hook on-ramp was found infeasible.

J. Southbound Linden Avenue Slip On-Ramp

This rejected alternative proposed constructing a southbound Linden Avenue slip on-ramp. Construction of the slip ramp would require acquisition of a commercial property. Local traffic traveling west (toward downtown Carpinteria) would not be able to turn left onto the on-ramp and would need to use the Casitas Pass Road on-

ramp to travel south. This would not improve local circulation in the southbound direction, which conflicts with the project scope. Due to the excessive right-of-way cost and conflict with the project scope, construction of a southbound Linden Avenue slip on-ramp was found infeasible.

K. Linden Avenue, Via Real, and Northbound Ramps Roundabout Intersection

This rejected alternative proposed constructing a roundabout at the intersection of Linden Avenue, Via Real, and the northbound diamond ramps. This roundabout would be a two-lane roundabout due to traffic volumes. The nearby intersection of Linden Avenue and the southbound ramps would remain with traffic signals, creating the potential for a mass of vehicles to hinder operation of the roundabout. Four schools (elementary, middle, and high schools) are close to the intersection and generate bike and pedestrian traffic and inexperienced drivers. Due to operation problems and nature of the traffic that would use this intersection, construction of a roundabout in this configuration was found infeasible.

L. Vallecito Road and Ogan Road Connection

This rejected alternative proposed using Vallecito Road and Ogan Road as a connection to Linden Avenue instead of extending Via Real. Widening Vallecito Road and Ogan Road would be required to accommodate the additional traffic. Widening Vallecito Road would require acquisition of 14 residential front yards. Widening Ogan Road would require acquisition of one residential front yard. This alternative would not extend Via Real and impacts local circulation by placing additional traffic on Vallecito Road and Ogan Road. Therefore, it conflicts with the project scope. Due to the additional right-of-way cost and conflict with the project scope, widening Vallecito Road and Ogan Road instead of extending Via Real was found infeasible.

M. Via Real Crosses Over Northbound Linden Avenue Ramps

This rejected alternative proposed elevating Via Real to cross over a set of northbound Linden Avenue hook ramps. This would require a large and complex structure to cross Via Real over the ramps and intersect Linden Avenue. It would also require acquisition of a Verizon facility. Due to the additional structure and excessive right-of-way costs, elevating Via Real over the northbound Linden Avenue ramps was found infeasible.

N. Via Real Placed Between Verizon and Route 101

This rejected alternative proposed locating Via Real next to a northbound Linden Avenue off-ramp, which would place it between a Verizon facility and Route 101. This would still require a partial acquisition of the Verizon facility, which would necessitate the utility to remodel. Due to the excessive right-of-way cost, locating Via Real between the Verizon facility and Route 101 was found infeasible.

O. Via Real Extended to Ogan Road

This rejected alternative proposed extending Via Real to Ogan Road instead of to Linden Avenue, requiring minimal changes to the existing Ogan Road, and building the northbound Linden Avenue on- and off-ramps in a diamond configuration. This would create an additional intersection, which would affect local circulation. This alternative also is contrary to Carpinteria's General Plan. Due to the traffic impacts and non-conformance with the local general plan, extending Via Real to Ogan Road was found infeasible.

P. Ogan Road Placed Through Verizon

This rejected alternative proposed connecting Ogan Road to Via Real farther away from Linden Avenue, maximizing interchange spacing, and building northbound Linden Avenue hook ramps. This alternative would require acquisition of a Verizon facility. Due to the excessive right-of-way costs, extending Ogan Road through the Verizon property was found infeasible.

Q. Ogan Road Cul-de-sac

This rejected alternative proposed a cul-de-sac at Ogan Road instead of intersecting it with Via Real. This would reduce local circulation because it would reduce access to Via Real; therefore, it conflicts with the project scope. Due to the conflict with the project scope, building a cul-de-sac at Ogan Road was found infeasible.

R: Full Functioning Interchanges with Auxiliary Lanes

This rejected alternative provided a full functioning Linden Avenue interchange with Route 101 auxiliary lanes between Casitas Pass Road and Linden Avenue. Due to operations and safety concerns, the mandatory design exception for nonstandard interchange spacing and auxiliary lane stopping sight distance was denied, and the alternative was rejected.

1.4 Permits and Approvals Needed

Table 1.2 shows the permits, reviews, and approvals that would be required for project construction.

Table 1.2 Permits and Approvals Required for Proposed Project

Agency	Permit/Approval	Status
U.S. Army Corps of Engineers (ACOE)	Section 404 Permit	Application pending selection of alternative and detailed design information.
Regional Water Quality Control Board (RWQCB)	Section 401 Water Quality Certification	Application pending selection of alternative and detailed design information.
California Department of Fish and Game (CDFG)	1602 Streambed Alteration Agreement	Application pending selection of alternative and detailed design information.
City of Carpinteria Planning Department	Coastal Development Permit (CDP), Conditional Use Permit (CUP), and Coastal Land Use Plan Amendment	Application submitted during Environmental Document circulation.
US Fish and Wildlife Service	Section 7 Endangered Species Consultation	Application pending selection of alternative and detailed design information.
National Oceanic and Atmospheric Administration Fisheries	Section 7 Endangered Species Consultation	Application pending selection of alternative and detailed design information.
State Water Resources Control Board (SWRCB)	National Pollution Discharge Elimination System (NPDES) Permit	Application pending selection of alternative and detailed design information.

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

This chapter explains the impacts that the project would have on the human, physical, and biological environments in the project area. It describes the existing environment that could be affected by the project, potential impacts from each of the alternatives, and proposed avoidance, minimization, and/or mitigation measures. Any indirect impacts are included in the general impacts analysis and discussions that follow.

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

- Energy: Caltrans incorporates energy efficiency, conservation, and climate change measures into transportation planning, project development, design, operations, and maintenance of transportation facilities, fleets, buildings, and equipment to minimize use of fuel supplies and energy sources and reduce greenhouse gas (GHG) emissions (see section 3.2.4 Climate Change Under the California Environmental Quality Act). When balancing energy used during construction and operation against energy saved by relieving congestion and other transportation efficiencies, the project would not have substantial energy impacts.

- Cultural Resources: The Ogan farmstead at 5191 Ogan Road was determined eligible for listing in the National Register of Historic Places. No construction activities associated with this project would encroach upon or alter the character or setting that makes the Ogan property eligible for listing in the National Register. Caltrans determined that the proposed project would not have an effect on the Ogan farmstead. The State Historic Preservation Officer concurred with Caltrans' finding of No Historic Properties Affected on July 9, 2008 (FHWA000801A).

- Timberlands: No timberland exists within the project limits.

- Growth: The project lies in an urbanized area and would not increase capacity. The City of Carpinteria is approaching holding capacity given the availability of land and constraints to further expansion and development. The project would not provide access to previously inaccessible or undeveloped areas; therefore, it would not be growth-inducing.

- Wild and Scenic Rivers: There are no designated Wild and Scenic Rivers in the project limits.

- Paleontology: The entire project limits are underlain by a thick deposit of Quaternary alluvium. This formation is described in the Paleontology Sensitivity Mapping Project as having a low potential for containing sensitive fossils.

- Plant Species: Special-status plant species that were identified in the U.S. Fish and Wildlife Service's species list and in a California Natural Diversity Database search do not occur in the project limits. No impacts to special-status plant species would occur.

2.1 Human Environment

2.1.1 Land Use

2.1.1.1 Existing and Future Land Use

Affected Environment

Carpinteria sits 129 kilometers (80 miles) northwest of Los Angeles and 16 kilometers (10 miles) southeast of Santa Barbara. Route 101 bisects Carpinteria and serves as the main artery for major cities on the West Coast. Urban development is confined mostly to within the city limits and several coastal neighborhoods to the west. The area surrounding the city, which is under Santa Barbara County and Ventura County jurisdiction, remains mostly agricultural in use. According to the city's land use plan, the community's desire is to maintain and enhance an enjoyable and balanced quality of life. The Carpinteria General Plan (April 2003) states the city's goal:

> …to preserve the essential character of our small beach town, its family-oriented residential neighborhoods, its unique visual and natural resources and its open, rural surroundings while enhancing recreational, cultural and economic opportunities for our citizens.

The city and surrounding area enjoy a variety of attractive natural resources, including safe, clean beaches, coastal bluffs, a salt marsh, several creeks, a narrow valley, and a coastal mountain range. The city includes a small downtown area, a variety of commercial developments, businesses and industries that provide a range of jobs and economic opportunities, and a housing base with a mix of single-family, multi-family, and mobile homes.[1]

The City of Carpinteria General Plan/Local Coastal Land Use Plan & Environmental Impact Report (April 2003) states that the community prefers maintaining the city's character by encouraging a similar quality for new development and limiting those uses of greater density and intensity to areas along the main transportation corridors. The community wishes to encourage development that is

[1] City of Carpinteria General Plan/Local Coastal Land Use Plan & Environmental Impact Report - April 2003

compatible with surrounding land uses and protective of coastal resources unique to the area, the natural environment, and views.

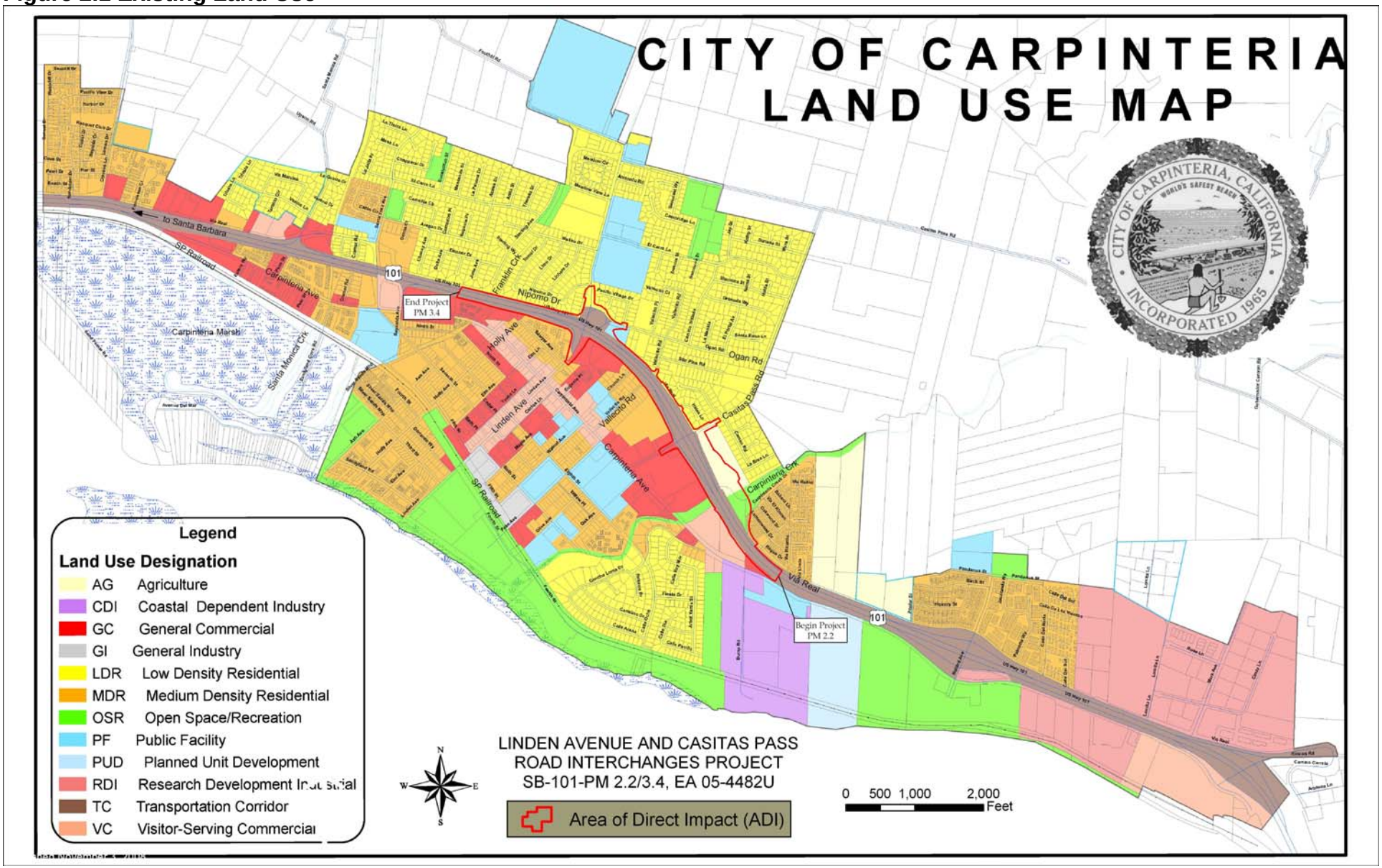
Carpinteria covers 18.9 square kilometers (7.3 square miles): 6.7 kilometers (2.6 square miles) of land and 12.1 kilometers (4.7 square miles) of tidelands. Most land is in residential use (about 41.7% of the total land area; 42.1% in the future). Table 2.1 shows existing and future land use.

Table 2.1 Land Use Designations in the City of Carpinteria

Land Use Category	Description of Land Use Category	Existing in Hectares	Percentage Existing	Proposed in Hectares	Percentage Proposed
Low-Density and Rural Residential	Detached single-family residences in neighborhood settings	157.1 (388.3 acres)	23.7	161.9 (400.1 acres)	24.4
Medium Density Residential	Single-family homes, mobile homes, apartments, townhouses, and condominiums	118.9 (293.9 acres)	18.0	117.5 (290.3 acres)	17.7
Planned Unit Development	Parcels that are required to be planned and developed as a unit	39.3 (97.0 acres)	5.9	10.6 (26.2 acres)	1.6
Commercial	Mix of retail, wholesale, service and office uses, usually located along major transportation corridors	63.5 (156.8 acres)	9.6	64.4 (159.1 acres)	9.7
Industrial	Light industrial processing, assembly, packaging, wholesale, and service-related industries. Coastal-dependent industries such as aquaculture and pipeline/gas processing facilities in support of offshore oil industries. Well-designed groups of office, research and development, and light industrial uses.	84.2 (208.0 acres)	12.7	88.7 (219.1 acres)	13.4
Public Facilities	Public service facilities including police, fire, school, water, utility, sewer, boys/girls clubs, libraries, churches or other publicly oriented uses	43.1 (106.5 acres)	6.5	41.6 (102.9 acres)	6.3
Parks/Open Space	City parks, beaches, golf courses, related uses, and open space	41.5 (102.5 acres)	6.3	62.6 (154.8 acres)	9.5
Agriculture	Continued agricultural production	16.9 (41.7 acres)	2.5	16.9 (41.7 acres)	2.6
Transportation Corridors	Limited access state highways	98.3 (243 acres)	14.8	98.3 (243 acres)	14.8
Total		663.0 (1,638 acres)	100	663.0 (1,638 acres)	100

In addition, Carpinteria has defined a Planning Area Boundary (consistent with section 65300 Government Code) of an additional 13 square kilometers (5 square miles) beyond the city boundary that extends inland north, east, and west of the city. This area provides a physical separation from the other urbanizing centers in the county and is characterized by an open-field agricultural "greenbelt." The city identifies this greenbelt as one of the most important attributes of the area because the separation helps define the city's character and identification as a distinct place. Therefore, protection of agricultural land uses is of great importance to the city, whether the land is within or outside the city limit boundary.

Figure 2.1 Existing Land Use



Future Land Use

The Carpinteria General Plan/Local Coastal Plan discusses future land use trends for both residential and commercial/industrial designations. From 2003 to theoretical build-out, new residential development is expected to increase by 15.6% (an increase of 853 units). New Commercial/Industrial development would increase by 7.6%, an increase of 18,263 square meters (196,585 square feet). As the city moves closer to its holding capacity (a function of infrastructure, developable land, and resource protection constraints), more redevelopment is anticipated and proposed development will increasingly conflict with resource protection or existing compatibility policies.

Environmental Consequences

Multiple land use designations exist adjacent to the project area: Agriculture, Low-Density Residential, Open Space-Recreation, Public Facility, General Commercial, and Medium-Density Residential. Of these designations, one parcel currently zoned Agriculture and two parcels designated Open Space-Recreation would be affected. The remaining land uses would remain unchanged.

The project would affect one parcel designated as Agriculture in the City of Carpinteria's General Plan/Coastal Land Use Plan & Environmental Impact Report – April 2003. The parcel is 3.62 hectares (8.95 acres); about 2.1 hectares (5.2 acres) would be needed for the project. The land use designation for the required area would be changed to Transportation Corridor. This is more fully discussed in the Agricultural Lands section of this document.

Two parcels currently zoned Open Space-Recreation would be affected by the extension of Via Real. Of the total 1.32 hectares (3.25 acres) of Open Space-Recreation zoned area, about 1.02 hectares (2.51 acres) would be used for the extension of Via Real, and the land use designation would be changed to Transportation Corridor. The designation of Transportation Corridor would be compatible with the surrounding land uses. For more information, see Section 2.1.1.2.

All other acquisitions would be partial acquisitions that affect only small strips of frontage along the Via Real alignment and the northbound on-ramp of Linden Avenue for Alternatives 1 and 4.

Avoidance, Minimization, and/or Mitigation Measures

Given the design constraints for the extension of Via Real and the reconfiguration of the northbound ramps at Casitas Pass Road, the re-designation of agricultural and open space/recreational land would be an unavoidable impact. Minimization measures incorporated into the project include designing ramps to meet minimum design standards and aligning the Via Real extension as close to Route 101 as practical.

2.1.1.2 Consistency with State, Regional, and Local Plans

Affected Environment

Transportation Concept Report

System Planning is Caltrans' long-range transportation planning process. The objective of System Planning is to ensure that the investments in the state highway system and the larger transportation system will meet future needs for mobility, access, and safety. The Transportation Concept Report of 2001 states that the proposed route concept for Route 101 from kilometer posts R0.0 to 44.7 (post miles R0.0 to 27.8) is a six-lane freeway with interchange revisions operating at level of service D or better.

2006 Regional Transportation Improvement Plan and 2004 Metropolitan Transportation Plan for Santa Barbara County

The Santa Barbara County Association of Governments is a regional planning agency composed of Santa Barbara County and all eight incorporated cities within the county. The Santa Barbara County Association of Governments distributes local, state, and federal transportation funds. It is also the federal Metropolitan Planning Organization for Santa Barbara County, producing the Regional Transportation Plan as required by the State of California and the Metropolitan Transportation Plan as required by the federal government. The 2006 Regional Transportation Improvement Plan and 2004 Metropolitan Transportation Plan outline regional goals and policies for meeting current and future transportation needs. These planning documents also provide the foundation for transportation decision-making and the allocation of state and federal transportation funds.

101 In Motion Planning Project (2006)

The 101 In Motion Planning Project is a regional plan to improve mobility on Route 101 in South Santa Barbara County using multiple transportation improvements. The project's implementation plan discusses the Linden Avenue and Casitas Pass Road Interchanges project as an operational improvement independent from the plan. Increasing the span of bridges throughout the Route 101 corridor (including Linden Avenue and Casitas Pass Road interchanges), however, is required for implementation of the regional plan.

City of Carpinteria General Plan and Local Coastal Plan

The Carpinteria General Plan and Local Coastal Plan (hereafter referred to together as the "General Plan") is the main planning policy document for the city. It represents the community's collective vision for preserving and improving the quality of life in the Carpinteria Valley. The entire city of Carpinteria is in the coastal zone.

A detailed evaluation of the build alternatives' consistency with the General Plan/Local Coastal Plan policies is provided in Appendix E.

The proposed project lies in the California-designated coastal zone and is subject to the policies of the City of Carpinteria General Plan/Local Coastal Land Use Plan (2003). For further information on the project's consistency with the California Coastal Act, see the next section (2.1.1.3 Coastal Zone).

City of Carpinteria Circulation Element

Reconstruction of the Linden and Casitas Pass Interchanges and the extension of Via Real are programmed in the Circulation Element. The Via Real extension is especially important to the locals because it would complete a frontage road on the north side of Route 101, thereby improving local circulation, as well as enhancing direct access to coastal areas from existing residential neighborhoods. The extension of Via Real would also include pedestrian enhancements that would provide direct, safe, access for pedestrians from existing residential neighborhoods to schools and shopping areas.

City of Carpinteria Creeks Preservation Program

The Carpinteria Creeks Preservation Program is an implementation program for the City of Carpinteria General Plan/Local Coastal Plan (2003) to guide the preservation and restoration of creeks in the City of Carpinteria. The plan focuses restoration efforts on Carpinteria Creek, with suggested improvements on Franklin Creek and other local creeks, when funds become available to conduct feasibility studies. A detailed evaluation of the build alternatives' consistency with the General Plan/Local Coastal Plan and Creeks Preservation Program policies is provided in Appendix E.

Environmental Consequences

While none of the build alternatives for this project propose widening to six lanes, as projected in the Transportation Concept Report, consistency for the construction of a future six-lane facility is maintained. Interchange revisions and frontage road development for all alternatives improve local vehicular travel, increase intersection level of service, and enhance bicycle and pedestrian circulation within the corridor and are therefore consistent with the Santa Barbara County Association of Governments' Regional Transportation Plan and the Circulation and Land Use Element of the City of Carpinteria's General Plan.

The proposed Linden Avenue and Casitas Pass Road Interchange improvement project is included in and consistent with both the Regional Transportation Plan and the Metropolitan Transportation Plan. The project is identified on pages 7 and 8 of the 2006 Regional Transportation Plan (PPNO 482).

Land use patterns in the area are not expected to change as a result of the project. The proposed land use designation change is discussed in Sections 2.1.1.1 and 2.1.3.

The project appears to be consistent with the General Plan/Local Coastal Plan and Coastal Act because the project would enhance access to coastal resources by improving local vehicular

circulation and improving bicycle and pedestrian access. However, because the City of Carpinteria Local Coastal Program does not contain an exception to the required setback/buffer for wetlands, including public works improvements, an amendment to the Coastal Land Use Plan is required. As noted previously, a detailed evaluation of the alternatives' consistency with the General Plan/Local Coastal Plan policies is provided in Appendix E.

The No-Build alternative would be inconsistent with the General Plan/Local Coastal Plan Circulation Element. No impacts to environmentally sensitive habitat areas would occur, and no farmland would be converted to other uses. However, the local circulation benefits of the project would also not occur without improvements made to Via Real and the two interchanges.

Alternatives 1 and 4 would require changing the bridge over Franklin Creek at Route 101 because the northbound on-ramp would extend across the bridge in both alternatives. The Carpinteria Creeks Preservation Program recommends that, where feasible, proposed development along Franklin Creek shall restore natural elements of the creek, including earthen banks, natural creek beds with riffles and pools, and a narrow corridor of riparian vegetation, while still maintaining the interests of the flood control function. The project does not propose to restore the channel beneath the Franklin Creek bridge at Route 101 because no feasibility study has been conducted to show the effect of such restoration and its impacts on downstream flooding and/or erosion.

Avoidance, Minimization, and/or Mitigation Measures

Conversion of agricultural land would be unavoidable given the project's design constraints for the extension of Via Real to and intersection with Casitas Pass Road and the need to avoid conflict with the Casitas Pass interchange northbound on- and off-ramps. Minimization measures include designing ramp geometrics that meet minimum design standards and aligning the Via Real extension as close to Route 101 as practical. Additional design details that may minimize impacts would be considered during the Coastal Development Permit Process.

2.1.1.3 Coastal Zone

Regulatory Setting

The Coastal Zone Management Act of 1972 is the main federal law enacted to preserve and protect coastal resources. The Coastal Zone Management Act sets up a program under which coastal states are encouraged to develop coastal management programs. States with an approved coastal management plan are able to review federal permits and activities to determine if they are consistent with the state's management plan.

California has developed a coastal zone management plan and has enacted its own law, the California Coastal Act of 1976, to protect the coastline. The policies established by the California Coastal Act are similar to those for the Coastal Zone Management Act; they include the protection

and expansion of public access and recreation; the protection, enhancement, and restoration of environmentally sensitive areas; the protection of agricultural lands; the protection of scenic beauty; and the protection of property and life from coastal hazards. The California Coastal Commission is responsible for implementation and oversight under the California Coastal Act.

Just as the federal Coastal Zone Management Act delegates power to coastal states to develop their own coastal management plans, the California Coastal Act delegates power to local governments (15 coastal counties and 58 cities) to enact their own local coastal programs. Local coastal programs determine the short- and long-term use of coastal resources in their jurisdiction consistent with the California Coastal Act goals. A federal consistency determination may be needed as well.

Affected Environment

In April 2003, the City of Carpinteria adopted the General Plan/Local Coastal Plan & Environmental Impact Report that establishes and guides land use planning and coastal protection policies. The General Plan is designed to be consistent with the California Coastal Act and provides the Land Use Plan and related policies for the various implementation programs such as the zoning ordinance. The Land Use Plan and implementation programs make up the City's Local Coastal Program (California Coastal Act of 1976 §§ 30108.6, 30500).

Environmental Consequences

The project is potentially inconsistent with Carpinteria Local Coastal Plan policies of maintaining or enhancing agricultural land within the coastal zone because of the proposed use of the farmland at 1212 Casitas Pass Road. The project is inconsistent with policies protecting environmentally sensitive habitat areas, in particular wetlands and an associated 100-foot buffer. Encroachment into the designated wetland buffer cannot be avoided if the project is to be consistent with the General Plan's Circulation Element.

Avoidance, Minimization, and/or Mitigation Measures

Conversion of agricultural land would be unavoidable given the project's design constraints for the extension of Via Real to and intersection with Casitas Pass Road and the need to avoid conflict with the Casitas Pass interchange northbound on- and off-ramps. Minimization measures include designing ramp geometrics that meet minimum design standards and aligning the Via Real extension as close to Route 101 as practical. Additional design details to minimize impacts would be considered during the Coastal Development Permit Process.

2.1.1.4 Parks and Recreation

Affected Environment

In November 2004, the City of Carpinteria applied for an Environmental Enhancement Grant from Caltrans to construct a park (Carpinteria Creek Park) to offset the impacts to recreation from the

construction of the Via Real portion of the proposed Linden Avenue and Casitas Pass Road Interchanges project. According to the application, the construction of Via Real through to Casitas Pass Road would eliminate the use of the existing cul-de-sac on Via Real as a play area by children living in the adjacent mobile home park.

The planning and development of the Carpinteria Creek Park was a result of joint planning between the City of Carpinteria and Caltrans as part of the proposed Linden Avenue & Casitas Pass Road Interchanges project. Therefore, impacts to the park are not subject to Section 4(f).

Construction of the proposed park began in April, 2008 on a 0.42-hectare (1.03-acre) parcel of land immediately adjacent to, and partially in conflict with, the proposed Via Real extension. Once construction began, it came to Caltrans' attention that changes in the park's plan put approximately one-third of the park in direct conflict with the proposed extension of Via Real. Caltrans and the City of Carpinteria worked together to avoid this conflict. The City of Carpinteria ultimately moved the park improvements so that the conflict was resolved.

The park is currently accessed from the existing Class I bicycle path and through a private entrance from the San Roque Mobile Home Park. The Class I bicycle path runs from the existing cul-de-sac at the end of Via Real, crosses Carpinteria Creek with an at-grade crossing, then crosses under the Route 101 bridges over Carpinteria Creek, and heads south toward downtown Carpinteria.

No other parks would be affected by the proposed project.

Environmental Consequences

Because of the early coordination between Caltrans and the City of Carpinteria, only minor impacts to the newly constructed Carpinteria Creek Park are anticipated. However, access to the park would change if the proposed extension of Via Real were constructed. The Class I bicycle path leading to the Carpinteria Creek Park would be demolished and replaced by a new, relocated Class I bicycle path. The project would temporarily affect the use of the Class I bicycle path during construction of the project. The project would have no adverse effect (a *de minimis* effect) on the Class I bicycle path.

Avoidance, Minimization, and/or Mitigation Measures

Because there would be no impacts to the Carpinteria Creek Park, no mitigation is anticipated. New public access to the park would be provided from the proposed extension of Via Real.

The existing bicycle path would be replaced with a bicycle path that complies with the Americans with Disabilities Act. The new bicycle path would extend the existing Class II bicycle path along the proposed extension of Via Real, across the proposed Via Real bridge over Carpinteria Creek. The bicycle path would then split off from the proposed Via Real as a Class I bicycle path, passing under

the Via Real bridge and connecting to the existing bicycle path that passes under the Route 101 bridges over Carpinteria Creek. Bicycle and pedestrian detours would be available and clearly marked during the construction of the project. With the proposed bicycle and pedestrian detours during construction, the project would have no adverse effect (a *de minimis* effect) on the Class I bicycle path.

2.1.2 Farmlands

Regulatory Setting

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

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

Affected Environment

Multiple land use designations exist next to the project area: Agriculture, Low-Density Residential, Open Space-Recreation, Public Facility, General Commercial, and Medium-Density Residential. A parcel at 1212 Casitas Pass Road (APN 001-070-012) is designated Agriculture. The parcel consists of a single residence on 3.62 hectares (8.95 acres). Seven acres are an irrigated avocado orchard that has been in active production for several years. The remaining portion contains a residence, driveway, and associated improvements.

In Santa Barbara County, the diversified agricultural sector (plants, animals, nursery and value-added products and services) was valued in excess of $1.9 billion in 2005. Gross production was valued at just under $1 billion, which is a 10% increase over 2004.

Table 2.2 shows the top crops for Santa Barbara County in 2005.

Table 2.2 Top Value Crops in Santa Barbara County

Crop	Value in millions
Strawberries	202.6
Wine Grapes	160.3
Broccoli	112.7
Head Lettuce	59.2
Cauliflower	39.2
Cattle	30.7
Avocados	29.0

Source: 2005 Santa Barbara County Crop Report

Trends in Agricultural Land Use

According to the 2002 Agriculture Census by the National Agricultural Statistic Service, there were 306,323 farm hectares (756,937 acres) in Santa Barbara County, compared to 338,024 hectares (835,271 acres) in 1997, a 9% decrease. The 1997 Agriculture Census documented 817,068 farm acres, which would reflect a 7.9% decrease between 2002 and 1997. Between 1992 and 1997 and again from 1987 to 1992 decreases in farm acreage were 2.4% and 3.8% respectively, generally showing a countywide decline. Farms consisting of 0.4 to 3.6 hectares (1 to 9 acres) also declined between 1987 (638 farms), 1992 (508 farms) and 1997 (471 farms). Between 1997 and 2002, however, there was little to no change as the number of these small farms in 2002 was about 465. The average-size farm between 1997 and 2002 grew by 8.5% from 210 to 563 hectares (519 acres to 563 acres).

For avocado orchards in California, the years 2004-05 and 2005-06 saw stability at 24281 hectares (60,000 acres) in production and tonnage harvested per hectare doubling from 1.00 to 1.96 hectares (2.44 to 4.84 acres) (National Agricultural Statistic Service non-citrus fruits and nuts 2006 preliminary study, January 2007). In 1994-95 and 1995-96, bearing acreage fluctuated between 27,357 and 24,241 hectares (67,600 and 59,900 acres) respectively, while tonnage yielded 0.93 to 1.15 hectares (2.29 to 2.85 per acre) (National Agricultural Statistic Service 1996 summary).

In Santa Barbara County, avocado production fluctuated from 3,586 hectares (8,862 acres) in 1987, trending downward in 1992 (3,132 hectares or 7,739 acres) and again in 1997 (2,978 hectares or 7,358 acres) and then increasing in 2002 to 3,425 hectares (8,463 acres). The net change between 1987 and 2002 was a decrease of 4.5%. Santa Barbara County has consistently ranked third in avocado production for the state and the nation. Table 2.3 summarizes avocado production for Santa Barbara County for the past five years and provides the relative contribution of the property at 1212 Casitas Pass Road to both the avocado and the fruit and nut industries.

Table 2.3 Santa Barbara Avocado and Fruit/Nut Harvest Data

Year	Avocado Harvested Acreage	Avocado Ton Per Acre	Avocado Total Tons	Avocado Value Per Acre	Total	Percent of Avocado Value	SB Co (Fruit/Nut) Aggregate Value	Percent of SB Co (Fruit/Nut) Aggregate Value
2006	Whitney	7.0	4.4	$1,064	$32,771	0.08		0.008
	SB Co	8,607	4.4	$1,064	$40,294,531	100		10.159
	SB Co						$386,588, 783	
2005	Whitney	7.0	1.85	$1,836	$23,776	0.08		0.006
	SB Co	8,541	1.85	$1,836	$29,010,360	100		6.989
	SB Co						$415,179817	
2004	Whitney	7.0	2.0	$1,730	$24,220	0.08		0.008
	SB Co	8,485	2.0	$1,730	$29,358,100	100		9.259
	SB Co						$317,027,109	
2003	Whitney	7.0	2.95	$2,248	$46,421	0.08		0.017
	SB Co	8,352	2.95	$2,248	$55,387,123	100		20.143
	SB Co						$274,973,942	
2002	Whitney	7.0	2.80	$1,862	$36,495	0.09		0.015
	SB Co	7,970	2.80	$1,862	$41,552,392	100		16.727
	SB Co						$248,370,404	

Important Farmland Definition

The State Department of Conservation identifies "important farmland" to analyze impacts to California's agricultural resources. The classification system combines technical soil ratings, current land use, and irrigation status as the basis for identifying important farmland. Three types of important farmland are recognized by the State Department of Conservation: prime farmland, farmland of statewide importance, and unique farmland. In the project area, one parcel of farmland—at 1212 Casitas Pass Road—is proposed for use. This property's farmland is designated as prime farmland by the Department of Conservation. According to the Santa Barbara County assessor, the land is described as irrigated orchard.

Prime Farmland Definition

Prime farmland is irrigated land with the best combination of physical and chemical features able to sustain long-term production of agricultural crops. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for production of irrigated crops at some time during the four years prior to the mapping date.

Table 2.4 shows the number of acres adjacent to the project, in Santa Barbara County and in California, that are designated as important farmland.

Table 2.4 Important Farmland

Farmland Type	Hectares adjacent to Project[1]	Hectares in Carpinteria[1]	Hectares in Santa Barbara County[2]	Hectares in California[3]
Prime Farmland	3.62 (8.95 acres)	3.62 (8.95 acres)	27,427 (67,774 acres)	2,096,973 (5,181,712 acres)
Farmland of Statewide Importance	0	0	5,010 (12,380 acres)	1,100,156 (2,718,533 acres)
Unique Farmland	0	13.2 (32.5 acres)	14,219 (35,136 acres)	512,649 (1,266,779 acres)
Farmland of Local Importance	0	0	8,432 (20,836 acres)	1,210,689 (2,991,655 acres)
Total Amount of "Important Farmland"	3.62 (8.95 acres)	16.77 (41.45 acres)	55,088 (136,126 acres)	4,920,463 12,158,679 (acres)

[1]Determined from Carpinteria General Plan Land Use Map [2]Dept of Conservation 2002-2004 Land Use Conversion, [3]Dept of Conservation 2000-2002 Conversion Summary

Agricultural Preserve and Williamson Act Lands

An agricultural preserve is an area within which a city or county can enter into Williamson Act contracts with landowners. The boundary is designated by resolution of the board of supervisors or city council having jurisdiction. The area must be devoted to agricultural use, recreational use, open-space, or any combination of those uses.

The purpose of the Williamson Act is to preserve agricultural lands and prevent their conversion to non-agricultural uses. A property must first be designated an agricultural preserve for it to be eligible for a Williamson Act contract. The contract is established between the landowner and the County of Santa Barbara or City of Carpinteria to restrict use of land to agriculture and compatible uses for a minimum of 20 years. Santa Barbara County requires that a parcel contain at least 16 hectares (40 acres) (acreage must be designated as prime farmland) to receive the agricultural preserve designation. Two or more contiguous farms totaling 16 hectares (40 acres) or more may be combined to form an agricultural preserve (Santa Barbara County Uniform Rules for Agricultural Preserves, reformatted June 2001).

The property at 1212 Casitas Pass Road is not subject to a Williamson Act contract, nor would it be eligible for a Williamson Act contract under Santa Barbara County's Uniform Rules of Agricultural Preserves.

Local Coastal Program Agricultural Lands

The City of Carpinteria, which is completely within the coastal zone, designates agricultural land uses for the project area. Agricultural land use identifies area appropriate for continued agricultural production. The property at 1212 Casitas Pass Road, consisting of 3.62 hectares (8.95 acres) of land, is zoned for agriculture in the project area.

The National Resources Conservation Service classifies the soils on the parcel at 1212 Casitas Pass Road as Goleta Fine Sandy Loam (GcA) and Metz Loamy Sand (Mc), both of which are suitable for irrigated crops.

Environmental Consequences

Important Farmland

Caltrans uses the U.S. Department of Agriculture's farmland conversion impact rating form to determine impacts to farmland. The form assigns the affected farmland a combined score of up to 260 points, composed of up to 100 points for the relative value of the affected farmland and up to 160 points for the site (or alternative) assessment. Through this scoring process, effects of each alternative on farmland are quantified. Sites receiving a total score of less than 160 points are given minimal consideration for protection, and no additional sites need to be evaluated.

A Farmland Conversion Impact Rating Form was submitted to the Santa Barbara County office of the Natural Resources Conservation Service on March 20, 2007. The form and explanations for Site Assessment Criteria are provided in Appendix F. Table 2.5 summarizes the findings of the Farmland Conversion Impact Rating Form.

Table 2.5 Farmland Conversion Impact Rating Form Summary

Build Alternative (all alternatives have the same impact)	Hectares of Important Farmland to be converted by project			Percentage of Santa Barbara County Important Farmland	Relative Value of Farmland	Total Site Assessment	Total Points
	Prime & Unique	Statewide & Local Importance	Total Important Farmland				
1, 2, 3 and 4	2.1 (5.2 acres)	0	2.1 (5.2 acres)	< 1%	86	61	147

Although four build alternatives are being studied, the differences are found only in the vicinity of the Linden Avenue interchange. The Casitas Pass Road interchange design is identical for all alternatives. The farmland at 1212 Casitas Pass Road is the only agricultural land to be used by the project. The value of farmland affected by the build alternatives is below the 160-point level and would have a minor effect on the overall value of the farmland in the region.

Williamson Act Lands

The project would not have an effect on Williamson Act contract properties. The affected parcel is less than 16 hectares (40 acres), and county mapping indicates no previous contract in place. The parcel does not fall within constraints identified in the Uniform Rules promulgated by Santa Barbara County for farmland protection. Conversion would be a less than significant effect for California Environmental Quality Act purposes.

General Plan/Local Coastal Program

The project would convert a portion of one parcel designated as agriculture in the City of Carpinteria's General Plan/Coastal Land Use Plan – April 2003. The parcel is 3.62 hectares (8.95 acres). Three hectares (7 acres) are currently in production. About 2.1 hectares (5.2 acres) would be needed for the project. The land use designation would change to Transportation Corridor. As noted previously, this conversion is required for the extension of Via Real (programmed in the Circulation Element). Within the existing city boundary, there are 16.77 hectares (41.45 acres) designated Agricultural. Of those, 13.2 hectares (32.5 acres) are further identified as Commercial – Greenhouse by the County.

The average farm parcel in Santa Barbara County is 228 hectares (563 acres). Near the property at 1212 Casitas Pass Road, the average farm parcel is 6.5 hectares (16.1 acres). However, the property is effectively a 3.62-hectare (8.95-acre) agricultural island isolated from other agricultural areas by residential, highway, or creek-open space properties. Before 2003, the property was zoned as Medium-Density Residential in the General Plan and as Agriculture in the Local Coastal Plan. When the General Plan was updated, the zoning was changed to Agriculture to make the General Plan and the Local Coastal Plan match.

Avoidance, Minimization, and/or Mitigation Measures

Because the impact to farmland is not adverse, no mitigation is required.

2.1.3 Community Impacts

2.1.3.1 Community Character and Cohesion

Regulatory Setting

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

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

Affected Environment

The City of Carpinteria is a small beach town in a rural setting. The city's coastal setting is framed by the foothills of the Los Padres National Forest and the Pacific Ocean. The landscape includes natural coastal terrain and agricultural lands. Route 101 bisects the city. The city's edge at the urban/rural boundary is also a defining characteristic. The physical characteristics that contribute to Carpinteria's unique identity and appearance include:

- Variety of individual neighborhoods
- Scale and character of streets and other public spaces
- Scale, character and configuration of buildings
- Landscaping that defines and enhances public spaces and private development
- Relationship of the built environment to the natural environment

To ensure that the existing unique qualities of Carpinteria's neighborhoods and districts are preserved and enhanced, community design subareas have been identified in the City of Carpinteria General Plan and Local Coastal Land Use Plan & Environmental Impact Report (2203). The three *Community Design Subareas* that exist within the proposed project limits are described below:

Santa Monica, Canalino and El Carro Neighborhoods

This subarea is bounded by Route 101 on the south and by agricultural lands outside the city limits on the west, north, and east. It is mostly composed of single-family neighborhoods, laid out in a suburban pattern typical of new development in the 1950s through the 1980s. The southwesterly portion of this subarea also includes a small commercial and mixed-use district with shopping centers, motels, mobile home developments and storage facilities, all generally oriented toward the freeway and the frontage road. Portions of the subarea along Linden Avenue and Foothill Road also include several civic and recreational facilities. Carpinteria High School lies to the north of Foothill Road and is also included in this subarea.

Many of the streets within the subarea do not represent the city's desired "small beach town" image because they have wide streets and lack spatial definition.

Many of the houses present an image to the street that is dominated by garage doors, creating front yards that do not welcome visitors or other lively uses by the residents.

Note: The portion of this subarea northwest of Franklin Creek is not considered part of the project area for the purposes of this section.

The Northeast

The Northeast subarea is bounded by Route 101 on the south and by agricultural lands outside the city limits on the west, north, and east. The subarea includes industrial and office uses and a range of relatively affordable housing types, including apartments, condominiums, mobile home developments, and single-family residences.

This subarea is also characterized by wide streets with few street trees, and residential and industrial buildings with little "neighborhood charm." There are more opportunities for new development in this area than in other areas. Therefore, it is a key objective that new development, and remodeling of existing development, within this subarea link existing and new development together into a coherent living and working district. The adjacency of employment centers and housing affordable for workers offers a unique opportunity to transform this subarea from its current condition to a vital and valuable asset for the city.

Note: The only portion of this subarea that applies to the proposed project is the mobile home park in the northwestern corner of the subarea adjacent to Carpinteria Creek.

The Downtown and Old Town

The Downtown and Old Town subarea is bounded by Route 101 on the north, by the railroad tracks on the south and southwest, and by Carpinteria Creek on the east. This subarea is the original and current center and heart of the city. It is the focus of commercial and civic activity and includes a number of vital neighborhoods with a range of housing types. The subarea has an interconnected street network structure of an authentic small town and a variety of distinctive building types fronting onto the traditional, pedestrian-oriented streets.

Note: The portion of this subarea that applies to the proposed project runs along the south side of Route 101 from just east of Carpinteria Creek, north to Franklin Creek.

Environmental Consequences

Many of the streets within the *Santa Monica, Canalino and El Carro* subareas do not represent the city's desired "small beach town" image because they have wide streets and lack spatial definition. The reconstruction of the two interchanges, extension of Via Real, and the addition of soundwalls would add to the urban element within the project area, but would not preclude the city's desire of

creating the "small beach town" image in the future. The proposed project would improve connections between this subarea and other neighborhoods and districts in the city.

The *Northeast* subarea is described in the General Plan as having little "neighborhood charm." The portion of the proposed project that would take place in this subarea would not preclude the city's plans to "transform this subarea from its current condition to a vital and valuable asset for the city."

The *Downtown and Old Town* subarea is described in the General Plan as the heart of the city. The proposed project would be beneficial by strengthening the transportation connections between this subarea and other neighborhoods and districts in the city.

Avoidance, Minimization and/or Mitigation Measures

Design details that could help to integrate the project into the neighborhoods would be coordinated with the City of Carpinteria during the coastal development permit process.

2.1.3.2 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 will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. See Appendix D for a summary of the Relocation Assistance Program.

All relocation services and benefits are administered without regard to race, color, national origin, or sex in compliance with Title VI of the Civil Rights Act (42 U.S. Code 2000d, et seq.). See Appendix C for a copy of Caltrans' Title VI policy statement.

Affected Environment

A Draft Relocation Impact Study was conducted for this project in August 2008.

The City of Carpinteria is a small beach town in a rural setting with a population of about 14,194 (Census 2000). Several residential neighborhoods exist throughout the city. Within the project vicinity are the following land uses:

- Low-Density Residential
- Medium-Density Residential
- Open Space/Residential

- General Commercial
- Public Facility
- Transportation Corridor
- Agriculture

The City of Carpinteria is a community with about 15,000 residents and about 3,000 housing units.

Environmental Consequences

Under all build alternatives, the inhabitants of one residence, currently tenant-occupied, would be displaced. The property with the residence is 3.63 hectares (8.95 acres). About 2.1 hectares (5.2 acres) or 70% of the parcel would be needed to construct the project. This may leave an uneconomic remnant that the owners would not wish to retain. No other displacements are expected for the project.

All other acquisitions would be partial acquisitions that only affect small strips of frontage along the Via Real alignment and the northbound on-ramp of Linden Avenue for Alternatives 1 and 4.

Avoidance, Minimization, and/or Mitigation Measures

It is estimated that there would be adequate replacement housing available to relocate all displaced residents within the community. An active real estate market exists throughout the area for both residential sales and rentals. Residential homes in the appropriate price range were available for purchase when this document was written. Such available housing is expected for the foreseeable future. Appendix D summarizes Caltrans' Relocation Assistance process.

2.1.3.3 Environmental Justice

Regulatory Setting

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

All considerations under Title VI of the Civil Rights Act of 1964 and related statutes have also been included in this project. Caltrans' commitment to upholding the mandates of Title VI is evidenced by its Title VI policy statement, signed by the Director (see Appendix C of this document).

Affected Environment

The project area sits in the center of the City of Carpinteria along its main transportation corridor of Route 101. According to the 2000 Census data, the City of Carpinteria had a total population of 14,369 people. Table 2.7 shows the breakdown by ethnic group.

Table 2.7 2000 Census Ethnic Group Distribution

	White	Hispanic	Black	Asian	American Indian Pacific Islander	Other race alone	Two or more races	Total
City of Carpinteria	7425	6174	75	359	75	5	256	14,369
Percentage	43.0	51.7	0.5	2.5	0.5	0.0	1.8	100.0

The city's population is almost evenly split between what is considered non-minority (White) and Hispanic, while 5% of the population encompasses other minority ethnicities. Appendix L shows the City of Carpinteria' Census Tract Blocks Groups by ethnicity. With the exception of *Block Group 1, Censes Tract 16.01*, and *Block Group 6, Censes Tract 16.02*, all other Block Groups are adjacent to the project area. *Block Group 3*, *Censes Tract 16.01,* and *Block Group 3, Censes Tract 16.02* has higher percentage of White and lower percentage of Hispanic, while other Block Groups share similar ethnic diversity. For Environmental Justice analysis, the distribution of ethnic groups within the adjacent area of the project is not significantly different from the city itself.

According to the 2000 Census, the median household income in Carpinteria was $47,729 in 1999. This is above the median household income for the County of Santa Barbara. A household earning 81-120% of the county median household income is considered to be moderate income. A household earning 51-80% of the median income is considered to be low income, and a household earning 50% or less of the median household income is considered to be very low income.

About seven percent of the families in Carpinteria are living below the poverty level. That is less than the county population living below the poverty level (8.5%) and the national population living below the poverty level (9.2%).

According to the 2000 Census, about 15% of the population of Carpinteria is disabled. That is less than the county average (17%) and the national average (19%).

Environmental Consequences

There are no disproportionally high or adverse impacts to low-income or minority populations in the project area. Interchange revisions and frontage road development for all alternatives improve local vehicular travel, increase intersection level of service, and enhance bicycle and pedestrian circulation within the corridor. Each of the proposed alternatives would have some effect on the visual character of the Route 101 corridor through Carpinteria and along some local roadways. Environmental impacts of the proposed project on the overall population include partial property acquisition, a change in visual quality, and temporary construction impacts. (See sections 2.1.1.1 *Existing and Future Land Use*, 2.1.2 *Farmlands***,** 2.1.3.1. *Relocations*, 2.1.6 *Visual/Aesthetics*, and 2.4 *Construction Impacts*, respectively.)

Avoidance, Minimization, and/or Mitigation Measures

The proposed project including the four build alternatives would not cause disproportionately high and adverse effects on any minority or low-income populations as per Executive Order 12898 regarding environmental justice.

2.1.4 Utilities/Emergency Services

Affected Environment

Police services in the incorporated City of Carpinteria are provided by the Santa Barbara County Sheriff's Department. The local sheriff's office is at 5775 Carpinteria Avenue.

The Carpinteria planning area is served by the Carpinteria-Summerland Fire Protection District. Currently, two fire stations serve the city: one within the city (on Walnut Avenue) and one in Summerland, just west of the city. Current response times range from three minutes (inner city) to five minutes (city periphery).

Additional utilities and services are provided by the following:

- Wastewater collection and treatment services are managed by the Carpinteria Sanitary District.
- The Southern California Gas Company supplies natural gas to the city.
- Electrical service is provided to the city by Southern California Edison.
- Cox Cable supplies the city with cable television.
- General Telephone Electric provides local phone services to the city.

- Flood control is provided and maintained by the Santa Barbara County Flood Control District.
- Water is supplied by the Carpinteria Valley Water District through line and storage facilities controlled by the district. The district connected to state water in November 1997.

Environmental Consequences

About 6 acre-feet of water per year for three years after the completion of construction would be needed to support landscape planting for the proposed Linden Avenue and Casitas Pass Road Interchanges project. The project would not require wastewater disposal.

For information on construction impacts to utilities, see Section 2.4.

Avoidance, Minimization, and/or Mitigation Measures

No long-term impacts are anticipated for this project. See Section 2.4 for construction minimization measures.

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

A Traffic Analysis Report for this project was completed in June 2007. The results presented assume that Route 101 has been widened from four lanes to four lanes plus high occupancy vehicle lanes in both directions under year 2036 conditions.

A sensitivity analysis was conducted to verify the traffic results. The sensitivity analysis showed that a 4- or 5-lane bridge would be necessary, depending on the alternative, to accommodate traffic at an acceptable level of service at the Linden Avenue overcrossing. The sensitivity analysis also showed that a 5-lane bridge would be necessary to accommodate traffic at an acceptable level of service at the Casitas Pass Road overcrossing. This is a reduction in lanes from the original proposal at the Casitas Pass Road overcrossing.

The study area includes the Linden Avenue, Casitas Pass Road, State Route 150, and Bailard Avenue interchanges with Route 101, in addition to several locations along key local roadways, including Carpinteria Avenue, Via Real, and Ogan Road.

Route 101 is the only freeway serving the Carpinteria area. It is the main arterial highway connecting cities between Los Angeles and San Francisco. Locally, it is used as an intracity arterial for trips that may begin and end at the various interchanges in the city. Several of the Carpinteria-101 interchanges involve unusually confusing and inefficient design configurations. Two interchanges exist within the project limits: Casitas Pass Road and Linden Avenue (northbound on-ramp/southbound off-ramp only).

Existing Interchange and Roadway Descriptions

For purposes of the Traffic/Transportation section of this document, the cardinal directions of north, east, south, and west need to be uniform throughout to assist in understanding the text. Descriptions can easily appear to be contradictory because Route 101 is a north-south route; however, through Carpinteria, the route runs east-west. In other sections of this document, reference is made to a feature north or south of the freeway. This section uses Route 101 as a north-south reference. Therefore, references to off-freeway features will be either east or west of Route 101.

The study area is bound by the Route 101/Linden Avenue interchange to the north, the Route 101/State Route 150 interchange to the south, the Pacific Ocean to the west, and State Route 192 to the east. The following describes Route 101 and other key roadways in the study area.

Bicycle and Pedestrian Routes

Bikeways are traditionally classified into three types:

- Class I provides for a completely separated right-of-way for the use of bikes and pedestrians. Motor vehicles are prohibited.

- Class II provides a restricted right-of-way on the traveled way designated for bike use only. This bikeway is separated by signs and roadway striping and may be integrated with vehicle on-street parking, and motor vehicle and pedestrian cross traffic.

- Class III bikeways are marked by signs or roadway markings, however the right-of-way is shared by all transportation modes.

Carpinteria has 6.6 kilometers (4.1 miles) of bikeway, with the following in the project vicinity:

- Where Via Real ends at Carpinteria Creek, a Class I bikeway travels through and along Carpinteria Creek, westerly under Route 101, ending at Carpinteria Avenue. Santa Barbara County Association of Governments describes the functional significance of this path as a feeder from residential areas to a major commute area.

- Along Casitas Pass Road, a Class II bike lane is marked in the westbound direction only and crosses Route 101. The functional significance is an east/west corridor to State Route 192 serving primarily residences.

- Along Linden Ave, a Class II bike lane is marked in the eastbound direction only to include the overpass across Route 101. The functional class is an east/west corridor to State Route 192 serving major employers, residential, and park access.

- Along Via Real north of Casitas Pass Road and along Vallecito Road, a Class II path transitions to a Class III from Via Real to Vallecito Road and continues through to Linden Avenue via Ogan Road. This path is not discussed in the regional study.

Existing Traffic

For purposes of this study, commute times are morning (7:00 to 9:00 a.m.) and evening (4:00 to 6:00 p.m.) during a typical weekday.

Traffic volumes counted along mainline Route 101 indicate that the predominant travel direction is northbound during the morning peak period and southbound during the afternoon peak period. From field data, it was determined that the morning peak hour occurs from 7:15 a.m. to 8:15 a.m., and the afternoon peak hour occurs from 4:30 p.m. to 5:30 p.m. The peak hour directional split is 79% northbound/21% southbound for the morning and 39% northbound/61% southbound for the afternoon.

Truck traffic represents 9.6% of the total traffic along Route 101.

Average daily traffic counts in Table 2.8 apply to the segments of Route 101, Via Real, and Ogan Road between Casitas Pass Road and Linden Avenue, the segment of Linden Avenue from Ogan Road to Sawyer Avenue, and the segment of Casitas Pass Road from the existing Route 101 northbound off-ramp to the Route 101 ramps.

Table 2.8 Route 101, Ramp, and Local Road Traffic Volume Summary

Location	Current (2005)	No-Build (2016)	Build (2016)	No-Build (2036)	Build (2036)
	Average Daily Traffic Count	Average Daily Traffic Count	Average Daily Traffic Count	Average Daily Traffic Count	Average Daily Traffic Count
NB Route 101	30,327	48,686	48,686	58,166	58,166
SB Route 101	33,202	42,495	42,495	63,392	63,392
NB Casitas Off-ramp	4,810	7,300	3,900	8,100	6,200
NB Casitas On-ramp	0	0	5,300	0	5,500
SB Casitas On-ramp	4,090	5,900	4,400	7,900	6,000
SB Casitas Off-ramp	2,840	3,700	4,300	5,600	6,100
NB Via Real On-ramp	3,340	7,500	0	5,900	0
NB Linden On-ramp	4,290	6,300	9,400	6,700	7,500
SB Linden Off-ramp	4,290	3,700	3,700	5,500	5,600
Via Real	4,110	7,614	5,600	13,195	6,800
Ogan Road	3,140	3,500	1,190	3,700	1,340
Linden Avenue	10,300	12,188	11,500	14,890	15,200
Casitas Pass Road	12,080	16,468	17,980	25,812	23,530

Source: Draft Project Report, December 2008.

Congested areas of roadway are defined as those areas where vehicle speeds drop to less than 35 miles per hour for more than 15 minutes on a recurrent basis. This occurs because the amount of vehicles (demand) exceeds the number of lanes on the roadway (capacity). Within the project limits, the most prevalent congestion occurs Monday through Friday during the commute hours. In addition, recurrent congestion occurs on Sunday afternoons on Route 101 traveling southbound.

Traffic congestion is the eventual result of growth in vehicle miles traveled within the project limits. Recurrent congestion and delay imposed upon the motorist ultimately leads to increased driver discomfort, frustration, and loss of travel time. These factors result in the increased potential for accidents.

Level of Service

Level of Service at Intersections

Level of service is a description of the quality of an intersection's operation, ranging from level of service A (indicating free-flow traffic conditions with little or no delay) to level of service F (representing over-saturated conditions where traffic flows exceed design capacity, resulting in long queues and delays). Based on the City of Carpinteria General Plan, the city's policy is to maintain a service level of C operations or better at all-way stop-controlled intersections and intersections with signals. At side-street stop intersections, the policy is also to maintain level of service C operations or better. See Figures 2.1-2.3.

Level of Service on Freeway Mainline and Ramp Junctions

The level of service for a freeway section is based on measures of density (passenger cars/lane/mile), while a secondary measure is travel speed (miles per hour). Freeway level of service is a qualitative description of traffic flow based on speed, travel time, delay, and freedom to maneuver.

There are six levels, ranging from level of service A (the best operating conditions) to level of service F (the worst). Level of service E represents "at-capacity" operation. When volumes exceed capacity, stop-and-go conditions result and operations are designated as level of service F. Caltrans' policy is to maintain freeway mainline and ramp operations at the level of service C to level of service D based on the Guide for the Preparation of Traffic Impact Studies (December 2002). See Figure 2.4.

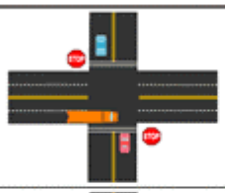
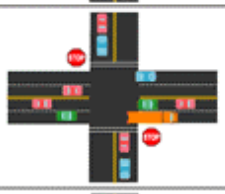
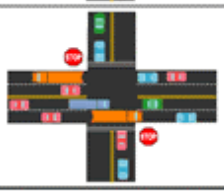
Level of Service on Street Segments

Levels of service for street segments are based on the average through-vehicle travel speed for the street segment and classification. Average travel speed is determined by dividing the length of the street segment by the total time a vehicle spends on the street. The current policy used by the City of Carpinteria is for all street segments to maintain level of service C operations or better.

Figure 2.2 Levels of Service for Two-Way Stop Intersections

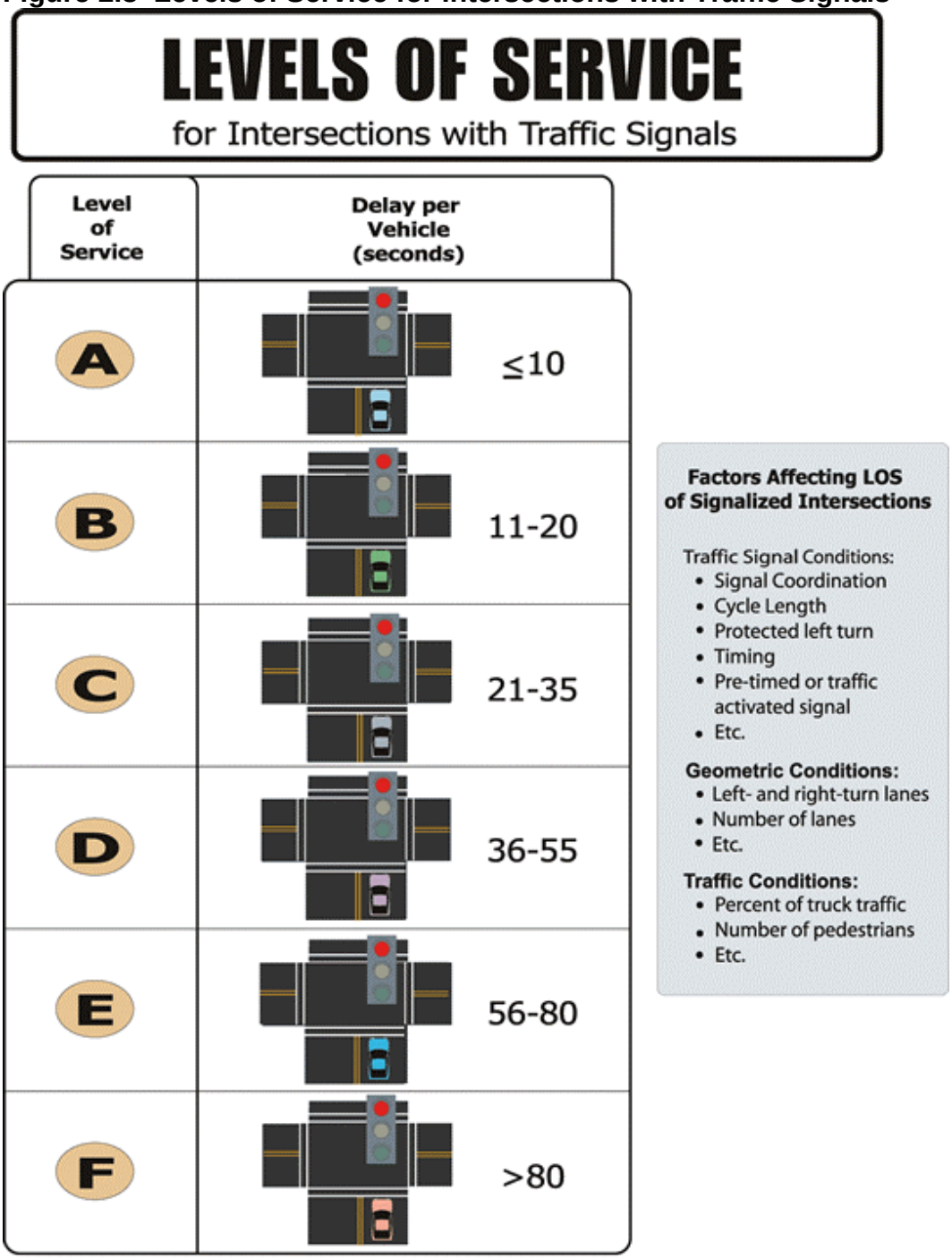
LEVELS OF SERVICE

for Two-Way Stop Intersections

Level of Service	Flow Conditions	Delay per Vehicle (seconds)	Technical Descriptions
A		≤10	Very short delays
B		11-15	Short delays
C		16-25	Minimal delays
D		26-35	Minimal delays
E		36-50	Significant delays
F		>50	Considerable delays

Source: 2000 HCM, Exhibit 17-2, Level of Service Criteria for TWSC Intersections

Figure 2.3 Levels of Service for Intersections with Traffic Signals



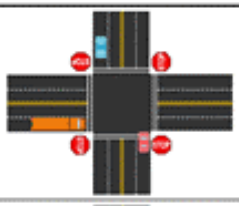
Source: 2000 HCM, Exhibit 16-2, Level of Service Criteria for Signalized Intersections

Figure 2.4 Levels of Service for Stop-Controlled Intersections

LEVELS OF SERVICE

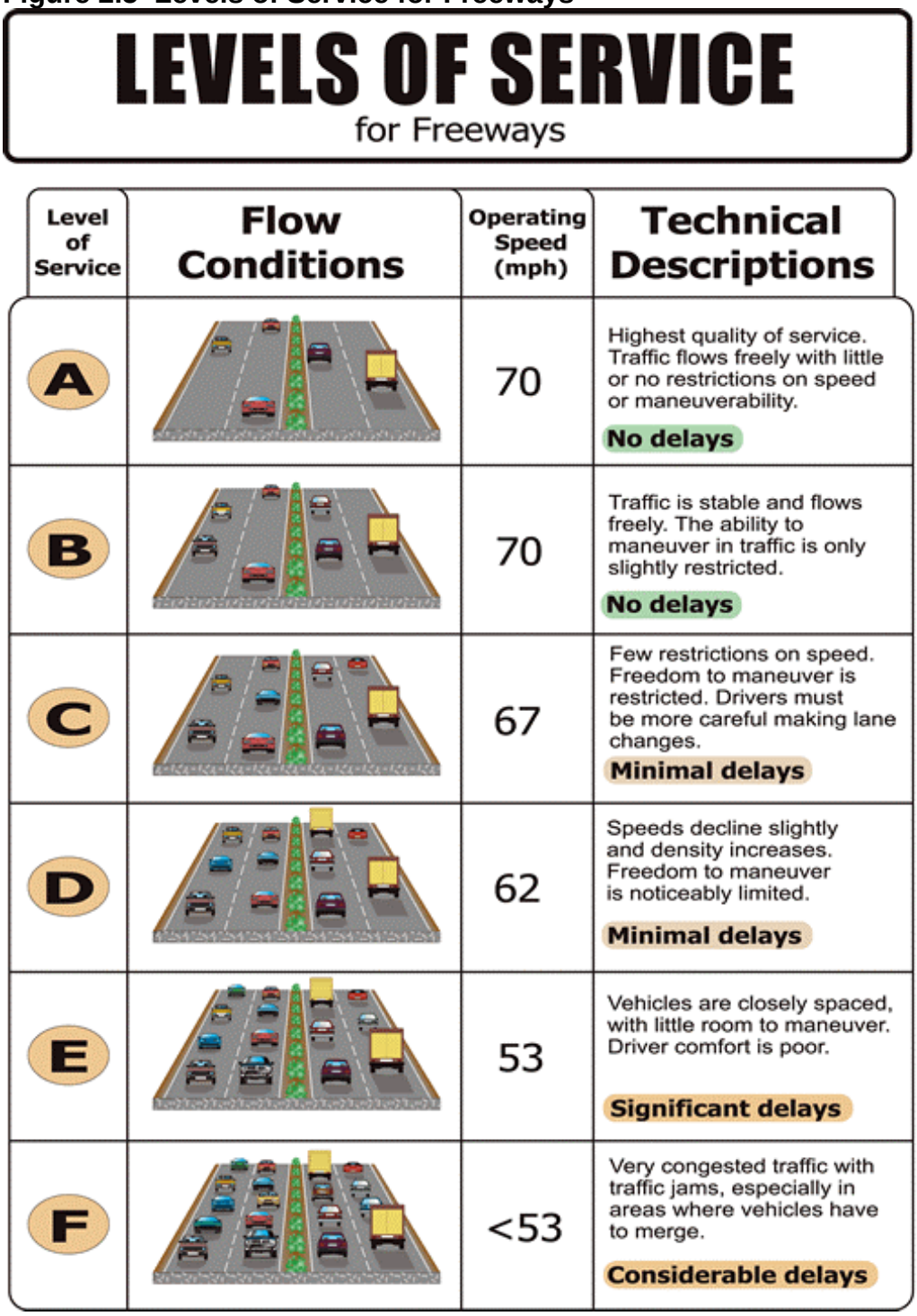
Unsignalized Intersections

Four-Way Stop

Level of Service	Flow Conditions	Delay per Vehicle (seconds)	Technical Descriptions
A		<10	Very short delays
B		10-15	Short delays
C		16-25	Minimal delays
D		26-35	Minimal delays
E		36-50	Significant delays
F		>50	Considerable delays

Source: 2000 HCM, Exhibit 17-22, Level of Service Criteria for AWSC Intersections

Figure 2.5 Levels of Service for Freeways



Level of Service on Existing Intersection Operations

Intersection conditions were evaluated based on lane configurations and traffic volumes. Table 2.9 summarizes the intersection operation results. As shown, most of the study intersections operate at acceptable level of service C or better conditions during both morning and evening peak hours.

Table 2.9 Existing Intersection Analysis

Intersection	Traffic Control	Morning Peak Hour		Afternoon Peak Hour	
		Delay in Seconds	Level of Service	Delay in Seconds	Level of Service
Linden Avenue/Carpinteria Avenue	Signal	25	C	32	C
Linden Avenue/Sawyer Avenue	Side-Street Stop	26 (Eastbound)	D	20 (Eastbound)	C
Linden Avenue/Route 101 Southbound Off-Ramp	Side-Street Stop	28 (Southbound)	D	35 (Southbound)	D
Linden Avenue/Ogan Road	Side-Street Stop	21 (Westbound)	C	14 (Westbound)	B
Route 101 Northbound On-Ramp/Ogan Road	Side-Street Stop	4 (Westbound)	A	2 (Westbound)	A
Vallecito Road/Via Real/Route 101 Northbound On-Ramp	Side-Street Stop	13 (Southbound)	B	11 (Southbound)	B
Vallecito Road/Ogan Road	All-Way Stop	8	A	8	A
Casitas Pass Road/Carpinteria Avenue	Signal	13	B	17	B
Casitas Pass Road/Route 101 Southbound Ramps	All-Way Stop	13	B	19	C
Casitas Pass Road/Via Real/ Route 101 Northbound Off-Ramp	All-Way Stop	39	E	16	C
Casitas Pass Road/Ogan Road	Side-Street Stop	14(Eastbound)	B	11 (Eastbound)	B
Bailard Avenue/Carpinteria Avenue	All-Way Stop	14	B	13	B
Bailard Avenue/Route 101 Southbound Ramps	Side-Street Stop	22 (Southbound)	C	40 (Southbound)	E
Bailard Avenue/ Route 101 Northbound Ramps	Side-Street Stop	>50 (Northbound)	F	23 (Northbound)	C
Bailard Avenue/ Via Real	All-Way Stop	13	B	12	B
State Route 150/Carpinteria Avenue	Side-Street Stop	9 (Westbound)	A	9 (Westbound)	A
State Route 150/Route 101 Southbound Ramps	Side-Street Stop	16 (Southbound)	C	>50 (Southbound)	F
State Route 150/Route 101 Northbound Ramps	Side-Street Stop	14 (Northbound)	B	13 (Northbound)	B
State Route 150/Via Real	Side-Street Stop	18 (Northbound)	C	16 (Northbound)	C
State Route 150/Casitas Pass Road	Side-Street Stop	12 (Eastbound)	B	11 (Eastbound)	B

Source: Final Traffic Analysis Report, June 2007

The study area experiences seasonal fluctuations where traffic volumes are generally higher during the summer months when compared to traffic volumes during the winter months. As a result, during the summer months, traffic operations would be worse than what's presented in Table 2.10.

Level of Service on Existing Mainline and Ramp Junction Operations

As shown in Table 2.10, most of the mainline and junctions operate at acceptable level of service C or better conditions during both morning and evening peak hours.

Table 2.10 Existing Mainline and Ramp Merge Diverge Analysis

Mainline or Ramp	Number of Lanes	Morning Peak Hour		Afternoon Peak Hour	
		Density [or Speed]	Level of Service	Density [or Speed]	Level of Service
Mainline Analysis					
NB 101 Bates Road to SR 150	3	16	B	11	A
NB 101 SR 150 to Bailard Ave.	2	24	C	16	B
NB 101 Bailard Ave. to Casitas Pass Road	2	[22]	F	19	C
NB 101 Casitas Pass Road to Linden Avenue	2	[19]	F	18	C
NB 101 Linden Avenue to Santa Monica Road	2	[19]	F	20	C
SB 101 Reynolds Avenue to Linden Avenue	2	15	B	28	D
SB 101 Linden Ave to Casitas Pass Road	2	13	B	25	C
SB 101 Casitas Pass Road to Bailard Avenue	2	14	B	26	C
SB 101 Bailard Ave. to SR 150	2+Aux	Weave	A	Weave	C
SB 101 SR 150 to Bates Road	2+Aux	Weave	A	Weave	C
Ramp Junction Analysis					
NB 101 SR 150 Off-ramp	1	22	C	16	B
NB 101 SR 150 On-ramp	1	26	C	18	B
NB 101 Bailard Avenue Off-ramp	1	[22]	F	21	C
NB 101 Bailard Avenue On-ramp	1	[22]	F	20	C
NB Casitas Pass Road Off-ramp	1	[19]	F	24	C
NB Casitas Pass Road On-ramp	1	[19]	F	22	C
NB 101 Linden Avenue On-ramp	1	[19]	F	23	C
SB 101 Linden Avenue On-ramp	1	19	B	33	D
SB 101 Casitas Pass Road Off-ramp	1	17	B	31	D
SB 101 Casitas Pass Road On-ramp	1	16	B	28	C
SB Bailard Avenue Off-ramp	1	18	B	32	D
SB 101 Bailard Avenue On-ramp	1	Weave	A	Weave	C
SB 101 SR 150 Off-ramp	1	Weave	A	Weave	C
SB 101 SR 150 On-ramp	1	Weave	A	Weave	C

In cases where mainline congestion renders traditional analysis techniques invalid for mainline segments and ramps, level of service is based on vehicle speeds, shown in [brackets].

Table 2.11 shows the existing level of service and the projected (year 2036) no-build level of service at key intersections throughout the project limits. The table shows that in 2036 under the No-Build scenario most of the study intersections would operate at levels of service that would be unacceptable to the City of Carpinteria and to Caltrans.

Table 2.11 Existing and Projected Levels of Service at Key Intersections

Intersection	Morning Peak Hour Level of Service		Afternoon Peak Hour Level of Service	
	Existing Conditions	2036 No-Build	Existing Conditions	2036 No-Build
Linden Avenue/Carpinteria Avenue	C	E	C	E
Linden Avenue/Sawyer Avenue	D	F (eastbound)	C	F
Linden Avenue/Route 101 Southbound Off-Ramp	D	F(eastbound)	D	F
Linden Avenue/Ogan Road	C	F (westbound)	B	F
Route 101 Northbound On-Ramp/ Ogan Road	A	A (westbound)	A	A (westbound)
Vallecito Road/Via Real/Route 101 Northbound On-Ramp	B	C (westbound)	B	B (westbound)
Vallecito Road/Ogan Road	A	A	A	A
Casitas Pass Road/Carpinteria Avenue	B	C	B	D
Casitas Pass Road/Route 101 Southbound Ramps	B	F	C	F
Casitas Pass Road/Via Real/ Route 101 Northbound Off-Ramp	E	F	C	F
Casitas Pass Road/Ogan Road	C	B (eastbound)	E	C
Bailard Avenue/Carpinteria Avenue	B	C	B	F
Bailard Avenue/Route 101 Southbound Ramps	C	F (eastbound)	E	F (eastbound)
Bailard Avenue/ Route 101 Northbound Ramps	F	F (westbound)	C	E (westbound)
Bailard Avenue/ Via Real	B	F	B	F
State Route 150/Carpinteria Avenue	A	A (westbound)	A	A (westbound)
State Route 150/Route 101 Southbound Ramps	C	C (southbound)	F	F (southbound)
State Route 150/Route 101 Northbound Ramps	B	B (northbound)	B	C (northbound)
State Route 150/Via Real	C	D (northbound)	C	C (northbound)
State Route 150/Casitas Pass Road	B	B (eastbound)	B	F (eastbound)

Source: Traffic Study, June 2007.

Environmental Consequences

Traffic Study

Traffic forecasts were developed for years 2016 and 2036 and are based on year 2002 traffic counts. Traffic forecasts are presented for the morning and afternoon peak hours.

At the time the traffic study was conducted, there were no planned roadway network changes in the study area by 2016, therefore the year 2016 No-Build roadway network is the same as the year 2002 calibrated/validated traffic model.

By 2036, high occupancy vehicle lanes would be provided on Route 101. The traffic model was modified to include the planned high occupancy vehicle lanes on Route 101 starting at State Route 150. This explains the difference in levels of service between the 2016 roadway conditions and the 2036 roadway conditions.

Year 2016 Traffic Operations

Intersection Operations

Due to the similarity of Alternatives 1 through 4, the intersection operations would be similar for all of the study intersections, as shown in Tables 2.12 and 2.13.

Table 2.12 Year 2016 Morning Intersection Analysis

Intersection	Traffic Control	No Project	Alternatives 1 & 4	Alternative 2	Alternative 3
		Delay/LOS*	Delay/LOS	Delay/LOS	Delay/LOS
Linden Avenue/ Carpinteria Avenue	Signal	42/D	36/D	36/D	36/D
Linden Avenue/Sawyer Avenue	Side-Street Stop	>50/F (eastbound)	>50/F (eastbound)	>50/F (eastbound)	>50/F (eastbound)
Linden Avenue/Route 101 Southbound Off-Ramp	Side-Street Stop, Signal	>50/F (eastbound)	15/B	15/B	15/B
Linden Avenue/Ogan Road (Via Real with project)	Side-Street Stop, Signal	31/D (westbound)	40/D	19/B	19/B
Route 101 Northbound On-Ramp/Ogan Road	Side-Street Stop Roundabout	5/A (westbound)	N/A	7/A (westbound)	10/A
Vallecito Road/Via Real/Route 101 Northbound On-Ramp	Side-Street Stop	25/C (westbound)	14/B (westbound)	14/B (westbound)	14/B (westbound)
Vallecito Road/Ogan Road	All-Way Stop	8/A	8/A	8/A	8/A
Casitas Pass Road/ Carpinteria Avenue	Signal	21/C	22/C	22/C	22/C
Casitas Pass Road/ Route 101 Southbound Ramps	All-Way Stop, Signal	31/D	14/B	14/B	14/B
Casitas Pass Road/Via Real/Route 101 Northbound Off-Ramp	All-Way Stop, Signal	>50/F	26/C	26/C	26/C
Casitas Pass Road/Ogan Road	Side-Street Stop	12/B (eastbound)	12/B (eastbound)	12/B (eastbound)	12/B (eastbound)
Bailard Avenue/ Carpinteria Avenue	All-Way Stop	>50/F	45/E	45/E	45/E
Bailard Avenue/Route 101 Southbound Ramps	Side-Street Stop	>50/F (eastbound)	26/D (eastbound)	26/D (eastbound)	26/D (eastbound)
Bailard Avenue/Route 101 Northbound Ramps	Side-Street Stop	>50/F (westbound)	21/C (westbound)	21/C (westbound)	21/C (westbound)
Bailard Avenue/ Via Real	All-Way Stop	>50/F	>50/F	>50/F	>50/F
State Route 150/ Carpinteria Avenue	Side-Street Stop	12/B (westbound)	12/B (westbound)	12/B (westbound)	12/B (westbound)
State Route 150/Route 101 Southbound Ramps	Side-Street Stop	25/C (southbound)	24/C (southbound)	24/C (southbound)	24/C (southbound)
State Route 150/Route 101 Northbound Ramps	Side-Street Stop	22/C (northbound)	21/C (northbound)	21/C (northbound)	21/C (northbound)
State Route 150/Via Real	Side-Street Stop	28/D (northbound)	28/D (northbound)	28/D (northbound)	28/D (northbound)
State Route 150/Casitas Pass Road	Side-Street Stop	12/B (eastbound)	12/B (eastbound)	12/B (eastbound)	12/B (eastbound)
Linden Avenue/Route 101 Northbound On-Ramp (Alternatives 1 & 4)	Signal	n/a	40/D	n/a	n/a

Ogan Road/Via Real (Alternatives 1, 2, & 4)	Side-Street Stop	n/a	13/B (westbound)	13/B (westbound)	n/a
Via Real/Route 101 Northbound Ramps (Alternatives 1, 2, 3, & 4)	Signal	n/a	23/C	23/C	23/C

Table 2.13 Year 2016 Evening Intersection Analysis

Intersection	Traffic Control	No Project	Alternatives 1 & 4	Alternative 2	Alternative 3
		Delay/LOS*	Delay/LOS	Delay/LOS	Delay/LOS
Linden Avenue/ Carpinteria Avenue	Signal	35/D	30/C	30/C	30/C
Linden Avenue/Sawyer Avenue	Side-Street Stop	26/D (eastbound)	22/C (eastbound)	22/C (eastbound)	22/C (eastbound)
Linden Avenue/Route 101 Southbound Off-Ramp	Side-Street Stop, Signal	>50/F (eastbound)	18/B	17/B	17/B
Linden Avenue/Ogan Road (Via Real with project)	Side-Street Stop, Signal	20/C (westbound)	24/C	18/B	18/B
Route 101 Northbound On-Ramp/ Ogan Road	Side-Street Stop Roundabout	1/A (westbound)	n/a	3/A (westbound)	6/A
Vallecito Road/Via Real/ Route 101 Northbound On-Ramp	Side-Street Stop	12/B (westbound)	10/B (westbound)	10/B (westbound)	10/B (westbound)
Vallecito Road/Ogan Road	All-Way Stop	8/A	7/A	7/A	7/A
Casitas Pass Road/ Carpinteria Avenue	Signal	23/C	25/C	25/C	25/C
Casitas Pass Road/ Route 101 Southbound Ramps	All-Way Stop, Signal	>50/F	18/B	18/B	18/B
Casitas Pass Road/Via Real/ Route 101 Northbound Off-Ramp	All-Way Stop, Signal	>50/F	27/C	27/C	27/C
Casitas Pass Road/ Ogan Road	Side-Street Stop	13/B (eastbound)	13/B (eastbound)	13/B (eastbound)	13/B (eastbound)
Bailard Avenue/ Carpinteria Avenue	All-Way Stop	25/C	20/C	20/C	20/C
Bailard Avenue/Route 101 Southbound Ramps	Side-Street Stop	>50/F (eastbound)	24/C (eastbound)	24/C (eastbound)	24/C (eastbound)
Bailard Avenue/ Route 101 Northbound Ramps	Side-Street Stop	25/C (westbound)	19/C (westbound)	19/C (westbound)	19/C (westbound)
Bailard Avenue/ Via Real	All-Way Stop	>50/F	42/E	42/E	42/E
State Route 150/ Carpinteria Avenue	Side-Street Stop	10/A (westbound)	10/A (westbound)	10/A (westbound)	10/A (westbound)
State Route 150/Route 101 Southbound Ramps	Side-Street Stop	>50/F (southbound)	>50/F (southbound)	>50/F (southbound)	>50/F (southbound)
State Route 150/Route	Side-Street	13/B	13/B	13/B	13/B

101 Northbound Ramps	Stop	(northbound)	(northbound)	(northbound)	(northbound)
State Route 150/Via Real	Side-Street Stop	19/C (northbound)	18/C (northbound)	18/C (northbound)	18/C (northbound)
State Route 150/ Casitas Pass Road	Side-Street Stop	16/C (eastbound)	16/C (eastbound)	16/C (eastbound)	16/C (eastbound)
Linden Avenue/Route 101 Northbound On-Ramp (Alternatives 1 & 4)	Signal	n/a	24/C	n/a	n/a
Ogan Road/Via Real (Alternatives 1, 2, & 4)	Side-Street Stop	n/a	10/A (westbound)	10/A (westbound)	n/a
Via Real/Route 101 Northbound Ramps (Alternatives 1, 2, 3, & 4)	Signal	n/a	21/C	21/C	21/C

Mainline and Ramp Junction Operations

Each mainline segment and ramp junction was evaluated under year 2016 conditions with and without the project. Since Alternatives 1 through 4 have the same mainline and ramp volumes, the traffic operations would be the same for each of the alternatives.

No-Build Conditions

Under year 2016 conditions, the mainline would remain at its current configuration. Therefore, the existing northbound congestion during the morning peak hour would continue to occur and likely get worse as volumes increase. Route 101 would operate at level of service F in the northbound direction during the morning peak hour from State Route 150 to north of the Linden Avenue interchange. In the southbound direction, traffic operations would degrade to level of service D or worse from Reynolds Avenue to State Route 150 during the afternoon peak hour. See Table 2.14.

Table 2.14 Year 2016 No-Build Mainline and Ramp Merge Diverge Analysis

Mainline or Ramp	Number of Lanes	Morning Peak Hour		Afternoon Peak Hour	
		Density [or Speed]	Level of Service	Density [or Speed]	Level of Service
Mainline Analysis					
NB 101 Bates Road to SR 50	3	22	C	14	B
NB 101 SR 150 to Bailard Ave.	2	[<52.2]	F	21	C
NB 101 Bailard Ave to Casitas Pass Road	2	[<52.2]	F	24	C
NB 101 Casitas Pass Road to Linden Avenue	2	[<52.2]	F	23	C
NB 101 Linden Avenue to Santa Monica Road	2	[<52.2]	F	26	C
SB 101 Reynolds Avenue to Linden Avenue	2	22	C	37	E
SB 101 Linden Ave to Casitas Pass Road	2	19	C	31	D
SB 101 Casitas Pass Road to Bailard Avenue	2	19	C	34	D
SB 101 Bailard Ave to SR 150	2+Aux	Weave	A	Weave	D
SB 101 SR 150 to Bates Road	2+Aux	Weave	A	Weave	D
Ramp Junction Analysis					
NB 101 SR 150 Off-ramp	1	28	D	19	B
NB 101 SR 150 On-ramp	1	[<52.2]	F	22	C
NB 101 Bailard Avenue Off-ramp	1	[<52.2]	F	26	C
NB 101 Bailard Avenue On-ramp	1	[<52.2]	F	26	C
NB Casitas Pass Road Off-ramp	1	[<52.2]	F	30	D
NB Casitas Pass Road On-ramp	1	[<52.2]	F	26	C
NB 101 Linden Avenue On-ramp	1	[<52.2]	F	28	D
SB 101 Linden Avenue On-ramp	1	28	C	40	E
SB 101 Casitas Pass Road Off-ramp	1	24	C	36	E
SB 101 Casitas Pass Road On-ramp	1	21	C	34	D
SB Bailard Avenue Off-ramp	1	24	C	39	E
SB 101 Bailard Avenue On-ramp	1	Weave	A	Weave	D
SB 101 SR 150 Off-ramp	1	Weave	A	Weave	D
SB 101 SR 150 On-ramp	1	Weave	A	Weave	D

Project Conditions (Alternatives 1, 2, 3 and 4)

Similar to the no-build condition, the northbound direction would operate at level of service F from State Route 150 to north of the Linden Avenue interchange during the morning peak hour. In the southbound direction, traffic operations would degrade to level of service D or worse from Reynolds Avenue to State Route 150 during the afternoon peak hour. The project would not affect the mainline or ramp junction operations. See Table 2.15.

Table 2.15 Year 2016 With Project (Alternatives 1, 2, 3, & 4) Mainline and Ramp Merge Diverge Analysis

Mainline or Ramp	Number of Lanes	Morning Peak Hour		Afternoon Peak Hour	
		Density [or Speed]	Level of Service	Density [or Speed]	Level of Service
Mainline Analysis					
NB 101 Bates Road to SR 50	3	22	C	14	B
NB 101 SR 150 to Bailard Ave.	2	[<52.2]	F	21	C
NB 101 Bailard Ave. to Casitas Pass Road	2	[<52.2]	F	23	C
NB 101 Casitas Pass Road to Linden Avenue	2	[<52.2]	F	22	C
NB 101 Linden Avenue to Santa Monica Road	2	[<52.2]	F	26	C
SB 101 Reynolds Avenue to Linden Avenue	2	22	C	37	E
SB 101 Linden Ave to Casitas Pass Road	2	19	C	31	D
SB 101 Casitas Pass Road to Bailard Avenue	2	18	C	31	D
SB 101 Bailard Ave. to SR 150	2+Aux	Weave	A	Weave	D
Ramp Junction Analysis					
NB 101 SR 150 Off-ramp	1	28	D	19	B
NB 101 SR 150 On-ramp	1	[<52.2]	F	22	C
NB 101 Bailard Avenue Off-ramp	1	[<52.2]	F	26	C
NB 101 Bailard Avenue On-ramp	1	[<52.2]	F	25	C
NB Casitas Pass Road Off-ramp	1	[<52.2]	F	29	D
NB Casitas Pass Road On-ramp	1	[<52.2]	F	26	C
NB 101 Linden Avenue On-ramp	1	[<52.2]	F	28	C
SB 101 Linden Avenue Off-ramp	1	28	C	40	E
SB 101 Casitas Pass Road Off-ramp	1	24	C	36	E
SB 101 Casitas Pass Road On-ramp	1	20	C	32	D
SB Bailard Avenue Off-ramp	1	23	C	37	E
SB 101 Bailard Avenue On-ramp	1	Weave	A	Weave	D
SB 101 SR 150 Off-ramp	1	Weave	A	Weave	D
SB 101 SR 150 On-ramp	1	Weave	A	Weave	D

Street Segment Operations

Carpinteria Avenue is expected to operate at level of service C with and without the project in both directions. Linden Avenue is expected to operate at level of service D under Alternatives 1 and 4, mainly as a result of providing several traffic signals within a short distance. Alternatives 2 and 3 would provide one less traffic signal on Linden Avenue, and traffic operations would be improved to level of service C except during the morning peak hour. Casitas Pass Road would operate at level of service C during the morning peak hour and level of service D during the afternoon peak hour. See Table 2.16.

Table 2.16 Year 2016 Street Segment Level of Service

Street Segment	Direction	Arterial Class	No Project				With Project (Alternatives 1, 2, 3, & 4)			
			Morning Peak		Evening Peak		Morning Peak		Evening Peak	
			Average Travel Speed	LOS	Average Travel Speed	LOS	Average Travel Speed	LOS	Average Travel Speed	LOS
Carpinteria Avenue (Casitas Pass Road to Linden Avenue)	Northwest	IV	21.6 (13.4 mph)	C	23.4 (14.5 mph)	C	23.2 (14.4 mph)	C	24.0 (14.9 mph)	C
	Southeast	IV	26.6 (16.5 mph)	C	26.6 (16.5 mph)	C	28.7 (17.8 mph)	C	27.4 (17.0 mph)	C
Linden Avenue (Carpinteria Avenue to Via Real)	Northbound	IV	N/A				18.2 [18.2] (11.3) [11.3] (mph)	D [D]	20.1 [20.7] (12.5) [14.7] (mph)	D [C]
	Southbound	IV					20.1 [20.9] (12.5) [13.0] (mph)	D [C]	19.6 [24.6] (12.2) [15.3] mph)	D [C]
Casitas Pass Road (Carpinteria Avenue to Via Real)	Eastbound	IV					20.9 (13.0 mph)	C	14.8 (9.2 mph)	D
	Westbound	IV					24.1 (15.0 mph)	C	20.6 (12.8 mph)	D

Results presented in [brackets] are for Alternatives 2 and 3 only.

Year 2036 Traffic Operations

Intersection Operations

All of the study intersections were analyzed under year 2036 conditions for each project scenario. Due to the similarity of Alternatives 1 through 4, the intersection operations would be similar for all of the study intersections, as shown in Tables 2.17 and 2.18.

Table 2.17 Year 2036 Morning Intesection Analysis

Intersection	Traffic Control	No Project	Alternatives 1 & 4	Alternative 2	Alternative 3
		Delay/LOS*	Delay/LOS	Delay/LOS	Delay/LOS
Linden Avenue/ Carpinteria Avenue	Signal	64/E	59/E	59/E	59/E
Linden Avenue/Sawyer Avenue	Side-Street Stop	>50/F (eastbound)	>50/F (eastbound)	>50/F (eastbound)	>50/F (eastbound)
Linden Avenue/Route 101 Southbound Off-Ramp	Side-Street Stop, Signal	>50/F (eastbound)	17/B	14/B	14/B
Linden Avenue/Ogan Road (Via Real with project)	Side-Street Stop, Signal	>50/F (westbound)	33/C	14/B	14/B
Route 101 Northbound On-Ramp/ Ogan Road	Side-Street Stop Roundabout	4/A (westbound)	n/a	2/A (westbound)	9/A
Vallecito Road/Via Real/Route 101 Northbound On-Ramp	Side-Street Stop	18/C (westbound)	10/A (westbound)	10/A (westbound)	10/A (westbound)
Vallecito Road/Ogan Road	All-Way Stop	8/A	8/A	8/A	8/A
Casitas Pass Road/ Carpinteria Avenue	Signal	26/C	22/C	22/C	22/C
Casitas Pass Road/ Route 101 Southbound Ramps	All-Way Stop, Signal	>50/F	14/B	14/B	14/B
Casitas Pass Road/Via Real/Route 101 Northbound Off-Ramp	All-Way Stop, Signal	>50/F	23/C	23/C	23/C
Casitas Pass Road/ Ogan Road	Side-Street Stop	13/B (eastbound)	12/B (eastbound)	12/B (eastbound)	12/B (eastbound)
Bailard Avenue/ Carpinteria Avenue	All-Way Stop	17/C	17/C	17/C	17/C
Bailard Avenue/Route 101 Southbound Ramps	Side-Street Stop	>50/F (eastbound)	>50/F (eastbound)	>50/F (eastbound)	>50/F (eastbound)
Bailard Avenue/Route 101 Northbound Ramps	Side-Street Stop	>50/F (westbound)	>50/F (westbound)	>50/F (westbound)	>50/F (westbound)
Bailard Avenue/Via Real	All-Way Stop	>50/F	>50/F	>50/F	>50/F

State Route 150/ Carpinteria Avenue	Side-Street Stop	10/A (westbound)	10/A (westbound)	10/A (westbound)	10/A (westbound)
State Route 150/Route 101 Southbound Ramps	Side-Street Stop	19/C (southbound)	20/C (southbound)	20/C (southbound)	20/C (southbound)
State Route 150/Route 101 Northbound Ramps	Side-Street Stop	15/B (northbound)	15/B (northbound)	15/B (northbound)	15/B (northbound)
State Route 150/Via Real	Side-Street Stop	35/D (northbound)	33/D (northbound)	33/D (northbound)	33/D (northbound)
State Route 150/ Casitas Pass Road	Side-Street Stop	13/B (eastbound)	13/B (eastbound)	13/B (eastbound)	13/B (eastbound)
Linden Avenue/Route 101 Northbound On-Ramp (Alternatives 1 & 4)	Signal	n/a	18/B	n/a	n/a
Ogan Road/Via Real (Alternatives 1, 2, & 4)	Side-Street Stop	n/a	10/A (westbound)	10/A (westbound)	n/a
Via Real/Route 101 Northbound Ramps (Alternatives 1, 2, 3, & 4)	Signal	n/a	24/C	24/C	24/C

Table 2.18 Year 2036 Evening Intesection Analysis

Intersection	Traffic Control	No Project	Alternatives 1 & 4	Alternative 2	Alternative 3
		Delay/LOS*	Delay/LOS	Delay/LOS	Delay/LOS
Linden Avenue/ Carpinteria Avenue	Signal	69/E	50/D	50/D	50/D
Linden Avenue/Sawyer Avenue	Side-Street Stop	>50/F (eastbound)	36/E (eastbound)	36/E (eastbound)	36/E (eastbound)
Linden Avenue/Route 101 Southbound Off-Ramp	Side-Street Stop, Signal	>50/F	17/B	15/B	15/B
Linden Avenue/Ogan Road (Via Real with project)	Side-Street Stop, Signal	>50/F	30/C	16/B	16/B
Route 101 Northbound On-Ramp/ Ogan Road	Side-Street Stop Roundabout	1/A (westbound)	n/a	2/A (westbound)	7/A
Vallecito Road/Via Real/Route 101 Northbound On-Ramp	Side-Street Stop	13/B (westbound)	10/B (westbound)	10/B (westbound)	10/B (westbound)
Vallecito Road/Ogan Road	All-Way Stop	8/A	7/A	7/A	7/A
Casitas Pass Road/ Carpinteria Avenue	Signal	50/D	41/D	41/D	41/D

Casitas Pass Road/ Route 101 Southbound Ramps	All-Way Stop, Signal	>50/F	24/C	24/C	24/C
Casitas Pass Road/Via Real/ Route 101 Northbound Off-Ramp	All-Way Stop, Signal	>50/F	24/C	24/C	24/C
Casitas Pass Road/ Ogan Road	Side-Street Stop	19/C (eastbound)	20/C (eastbound)	20/C (eastbound)	20/C (eastbound)
Bailard Avenue/ Carpinteria Avenue	All-Way Stop	>50/F	34/D	34/D	34/D
Bailard Avenue/Route 101 Southbound Ramps	Side-Street Stop	>50/F (eastbound)	>50/F (eastbound)	>50/F (eastbound)	>50/F (eastbound)
Bailard Avenue/Route 101 Northbound Ramps	Side-Street Stop	48/E (westbound)	31/D (westbound)	31/D (westbound)	31/D (westbound)
Bailard Avenue/Via Real	All-Way Stop	>50/F	>50/F	>50/F	>50/F
State Route 150/ Carpinteria Avenue	Side-Street Stop	10/A (westbound)	10/A (westbound)	10/A (westbound)	10/A (westbound)
State Route 150/Route 101 Southbound Ramps	Side-Street Stop	>50/F (southbound)	>50/F (southbound)	>50/F (southbound)	>50/F (southbound)
State Route 150/Route 101 Northbound Ramps	Side-Street Stop	20/C (northbound)	19/C (northbound)	19/C (northbound)	19/C (northbound)
State Route 150/Via Real	Side-Street Stop	23/C (northbound)	22/C (northbound)	22/C (northbound)	22/C (northbound)
State Route 150/ Casitas Pass Road	Side-Street Stop	>50/F (eastbound)	>50/F (eastbound)	>50/F (eastbound)	>50/F (eastbound)
Linden Avenue/Route 101 Northbound On-Ramp (Alternatives 1 & 4)	Signal	n/a	18/B	n/a	n/a
Ogan Road/Via Real (Alternatives 1, 2, & 4)	Side-Street Stop	n/a	10/B (westbound)	10/B (westbound)	n/a
Via Real/Route 101 Northbound Ramps (Alternatives 1, 2, 3, & 4)	Signal	n/a	19/B	19/B	19/B

Mainline and Ramp Junction Operations

Each mainline segment and ramp junction was evaluated under year 2036 conditions with and without the project. Since Alternatives 1 through 4 have the same mainline and ramp volumes, the traffic operations would be the same for each of the alternatives.

No-Build Conditions

Under year 2036 conditions, a high occupancy vehicle lane would be provided in each direction. The northbound direction would generally operate at level of service D or better during the morning peak hour and level of service C during the afternoon peak hour. The southbound direction would generally operate at level of service C or better during the morning peak hour and level of service F during the afternoon peak hour.

Analysis of the mainline and ramps in isolation indicates that the southbound direction would operate at level of service E or better during the afternoon peak hour. However, it is anticipated that a bottleneck would develop at the location of the high occupancy vehicle lane drop near the State Route 150 Road interchange during the afternoon peak hour. It is estimated that up to a 2.5-mile backup may develop at the bottleneck. Therefore, if the high occupancy vehicle lane drop occurs at the State Route 150 interchange as it is assumed in this study, the backup will extend past the Linden Avenue interchange and effectively result in level of service F operations in the southbound direction during the afternoon peak hour.

Southbound vehicle backup impacts from the high occupancy vehicle lane drop can be minimized by dropping the high occupancy vehicle lanes as far south as feasible. Additionally, the proposed Ventura to Santa Barbara High Occupancy Vehicle lane project would continue the high occupancy vehicle lane from that point southward to Ventura, to further improve the level of service in the southbound direction. That project was not identified before the completion of the Linden Avenue and Casitas Pass Road Interchanges Traffic Study; it is therefore not included in the study.

See Table 2.19.

Project Conditions (Alternatives 1, 2, 3 and 4)

Similar to the no-build condition, the northbound direction would generally operate at level of service D or better during the morning peak hour and level of service C during the afternoon peak hour. The southbound direction would generally operate at level of service C or better during the morning peak hour and level of service F during the afternoon peak hour. The southbound high occupancy vehicle lane drop impacts that would occur under no-build conditions during the afternoon peak hour would also occur under the project. The project would not affect the mainline or ramp junction operations.

See Table 2.20.

Table 2.19 Year 2036 No-Project Mainline and Ramp Merge Diverge Analysis

Mainline or Ramp	Number of Lanes	Morning Peak Hour		Afternoon Peak Hour	
		Density [or Speed]	Level of Service	Density [or Speed]	Level of Service
Mainline Analysis					
NB 101 Bates Road to SR 50	3	25	C	19	C
NB 101 SR 150 to Bailard Ave.	2	25	C	20	C
NB 101 Bailard Ave. to Casitas Pass Road	2	28	D	25	C
NB 101 Casitas Pass Road to Linden Avenue	2	26	D	22	C
NB 101 Linden Avenue to Santa Monica Road	2	33	D	26	C
SB 101 Reynolds Avenue to Linden Avenue	2	26	D	37	E
SB 101 Linden Ave to Casitas Pass Road	2	21	C	31	D
SB 101 Casitas Pass Road to Bailard Avenue	2	20	C	33	D
SB 101 Bailard Ave. to SR 150	2+Aux	Weave	A	Weave	C
SB 101 SR 150 to Bates Road	2+Aux	Weave	A	Weave	F
Ramp Junction Analysis					
NB 101 SR 150 Off-ramp	1	30	D	25	C
NB 101 SR 150 On-ramp	1	27	C	22	C
NB 101 Bailard Avenue Off-ramp	1	31	D	26	C
NB 101 Bailard Avenue On-ramp	1	30	D	27	C
NB Casitas Pass Road Off-ramp	1	35	D	31	D
NB Casitas Pass Road On-ramp	1	29	D	26	C
NB 101 Linden Avenue On-ramp	1	34	D	29	D
SB 101 Linden Avenue On-ramp	1	32	D	40	E
SB 101 Casitas Pass Road Off-ramp	1	26	C	36	E
SB 101 Casitas Pass Road On-ramp	1	23	C	34	D
SB Bailard Avenue Off-ramp	1	26	C	38	E
SB 101 Bailard Avenue On-ramp	1	Weave	A	Weave	C
SB 101 SR 150 Off-ramp	1	Weave	A	Weave	C
SB 101 SR 150 On-ramp	1	Weave	A	Weave	F

Table 2.20 Year 2036 All Alternatives Mainline and Ramp Merge Diverge Analysis

Mainline or Ramp	Number of Lanes	Morning Peak Hour		Afternoon Peak Hour	
		Density [or Speed]	Level of Service	Density [or Speed]	Level of Service
Mainline Analysis					
NB 101 Bates Road to SR 50	3	25	C	19	C
NB 101 SR 150 to Bailard Ave.	2	25	C	20	C
NB 101 Bailard Ave. to Casitas Pass Road	2	26	D	24	C
NB 101 Casitas Pass Road to Linden Avenue	2	26	C	22	C
NB 101 Linden Avenue to Santa Monica Road	2	33	D	26	C
SB 101 Reynolds Avenue to Linden Avenue	2	26	D	37	E
SB 101 Linden Ave to Casitas Pass Road	2	21	C	31	D
SB 101 Casitas Pass Road to Bailard Avenue	2	19	C	31	D
SB 101 Bailard Ave. to SR 150	2+Aux	Weave	A	Weave	C
SB 101 SR 150 to Bates Road	2+Aux	Weave	A	Weave	F
Ramp Junction Analysis					
NB 101 SR 150 Off-ramp	1	30	D	25	C
NB 101 SR 150 On-ramp	1	27	C	22	C
NB 101 Bailard Avenue Off-ramp	1	31	D	26	C
NB 101 Bailard Avenue On-ramp	1	28	C	26	C
NB Casitas Pass Road Off-ramp	1	33	D	30	D
NB Casitas Pass Road On-ramp	1	29	D	26	C
NB 101 Linden Avenue On-ramp	1	35	D	29	D
SB 101 Linden Avenue On-ramp	1	32	D	40	E
SB 101 Casitas Pass Road Off-ramp	1	26	C	36	E
SB 101 Casitas Pass Road On-ramp	1	22	C	32	D
SB Bailard Avenue Off-ramp	1	24	C	36	E
SB 101 Bailard Avenue On-ramp	1	Weave	A	Weave	C
SB 101 SR 150 Off-ramp	1	Weave	A	Weave	C
SB 101 SR 150 On-ramp	1	Weave	A	Weave	F

Street Segment Operations

Carpinteria Avenue is expected to operate slightly better with the project than without the project. Linden Avenue is expected to operate at level of service D under Alternatives 1 and 4, mainly as a result of providing several traffic signals within a short distance. Alternatives 2 and 3 would also provide level of service D conditions on Linden Avenue except during the morning peak hour where level of service E would be provided. At the Casitas Pass Road, the worst level of service (level of service E) would be during the afternoon peak hour in the eastbound direction. See Table 2.21.

Table 2.21 Year 2036 Street Segment Level of Service

Street Segment	Direction	Arterial Class	No Project				With Project (Alternatives 1, 2, 3, & 4)			
			Morning Peak		Evening Peak		Morning Peak		Evening Peak	
			Average Travel Speed	LOS	Average Travel Speed	LOS	Average Travel Speed	LOS	Average Travel Speed	LOS
Carpinteria Avenue (Casitas Pass Road to Linden Avenue)	Northwest	IV	16.9 (10.5 mph)	D	13.2 (8.2 mph)	E	18.8 (11.7 mph)	D	19.5 (12.1 mph)	D
	Southeast	IV	23.7 (14.7 mph)	C	22.5 (14.0 mph)	C	26.0 (16.2 mph)	C	26.0 (16.2 mph)	C
Linden Avenue (Carpinteria Avenue to Via Real)	Northbound	IV	N/A				15.3 [14.2] (9.5 [8.8] mph)	D [E]	19.6 [15.9] (12.2 [9.9] mph)	D [D]
	Southbound	IV					18.5 [19.8] (11.5 [12.3] mph)	D [D]	18.8 [19.3] (11.7 [11.4] mph)	D [D]
Casitas Pass Road (Carpinteria Avenue to Via Real)	Eastbound	IV					19.0 (11.8 mph)	D	13.5 (8.4 mph)	E
	Westbound	IV					24.5 (15.2 mph)	C	20.8 (12.9 mph)	D

Results presented in [brackets] are for Alternatives 2 and 3 only.

Bicycle and Pedestrian Facilities

The existing bike path from the Via Real cul-de-sac to the creek crossing would be removed, and two new Class I bike paths that would be accessible to people with disabilities and accessed from the new Via Real extension would be built. One new path would connect to southbound Via Real near its intersection with the new northbound Casitas Pass Road/Route 101 ramps and would conform at the other end to the existing bike path at the former creek crossing site, under the new northbound Carpinteria Creek bridge. The second new path would be constructed to connect the first path to Casitas Pass Road. This second path would intersect the first path midway between Via Real and the northbound Casitas Pass Road off-ramp, cross under the proposed Via Real bridge, and then connect to Casitas Pass Road.

Bike lanes would be included on both sides of Casitas Pass Road, Linden Avenue, and Via Real within the project limits. The proposed modifications of the existing bike path, new bike path, and new bike lanes would conform to the Circulation Element contained in Carpinteria's General Plan.

Sidewalks on both sides of Casitas Pass Road and Linden Avenue in the project limits would be built. A sidewalk would also be built along the northbound side of the Via Real extension, as all pedestrian destinations (side streets, residences, etc.) are on the northbound side of Via Real. The southbound side of the frontage road runs along Route 101 and is intersected by on-and off-ramps. Due to the lack of pedestrian destinations on the southbound side, plus right-of-way constraints, a sidewalk would not be placed on the southbound side of Via Real

All pedestrian facilities within the project limits would be accessible to people with disabilities, as required by the Americans with Disabilities Act of 1990. During construction, consideration would be given to bicycles, pedestrians, and people with disabilities for access through construction areas.

Avoidance, Minimization, and/or Mitigation Measures

Because this is a transportation project, all measures to minimize impacts recommended in the traffic study have been incorporated into the project as part of the project description.

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 U.S. Code 4331(b)(2)]. To further emphasize this point, the Federal Highway Administration in its implementation of the National Environmental Policy Act [23 U.S. 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." [CA Public Resources Code Section 21001(b)]

Affected Environment

A Visual Impact Assessment was completed for this project in August 2008.

Existing Visual Setting

Views throughout the project area, both to and from Route 101, are of moderate to moderately high visual quality. The main beneficial visual components throughout the project area and along the

corridor are the mature highway landscape and vistas of the Santa Ynez Mountains to the north. Detractors to the existing viewing experience include the lanes of Route 101 and local roads, associated traffic, and the visual clutter of overhead utilities and signs. The project area has no ocean or coastline views.

The region is characterized by coastal bluffs and plains rising into the rolling foothills of the Santa Ynez Mountains. The terrain is mostly flat near the coastal edge, with slopes (as steep as 30%) near the hills. The form and ridgeline of the mountains, about 1 to 5 miles northeast, create a dominant element in the landscape, providing a clearly defined visual limit for the region.

Development can be seen from most areas throughout the project limits. Retail and service commercial development is mainly west of the freeway. To the east are residential subdivisions, limited commercial business, and a few undeveloped parcels. From the highway, the roadsides are generally well landscaped, which effectively screens much of the built-character of the adjacent community.

Vegetation throughout the region is varied. Much of the area has been greatly influenced by development. Ornamental plants along the highway consist of myoporum, pittosporum, oleander, acacia, ice plant, ivy, and lantana. Vegetation along the highway and developed areas consists of mature Monterey Cypress, eucalyptus, pines, and palms. Orchards can be seen east of the highway. Native vegetation is visible on the hillsides and consists of coast live oak woodland, coastal sage scrub, chaparral and riparian plant communities. Some coast live oaks exist along Via Real near Carpinteria Creek.

The presence of surface water plays a minor role in establishing the visual character in the project limits. The Pacific Ocean is not visible from the study area, but Carpinteria and Franklin creeks cross the project area as they flow from the foothills to the ocean. Water in these creeks is seasonal and often not readily visible. Water's presence in the landscape is mostly seen as a narrow corridor of riparian vegetation.

Viewer Sensitivity

Visual impact is defined in terms of visual resource change and viewer response to that change. Often changes in the visual resources will not result in substantial impacts because there is limited response to the change or the change can be mitigated. However, areas in a proposed project that experience the greatest change combined with viewers sensitive to change may result in the greatest visual impact. A change in visual character cannot be described as having good or bad attributes until it is compared with the viewer response to that change.

The residents of the local community have demonstrated a high degree of sensitivity to alteration of the aesthetic quality of this coastal area. The City of Carpinteria is on record as being concerned

about the potential visual impacts of highway projects in the area. Community groups have expressed concerns about changing the visual character of the highway and the effects on local and visitor's perception of the area.

Community sensitivity to visual issues is partly reflected in the City of Carpinteria General Plan and Coastal Land Use Plan. The community Design Element defines Route 101 as a "sensitive viewing corridor." The General Plan defines a goal to "preserve the essential character of our small beach town, its unique visual and natural resources and its open, rural surroundings while enhancing recreational, cultural, and economic opportunities for our citizens." The General Plan also encourages efforts "to assure improvements to freeway interchanges and overpasses compliment the small town quality and charm of the city."

Observer Viewpoints

Seven viewing locations that would best reveal the project's features and any potential visual character change were identified. These viewing locations, or observer viewpoints, were selected to best represent the typical visual character of the project, show unique project components or affected resources, and which represent an affected viewer group. Table 2.22 lists the observer viewpoints, which are also located in Appendix G (Figures G.1 through G.8 photo-simulations of the project) for reference.

Table 2.22 Observer Viewpoints

Observer Viewpoint	Location
1	From northbound Via Real south of Carpinteria Creek
2	From the existing Casitas Pass northbound off-ramp looking southbound
3	From the existing Linden Avenue northbound on-ramp loop looking southbound
4	From Linden Avenue south of Route 101 looking north toward the overcrossing
5	From northbound Route 101 south of Carpinteria Creek
6	From northbound Route 101 between Casitas Pass and Linden Avenue
7	From Route 101 looking south between Linden Avene and Casitas Pass

Visual simulations

The seven observer viewpoints represent a range of visual resources in the project area. For each observer viewpoint, the first image is the existing view; the accompanying view shows the visual changes that may result from the proposed improvement. To best show the changes to roadway configurations and other proposed features, not all of the landscaping anticipated as part of the project was included in the simulations.

Visual Resource Analysis Methodology

Per Federal Highway Administration guidelines, a Visual Quality Evaluation was prepared for the proposed project. The Visual Quality Evaluation is a tool for quantitatively assessing visual quality from a specific observer viewpoint. The evaluation is prepared for both the existing condition and the proposed condition after construction is completed. With the "before" and "after" evaluation, the Visual Quality Difference can be measured. Whether positive or negative, this difference equals the impact of the proposed project.

Criteria used in a Visual Quality Evaluation include vividness, intactness, and unity. None of these is itself equivalent to visual quality; the average of all three must be high to indicate high quality.

- **Vividness** is the visual power (or memorability) of the landscape components as they combine in striking and distinctive visual pattern.
- **Intactness** is the visual integrity of the landscape (natural and human-made) and its freedom from non-typical elements. If all the various elements of a landscape seem to "belong" in the view, there would be a high level of intactness.
- **Unity** is the visual harmony of the landscape considered as a whole. Unity represents the degree to which the visual elements maintain a coherent visual pattern, regardless of whether or not they are typical features seen in that landscape type.

The Visual Quality Evaluation determines the numerical change in the visual resource, identified as the visual quality difference.

Existing Visual Quality Evaluation

Observer Viewpoint 1 - From northbound Via Real south of Carpinteria Creek

This existing view looks north from the end of Via Real toward the generally undeveloped land near Carpinteria Creek. The mobile home park can be seen in the eastern portion of the view. The mature trees and other vegetation visible from this location increase the visual unity and intactness ratings. The Santa Ynez Mountains can be seen from portions of this viewing area, which adds to the memorability and overall visual quality of the scenery.

Observer Viewpoint 2 - From the existing Casitas Pass northbound off-ramp looking southbound

This existing view from Casitas Pass Road toward the south includes the highway and related components, as well as residences to the north. The landscaping along the highway and in the adjacent neighborhood is generally mature and well established, providing a visual continuity for the area. This elevated viewpoint at the top of the ramp allows for somewhat longer-range views of the highway and of the community. Most of the elements within this view are typical of a freeway

environment, which results in a moderately high rating for visual intactness. The mature landscaping increases the overall unity rating. No ocean views are available from this location, and the vividness rating is within the average range.

Observer Viewpoint 3 - From the existing Linden Avenue northbound on-ramp loop looking southbound

The view from along Linden Avenue north of the highway is generally of a suburban freeway setting. The visual elements include the highway, the northbound ramps as well as Via Real and the adjacent residential neighborhood. Mature landscaping provides a degree of visual unity for the area. This view is generally free from non-typical visual elements, resulting in a slightly above average rating for intactness.

Observer Viewpoint 4 - From Linden Avenue south of Route 101 looking north toward the overcrossing

This view represents how the Linden Avenue overcrossing appears when approaching from the south. The viewing context is one of a suburban freeway landscape. From this viewing location, the existing unity and intactness ratings are moderate to high due to the generally well-landscaped roadsides and community. The vividness of the view is increased by the scenic Santa Ynez Mountains rising up in the background.

Observer Viewpoint 5 - From northbound Route 101 south of Carpinteria Creek

This viewpoint represents how the project area appears to northbound highway travelers approaching the off-ramp to Casitas Pass Road. Mature plantings screen most views from the road and focus the views forward. Where visible, the Santa Ynez Mountains form a strong visual backdrop. These factors combine to give the viewpoint an above-average rating for all three visual quality criteria (vividness, intactness, and unity).

Observer Viewpoint 6 - From northbound Route 101 between Casitas Pass and Linden Avenue

This viewpoint represents how the project area appears to northbound highway travelers between Casitas Pass Road and Linden Avenue. The highway is mostly below the grade of the surrounding development throughout this segment. In general, mature roadside planting screens most views from the road and increases the degree of visual unity. Existing planting in the median adds to the visual continuity of the view. Where visible, the Santa Ynez Mountains form a scenic backdrop along this section of the highway. These factors combine to give the viewpoint a slightly above average rating for all three visual quality criteria (vividness, intactness, and unity).

Observer Viewpoint 7 - From Highway 101 looking south between Linden Avenue and Casitas Pass

This viewpoint represents how the project area appears to southbound highway travelers south of Linden Avenue overcrossing. This view includes mature trees and shrubs and groundcover along the roadside and median, and within the adjacent community, which adds to the visual unity rating. Some commercial and residential development is visible beyond the roadside landscaping, having an effect on the intactness of the scene. This somewhat typical suburban highway view rates average to above average for all three visual quality evaluation criteria.

Environmental Consequences

Each of the proposed alternatives would have some effect on the visual character of the Route 101 corridor through Carpinteria and along some local roadways. In general, the project would cause an increased urbanized appearance due to additional pavement, larger bridge structures, new soundwalls and retaining walls (see Figures 2.8 and 2.9 for proposed soundwall locations), and loss of mature vegetation. Overall, the magnitude of visual change would be similar with each alternative. The type of change and visual effect depends on the specific viewing location. See Appendix G, Figures G.1 through G.8, for photo-simulations of the project.

An analysis of the project indicates that each alternative would cause at a minimum a short-term (up to 5 years) reduction in existing visual quality. Short-term impacts would diminish as the proposed replanting matures. The long-term visual impacts would be substantially reduced with the implementation of recommended mitigation measures.

Proposed Visual Quality Evaluation

Observer Viewpoint 1 - From northbound Via Real south of Carpinteria Creek

All Alternatives - The extension of Via Real to the north would alter the visual character as seen from this viewpoint. Visibility of the new roadway and its associated built features combined with the loss of mature trees would reduce both the unity and intactness ratings as seen from this viewing area. The tree removal would open up views to the hills beyond, and along with the potential for visibility of Carpinteria Creek just north of this location, the memorability of this viewing area is expected to slightly increase.

Observer Viewpoint 2 - From the existing Casitas Pass northbound off-ramp looking southbound

All Alternatives - The proposed project would increase the built character of this view through the visibility of the new on- and off-ramps and the loss of existing vegetation. Views of the background hills should increase as a result of the vegetation removal. These changes are expected to reduce the intactness and unity ratings and to slightly increase the vividness as seen from this location.

Observer Viewpoint 3 - From the existing Linden Avenue northbound on-ramp loop looking southbound.

Alternatives 1 and 4 - Alternatives 1 and 4 propose to replace the existing loop-type on-ramp with a standard diamond on-ramp configuration north of Linden Avenue. As seen from this vantage point, the ramp removal would slightly decrease the built characteristic of the view. The overall unity and intactness are expected to increase to a minor extent, and the vividness rating would generally remain unchanged. Just southeast of this viewpoint, Via Real would be extended through a portion of the existing residential neighborhood.

Alternative 2 - Alternative 2 would construct a new northbound hook-type off-ramp and extend Via Real to Linden Avenue. A similar loop on-ramp configuration would remain in place. In this area, the greatest visual change would be due to the increased paving. This additional hardscape would slightly decrease the unity an intactness ratings. Although the visual character would be altered to some degree, the overall vividness or memorability is not expected to appreciably change.

Alternative 3 - Alternative 3 proposes a new roundabout with Via Real, Ogan Road and the northbound on-ramp as legs. As seen from this vantage point, the roundabout would be more visible than the existing configuration and would slightly increase the built characteristic of the view. The overall unity and intactness are expected to lessen to a minor extent. The vividness rating would increase because of the uniqueness of the roundabout. This visual change would tend to further urbanize the area and would reduce the intactness and unity ratings as seen from the surrounding area.

Observer Viewpoint 4 - From Linden Avenue south of Route 101 looking north toward the overcrossing

Alternatives 1 and 4 - From this location, the increased five-lane width of the new structure would be evident. As the built component of the view becomes more dominant, the vividness and unity ratings are affected. The increased urbanization of the existing landscape would somewhat lower the visual quality ratings. The loss of mature trees near the structure would add to the urbanization and result in a more noticeable visual change. Near the bridge, the new ramps and loss of existing vegetation would open up views to the freeway as seen from Linden Avenue.

Alternatives 2 and 3 - Alternatives 2 and 3 widen the Linden overcrossing bridge to four lanes. The increased width of the new structure would be evident. This additional width would be more noticeable than the current condition. The increased urbanization of the existing landscape would somewhat lower the visual quality ratings. As with Alternatives 1 and 4, the loss of mature trees near the structure would add to the urbanization and result in a more noticeable visual change. Near the bridge, the new ramps and loss of existing vegetation would open up views to the freeway as seen

from Linden Avenue. The visual effect of the four-lane bridge would be similar to the five-lane bridge proposed with Alternatives 1 and 4, although to a lesser degree.

Observer Viewpoint 5 - From northbound Route 101 south of Carpinteria Creek

All Alternatives - The proposed view represents what the new northbound ramps would look like to highway travelers. Visible improvements at this location include replacement of the existing mainline bridges over Carpinteria Creek, as well as a new separate bridge structure to accommodate a new northbound off-ramp. The construction of the new bridges would add to an urban character. The removal of mature roadside vegetation would have a negative effect on the visual intactness and unity ratings. The elevated profile of Route 101 over Carpinteria Creek in combination with the removal of some roadside trees would increase views of the Santa Ynez Mountains in the background and as a result increase the vividness rating to a minor extent.

Observer Viewpoint 6 - From northbound Route 101 between Casitas Pass and Linden Avenue

Alternatives 1 and 4 - The proposed view represents how the section of highway between Casitas Pass and Linden overcrossings would look to northbound highway travelers. Views of Alternative 1 as seen from this location would show a removed northbound hook on-ramp. The view would also include the new diamond on-ramp north of the Linden overcrossing. Construction of the on-ramp and Franklin Creek bridge widening north of Linden Avenue would cause the removal of vegetation along the northbound shoulder. A proposed soundwall north of Linden would add to the urbanized appearance of the corridor. Replacement landscaping required by Caltrans policy would regain some of the visual unity and intactness lost due to increased paving and walls.

Alternative 2 - Alternative 2 includes a revised hook-type on-ramp at Via Real near Linden Avenue. Removal of the existing northbound on-ramp from Via Real would potentially allow more landscaping in that area. The realigned northbound on-ramp associated with Alternative 2 would cause the removal of some of the roadside vegetation. As seen from this viewpoint, the Vividness, intactness and unity ratings would remain similar to the existing conditions, with a slight reduction due to vegetation removal. Soundwalls north of Linden Avenue would affect views as described for Alternatives 1 and 4 above.

Alternative 3 - Alternative 3 proposes a roundabout, which would be somewhat visible from Route 101. The most noticeable elements of the roundabout would be the circular traffic pattern and the increased directional signage. Alternative 3 would add to the urbanized character of the area and result in a decrease in both the unity and intactness ratings. The area would become somewhat more vivid due to the uniqueness of the roundabout, but this memorability would not be related to an improved view quality.

Observer Viewpoint 7 - From Route 101 looking south between Linden Avenue and Casitas Pass

All Alternatives - As seen from this viewpoint, the southbound roadside of Route 101 would remain generally as it currently appears.

Each of the project alternatives would have a visual effect on the community of Carpinteria and along the Route 101 corridor, based primarily on the larger scale of the proposed facilities and the vegetation loss. Many of the visual changes are in locations of an existing highway or roadway setting.

Avoidance, Minimization, and/or Mitigation Measures

To maintain the visual quality of Carpinteria and the Route 101 corridor, and provide a project consistent with community visual resource objectives, the following actions are required:

1. To the greatest extent possible, final determination of state right-of-way needs shall include sufficient area for landscaping, determined in conjunction with the Caltrans District Landscape Architect.

2. The project shall include replacement planting to the greatest extent possible, including but not limited to:

    - Trees shall be planted at the bridge abutments at Casitas Pass Road and Linden Avenue overcrossings, and at the Via Real/Carpinteria Creek bridges to soften the presence of the structures.
    - Street trees shall be included along all new local roads. Street trees shall be clustered as necessary to maintain views to the Santa Ynez Mountains as seen from public areas.
    - Additional planting shall be included along Via Real in the vicinity of the "Ogan property" to visually screen the property from the new roadway. Specific planting design shall be determined in conjunction with the Caltrans District Cultural Resources specialist.
    - Native vegetation planting shall be included in the vicinity of the Via Real/ Carpinteria Creek bridges and the bicycle paths to help visually integrate the project with the natural setting and the Carpinteria Creek Park.

3. Appropriate safe and maintainable planting shall be included in the center of the roundabout proposed with Alternative 3.

4. Aesthetic treatments and design shall be incorporated into all new bridge structures, for example: texturized surfaces, architectural relief, and color application.

5. The Route 101/Carpinteria Creek bridges and the Via Real/Carpinteria Creek bridges shall include open-style bridge rails.

6. Aesthetic treatment (for example split-face blocks, textures, and colors) and safe, maintainable planting opportunities shall be incorporated into all proposed retaining walls and soundwalls.

7. Any existing median planting removed or damaged as part of the project shall be replaced in the median, to the greatest extent possible.

8. All areas where existing ramps and other roadways are removed shall be made suitable for planting. All paving and base material shall be removed, the earth shall be ripped or scarified, and topsoil placed.

9. All new lighting in the vicinity of the residential neighborhoods north of Route 101 shall minimize excess light and glare by careful placement of the poles, height and position of luminaires, the use of full cut-off lenses where feasible, and other measures.

10. To the greatest extent possible, integrate and/or relocate the elements of the Traffic Management System (TMS) project (EA 480620, expected to be constructed before this project) into this project, with the goal of reducing noticeability of poles and vertical elements.

11. During the Coastal Development Permit application phase of the project, Caltrans shall work with the City of Carpinteria's Architectural Review Board, using the Santa Barbara County Highway 101 Design Guidelines, and applicable Caltrans design guidance, so that to the greatest extent feasible the project is consistent with City of Carpinteria aesthetic goals.

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." The volume of water to produce this level of flooding is referred to as the "100-year flow." An encroachment is defined as "an action within the limits of the base floodplain."

Affected Environment

A Location Hydraulic Study and Floodplain Evaluation Report Summary were completed for this project in December 2007. Beneficial uses of specific water bodies are listed in Appendix H, and taken from the Water Quality Assessment (August 2008).

The creeks in the Carpinteria Valley watershed are subject to flooding in the relatively flat region of the valley floor between the coastal mountains and the ocean. Rainfall in the area is characteristically of short duration and high intensity. The creeks carry large amounts of debris.

Large storms in 1966 and 1969 caused considerable damage throughout the Carpinteria Valley watershed due to flooding, erosion and debris deposition. Flooding in 1969 overtopped the Carpinteria Creek bridges and washed out the bridge approaches on Route 101, causing Route 101 to be closed for two weeks. The Santa Barbara County Flood Control District flood mapping of the 1969 storm shows flow escaping from Carpinteria Creek and running down Route 101 to Franklin Creek. The Santa Monica and Franklin Creek channels were lined in 1976 in response to these storms. Debris basins were constructed on tributaries of Carpinteria Creek in 1971 in response to the storms and a fire in the watershed.

A U.S. Geological Survey gauge on Carpinteria Creek indicated that the greatest storms of record occurred during 1972 and 1995. The bridges over both Carpinteria and Franklin creeks withstood the 1972 flows with no overtopping and only a small amount of damage to the face of the embankment at Carpinteria Creek. The 1995 flows overtopped the Franklin Creek bridges and closed the highway, but the bridges and approaches remained intact. There is no record of overtopping or flooding at Carpinteria Creek in 1995.

The bridges at Franklin and Carpinteria creeks were constructed in 1954 as part of the present alignment of Route 101. The Carpinteria Creek bridge was designed to pass 153 cubic meters per second (5,400 cubic feet per second), the greatest storm of record at that time. The Franklin Creek

bridge was designed for 37 cubic meters per second (1,300 cubic feet per second), but the channel has been lined since then to pass 99 cubic meters per second (3,500 cubic feet per second). The lined channel at Franklin Creek is deeper and narrower than the natural channel. The top of the channel is below the soffit (bottom) of the Route 101 bridges. Figure 2.6 shows the Federal Emergency Management Agency Flood Insurance Rate Map for the City of Carpinteria, including the base floodplains for Carpinteria and Franklin creeks.

Carpinteria Creek

A Federal Emergency Management Agency Flood Insurance Study determined that the 100-year flow for Carpinteria Creek is 340 cubic meters per second (12,000 cubic feet per second).

Upstream of Route 101

The base floodplain shown in the Federal Emergency Management Agency Flood Insurance Rate Map for Carpinteria Creek is contained in the main creek channel upstream of Via Real. Near Via Real, it overtops the bank and floods the adjacent area.

At Route 101

The Flood Insurance Study assumed that the existing Route 101 bridges at Carpinteria Creek would be partially blocked with debris at the time of the peak 100-year flow. It states that, under those conditions, the bridges are overtopped and 170 cubic meters per second (6,000 cubic feet per second) escapes onto the highway. The escaped flow travels down Route 101 from Carpinteria Creek to Franklin Creek. The Flood Insurance Rate Map shows the resulting floodplain as being contained along Route 101 to Linden Avenue, then spreading out to flood a large area next to Franklin Creek.

Downstream of Route 101

Downstream of Route 101, the base floodplain is defined assuming that a maximum of 255 cubic meters per second (9,000 cubic feet per second) would pass through the bridges before they are further blocked by debris and reduced in capacity as described above. In addition to the base floodplain, a regulatory floodway[2] is defined from the Pacific Ocean to Route 101. The floodway is defined for the 100-year flow of 340 cubic meters per second (12,000 cubic feet per second), assuming that the highway bridges could fail or be replaced. The floodplain and floodway definitions are based on inconsistent assumptions. Representatives from the Federal Emergency Management Agency and the City of Carpinteria have stated that this discrepancy should be corrected and that both the floodplain and floodway downstream of Route 101 should be mapped for the full 100-year flow.

[2] The floodway is the channel of a stream, plus any adjacent floodplain areas, that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

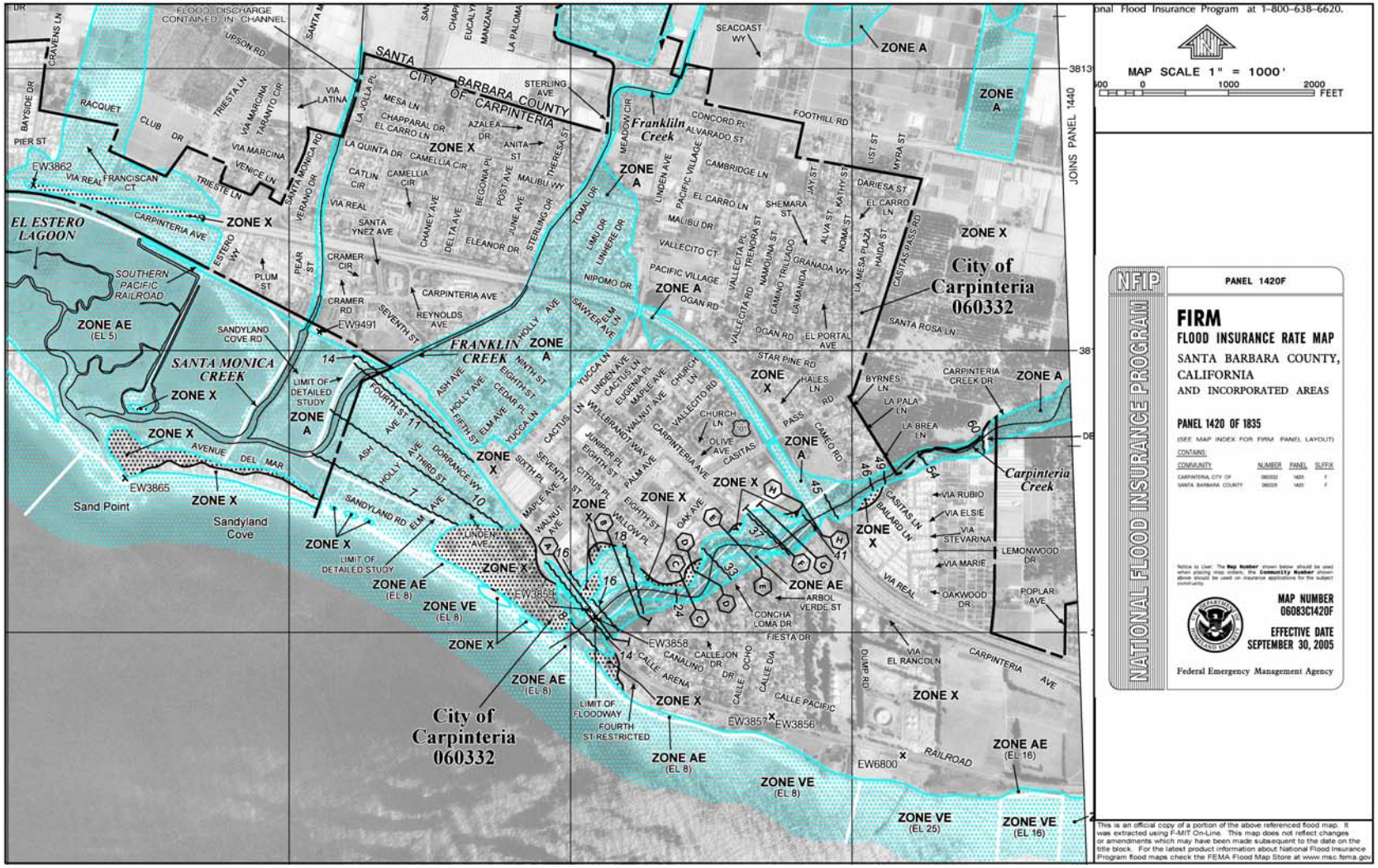


Figure 2.6 Federal Emergency Management Agency Flood Insurance Rate Map, City of Carpinteria

Franklin Creek

The Flood Insurance Rate Map shows the 100-year flow of 99 cubic meters per second (3,500 cubic feet per second) for Franklin Creek contained within the creek channel.

Environmental Consequences

Carpinteria Creek

Encroachments

On Carpinteria Creek, the project proposes to replace the Route 101 bridges and add a bridge at Via Real. The proposed bridges for Route 101 would allow the Federal Emergency Management Agency 100-year flow of 340 cubic meters per second (12,000 cubic feet per second) to return to its historic course. The bridge replacement removes a floodplain encroachment. The flow diversion toward Franklin Creek and the floodplain it creates on Route 101 and adjacent to Franklin Creek would be eliminated.

Upstream of Route 101, the Via Real bridge would encroach on the base floodplain, but the effects would not be significant. The combined effects of replacing the bridges at Route 101 and adding the bridge at Via Real create localized increases and decreases in base flood elevations, but do not significantly change the base floodplain.

Downstream of Route 101, the Federal Emergency Management Agency Flood Insurance Rate Map should be corrected to define the floodplain for the full 100-year flow. Caltrans would work with the City of Carpinteria to correct the flood map as part of this project. Once the Flood Insurance Rate Map has been corrected, the project would have no effect on the base floodplain downstream of Route 101.

The project would not create a significant encroachment to the base floodplain for Carpinteria Creek.

Revised Hydrology

The Federal Emergency Management Agency 100-year flow of 340 cubic meters per second (12,000 cubic feet per second) was developed with 32 years of data from the U.S. Geological Survey gauge on Carpinteria Creek. Caltrans revised the hydrology to reflect 61 years of data from the same gauge, including very high flows from 1995 and 1998. The data were analyzed using the Log-Pearson Type III distribution. The revised 100-year flow is 380 cubic meters per second (13,400 cubic feet per second). To revise the Federal Emergency Management Agency Flood Insurance Study hydrology, the new findings flow must vary significantly from the flow established by Federal Emergency Management Agency. The Caltrans analysis does not identify changes that meet the criteria set by Federal Emergency Management Agency to allow revision of the Flood Insurance Study flow. The

Caltrans flow will be used for bridge design, and the Federal Emergency Management Agency flow will continue to be used for floodplain issues.

Franklin Creek

Alternatives 1 and 4 for this project would replace the northbound bridge at Franklin Creek. The proposed bridge would have a greater waterway area than the existing lined channel and would not encroach on the base floodplain.

Avoidance, Minimization, and/or Mitigation Measures

Because no adverse impacts are anticipated, no avoidance, minimization or mitigation measures are required.

2.2.2 Water Quality and Storm Water Runoff

Regulatory Setting

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

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

The State Water Resources Control Board has developed and issued a statewide National Pollutant Discharge Elimination System permit to regulate storm water discharges from all Caltrans activities on its highways and facilities. Caltrans construction projects are regulated under the statewide permit, and projects performed by other entities on Caltrans right-of-way (encroachments) are regulated by the State Water Resources Control Board's Statewide General Construction Permit. All construction projects over 0.4 hectares (one acre) require a Storm Water Pollution Prevention Plan to be prepared and implemented during construction.

Affected Environment

A Water Quality Assessment Memo was completed for this project in September 2008.

Topography

The project sits on a coastal terrace on the southwest-facing coast of southern Santa Barbara County. The topography of the project site is generally flat to rolling. The area is bounded to the west and south by the Pacific Ocean and to the north by the Santa Ynez Mountains. The distance from the highway to the 1402-meter (4,600-foot) crest of the Santa Ynez Mountains is about 7.2 kilometers (4.5 miles). The distance from the highway to the ocean is about 1 kilometer (0.6 mile).

Climate

Semi-permanent high pressure that lies off the Pacific Coast leads to limited rainfall (around 460 milliliters or 18 inches per year), with warm, dry summers and relatively damp winters.

Land Use

Intensive agricultural operations, urban and suburban land development, and roads are the main land uses in the watersheds.

Soils

The soil in this area consists of sands, silts, and clays, typical for floodplain valleys filled with alluvium deposits.

Groundwater

Groundwater is very shallow and of unknown quality. Within the project limits, groundwater is between about 0.6 and 5.5 meters (2 and 18 feet) below the ground surface and may contain agricultural chemicals (fertilizers, herbicides and pesticides) and other pollutants.

Surface Water

The project lies in the South Coast Hydrologic Unit # 315.34. Surface water bodies in the project limits include Franklin Creek and Carpinteria Creek. Significant alteration of the hydrology has already occurred due to drainage of farm lands, addition of impervious surface, concrete lining of Franklin Creek, changes to Carpinteria Marsh, and installations of debris basins in the upper watershed areas.

Watershed Conditions - Franklin Creek

The watershed is about 13 square kilometers (5 square miles) in size and has a peak elevation of 532 meters (1,746 feet). Major tributaries to the main channel of Franklin Creek include the East Branch, West Branch and High School Creek. The upper watershed is mostly within the Los Padres National Forest. The creek is flanked by urban and agricultural land uses in the lower watershed. Franklin Creek empties into the 93-hectare (230-acre) Carpinteria Salt Marsh, an important coastal wetland. There is usually year-round low flow in the concrete channel sections of the creek due to shallow groundwater and return flows from adjacent urban and agricultural areas.

In response to severe flooding in the 1960s, a significant portion of lower Franklin Creek was channelized and concrete lined during the late 1960s to mid-1970s by the U.S. Soil Conservation Service, Santa Barbara County Flood Control District, and the City of Carpinteria. The concrete-lined channel under Route 101 was designed to pass the 100-year flood event. Because the channel is concrete lined, changes in the hydrograph (i.e., storm water discharge rates and volumes) should have little effect in the lower half of the watershed. Scouring of the Franklin Creek channel just downstream of the concrete lining is visible on air photos.

The concrete lining of the creek is considered a fish passage barrier. Tidewater gobies are present in Carpinteria Marsh. The Carpinteria Creeks Preservation Program includes a proposed restoration goal that will remove the concrete lining from the creek and restore a limited riparian corridor.

The water quality of Franklin Creek and the Carpinteria Salt Marsh is degraded. Franklin Creek is considered impaired (303(d) Listed) for nitrate, and the Carpinteria Marsh is considered impaired for nutrients, organic enrichment/low dissolved oxygen, and priority organics. Water temperature levels in Franklin Creek are elevated. Riparian shade canopy is important to maintain cool water temperatures for "cold" beneficial uses of Franklin Creek.

The Central Coast Ambient Monitoring Program indicates on its Waterbody Assessment webpage that the following water quality parameters could be adversely affecting beneficial uses of Franklin Creek:

- Boron, dissolved
- Coliform, fecal and total
- Nitrate as N and NO3
- Oxygen, dissolved
- Oxygen saturation
- pH

Additional Franklin Creek water quality concerns are discussed in the Carpinteria Creeks Preservation Program (pages 2-40 and 2-41), including the following:

- Water Temperature – elevated due to the highly altered condition of the creek and could be influencing the low dissolved oxygen impairment of Carpinteria Marsh.
- Conductivity – likely due to agriculture in the watershed
- Suspended Sediment – likely due to agriculture in the watershed
- Nutrients – heavily affected by agriculture and urban uses
- Phosphate – likely due to agriculture in the watershed

- Heavy Metals – standards exceeded for zinc, lead and copper
- Diazinon – commonly from agriculture and urban areas

Watershed Conditions - Carpinteria Creek

Carpinteria Creek drains a watershed of about 38.9 square kilometers (15 square miles) and has two major tributaries: upper Carpinteria Creek and Gobernador Creek. The peak elevation in the watershed is 1,430 meters (4,690 feet). Carpinteria Creek passes through agricultural and urban areas before it empties into the ocean at Carpinteria State Beach. During floods, floodwaters have flowed down Route 101 to Franklin Creek. Water quality in the lower watershed appears to be degraded by urban and agricultural runoff. Carpinteria Creek is considered critical habitat for steelhead trout. Conditions for steelhead spawning are very good in the upper watershed.

Carpinteria Creek is still mostly in its natural condition, except for the following:

- *Upper Watershed*: Debris basins have been installed as a flood control measure in the upper watershed. These debris basins may be a barrier to fish passage and prevent a significant amount of sediment from migrating downstream.

- *Mid Watershed:* Most existing farms and urban developments adjacent to the creek have significantly encroached on the riparian corridor of the creek.

- *Lower Watershed:* The mouth of Carpinteria Creek previously was located in Carpinteria Marsh. The creek was diverted to its current outlet location to allow housing development north of the existing creek alignment.

The water quality of Carpinteria Creek is considered impaired (303(d) listed) for pathogens. The Central Coast Ambient Monitoring Program indicates on its Waterbody Assessment webpage that the following water quality parameters could be adversely affecting beneficial uses of Carpinteria Creek:

- Boron, dissolved
- Coliform, fecal and total
- Oxygen, dissolved
- Oxygen, saturation
- pH

Carpinteria Creek water quality concerns are discussed in the Carpinteria Creeks Preservation Program (pages 2-34 through 2-38). In addition to the water quality concerns discussed above, the Carpinteria Creeks Preservation Program indicates possible concerns with the following parameters and constituents:

- Conductivity – caused by salts, metals, nutrients and other dissolvable ions and solids from agriculture and urban areas
- Suspended Sediment – likely due to agriculture in the watershed
- Nutrients – heavily affected by agriculture
- Phosphate – likely due to agriculture in the watershed
- Heavy Metals – standards were exceeded for zinc, lead, copper and chromium during peak flow sampling
- Diazinon – commonly from agriculture and urban areas

Environmental Consequences

The project could have both temporary and permanent water quality impacts due to increases in sediments and toxicity originating from construction activities and stormwater.

The water resources in the area have been identified as impaired (303(d) list) for pathogens and nitrates. Additional pollutants of concern include nutrients, suspended sediments, pesticides, and heavy metals. The sources of these pollutants are mainly agriculture and urban development.

The project would increase impervious surface by about 1.6 to 2 hectares (4 to 5 acres), resulting in increased stormwater discharge rates and volumes. The increase in the stormwater discharge is not significant in the Franklin Creek watershed as the Franklin Creek channel is concrete lined. Increases in stormwater discharge rates and volumes flowing to the Carpinteria Creek could cause changes to the geomorphology of this creek.

Avoidance, Minimization, and/or Mitigation Measures

The potential impacts to water quality from the proposed project would be minimized due to design, permitting, and site-specific conditions of this project. Management measures and best management practices would be required to address any water quality impacts. Best management practices for roads, highways, and bridges include the following:

- Standard temporary construction site and permanent design pollution prevention stormwater best management practices would be used during and after construction of the project to control potential discharges of pollutants to surface water.

- Permanent storm water treatment best management practices shall be incorporated within the Caltrans right-of-way in compliance with the Caltrans Stormwater Management Plan and stormwater design guidance. Permanent stormwater treatment best management practices and post construction run-off controls shall be incorporated within city-owned property for this project in compliance with the stormwater requirements set forth in the City of Carpinteria Creeks Preservation Program, September 2005.
- Work in the creek bed would be performed during the dry season. A stream diversion may be necessary if the creek were flowing during construction.
- Areas that provide important water quality benefits or are particularly susceptible to erosion would be protected using environmentally sensitive area fencing.
- Limit land disturbance such as clearing, grading, cutting, and filling to prevent erosion.
- Limit disturbance of natural drainage features and vegetation.
- Prepare and implement an approved Storm Water Pollution Prevention Plan.
- Ensure proper storage and disposal of toxic material.
- Incorporate pollution prevention into operation and maintenance procedures.
- Revegetation along both Carpinteria and Franklin creeks would be designed to optimize riparian shade canopy.

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 Preliminary Geotechnical Report was completed for this project in July 2008.

Physical Setting

The Carpinteria Valley is a sunken area north of the elevated coastal fault block southeast of Carpinteria. The valley is a low lying, almost level plain filled with alluvium. Its lowest area is partly submerged under brackish water of the Carpinteria slough. The plain is open to the sea on the southwest. It gradually rises to the east and, to the north, it abuts sharply against the foothills.

Geology and Soil Conditions

The project area occurs within the Transverse Ranges Geomorphic Province. Route 101 is bordered to the north by the Santa Ynez Mountains and to the south by the Pacific Ocean. The project area lies in the Carpinteria Basin, which consists of a low-lying alluvial plain with bordering mountain slopes and terraces. The recent-age younger alluvium consists of unconsolidated deposits of clay, silt, sand, and gravel.

Groundwater

Regional groundwater in the project area is classified as high. Groundwater levels measured via open observation wells installed in boreholes show the groundwater level is very close to the ground surface in the study area. Water levels range from 1.4 meters to about 5.6 meters (4.5 feet to 18.5 feet) below the ground surface.

Test borings for the Linden Avenue overcrossing indicated that groundwater levels range from 1.0 meter to 1.1 meters (3 feet to 3.5 feet) below the ground surface. Test borings for the Casitas Pass Road overcrossing indicated that groundwater levels range from 2.9 meters to 4 meters (9.5 feet to 13 feet) below the ground surface. Test borings for the Carpinteria Creek bridges and the Franklin Creek bridge indicated that groundwater levels are 2.4 meters to 0.4 meter (8 feet and 2 feet) below the ground surface, respectively.

The Soil Survey of Santa Barbara County prepared by the U.S. Department of Agriculture reports that the groundwater table in the project area varies between 1 meter and 1.8 meters (3 feet and 6 feet) below the ground surface in the summer and 0.3 meter to 0.6 meter (1 foot to 2 ft) in the winter.

Seismicity

The project area lies in a seismically active region of California. Table 2.23 shows the active and potentially active faults that have the greatest potential of influencing the site along with the Moment Magnitude (a logarithmic scale of 1 to 10, a successor to the Richter scale), distance to the site, and the expected maximum bedrock accelerations.

Table 2.23 Local Faults

Fault Name	Magnitude	Distance in Kilometers	Acceleration
More Ranch-Arroyo Parida	7.5	2.9 (1.8 miles)	0.64 gravity
Mesa-Rincon Creek	7.0	1.0 (0.62 miles)	0.63 gravity
Santa Ynez	7.5	9.5 (5.9 miles)	0.45 gravity
Red Mountain	7.25	7.9 (4.9 miles)	0.45 gravity
Pitas Point-Ventura	7.25	10.5 (6.5 miles)	0.39 gravity

The fault that has the greatest potential to influence this site is the More Ranch-Arroyo Parida. The maximum credible Moment Magnitude is 7.5. The maximum credible bedrock acceleration at the project site is 0.7 gravity.

Liquefaction

Liquefaction is the partial or complete loss of strength of a loose, saturated, cohesionless soil due to the build-up of excess hydrostatic pressure from ground shaking. In effect, the soil turns to jelly. Liquefaction potential in the project area is considered moderate according to the Seismic Safety and Safety Element that was adopted by the Santa Barbara County Board of Supervisors. But, results from a subsurface study in the project area indicated that the foundation soils are mainly fine grained, and such soils generally have a low potential for liquefaction.

Subsurface Soil Conditions

Subsurface soils in the project area are generally interbedded sands, silts, and clays with mixtures of these components. There is a variability of soil types and foundation soil strength in the project area. This is typical of floodplain valleys that are filled with alluvium deposited in a low-energy environment from the outwash of streams and drainages. The layers of different soil types are generally 0.3 to 0.6 meter (1 to 2 feet) thick with layers to 4.9 meters (16 feet) thick.

Groundwater in the project area is considered high. It is likely that high groundwater levels would be encountered during construction.

Environmental Consequences

The project could be affected by a seismic event creating liquefaction during and/or after completion of the project.

Avoidance, Minimization, and/or Mitigation Measures

Measures are as follows:

- Further investigation would be needed to avoid potential future liquefaction, however Caltrans' design standards for construction to withstand seismic activity would be adhered to.
- Provisions shall be made in wall design where granular soils are present to reduce the potential for liquefaction.
- Due to high groundwater and weak soils within portions of the project area, retaining walls and sound walls would be placed on driven piles, where appropriate.
- Cut slopes and embankments shall have slope angles of 1:2 (vertical:horizontal) or flatter. Where slopes steeper than 2:1 are desired, reinforcement may be required for slope angles to 1.5:1. Reinforcement would prevent shallow slides and surficial slumping from occurring when the slope is saturated.
- An aggressive revegetation program, including irrigation, would be required on cut and fill slopes. See the Visual/Aesthetic section for more information.

2.2.4 Hazardous Waste or Materials

Regulatory Setting

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

The 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:

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

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

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

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

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

Affected Environment

An Initial Site Assessment was completed for this project in 2000, and a Site Investigation Report was completed in 2001. Two contaminated sites (Exxon/Hondo and Arco 1980) were identified next to the project limits.

The field review and subsequent file review revealed three sites:

Site #1 Exxon/Hondo (McDonald's)

This site is at 1115 Casitas Pass Road in Carpinteria. An Exxon service station occupied the site until 1985 when a McDonald's restaurant was built on the site. The Exxon station had three underground storage tanks and two fuel islands. In 1985, soil and groundwater contamination was discovered at this location. Due to the discovery of floating fuel product (gasoline) on the surface of the groundwater table, a Clean up and Abatement Order was issued by the Central Coast Regional Water Quality Control Board. A groundwater treatment system was subsequently installed on the site.

The soil contamination was found near the site of the former fuel tanks and fuel service islands. This is the current location of the McDonald's parking lot. The groundwater contamination was in this same general vicinity. The groundwater monitoring information revealed that the groundwater gradient is in a westerly direction, away from the Route 101 right-of-way. Sampling of the monitoring wells continues today, and the results are documented in quarterly reports to the Central Coast Regional Water Quality Control Board. This site is currently undergoing post-remediation monitoring.

Site #2 Arco-1980

This Arco service station is at 1116 Casitas Pass Road in Carpinteria. In 1988, a used underground oil tank was removed and hydrocarbon odors and soil discoloration were evident in the tank pit. Soil samples obtained from the pit were contaminated with petroleum hydrocarbons. Benzene was not detected in the soil samples, so the Santa Barbara County Environmental Health department allowed the tank pit to be back-filled with clean material.

In 1989, four underground gasoline storage tanks were removed from this site. Analytical lab results revealed the soil was contaminated by petroleum hydrocarbons from gasoline. The Santa Barbara Environmental Health Department would not authorize the installation of new tanks in the old tank pit unless mitigation was begun. The Mitigation Plan that was proposed and conducted used vapor extraction and over-excavation of the contaminated tank pit. Depth to groundwater at this site ranged from 6.6 meters to 7.6 meters (21.6 feet to 24.9 feet) below the existing ground surface. A quarterly groundwater monitoring and sampling program began the third quarter of 1989. This site is currently undergoing post-remediation monitoring.

Site #3 – Unpaved Shoulder and Median Areas

Aerially deposited lead has been identified in some of the unpaved shoulder and median areas in the project limits. Past use of fuel containing the additive tetra ethyl lead from automobiles has resulted in the soil along major freeway routes becoming contaminated with elevated levels of lead. Generally, this contamination has been found to be limited to the upper 0.6 meter (2 feet) of soil material.

Environmental Consequences

Site #1 Exxon/Hondo (McDonald's)

This site presents little to no risk to the project if planned improvements include nearby excavation to depths below the groundwater. The site is undergoing post-remediation, which indicates that the site has been mitigated to the satisfaction of the Santa Barbara County Fire Protection Services District.

Site #2 Arco-1980

This site presents little to no risk to the project if planned improvements include nearby excavation to depths below the groundwater. The site is undergoing post-remediation, which indicates that the site has been mitigated to the satisfaction of the Santa Barbara County Fire Protection Services District.

Site #3 – Unpaved Shoulder and Median Areas

Testing indicated that soil excavated along the highway right-of-way exceeds regulatory criteria for aerially deposited lead. Therefore, if such soil is excavated, it would have to be handled and disposed of as a California hazardous waste as part of the construction contract.

Avoidance, Minimization, and/or Mitigation Measures

No long-term impacts would be encountered or produced by the project. For avoidance, minimization, and/or mitigation of construction impacts, see Section 2.4.

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 is a measure of 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 Santa Barbara County Association of Governments and the appropriate federal agencies, such as the Federal Highway Administration, make the determination that the Regional Transportation Plan is in conformity with the 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

An Air Quality Study Report for this project was completed in July 2008.

The project sits on a coastal terrace on the south-facing coast of southern Santa Barbara County. The area is bounded to the west and south by the Pacific Ocean and to the north by the San Ynez Mountains with elevations up to 1,400 meters (4,600 feet). The area is exposed to strong, cool winds that often blow out of the southwest (prevailing "westerlies").

Semi-permanent high pressure that lies off the Pacific Coast leads to limited rainfall (around 460 milliliters or around 18 inches per year), with warm, dry summers and relatively damp winters. Maximum summer temperatures average about 21 degrees celsius (70 degrees Fahrenheit) near the coast and in the high 30s to 35s (80s to 90s Fahrenheit) inland. During winter, average minimum temperatures range from the 5 degrees (40s Fahrenheit) along the coast to about 1 degree (30s Fahrenheit) inland. Additionally, cool, humid marine air causes frequent fog and low clouds along the coast, generally during the night and morning hours in the late spring and early summer. The fog and low clouds can persist for several days until broken up by a change in the weather pattern.

The sea breeze (from sea to land) is typically from the southwest in the southern portion of the county. During summer, these winds are stronger and persist later into the night. At night, the sea breeze weakens and is replaced by light land breezes (from land to sea). The alternation of the land-sea breeze cycle can sometimes produce a "sloshing" effect, where pollutants are swept offshore at night and subsequently carried back onshore during the day. This effect is exacerbated during periods when wind speeds are low.

The terrain around Point Conception, combined with the change in orientation of the coastline from north-south to east-west, can cause counterclockwise circulation (eddies) to form east of the point. These eddies fluctuate temporally and spatially, often leading to highly variable winds along the southern coastal strip. Point Conception also marks the change in the prevailing surface winds from northwesterly to southwesterly.

Santa Ana winds are northeasterly winds that occur mainly during fall and winter, but occasionally in spring. These are warm, dry winds blown from the high inland desert that descend down the slopes of a mountain range. Wind speeds associated with Santa Ana winds are generally 24-32 kilometers per hour (15-20 miles per hour), though they can sometimes reach speeds over 96 kilometers per hour (60 miles per hour). During Santa Ana conditions, pollutants emitted in Santa Barbara County, Ventura County, and the South Coast Air Basin (the Los Angeles region) are moved out to sea. These pollutants can then be moved back onshore in Santa Barbara County in what is called a "post-Santa Ana condition." The effects of the post-Santa Ana condition can be experienced throughout the county. Not all post-Santa Ana conditions, however, lead to high pollutant concentrations in Santa Barbara County.

Upper-level winds (measured at Vandenberg Air Force Base once each morning and afternoon) are generally from the north or northwest throughout the year, but occurrences of southerly and easterly winds do occur in winter, especially during the morning. Upper-level winds from the south and east are infrequent during the summer. When they do occur during summer, they are usually associated with periods of high ozone levels. Surface and upper-level winds can move pollutants that originate in other areas into the county.

Surface temperature inversions (0-150 meters or 0-500 feet) are most frequent during the winter, and subsidence inversions (300-600 meters or 1,000-2,000 feet) are most frequent during the summer. Inversions are an increase in temperature with height and are directly related to the stability of the atmosphere. Inversions act as a cap to the pollutants that are emitted below or within them and ozone concentrations are often higher directly below the base of elevated inversion than they are at the earth's surface. For this reason, elevated monitoring sites will occasionally record higher ozone concentrations than sites at lower elevations. Generally, the lower the inversion base height and the greater the rate of temperature increase from the base to the top, the more pronounced effect the inversion will have on inhibiting vertical dispersion. The subsidence inversion is very common during summer along the California coast, and is one of the principal causes of air stagnation.

Poor air quality is usually associated with air stagnation (high stability/restricted air movement). Therefore, it is reasonable to expect a higher frequency of pollution events in the southern portion of the county where light winds frequently occur.

In Santa Barbara County, ozone and PM_{10} are the pollutants of main concern because state health-based standards are exceeded in most years. For this reason, the county has been designated as a non-attainment area for the state PM_{10} and ozone standards for the past several years. Since the county is in attainment or unclassified for all federal ambient air quality standards, all approved projects in the county have presumptive conformity to the State Implementation Plan. The project is listed in the 2007 Federal Transportation Improvement Program for Santa Barbara County.

Project-level Conformity

Table 2.24 lists the criteria pollutants of concern in Santa Barbara County, and their respective federal and state attainment statuses.

Table 2.24 Federal and State Attainment Status

Criteria Pollutant	Federal Standard (National Ambient Air Quality Standards)	Federal Attainment Status	State Standard	State Attainment Status
Carbon Monoxide (CO)	9.0 ppm* (10 mg/m^3 (8-hour)	Attainment/ Unclassified	9 ppm (10 mg/m^3 (8-hour)	Attainment
Nitrogen Dioxide (NO_2)	0.053 ppm (100 µg/m^3) (Annual Arithmetic Mean)	Attainment/ Unclassified	0.030 (56 µg/m^3) (Annual Arithmetic Mean)	Attainment
Ozone (O_3)	0.08 ppm (100 µg/m^3) (8-hour)	Attainment/ Unclassified	0.070 (137 µg/m^3) (8-hour)	Nonattainment
Respirable particulate (PM_{10})	150 µg/m^3 (24-hour) --	Unclassified	50 µg/m^3 (24-hour) 20 µg/m^3 (Annual Arithmetic Mean)	Nonattainment
Fine particulate ($PM_{2.5}$)	15 µg/m^3 (Annual Arithmetic Mean)	Attainment/ Unclassified	12 µg/m^3 (Annual Arithmetic Mean)	Attainment

*ppm=parts per million
µg/m^3=micrograms per meter cubed.

Source: http://www.arb.ca.gov/desig/adm/adm.htm

Environmental Consequences

The proposed project adds no capacity to the highway and is not a project of air quality concern. It would create no additional hot spots for either particulate matter or carbon monoxide, and it is not in a nonattainment or maintenance zone for national ambient air quality standards. Therefore, hot spot analyses for these pollutants are not required.

Naturally Occurring Asbestos

While Santa Barbara County is one of the counties that have the potential for naturally occurring asbestos, there are no known sources of naturally occurring asbestos within 16 kilometers (10 miles) of the project area or within the drainage basin that includes the City of Carpinteria.

Asbestos Containing Materials

At least four bridges (northbound and southbound bridges at Route 101 over Carpinteria Creek, Linden Avenue overcrossing and Casitas Pass Road overcrossing) would be demolished and replaced with the proposed project under all build alternatives. Alternatives 1 and 4 would require the demolition and replacement of the northbound bridge on Route 101 over Franklin Creek.

Because the potential for older bridges to contain asbestos, a Nation Elimination System for Hazardous Air Pollutants notification would be required before demolition. If Alternative 1 or 4 were selected, the northbound bridge over Franklin Creek would require inspection and would need to be included in the Nation Elimination System for Hazardous Air Pollutants notification.

Mobile Source Air Toxics

The project is in a suburban area of southwest Santa Barbara County. There are known sensitive land uses (Canalino Elementary School and Carpinteria Creek Park) in the vicinity (150-meter or 500-foot radius) of the proposed construction corridor.

The Federal Highway Administration has developed an interim guideline on how mobile source air toxics should be addressed in National Environmental Policy Act documents for highway projects. Federal Highway Administration has developed a tier approach for analyzing mobile source air toxics in National Environmental Policy Act documents. Depending on the specific project circumstances, Federal Highway Administration has identified three levels of analysis:

1. No analysis for exempt projects with no potential for meaningful mobile source air toxics effects.

2. Qualitative analysis for projects with low potential mobile source air toxics effects.

3. Quantitative analysis to differentiate alternatives for projects with higher potential mobile source air toxics

The purpose of this project is to improve local circulation by connecting Via Real between Casitas Pass and Linden Avenue, and reconfiguring the on- and off-ramps at those two interchanges. This project would not result in any meaningful changes in traffic volumes, vehicle mix, location of the existing facility, or any other factor that would cause a meaningful increase in emissions impacts relative to the no-build alternative. Therefore, Federal Highway Administration has determined that

this project would generate minimal air quality impacts for Clean Air Act criteria pollutants and has not been linked with any special mobile source air toxics concerns. Consequently, the project is exempt from analysis for mobile source air toxics.

Moreover, Environmental Protection Agency regulations for vehicle engines and fuels will cause overall mobile source air toxics to decline significantly over the next 20 years. Even after accounting for a 64% increase in vehicle miles traveled, Federal Highway Administration predicts mobile source air toxics will decline in the range of 57% to 87%, from 2000 to 2020, based on regulations now in effect, even with a projected 64% increase in vehicle miles traveled. This will both reduce the background level of mobile source air toxics as well as the possibility of even minor mobile source air toxics emissions from this project.

Avoidance, Minimization, and/or Mitigation Measures

Because no long-term air quality impacts are anticipated from the proposed project, no avoidance, minimization, or mitigation measures are proposed. For avoidance, minimization, and/or mitigation of construction impacts, see Section 2.4.

2.2.6 Noise

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. The rest of this section will focus on the National Environmental Policy Act-23 Code of Federal Regulations 772 noise analysis; see Chapter 3 for further information on noise analysis under the California Environmental Quality Act.

National Environmental Policy Act and 23 Code of Federal Regulations 772

For highway transportation projects with Federal Highway Administration (and Caltrans, as assigned) involvement, the Federal-Aid Highway Act of 1970 and the associated implementing regulations (23 Code of Federal Regulations 772) govern the analysis and abatement of traffic noise

impacts. The regulations require 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).

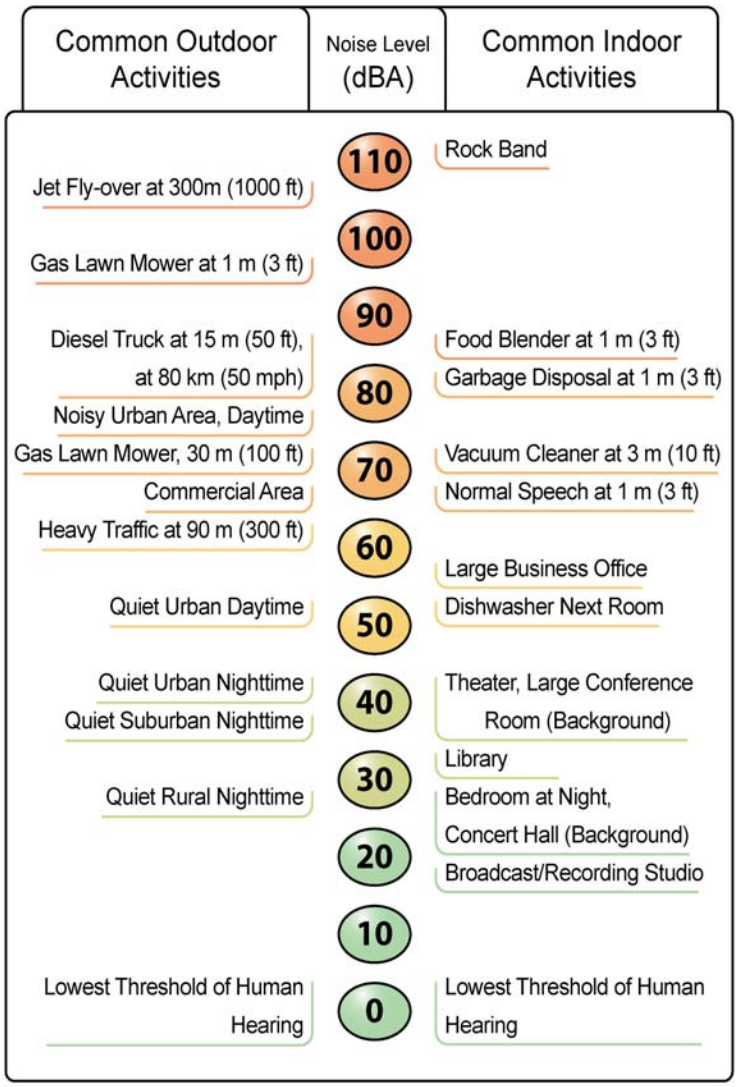
Table 2.25 lists the noise abatement criteria for use in the National Environmental Policy Act and 23 Code of Federal Regulations 772 analyses. Figure 2.7 shows the noise levels of typical activities.

Table 2.25 Activity Categories and Noise Abatement Criteria

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

Source: Caltrans Traffic Noise Analysis Protocol, 2006. A-weighted decibels (dBA) are adjusted to approximate the way humans perceive sound. Leq(h) is the steady state, A-weighted sound level that is equivalent to the time-varying sound levels over the period of measurement.

Figure 2.7 Typical Noise Levels



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

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

Affected Environment

A Noise Study Report was completed for this project in September 2008.

Carpinteria sits on a coastal plain adjacent to the Pacific Ocean. Elevations in the project area are 6.1 to 15.2 meters (20 to 50 feet) above mean sea level. The terrain is relatively flat with a gradual elevation increase from south to north. Route 101 through Carpinteria is currently two lanes in each direction with a 12.2-meter (40-foot) median; the project along Route 101 is in a suburban area in southern Santa Barbara County. The highway is bordered by a mix of commercial, residential and agricultural properties, and open space.

Existing Noise Levels

Existing noise levels for residents that border the highway are at or above the Federal Highway Administration noise abatement criterion for residences (67 dBA) at most locations in the project vicinity (see Table 2.27), except where there are existing noise barriers.

Table 2.27 Existing Noise Levels

Receptor Number	Type of Development	Number of Homes Represented	Existing Worst-Hour a Noise Level (Leq[h], dBA)
R-1	Residential	4	65
R-2	Residential	3	73
R-3	Residential	5	66
R-4	Residential	6	68
R-5	Residential	7	73
R-6	Residential	8	72
R-7	Residential	6	71
R-8	Residential	7	64
R-9	Residential	8	64
R-10	Residential	7	65
R-11	Residential	8	61
R-12	Residential	2	68
R-13	Residential	5	66
R-14	Residential	4	65
R-15	Residential	5	62
R-16	Residential	7	70
R-17	Recreational	1.6	65
R-18	Residential	2	76

Environmental Consequences Under the National Environmental Policy Act

Projected Noise Levels

The noise study identified 18 receptors representing a total of 91.6[3] residences. Four receptors (Receptors 1, 8, 9 and 10) are protected by existing soundwalls. Some noise readings may have been influenced by existing or proposed[4] sound barriers (Receptors 1, 14 and 15). See Figures 2.3 and 2.4 for receptor locations.

Predicted noise levels with the project would increase between 2 and 7 decibels. In some cases, the noise levels would decrease (Receptors 17 and 14) due to the construction of Via Real, which would act as a noise barrier for receptors to the north. See Table 2.27 for existing noise information.

[3] Non-residential receptors are evaluated as 1 residential equivalent for each 30 front-meters (100 front-feet) along the highway. Carpinteria Creek Park was evaluated as such, and represented by Receptor 17.
[4] Carpinteria Creek Park (Receptor 17) would be protected from noise from Route 101 by the construction of Via Real in between the park and the highway.

Table 2.28 Noise Impacts and Proposed Abatement

Receptor # and Location	Existing Noise Level (dBA)	Predicted Noise Level without Project (dBA)	Predicted Noise Level with Project (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)			Reasonable and Feasible?
					2.4m (8ft) Wall[1]	3.0m (10ft) Wall[1]	3.6m (12ft) Wall[1]	
1—Casitas Pass Road[2]	65	69	69	Yes		64		yes
2—Eugenia Place	73	76	76	Yes		66		yes
3—Vallecito Road	66	69	73	Yes			66	yes
4—Vallecito Road	68	71	75	Yes			69	yes
5—Nipomo Drive	73	77	80	Yes			64	yes
6—Nipomo Drive	72	76	78	Yes			65	yes
7—Vallecito Road	71	76	77	Yes		65		yes
8—Hales[2] Lane	64	67	67	Existing Barrier				n/a
9—Via Real[2]	64	65	67	Existing Barrier				n/a
10—Via Real[2]	65	68	69	Existing Barrier				n/a
11—Cameo Road	61	64	66	Yes				no
12—Ogan Road	68	72	75	Yes			67	yes
13—Pacific Village Court	66	70	69	Yes	62			yes
14--Casitas Pass Road	65	66	64	No				n/a
15—Linden Avenue	62	64	64	No				n/a
16—June Court	70	73	77	Yes			65	yes
17—Carpinteria Creek Park	65	67	61	No				n/a
18—Holly Street	76	80	81	Yes		71		no[3]

[1]Indicates relative height of proposed wall to be included in project.
[2]Protected by existing barrier. Existing wall height and noise level are indicated in "Predicted Noise Level With Abatement" columns.

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

As shown in Table 2.28, all receptors, except for 14, 15 and 17, would approach or exceed the noise abatement criterion (67 dBA for residences) with the proposed project.

See Figures 2.8 and 2.9 for existing and proposed barrier locations.

Figure 2.8 Alternatives 1 and 4 Receptor and Existing and Proposed Barrier Locations

Figure 2.9 Alternatives 2 and 3 Receptor and Existing and Proposed Barrier Locations

Proposed noise barrier heights are relative to the road surface when the base elevation of the receptor is below the road. Proposed barrier heights are relative to the base elevation of the receptor when it is above the road.

Receptor 1 represents four homes on Casitas Pass Road in the City of Carpinteria. Measurements taken at Receptor 1 indicate that the existing noise level there is 65 decibels. The future noise level at Receptor 1 with the project is predicted to be 69 decibels. However, Receptor 1 is protected by an existing 3.0-meter (10-foot) wall that reduces the noise levels to 65 decibels, below the Federal Highway Administration's noise abatement criteria level, so no additional abatement would be required.

Receptor 2 represents three homes on Eugenia Place. Measurements taken at Receptor 2 indicate the existing noise level is 73 decibels. The future noise level at Receptor 2 is predicted to be 76 decibels. Because the predicted future noise level exceeds the noise abatement criterion for residential uses (67 decibels), the three homes represented by Receptor 2 would be adversely affected by noise. To achieve a minimum 5-decibel reduction, a 3-meter (10-foot) noise wall (Barrier 7) would be needed. If the total cost of the wall at this location were less than the total cost allowance, then the wall would likely be incorporated into the project. The total cost allowance, calculated in accordance with Caltrans' *Traffic Noise Analysis Protocol*, is $348,000. The current estimated cost of the wall is $327,520.

Receptor 3 represents five homes on Vallecito Road. Measurements taken at Receptor 3 indicate the existing noise level is 66 decibels. The future noise level at Receptor 3 is predicted to be 73 decibels. Because the predicted future noise level exceeds the noise abatement criterion for residential uses (67 decibels), the three homes represented by Receptor 3 would be adversely affected by noise. To achieve a minimum 5-decibel reduction, a 3.6-meter (10-foot) noise wall (Barrier 4) would be needed. If the total cost of the wall at this location were less than the total cost allowance, then the wall would likely be incorporated into the project. The total cost allowance, calculated in accordance with Caltrans' *Traffic Noise Analysis Protocol*, is $280,000. The current estimated cost of the wall is $182,670.

Receptor 4 represents six homes on along Via Real near Vallecito Road. Measurements taken at Receptor 4 indicate the existing noise level is 66 decibels. The future noise level at Receptor 4 is predicted to be 75 decibels. Because the predicted future noise level exceeds the noise abatement criterion for residential uses (67

decibels), the six homes represented by Receptor 4 would be adversely affected by noise. To achieve a minimum 5-decibel reduction, a 3.4-meter (12-foot) noise wall (Barriers 5, 6) would be needed. If the total cost of the wall at this location were less than the total cost allowance, then the wall would likely be incorporated into the project. The total cost allowance, calculated in accordance with Caltrans' *Traffic Noise Analysis Protocol*, is $336,000. The current estimated cost of the wall is $190,440.

Receptors 5 and 6 represent 15 homes on Nipomo Drive. Measurements taken at Receptor 5 and 6 indicate the existing noise level is 73 and 72 decibels, respectively. The future noise level at Receptors 5 and 6 is predicted to be 80 and 78 decibels, respectively. Because the predicted future noise level exceeds the noise abatement criterion for residential uses (67 decibels), the 15 homes represented by Receptors 5 and 6 would be adversely affected by noise. To achieve a minimum 5-decibel reduction, a 3.4-meter (12-foot) noise wall (Barrier 2) would be needed. If the total cost of the wall at this location were less than the total cost allowance, then the wall would likely be incorporated into the project. The total cost allowance, calculated in accordance with Caltrans' *Traffic Noise Analysis Protocol*, is $870,000. The current estimated cost of the wall is $671,784.

Receptor 7 represents six homes on Vallecito Road. Measurements taken at Receptor 7 indicate the existing noise level is 71 decibels. The future noise level at Receptor 7 is predicted to be 77 decibels. Because the predicted future noise level exceeds the noise abatement criterion for residential uses (67 decibels), the six homes represented by Receptor 7 would be adversely affected by noise. To achieve a minimum 5-decibel reduction, a 3.0-meter (10-foot) noise wall (Barrier 7) would be needed. If the total cost of the wall at this location were less than the total cost allowance, then the wall would likely be incorporated into the project. The total cost allowance, calculated in accordance with Caltrans' *Traffic Noise Analysis Protocol*, is $348,000. The current estimated cost of the wall is $327,520.

Receptor 8 represents seven homes on Hales Lane. Measurements taken at Receptor 8 indicate that the existing noise level there is 64 decibels. The future noise level at Receptor 8 with the project is predicted to be 67 decibels. However, Receptor 8 is protected by an existing barrier that reduces existing noise levels below the Federal Highway Administration's noise abatement criteria level, so no additional abatement would be required.

Receptor 9 represents eight homes on Via Real. Measurements taken at Receptor 9 indicate that the existing noise level there is 64 decibels. The future noise level at Receptor 9 with the project is predicted to be 67 decibels. However, Receptor 9 is protected by an existing barrier that reduces existing noise levels below the Federal Highway Administration's noise abatement criteria level, so no additional abatement would be required.

Receptor 10 represents seven (per table 2.26) homes on Via Real. Measurements taken at Receptor 10 indicate that the existing noise level there is 65 decibels. The future noise level at Receptor 10 with the project is predicted to be 69 decibels. However, Receptor 10 is protected by an existing barrier that reduces existing noise levels below the Federal Highway Administration's noise abatement criteria level, so no additional abatement would be required.

Receptor 11 represents eight homes on Cameo Road. Measurements taken at Receptor 11 indicate the existing noise level is 61 decibels. The future noise level at Receptor 11 is predicted to be 66 decibels. Because the predicted future noise level approaches the noise abatement criterion for residential uses (67 decibels), the eight homes represented by Receptor 11 would be adversely affected by noise. To achieve a minimum 5-decibel reduction, a 3.4-meter (12-foot) overlapping panel noise wall would be needed. If the total cost of the wall at this location were less than the total cost allowance, then the wall would likely be incorporated into the project. The total cost allowance, calculated in accordance with Caltrans' *Traffic Noise Analysis Protocol*, is $416,000. The current estimated cost of the wall is $458,160. Based on the cost estimate, the barrier is considered to be unreasonable to construct.

Receptor 12 represents two homes on Ogan Road. Measurements taken at Receptor 12 indicate the existing noise level is 68 decibels. The future noise level at Receptor 2 is predicted to be 75 decibels. Because the predicted future noise level exceeds the noise abatement criterion for residential uses (67 decibels), the two homes represented by Receptor 2 would be adversely affected by noise. To achieve a minimum 5-decibel reduction, a 3.4-meter (12-foot) noise wall (Barrier 8) would be needed. If the total cost of the wall at this location were less than the total cost allowance, then the wall would likely be incorporated into the project. The total cost allowance, calculated in accordance with Caltrans' *Traffic Noise Analysis Protocol*, is $112,000. The current estimated cost of the wall is $104,880.

Receptor 13 represents five homes on Pacific Village Court. Measurements taken at Receptor 13 indicate the existing noise level is 66 decibels. The future noise level at Receptor 13 is predicted to be 69 decibels. Because the predicted future noise level exceeds the noise abatement criterion for residential uses (67 decibels), the five homes represented by Receptor 13 would be adversely affected by noise. To achieve a minimum 5-decibel reduction, an 2.4-meter (8-foot) noise wall (Barrier 3) would be needed. If the total cost of the wall at this location were less than the total cost allowance, then the wall would likely be incorporated into the project. The total cost allowance, calculated in accordance with Caltrans' *Traffic Noise Analysis Protocol*, is $264,000. The current estimated cost of the wall is $219,144.

Receptor 14 represents four homes on Casitas Pass Road. Measurements taken at Receptor 14 indicate the existing noise level is 65 decibels. The future noise level at Receptor 14 is predicted to be 64 decibels. The predicted future noise level is below the noise abatement criterion for residential uses (67 decibels), indicating the four homes represented by Receptor 14 would not be adversely affected by noise. No additional abatement would be required.

Receptor 15 represents five homes on Linden Avenue. Measurements taken at Receptor 15 indicate the existing noise level is 62 decibels. The future noise level at Receptor 15 is predicted to be 64 decibels. The predicted future noise level is below the noise abatement criterion for residential uses (67 decibels), indicating the four homes represented by Receptor 14 would not be adversely affected by noise. No additional abatement would be required.

Receptor 16 represents seven homes on Sterling Avenue and June Street. Measurements taken at Receptor 16 indicate the existing noise level is 70 decibels. The future noise level at Receptor 16 is predicted to be 77 decibels with Alternatives 1 and 4. Because the predicted future noise level exceeds the noise abatement criterion for residential uses (67 decibels), the seven homes represented by Receptor 16 would be adversely affected by noise. To achieve a minimum 5-decibel reduction, a 3.4-meter (12-foot) noise wall (Barrier 1) would be needed. If the total cost of the wall at this location were less than the total cost allowance, then the wall would likely be incorporated into the project. The total cost allowance, calculated in accordance with Caltrans' *Traffic Noise Analysis Protocol*, is $392,000. The current estimated cost of the wall is $368,184.

Receptor 17 represents Carpinteria Creek Park. Measurements taken at Receptor 17 indicate the existing noise level is 65 decibels. The future noise level at Receptor 17 is predicted to be 61 decibels due to the protection afforded the park by the construction of Via Real in between the park and the highway. No additional abatement would be required.

Receptor 18 represents two homes on Holly Avenue. Measurements taken at Receptor 18 indicate the existing noise level is 76 decibels. The future noise level at Receptor 18 is predicted to be 81 decibels. Because the predicted future noise level exceeds the noise abatement criterion for residential uses (67 decibels), the two homes represented by Receptor 18 would be adversely affected by noise. To achieve a minimum 5-decibel reduction, a 3.0-meter (10-foot) noise wall (Barrier 9) would be needed. If the total cost of the wall at this location were less than the total cost allowance, then the wall would likely be incorporated into the project. The total cost allowance, calculated in accordance with Caltrans' *Traffic Noise Analysis Protocol*, is $120,000. The current estimated cost of the wall is $126,000. The barrier is determined to be unreasonable to construct. However, since the noise impact at these residences is severe (greater than 75 dBA) the barrier will be evaluated as an *unusual and extraordinary abatement.* [5]

The Caltrans Noise Analysis Protocol requires a District Noise Abatement Decision Report during the environmental process to document the following:

- Noise abatement reasonableness allowances, from the Noise Study Report
- Acoustic feasibility of noise abatement
- Locations and dimensions of evaluated noise barriers
- Engineering estimates of acoustically feasible noise abatement

[5] A severe noise impact is considered to occur when predicted exterior noise levels equal or exceed 75 dBA-Leq(h) or are 30 dB or more above existing noise levels. In these instances, noise abatement measures other than those listed in 23 CFR 772.13(c) must be considered. Such measures are considered "unusual and extraordinary" abatement measures and may include measures such as constructing noise barriers that have an estimated construction cost that exceeds the reasonableness allowance or providing interior abatement in residential units. Unusual and extraordinary abatement proposed on a federal-aid project is subject to approval by Caltrans acting on behalf of the Federal Highway Administration on a case-by-case basis. When noise abatement is provided on public or private properties consistent with this policy, an agreement must be entered into with the owner of the subject property that specifies that Caltrans is not responsible for any future costs of operating or maintaining the noise abatement measures. Unusual and extraordinary abatement must reduce noise by at least 5 dB to be considered feasible from an acoustical perspective.

- Other construction considerations related to noise barriers (i.e., known utilities, etc.)
- Effects of abatement on other environmental resources (i.e., scenic views, biological, etc.)
- The Noise Abatement Decision Report recommendation will become the final abatement recommendation unless changed during public review.

In summary, based on the studies completed to date, Caltrans intends to incorporate noise abatement in the form of sound barriers at nine locations. The proposed sound barriers vary in height from 2.4 meter to 3.6 meter (8 ft to 12 ft).[6] Most of the proposed barriers would be 3.6-meter (12-ft) tall. Calculations based on preliminary design data indicate that the barriers would reduce noise levels by 6 to 13 dBA for each benefited receptor. If during final design, conditions have substantially changed, noise abatement may not be necessary. The final decision of the noise abatement would be made on completion of the project design and the public involvement processes.

For avoidance, minimization, and/or mitigation of construction impacts, see Section 2.4.

2.3 Biological Environment

A Natural Environment Study was completed for this project in November 2008.

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.

[6] Barrier heights are relative to the road surface when the base elevation of the receptor is below the road. Barrier heights are relative to the base elevation of the receptor when it is above the road.

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

Affected Environment

Riparian Habitat

Riparian habitat is a natural community of special concern that would be affected by this project. The riparian habitat to be affected occurs on both banks of Carpinteria Creek. Currently, some of the riparian vegetation in and adjacent to Carpinteria Creek is routinely cleared as part of the Santa Barbara County Flood Control District Annual Maintenance Plan (2008-09, updated yearly). Franklin Creek has no riparian vegetation in or adjacent to the project limits because it is a concrete-lined channel.

The vegetation within the riparian zone of the Carpinteria Creek includes arroyo willows, California blackberry, alder, western sycamore, blue elderberry, black cottonwood, German ivy, water hemlock, broad-leaved cattail, watercress, giant reed, garden nasturtium, horse tail, and duckweed. Most of the riparian canopy consists of arroyo willow, alder, and western sycamore. Non-native trees (such as eucalyptus and ornamentals) are also interspersed within the riparian habitat area.

Trees

Both native and non-native trees and vegetation would be removed for the project—all trees provide potential biological habitat for various animals including nesting and foraging habitat for migratory birds and also provide scenic and aesthetic functions.

Raptor nesting habitat is of special concern and was found next to Carpinteria Creek. A pair of red-tailed hawks regularly uses one of the two large eucalyptus trees next to Carpinteria Creek.

Environmental Consequences

Riparian Habitat

Project impacts include both temporary and permanent impacts to riparian vegetation (including trees and shrubs) as described below. Impact area calculations are subject to change after final design.

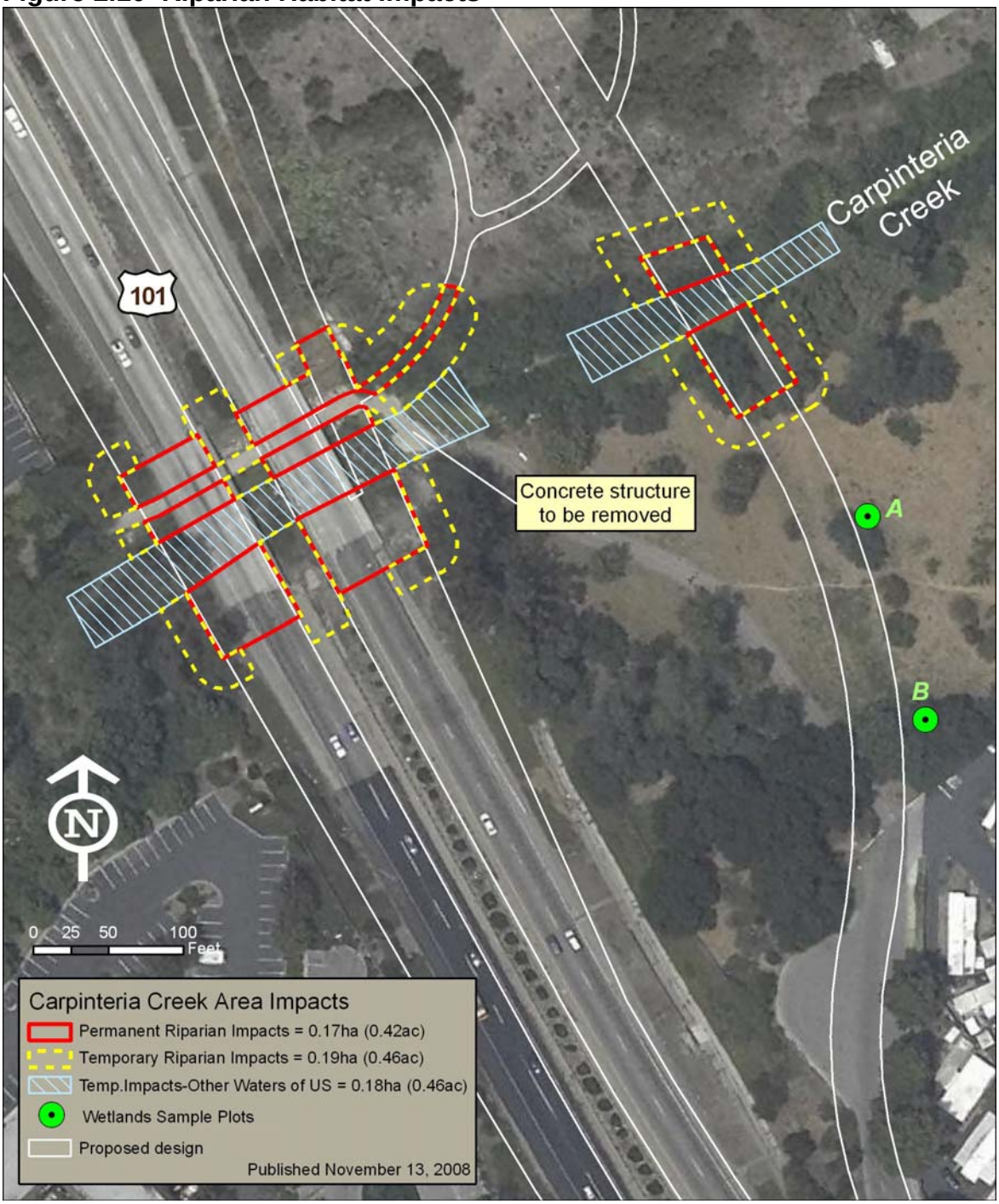
The temporary impacts to riparian vegetation on both banks of Carpinteria Creek total 0.19 hectare (0.46 acre) of disturbance. Permanent impacts to riparian vegetation on both banks of Carpinteria Creek total 0.17 hectare (0.42 acre) of removal.

For all build alternatives, the temporary and permanent impacts to riparian vegetation are the same. See Table 2.29. Figure 2.10 shows the approximate areas of impact along Carpinteria Creek.

Table 2.29 Riparian Impacts

Riparian Habitat	Temporary	Permanent
Area Impacted	0.19 (0.46 acre)	0.17 (0.42 acre)
Mitigation Ratio	1:1	3:1
Total Area Replanted	0.19 (0.46 acre)	0.51 (1.26 acre)

Figure 2.10 Riparian Habitat Impacts



Trees

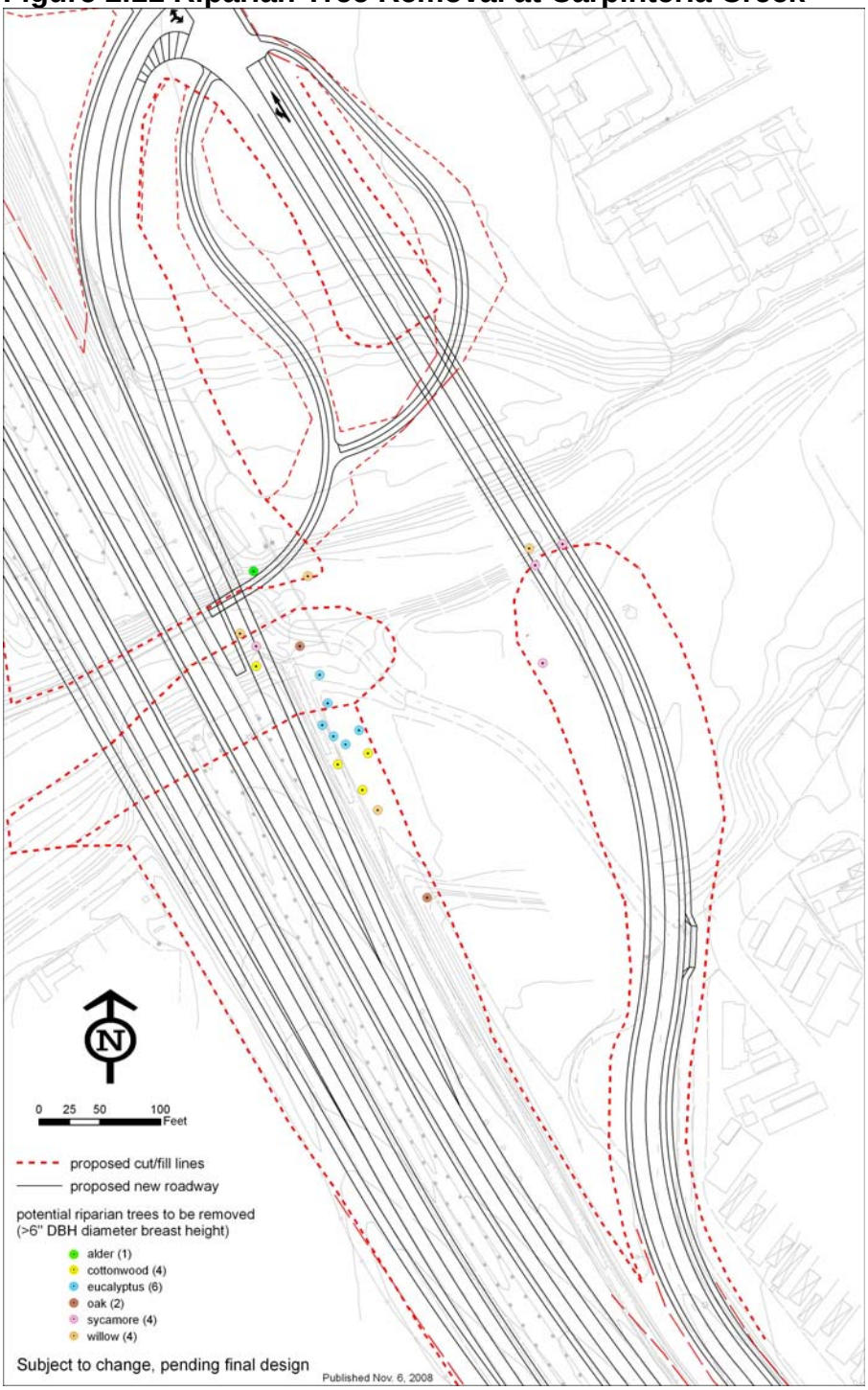
Table 2.30 summarizes all tree removals for trees greater than 6 inches in diameter at breast height.

Table 2.30 Proposed Tree Removals

Native and Non-native Tree Species	Approximate Diameter at Breast Height* and Number of Trees	Location
Native riparian tree: 4 arroyo willows (Salix lasiolepis)	20-25 cm (8-10") dbh - 2 trees 25-30 cm (10-12") dbh – 2 trees	Carpinteria Creek bridge area
Native riparian tree: 1 alder (Alnus rubra)	18 cm (7") dbh – 1 tree	Carpinteria Creek bridge area
Native tree: 8 oaks Quercus agrifolia	28-56 cm (11-22") dbh – 8 trees	2 adjacent to Carpinteria Creek bridge, 6 others in project area
Native riparian Tree: 4 black cottonwood (Populus balsamifera ssp. tricharpa)	20-25 cm (8-10") dbh - 1 tree 46-50 cm (18-20") dbh - 3 trees	Carpinteria Creek bridge area
Native riparian Tree: 4 western sycamore (Plantanus racemosa)	64-76 cm (25-30") dbh" - 4 trees	Both located in southern fill slope area of new Via Real Extension and bridge adjacent to Carpinteria Creek bridge
Non-native tree- 6 eucalyptus (Eucalyptus globules)	6 trees, ranging in size from 46-122 cm (18"- 48") dbh	All located on south bank of new Route 101 Carpinteria Creek bridge (one closest to the creek has been used for nesting red-tailed hawks)
Non-native ornamental trees: Black acacia, myoporum, stone pine and a variety of landscape ornamental non-native trees and shrubs	Approximately 100 non native trees, ranging in size from 15-46 cm (6-18") dbh	Located throughout the project area: used as landscape screen along highway and on edge of Mobile Home park and on north bank of bridges and in new bike lane area
Non-native Trees – avocado orchard	Approximately 100 agricultural trees, all around 10-15 cm (4-6") dbh	Located on north bank of bridges and in new bike lane area

* = Diameter at breast height in inches, measured at 1.2 meters (4 feet)

Figure 2.11 Riparian Tree Removal at Carpinteria Creek



Avoidance, Minimization, and/or Mitigation Measures

For avoidance, minimization, and/or mitigation of construction impacts, see Section 2.4.

The following recommendations are pending final comments and concurrence by the regulatory agencies that have yet to review this project through the California Endangered Species Act/Endangered Species Act, Section 7, and the California Environmental Quality Act/National Environmental Protection Act review and permit processes. As the project develops, these agreements will become refined and possibly revised.

These measures have been prepared for use by Caltrans personnel responsible for implementing various recommendations that are made by the project development team and all regulatory agencies during and after construction.

Riparian Habitat

Impacts to riparian vegetation would be offset by replacement planting within the project limits next to Carpinteria Creek. Replacement planting would be achieved using a 3:1 ratio for each riparian area or individual tree species that is greater than 6 inches in diameter at breast height; this will be detailed in Caltrans' Landscape Architecture Landscape Planting Plan, which will be completed after final design.

The riparian vegetation replanting would have a minimum three-year plant establishment period in which all plants that have been planted would be required to be alive and thriving for three years after the initial planting. The plant establishment period would help to ensure the survival of the replanting effort. The ratio of 3:1 for replacement plantings was agreed upon by the project development team and the California Department of Fish and Game.

Removal of an existing stand of invasive giant reed (*Arundo donax*) on the north bank of Carpinteria Creek within and adjacent to the property at 1212 Casitas Pass Road would be included as part of Caltrans' Landscape Architecture landscape planting and maintenance plan.

Compensatory mitigation is not required. All impacts have been addressed through project design and avoidance and minimization measures.

Trees

All native riparian trees, as identified in Table 2.30, would be replaced at a ratio of 3 trees to every one tree removed (3:1). All oak trees would be replaced at a ratio of 10:1. Removal of ornamental/landscape and non-native trees would require replanting at a ratio of 1:1 with native trees. The replanting of native trees within the project area would also provide nesting habitat for migratory birds (for more information, see Section 2.3.3).

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

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

The Executive Order for the Protection of Wetlands (11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, this 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 mainly 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. The California Coastal Commission requires the presence of only one attribute (e.g., hydrology, hydric soils, or hydrophytic vegetation) for an area to qualify as a wetland.

Sections 1600-1607 of the Fish and Game Code require any agency that proposes a project that will 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 will be required. California Department of Fish and Game jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider.

Wetlands under jurisdiction of the 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

Wetlands

Areas within and adjacent to the project limits were assessed for potential impacts to Coastal Commission-defined and Army Corps of Engineers' jurisdictional wetlands, including Franklin and Carpinteria creeks and a roadside drainage channel that leads to Franklin Creek.

Wetland delineations were conducted at three locations: Carpinteria Creek, Franklin Creek, and the Caltrans' drainage channel leading to Franklin Creek. These delineations revealed that primary wetland hydrology indicators and secondary wetland hydrology indicators were not present at the Carpinteria Creek site. The

delineation did confirm the mapped soil series and type at Carpinteria Creek. The results of the delineation also showed that no wetlands occur within the project areas around Franklin and Carpinteria creeks, and that wetlands do occur at the Caltrans' drainage channel leading to Franklin Creek.

Jurisdictional Waters of the U.S.

Waters subject to the Army Corps of Engineers jurisdiction (jurisdictional waters of the U.S.) are present within the project limits and include Carpinteria Creek, Franklin Creek and the Caltrans drainage channel draining into Franklin Creek and adjacent to the southbound Linden Avenue off-ramp.

Environmental Consequences

Wetlands

The identified wetland area would be filled to build a soundwall and the Linden southbound off-ramp. Approximately 60% of the channel, or about 0.1 hectare (0.3 acre), of wetland area would be filled.

Jurisdictional Waters of the U.S.

Both permanent and temporary impacts to jurisdictional waters of the U.S. would occur with this project at Carpinteria Creek, Franklin Creek, and the drainage. See table 2.31.

Table 2.31 Wetlands/Waters of the U.S. Impacts

Location	Wetlands		Other Waters of the U.S.	
	Temporary Impacts	**Permanent Impacts**	**Temporary Impacts**	**Permanent Impacts**
Carpinteria Creek in hectares	0.19 (0.46 acre) CCC only	0.17 (0.42 acre) CCC only	0.19 (0.46 acre)	Restoration of Channel (removal of concrete)
Drainage Channel leading to Franklin Creek in hectares	0.03 (0.07 acres) ACOE & CCC	0.1 (0.3 acres) ACOE & CCC	0.03 (0.07 acres)	0
Franklin Creek in hectares	0	0	0	0
Mitigation Ratio	1:1	3:1	1:1	3:1

Figure 2.12 Wetlands/Waters of the U.S. Impact Areas

Carpinteria Creek. Estimated quantities of impacts to jurisdictional waters of the U.S. include 0.10 hectare (0.25 acre) of permanent impacts and about 0.03 hectare (0.07 acre) of temporary impacts at Carpinteria Creek.

Permanent impacts to Carpinteria Creek would occur for construction of a new Via Real bridge, the northbound Route 101 off-ramp, and widening and replacement of the Route 101 bridges. The existing Route 101 bridges would be replaced with bridges that have new abutments above the ordinary plane of high water, which is within the jurisdictional limit of waters of the U.S. under Section 401 of the Clean Water Act.

The proposed replacement Route 101 bridge would require placing about 675 cubic meters (883 cubic yards) of rock slope protection below the ordinary plane of high water on the north bank.

Other permanent impacts to jurisdictional waters of the U.S. within Carpinteria Creek include restoring 145 square meters (1,560 square feet) of waters of the U.S. by removing the existing concrete low-flow bike and pedestrian crossing, which is part of each proposed build alternative.

Temporary impacts to Carpinteria Creek would be construction-related and would be a result of the dewatering of the creek, removal of the old bridges and construction of the new bridges. The specific quantities of fill material required for the dewatering operation are not available at this time and will be forthcoming in the Sections 401 and 404 of the Clean Water Act permit request package. Dewatering is required to facilitate construction of the Via Real bridge, the new northbound Route 101 off-ramp, and the replacement and widening of both the northbound and southbound Route 101 bridges.

Dewatering of the creek would temporarily raise water levels directly above the cofferdams, but fish passage would be maintained through a flexible pipe culvert of adequate size to allow fish passage in Carpinteria Creek. See Section 2.3.5 for more information about fish passage.

Franklin Creek. There would be no permanent impacts to Franklin Creek for any of the build alternatives. Temporary impacts to jurisdictional waters within Franklin Creek would occur with Alternatives 1 and 4. Impacts would be related to the dewatering of the channel to facilitate construction of a new northbound bridge deck that is a component of Alternatives 1 and 4.

Caltrans' Drainage Channel Leading to Franklin Creek. Permanent impacts to the drainage channel that leads to Franklin Creek (along the southbound Linden off-ramp) would occur because at least 60% of it would be covered, piped, and filled. Temporary impacts to the remainder of the drainage channel would also occur during construction due to dewatering activities.

Estimated quantities of impacts to jurisdictional waters of the U.S. and wetlands include 0.12 hectare (0.3 acre) of permanent impacts and roughly an additional 0.03 hectare (0.07 acre) of temporary impacts.

Engineering design work conducted in the detailed design stage of the project would quantify the final amounts of disturbance below the ordinary plane of high water. Specific details of the jurisdictional drainage work will be forthcoming in the permit request package for Section 401 and 404 of the Clean Water Act from the Regional Water Quality Control Board and the Army Corps of Engineers, respectively, and a Streambed Alteration Agreement from the California Department of Fish and Game.

Avoidance, Minimization, and/or Mitigation Measures

For avoidance, minimization, and/or mitigation of construction impacts, see Section 2.4.

The following recommendations are pending final comment and concurrence by the regulatory agencies that have yet to review this project through the California Endangered Species Act/Endangered Species Act, Section 7, and the California Environmental Quality Act/National Environmental Protection Act review and permit processes. As the project develops, these agreements will become refined and possibly revised.

This list of measures has been prepared for use by Caltrans personnel responsible for implementing various recommendations that are made by the project development team and all regulatory agencies during and after construction.

Wetlands

Following construction within the drainage channel leading to Franklin Creek, the remainder of the channel would be preserved to accommodate wildlife and plants.

Plants that would be removed from the drainage channel leading to Franklin Creek, due to channel improvements, shall be collected and relocated to a suitable area.

Avoidance and minimization for the loss of wetland and waters of the U.S. would be needed to address the temporary filling of 0.07 acre and permanent filling of 0.3 acre of combined wetlands/waters of U.S. and Coastal Commission-defined wetlands in the Caltrans drainage channel that leads to Franklin Creek. There is a federal and state "no-net-loss" policy on wetlands; therefore it is recommended that additional wetlands be created at 3:1 replacement ratio.

An alternative compensatory mitigation strategy could be for Caltrans to provide a financial contribution (through a cooperative agreement) to fund local agency efforts to restore and enhance Franklin Creek and/or Carpinteria Marsh.

Jurisdictional Waters of the U.S.

Impacts to jurisdictional waters within Carpinteria Creek would be addressed through avoidance and minimization efforts that are built into the project. The project would include restoring 145 square meters (1,560 square feet) of waters of the U.S. by removing the existing concrete low-flow bike and pedestrian crossing. Restoration of these waters of the U.S. would contribute to mitigating permanent impacts associated with any of the build alternatives.

Compensatory mitigation is not proposed for temporary impacts that would occur at Franklin Creek with Alternatives 1 and 4. Following construction within Franklin Creek for Alternatives 1 and 4, the channel would be cleaned of any debris and left in its current condition.

2.3.3 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 below. All other special-status animal species are discussed here, including California Department of Fish and Game fully protected species and species of special concern, and U.S. Fish and Wildlife Service or National Oceanic and Atmospheric Administration Fisheries Service candidate species.

Federal laws and regulations pertaining to wildlife include the following:

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

State laws and regulations pertaining to wildlife include the following:

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

Affected Environment

Wildlife seen in the biological study area include the following: raccoon (*Procyon lotor*), domestic cat (*Felis domestica*), ground squirrels (*Spermophyllus beechyi*), feral house cat (*Felis catus*), opossum (*Didelphis virginiana*), lizards (*Scleroporus occidentalis*), crows (*Corvus brachyrhynchus*), red-tailed hawk (*Buteo jamaicensis)*, and various passerine (song) birds.

Birds were seen foraging and nesting in the shrubs and riparian willow thickets along the highway right-of-way at Carpinteria Creek. Signs of wildlife (footprints and scat) included raccoon, opossum, and birds were evident at Carpinteria Creek.

Common aquatic species found in the biological study area include tree frogs (Hyla regilla), crayfish (*Procambarus clarkii*) and mosquito fish (*Gambusia affinis*) and various aquatic insects.

Migratory Birds

Migratory birds (including various passerine and raptor species) use both the ornamental and riparian vegetation in the project area.

The eucalyptus trees next to Carpinteria Creek have a history of use by a nesting pair of red-tailed hawks; the hawks have used one of these trees for at least a few years. These eucalyptus trees are currently proposed for removal.

Environmental Consequences

Wildlife living in the project area would be affected by many of the construction activities: excavation, demolition, the installation of new bridges, the disturbance or filling of aquatic habitat and all vegetation removal activities, which would remove or affect foraging, nesting, dispersal, or breeding habitat areas.

Because terrestrial wildlife use of the project area is low (except at Carpinteria Creek, where habitat affected by the project would be restored) and because there is surrounding habitat that is still available to them, it is anticipated that impacts to these individuals would be temporary.

Any aquatic wildlife living in Carpinteria Creek or the Caltrans drainage channel that flows to Franklin Creek would be affected by the project. Both temporary (0.03 hectare or 0.07 acre) and permanent (0.12 hectare or 0.3 acre) impacts would occur at the Caltrans' drainage channel that flows to Franklin Creek; the soundwall and off-ramp widening would require filling the aquatic drainage and piping the water underground. Over 60% of the wetland habitat would be permanently lost by dewatering and filling the area that forms this aquatic habitat.

Sediment movement and erosion caused as a result of construction activities may also affect underwater foraging, breeding, and dispersal habitats that would remain. Protective best management practices would be incorporated in the project to avoid habitat degradation in the areas that may be indirectly affected.

Once the project is complete, all areas that are adjacent to new roads and new bridges would (depending on soil/rock conditions) be replanted with native vegetation and restored for wildlife use.

Migratory Birds

Temporary impacts and loss of nesting habitat for two to three seasons are anticipated for migratory birds due to the removal of riparian vegetation and ornamental trees.

Project impacts include both temporary and permanent impacts to both the raptor nesting tree and the riparian vegetation. The removal of the eucalyptus trees during the non-nesting season is considered a permanent impact to the nesting habitat of the raptors.

Carpinteria Creek is a heavily vegetated corridor, with numerous tall trees (including oaks and sycamores) both up- and downstream of the project site. Most of these trees would be outside the area of disturbance. Due to the numerous other trees available for nesting in the area, the red-tailed hawks would likely relocate.

Avoidance, Minimization, and/or Mitigation Measures

The following measures have been prepared for use by Caltrans personnel responsible for implementing various recommendations that are made by the project development team and all regulatory agencies during and after construction.

Additional avoidance and minimization measures for aquatic wildlife and habitat would be required for the temporary filling of 0.03 hectare (0.07 acre) and permanent filling of 0.12 hectare (0.3 acre) of wetlands and waters of the U.S. in the Caltrans channel that leads to Franklin Creek. See Section 2.3.2 for further discussion of wetlands and waters of the U.S.

Compensatory mitigation for terrestrial wildlife and habitat is not anticipated; the project incorporates revegetation in all areas with existing native plants as part of the wildlife avoidance and minimization efforts. These areas would provide future habitat to wildlife.

Migratory Birds

Replanting of trees removed for the project with native trees would provide migratory bird nesting habitat.

For avoidance, minimization, and/or mitigation of construction impacts, see Section 2.4.

2.3.4 Threatened and Endangered Species

Regulatory Setting

The main federal law protecting threatened and endangered species is the Federal Endangered Species Act: 16 US 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 upon 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

Special-status species that could occur in the biological study area were identified from the U.S. Fish and Wildlife Service's species list, a search of the California Natural Diversity Database, and discussion with local wildlife experts and various wildlife agency personnel. These species include steelhead trout, tidewater goby, California red-legged frog, southwestern willow flycatcher, least Bell's vireo, light-footed clapper rail, Salt Marsh Bird's Beak, and Gambel's watercress.

Steelhead Trout, Southern California Evolutionary Significant Unit.

The steelhead trout, an ocean-going form of rainbow trout (*Oncorhynchus mykiss*), is native to Pacific Coast streams from Alaska south to northwestern Mexico. Wild steelhead populations in California have decreased significantly from their historic levels. This decline prompted listing of the Southern California evolutionary significant unit of steelhead as endangered on August 18, 1997; the listing includes all naturally spawned populations of steelhead and their progeny residing below long-

term impassable barriers. The Southern California evolutionary significant unit includes all naturally spawned populations of steelhead (and their progeny) in streams from the Santa Maria River to Malibu Creek (inclusive). The steelhead trout is also listed as a state species of special concern.

The steelhead trout is not known to occur in Franklin Creek. Within and adjacent to the project limits, Franklin Creek is confined to a concrete channel that is of such a length that it is considered an impassable barrier to steelhead trout migration.

The steelhead trout is known to occur in Carpinteria Creek. Carpinteria Creek has been ranked as #1 in the steelhead recovery ranking of watersheds of southern Santa Barbara County in the study, "Steelhead Assessment and Recovery Opportunities in Southern Santa Barbara County" (June 2002).

The Endangered Species Act protects threatened and endangered species in several ways, including critical habitat areas. Under Section 7, all federal agencies must ensure that any actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of a listed species, or destroy or adversely modify its designated critical habitat. These complementary requirements apply only to federal agency actions, and the latter only to habitat that has been designated. A critical habitat designation does not set up a preserve or refuge, and applies only when federal funding, permits, or projects are involved.

Critical habitat is defined as: (1) specific areas within the geographical area occupied by the species at the time of listing, if they contain physical or biological features essential to conservation, and those features may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by the species if the agency determines that the area itself is essential for conservation.

Carpinteria Creek is a designated critical habitat area for Southern California steelhead. The Endangered Species Act requires the federal government to designate "critical habitat" for any species it lists under the Endangered Species Act; in this case, steelhead.

Tidewater Goby

The tidewater goby (*Eucyclogobius newberryi*) is a small fish rarely exceeding 2 inches long that occurs in tidal streams associated with coastal wetlands in California. Since 1900, the tidewater goby has disappeared from nearly 50% of the coastal

lagoons within its historic range, including 74% of the lagoons south of Morro Bay on the Central Coast of California. This decline prompted listing of the tidewater goby as endangered on February 4, 1994. This project does not lie within designated critical habitat areas for tidewater goby.

A member of the family Gobiidae, the tidewater goby is the only species in the genus Eucylogobius and is unique among fishes along the Pacific Coast of the U.S. in its restriction to waters with low salinities in California's coastal wetlands. Although usually associated with lagoons, the tidewater goby has been documented in ponded fresh water habitats as far as 8 kilometers (5 miles) upstream from San Antonio lagoon in Santa Barbara County.

Protocol-level surveys for the presence of tidewater goby were not conducted for this project due to the species' known presence in Carpinteria and Franklin creeks. Surveys for suitable breeding and spawning habitat were conducted, and it was determined that suitable breeding and spawning habitat does not occur in the project limits, although the species could potentially move through the area of disturbance during construction activities on Carpinteria Creek. Tidewater gobies are known to occur in Carpinteria Creek from the mouth of the creek, which is about 1 kilometer (0.6 mile) downstream of the project area, to 1.6 kilometers (1 mile) upstream of the mouth of the creek.

Tidewater gobies are not known to occur within the project limits on the channelized section of Franklin Creek due to an absence of appropriate habitat; however, they are known to occur at the mouth of the creek after the concrete channel transitions into a natural substrate within the Carpinteria Salt Marsh, which is about 0.5 kilometer (0.3 mile) downstream of the project area.

California Red-legged Frog

The California red-legged frog (*Rana aurora draytonii*) is one of two subspecies of the red-legged frog (*Rana aurora*) found on the Pacific Coast. The California red-legged frog is the largest native frog (4 to 12.5 centimeters or 1.6 to 5 inches) in the western U.S. The California red-legged frog has sustained a 70% reduction in its geographic range in California as a result of several factors. Habitat loss and alteration, overexploitation, and introduction of exotic predators contributed to the California red-legged frog's decline in the early to mid-1900s.

California red-legged frogs are known to occur in 243 streams or drainages in 22 counties, mainly on the Central Coast of California. Due to a decline in the population

size and habitat for the species, it was listed as federally threatened under the Endangered Species Act of 1973, as amended effective June 24, 1996. This project is not located in a designated critical habitat area.

Surveys for California red-legged frogs were conducted by Caltrans biologists. The surveys at Carpinteria Creek found no red-legged frogs in or adjacent to the project area. The surveys did reveal Pacific tree frogs (Hyla regilla) and one bullfrog (*Rana catesbeiana*), an invasive amphibian species, at Carpinteria Creek. No evidence of red-legged frogs was found at the Franklin Creek or at the Caltrans drainage channel. No further studies for this species are required at this time.

Southwestern Willow Flycatcher

There are four recognized subspecies (races) of the willow flycatcher (*Empidonax traiillii*). These subspecies are distinguished by subtle differences in color and morphology (size and shape). The southwestern willow flycatcher is somewhat paler and has slightly different wing- and tail-length ratios. Each of the four subspecies occupies distinct breeding ranges. The southwestern willow flycatcher *(E.t. extimus)* breeding range includes Southern California (from the Santa Ynez River south), Arizona, New Mexico, extreme southern portions of Nevada and Utah, extreme southwest Colorado, and western Texas. Records of probable breeding southwestern willow flycatchers in Mexico are rare, and restricted to extreme northern Baja California and Sonora.

The southwestern willow flycatcher breeds in dense riparian habitats along rivers, streams, or other wetlands. The vegetation can be dominated by dense growths of willows (*Salix* sp.), seep willow (*Baccharis* salicifolia), or other shrubs and medium-sized trees. There may be an overstory of cottonwood (*Populus* sp.), tamarisk (*Tamarix* sp.), or other large trees, but this is not always the case. In some areas, the flycatcher will nest in habitats dominated by tamarisk and Russian olive (*Eleagnus angustifolia*). One of the most important characteristics of the habitat is the presence of dense vegetation, usually throughout all vegetation layers present.

Nearly all southwestern willow flycatcher breeding habitats are close (less than 20 meters or 65 feet) to water or very saturated soil. This water may be in the form of large rivers, smaller streams, springs, or marshes.

The southwestern willow flycatcher population has declined during the last 100 years, mainly due to the loss, fragmentation, and change of riparian habitats. In 1993, the U.S. Fish and Wildlife Service formally proposed to list the flycatcher as a federal

endangered species and to designate critical habitat on July 23, 1993. In a 1995 ruling, the service found that the flycatcher population was currently very low and faced a significant threat of extinction unless protected. Therefore, the flycatcher was listed as endangered on February 27, 1995, with the designation of critical habitat in July 1997.

The specific habitat types (dense willow riparian) required for this subspecies do not occur in or adjacent to the project limits.

Least Bell's Vireo

The least Bell's vireo (*Vireo bellii pusillus*) is a small, olive-gray migratory songbird that nests and forages almost exclusively in riparian woodland habitats. Least Bell's vireo nesting habitat typically consists of well-developed overstories and understories, and low densities of aquatic and herbaceous cover. The understory frequently contains dense sub-shrub and shrub thickets.

Due to population declines, the species was listed as endangered by the California Department of Fish and Game Commission on May 27, 1980 under the California Endangered Species Act of 1970. Species decline also prompted a federal listing of endangered under the Endangered Species Act of 1973, as amended effective May 2, 1986. Critical habitat for this species was designated on February 2, 1994.

The specific habitat types required for this subspecies do not occur in or next to the project limits.

Light-footed Clapper Rail

The light-footed clapper rail (*Rallus longirostris levipes*) is lives in dense coastal marsh vegetation consisting of cord grass and pickle weed in regions of Southern California and northern Baja California. The amount of suitable habitat for this subspecies is about one-third of what was known to occur historically. A decline in the subspecies population led to the endangered listing status by the California Department of Fish and Game Commission on June 27, 1971 under the California Endangered Species Act of 1970. Species decline also prompted a federal listing of endangered under the Endangered Species Act of 1973, as amended effective October 13, 1970.

Salt Marsh Bird's Beak

The salt marsh bird's beak (*Cordylanthus maritimus ssp. maritimus*) is federally and state listed as endangered. This species is known to occur in coastal marshes and swamps in addition to coastal dune habitat types.

Gambel's Watercress

Gambel's watercress (*Rorippa gambelii*) is federally and state listed as endangered. This species is known to occur in freshwater marshes and streams.

The specific habitat type required for this species (dense coastal marsh) does not occur in or next to the project limits.

Environmental Consequences

Steelhead Trout, Southern California Evolutionary Significant Unit.

The build alternatives would have both temporary and permanent impacts to the migration corridor habitat on Carpinteria Creek in the project limits. Temporary impacts could occur during construction with the water diversion and dewatering activities, which would temporarily raise water levels directly above the cofferdam. However, fish passage would be maintained through a flexible pipe culvert of adequate size to facilitate fish passage.

Once a preferred alternative is chosen, formal Section 7 consultation, under the Endangered Species Act, would begin between Caltrans and National Oceanic and Atmospheric Administration Fisheries as a result of potential impacts to the steelhead trout and critical habitat on Carpinteria Creek.

The build alternatives are not likely to adversely affect this species or its critical habitat. If the build alternatives were to affect this species, "incidental take" of steelhead may occur. Incidental take could be a result of harassment, harm, or mortality of steelhead during water diversion, demolition and construction, or relocation actions if they become necessary.

Given that the window for work in the creek is outside the time frame for steelhead trout migration, it is anticipated that any incidental take that may occur would be a take of steelhead trout juveniles during the water diversion and dewatering activities during construction adjacent to Carpinteria Creek.

Tidewater Goby

Each build alternative would have both temporary and permanent impacts to the movement corridor habitat on Carpinteria Creek in the project limits. Temporary impacts could occur with the water diversion and dewatering, which would temporarily raise water levels directly above the cofferdam. However, fish passage would be maintained through a flexible pipe culvert of adequate size to facilitate fish passage.

Once a preferred alternative is chosen, Caltrans would enter into formal consultation under Section 7 of the Endangered Species Act with the U.S. Fish and Wildlife Service for tidewater gobies in Carpinteria Creek.

Alternatives 1 and 4 propose work in and adjacent to Franklin Creek by replacing the northbound Route 101 bridge over Franklin Creek. This work is not likely to adversely affect the tidewater goby due to a lack of habitat in the project limits on Franklin Creek or the channel draining to Franklin Creek.

The build alternatives are not likely to adversely affect tidewater goby. If the project were to affect the species, "incidental take" of tidewater gobies in Carpinteria Creek may occur. Incidental take could be a result of harassment, harm, or mortality of tidewater gobies during water diversion, demolition, construction, or relocation actions if they become necessary. Take of tidewater gobies is not anticipated, although it has the potential to occur.

Given that the window for work in the creek is outside of the main breeding season for tidewater goby, it is anticipated that any incidental take that could occur would be as a result of tidewater goby potentially moving through the area during the water diversion and dewatering of Carpinteria Creek.

California Red-legged Frog

No impacts to the species would result from the proposed build alternatives.

Southwestern Willow Flycatcher

No impacts to the species would result from the proposed build alternatives.

Least Bell's Vireo

No impacts to the species would result from the proposed build alternatives.

Light-footed Clapper Rail

No impacts to the species would result from the proposed build alternatives.

Salt Marsh Bird's Beak

The habitat requirements for the salt marsh bird's beak do not occur within or next to the project limits. The population that occurs closest to the project is found at the Carpinteria Salt Marsh. Botanical surveys within the biological study area were negative for the presence of the salt marsh bird's beak. The project would not have any impacts to this species.

Gambel's Watercress

The habitat requirements for the Gambel's watercress occur within or next to the project limits at both Carpinteria Creek and the tributary drainage to Franklin Creek. The population that occurs closest to the project is found 64 miles away at the Vandenberg Air Force Base. Botanical surveys in the biological study area were negative for the presence of the Gambel's watercress. The project would not have any impacts to this species.

Avoidance, Minimization, and/or Mitigation Measures

The following recommendations are pending final comment and concurrence by the regulatory agencies that have yet to review this project through the California Endangered Species Act/Endangered Species Act, Section 7, and the California Environmental Quality Act/National Environmental Protection Act review and permit processes. As the project develops, these agreements will become refined and possibly revised.

This list of measures has been prepared for use by Caltrans personnel responsible for implementing various recommendations that are made by the project development team and all regulatory agencies during and after construction.

For avoidance, minimization, and/or mitigation of construction impacts, see Section 2.4.

Steelhead Trout, Southern California Evolutionary Significant Unit and Tidewater Goby

During project development, it was concluded that the removal of the existing concrete low-flow bike and pedestrian crossing on Carpinteria Creek would be included in each build alternative. Removal of the crossing would clear the channel of a potential fish migration barrier and return this portion of the creek to a natural channel bottom, which would benefit both the steelhead trout and tidewater goby.

- A 3:1 ratio replacement of all riparian vegetation to be removed during construction would be required for all build alternatives.
- An existing stand of a non-native invasive plant species, giant reed (*Arundo donax*) in Carpinteria Creek would be removed.

Due to the extensive avoidance and minimization efforts, additional compensatory mitigation measures would not be required.

California Red-legged Frog

Because no California red-legged frogs or habitat has been identified in the project limits, no mitigation would be required.

Southwestern Willow Flycatcher

Because no southwestern willow flycatchers or habitat has been identified in the project limits, no mitigation would be required.

Least Bell's Vireo

Because no least Bell's vireo or habitat has been identified in the project limits, no mitigation would be required.

Light-footed Clapper Rail

Because no light-footed clapper rails or habitat has been identified within the project limits, no mitigation would be required.

2.3.5 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

Most of the project area has been altered by past highway and community development, and most of the natural biological communities were removed years ago. Found throughout the project area are exotic and invasive weeds and other assorted invasive plants described as exotic pest plants.

Invasive vegetation in the biological study area includes the following species: tree tobacco (*Nicotiana glauca*), castor bean (*Ricinus communis*), rip gut brome (*Bromus diandrus*), giant reed (*Arundo donax*), garden nasturtium (*Tropaeolum majus*), ice plant (*Carpobrotus edulis*), German ivy (*Senecio mikanioides*), gum trees (*Eucalyptus sp*.), Mexican fan palm (*Washintonia robusta*) and edible fig (*Ficus carica*). Other invasive species include the bullfrog (*Rana catesbeiana*), opossum (*Didelphis virginiana*) and the feral house cat (*Felis catus*).

Environmental Consequences

Removal of invasive species is considered a beneficial project impact. Caltrans removes and controls the spread of invasive plants whenever possible.

Avoidance, Minimization and/or Mitigation Measures

To assist with controlling the spread of invasive plants, weeds would be removed in the area of direct impact, and all remaining topsoil that was full of weed seeds would either be removed from the area or buried (due to the presence of a high quantity of weed seeds). Measures to control invasive exotic plants long term shall also be implemented.

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 will not use species on the California List of Noxious Weeds http://ucce.ucdavis.edu/files/filelibrary/5319/4893.pdf. Measures to control invasive exotic plants shall be implemented according to the Caltrans landscape architect's recommendations. Exotic and invasive weeds such as ice plant, kikuyu grass, fennel, pampas grass, fountain grass and other assorted invasive plants that are listed as "most invasive" on the list will be removed within the area of direct impact and topsoil will not be used in any revegetation areas due to the presence of a high quantity of weed seeds.

After construction is complete, all soil surfaces remaining would be revegetated with native plants suitable for the area.

Compensatory mitigation is not proposed for invasive plant removal and control; it is part of the avoidance and minimization efforts for the project.

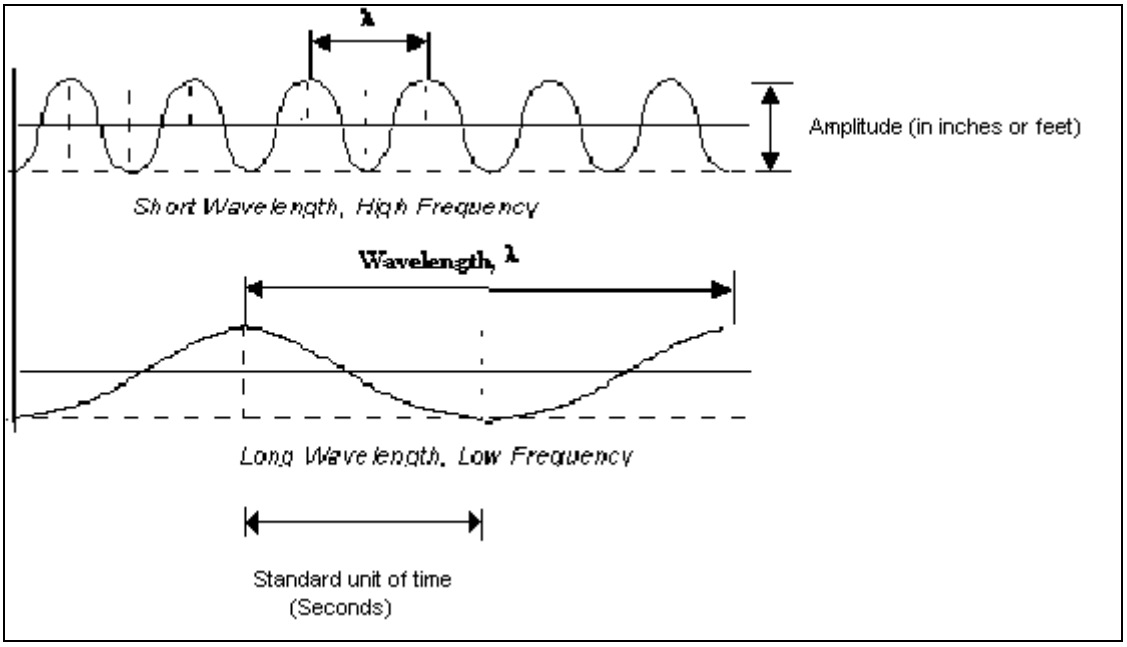
2.4 Construction Impacts

Affected Environment

Vibration

Vibration is the result of the propagation of energy waves through a medium (see Figure 2.13). The medium can be solid, liquid or gas; vibration can be earth-borne or airborne. Noise is a type of vibration, because it is created by energy waves striking a sensitive medium—the eardrum. In transportation-related activities, these waves can be generated by tires crossing uneven pavement or construction activities like pile driving, pavement breaking, use of explosives or vibratory rollers.

Figure 2.13 Illustration of Wavelength, Frequency and Amplitude



Sources of earth-borne vibrations may include natural phenomena (earthquakes, volcanic eruptions, sea waves, landslides, etc.), or human-made causes (explosions, machinery, traffic, trains, construction equipment, etc.). Vibration sources may be continuous (such as factory machinery) or transient (such as explosions).

Most Caltrans projects are concerned with three types of transportation-related earth-borne vibration sources:

Normal highway traffic: Heavy trucks, and frequently buses, generate the highest earth-borne vibrations of normal traffic. Vibrations from these vary with pavement conditions. Potholes, pavement joints, rocking slabs, differential settlement of pavement, etc., all increase the vibration levels.

Light and heavy rail operations: Diesel locomotives, heavily loaded freight cars, and operations such as coupling create the highest rail vibrations.

Construction equipment/activities: Pile driving, pavement breaking, blasting, and demolition of structures generate among the highest construction vibrations.

There are no Federal Highway Administration or state standards for vibrations. The traditional view has been that highway traffic and most construction vibrations pose no threat to buildings and structures, and that annoyance to people is no worse than other discomforts experienced from living near highways.

Of the three transportation vibration sources listed above, construction vibrations are of greatest concern. The four operations mentioned under construction equipment (pile driving, pavement breaking, blasting, and demolition of structures) are potentially damaging to buildings at distances of less than 7.5 meters (25 feet) from the source.

If vibration concerns involve pavement breaking, extensive pile driving, or trains 7.5 meters (25 feet) or less from normal residences, buildings, or non-reinforced structures, damage is a possibility. This may also be true if these operations occur within 15-30 meters (50-100 feet) from historical buildings (unless in excellent condition), buildings in poor condition, or buildings previously damaged in earthquakes.

The outer limits for architectural damage to historical buildings from pile driving, and perhaps from pavement-breaking operations as well, is 15 to 30 meters (50 to 100 feet), while the limit for structural damage to most residences is within 7.5 meters (25 feet) of the vibration source.

There are no historic buildings within 30 meters (100 feet) of any of the proposed pile driving or pavement-breaking activities. The historic Ogan house is 88 meters (288 feet) from the nearest pile driving or pavement-breaking location.

While other buildings at these locations are outside the limits for architectural and structural damage, they are close enough to the pile driving sites that the annoyance level from vibrations may be exceeded. Demolition of the overcrossing is slated to occur at night, and vibration impacts may disrupt local residents' sleep.

Environmental Consequences

Utilities/Emergency Services

Police and fire services may have some minor delays in response times to properties on the north side of Route 101 during construction. Temporary overcrossing closures may require alternative response routes some areas. However, emergency services would have enhanced access to neighborhoods north of Route 101 after the construction is completed because Via Real would be continuous through the city.

Relocation of utility service lines may cause temporary disruption of services. Construction activities have the potential for accidental, temporary disruption of utility service.

Table 2.32 summarizes the utilities that would be affected by each of the build alternatives.

Table 2.32 Summary of Utility Impacts

Alternative	Utility	Location	Action
1,2,3,4	Electric overhead	Via Real	Relocate
1,2,3,4	356 mm sanitary sewer	Elevated over Carpinteria Creek	Relocate*
1,2,3,4	Sanitary sewer manhole (1)	Northbound Casitas off-ramp	Relocate
1,2,3,4	Telephone overhead	Casitas Pass Road	Relocate
1,2,3,4	80 mm natural gas	Casitas Pass Road	Relocate
1,2,3,4	Electric overhead	Casitas Pass Road	Relocate
1,2,3,4	Television overhead	Casitas Pass Road	Relocate
1,2,3,4	Fiber optic overhead (Cox)	Casitas Pass Road	Relocate
1,2,3,4	Sanitary sewer manhole (2)	Casitas Pass Road	Adjust to grade
1,2,3,4	Electric/television pole (2)	Casitas Pass Road	Relocate
1,2,3,4	Electric/television/telephone pole (3)	Casitas Pass Road	Relocate
1,2,3,4	300 mm telephone	Casitas/Via Real	Relocate
1,2,3,4	Fiber optic overhead (Cox)	Via Real	Relocate
1,2,3,4	Sanitary sewer manhole (8)	Via Real	Adjust to grade
1,2,3,4	Electric/television pole (1)	Via Real	Relocate
1,2,3,4	Electric pole (2)	Via Real	Relocate
1,2,3,4	Electric overhead	Ogan Road	Relocate
1,2,3,4	Electric pole (1)	Ogan Road	Relocate
1,2,3,4	Sanitary sewer manhole (4)	Linden Avenue	Adjust to grade
1,2,3,4	200 mm sanitary sewer	Linden/Northbound Linden on-ramp	Relocate
1,4	Telephone overhead	Northbound Linden on-ramp	Relocate
1,4	500 mm natural gas	Northbound Linden on-ramp	Relocate
1,4	Electric overhead	Northbound Linden on-ramp	Relocate
1,4	Television overhead	Northbound Linden on-ramp	Relocate
1,4	200 mm sanitary sewer	Northbound Linden on-ramp	Relocate
1,4	254 mm sanitary sewer	Northbound Linden on-ramp	Relocate
1,4	Sanitary sewer manhole (7)	Northbound Linden on-ramp	Relocate
1,4	Electric pole (5)	Northbound Linden on-ramp	Relocate
1,2,3,4	Electric pole (1)	Southbound Linden off-ramp	Relocate

**To be relocated onto Via Real bridge over Carpinteria Creek*

Traffic and Transportation/Pedestrian and Bicycle Facilities

For all build alternatives, Route 101 users and local residents would experience some delays. Some construction activities may require that ramps be closed, requiring local detours. Details on detours and other construction impacts will be evaluated in greater detail during the detailed design phase of the project.

The project is expected to take about four years to construct. During that time multiple stages of construction would occur lasting, on average, nine months to a year per stage. On Route 101, both lanes would remain open in each direction during the morning and afternoon peak hours. Full closures of Route 101 would occur only during the demolition of the Linden Avenue and Casitas Pass Road overcrossings.

These bridge demolitions would occur at night to avoid traffic impacts from the full closure of Route 101. Occasional ramp closures would be necessary. At least one lane in each direction would remain open at all times on both Linden Avenue and Casitas Pass Road, except during demolition of the overcrossings.

Construction of the project would require the removal of the Class I bicycle path at the end of Via Real.

Vibration

Construction activities resulting from the proposed improvements have the potential to generate noise that can annoy residents up to 240 meters (800 feet) from the activities, and vibrations that can annoy and cause architectural and structural damage to residences and buildings adjacent to the work zone. Those activities include:

Structure Demolition:

- Carpinteria Creek bridge (kilometer post 3.9, post mile 2.44)
- Franklin Creek bridge[7] (kilometer post 5.3, post mile 3.30)
- Linden Avenue overcrossing (kilometer post 5.8, post mile 3.6)
- Casitas Pass overcrossing (kilometer post 4.2, post mile 2.64)

Demolition is typically conducted with a hoe ram mounted on a backhoe. Impacts from the hoe ram are similar to those of a pavement breaker and would very likely generate similar vibrations. See Table 2.33.

Pavement Breaking (or cracking and seating) the concrete pavement with a large impact hammer would occur on Route 101 in both directions between about 300 meters (1,000 feet) south of the Carpinteria Creek bridges and 42 meters (138 feet) north of the Casitas Pass overcrossing in both directions. The total length of the crack and seat operation is about 730 meters (2,400 feet). The entire highway would be raised to accommodate the new Carpinteria Creek bridge structures that would have a higher clearance over Carpinteria Creek. See Table 2.33.

Pile driving is planned during construction for the abutments at the Linden Avenue and Casitas Pass Road overcrossings and at Carpinteria Creek bridges and Franklin Creek bridge (see Table 2.33). These structures would be reconstructed or widened.

[7] Alternatives 1 and 4 only

The pile driving would occur during normal daylight hours and would last for about eight hours per day.

Pile driving is also planned during the construction of the retaining walls (Walls E—M), and soundwalls (Soundwalls 1, 2, 3, and 9). These are shown in Table 2.33. Final details on footing types would come after the completion of geotechnical studies.

Depending on the duration, intensity, and timing of the proposed construction activities—structure demolition, pavement breaking, and pile driving—residents and structures adjacent to the proposed construction activity may be affected. The effects of activities like pile driving and pavement breaking lessen with distance from the source as the energy from the impacts are absorbed. Three vibration sensitivity zones have been established to classify the expected impacts from the proposed construction activities:

- The **90-meter** (300-foot) zone contains the structures that would begin to experience vibrations.
- The **30-meter** (100-foot) zone contains the level where continuous vibrations would begin to annoy people.
- The **18-meter** (60-foot) zone contains the level where continuous vibrations may cause architectural damage.

Figure 2.14 and Table 2.33 show the three vibration sensitivity zones as well as sources and locations of expected vibration within the project limits. The zones are divided into 18-meter (60-foot), 30-meter (100-foot), and 90-meter (300-foot) intervals. Table 2.33 summarizes potential construction impacts associated with project alternatives and the number of properties potentially affected within the three vibration-sensitivity zones.

Table 2.33 Potential Construction Impacts

Location	Alternative	Activity	Duration	Number of Affected residences		
			Days	18 m 60 ft	30 m 100 ft	90 m 300 ft
Linden OC	1, 2, 3, 4	demolition	5	0	0	355
Linden OC	1, 2, 3, 4	pile driving (br)	3	0	0	
Casitas Pass OC	1, 2, 3, 4	demolition	5	0	1	
Casitas Pass OC	1, 2, 3, 4	pile driving (br)	3	0	1	
Carpinteria Creek Br (L, R)	1, 2, 3, 4	demolition	5	0	0	
Carpinteria Creek Br (L, R)	1, 2, 3, 4	pile driving (br)	3	0	0	
Route 101 from 200 ft north of Casitas Pass Bridge to 2000 ft south	1, 2, 3, 4	pavement breaking	5	2	2	
Franklin Creek Br. (1)	1, 4	demolition	5	1	1	
Franklin Creek Br. (1)	1, 4	pile driving	3	1	1	
Via Real Bridge (new)	1, 2, 3, 4	pile driving	3	0	0	
Soundwall B1 (NB on from Linden)(1)	1, 4	pile driving (sw)	7	1	6	
Soundwall B2 (NB on from Linden)	1, 2, 3, 4	pile driving (sw)	10	15	17	
Soundwall B3 (Ogan Rd)	1, 2, 3, 4	pile driving (sw)	4	4	9	
Soundwall B9 (Sawyer Rd)	1, 2, 3, 4	pile driving (sw)	5	2	7	
Retaining Wall E (Via Real)	1, 2	pile driving (rw)	5	0	3	
Retaining Wall F (Via Real)	3	pile driving (rw)	5	0	3	
Retaining Wall G (Via Real)	4	pile driving (rw)	5	0	3	
Retaining Wall H (Via Real)	4	pile driving (rw)	5	1	1	
Retaining Wall I (Via Real)	2, 3	pile driving (rw)	5	1	1	
Retaining Wall J (SB off to Linden)	2, 3, 4	pile driving (rw)	4	0	3	
Retaining Wall K (SB off to Linden)	1, 2, 3, 4	pile driving (rw)	4	1	4	
Retaining Wall L (Via Real)	1, 4	pile driving (rw)	4	5	7	
Retaining Wall M (Via Real)	1, 4	pile driving (rw)	10	15	17	

This discussion documents the current design and proposed construction activities; however, additional options would be evaluated during the detailed design phase of the project. The feasibility of earth-retaining and soundwall foundations (that do not require driven piles) for the retaining walls and soundwalls would be considered. One example of these is Mechanically Stabilized Earth retaining walls. The feasibility of micropile foundations, which are less vibration-intensive than the currently planned driven piles for soundwall foundations, would also be explored. The development of alternative foundation types would help minimize potential vibration impacts to residents near the construction project.

Avoidance, Minimization, and/or Mitigation Measures

Utilities/Emergency Services

Before and during construction, all utilities in conflict with the proposed project would be relocated.

A traffic management plan would be developed for the proposed project. Detour routes would be provided for all full closures. Advanced coordination between Caltrans and Carpinteria public safety officials would ensure that services are not disrupted. Accurate pre-construction utility location would be required in conjunction with service providers to avoid accidental disruption of any utility service.

Traffic and Transportation/Pedestrian and Bicycle Facilities

A traffic management plan would be developed for the proposed project. Detour routes would be provided for all full closures.

The Traffic Management Plan for this project may include the following items:

- Public Awareness Campaign: Flyers, brochures, pres releases, web site, and advertising as required informing travelers of the project.
- Construction Zone Enhanced Enforcement Plan (COZEEP): Additional California Highway Patrol would be assigned to the construction zone during peak travel times, to ensure construction zone safety.
- Temporary facilities such as changeable message signs and ramp detours to provide notice of road closures, detours and other pertinent information.
- Temporary access to residences and/or businesses would be provided as necessary.
- The project contract specifications would require that emergency services be notified before any required roadway or highway lane closures.
- The maintenance of traffic and sequencing of construction would be planned and scheduled to minimize traffic delays.
- When ramps are closed, detour signs would direct traffic to the nearest available ramp.

- Alternative bicycle and pedestrian routes would be identified and demarcated throughout construction.

Cultural Resources

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

State Health and Safety Code Section 7050.5 states that, if human remains are discovered, further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the County Coroner shall be contacted. Per Public Resources Code Section 5097.98, if the remains were thought to be Native American, the coroner would notify the Native American Heritage Commission, which would then notify the Most Likely Descendent. At this time, the person who discovered the remains would contact Terry Joslin, who would work with the Most Likely Descendent on the respectful treatment and disposition of the remains. Further provisions of Public Resources Code 5097.98 would be followed as applicable.

Water Quality and Stormwater Runoff

Standard stormwater best management practices would be used during and after construction of the project to control potential discharges of pollutants to surface water. Work in the creek bed would be performed during the dry season. A stream diversion may be necessary if the creek is flowing during construction.

Paleontology

Though the potential to find sensitive paleontological remains in low sensitivity formations, the following statement shall be included in the resident engineer's file:

If any vertebrate or plant fossils are discovered during construction, it is required that construction be halted in the immediate vicinity (33-foot radius) of the discovery, until the District Paleontology Coordinator has the opportunity to review the find.

Remediation of any sensitive resources encountered before or during construction may include removal, preparation, and curation of any significant finds.

Hazardous Waste

Any contaminated soil identified with the proposed project would be transferred to an appropriate disposal site during construction. All procedures governing the handling or disposal of hazardous waste shall be in accordance with the appropriate regulatory agencies. California regulatory criteria for determining whether excavated soils are to be classified as hazardous waste for disposal purposes based on their metal content are contained in the California Code of Regulations, Title 22, Division 4.5, Chapter 11, Article 3, Section 66261.24.

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) require the contractor to comply with the more stringent of local, or state rules, regulations, and ordinances regarding air quality (Government Code 11017). Section 10 of the Standard Specifications regulates dust control. California Health and Safety Code requires the contractor to keep visible dust from blowing offsite.

Most of the construction impacts to air quality are short-term in duration and, therefore, would not result in adverse or long-term conditions. Implementation of the following measures would reduce any air quality impacts resulting from construction activities:

1. Apply water or dust palliative to the site and equipment as frequently as necessary to control fugitive dust emissions.
2. Spread soil binder on any unpaved roads used for construction purposes and on all project construction parking areas.
3. Wash trucks off as they leave the right-of-way as necessary to control fugitive dust emissions.
4. Properly tune and maintain construction equipment and vehicles. Use low sulfur fuel in all construction equipment as provided in California Code of Regulations Title 17, Section 93114.
5. Develop a special dust control plan documenting sprinkling, temporary paving, speed limits, and expedited revegetation of disturbed slopes as needed to minimize construction impacts to existing communities.

6. Locate equipment and materials storage sites as far away from residential and park uses as practical. Keep construction areas clean and orderly.
7. To the extent feasible, establish Environmentally Sensitive Areas for sensitive air receptors (e.g., schools, parks, adult and child care facilities) within which extended idling of diesel equipment would be restricted.
8. Use track-out reduction measures such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic.
9. Cover all transported loads of soils and wet materials prior to transport, or provide adequate freeboard (space from the top of the material to the top of the truck) to reduce PM_{10} and deposition of particulate during transportation.
10. Remove dust and mud that are deposited on paved, public roads due to construction activity and traffic to decrease particulate matter.
11. To the extent feasible, route and schedule construction traffic to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.
12. Install mulch or plant vegetation as soon as practical after grading to reduce windblown particulate in the area.

Noise

Caltrans Standard Specifications (May 2007, Chapter 7 101I Noise Control) that are applicable on all state highway construction projects require that the contractor "… comply with all local sound control and noise level rules, regulations, and ordinances which apply to any work performed pursuant to the contract. Each internal combustion engine, used for any purpose on the job or related to the job, shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion shall be operated on the job site without the muffler."

Advanced Notice: The resident engineer shall notify the District 5 Public Information office to place notice of the proposed project in local news media in advance of construction. The notice will give estimated dates of construction and mention potential noise impacts.

Construction Schedule: Whenever possible, schedule the noisiest operations during the daylight or early evening hours.

Early Construction of Sound Barriers: In cases where sound barriers are required to be installed with the project, and where the barriers would not interfere with construction, construction of the barriers prior to project construction is recommended.

Public Relations: A telephone shall be installed in the resident engineer's office to receive noise complaints. The telephone number shall be publicized in local newspapers, and by letter to residences near the construction area.

Temporary Sound Barriers: When necessary and warranted, temporary noise barriers shall be installed to mitigate construction noise, dust, glare, and visual impacts.

Natural Communities

To ensure that all potential impacts to biological resources are avoided and/or minimized, and due to the long lead-time until construction, pre-construction surveys for special-status species (both plants and animals) must be conducted by a qualified Caltrans biologist or designee. Surveys would be conducted about one year before construction, during the appropriate survey season.

The number of access routes, size of staging areas, and the total area of the activity shall be limited to the minimum necessary to safely construct this project. All access would be restricted to the existing roads and designated temporary access areas.

Environmentally sensitive area fencing would be installed to limit construction activities and protect biological habitats of concern. Proposed environmentally sensitive area fencing would be established at all wetland and riparian areas and all areas that exhibit good wildlife habitat potential, to avoid and minimize any potential impacts to biological resources.

Special Provisions for installation of environmentally sensitive area fencing shall also be included in the Construction Contract and shown on Project Plans and Layout Sheets. Routes and boundaries shall be clearly delineated in the field with environmentally sensitive area fencing to minimize activities adjacent to biological resources, including drainages, wetlands and/or native plant communities. All environmentally sensitive area fencing delineated in the field must be approved by the project biologist before beginning any construction activities, including vehicle storage.

All oaks and native plants that would remain in the project vicinity would be delineated on the plans and fenced in the field as environmentally sensitive areas, to protect and preserve them during construction.

Wetlands and Other Waters

Environmentally sensitive area fencing to prevent damage to areas where no construction would be necessary shall be delineated on all plans and installed in the field before construction.

Riparian wetland and wetland areas are regulated under the jurisdiction of the both the California Coastal Commission (through Carpinteria City Local Coastal Program and the Coastal Act) and the U.S. Army Corps of Engineers. To reduce/minimize and compensate for any possible direct or indirect impacts to the wetland areas adjacent to the area of direct impact during construction, the following measures shall be followed:

- Adjacent wetlands shall be fenced off as an environmentally sensitive area with either environmentally sensitive area fencing or silt fencing, depending on the proximity of the work area to the wetlands and the drainage. The project biologist must be contacted before beginning any activities in this area to approve the environmentally sensitive area in the field.

- Dewatering of the creeks and the Caltrans' drainage channel leading to Franklin Creek would only take place during the low flow summer months, from May 1 through October 31. Water would be diverted around the work sites using the same method for both creeks. Sandbags and filter fabric would be used to form a cofferdam just upstream of the work sites. The water would be diverted in a flexible pipe culvert of adequate size to facilitate fish passage. Following construction, the channel bottom of Carpinteria Creek would be restored to a natural channel bottom and to its original elevation.

- Following construction within Franklin Creek for Alternatives 1 and 4, the channel would be cleaned of any debris and left in its current condition. Upon completion of construction activities on both creeks, the materials for dewatering would be removed in a manner that would allow flow to resume with the least disturbance to the substrate.

- If a work site were to be temporarily dewatered by diversion, pumping and treating, intakes shall be completely screened with wire mesh not larger than 5 millimeters or 0.2 inch (to prevent all aquatic wildlife from entering the pump system. Water shall be released or pumped to an appropriate location at a rate to maintain downstream flows during construction. On completion of construction activities, any barriers to flow shall be removed in a manner that would allow flow to resume with the least disturbance to the substrate.

- All refueling and maintenance of equipment and vehicles shall be at least 18 meters (60 feet) from any aquatic habitat, wetland area, or any water body. The contractor shall ensure contamination of habitat does not occur during such operations. All workers shall be informed of the importance of preventing spills of fuels and of the appropriate measures to take should a spill occur.

- Before the onset of work, the Army Corps of Engineers shall ensure that the permittee has prepared a plan to allow a prompt and effective response to any accidental spills around aquatic habitats. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

- During construction, all trash that may attract predators shall be properly contained, removed from the work site and disposed of regularly. Following construction, all trash and construction debris shall be removed from work areas.

- All construction activities shall be completed in accordance with Caltrans National Pollution Discharge Elimination System Permit, the General Construction Permit and Caltrans Statewide Stormwater Management Plan.

- To protect all adjacent biological habitats of concern (including willow riparian wetlands and native vegetation areas) and for all exposed soils and drainage repair areas during and after construction, Caltrans shall implement best management practices, as identified by the Central Coast Regional Water Quality Control Board. These best management practices would be implemented to minimize or eliminate the potential for a non-stormwater discharge. Construction site best management practices would be addressed in

detail in the Storm Water Pollution Control Plan that would be developed for the project site.

Animal Species

General avoidance and minimization measures, such as the use of environmentally sensitive area fencing and exclusion would reduce excavation, grading and disturbance of natural habitat areas, which would minimize impacts to wildlife.

Animal Species (Migratory Birds)

Provisions would be incorporated into the project to address specific protection measures for migratory birds before, during, and after construction. Tree and vegetation removal would be limited to September 1 through February 28 to avoid nesting and raising young. Preconstruction surveys would be conducted to determine if nesting is occurring within or adjacent to the project limits. Delineation on the construction plans and installation of environmentally sensitive area fencing in the field would be required. A 15- to 30- meter (50- to 100-foot) buffer area would be identified and delineated on the plans and in the field to protect nesting migratory birds during construction.

Barn swallows are also protected under the Migratory Bird Treaty Act, and have been observed nesting under the bridges within the area of direct impact. If necessary, special measures can be taken prior to the breeding season to ensure that swallows and other migratory birds do not nest in the area of direct impact during project construction.

- All habitat used by migratory birds that would be removed to construct the project should be removed from September 1- February 28, before the migratory season begins.

- Preconstruction surveys should be conducted for presence/absence for active nests of birds that are protected under the Migratory Bird Treaty Act one year prior to the period of construction, during the nesting season (March 1- August 31).

- Bird netting may be used to limit or restrict use of the bridges during the nesting season (March 1–August 31). If necessary to install bird netting, it shall be installed before nesting season.

- Special Provisions to address migratory and nesting bird protection shall be included with the Project Plans and Specifications.

The area of direct impact includes all temporary construction access areas and routes, vehicle and equipment storage areas, and staging areas.

Threatened and Endangered Species

General avoidance and minimization measures for threatened and endangered species are as follows:

- Preconstruction surveys for special-status wildlife would be re-conducted by the Caltrans biologist (or designee) for all species known to occur in the project vicinity approximately two weeks prior to beginning of construction.

- If any additional federal listed species were found during the preconstruction surveys, the project would cease until formal Section 7 consultation between Caltrans and the U.S. Fish and Wildlife Service were completed.

- If any state special-status species were found during the preconstruction surveys, the project would cease until consultation between Caltrans and the Department of Fish and Game is completed.

- Before the start of construction, the resident engineer shall notify Lisa Schicker, Caltrans Biologist, at 805-549-3628.

- If any special-status species are found in the area of direct impact during construction and then after any and all required consultations with agencies have occurred, the Caltrans biologist or designee shall be present at the construction site until such time as removal of all special-status species has occurred and all instruction has been given to the workers.

- A Biological/Environmental Monitor would be present onsite during construction activities that may affect special-status species and/or migratory birds. This includes drilling and blasting for the construction of piers and abutments for new bridges and soundwalls and any associated dewatering activities.

- The Caltrans resident engineer, in consultation with the biologist and/or Environmental Monitor shall have the authority to halt any action that might result in impacts that exceed the anticipated levels of impact that were determined during agency review (by Caltrans, Army Corps of Engineers, California Department of Fish and Game, California Coastal Commission and/or U.S. Fish and Wildlife Service) of the proposed actions.

  If work were stopped, these same regulatory agencies shall be notified immediately by the biologist or Environmental Monitor.

Steelhead Trout, Southern California Evolutionary Significant Unit and Tidewater Goby

The following avoidance and minimization measures would be incorporated into each build alternative:

- Before construction begins, Caltrans would have obtained a Biological Opinion from the U.S. Fish and Wildlife Service for special-status tidewater goby and a Biological Opinion from National Oceanic and Atmospheric Administration Fisheries for special-status steelhead as required by the Endangered Species Act, Formal Consultation process under Endangered Species Act Section 7. Caltrans would adhere to all agreements made in the Biological Opinion.

- Construction within or adjacent to Carpinteria Creek would take place only during low flow between May 1 and October 31 to avoid affecting migrating steelhead trout.

- Fish passage would be maintained during construction through a flexible pipe culvert of adequate size to facilitate fish passage.

- Following water diversion installation, any remaining fish in the area to be dewatered would be removed using a seine and dip nets. Any steelhead trout or tidewater goby encountered during the seining of the dewatered area would be relocated to a suitable location in Carpinteria Creek.

- All disturbance to riparian vegetation and jurisdictional waters shall be minimized with the use of environmentally sensitive area fencing, and all soil exposed as a result of the project shall be re-vegetated using native hydroseeding, or live planting methods.

- In work areas that have been dewatered, water above the barrier shall be released or pumped downstream at an appropriate rate to maintain downstream flows during construction.

- Upon completion of construction activities, the barriers to flow shall be removed in a manner that would allow flow to resume with the least disturbance to the substrate.

- If the substrate of the stream is altered during work activities, it shall be graded or otherwise treated to preconstruction conditions or better after the work is completed.

- Onsite Wildlife Identification Training would be conducted before construction begins. A Caltrans biologist (or designee) would conduct a training session for all construction personnel before any construction activities begin.

  The training session shall include a description of all special-status species known to occur in the project vicinity (tidewater goby and steelhead). The biologist would discuss their habitats, their importance and general measures being implemented to conserve these species as they relate to the project boundaries. Brochures, photographs, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.

- The Environmental Monitor/biologist would monitor all aquatic activity during construction to insure compliance with conditions found in the Biological Opinions. If the monitor observes abnormal activities or behaviors, she/he would ask the resident engineer to cease all activities until the U.S. Fish and Wildlife Service and National Oceanic and Atmospheric Administration could be consulted and additional avoidance and minimization measures are put in place.

- Caltrans shall restore the contour, slope and surrounding area of the creek bed to preconstruction conditions or better.

Additional Avoidance and Minimization Measures for Tidewater Goby

- All work activities within and adjacent to Carpinteria Creek shall be completed outside of the primary breeding season to reduce the potential harassment and mortality of tidewater goby. The window of work for construction within or adjacent to Carpinteria Creek and Franklin Creek would be during the low flow period between May 1 and October 31.

- Only qualified personnel authorized under a biological opinion shall participate in activities associated with the capture, handling, and relocation of tidewater goby. The names and credentials of personnel who desire to conduct these activities shall be supplied to the U.S. Fish and Wildlife Service for the review and approval at least 15 days before the onset of these activities.

- If water is to be pumped around work sites, intakes shall be completely screened with wire mesh not larger than 5 millimeters to prevent tidewater goby from entering the pump system.

- During the dewatering effort, if present, as many tidewater goby as possible shall be removed before draining the site. After barriers are constructed, tidewater goby shall be captured, transported in buckets, and released in the most appropriate habitat immediately adjacent to the de-watered area. If a beach seine is used, it shall be pulled to shore in a deliberate manner with care being taken to avoid rolling the lead line inward. The number of tidewater gobies shall be estimated before release. All debris and aquatic and emergent vegetation in the pumped area shall be carefully inspected for tidewater goby and other vertebrates. As the work site is dewatered, remaining pools shall be inspected for tidewater goby. As many individuals as possible shall be captured using dip nets and other appropriate tools and moved as described above. Handling time for tidewater goby shall be minimized to the maximum extent practicable.

- All disturbance to potential tidewater goby habitat including riparian vegetation and jurisdictional waters shall be minimized with the use of environmentally sensitive area fencing and all soil exposed as a result of the project shall be revegetated using native hydroseeding or live planting methods.

Vibration

Vibration sensitivity zones resulting from pile driving, structure demolition, and pavement breaking are divided into 18-meter (60-foot), 30-meter (100-foot), and 90-meter (300-foot) intervals. These are shown in Figure 2.14.

To reduce the effects of construction vibration, the following measures are recommended:

1. Individually notify residents within 90 meters (300 feet) of areas where pile driving and pavement breaking would take place at least two weeks before the proposed activity. Residents may wish to secure fragile items that could be broken by shaking.

2. Arrange motel rooms for residents living within 100 ft of the proposed activity when protracted vibrations in excess of the threshold are expected at their residence during hours that they are normally asleep.[8]

3. Conduct a photo or video survey of susceptible areas in advance of the potentially damaging construction work. Such activities would occur along the northbound Linden Avenue on-ramp, Ogan Road, Via Real (near the Verizon Switching Center), and residences near the intersection of Sawyer and Holly Lane.

4. Monitor and record peak particle velocities near the sensitive receptors while the highest vibration-producing activities are taking place.

5. Use vibratory pile driving when soil and other conditions are favorable for employment of this method. Pre-drill pile-holes, or use cast in drill hole or cast in steel shell piles when feasible.

6. Use rubber tires instead of tracked vehicles near vibration-sensitive areas.

7. Assure that night joints and bridge conforms are as smooth as possible, especially where there is heavy truck traffic near residences.

8. Perform activities most likely to propagate objectionable vibrations during the day, or at least before most residents retire for the night.

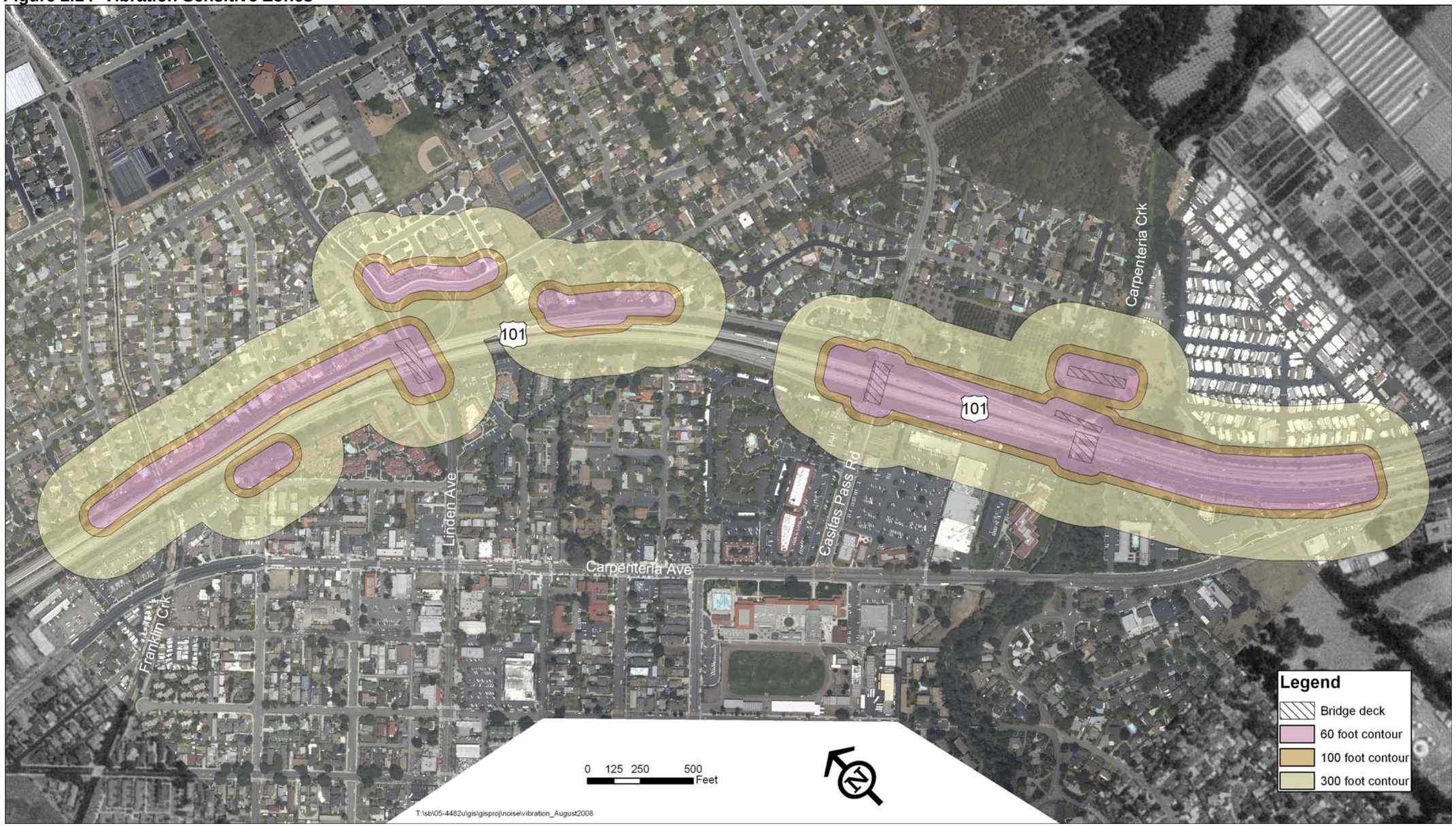
[8] Refer to Table 1 that shows the level at which continuous vibrations can disturb an individual's sleep, and Table 4 that shows the residences that are anticipated to be within the 100-foot zone.

9. Pavement breaking shall be restricted to daylight hours.

10. Nighttime demolition work shall be limited to removal of the Linden Avenue and Casitas Pass Road overcrossings.

11. All pile driving shall be done during daylight hours.

Figure 2.14 Vibration Sensitive Zones



2.5 Cumulative Impacts

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

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

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

Project-specific Resources Considered in the Cumulative Impact Analysis

A cumulative impact analysis is required whenever an environmental document is prepared. The purpose of a cumulative impact analysis is to analyze the potential incremental environmental impacts associated with a project in conjunction with past, present, and reasonably foreseeable future projects.

Based on the analysis in this document regarding the potential for the proposed project to result in direct and/or indirect impacts to certain resources, the following environmental issues have been identified for consideration in the cumulative impact analysis:

- Visual/Aesthetic resources
- Farmland
- Natural communities

Affected Environment

This section defines the resource study area for each of the above-identified resources. Each resource study area is delineated to include the project area as well as areas outside of the project area where the proposed project activities, in combination with activities in the other areas, could contribute to cumulative impacts on common resources.

Visual/Aesthetics

The resource study area for aesthetic and visual resources includes views of and from the proposed project area, primarily defined by the Route 101 corridor. In the project area, Route 101 is bound by the Pacific Ocean to the west and the Santa Ynez Mountains to the east.

Farmlands

The County of Santa Barbara is defined as the resource study area for cumulative impacts to farmland.

Natural Communities, Riparian Habitat

The Carpinteria Creek watershed has been identified as the resource area for cumulative impacts for this project.

Environmental Consequences

Visual/Aesthetics

The cumulative section addresses visual quality in two ways: 1) the combined effect of each of the visible project features when seen together as a single project; and 2) how this project may contribute to a change in visual quality when viewed along with other existing and reasonable future projects in the area (per CEQA Guidelines, Section 15130).

Because of the project's length, all of the individual project features would not be seen at the same time, but rather as a sequence of views. The individual project elements when viewed in sequence would be seen as a noticeable cumulative change in the community. Even with the mitigation measures recommended in this study, the

project would remain recognizable in terms of its wider bridges, frontage road, new and relocated ramps, soundwalls, and landscaping alteration.

Over time, the project would be seen in the visual context of several other possible highway projects proposed along the Route 101 corridor. These other highway projects may include:

- High Occupancy Vehicle lanes – From northern Ventura County to Carpinteria
- High Occupancy Vehicle lanes – From Carpinteria to Santa Barbara
- Operational Improvements – From Milpas to Hot Springs in Santa Barbara City and County
- Traffic Management Systems – At various locations from Highway 150 to Garden Street in Santa Barbara

The Route 101 corridor through southern Santa Barbara County has experienced low to moderate visual change over the last several years. The visual character along the highway is one of mostly suburban development. Existing highway and community landscaping adds a generally vegetated quality and partially limits views to and from the highway.

The project's introduction of larger bridge structures, frontage roads, ramps, and soundwalls would result in a somewhat more developed visual character along the highway and in portions of Carpinteria. The overall visual character, however, would remain suburban and would likely be consistent with viewers' expectations for the highway/community context. Aesthetic treatments to structures and new landscaping are expected to reduce noticeability of many of the project features as well as integrate the project into the adjacent community.

The changes proposed by this project, when experienced along with the other recent or planned projects in the area, would result in an overall alteration of visual quality along the Route 101 corridor. The visibility of this project would contribute to an emerging perception that the Route 101 corridor is undergoing a visual change from suburban to urban. Each of the project alternatives would contribute to a cumulative increase in the overall built character of the highway corridor and in limited areas of the adjacent community.

Most of the Route 101 corridor through southern Santa Barbara County is in the coastal zone. It is expected that highway projects in the coastal zone would be consistent with the high aesthetic values described in the California Coastal Act. Consistency with these values would reduce the cumulative adverse effect of projects along Route 101 through southern Santa Barbara County.

Farmlands

From 1984 to 2004, changes in Santa Barbara County agricultural land vary by soil classification or land use category as used by the California Department of Conservation. Prime farmland has remained stable with a net increase of 28 hectares (71 acres). Farmland of statewide importance and unique farmland have each increased by 2,993 and 5,412 hectares (7,395 and 13,373 acres), respectively. Contrasted to this is the decrease in farmland of local importance –5,081 hectares (-12,556 acres) and grazing land –7,440 hectares (-18,385 acres).

Some of the change in land use is attributed to changes between agricultural land types, that is, from prime to unique or grazing land to statewide importance. This is typically accomplished by either improvements in irrigation or changes in the way a product is grown such as open field irrigation to nursery green house or potted plants. In other instances, change is attributed to conversion to non-agricultural use. Over the past 20 years, then, a net decrease of 4,088 hectares (10,102 acres), or 1.38% of inventoried agricultural land has occurred.

From 1994 to 2004, a total of 1,634 hectares (4,038 acres) of important farmland was committed to non-agricultural use. A total of 466 hectares (1,151 acres) of prime farmland was converted to urban or built-up lands. This project would convert 2.1 hectares (5.2 acres) of prime farmland use as highway and local roads. This represents 0.45% of prime farmland converted within the last 10 years, 0.05% of agricultural land change within the last 20 years, and 0.007% of existing prime farmland. No cumulative impacts to farmlands are anticipated due to the trend within Santa Barbara County of maintaining a stable prime farmland inventory and the small amount of farmland conversion that would occur with this project.

Natural Communities

Riparian Habitat

Potential cumulative impacts to the riparian vegetation of Carpinteria Creek include the Santa Barbara County Flood Control District 2008/2009 Annual Maintenance Plan (a plan that is updated yearly since 1992). The 2008/2009 Annual Maintenance

Plan includes the removal of downed and/or flow-obstructing riparian vegetation, and the use of herbicide applications that target any vegetation that trap sediments, obstruct flows, or reduce conveyances. The Santa Barbara County Flood Control District Routine Maintenance Program on Carpinteria Creek begins work just downstream of Casitas Pass Road and terminates in the vicinity of 6th Street in the City of Carpinteria.

In addition, Caltrans is currently studying the South Coast 101 High Occupancy Vehicle Project (a project to widen the existing four lanes to six lanes by adding a High Occupancy Vehicle lane in each direction from kilometer posts 3.2 to 19.8 (2.0 to 12.3 miles) that may also affect riparian habitat in the same area.

Avoidance, Minimization, and/or Mitigation Measures

No cumulatively considerable impacts have been identified. Avoidance, minimization, and mitigation measures that would be implemented with the project for all above-named resources would help to mitigate cumulative impacts, however, small, incremental changes would still occur.

Chapter 3 California Environmental Quality Act Evaluation

3.1 Determining Significance under the California Environmental Quality Act

The proposed project is a joint project by the California Department of Transportation (Caltrans) and the Federal Highway Administration and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act and the National Environmental Policy Act. The Federal Highway Administration's responsibility for environmental review, consultation, and any other action required in accordance with the National Environmental Policy Act and other applicable federal laws for this project is being, or has been, carried out by Caltrans under its assumption of responsibility pursuant to 23 US Code 327. Caltrans is the lead agency under the California Environmental Quality Act and the National Environmental Policy Act.

One of the main differences between the National Environmental Policy Act and the California Environmental Quality Act is the way significance is determined.

Under the National Environmental Policy Act, significance is used to determine whether an Environmental Impact Statement, or some lower level of documentation, will be required. The National Environmental Policy Act requires that an Environmental Impact Statement be prepared when the proposed federal action (project) *as a whole* has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. Some impacts determined to be significant under the California Environmental Quality Act may not be of sufficient magnitude to be determined significant under the National Environmental Policy Act.

Under the National Environmental Policy Act, once a decision is made regarding the need for an Environmental Impact Statement, it is the magnitude of the impact that is evaluated and no judgment of its individual significance is deemed important for the text. The National Environmental Policy Act does not require that a determination of significant impacts be stated in the environmental documents.

The California Environmental Quality Act, on the other hand, does require Caltrans to identify each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an Environmental Impact Report must be prepared. Each significant effect on the environment must be disclosed in the Environmental Impact Report and mitigated if feasible.

In addition, the California Environmental Quality Act Guidelines list a number of mandatory findings of significance, which also require the preparation of an Environmental Impact Report. There are no types of actions under the National Environmental Policy Act that parallel the findings of mandatory significance under the California Environmental Quality Act. This chapter discusses the effects of this project and California Environmental Quality Act significance.

3.2 Discussion of Significant Impacts

See Chapter 2 for a discussion of affected environments, potential impacts, and avoidance, minimization and/or mitigation measures. Chapter 3 discusses the impacts addressed in Chapter 2 that fall under the jurisdiction of the California Environmental Quality Act.

3.2.1 Less than Significant Effects of the Proposed Project

Farmland: For purposes of the California Environmental Quality Act, the impact would be considered less than significant. This is due to the low rating on the Farmland Conversion Impact Rating Form (see Table 2.5), the relatively small amount of farmland that would be converted, and the location of the farmland in a highly urbanized area.

Geology and Soils: The project would be constructed to seismic standards to minimize impacts of liquefaction and seismic activity.

Hazards and Hazardous Materials: Two contaminated sites near the project limits have been identified, neither of which would affect the project construction.

Mineral Resources: When balancing energy used during construction and operation against energy saved by relieving congestion and other transportation efficiencies, the project would not have substantial energy impacts. No other mineral resources would be affected by the project.

Population and Housing: The project would require the demolition of one residence and the relocation of the inhabitants of that residence.

Public Services: The project would not require additional public services. The project would enhance access by emergency services to neighborhoods within the project limits.

Recreation: The project would change access to the Carpinteria Creek Park.

Transportation and Traffic: The project would change traffic patterns and improve level of service within the project limits.

Utility and Service Systems: The project would use approximately 6 acre-feet of water per year for three years after the completion of construction to support landscape planting.

Hydrology and Water Quality: The project would remove an obstruction to water flow from Carpinteria Creek, allowing the full 100-year flow to pass. For more information, see Hydrology and Floodplain Section 2.2.1.

Noise: *Special note about noise*: When determining whether a noise impact is significant under CEQA, comparison is made between the existing noise level and the future (design year) noise level. The CEQA noise analysis is completely independent of the NEPA-23 CFR 772 analysis discussed in Chapter 2, which is centered on noise abatement criteria. Under CEQA, 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. Under CEQA, a significant impact occurs when the design year noise levels (20 years after construction of the project) increase by 12 or more decibels over existing noise levels.

The existing noise level at Receptor 1 is 65 dBA; the predicted noise level under all build alternatives is 69 dBA. This 4-dBA increase between existing noise levels and the build alternative would be barely perceptible to the human ear. Therefore, under CEQA, no significant noise impact would occur as a result of the project and no mitigation is required. However, under NEPA/23 CFR 772, because the noise levels at this receptor would approach or exceed the noise abatement criteria of 67 dBA, noise abatement would need to be considered.

The existing noise level at Receptor 2 is 73 dBA; the predicted noise level under all build alternatives is 76 dBA. This 3-dBA increase between existing noise levels and the build alternative would be barely perceptible to the human ear. Therefore, under CEQA, no significant noise impact would occur as a result of the project and no mitigation is required. However, under NEPA/23 CFR 772, because the noise levels at this receptor already approach or exceed the noise abatement criteria of 67 dBA, noise abatement would need to be considered.

The existing noise level at Receptor 3 is 66 dBA; the predicted noise level under all build alternatives is 73 dBA. This 5-dBA increase between existing noise levels and the build alternative would be perceptible to the human ear. However, under CEQA, no significant noise impact (12 dBA or more) would occur as a result of the project and no mitigation is required. However, under NEPA/23 CFR 772, because the noise levels at this receptor would approach or exceed the noise abatement criteria of 67 dBA, noise abatement would need to be considered.

The existing noise level at Receptor 4 is 68 dBA; the predicted noise level under all build alternatives is 75 dBA. This 7-dBA increase between existing noise levels and the build alternative would be perceptible to the human ear. However, under CEQA, no significant noise impact (12 dBA or more) would occur as a result of the project and no mitigation is required. However, under NEPA/23 CFR 772, because the noise levels at this receptor already approach or exceed the noise abatement criteria of 67 dBA, noise abatement would need to be considered.

The existing noise level at Receptor 5 is 73 dBA; the predicted noise level under all build alternatives is 80 dBA. This 7-dBA increase between existing noise levels and the build alternative would be perceptible to the human ear. However, under CEQA, no significant noise impact (12 dBA or more) would occur as a result of the project and no mitigation is required. However, under NEPA/23 CFR 772, because the noise levels at this receptor already approach or exceed the noise abatement criteria of 67 dBA, noise abatement would need to be considered.

The existing noise level at Receptor 6 is 72 dBA; the predicted noise level under all build alternatives is 78 dBA. This 6-dBA increase between existing noise levels and the build alternative would be perceptible to the human ear. However, under CEQA, no significant noise impact (12 dBA or more) would occur as a result of the project and no mitigation is required. However, under NEPA/23 CFR 772, because the noise

levels at this receptor already approach or exceed the noise abatement criteria of 67 dBA, noise abatement would need to be considered.

The existing noise level at Receptor 7 is 71 dBA; the predicted noise level under all build alternatives is 77 dBA. This 6-dBA increase between existing noise levels and the build alternative would be perceptible to the human ear. However, under CEQA, no significant noise impact (12 dBA or more) would occur as a result of the project and no mitigation is required. However, under NEPA/23 CFR 772, because the noise levels at this receptor already approach or exceed the noise abatement criteria of 67 dBA, noise abatement would need to be considered.

The existing noise level at Receptor 8 is 64 dBA; the predicted noise level under all build alternatives is 67 dBA. This 3-dBA increase between existing noise levels and the build alternative would be perceptible to the human ear. Therefore, under CEQA, no significant noise impact would occur as a result of the project and no mitigation is required. However, under NEPA/23 CFR 772, because the noise levels at this receptor already approach or exceed the noise abatement criteria of 67 dBA, noise abatement would need to be considered.

The existing noise level at Receptor 9 is 64 dBA; the predicted noise level under all build alternatives is 67 dBA. This 3-dBA increase between existing noise levels and the build alternative would be barely perceptible to the human ear. Therefore, under CEQA, no significant noise impact would occur as a result of the project and no mitigation is required. However, under NEPA/23 CFR 772, because the noise levels at this receptor already approach or exceed the noise abatement criteria of 67 dBA, noise abatement would need to be considered.

The existing noise level at Receptor 10 is 65 dBA; the predicted noise level under all build alternatives is 69 dBA. This 4-dBA increase between existing noise levels and the build alternative would be barely perceptible to the human ear. Therefore, under CEQA, no significant noise impact would occur as a result of the project and no mitigation is required. However, under NEPA/23 CFR 772, because the noise levels at this receptor already approach or exceed the noise abatement criteria of 67 dBA, noise abatement would need to be considered.

The existing noise level at Receptor 11 is 61 dBA; the predicted noise level under all build alternatives is 66 dBA. This 5-dBA increase between existing noise levels and the build alternative would be perceptible to the human ear. However, under CEQA, no significant noise impact (12 dBA or more) would occur as a result of the project

and no mitigation is required. However, under NEPA/23 CFR 772, because the noise levels at this receptor already approach or exceed the noise abatement criteria of 67 dBA, noise abatement would need to be considered.

The existing noise level at Receptor 12 is 68 dBA; the predicted noise level under all build alternatives is 75 dBA. This 7-dBA increase between existing noise levels and the build alternative would be perceptible to the human ear. However, under CEQA, no significant noise impact (12 dBA or more) would occur as a result of the project and no mitigation is required. However, under NEPA/23 CFR 772, because the noise levels at this receptor already approach or exceed the noise abatement criteria of 67 dBA, noise abatement would need to be considered.

The existing noise level at Receptor 13 is 66 dBA; the predicted noise level under all build alternatives is 69 dBA. This 3-dBA increase between existing noise levels and the build alternative would be barely perceptible to the human ear. Therefore, under CEQA, no significant noise impact would occur as a result of the project and no mitigation is required. However, under NEPA/23 CFR 772, because the noise levels at this receptor already approach or exceed the noise abatement criteria of 67 dBA, noise abatement would need to be considered.

The existing noise level at Receptor 14 is 65 dBA; the predicted noise level under all build alternatives is 64 dBA. This 1-dBA decrease between existing noise levels and the build alternative would be barely perceptible to the human ear. The decrease in noise levels would be due to the extension of Via Real acting like a noise attenuator, due to its raised elevation. Under CEQA, no significant noise impact would occur as a result of the project and no mitigation would be required.

The existing noise level at Receptor 15 is 62 dBA; the predicted noise level under all build alternatives is 64 dBA. This 2-dBA increase between existing noise levels and the build alternative would be barely perceptible to the human ear. Therefore, under CEQA, no significant noise impact would occur as a result of the project and no mitigation would be required.

The existing noise level at Receptor 16 is 70 dBA; the predicted noise level under all build alternatives is 77 dBA. This 7-dBA increase between existing noise levels and the build alternative would be perceptible to the human ear. However, under CEQA, no significant noise impact (12 dBA or more) would occur as a result of the project and no mitigation is required. However, under NEPA/23 CFR 772, because the noise

levels at this receptor already approach or exceed the noise abatement criteria of 67 dBA, noise abatement would need to be considered.

The existing noise level at Receptor 17 is 65 dBA; the predicted noise level under all build alternatives is 61 dBA. This 4-dBA decrease between existing noise levels and the build alternative would be perceptible to the human ear. The decrease in noise levels would be due to the extension of Via Real acting like a noise attenuator, due to its raised elevation. Under CEQA, no significant noise impact would occur as a result of the project and no mitigation would be required.

The existing noise level at Receptor 18 is 76 dBA; the predicted noise level under all build alternatives is 81 dBA. This 5-dBA increase between existing noise levels and the build alternative would be perceptible to the human ear. However, under CEQA, no significant noise impact (12 dBA or more) would occur as a result of the project and no mitigation is required. However, under NEPA/23 CFR 772, because the noise levels at this receptor already approach or exceed the noise abatement criteria of 67 dBA, noise abatement would need to be considered.

3.2.2 Significant Environmental Effects of the Proposed Project

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

Visual/Aesthetics: Scenic vistas of the mountains would be impaired due to the placement of soundwalls. The existing visual character and quality of the project area would also be diminished due to the placement of soundwalls and the greater urbanization of the project area due to larger overcrossings, bridges, and the extension of Via Real. New lighting along the extension of Via Real would adversely affect nighttime views. For more information, see the Visual/Aesthetics Section 2.1.6.

Biological Resources: The project would have an impact on riparian habitat and federally protected wetlands. The removal of oak trees potentially conflicts with the City of Carpinteria's Local Coastal Plan (Policy OSC-7a). For more information, see the Biological Environment Section 2.3 and the State and Local Policy Analysis Appendix E.

The City of Carpenteria Local Coastal Program does not contain an exception to the required 30.5-meter (100-foot) minimum setback along the upland limits of all wetlands. Therefore, the project would need a Coastal Land Use Plan Amendment.

Construction Impacts

Biology: Due to creek dewatering, the project could have an impact on migratory fish (steelhead trout). Dewatering during construction could have an adverse effect on special-status species (tidewater goby and steelhead trout). For more information, see Biological Environment Section 2.3.

Air Quality: The project would add to particulate matter less than 10 microns in size and ozone during construction. For more information, see Air Quality Section 2.2.6.

3.2.3 Unavoidable Significant Environmental Effects

There are no significant impacts after mitigation.

3.2.4 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[9] 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 pro-active 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.

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this order is to reduce California's greenhouse gas (GHG) emissions to: 1) 2000 levels by 2010, 2) 1990 levels by the 2020 and 3) 80% 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 ARB 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 further directs state agencies to begin implementing Assembly Bill 32, including the recommendations made by the state's Climate Action Team.

[9] Greenhouse gases related to human activity, as identified in AB 32, include: Carbon dioxide, Methane, Nitrous oxide, Tetrafluoromethane, Hexafluoroethane, Sulfur hexafluoride, HFC-23, HFC-134a*, and HFC-152a*.

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

Climate change and GHG reduction is also a concern at the federal level; at this time, no legislation or regulations have been enacted specifically addressing GHG emissions reductions and climate change. However, California, in conjunction with several environmental organizations and several other states, sued to force the U.S. Environmental Protection Agency (EPA) to regulate GHGs as a pollutant under the Clean Air Act (*Massachusetts vs. Environmental Protection Agency et al.,* U.S. Supreme Court No. 05–1120. 549 U.S. _____. Argued November 29, 2006—Decided April 2, 2007). The court ruled that GHGs do fit within the Clean Air Act's definition of a pollutant, and that EPA does have the authority to regulate GHGS. Despite the Supreme Court ruling, there are no promulgated federal regulations to date limiting greenhouse gas emissions

Affected Environment

According to a recent white paper by the Association of Environmental Professionals[10], "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.

The Department and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98% of California's GHG emissions are from the burning of fossil fuels and 40% of all human made GHG emissions are from transportation, the Department has created and is implementing the *Climate Action Program at Caltrans* (December 2006). Transportation's contribution to GHG emissions is dependent on 3 factors: the types of vehicles on the road, the type of fuel the vehicles use, and the time/distance the vehicles travel.

One of the main strategies in the Department's Climate Action Program to reduce GHG emissions is to make California's transportation system more efficient. The highest levels of carbon dioxide from mobile sources, such as automobiles, occur at

[10] Hendrix, Micheal and Wilson, Cori. *Recommendations by the Association of Environmental Professionals (AEP) on How to Analyze Greenhouse Gas Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), p. 2.

stop-and-go speeds (0-25 miles per hour) and speeds over 55 miles per hour; the most severe emissions occur from 0-25 miles per hour (see figure below). Relieving congestion by enhancing operations and improving travel times in high congestion travel corridors will lead to an overall reduction in GHG emissions.

The project lies in the South Central Coast Air Basin, which is classified as "in attainment/unclassified" for all current federal air quality standards and in non-attainment for state standards for PM_{10} and ozone. No criteria exist at this time for greenhouse gases.

Environmental Consequences

The project would involve both construction and operational emissions of greenhouse gases, primarily in the form of carbon dioxide. There is currently a lack of regulatory guidance for assessing how a project could *affect* climate change or *be affected by* climate change. Similarly, there are as yet no established quantitative significance thresholds for potential global warming impacts due to highway work.

The Department recognizes the concern that carbon dioxide emissions raise for climate change. However, accurate modeling of GHG emissions levels, including carbon dioxide at the project level, at the project level is not currently possible. No federal, state or regional regulatory agency has provided methodology or criteria for GHG emission and climate change impact analysis. Therefore, the Department 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

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

- Caltrans Standard Specification Provisions restricts idling time for lane closure during construction to 10 minutes in each direction; in addition, the contractor must comply with Santa Barbara County Air Pollution Control District's rules, ordinances, and regulations in regard to air quality restrictions.
- The project would incorporate energy efficient light emitting diode (LED) traffic signals. High-pressure sodium lighting is planned at this time for other applications however testing is underway to determine if light emitting diode lighting is also feasible for other project applications.

- Crossing the highway is currently difficult on foot or bicycle. Sidewalks and bicycle lanes on both sides of both overcrossings would be built with this project to help facilitate pedestrian or bicycle use.

Generally speaking, the overall benefits of landscaping and erosion control work would be expected to outweigh their detriments with respect to energy use or climate change. Trees sequester atmospheric carbon to create beneficial greenhouse gases sinks. Tree canopy also creates a drop in paved surface temperatures through shade and the cooling effect of water as it evaporates into the air from leaves through transpiration. Vegetation increases the amount of vapor in the air and rainwater retained in a location resulting in a cooling effect as well as increasing groundwater recharge.

- The proposed project would be designed to minimize removal of existing trees, especially mature trees. The proposed project would overlap existing road surfaces or would remove existing pavement that is no longer needed and would re-vegetate those surfaces thus helping to maintain the carbon sequestration potential of the project site.
- Disturbed areas would be planted with a variety of native and drought tolerant trees and shrubs in ratios sufficient to replace the air quality and cooling benefits of trees removed by construction of the project. Additional trees would be planted as space allows to further increase those benefits. Street trees would be planted from large size containers to accelerate reestablishment of the greenhouse gas sink and to shade the pavement. Riparian planting would also be included to maintain shade along creek corridors.
- Slopes, drainage channels, and other disturbed areas would be seeded with native and drought tolerant shrubs, perennials and grasses.

The proposed project would include measures to reduce potential project contributions to greenhouse gas emissions and energy use. To the extent that it is applicable or feasible the following measures would be incorporated into the project:

- Use of non-chlorinated High Density Polyethylene irrigation crossover conduit.
- Application of compost and soil amendments derived from waste materials.
- Use of fiber produced from recycled pulp such as newspaper, chipboard, cardboard.

- Application of wood mulch made from green waste and/or clean manufactured or natural wood.
- Use of irrigation controllers with water conservation features such as flow monitoring and seasonal scheduling adjustments, which can detect leaks, identify broken sprinkler heads, and reduce over watering.
- Restricted pesticide use and reduction goals.
- The concrete mix used for the project would incorporate fly ash to the maximum extent allowable (currently 35%).

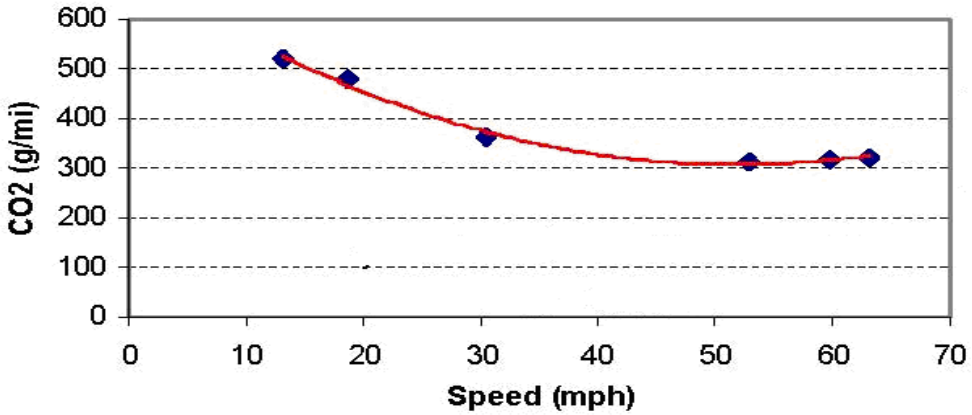
The State of California maintains several websites, which provide public information on measures to improve renewable energy use, energy efficiency, water conservation and efficiency, land use and landscape maintenance, solid waste measures, and transportation alternatives.

The Department continues to be actively involved on the Governor's Climate Action Team as ARB works to implement AB 1493 and AB 32. As part of the *Climate Action Program at Caltrans* (December 2006), the Department is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high density housing along transit corridors. The Department is working closely with local jurisdictions on planning activities; however, the Department does not have local land use planning authority. The Department is also supporting efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light and heavy-duty trucks. However it is important to note that the control of the fuel economy standards is held by the United States Environmental Protection Agency and ARB. Lastly, the use of alternative fuels is also being considered; the Department is participating in funding for alternative fuel research at the University of California Davis.

One of the main strategies in the Department's 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 (0-40 kilometers per hour or 0-25 miles per hour) and speeds over 88 kilometers per hour (55 miles per hour); the most severe emissions occur from 0-40 kilometers (0-25 miles per hour) (see Figure 3.1). Relieving congestion by enhancing operations and improving travel times in high

congestion travel corridors will lead to an overall reduction in greenhouse gas emissions.

Figure 3.1 Fleet CO2 Emissions vs. Speed (Highway)



Source: Center for Clean Air Policy (http://www.ccap.org/Presentations/Winkelman.pdf)

Caltrans continues to be actively involved on the Governor's Climate Action Team as ARB works to implement AB 1493 and help achieve the targets set forth in Assembly Bill 32. Many of the strategies Caltrans is using to help meet the targets in Assembly Bill 32 come from the California Strategic Growth Plan, which is updated each year. Governor Arnold Schwarzenegger's Strategic Growth Plan calls for a $222 billion infrastructure improvement program to fortify the state's transportation system, education, housing, and waterways, including $107 in transportation funding during the next decade.

As shown in Figure 3.2, the Strategic Growth Plan targets a significant decrease in traffic congestion below today's level and a corresponding reduction in greenhouse gas emissions. The Strategic Growth Plan proposes to do this while accommodating growth in population and the economy. A suite of investment options has been created that combined together yield the promised reduction in congestion. The Strategic Growth Plan relies on a complete systems approach of a variety of strategies: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements.

Figure 3.2 Outcome of Strategic Growth Plan

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, developing transit-oriented communities, and high density housing along transit corridors. Caltrans is working closely with local jurisdictions on planning activities; however, Caltrans does not have local land use planning authority.

Caltrans is also supporting efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light and heavy-duty trucks. However, it is important to note that the control of the fuel economy standards is held by the U.S. Environmental Protection Agency and Air Resource Board. Lastly, the use of alternative fuels is also being considered; the Department is participating in funding for alternative fuel research at the University of California at Davis.

Table 3.1 summarizes Caltrans' and statewide efforts that Caltrans is implementing in order to reduce greenhouse gas emissions. For more detailed information about each strategy, please see *Climate Action Program at Caltrans(December 2006);* it is available at http://www.dot.ca.gov/docs/ClimateReport.pdf

Table 3.1 Climate Change Strategies

Strategy	Program	Partnership		Method/Process	Estimated CO2 Savings (MMT)	
		Lead	Agency		2010	2020
Smart Land Use	Intergovernmental Review (IGR)	Caltrans	Local Governments	Review and seek to mitigate development proposals	Not Estimated	Not Estimate d
	Planning Grants	Caltrans	Local and regional agencies & other stakeholders	Competitive selection process	Not Estimated	Not Estimated
	Regional Plans and Blueprint Planning	Regional Agencies	Caltrans	Regional plans and application process	0.975	7.8
Operational Improvements & Intelligent Trans. System (ITS) Deployment	Strategic Growth Plan	Caltrans	Regions	State ITS; Congestion Management Plan	.007	2.17
Mainstream Energy & Greenhouse Gas into Plans and Projects	Office of Policy Analysis & Research; Division of Environmental Analysis	Interdepartmental effort		Policy establishment, guidelines, technical assistance	Not Estimated	Not Estimated
Educational & Information Program	Office of Policy Analysis & Research	Interdepartmental, CalEPA, CARB, CEC		Analytical report, data collection, publication, workshops, outreach	Not Estimated	Not Estimated
Fleet Greening & Fuel Diversification	Division of Equipment	Department of General Services		Fleet Replacement B20 B100	0.0045	0.0065 0.45 .0225
Non-vehicular Conservation Measures	Energy Conservation Program	Green Action Team		Energy Conservation Opportunities	0.117	.34
Portland Cement	Office of Rigid Pavement	Cement and Construction Industries		2.5 % limestone cement mix 25% fly ash cement mix > 50% fly ash/slag mix	1.2 .36	3.6
Goods Movement	Office of Goods Movement	Cal EPA, CARB, BT&H, MPOs		Goods Movement Action Plan	Not Estimated	Not Estimated
Total					2.72	18.67

3.3 Mitigation Measures for Significant Impacts under the California Environmental Quality Act

Visual

To maintain the visual quality of Carpinteria and the Route 101 corridor and to provide a project consistent with community visual resource objectives, the following actions are recommended:

1. To the greatest extent possible, final determination of state right-of-way needs shall include sufficient area for landscaping, determined in conjunction with the Caltrans District Landscape Architect.

2. The project shall include replacement planting to the greatest extent possible, including but not limited to:

- Trees shall be planted at the bridge abutments at Casitas Pass Road and Linden Avenue overcrossings, and at the Via Real/Carpinteria Creek bridges to soften the presence of the structures.
- Street trees shall be included along all new local roads. Street trees shall be clustered as necessary to maintain views to the Santa Ynez Mountains as seen from public areas.
- Additional planting shall be included along Via Real in the vicinity of the "Ogan property" to visually screen the property from the new roadway. Specific planting design shall be determined in conjunction with the Caltrans District Cultural Resources specialist.
- Native vegetation planting shall be included in the vicinity of the Via Real/Carpinteria Creek bridges and the bicycle paths to help visually integrate the project with the natural setting and the Carpinteria Creek Park.

3. Appropriate safe and maintainable planting shall be included in the center of the roundabout proposed with Alternative 3.

4. Aesthetic treatments and design shall be incorporated into all new bridge structures, for example: texturized surfaces, architectural relief, and color application.

5. The Route 101/Carpinteria Creek bridges and the Via Real/Carpinteria Creek bridges shall include open-style bridge rails.

6. Aesthetic treatment (for example split-face blocks, textures, and colors) and safe, maintainable planting opportunities shall be incorporated into all proposed retaining walls and soundwalls.

7. Any existing median planting removed or damaged as part of the project shall be replaced in the median, to the greatest extent possible.

8. All areas where existing ramps and other roadways are removed shall be made suitable for planting. All paving and base material shall be removed, the earth shall be ripped or scarified, and topsoil placed.

9. All new lighting in the vicinity of the residential neighborhoods north of Route 101 shall minimize excess light and glare by careful placement of the poles, height and position of luminaires, the use of full cut-off lenses where feasible, and other measures.

10. To the greatest extent possible, integrate and/or relocate the elements of the Traffic Management System (TMS) project (EA 480620, expected to be constructed before this project) into this project, with the goal of reducing noticeability of poles and vertical elements.

11. During the Coastal Development Permit application phase of the project, Caltrans shall work with the City of Carpinteria's Architectural Review Committee, using the Santa Barbara County Highway 101 Design Guidelines, and applicable Caltrans design guidance, so that to the greatest extent feasible the project is consistent with City of Carpinteria aesthetic goals.

All new lighting in the vicinity of the residential neighborhoods north of Route 101 shall minimize excess light and glare by careful placement of the poles, height and position of luminaires, the use of cut-off lenses where feasible, and other measures.

Biological Resources

Natural Communities

- Replacement planting of riparian habitat would be at a 3:1 ratio.

- Removal of an existing stand of invasive giant reed on the north bank of Carpinteria Creek would be included in the project.

- Oak replacement plantings would be at a 10:1 ratio for each oak tree removed.

- Tree and vegetation removal would be limited to September 1 through February 28 to avoid nesting birds.
- A 15- to 30-meter (50- to 100-foot) buffer area would be delineated in the field to protect nesting migratory birds during construction.

Wetlands and Other Waters

Wetlands would be replaced at a 3:1 ratio, or in-lieu fees paid to a local project that would improve wetlands at Franklin Creek or the Carpinteria Salt Marsh.

Steelhead Trout, Southern California Evolutionary Significant Unit

During the project development process, it was concluded that the removal of the existing concrete low-flow bike and pedestrian crossing on Carpinteria Creek would be included as an avoidance and minimization feature of each build alternative. Removal of the existing crossing would clear the channel of a potential movement barrier and return this portion of the creek to a natural channel bottom condition, which would benefit both the steelhead trout and tidewater goby.

The following additional avoidance and minimization measures would be incorporated into each build alternative:

- A 3:1 ratio replacement of all riparian vegetation to be removed during construction is required for all project alternatives.
- An existing stand of a non-native invasive giant reed (*Arundo donax)* would be removed from Carpinteria Creek.
- Construction within or adjacent to Carpinteria Creek would only take place during low flow conditions between May 1 and October 31 to avoid affecting migrating steelhead trout.
- Fish passage would be maintained during construction by providing a flexible pipe culvert of adequate size to facilitate fish passage.
- Following water diversion installation, any remaining fish within the area to be dewatered would be removed using a seine and dip nets. Any steelhead trout encountered during the seining of the dewatered area would be relocated to a suitable location in Carpinteria Creek.

- Disturbance of riparian vegetation and jurisdictional waters shall be minimized by identifying environmentally sensitive areas with fencing. Soils disturbed by the project shall be hydroseeded or planted with native species.

- Creek beds and banks will be graded to pre-construction conditions or to resemble natural terrain.

- Due to the extensive avoidance and minimization efforts, additional compensatory mitigation measures would not be required.

Tidewater Goby

During the project development process it was concluded that the removal of the existing concrete low-flow bike and pedestrian crossing on Carpinteria Creek would be included as an avoidance and minimization feature of each build alternative. The removal of the existing crossing would clear the channel of a potential movement barrier and return this portion of the creek to a natural channel bottom condition which would benefit both steelhead and tidewater goby.

Additional avoidance and minimization measures include:

- A 3:1 ratio for replanting of all removed riparian vegetation and the removal of non-native invasive plant species such as giant reed (Arundo donax).

- All work activities within and adjacent to Carpinteria Creek shall be completed outside of the primary breeding season to reduce the potential harassment and mortality of tidewater gobies. The window of work for construction within or adjacent to Carpinteria Creek and Franklin Creek would be during the low flow period between May 1 and October 31.

- Only qualified personnel authorized under a biological opinion shall participate in activities associated with the capture, handling, and relocation of tidewater gobies. The names and credentials of personnel who would conduct these activities shall be supplied to the U.S. Fish and Wildlife Service for review and approval at least 15 days prior to the onset of these activities.

- If water is to be pumped around work sites, intakes shall be completely screened with wire mesh not larger than 5 millimeters (0.2 inch) to prevent tidewater gobies from entering the pump system.

- If present during the de-watering effort, as many tidewater gobies as possible shall be removed prior to draining the site. After barriers are constructed, tidewater gobies shall be captured, transported in buckets, and released in the most appropriate habitat immediately adjacent to the de-watered area. If a beach seine is used, it shall be pulled to shore in a deliberate manner with care being taken to avoid rolling the lead line inward. The number of tidewater gobies shall be estimated prior to release. All debris and aquatic and emergent vegetation in the pumped area shall be carefully inspected for tidewater gobies and other vertebrates. As the work site is dewatered, remaining pools shall be inspected for tidewater gobies. As many individuals as possible shall be captured using dip nets and other appropriate tools and moved as described above. Handling time for tidewater gobies shall be minimized to the maximum extent practicable.

- In work areas that have been dewatered, water above the barrier shall be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, the barriers to flow shall be removed in a manner that would allow flow to resume with the least disturbance to the substrate.

- Fish passage would be maintained during and after construction.

- All disturbance to potential tidewater goby habitat including riparian vegetation and jurisdictional waters shall be minimized with the use of environmentally sensitive area fencing and all soil exposed as a result of the project shall be revegetated using native hydroseeding or live planting methods.

- If the substrate of the stream is altered during work activities, it shall be graded or otherwise treated to preconstruction conditions or better after the work is completed.

Invasive Species

To assist with controlling the spread of invasive plants, weeds would be removed in the area of direct impact, and all remaining topsoil that was full of weed seeds would either be removed from the area or buried (due to the presence of a high quantity of weed seeds). Measures to control invasive exotic plants long term shall also be implemented.

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 will not use species on the California List of Noxious Weeds http://ucce.ucdavis.edu/files/filelibrary/5319/4893.pdf. Measures to control invasive exotic plants shall be implemented according to the Caltrans landscape architect's recommendations. Exotic and invasive weeds such as ice plant, kikuyu grass, fennel, pampas grass, fountain grass and other assorted invasive plants that are listed as "most invasive" on the list will be removed within the area of direct impact and topsoil will not be used in any revegetation areas due to the presence of a high quantity of weed seeds.

After construction is complete, all soil surfaces remaining would be revegetated with native plants suitable for the area.

Compensatory mitigation is not proposed for invasive plant removal and control; it is part of the avoidance and minimization efforts for the project.

Construction Impacts

Utilities/Emergency Services

Before and during construction, all utilities in conflict with the proposed project would be relocated.

Advanced coordination between Caltrans and Carpinteria public safety officials would ensure that services are not disrupted. Accurate pre-construction utility location would be required in conjunction with service providers to avoid accidental disruption of any utility service.

Traffic and Transportation/Pedestrian and Bicycle Facilities

A traffic management plan would be developed for the project. Detour routes would be provided for all full closures.

The Traffic Management Plan for this project may include the following items:

- Public Awareness Campaign: Flyers, brochures, pres releases, web site, and advertising as required informing travelers of the project.
- Construction Zone Enhanced Enforcement Plan (COZEEP): Additional California Highway Patrol would be assigned to the construction zone during peak travel times, to ensure construction zone safety.

- Temporary facilities such as changeable message signs and ramp detours to provide notice of road closures, detours and other pertinent information.
- Temporary access to residences and/or businesses would be provided as necessary.
- The project contract specifications would require that emergency services be notified before any required roadway or highway lane closures.
- The maintenance of traffic and sequencing of construction would be planned and scheduled to minimize traffic delays.
- When ramps are closed, detour signs would direct traffic to the nearest available ramp.
- Alternative bicycle and pedestrian routes would be identified and demarcated throughout construction.

Cultural Resources

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

State Health and Safety Code Section 7050.5 states that, if human remains are discovered, further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the County Coroner shall be 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, which would then notify the Most Likely Descendent. At this time, the person who discovered the remains would contact Terry Joslin, who would work with the Most Likely Descendent on the respectful treatment and disposition of the remains. Further provisions of Public Resources Code 5097.98 would be followed as applicable.

Water Quality and Stormwater Runoff

Standard stormwater best management practices would be used during and after construction of the project to control potential discharges of pollutants to surface water. Work in the creek bed would be performed during the dry season. A stream diversion may be necessary if the creek is flowing during construction.

Paleontology

Though the potential to find sensitive paleontological remains in low sensitivity formations, the following statement shall be included in the resident engineer's file:

If any vertebrate or plant fossils are discovered during construction, it is required that construction be halted in the immediate vicinity (33-foot radius) of the discovery, until the District Paleontology Coordinator has the opportunity to review the find.

Remediation of any sensitive resources encountered before or during construction may include removal, preparation, and curation of any significant finds.

Hazardous Waste

Any contaminated soil identified with the proposed project would be transferred to an appropriate disposal site during construction. All procedures governing the handling or disposal of hazardous waste shall be in accordance with the appropriate regulatory agencies. California regulatory criteria for determining whether excavated soils are to be classified as hazardous waste for disposal purposes based on their metal content are contained in the California Code of Regulations, Title 22, Division 4.5, Chapter 11, Article 3, Section 66261.24.

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) require the contractor to comply with the more stringent of local, or state rules, regulations, and ordinances regarding air quality (Government Code 11017). Section 10 of the Standard Specifications regulates dust control. California Health and Safety Code requires the contractor to keep visible dust from blowing offsite.

Most of the construction impacts to air quality are short-term in duration and, therefore, would not result in adverse or long-term conditions. Implementation of the following measures would reduce any air quality impacts resulting from construction activities:

1. Apply water or dust palliative to the site and equipment as frequently as necessary to control fugitive dust emissions.
2. Spread soil binder on any unpaved roads used for construction purposes and on all project construction parking areas.

3. Wash trucks off as they leave the right-of-way as necessary to control fugitive dust emissions.
4. Properly tune and maintain construction equipment and vehicles. Use low sulfur fuel in all construction equipment as provided in California Code of Regulations Title 17, Section 93114.
5. Develop a special dust control plan documenting sprinkling, temporary paving, speed limits, and expedited revegetation of disturbed slopes as needed to minimize construction impacts to existing communities.
6. Locate equipment and materials storage sites as far away from residential and park uses as practical. Keep construction areas clean and orderly.
7. To the extent feasible, establish Environmentally Sensitive Areas for sensitive air receptors (e.g., schools, parks, adult and child care facilities) within which extended idling of diesel equipment would be restricted.
8. Use track-out reduction measures such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic.
9. Cover all transported loads of soils and wet materials prior to transport, or provide adequate freeboard (space from the top of the material to the top of the truck) to reduce PM_{10} and deposition of particulate during transportation.
10. Remove dust and mud that are deposited on paved, public roads due to construction activity and traffic to decrease particulate matter.
11. To the extent feasible, route and schedule construction traffic to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.
12. Install mulch or plant vegetation as soon as practical after grading to reduce windblown particulate in the area.

Noise

Caltrans Standard Specifications (May 2007, Chapter 7 101I Noise Control) that are applicable on all state highway construction projects require that the contractor "… comply with all local sound control and noise level rules, regulations, and ordinances which apply to any work performed pursuant to the contract. Each internal combustion engine, used for any purpose on the job or related to the job, shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion shall be operated on the job site without the muffler."

Advanced Notice: The resident engineer shall notify the District 5 Public Information office to place notice of the proposed project in local news media in advance of construction. The notice will give estimated dates of construction and mention potential noise impacts.

Construction Schedule: Whenever possible, schedule the noisiest operations during the daylight or early evening hours.

Early Construction of Sound Barriers: In cases where sound barriers are required to be installed with the project, and where the barriers would not interfere with construction, construction of the barriers prior to project construction is recommended.

Public Relations: A telephone shall be installed in the resident engineer's office to receive noise complaints. The telephone number shall be publicized in local newspapers, and by letter to residences near the construction area.

Temporary Sound Barriers: When necessary and warranted, temporary noise barriers shall be installed to mitigate construction noise, dust, glare, and visual impacts.

Natural Communities

To ensure that all potential impacts to biological resources are avoided and/or minimized, and due to the long lead-time until construction, pre-construction surveys for special-status species (both plants and animals) must be conducted by a qualified Caltrans biologist or designee. Surveys would be conducted about one year before construction, during the appropriate survey season.

The number of access routes, size of staging areas, and the total area of the activity shall be limited to the minimum necessary to safely construct this project. All access would be restricted to the existing roads and designated temporary access areas.

Environmentally sensitive area fencing would be installed to limit construction activities and protect biological habitats of concern. Proposed environmentally sensitive area fencing would be established at all wetland and riparian areas and all areas that exhibit good wildlife habitat potential, to avoid and minimize any potential impacts to biological resources.

Special Provisions for installation of environmentally sensitive area fencing shall also be included in the Construction Contract and shown on Project Plans and Layout Sheets. Routes and boundaries shall be clearly delineated in the field with

environmentally sensitive area fencing to minimize activities adjacent to biological resources, including drainages, wetlands and/or native plant communities. All environmentally sensitive area fencing delineated in the field must be approved by the project biologist prior to beginning any construction activities, including vehicle storage. In advance of construction, the resident engineer would contact Lisa Schicker, Caltrans Biologist, (805-549-3628), Caltrans Construction Environmental Liaison George Sistek (805-549-3487) or Caltrans Environmental Planning Supervisor Chuck Cesena (549-3622).

All oaks and native plants that would remain in the project vicinity would be delineated on the plans and fenced in the field as environmentally sensitive areas, to protect and preserve them during construction.

Wetlands and Other Waters

Environmentally sensitive area fencing to prevent damage to areas where no construction would be necessary shall be delineated on all plans and installed in the field prior to construction.

Riparian wetland and wetland areas are regulated under the jurisdiction of the both the California Coastal Commission (through Carpinteria City Local Coastal Program and the Coastal Act) and the U.S. Army Corps of Engineers. To reduce/minimize and compensate for any possible direct or indirect impacts to the wetland areas adjacent to the area of direct impact during construction, the following measures shall be followed:

- Adjacent wetlands shall be fenced off as an environmentally sensitive area with either environmentally sensitive area fencing or silt fencing, depending on the proximity of the work area to the wetlands and the drainage. The project biologist must be contacted prior to beginning any activities in this area to approve the environmentally sensitive area in the field.

- Dewatering of the creeks and the Caltrans' drainage channel leading to Franklin Creek would only take place during the low flow summer months, from May 1 through October 31. Water would be diverted around the work sites using the same method for both creeks. Sandbags and filter fabric would be used to form a cofferdam just upstream of the work sites. The water would be diverted in a flexible pipe culvert of adequate size to facilitate fish passage. Following construction, the channel bottom of Carpinteria Creek would be restored to a natural channel bottom and to its original elevation.

- Following construction within Franklin Creek for Alternatives 1 and 4, the channel would be cleaned of any debris and left in its current condition. On completion of construction activities on both creeks, the materials for dewatering would be removed in a manner that would allow flow to resume with the least disturbance to the substrate.

- If a work site were to be temporarily dewatered by diversion, pumping and treating, intakes shall be completely screened with wire mesh not larger than five millimeters (0.2 inch) to prevent all aquatic wildlife from entering the pump system. Water shall be released or pumped to an appropriate location at a rate to maintain downstream flows during construction. On completion of construction activities, any barriers to flow shall be removed in a manner that would allow flow to resume with the least disturbance to the substrate.

- All refueling and maintenance of equipment and vehicles shall be at least 18 meter (60 feet) from any aquatic habitat, wetland area, or any water body. The contractor shall ensure contamination of habitat does not occur during such operations. All workers shall be informed of the importance of preventing spills of fuels and of the appropriate measures to take should a spill occur.

- Prior to the onset of work, the Army Corps of Engineers shall ensure that the permittee has prepared a plan to allow a prompt and effective response to any accidental spills around aquatic habitats. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

- During construction, all trash that may attract predators shall be properly contained, removed from the work site and disposed of regularly. Following construction, all trash and construction debris shall be removed from work areas.

- All construction activities shall be completed in accordance with Caltrans National Pollution Discharge Elimination System Permit, the General Construction Permit and Caltrans Statewide Stormwater Management Plan.

- To protect all adjacent biological habitats of concern (including willow riparian wetlands and native vegetation areas) and for all exposed soils and drainage repair areas during and after construction, Caltrans shall implement best management practices, as identified by the Central Coast Regional Water

Quality Control Board. These best management practices would be implemented to minimize or eliminate the potential for a non-stormwater discharge. Construction site best management practices would be addressed in detail in the Storm Water Pollution Control Plan that would be developed for the project site.

Animal Species

General avoidance and minimization measures, such as the use of environmentally sensitive area fencing and exclusion would reduce excavation, grading and disturbance of natural habitat areas, which would minimize impacts to wildlife.

Animal Species (Migratory Birds)

Provisions would be incorporated into the project to address specific protection measures for migratory birds before, during, and after construction. Tree and vegetation removal would be limited to September 1 through February 28 to avoid nesting and raising young. Preconstruction surveys would be conducted to determine if nesting is occurring within or adjacent to the project limits. Delineation on the construction plans and installation of environmentally sensitive area fencing in the field would be required. A 15- to 30-meter (50- to 100-foot) buffer area would be identified and delineated on the plans and in the field to protect nesting migratory birds during construction.

Barn swallows are also protected under the Migratory Bird Treaty Act, and have been observed nesting under the bridges within the area of direct impact. If necessary, special measures can be taken before the breeding season to ensure that swallows and other migratory birds do not nest in the area of direct impact during project construction.

- All habitat used by migratory birds that would be removed to construct the project should be removed from September 1- February 28, before the migratory season begins.

- Preconstruction surveys should be conducted for presence/absence for active nests of birds that are protected under the Migratory Bird Treaty Act one year before the period of construction, during the nesting season (March 1- August 31).

- Bird netting may be used to limit or restrict use of the bridges during the nesting season (March 1–August 31). If necessary to install bird netting, it shall be installed before nesting season.

- Special Provisions to address migratory and nesting bird protection shall be included with the Project Plans and Specifications.

The area of direct impact includes all temporary construction access areas and routes, vehicle and equipment storage areas, and staging areas.

Threatened and Endangered Species

General avoidance and minimization measures for threatened and endangered species are as follows:

- Preconstruction surveys for special-status wildlife would be re-conducted by the Caltrans biologist (or designee) for all species known to occur in the project vicinity about two weeks before beginning construction.

- If any additional federal listed species were found during the preconstruction surveys, the project would cease until formal Section 7 consultation between Caltrans and the U.S. Fish and Wildlife Service were completed.

- If any state special-status species were found during the preconstruction surveys, the project would cease until consultation between Caltrans and the Department of Fish and Game is completed.

- Before the start of construction, the resident engineer shall notify Lisa Schicker, Biologist, at 805-549-3628.

- If any special-status species are found in the area of direct impact during construction and then after any and all required consultations with agencies have occurred, the Caltrans biologist or designee shall be present at the construction site until such time as removal of all special-status species has occurred and all instruction has been given to the workers.

- A Biological/Environmental Monitor would be present onsite during construction activities that may affect special-status species and/or migratory birds. This includes drilling and blasting for the construction of piers and abutments for new bridges and soundwalls and any associated dewatering activities.

- The Caltrans resident engineer, in consultation with the biologist and/or Environmental Monitor shall have the authority to halt any action that might result in impacts that exceed the anticipated levels of impact that were determined during agency review (by Caltrans, Army Corps of Engineers, California Department of Fish and Game, California Coastal Commission and/or U.S. Fish and Wildlife Service) of the proposed actions. If work were stopped, these same regulatory agencies shall be notified immediately by the biologist or Environmental Monitor.

Steelhead Trout, Southern California Evolutionary Significant Unit and Tidewater Goby

The following avoidance and minimization measures would be incorporated into each build alternative:

- Before construction begins, Caltrans would have obtained a Biological Opinion from the U.S. Fish and Wildlife Service for special-status tidewater goby and a Biological Opinion from National Oceanic and Atmospheric Administration Fisheries for special-status steelhead as required by the Endangered Species Act, Formal Consultation process under Endangered Species Act Section 7. Caltrans would adhere to all agreements made in the Biological Opinion.

- Construction within or adjacent to Carpinteria Creek would take place only during low flow between May 1 and October 31 to avoid affecting migrating steelhead trout.

- Fish passage would be maintained during construction through a flexible pipe culvert of adequate size to facilitate fish passage.

- Following water diversion installation, any remaining fish in the area to be dewatered would be removed using a seine and dip nets. Any steelhead trout or tidewater goby encountered during the seining of the dewatered area would be relocated to a suitable location in Carpinteria Creek.

- All disturbance to riparian vegetation and jurisdictional waters shall be minimized with the use of environmentally sensitive area fencing, and all soil exposed as a result of the project shall be re-vegetated using native hydroseeding, or live planting methods.

- In work areas that have been dewatered, water above the barrier shall be released or pumped downstream at an appropriate rate to maintain downstream flows during construction.

- Upon completion of construction activities, the barriers to flow shall be removed in a manner that would allow flow to resume with the least disturbance to the substrate.

- If the substrate of the stream is altered during work activities, it shall be graded or otherwise treated to preconstruction conditions or better after the work is completed.

- Onsite Wildlife Identification Training would be conducted before construction begins. A Caltrans biologist (or designee) would conduct a training session for all construction personnel before any construction activities begin. The training session shall include a description of all special-status species known to occur in the project vicinity (tidewater goby and steelhead). The biologist would discuss their habitats, their importance and general measures being implemented to conserve these species as they relate to the project boundaries. Brochures, photographs, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.

- The Environmental Monitor/biologist would monitor all aquatic activity during construction to insure compliance with conditions found in the Biological Opinions. If the monitor observes abnormal activities or behaviors, she/he would ask the resident engineer to cease all activities until the U.S. Fish and Wildlife Service and National Oceanic and Atmospheric Administration could be consulted and additional avoidance and minimization measures are put in place.

- Caltrans shall restore the contour, slope and surrounding area of the creek bed to preconstruction conditions or better.

Additional Avoidance and Minimization Measures for Tidewater Goby

- All work activities within and adjacent to Carpinteria Creek shall be completed outside of the primary breeding season to reduce the potential harassment and mortality of tidewater goby. The window of work for

construction within or adjacent to Carpinteria Creek and Franklin Creek would be during the low flow period between May 1 and October 31.

- Only qualified personnel authorized under a biological opinion shall participate in activities associated with the capture, handling, and relocation of tidewater goby. The names and credentials of personnel who desire to conduct these activities shall be supplied to the U.S. Fish and Wildlife Service for the review and approval at least 15 day before the onset of these activities.

- If water is to be pumped around work sites, intakes shall be completely screened with wire mesh not larger than five millimeters to prevent tidewater goby from entering the pump system.

- During the dewatering effort, if present, as many tidewater goby as possible shall be removed prior to draining the site. After barriers are constructed, tidewater goby shall be captured, transported in buckets, and released in the most appropriate habitat immediately adjacent to the de-watered area. If a beach seine is used, it shall be pulled to shore in a deliberate manner with care being taken to avoid rolling the lead line inward. The number of tidewater gobies shall be estimated prior to release. All debris and aquatic and emergent vegetation in the pumped area shall be carefully inspected for tidewater goby and other vertebrates. As the work site is dewatered, remaining pools shall be inspected for tidewater goby. As many individuals as possible shall be captured using dip nets and other appropriate tools and moved as described above. Handling time for tidewater goby shall be minimized to the maximum extent practicable.

- All disturbance to potential tidewater goby habitat including riparian vegetation and jurisdictional waters shall be minimized with the use of environmentally sensitive area fencing and all soil exposed as a result of the project shall be revegetated using native hydroseeding or live planting methods.

Vibration

Vibration sensitivity zones resulting from pile driving, structure demolition, and pavement breaking are divided into 18-meter (60-foot), 30-meter (100-foot), and 90-meter (300-foot) intervals. These are shown in Figure 2.14.

To reduce the effects of construction vibration, the following measures are recommended:

- Individually notify residents within 90 meters (300 feet) of areas where pile driving and pavement breaking would take place at least two weeks in advance of the proposed activity. Residents may wish to secure fragile items that could be broken by shaking.
- Arrange motel rooms for residents living within 30 meter (100 feet) of the proposed activity when protracted vibrations in excess of the threshold are expected at their residence during hours that they are normally asleep.[11]
- Conduct a photo or video survey of susceptible areas in advance of the potentially damaging construction work. Such activities would occur along the northbound Linden Avenue on-ramp, Ogan Road, Via Real (near the Verizon Switching Center), and residences near the intersection of Sawyer and Holly Lane.
- Monitor and record peak particle velocities near the sensitive receptors while the highest vibration-producing activities are taking place.
- Use vibratory pile driving when soil and other conditions are favorable for employment of this method. Pre-drill pile-holes, or use cast in drill hole or cast in steel shell piles when feasible.
- Use rubber tires instead of tracked vehicles near vibration-sensitive areas.
- Assure that night joints and bridge conforms are as smooth as possible, especially where there is heavy truck traffic near residences.
- Perform activities most likely to propagate objectionable vibrations during the day, or at least before most residents retire for the night.

[11] Refer to Table 1 that shows the level at which continuous vibrations can disturb an individual's sleep, and Table 4 that shows the residences that are anticipated to be within the 100-foot zone.

- Pavement breaking shall be restricted to daylight hours.
- Nighttime demolition work shall be limited to removal of the Linden Avenue and Casitas Pass Road overcrossings.
- All pile driving shall be done during daylight hours.

Chapter 4 Comments and Coordination

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

Public Meetings

The City of Carpinteria, Santa Barbara County Association of Governments, and Caltrans jointly held public meetings/workshops at various times during the development of the project:

- Introductory Meeting, 6:30-8:00 p.m. on Tuesday, September 29, 2000
- Public Information Meeting/Open House, 4:00-8:00 p.m. on Tuesday, July 8, 2003
- Public Information Meeting/Open House, 5:30-8:00 p.m. on Wednesday, May 7, 2008

All three evening meetings were held in the Carpinteria City Council Chambers at 5775 Carpinteria Avenue in Carpinteria. The meetings were publicly noticed in newspaper advertisements and press releases, and announced through direct mailing lists.

Displays and handouts at the meeting described the project components, alternatives being studied, potential impacts, project schedule and funding, and the environmental process, including opportunities for public input. The meetings included formal presentations by project staff representing the three sponsor agencies, a question and answer session, opportunity for public comment, and informal contact with various staff with expertise on subjects such as roadway design, right-of-way, traffic analysis, flooding/drainage, hazardous waste, and environmental analysis. The May 7, 2008 meeting was reported in the local newspaper.

In addition, a special joint meeting of the City Council, Planning Commission, and Architectural Review Board was held at 5:30 p.m. on Monday, May 21, 2007 to present the project alternatives, results of the completed traffic study, project schedule and funding. This meeting was open to the public and televised.

Web-based Information

The following websites have provided continuously updated information for the project:

- Caltrans: http://www.dot.ca.gov/dist05/projects/linden_casitas/index.htm
- City of Carpinteria: http://www.ci.carpinteria.ca.us/public_works/index.shtml

The Santa Barbara County Association of Governments has also included project information on its website, but that page is currently inactive.

Results of the Public Participation Process

The public information meetings were well attended: 83 visitors attended on July 8, 2003 and 30 visitors attended on May 7, 2008. Various issues were discussed, including freeway noise, the right-of-way process, traffic operations and speeds, flooding, and facilities for bikes and pedestrians. Informal public comment was received via microphone and comment cards.

Resource Agency Meetings

Meetings with the appropriate resource agencies took place on various dates as detailed below:

- A meeting with Bridget Fahey and Katie Drexhage of the U.S. Fish and Wildlife Service occurred at the project location on November 21, 2002. During the meeting, it was concluded that formal consultation under Section 7 of the Endangered Species Act for potential incidental take of tidewater gobies would be required with the U.S. Fish and Wildlife Service following the selection of a preferred alternative. Minimization measures will be incorporated into the project to reduce the potential take of the tidewater goby.

  The meeting also discussed potential for project impacts to other special-status species. It was discussed and determined that the project would have no effect on the western snowy plover, the southwestern willow flycatcher, the least bell's vireo, the light-footed clapper rail, the California red-legged frog, or the

salt marsh bird's-beak or Gambel's watercress. The "not likely to adversely affect" determination was based on habitat assessments for each species.

- A meeting with Stan Glowacki of the National Oceanic and Atmospheric Administration Fisheries (NOAAF) occurred on November 26, 2002 at the project location. The project build alternatives as proposed would require formal consultation under Section 7 of the Endangered Species Act with the National Oceanic and Atmospheric Administration Fisheries for potential incidental take of southern California steelhead trout, again after a preferred alternative was selected. Work for this project in and adjacent to the creek will have a window of work from May 1 to October 31 to avoid potential effects to migrating steelhead trout. The National Oceanic and Atmospheric Administration Fisheries agreed that the overall project would be a benefit to steelhead trout.

- A meeting with Trudy Ingram of the California Department of Fish and Game occurred on November 20, 2002 at the project location. It was concluded that the project's riparian vegetation removal would need to be conducted from September 1 to February 28 to avoid potential effects to nesting migratory birds. Replanting for riparian vegetation impacts would be conducted at a 3:1 ratio onsite. The California Department of Fish and Game also agreed that the overall project would benefit southern California steelhead trout and that a 1602 streambed alternation agreement would be required for work in and adjacent to Carpinteria and Franklin Creeks.

- A meeting with Susan DeSaddi of the U.S. Army Corps of Engineers occurred on December 11, 2002 at the project location. The Section 404 Clean Water Act permitting process was discussed, and it was concluded at that time that the project would most likely fit under the Nationwide Permit program and that additional design detail would be needed to facilitate the final permit.

- A meeting with Lisa Schicker and Lara Bertaina of Caltrans, with Theresa Stevens of the U.S. Army Corps of Engineers occurred on August 27, 2008 at the project location to discuss the project and recent changes to the project. Also discussed were changes to wetlands policies including Jurisdictional Wetland Determinations and permitting requirements due to the Rapanos legal decisions. Ms. Stevens was unable to recommend a permit type, and she recommended that Caltrans request a pre-application permit meeting with

U.S. Army Corps of Engineers, once the preferred alternative has been selected.

Later in the project development process, additional design detail indicated that bank stabilization features below the ordinary high water mark of Carpinteria Creek, which may require the need for an Individual Permit, as detailed in the 2007 Regional Conditions for the Los Angeles District of the U.S. Army Corps of Engineers.

- Contact was made with Dave Compton and Karen Bridgers of the Santa Barbara Chapter of the Audubon Society in November 2002. This contact was made to confirm the habitat assessment that was made for the western snowy plover, the southwestern willow flycatcher, the least Bell's vireo, and the light-footed clapper rail. Both Mr. Compton and Ms. Bridgers, local birding experts, confirmed that the project area or areas adjacent did not represent nesting habitat for these species. There are no known records of these species nesting along Carpinteria Creek.

- A meeting with Lisa Schicker and Bill Arkfeld of Caltrans and Betty Songer and Bob Hansen of the Carpinteria Creek Watershed Coalition occurred at Franklin Creek on August 4, 2008 to discuss potential impacts and mitigation ideas.

Chapter 5 List of Preparers

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

Arkfeld, William. Transportation Engineer. B.S., Environmental Engineering, Humboldt State University; 21 years experience in regulatory, water quality, and hazardous waste. Contribution: Prepared the Water Quality Assessment.

Bertaina, Lara. Associate Environmental Planner. B.A., Environmental Studies and Planning; 2 years local planning, 3 years environmental analysis. Contribution: Environmental Impact Report/Environmental Assessment preparation and analysis. Environmental coordination.

Bhana, Kari. Transportation Engineer, Registered Professional Engineer. B.S., Civil Engineering, California Polytechnic State University, San Luis Obispo; 8 years experience in highway design and construction. Contribution: Project Engineer.

Carr, Robert. Associate Landscape Architect. B.S., Landscape Architecture, California Polytechnic State University, San Luis Obispo; 20 years experience preparing Visual Impact Assessments. Contribution: Prepared the Visual Impact Assessment.

De Llamas, Zeke. PE, Transportation Engineer. California Polytechnic State University, San Luis Obispo; 15 years transportation engineering experience. Contribution: Prepared the Preliminary Geotechnical Recommendation Report.

Joslin, Terry L. Archaeologist. Ph.C., Anthropology, University of California, Santa Barbara; 15 years of experience in archaeological studies in California, the Northern Channel Islands, and the Great Basin. Contribution: Prepared Archaeological Survey Report, Historic Properties Survey Report, and conducted the Native American coordination for the project.

Levulett, Valerie A., Senior Environmental Planner. PhD Anthropology, University of California, Davis; 38 years experience in cultural resource studies and environmental analysis. Contribution: Oversight of technical reports (air, noise, water, hazardous waste, and cultural resources).

MacDonald, Christina. Staff Archaeologist/Associate Environmental Planner. M.A., Cultural Resources Management, Sonoma State University; 10 years of experience in California Prehistoric and Historic Archaeology. Contribution: Prepared a Supplemental Historic Properties Survey Report.

Mills, Wayne. Transportation Engineer. B.A., Earth Science, California State University, Fullerton; B.A., Social Science, San Diego State University; 24 years air quality, noise, water quality, and paleontology studies experience. Contribution: Prepared Air Quality, Noise, and Paleontology Technical Reports.

Schicker, Lisa. Biologist/Arborist. B.A., Biology, MLA Landscape Architecture/ Environmental Management; more than 25 years experience in Environmental Planning/Biological Studies. Contribution: Prepared the Final Natural Environment Study.

Tkach, James. Transportation Engineer. B.S., Soil Science, California Polytechnic State University, San Luis Obispo; Certificate in Hazardous Materials Management, University of California, Santa Barbara; Registered Environmental Assessor; 7 years experience in project design and construction, 18 years experience in hazardous waste management. Contribution: Prepared the Initial Site Assessment and coordinated the Site Investigation Report.

Watkins, Gordon E. B.S., Urban Land Economics, California State University, Fresno; 10 years experience in Relocation Impact Documents and Estimates. Contribution: Prepared the 2008 Draft Relocation Impact Document.

Wickham, Wendelyn. P.E., Civil Engineer. MS Civil Engineering, 18 years at Caltrans Hydraulics / Floodplain Studies. Contribution: Prepared the Location Hydraulic Study and the Floodplain Evaluation Report and Summary.

Chapter 6 Distribution List

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Melissa Nimmer	5296 El Carro Lane, Caprinteria, CA 93013
Marcus Priest	5030 Pacific Village Drive, Carpinteria, CA 93013

Agency Name	Mailing Address
City of Carpinteria	5775 Carpinteria Avenue, Carpinteria, CA 93013
County of Santa Barbara	105 East Anapamu Street, Room 105, Santa Barbara, CA 93101
County of Ventura	800 South Victoria Ave., Ventura, CA 93009
County of San Luis Obispo	1055 Monterey Street, San Luis Obispo, CA 93408
US Fish & Wildlife Service	2493 Portola Road, Suite B, Ventura, CA 93003
National Marine Fisheries Service, Southwest Regional Office	501 West Ocean Blvd., Long Beach, CA 90802-4213
California Department of Fish & Game	1234 E. Shaw Avenue, Fresno, CA 93710
Santa Barbara Flood Control Agency	123 East Anapamu Street, Santa Barbara, CA 93101
Santa Barbara County Association of Governments	260 North San Antonio Road, Suite B, Santa Barbara, CA 93110
Los Angeles District, U.S. Army Corps of Engineers, Regulatory Division	915 Wilshire Blvd Los Angeles, CA 90017-3401
Central Coast Regional Water Quality Control Board	895 Aerovista Place, Suite 101, San Luis Obispo, CA 93401
Federal Highway Administration	650 Capitol Mall, Suite 4200, Sacramento, CA 95814
California Coastal Commission	89 South California Street, Suite 200, Ventura, CA 93001-2801
California Coastal Conservancy	13th Floor, 1330 Broadway, Oakland, CA 94612
California Transportation Commission	1120 N Street Room 2221 (MS-52), Sacramento, CA 95814
Santa Barbara County Air Pollution Control District	260 North San Antonio Road, Suite A, Santa Barbara, CA 93110

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 Environmental Impact Report/Environmental Assessment. Documentation of “No Impact” determinations is provided at the beginning of Chapter 2. Except for noise, discussion of all impacts, avoidance, minimization, and/or mitigation measures is under the appropriate topic headings in Chapter 2. Noise impacts under the California Environmental Quality Act are discussed in Chapter 3.

	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 that 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 that, 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 that 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 US 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 US Fish and Wildlife Service?		X		
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?		X		
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?		X		
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?		X		

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X
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:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			X	
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?				X
b) Result in substantial soil erosion or the loss of topsoil?			X	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?			X	

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.				X
e) Have soils incapable of adequately supporting the use of septic tanks or alternative 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	

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X
HYDROLOGY AND WATER QUALITY - Would the project:				
a) Violate any water quality standards or waste discharge requirements?			X	
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level 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

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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) Result in inundation by a seiche, tsunami, or mudflow?			X	
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	

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				X
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	

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
Parks?			X	
Other public facilities?			X	
RECREATION -				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			X	
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?				X
TRANSPORTATION/TRAFFIC - Would the project:				
a) Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?			X	
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?			X	
c) Result in a change in air traffic patters, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or 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

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			X	
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			X	
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?			X	
e) Result in 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, 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 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 C Summary of Relocation Benefits

California Department 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 price and rental rates of available housing. Non-residential displacees would receive information on comparable properties for lease or purchase.

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

Residential Relocation Payments Program

For more information or a brochure on the residential relocation program, please contact Lara Bertaina at lara.bertaina@dot.ca.gov, (805) 542-4610 or 50 Higuera Street, San Luis Obispo, CA 93402.

The brochure on the residential relocation program is also available in English at http://www.dot.ca.gov/hq/row/pubs/residential_english.pdf and in Spanish at http://www.dot.ca.gov/hq/row/pubs/residential_spanish.pdf.

If you own or rent a mobile home that may be moved or acquired by Caltrans, a relocation brochure is available in English at http://www.dot.ca.gov/hq/row/pubs/mobile_eng.pdf and in Spanish at http://www.dot.ca.gov/hq/row/pubs/mobile_sp.pdf.

The Business and Farm Relocation Assistance Program

For more information or a brochure on the relocation of a business or farm, please contact Lara Bertaina at lara.Bertaina@dot.ca.gov (805) 542-4610 or 50 Higuera Street, San Luis Obispo, CA 93401.

The brochure on the business relocation program is also available in English at http://www.dot.ca.gov/hq/row/pubs/business_farm.pdf and in Spanish at http://www.dot.ca.gov/hq/row/pubs/business_sp.pdf.

ADDITIONAL INFORMATION

No relocation payment received would be considered as income for the purpose of the Internal Revenue Code of 1954 or for the purposes of determining eligibility or the extent of eligibility of any person for assistance under the Social Security Act or any other federal law (except for any federal law providing low-income housing assistance).

Persons who are eligible for relocation payments and who are legally occupying the property required for the project would not be asked to move without being given at least 90 days advance notice, in writing. Occupants of any type of dwelling eligible for relocation payments would not be required to move unless at least one comparable "decent, safe, and sanitary" replacement residence, open to all persons regardless of race, color, religion, sex, or national origin, is available or has been made available to them by the state.

Any person, business, farm, or non-profit organization, which has been refused a relocation payment by Caltrans, or believes that the payments are inadequate, may appeal for a hearing before a hearing officer or 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,
Central Region Relocation Chief, Barbie Barnes
855 M Street
Fresno, CA 93721

Appendix D Minimization and/or Mitigation Summary

Section Number Reference & Resource	Minimization and Mitigation Commitments
2.1.1 Land Use	Minimization measures include designing ramp geometrics, which meet minimum design standards and aligning the Via Real extension as close to Route 101.
2.1.1.4 Parks and Recreation	Bicycle and pedestrian detours clearly marked during the construction.
	Mitigation New public access to the park would be provided from the proposed extension of Via Real. The Class I bicycle path would be replaced with an Americans with Disabilities Act compliant bicycle path.
2.1.3.1 Relocations	Mitigation Adequate replacement housing available to relocate all permanently displaced residents within the community.
2.2.2 Water Quality	Riparian Shade Canopies planted along creeks. Cut and fill slopes would be 1.5:1 or flatter to minimize erosion.
2.2.7 Noise	Abatement for this project includes: Caltrans intends to incorporate noise abatement in the form of sound barriers at nine locations. The proposed sound barriers vary in height from 8 feet to 12 feet. Most of the proposed barriers would be 12 feet tall.
2.3.1 Natural Communities	Caltrans will comply with regulatory agencies' recommendations. All oaks and native plants that will remain in the project vicinity would be delineated on the plans and fenced in the field as environmentally sensitive areas. To comply with the Migratory bird treaty act, a 15.2- to 30.5-meter (50.0- to 100.0-foot) buffer area would be identified and delineated on the plans and in the field.

	<u>Mitigation</u> Re-vegetation would occur in disturbed areas. Replacement ratios for Riparian trees >10 cm dbh (4 inches) will be 3:1, Oaks >10 cm dbh (4 inches) will follow a 10:1 ratio, and all other natural community trees and shrubs would be replaced 3:1 (acreage) Both riparian and oaks will have a three-year plant establishment period.
2.3.2 Wetlands and other Waters	Plants that would be removed due to channel improvements shall be collected and relocated to a suitable area. The project will incorporate environmentally sensitive area fencing; dewatering would be restricted to summer months; cofferdam constructed.
	<u>Mitigation</u> Wetland impacts would be mitigated at a 3:1 ratio (acreage). Restoration of 145-square-meters (1,560 square-feet) of Jurisdictional Waters of the U.S. will be applied.
2.3.4 Animal Species	Caltrans will comply with regulatory agencies' recommendations In coordination with the project's biologist, Environmentally Sensitive Area fencing will be installed prior to beginning construction and in depicted in the final design layout plans.
2.3.5 Threatened and Endangered Species	*Steelhead Trout, Southern California Evolutionary Significant Unit:* Caltrans will comply with regulatory agencies' recommendations. Fish passage maintained during construction. Steelhead trout, and native fish, within the area to be dewatered would be removed and relocated. Soil exposed as a result of the project shall be re-vegetated using native hydroseeding, or live planting methods. Caltrans shall restore the contour, slope and surrounding area of the creek bed to pre-construction conditions or better.

	Mitigation: Steelhead Trout The removal of the at-grade concrete bike and pedestrian crossing over Carpinteria Creek to create a free-flowing and natural channel bottom. A 3:1 replacement ratio for all riparian vegetation. An existing stand of a non-native invasive plant species, Arundo donax, or giant reed in Carpinteria Creek would be removed.
	Permits Section 7 Endangered Species Consultation from U.S. Fish and Wildlife Service and National Oceanic and Atmospheric Administration Fisheries. National Pollution Discharge Elimination System Permit from State Water Resources Control Board.
2.3.5 Threatened and Endangered Species	*Tidewater Goby:* Caltrans will comply with regulatory agencies' recommendations. Intakes shall be completely screened with wire mesh no larger than 5 millimeters. Approved fish removal and relocation techniques shall be implemented. Upon completion of construction activities, the barriers to flow shall be removed in a manner that would allow flow to resume with the least disturbance to the substrate. Fish passage would be maintained during and after construction. In coordination with the project's biologist, Environmentally Sensitive Area fencing will be installed prior to beginning construction and in depicted in the final design layout plans. Caltrans shall restore the contour, slope and surrounding area of the creek bed to pre-construction conditions or better.

	<u>Mitigation: Tidewater Goby</u> Removal of the at-grade concrete bike and pedestrian crossing over Carpinteria Creek to create a free-flowing and natural channel bottom. A 3:1 ratio for replanting of all removed riparian. An existing stand of a non-native invasive plant species, Arundo donax, or giant reed in Carpinteria Creek would be removed.
2.3.6 Invasive Species	In compliance with the Executive Order on Invasive Species, Executive Order 13112, and subsequent guidance from the Federal Highway Administration, the landscaping and erosion control included in the project would not use species listed as noxious weeds. In areas of particular sensitivity, extra precautions would be taken if invasive species were found in or adjacent to the construction areas. These include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur.
3.3 Visual/ Aesthetics	The project will be reviewed by the City's Architectural Review Board as part of the Coastal Development Permit Process. All new lighting in the vicinity of the residential neighborhoods north of Route 101 will be minimized for excess light and glare.

	<u>Mitigation</u> Sufficient area designated for landscaping. Landscape will be included at retaining walls, soundwalls, roundabouts, and medians. Aesthetic treatments and design shall be integrated into all new bridge structures. Trees shall be planted at the bridge abutments. Street trees shall be included along all new local roads. Planting shall be included along Via Real in the vicinity of the "Ogan property." Native vegetation planting shall be included in the vicinity of the Via Real/Carpinteria Creek bridge and the bicycle paths. The Route 101/Carpinteria Creek bridges and the Via Real/Carpinteria Creek bridge shall include open-style bridge rail. Any existing median planting removed or damaged as part of the project shall be replaced in the median, to the greatest extent possible. All paving and base material will be removed, the earth shall be ripped or scarified, and topsoil placed and made ready for planting. Project shall not install yellow barrel-type crash cushion end treatments.

3.4 Construction Impacts	*Natural Communities:* The number of access routes, size of staging areas, and total area of activity shall be limited to the minimum. *Wetlands and Other Waters*: Compliance with California Coastal Commission and the U.S. Army Corps of Engineers; Environmentally sensitive area fencing; silt fencing; dewatering restricted to summer months; use of cofferdam; restoration to natural channel bottom; projects will incorporate best management practices and abide by Storm Water Pollution Control Plan. *Animal Species*: use of environmentally sensitive area fencing. *Migratory Birds:* habitat removed before migratory season begins; use of bird netting. *Threatened and Endangered Species:* Biologist present; Biologist shall have the authority to halt action. • *Steelhead Trout, Southern California Evolutionary Significant Unit and Tidewater Goby:* Fish passage maintained during construction; use of environmentally sensitive area; dewatered fish would be removed and relocated; maintain downstream flow; Wildlife Identification Training; Caltrans shall restore the contour, slope and surrounding area of the creek bed to pre-construction conditions or better. • *Additional minimization for Tidewater Goby*: Work conducted outside primary breeding season; Approved fish removal and relocation techniques shall be implemented; environmentally sensitive area fencing; revegetated using native hydroseeding. *Hazardous Waste:* Any contaminated soil identified with the proposed project would be transferred to an appropriate disposal site during construction. All procedures governing the handling or disposal of hazardous waste shall be in accordance with the appropriate regulatory agencies. California regulatory criteria for determining whether excavated soils are to be classified as hazardous waste for disposal purposes based on their metal content are contained in the California Code of Regulations, Title 22, Division 4.5, Chapter 11, Article 3, Section 66261.24.

	Paleontology: Because there still exists the potential to find sensitive paleontological remains in low sensitivity formations, the following statement shall be included in the Resident Engineer's Instructions: If any vertebrate or plant fossils are discovered during construction, it is required that construction be halted in the immediate vicinity (33-foot radius) of the discovery, until the District Paleontology Coordinator has the opportunity to review the find. Remediation of any sensitive resources encountered before or during construction may include removal, preparation, and curation of any significant finds. *Utilities and/or Emergency Services:* A Traffic Management Plan will be developed for the proposed project. Detour routes would be provided for all full closures. A Public Awareness Campaign will be developed. *Cultural Resources:* If cultural materials were discovered during construction, all earth-moving activity within and around the immediate discovery area would be diverted until a qualified archaeologist could assess the nature and significance of the find. • State Health and Safety Code Section 7050.5 states that, if human remains are discovered, further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the County Coroner shall be contacted. • Pursuant to Public Resources Code Section 5097.98 *Traffic and Transportation/ Pedestrian and Bicycle Facilities:* A Traffic Management Plan will be developed to accommodate local traffic patterns and reduce delays, congestions, and collisions. Detour routes would be provided for all full closures. The Traffic Management Plan will include: Public Awareness Campaign: Flyers, brochures, press releases, web site, and advertising as required informing travelers of the project. Construction Zone Enhanced Enforcement Plan (COZEEP); Additional California Highway Other strategies: Temporary facilities such as changeable message signs and ramp.

3.4 Construction Impacts	*Vibrations:* Notify residents two weeks prior to pile driving Use of vibratory pile driving when available. Use rubber-tired vehicles. Maintenance of night joints and bridge conforms. Restrict severe vibration activities to daylight hours as much as possible. Nighttime demolition work limited to overcrossings. Arrange motel rooms for residents living within 100 feet of the proposed activity when protracted vibrations in excess of the threshold are expected at their residence during hours that they are normally asleep. *Water Quality:* The project will apply Water Treatment Best Management Practices, along with Caltrans' Stormwater Best Management Plan and stormwater design guidance. Work in the creek bed would be performed during the dry season. Contractor shall acquire SWPPP. *Geology and Soils:* At Linden Avenue, it is likely a fill delay period and/or a fill surcharge would be required before placement of the bridge piles and the pavement structural section. Geosynthetic reinforcement required for slope angles to 1:1.5. The project will incorporate a revegetation program, including irrigation required on both cut and fill slopes. *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) require the contractor to comply with the more stringent of local, or state rules, regulations, and ordinances regarding air quality (Government Code 11017). Section 10 of the Standard Specifications regulates dust control. California Health and Safety Code requires the contractor to keep visible dust from blowing off site. Most of the construction impacts to air quality are short-term in duration and, therefore, would not result in adverse or long-term conditions. Implementation of the following measures would reduce any air quality impacts resulting from construction activities: • Apply water or dust palliative to the site and equipment. • Spread soil binder on any unpaved roads and on all project construction parking areas. • Wash trucks off. • Properly tune and maintain construction equipment and vehicles. Use low sulfur fuel in all construction equipment.

	• Develop a dust control plan. • Locate equipment and materials storage sites as far away from residential and park uses as practical. Keep construction areas clean and orderly. • Identify areas where extended idling is allowed. • Use track-out reduction measures such as gravel pads at project access points. • Cover all transported loads of soils and wet materials prior to transport, or provide adequate freeboard. • Remove dust and mud that are deposited on paved, public roads. • Route and schedule construction traffic to reduce congestion and related air quality impacts. • Install mulch or plant vegetation as soon as practical after grading.

Appendix E Consistency with State and Local Plans

The City of Carpinteria updated its combined General Plan and Local Coastal Program in 2003. The combined document contains many policies and goals that guide project development and implementation within the city's boundaries. The following discussion provides analysis on the proposed project's consistency with those policies. First the General Plan policies and then Coastal policies (as discussed with the General Plan and LCP) are presented.

Policy #	Local Coastal Plan Policy	Subject of Policy	Consistency Evaluation	Referenced Environmental Section
LU-1d and Creeks Preservation Program	Yes	Ensure that the type, location and intensity of land uses planned adjacent to any parcel designated open space/recreation or agriculture (as shown on Figure LU-1) are compatible with these public resources and will not be detrimental to the resource.	The proposed project would not be detrimental to designated open space parcels. Although some open space land (adjacent to Carpinteria Creek) would be used for the Via Real extension, the road would provide increased public access to the Carpinteria Creek Park. All alternatives would permanently convert 5.2 acres of prime farmland for use as a local and State transportation facility. The remaining agricultural parcel would not be incompatible with the new roadway, however it's proximity to the interchange could add pressure to rezone and develop the parcel.	Farmland 2.1.3
LU-3h	Yes	Develop land uses that encourage the thoughtful layout of transportation networks, minimize the impacts of vehicles in the community, and encourage alternative means of transportation.	The design layout would improve connections across Route 101 and north/south on Via Real for alternate modes of transportation as well as the local network. The Via Real extension is programmed in the Circulation Element, and would complete a critical frontage road component along the north side of Route 101. Vehicle congestion impacts at interchanges would be reduced.	Traffic and Transportation/ Pedestrian and Bicycle Facilities Section 2.1.6
LU-5a	Yes	The City shall continue to give priority to agriculture, coastal-	Though the project would convert a portion of an active agricultural property to Transportation Corridor,	

Policy #	Local Coastal Plan Policy	Subject of Policy	Consistency Evaluation	Referenced Environmental Section
		dependent industry and visitor-serving commercial recreational facilities designed to enhance public opportunities for coastal recreation over residential, general industrial, or general commercial development.	the extension of Via Real (as programmed in the Circulation Element) would complete a frontage road on the north side of Route 101, thereby improving local circulation, as well as enhancing direct access to coastal recreational opportunities from existing residential neighborhoods.	
CD-3	Yes	The design of the community should be consistent with the desire to protect views of the mountains and the sea (California Coastal Act of 1976 §30251).	No views to the ocean are available from the project. Views to the mountains would be altered in some locations, due to soundwalls.	Visual/Aesthetics Section 2.1.7
CD-8a	Yes	All streets should be designed with safe and pleasant pedestrian ways at their edge. Pedestrian ways shall be spatially separated from vehicular traffic by elements such as trees, other plantings, streetlights, and/or parked cars.	Minimum 5-foot sidewalks would be constructed on both overcrossings (on both sides of each overcrossing). Minimum 5-foot sidewalks would be constructed along the north side of the length of the extension of Via Real.	Build Alternatives Section 1.3.1
CD-8b	Yes	To provide convenient pedestrian routes, the existing network of automobile lanes, trails and pedestrian ways in the Downtown District and adjacent neighborhoods should be preserved, reinforced and extended into other neighborhoods.	The existing network of pedestrian routes would be preserved and enhanced. The extension of Via Real and reconstruction of the Linden and Casitas Pass Interchanges (as programmed in the Circulation Element) would enhance vehicular circulation between existing residential neighborhoods and coastal resources/recreation opportunities.	Traffic and Transportation/ Pedestrian and Bicycle Facilities Section 2.1.6
CD-9e	Yes	Major streets should be designed and planted to preserve views of the ocean to the south and hills to the north.	Street trees would be planted along the extension of Via Real such that views to the mountains would be preserved.	Visual/Aesthetics Section 2.1.7
CD-10b	No	Frontages where residential uses abut a major thoroughfare should include buffering elements such as	Where soundwalls are recommended due to the exceedence of the federal noise abatement criteria, they would be designed to conform to both	Noise and Vibration Section 2.2.7

Policy #	Local Coastal Plan Policy	Subject of Policy	Consistency Evaluation	Referenced Environmental Section
		yards, forecourts, courtyards, and tree rows. Sound walls are the most primitive form of buffer and should be used only where other methods are impractical. If sound walls are used they should be attractive and well landscaped.	Caltrans and City guidelines. Where right of way exists for landscaping, planting palettes would conform to both Caltrans and City guidelines.	Visual/ Aesthetics Section 2.1.7
CD-11f	Yes	Landscape design guidelines should emphasize the use of native drought tolerant plant materials, and the importance of trees as the primary elements of the town landscape. All landscaping shall utilize only non-invasive type plants.	Landscape design palettes would conform to both Caltrans and City Local Coastal Program guidelines.	Visual/ Aesthetics Section 2.1.7
CD-12a	Yes	Landscape planning shall be respectful of the natural character of the city and enhance existing native plant communities and environmentally sensitive habitat areas.	The landscape design palette would conform to both Caltrans and City Local Coastal Program guidelines. Where needed, riparian areas and environmentally sensitive habitat area plantings would conform to Local Coastal Program guidelines.	Visual/ Aesthetics Section 2.1.7 Biological Environment Section 2.3
CD-13a	Yes	Lighting for development adjacent to an environmentally sensitive habitat area shall be designed to further minimize potential impacts to habitat.	Lighting along Via Real would conform to both Caltrans and City guidelines.	
CD-13b	Yes	Lighting shall be low intensity and located and designed so as to minimize direct view of light sources and diffusers and to minimize halo and spillover effects.	Lighting components on overpasses would be replaced in kind. Lighting on roads not in Caltrans' right of way would be designed for General Plan consistency.	
CDS2-1	Yes	Preserve and strengthen the visual and physical connections between the downtown, beach, the salt marsh,	This project would improve the physical connectivity for all transportation modes between the downtown area and subarea 3 (the Santa Monica, Canalino, and El Carro subareas). The visual	

Policy #	Local Coastal Plan Policy	Subject of Policy	Consistency Evaluation	Referenced Environmental Section
		mountains, and the other neighborhoods and districts in the city.	connection would be diminished because the overcrossings at both Linden Avenue and Casitas Pass Road would be raised to accommodate a higher vertical clearance at Route 101. For more Aesthetic/Visual impact information, see Section 2.1.7.	
CDS3-1	Yes	Preserve and strengthen the visual and physical connections between [the Santa Monica, Canalino, and El Carro subareas], the downtown and other neighborhoods and districts in the city.	This project would improve the physical connectivity between neighborhoods for all transportation modes. The visual transition between subarea 3 (Santa Monica, Canalino, and El Carro neighborhoods) and 4 (The Northeast) would be seamless. The physical transition between subarea 3 (Santa Monica, Canalino, and El Carro neighborhoods) and 2 (The Downtown and Old Town) is enhanced through the use of matching pedestrian and bikeway connections on both sides of the streets. The visual connection would be diminished because the overcrossings at both Linden Avenue and Casitas Pass Road would be raised to accommodate a higher vertical clearance at Route 101. For more Aesthetic/Visual impact information, see Section 2.1.7.	
CDS3-2	No	Preserve and enhance the existing residential neighborhood and ensure that new development enhances the neighborhood character.	Although many subarea 3 streets do not represent the city's desired image, the Via Real street design would incorporate city guidelines and ensure that alternate transportation modes would be encouraged and connectivity between neighborhoods enhanced.	
CDS3-3	Yes	Ensure that new development is sensitive to the scale and character of the existing neighborhoods, and consistent with the city's small beach town" image.	Sensitivity analyses was applied to the project's supporting traffic study to justify motorized vehicle lane reduction on the Casitas Pass Road overpass from six lanes to five. In conjunction with City staff, the overpass and local street design includes sidewalks and bike lanes that are of a scale consistent with the city's image. Although many subarea 3 streets do not represent the city's desired image, the	Traffic and Transportation/ Pedestrian and Bicycle Facilities Section 2.1.6

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			proposed Via Real design incorporates city guidelines and ensures that alternate transportation modes are encouraged. Alternatives 1 and 4 provide a five-lane structure at Linden Avenue, which provides a scale consistent with Casitas Pass Road overcrossing. Alternatives 2 and 3 provide a narrower structure (4 lanes) at the Linden Avenue overcrossing and continue the existing use of a loop type northbound on ramp under the structure. For every alternative at Linden Avenue the overcrossing and local street design includes sidewalks and bike lanes that are of a scale consistent with the city's image. Although ultimately creating larger structures than currently exist, these improvements display a city transportation network that accommodates pedestrians and bicyclists, making it easier and safer to access the coastal area as well as the foothills.	
C-1	No	To improve the community's ability to access U.S. 101 and areas north of the freeway through the improvement of interchanges.	The project would improve access to and from Route 101 at both Linden Avenue and Casitas Pass Road by improving both interchanges and extending Via Real.	Build Alternatives Section 1.3.1
C-1a	No	Continue coordination and collaboration with the County of Santa Barbara and Caltrans through Santa Barbara County Association of Governments to improve freeway accessibility and to resolve circulation problems in inland areas.	Close coordination between the City, Santa Barbara County Association of Governments, and Caltrans has occurred throughout the planning phases of this project and will continue throughout detailed design and the Coastal Development Permit process. The extension of Via Real (as programmed in the Circulation Element) would resolve an existing circulation issue by completing the frontage road on the north side of US 101.	
C-1b and Creeks Preservation	Yes	The City shall strive to improve vehicular and pedestrian over	Based on the refined traffic study and the regional growth model, the project operational design would	Traffic and Transportation/ Pedestrian and

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Program		crossings of the freeway and the various creeks while respecting their habitat value and sensitivity.	improve vehicular movement across Route 101 through 2036. In conjunction with City staff coordination, the overpass and local street design would include sidewalks and bike lanes that would improve non-motorized transportation. The Carpinteria Creek Class I bike/pedestrian path would be relocated north of the Creek and is designed to City guidelines. The existing at-grade creek crossing would be removed, which would enhance the riparian corridor and increase fish passage opportunities. The bridges over Carpinteria Creek would be designed to minimize impacts to the creek.	Bicycle Facilities Section 2.1.6 Biological Environment Section 2.3 Biological Environment Section 2.3
C-1c	No	The City will endeavor to work with Caltrans to resolve freeway access, interchange development and noise attenuation problems as they affect the community.	The City has been working with Caltrans to develop this project.	
C-1d	No	The City shall work closely with Caltrans to assure improvements to freeway interchanges and overpasses compliment the small town quality and charm of the city. Conventional methods for improving level of service such as widening of overpasses for independent turning lanes and signalization of intersections should be avoided if possible in favor of improvements consistent with the existing small town character and charm.	Sensitivity analyses was applied to the project's supporting traffic study to justify motorized vehicle lane reduction on the Casitas Pass Road overpass from six lanes to five and still achieve a Level of Service consistent with City Policy. In conjunction with City staff, the overpass and local street design includes sidewalks and bike lanes that are of a scale consistent with the city's image. New local street design incorporates city guidelines and ensures that alternate transportation modes are encouraged. Alternatives 1 and 4 provide a 5-lane structure at Linden Avenue, which would provide a scale consistent with Casitas Pass Road overcrossing. These alternatives may also provide the opportunity for landscaping enhancements. Alternatives 2 and 3 would provide a narrower structure	Traffic and Transportation/ Pedestrian and Bicycle Facilities Section 2.1.6

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			(4 lanes) at Linden Avenue continuing the existing use of a loop type northbound on- ramp under the structure. Each alternative would achieve a Level of Service consistent with City Policy. For every alternative at Linden Avenue the overpass and local street design includes sidewalks and bike lanes that would be of a scale consistent with the city's image. Although ultimately creating larger structures than currently exist, these improvements would support a city transportation network that accommodates pedestrians and bicyclists, making it easier and safer to access the coastal area as well as the foothills. Because interchange spacing within Carpinteria is constrained, "full service" interchanges present design challenges relative to safe weaving distances onto and off of the freeway that are considered impractical (see Alternatives Considered but Eliminated from Further Discussion, Section 1.3.4). Relocation of northbound ramps at Casitas Pass Road (all alternatives) and newly configured northbound on-ramps at Linden Avenue (Alts 1 and 4), are the only direct freeway access changes that would occur.	
C-2	Yes	To designate scenic routes so as to provide for the scenic enjoyment of and maintain and enhance the natural beauty of the lands and views along the roadways of the Carpinteria Valley.	The construction of this project would not preclude the designation of Route 101 as a Scenic Highway.	
C-3f	Yes	Improve travel characteristics of the city's circulation plan by: planning and developing a continuous and direct east/west surface street route north of and	The proposed project would specifically and completely implement Policy C-3f by extending Via Real from Bailard Avenue to Linden Avenue. The proposed Via Real structure would not place supports into the creek. Agricultural impacts have been minimized to the extent practical.	Farmlands Section 2.1.3

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		parallel to Highway 101 to improve the efficiency of local traffic circulation [5-15 years] considering the westerly extension of Via Real to Casitas Pass Road and from Vallecito to Linden; prioritizing maximum protection for coastal waters, environmentally sensitive habitat areas and agricultural resources in considering potential road extensions.		
C-3h	No	Require all new projects to demonstrate safe traffic flow integration with the Master Plan of Streets as well as street/drainage improvements function. This shall include construction traffic and the designation of construction routes.	The extension of Via Real (as proposed) would directly implement a portion of the City of Carpinteria Circulation Element. Traffic study prepared for this project recommends mitigation measures that would allow for safe traffic flow. A Traffic Management Plan would be prepared for this project to address construction access.	Traffic/ Transportation Section 2.1.6
C-7b	Yes	Develop safe and direct pedestrian accessibility between residential areas, schools, parks, and shopping areas in both new and existing urban areas.	The proposed project would enhance pedestrian accessibility between residential areas in subarea 3 and shopping areas in subarea 2. The extension of Via Real, in particular, would provide direct, safe, access for pedestrians from existing residential neighborhoods to schools and shopping areas. Sidewalks would be provided on both sides of both improved overcrossings.	
C-7c	Yes	Provide safe mobility for the physically handicapped through the design of street improvements and public facilities.	The proposed project would be in compliance with the Americans with Disabilities Act.	
C-7d	No	Practice signal timing that is designed for the safe movement of the aged and the handicapped at	Where such needs are identified within the project limits, signal timing would be designed for the safe movement of the aged and the disabled.	

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		locations where such needs exist.		
C-7e	No	Provide continuous sidewalks, where appropriate, for safe pedestrian circulation and consider creative alternatives for such issues.	Sidewalks are included on both overpasses (both sides) and the entire length of the Via Real extension on the east side.	Build Alternatives Section 1.3.1
C-8a	Yes	Integrate the development of bicycle routes and pedestrian pathways in additional areas of the city, and encourage the utilization of such routes for commuting as well as recreational purposes.	In collaboration with City staff, the project design includes Class II bike lanes to both overpasses on both sides, and the entire length of the Via Real extension. The Class I bike lanes at Carpinteria Creek would be improved.	Build Alternatives Section 1.3.1
C-8d	Yes	Encourage integration of the city's bicycle routes with state and countywide programs.	This project would not preclude the City from integrating bicycle routes with state and countywide programs.	
C-8f	Yes	Encourage pedestrian movement by providing pedestrian facilities that are direct and convenient, particularly in the beach and downtown areas.	Sidewalks would be constructed on both sides of both overcrossings and on the east side of the entire length of the Via Real extension. The Carpinteria Creek Class I bike/pedestrian path would be realigned to facilitate year-round use by eliminating the at-grade creek crossing.	Build Alternatives Section 1.3.1
C-8l	Yes	As a requirement of new development, significant attention must be paid to bicycle-friendly infrastructure and maintenance of nearby old infrastructure.	The project would provide class II bicycle paths along the extension of Via Real as well as realign the Class I bicycle path that crosses Carpinteria Creek.	Build Alternatives Section 1.3.1
C-8p	No	Correct pressure-sensitive signals to respond to weight of bicyclists.	Signalized intersections would have pressure-sensitive loops installed that would accommodate bicycles.	
C-9	Yes	Promote the use of public transit systems that provide mobility to all city residents, and reduce automobile congestion within the capabilities of the	The Via Real extension would enhance city transit circulation by increasing local connectivity between neighborhoods. Caltrans is coordinating with the City and the Santa Barbara Metropolitan Transit District on the placement of bus	

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		community.	turnouts along the extension of Via Real.	
OSC-1a	Yes	Protect Environmentally Sensitive Habitat Areas from development and maintain them as natural open space or passive recreational areas.	The proposed project would use 5.2 acres of agricultural land, which is also designated as an environmentally sensitive habitat area. Portions of this acreage, which are not required for roadway improvements or restricted right-of-way could be maintained as open space. This includes the area adjacent to the realigned Carpinteria Creek Class I bike/ pedestrian path and the area that would be bordered by the Creek, Route 101, and Via Real.	Biological Environment Section 2.3.
OSC-1b	Yes	Prohibit activities, including development, that could damage or destroy environmentally sensitive habitat areas.	The project would eliminate environmentally sensitive habitat areas by constructing the bridges and the extension of Via Real in the vicinity of Carpinteria Creek. Mitigation to minimize impacts to the environmentally sensitive habitat area would be incorporated into the project.	Biological Environment Section 2.3.
OSC-3c	Yes	Development adjacent to the required buffer around wetlands should not result in adverse impacts including but not limited to sediment, runoff, chemical and fertilizer contamination, noise, light pollution and other disturbances.	The project would incorporate mitigation to avoid and/or minimize impacts to wetlands and wetland buffers.	Biological Environment Section 2.3.
Implementati on Policy 12	Yes	Maintain a minimum 100-foot setback/buffer strip in a natural condition along the upland limits of all wetlands. No structures other than those required to support light recreational, scientific and educational uses shall be permitted within the setback, where such structures are consistent with all other wetland development policies and where all feasible	Project components would encroach into the required 100-foot buffer area for identified wetlands. Because the City of Carpinteria Local Coastal Program does not contain an exception to this setback for any projects (including public works improvements) and Amendment to the Coastal land Use Plan is required.	Coastal Zone Section 2.1.1.3

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		measures have been taken to prevent adverse impacts. The minimum setback may be adjusted upward to account for site-specific conditions affecting avoidance of adverse impacts.		
OSC-6a and Creeks Preservation Program	Yes	Support the preservation of creeks and their corridors as open space, and maintain and restore riparian habitat to protect the community's water quality, wildlife diversity, aesthetic values, and recreation opportunities.	With the replacement of the bridges over Carpinteria Creek at Route 101, the project would help to restore the Carpinteria Creek corridor to a more natural state. The reconstructed bridges would allow historic water levels to pass through rather than divert the flow, as is currently the case. The Carpinteria Creek Class I bike/pedestrian path would be relocated north of the Creek. Creek habitat value would be enhanced by removal of the existing path crossing, which would enhance the riparian corridor and increase fish passage opportunities. Additional restoration would include re-vegetation using non-invasive, native plant species.	Hydrology and Floodplain Section 2.2.1 Biological Environment Section 2.3
OSC-6b and Creeks Preservation Program	Yes	Protect and restore degraded creeks on City-owned land where protection and restoration does not interfere with good flood control practices.	See discussion on Policy OSC-6a, above. Improvements will be designed to ensure that flood control practices are not compromised.	Hydrology and Floodplain Section 2.2.1 Water Quality and Storm Water Runoff Section 2.2.2
OSC-6c and Creeks Preservation Program	Yes	When alterations to creeks are permitted by the Coastal Act and policies herein, the creek shall be protected by only allowing creek bank and creek bed alterations where no practical alternative solution is available, where the best mitigation measures feasible have been	Creek alterations would be required due to the construction of new bridges. Mitigation would be incorporated to minimize impacts to the creeks including removal of a concrete low water crossing.	Hydrology and Floodplain Section 2.2.1 Water Quality and Storm Water Runoff Section 2.2.2 Biological Environment Section 2.3

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		incorporated, and where any necessary State and federal permits have been issued. Creek alterations should utilize natural creek alteration methods where possible (e.g. earthen channels, biotechnical stabilization). Nothing in this policy shall be construed to require the City to approve creek alterations not otherwise allowed herein and by the Coastal Act.		
OSC-6d and Creeks Preservation Program	Yes	Carry out and maintain all permitted construction and grading within stream corridors in such a manner so as to minimize impacts on biological resources and water quality such as increased runoff, creek bank erosion, sedimentation, biochemical degradation, or thermal pollution.	All permitted work within stream corridors would use accepted, approved Best Management Practices to minimize or avoid biological and water quality impacts.	Biological Environment Section 2.3 Water Quality and Storm Water Runoff Section 2.2.2
OSC-6e and Creeks Preservation Program	Yes	Natural drainage patterns and runoff rates and volumes shall be preserved to the greatest degree feasible by minimizing changes to natural topography, and minimizing the areas of impervious surfaces created by new development.	Natural drainage patterns for Carpinteria Creek would be restored by replacing the 101 bridges. All other drainage patterns, runoff rates and volumes would be preserved to the greatest extent feasible.	Hydrology and Floodplain Section 2.2.1
OSC-6f and Creeks Preservation Program	Yes	All development shall be evaluated for potential adverse impacts to water quality and shall consider Site Design, Source Control	No alternative location for the construction of the proposed bridges would be feasible. Bridge abutments and rock slope protection would be placed within the creek where necessary. The	

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		and Treatment Control BMPs to minimize polluted runoff and water quality impacts resulting from the development. In order to maximize the reduction of water quality impacts, BMPs should be incorporated into the project design in the following progression: (1) Site Design BMPs, (2) Source Control BMPs, and (3) Treatment Control BMPs.	placement of rock slope protection would be necessary to protect the bridge abutments. All native plant materials that would be removed within the project limits would be replaced. Habitat would also be replaced. For more information, see the Biology Section 2.3.	Biological Environment 2.3
OSC-7a and Creeks Preservation Program	Yes	Oak trees and oak woodlands, because they are particularly sensitive to environmental conditions, as well as walnut, sycamore, and other native trees, shall be protected through appropriate development standards.	Eight trees would be removed in order to construct the extension of Via Real and the bridges over Carpinteria Creek. All trees removed would be replaced.	Biological Environment 2.3
OSC-7b and Creeks Preservation Program	Yes	When sites are graded or developed, areas with significant amounts of native vegetation shall be preserved. Structures shall be sited and designed to minimize the impact of grading, paving construction of roads, runoff and erosion on native vegetation. Sensitive resources that exhibit any level of disturbance shall be maintained, and if feasible, restored. New development shall include measures to restore any disturbed or degraded habitat on the project site. Cut and fill slopes and all areas	At the City's request, Caltrans repositioned the extension of Via Real to avoid a stand of oak trees and associated native habitat. During detailed design of the project, Caltrans would work with the City to avoid impacts to the native vegetation to the extent possible. All impacts to native vegetation and habitat areas would be replaced and/or enhanced. All cut and fill slopes would be revegetated with landscaping and/or native plant materials consistent with Caltrans and City guidelines. No invasive plant species would be used in the plant palette.	Biological Environment 2.3 Biological Environment 2.3 Visual/ Aesthetics 2.1.7

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		disturbed by construction activities shall be landscaped or revegetated at the completion of grading. Plantings shall be of native, drought-tolerant plant species consistent with the existing native vegetation on the site. Invasive plant species that tend to supplant native species shall be prohibited.		
OSC-9e	Yes	Avoid the conversion of agricultural land to nonagricultural land uses except where conversion meets the criteria established by Sections 30241, 30241.5, and 30242 of the Coastal Act.	This project would be located within, existing developed areas. The conversion of agricultural land to non-agricultural use is unavoidable.	Farmlands Section 2.1.3
OSC-10c and Creeks Preservation Program	Yes	Degradation of the water quality of groundwater basins, nearby streams or wetlands, or any other waterbody shall not result from development. Pollutants such as sediments, litter, metals, nutrients, chemicals, fuels or other petroleum hydrocarbons, lubricants, raw sewage, organic matter and other harmful waste shall not be discharged into or alongside any waterbody during or after construction.	Caltrans would implement Best Management Practices during construction in order to minimize water quality impacts. Treatment best management practices would be installed, where feasible, to minimize pollutant runoff into waterways.	Water Quality and Storm Water Runoff Section 2.2.2
OSC-13a	Yes	Preserve broad, unobstructed views from the nearest public street to the ocean, including but not limited to Linden Avenue, Bailard Avenue, Carpinteria Avenue,	No views to the ocean exist from the project area. No alternative location for the construction of the proposed bridges or the extension of Via Real would be feasible, however mitigation would be incorporated to minimize visual impacts.	Visual/ Aesthetics Section 2.1.7

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		and Route 101. In addition, design and site new development on or adjacent to bluffs, beaches, streams, or the Salt Marsh to prevent adverse impacts on these visual resources.		
OSC-13h and Creeks Preservation Program	Yes	Plans for development shall minimize cut and fill operations.	The project would minimize cut and fill operations to the extent practical.	Geology/Soils/ Seismic/ Topography 2.2.3
OSC-13i and Creeks Preservation Program	Yes	Design all new development to fit the site topography, soils, geology, hydrology, and other existing conditions and be oriented so that grading and other site preparation is kept to an absolute minimum. Preserve all natural landforms, natural drainage systems, and native vegetation. Require all areas on the site not suited to development, as evidenced by competent soils, geology and hydrology investigation and reports remain as open space.	All proposed drainage features, including the new bridges, have been designed for existing hydrology conditions. The proposed Route 101 bridges over Carpinteria Creek would provide improved hydrologic capacity and preservation of the natural drainage system.	Water Quality and Storm Water Runoff Section 2.2.2 Hydrology and Floodplain 2.2.1 Geology/Soils/ Seismic/ Topography 2.2.3
OSC-14f	Yes	No unrelated development shall be permitted in publicly owned recreational areas except pipelines to serve coastal dependent industrial uses when no alternative route is feasible.	The extension of Via Real would encroach upon the Class I Bicycle path adjacent to the Carpinteria Creek Park. The Class I Bicycle path is currently used for access to the Carpinteria Creek Park. The Class I Bicycle path would be replaced by new Class I Bicycle paths on the north side of Carpinteria Creek and new access to the park would be provided.	Parks and Recreation Section 2.1.1.4
OSC-15a and Creeks Preservation Program	Yes	The City's trail system shall be maintained and expanded upon based upon Figure C-3, the Trails Map, and, if	The project would temporarily affect the Class I Bicycle path off of Via Real, however a new Class I Bicycle path would be constructed on the north side of Carpinteria	Parks and Recreation Section 2.1.1.4

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		approved by the Coastal Commission in an amendment to its Local Coastal Plan, the Trails Master Plan or similar implementing document.	Creek.	
OSC-15d and Creeks Preservation Program	Yes	Creek trails shall be designed and located to prevent any significant direct or indirect adverse impacts on the riparian habitats of the creeks or the Carpinteria Salt Marsh.	The Carpinteria Creek Class I bike/pedestrian path would be realigned north of the creek. The existing path crossing would be removed from the creek completely and the riparian habitat restored.	Biological Environment 2.3
OSC-16a	Yes	Carefully review any development that may disturb important archaeological or historically valuable sites.	The project would not adversely affect archeological or historical sites.	Cultural Resources Section 2.1.8
S-1a	Yes	Seismic design criteria for habitable building structures, including critical facilities, should utilize the maximum credible earthquake calculated for each of the faults mentioned above, as well as the distance from the building site to each fault, to calculate or determine maximum ground acceleration.	The maximum credible earthquake calculation has been used for each of the faults potentially affecting this project.	Geology/Soils/ Seismic/ Topography Section 2.2.3
S-1c	Yes	Development in areas identified as having high seismically induced liquefaction potential shall follow structural engineering foundation design parameters outlined in the Uniform Building Code or obtained through an independent structural engineering study.	The project would use structural engineering foundation design parameters for all structural features constructed as part of the project.	Geology/Soils/ Seismic/ Topography Section 2.2.3
S-4b	Yes	The development of critical facilities within the 100-year floodplain should be discouraged.	The proposed bridges over Carpinteria Creek are designed to allow the flow of a 100-year event.	Hydrology and Floodplain Section 2.2.1

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S-4c	Yes	Setbacks from flood control channels, as determined by the Santa Barbara County Flood Control District, will be required to allow access to maintain and enable proper operation of the channels.	The replacement of the northbound bridge over Franklin Creek proposed with Alternatives 1 and 4 would replace the bridge at the same location and length, only a wider structure. No changes to channel access would occur.	Hydrology and Floodplain Section 2.2.1
N-1b	Yes	The City will cooperate with Caltrans to landscape or install mitigation elements along Highway 101 adjacent to residential or noise sensitive uses to reduce noise impacts. Any noise attenuation features should adhere to relevant policies in the city's Community Design Element.	Noise attenuation would be provided by the project where warranted. In collaboration with city staff and where right of way exists for landscaping, palettes will conform to both Caltrans and City Local Coastal Program guidelines.	Noise/Vibration Section 2.2.7 Visual/ Aesthetics Section 2.1.7
N-5b	Yes	The City will require that construction activities adjacent to sensitive noise receptors be limited as necessary to prevent adverse noise impacts.	Construction activities would be limited to daytime hours, when feasible. When nighttime construction would be necessary, the public would be notified in advance.	Noise/Vibration Section 2.2.7
N-5c	Yes	The City will require that construction activities employ techniques that minimize the noise impacts on adjacent uses.	Construction equipment would have the latest muffler technology installed.	Noise/Vibration Section 2.2.7
Creeks Preservation Program (CPP)	Yes	Goal 1: Preserve, restore and enhance local creek and riparian ecosystems, including… hydrology, water quality and biological communities. This will ensure preservation and enhancement of beneficial uses of local creeks, including biological habitat, surface water conveyance (flood	The proposed project is consistent with this goal. Lengthening and raising the Route 101 Carpinteria Creek bridges would restore and enhance all beneficial uses of the creek. The proposed bridges are designed for the 100-year flow and would improve flood control by eliminating flooding along Route 101 between Carpinteria and Franklin Creeks and in the area bounded approximately by Franklin Creek, Linden Avenue, Yucca Lane and the railroad. Realignment of the Carpinteria Creek Class I bike path	

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		control)…recreational and aesthetic enjoyment….	to the north of the creek would allow removal of the creek crossing. Together with riparian re-vegetation and invasive plant removal within the project area, this would improve habitat values and provide opportunities for increased fish passage.	
CPP Implementation Policy 2.1.1	Yes	The City will work with…others to facilitate and improve fish passage where feasible along Carpinteria Creek.	Fish passage would be improved by the removal of the bike path from the creek.	
CPP Implementation Policy 2.1.3	Yes	Development within stream corridors is prohibited with the exception of the following: Fish and wildlife habitat enhancement projects Flood protection where no less environmentally damaging method for protecting existing structures exists and where protection is necessary for public safety. Bridges…where no alternative route or location is feasible and where located to minimize impacts on ESHA. New stream crossings will be accomplished by bridging wherever possible. Development, including any structure…that would significantly fragment habitat or create barriers to movement is prohibited in creek ESHA or setbacks.	The proposed bridges over Carpinteria Creek at Route 101 and Via Real are at locations determined either by the existing route (Route 101) or along a route that minimizes impacts (Via Real). There is no feasible alternative route for any of the bridges. The Via Real bridge would be a new stream crossing. The rock slope protection proposed within the creek at the Route 101 bridges would be necessary to protect the bridges.	

Coastal Act Consistency

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30231.	The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.	The project would enhance habitat values at Carpinteria Creek by removing the at-grade bicycle creek crossing. Water quality would be maintained and enhanced by incorporating best management practices into the construction and operation of the project. The project would not use reclaimed water, where feasible during plant establishment for landscaping and habitat restoration areas. The project would not produce waste water.	Biological Environment Section 2.3 Water Quality and Storm Water Runoff Section 2.2.2
30232	Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.	The project would include a requirement for a Storm Water Pollution Protection Plan, which includes strategies to protect the environment from hazardous spills during construction.	Water Quality and Storm Water Runoff Section 2.2.2
30233	(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there	Bridge abutments and rock slope protection would be required as part of this project. Mitigation measures have been incorporated that would minimize impacts to	

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	is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects…	coastal waters.	
30233	(c)In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary. Any alteration of coastal wetlands identified by the Department of Fish and Game … shall be limited to very minor incidental public facilities, restorative measures…	The project would require the filling of existing wetlands for the purposes of public facilities (public roads). No practicable alternative to filling wetlands exists.	Biological Environment Section 2.3
30240	(a)Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.	The extension of Via Real would encroach on an identified environmentally sensitive habitat area. Environmentally sensitive habitat areas would be protected to the maximum extent practical. Any impacts would be mitigated by in-kind replacement and/or restoration.	Biological Environment Section 2.3
30240	(b)Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.	The extension of Via Real would encroach on an identified environmentally sensitive habitat area and adjacent to Carpinteria Creek Park. Environmentally sensitive habitat areas would be protected during construction to the maximum extent practical. Any impacts would be mitigated by in-kind replacement and/or restoration.	Biological Environment Section 2.3 Parks and Recreation Section 2.1.1.4
30241.	The maximum amount of prime agricultural land shall be maintained in agricultural production to assure the protection of	The project would remove from agricultural production 5.2 acres of Prime Agricultural land that is surrounded by urban	Farmlands Section 2.1.3

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	the areas' agricultural economy, and conflicts shall be minimized between agricultural and urban land uses… By permitting the conversion of agricultural land surrounded by urban uses where the conversion of the land would be consistent with Section 30250.	land uses.	
30244	Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.	The project would not have an adverse affect on any archeological or paleontological resources.	Cultural Resources Section 2.1.8 Paleontology Section 2.2.4
30250	a) New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources.	The project is contiguous with the existing facility in an urbanized area.	
30251	The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of	There are no views to the ocean from the project site. The project would use slope rounding and planting to be visually compatible with the character of the surrounding area.	Visual/Aesthetics Section 2.1.7

Policy #	Subject of Policy	Consistency Evaluation	Referenced Environmental Section
	surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas.		
30252	The location and amount of new development should maintain and enhance public access to the coast by (1) facilitating the provision or extension of transit service, (2) providing commercial facilities within or adjoining residential development or in other areas that will minimize the use of coastal access roads, (3) providing nonautomobile circulation within the development, (4) providing adequate parking facilities or providing substitute means of serving the development with public transportation, (5) assuring the potential for public transit for high intensity uses such as high-rise office buildings, and by (6) assuring that the recreational needs of new residents will not overload nearby coastal recreation areas by correlating the amount of development with local park acquisition and development plans with the provision of onsite recreational facilities to serve the new development.	The project would not preclude access to the coast. The project would facilitate additional transit service by extending Via Real. Does not apply. The project would provide Class I and Class II bicycle paths throughout. Does not apply. Does not apply. The project would not create new residential development.	
30253	New development shall: (1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard. (2) Assure stability and structural integrity, and neither create nor	The project would be designed to withstand seismic activity. The project would be designed to minimize erosion using best management practices.	Geology/Soils/Seismic/ Topography Section 2.2.3 Water Quality and Storm Water Runoff Section 2.2.2

Policy #	Subject of Policy	Consistency Evaluation	Referenced Environmental Section
	contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs. (3) Be consistent with requirements imposed by an air pollution control district or the State Air Resources Control Board as to each particular development. (4) Minimize energy consumption and vehicle miles traveled. (5) Where appropriate, protect special communities and neighborhoods which, because of their unique characteristics, are popular visitor destination points for recreational uses.	The project would be consistent with air quality requirements. The project would minimize out of direction travel by extending Via Real. The project would not affect visitor destinations.	Air Quality Section 2.2.6 Build Alternatives Section 1.3.1
30254	New or expanded public works facilities shall be designed and limited to accommodate needs generated by development or uses permitted consistent with the provisions of this division;	The project was designed to accommodate planned and permitted development for the 20-year life of the project.	Traffic and Transportation/ Pedestrian and Bicycle Facilities Section 2.1.6

Appendix F Farmland Conversion Impact Rating Form

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request 3/20/07
Name Of Project Linden / Casitas Pass Rd Interchange improvments	Federal Agency Involved FHWA
Proposed Land Use Transportation Corridor	County And State City of Carpinteria and Santa Barbara Co, Calif
PART II *(To be completed by NRCS)*	Date Request Received By NRCS 3/22/07

Does the site contain prime, unique, statewide or local important farmland? *(If no, the FPPA does not apply – do not complete additional parts of this form).*	Yes ☒	No ☐	Acres Irrigated 104,272 / Average Farm Size 563
Major Crop(s) Broccoli, Grapes, Strawberries	Farmable Land In Govt. Jurisdiction Acres: 157,213 % 9		Amount Of Farmland As Defined in FPPA Acres: 108,206 % 6.25
Name Of Land Evaluation System Used Calif. Storie System	Name Of Local Site Assessment System —		Date Land Evaluation Returned By NRCS 3/27/07

PART III *(To be completed by Federal Agency)*	Alternative Site Rating Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	2.0			
B. Total Acres To Be Converted Indirectly	3.2			
C. Total Acres In Site	5.2	0.0	0.0	0.0
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	5.2			
B. Total Acres Statewide And Local Important Farmland	0			
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	0.0033			
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value	Data Not Available			
PART V *(To be completed by NRCS)* Land Evaluation Criterion Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*	0 86	0	0	0

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points				
1. Area In Nonurban Use	15	4			
2. Perimeter In Nonurban Use	10	0			
3. Percent Of Site Being Farmed	20	17			
4. Protection Provided By State And Local Government	20	20			
5. Distance From Urban Builtup Area	–				
6. Distance To Urban Support Services	–				
7. Size Of Present Farm Unit Compared To Average	10	0			
8. Creation Of Nonfarmable Farmland	25	0			
9. Availability Of Farm Support Services	5	5			
10. On-Farm Investments	20	15			
11. Effects Of Conversion On Farm Support Services	25	0			
12. Compatibility With Existing Agricultural Use	10	0			
TOTAL SITE ASSESSMENT POINTS	160	0 61	0	0	0
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100	0 86	0	0	0
Total Site Assessment *(From Part VI above or a local site assessment)*	160	0 61	0	0	0
TOTAL POINTS *(Total of above 2 lines)*	260	0 147	0	0	0

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? Yes ☐ No ☐

Reason For Selection:

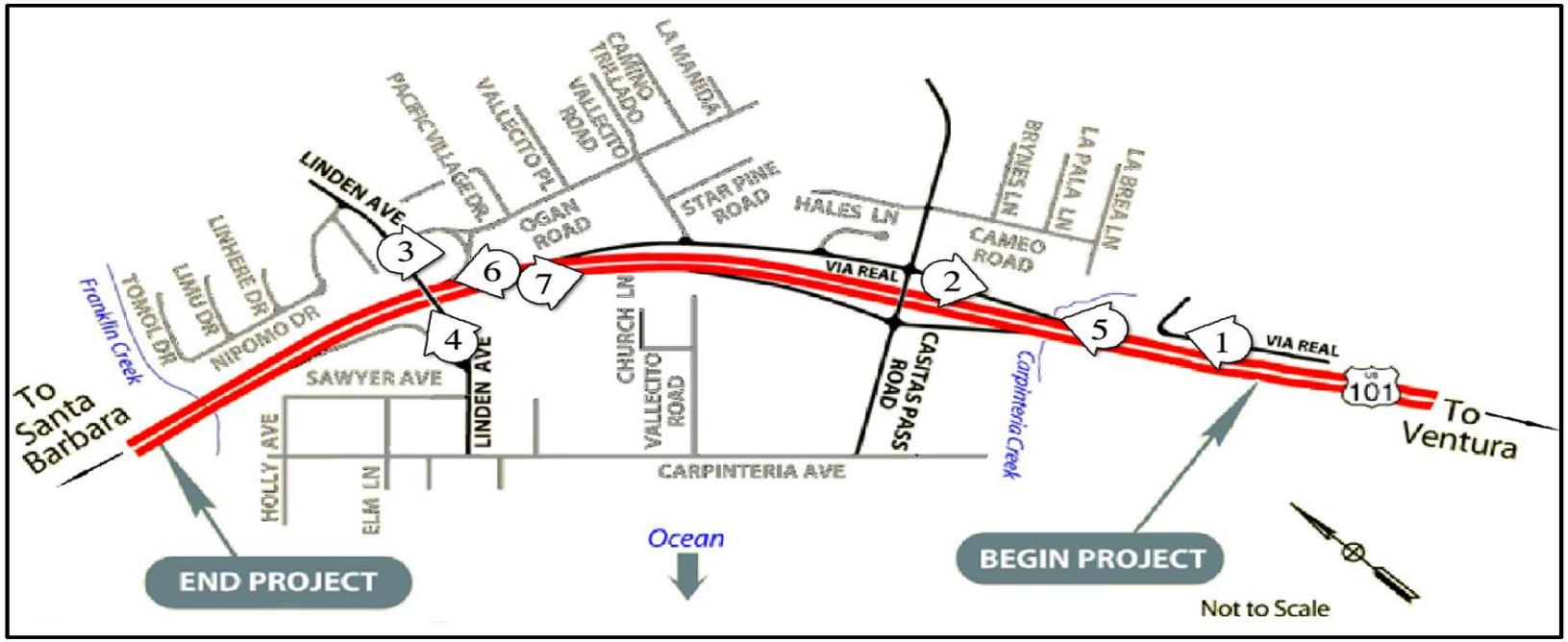
Proposed project consists of four alternatives. All four alternatives propose to use the same site to the same extent. Conversion impact rating is identical for all alternatives.

(See Instructions on reverse side) Form AD-1006 (10-83)

This form was electronically produced by National Production Services Staff

Appendix G Observer Viewpoints

Figure G.1 Observer Viewpoint Location Map



Key: # – Number and direction of Observer Viewpoint

Figure G.2 Observer Viewpoint 1

Figure G.3 Observer Viewpoint 2

Figure G.4 Observer Viewpoint 3

Figure G.5 Observer Viewpoint 4

Figure G.6 Observer Viewpoint 5

Figure G.7 Observer Viewpoint 6

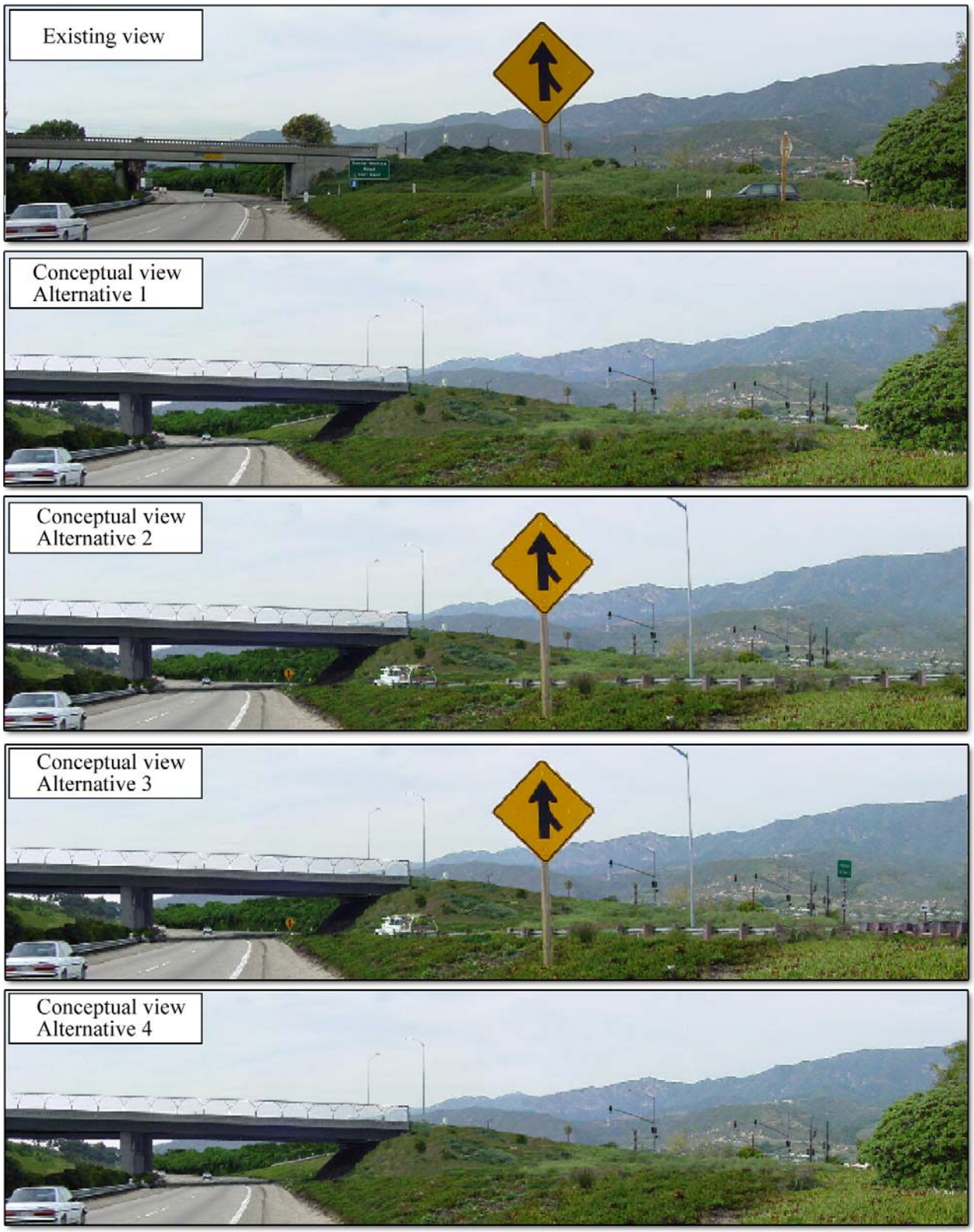


Figure G.8 Observer Viewpoint 7

Appendix H Beneficial Uses for Specific Water Bodies

Table H.1 Beneficial Uses for Specific Water Bodies

Water Body Name	GWR	REC1	REC2	WILD	COLD	WARM	MIGR	SPWN	BIOL	RARE	EST	MUN	FRESH	COMM	AGR
Franklin Creek	X	X	X	X	X	X	X	X		X		X	X	X	X
Carpinteria Marsh		X	X	X		X	X	X	X	X	X			X	
Carpinteria Creek	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Beneficial Use Definitions

Groundwater Recharge (GWR) – Uses of water for natural or artificial recharge of ground water for purposes of future extraction, maintenance of water quality, or halting of saltwater intrusion into freshwater aquifers. Ground water recharge includes recharge of surface water underflow.

Water Contact Recreation (REC-1) - Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white water activities, fishing, or use of natural hot springs.

Non-Contact Water Recreation (REC-2) - Uses of water for recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating tide pool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.

Wildlife Habitat (WILD) - Uses of water that supports terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.

Cold Fresh Water Habitat (COLD) - Uses of water that support cold-water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish or wildlife, including invertebrates.

Warm Fresh Water Habitat (WARM) - Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

Migration of Aquatic Organisms (MIGR) - Uses of water that support habitats necessary for migration or other temporary activities by aquatic organisms, such as anadromous fish.

Spawning, Reproduction, and/or Early Development (SPWN) - Uses of water that support high quality aquatic habitats suitable for reproduction and early development of fish.

Preservation of Biological Habitats of Special Significance (BIOL) - Uses of water that support designated areas or habitats, such as established refuges, parks, sanctuaries, ecological reserves, or Areas of Special Biological Significance (ASBS), where the preservation or enhancement of natural resources requires special protection.

Rare, Threatened, or Endangered Species (RARE) - Uses of water that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened, or endangered.

Estuarine Habitat (EST) - Uses of water that support estuarine ecosystems including, but not limited to, preservation or enhancement of estuarine habitats, vegetation, fish, shellfish, or wildlife (e.g., estuarine mammals, waterfowl, shorebirds). An estuary is generally described as a semi-enclosed body of water having a free connection with the open sea, at least part of the year and within which the seawater is diluted at least seasonally with fresh water drained from the land. Included are water bodies that would naturally fit the definition if not controlled by tide gates or other such devices.

Municipal and Domestic Supply (MUN) - Uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply. According to State Board Resolution No. 88-63, "Sources of Drinking Water Policy," all surface waters are considered suitable, or potentially suitable, for municipal or domestic water supply except where:

a. TDS exceeds 3000 mg/l (5000 uS/cm electrical conductivity);
b. Contamination exists, that cannot reasonably be treated for domestic use;
c. The source is not sufficient to supply an average sustained yield of 200 gallons per day;
d. The water is in collection or treatment systems of municipal or industrial wastewaters, process waters, mining wastewaters, or storm water runoff; and;
e. The water is in systems for conveying or holding agricultural drainage waters.

Freshwater Replenishment (FRESH) - Uses of water for natural or artificial maintenance of surface water quantity or quality (e.g., salinity) which includes a water body that supplies water to a different type of water body, such as, streams that supply reservoirs and lakes, or estuaries; or reservoirs and lakes that supply streams. This includes only immediate upstream water bodies and not their tributaries.

Commercial and Sport Fishing (COMM) - Uses of water for commercial or recreational collection of fish, shellfish, or other organisms including, but not limited to, uses involving organisms intended for human consumption or bait purposes.

Agricultural Supply (AGR) - Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.

Alternative 1

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Caltrans Metric

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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CURVE DATA

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PRELIMINARY PLANS
ALTERNATIVE 1

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

LAYOUT

SCALE 1:500 **L-1**

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BORDER LAST REVISED 3/1/2007

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CU 06233

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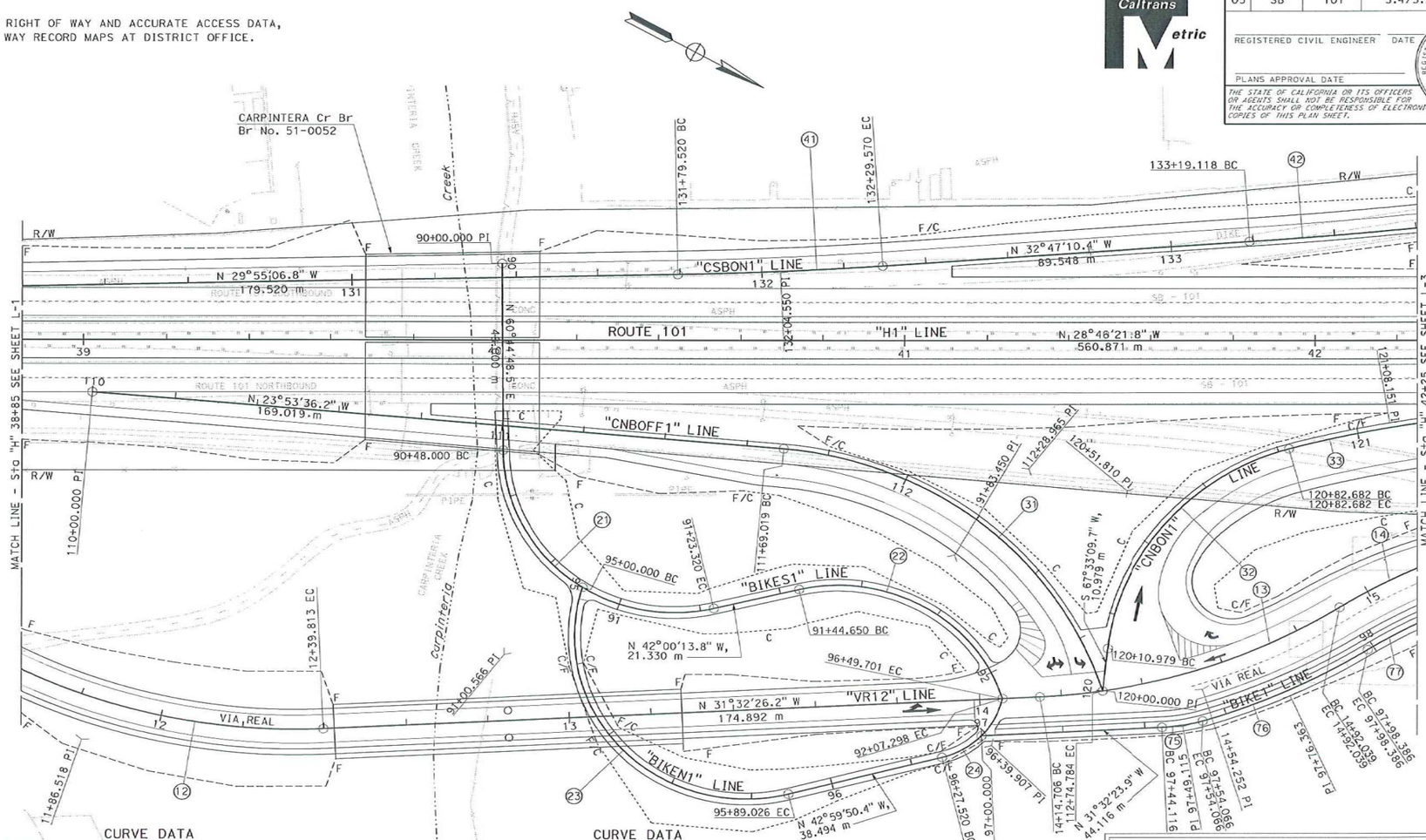

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21	42.000	102°45'03"	52.566	75.320
22	42.000	85°27'48"	38.799	62.648
23	42.000	121°26'55"	74.917	89.026
24	20.000	63°32'33"	12.387	22.181
31	90.000	67°19'55"	59.945	105.765

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41	1000.006	2°52'03"	25.030	50.050
42	1500.003	4°40'08"	61.149	122.229
75	46.443	12°12'34"	4.967	9.897
76	164.005	15°30'38"	22.336	44.398
77	136.626	33°20'55"	40.923	79.522

PRELIMINARY PLANS
ALTERNATIVE 1

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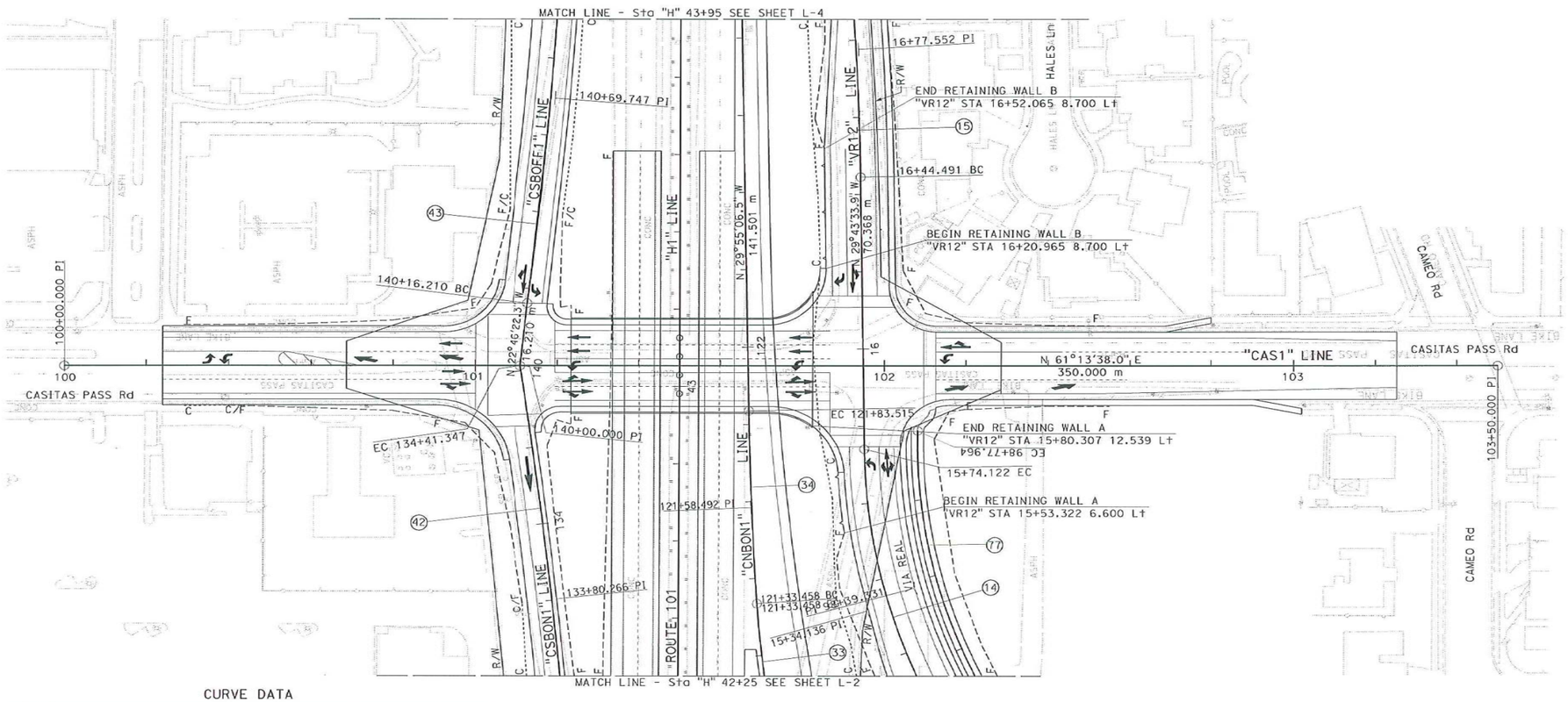

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34	999.994	2°52'05"	25.034	50.057
42	1500.003	4°40'08"	61.149	122.229
43	1216.262	5°02'27"	53.537	107.005
77	136.626	33°20'55"	40.923	79.522

PRELIMINARY PLANS
ALTERNATIVE 1

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LAYOUT

SCALE 1:500 **L-3**

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05	SB	101	3.4/5.5		

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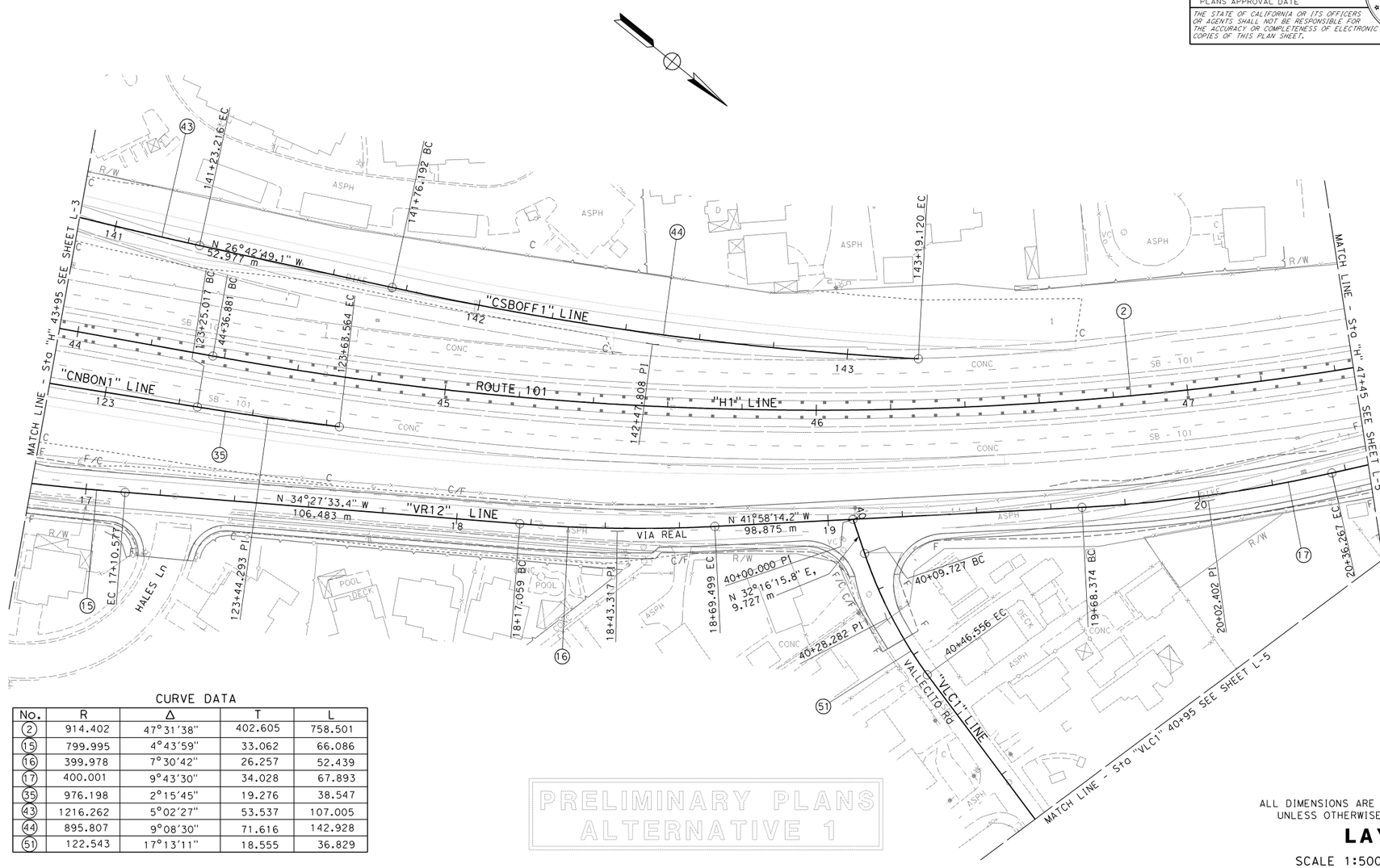

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17	400.001	9°43'30"	34.028	67.893
35	976.198	2°15'45"	19.276	38.547
43	1216.262	5°02'27"	53.537	107.005
44	895.807	9°08'30"	71.616	142.928
51	122.543	17°13'11"	18.555	36.829

PRELIMINARY PLANS
ALTERNATIVE 1

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LAYOUT

SCALE 1:500 **L-4**

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05	SB	101	3.4/5.5		

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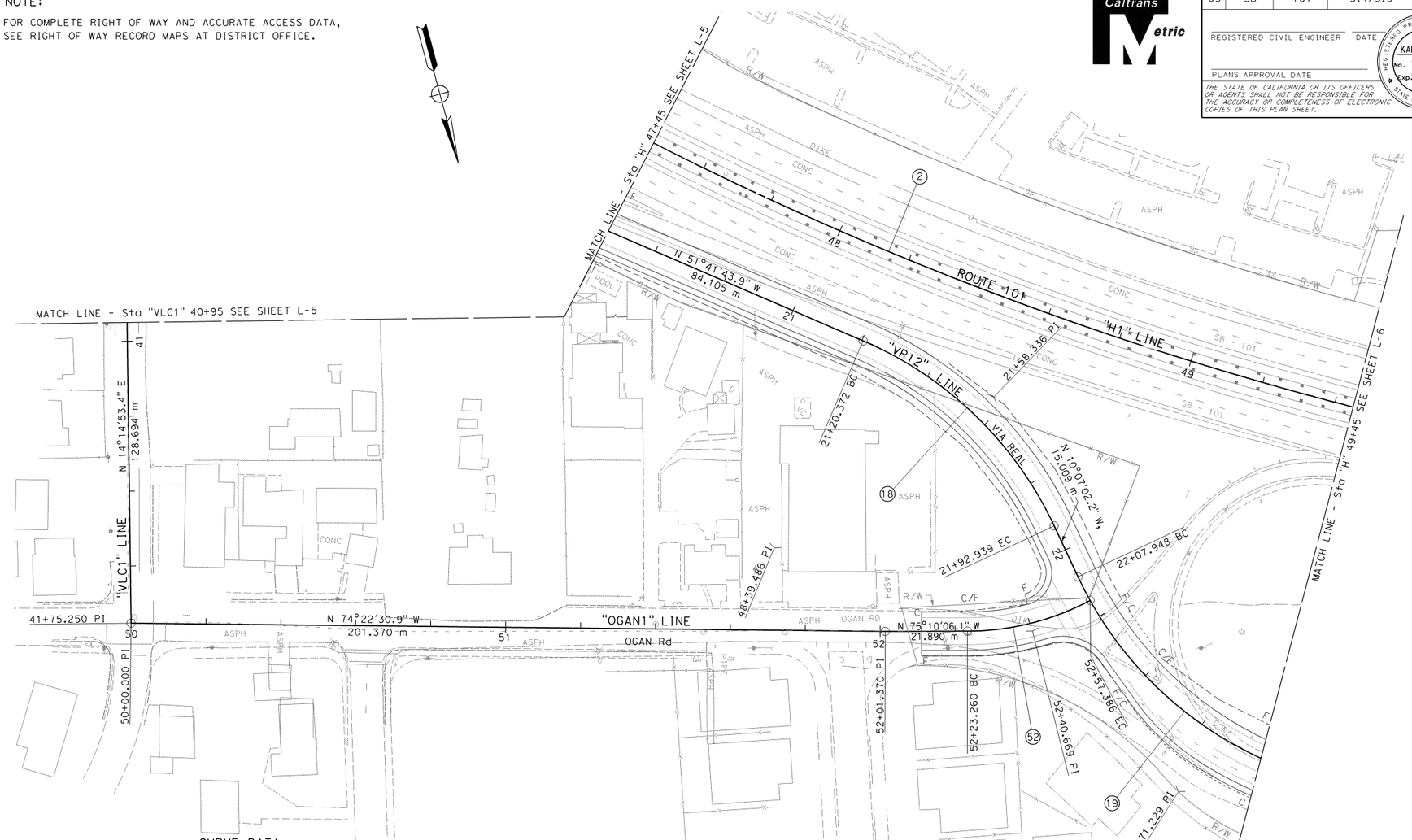

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19	100.000	64°39'07"	63.281	112.839
52	70.002	27°55'55"	17.409	34.126

PRELIMINARY PLANS
ALTERNATIVE 1

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

LAYOUT

SCALE 1:500 **L-5**

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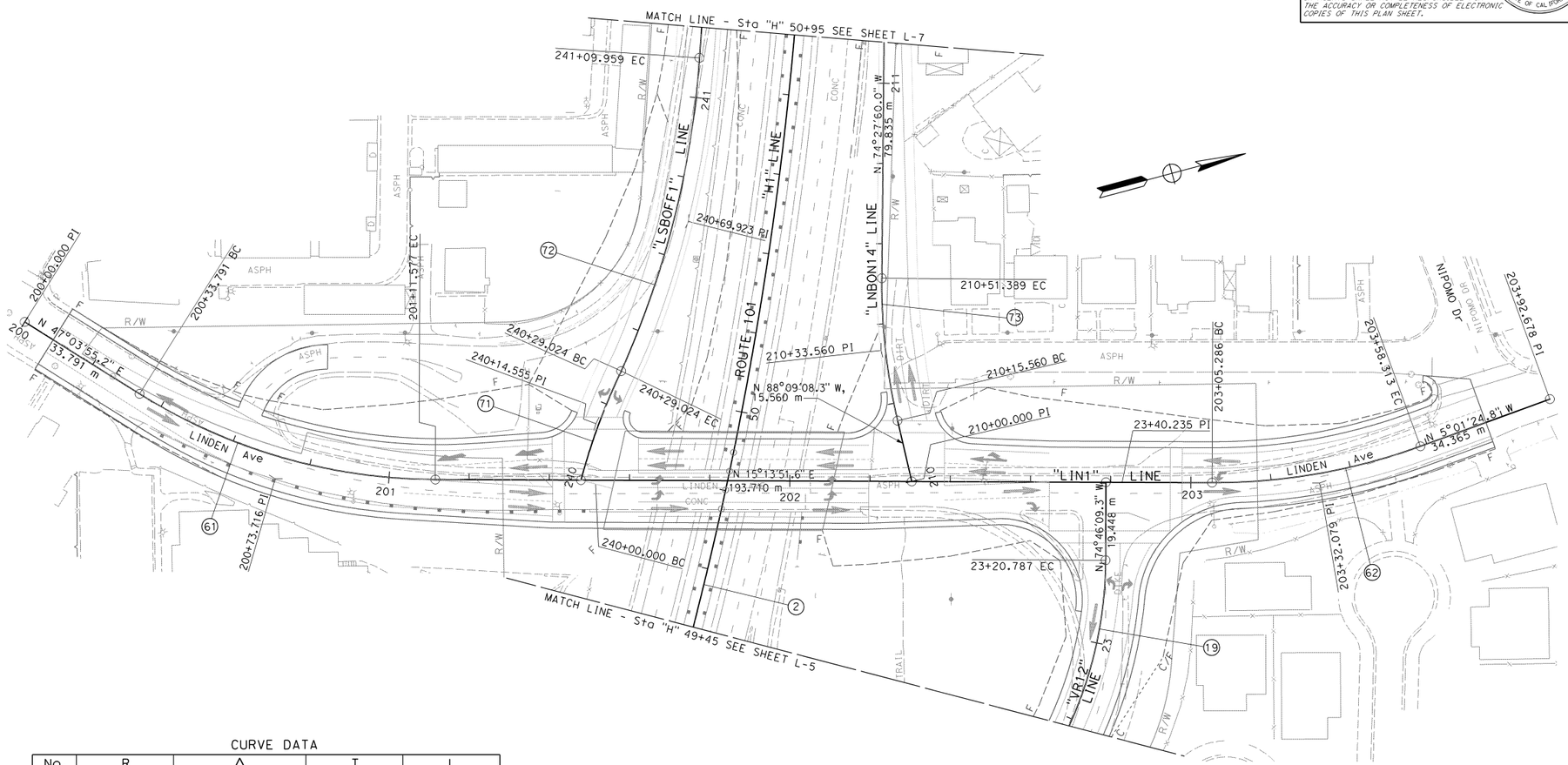

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62	150.000	20°15'16"	26.793	53.026
71	153.599	10°49'35"	14.555	29.024
72	227.695	20°21'58"	40.899	80.935
73	149.998	13°41'09"	18.000	35.829

PRELIMINARY PLANS
ALTERNATIVE 1

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

LAYOUT

SCALE 1:500 **L-6**

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05	SB	101	3.4/5.5		

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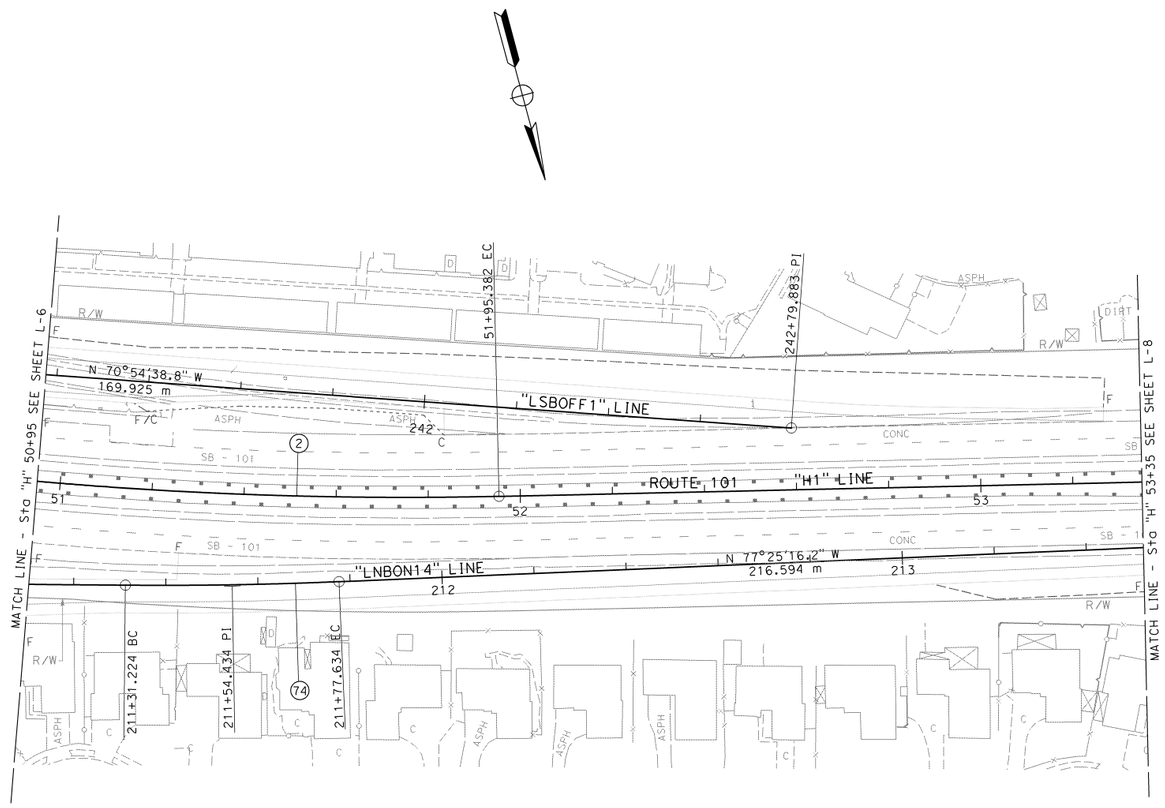

CURVE DATA

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PRELIMINARY PLANS
ALTERNATIVE 1

ALL DIMENSIONS ARE IN METERS
UNLESS OTHERWISE SHOWN

LAYOUT

SCALE 1:500 **L-7**

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NOTE:

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Caltrans Metric

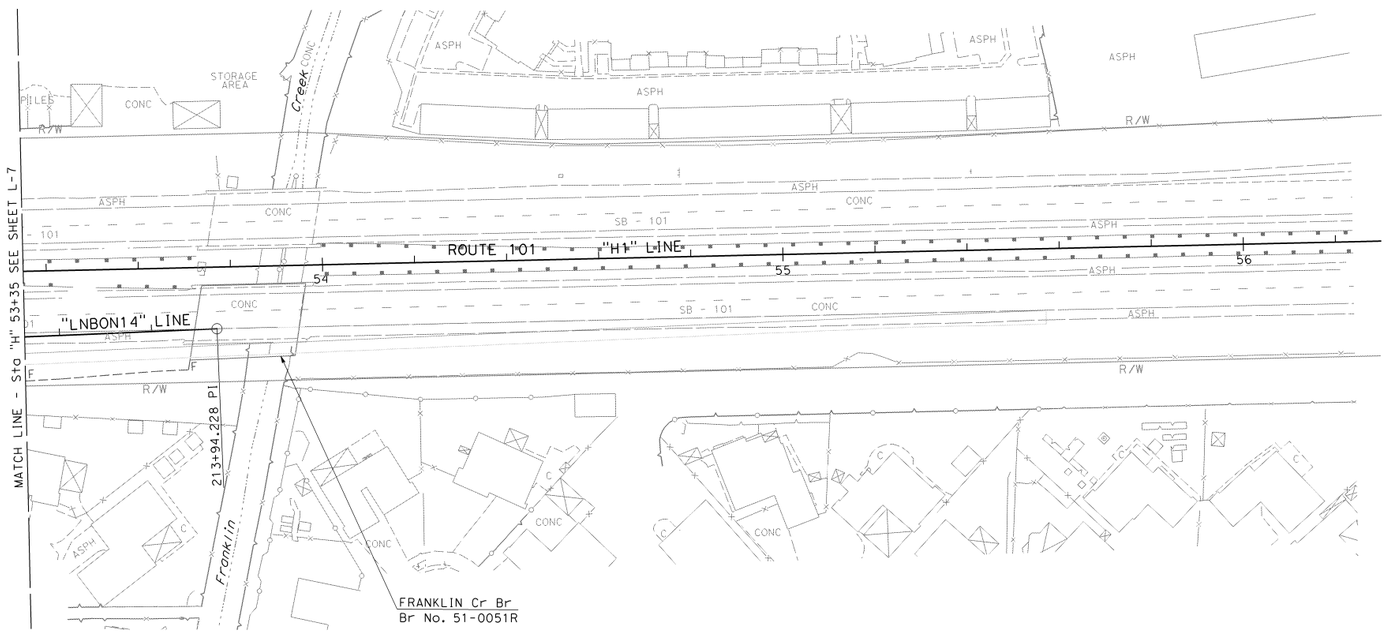
Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	3.4/5.5		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER KARI BHANA No. 65395 Exp. 09-30-09 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.



PRELIMINARY PLANS
ALTERNATIVE 1

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

LAYOUT

SCALE 1:500 **L-8**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans **DESIGN**

FUNCTIONAL SUPERVISOR: W. D. O'HALLORAN

CALCULATED-DESIGNED BY

CHECKED BY

REVISED BY

DATE REVISED

LAST REVISION 04-22-08

DATE PLOTTED => $DATE

TIME PLOTTED => $TIME

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => $USER

DGN FILE => $REQUEST

CU 06233

EA 4482U0

\54482Uea008alt1.dgn 9/9/2008 4:24:59 PM

Alternative 2

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Caltrans Metric

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	3.4/5.5		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER KARI BHANA No. 65395 Exp. 09-30-09 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

CURVE DATA

No.	R	Δ	T	L
1	670.561	39°14'02"	238.999	459.173
11	100.000	50°44'12"	47.416	88.552
12	150.000	42°49'37"	58.825	112.120

PRELIMINARY PLANS
ALTERNATIVE 2

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

LAYOUT

SCALE 1:500 **L-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans **DESIGN**

FUNCTIONAL SUPERVISOR W. D. O'HALLORAN

CALCULATED-DESIGNED BY

CHECKED BY

REVISED BY

DATE REVISED

LAST REVISION 04-22-08

DATE PLOTTED => $DATE

TIME PLOTTED => $TIME

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => $USER

DGN FILE => $REQUEST

CU 06233

EA 4482U0

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NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

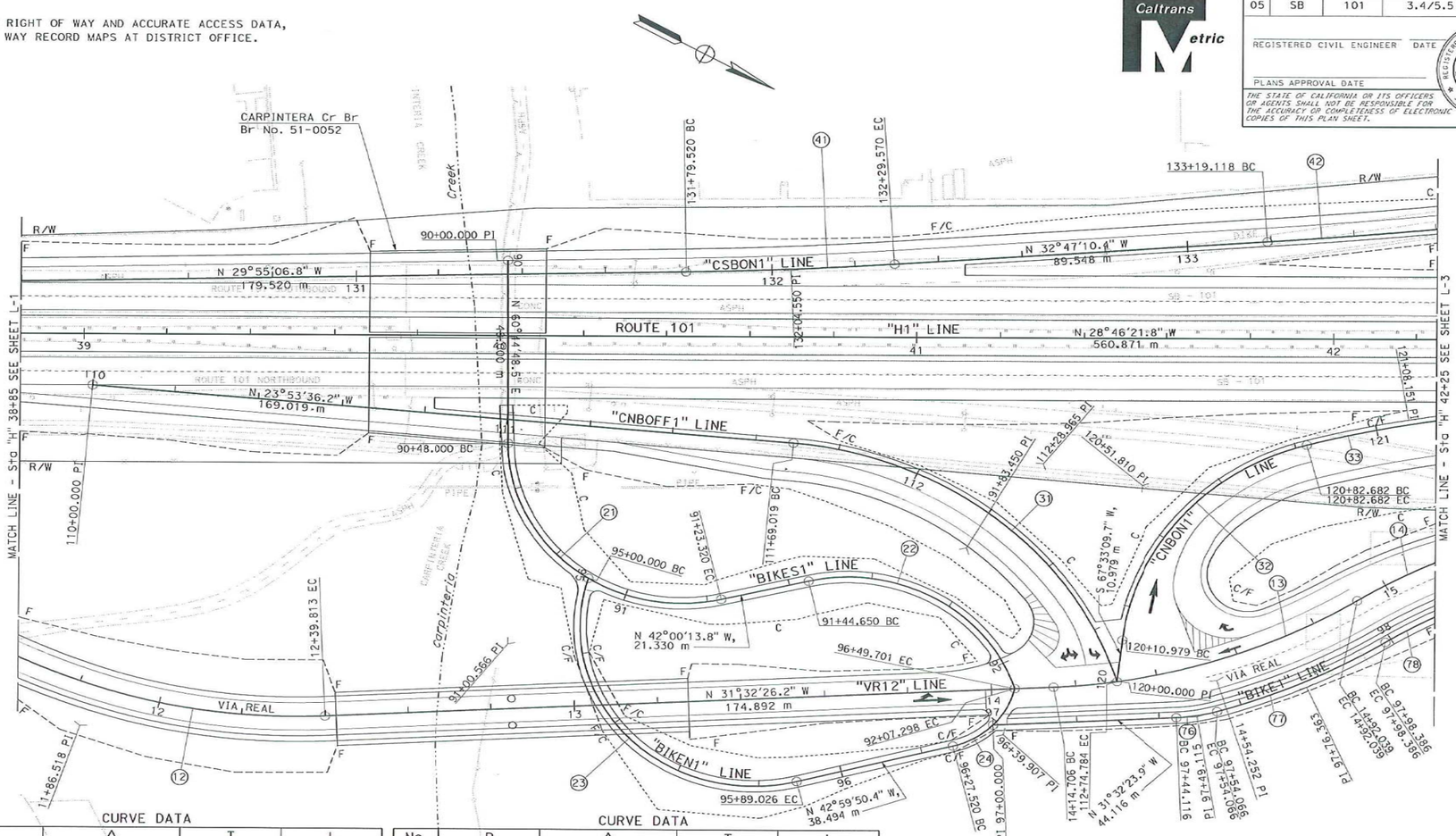
Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	3.4/5.5		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER KARI BHANA NO. 65395 EXP. 09-30-09 CIVIL STATE OF CALIFORNIA



CURVE DATA

No.	R	Δ	T	L
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13	150.000	29°32'21"	39.547	77.333
14	150.000	31°21'13"	42.097	82.083
21	42.000	102°45'03"	52.566	75.320
22	42.000	85°27'48"	38.799	62.648
23	42.000	121°26'55"	74.917	89.026
24	20.000	63°32'33"	12.387	22.181
31	90.000	67°19'55"	59.945	105.765

CURVE DATA

No.	R	Δ	T	L
32	60.000	68°28'16"	40.830	71.703
33	259.999	11°11'22"	25.469	50.776
41	1000.006	2°52'03"	25.030	50.050
42	1500.003	4°40'08"	61.149	122.229
76	46.443	12°12'34"	4.967	9.897
77	164.005	15°30'38"	22.336	44.398
78	136.626	33°20'55"	40.923	79.522

PRELIMINARY PLANS
ALTERNATIVE 2

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

LAYOUT

SCALE 1:500 **L-2**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: W. D. O'HALLORAN
CALCULATED-DESIGNED BY
CHECKED BY
REVISED BY
DATE REVISED

LAST REVISION 04-22-08
DATE PLOTTED => 25-NOV-2008
TIME PLOTTED => 14:23

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => s128394
DGN FILE => 54482Uea002alt2.dgn

CU 06233

EA 4482U0

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Caltrans Metric

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	3.4/5.5		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER KARI BHANA No. 65395 Exp. 09-30-09 CIVIL STATE OF CALIFORNIA

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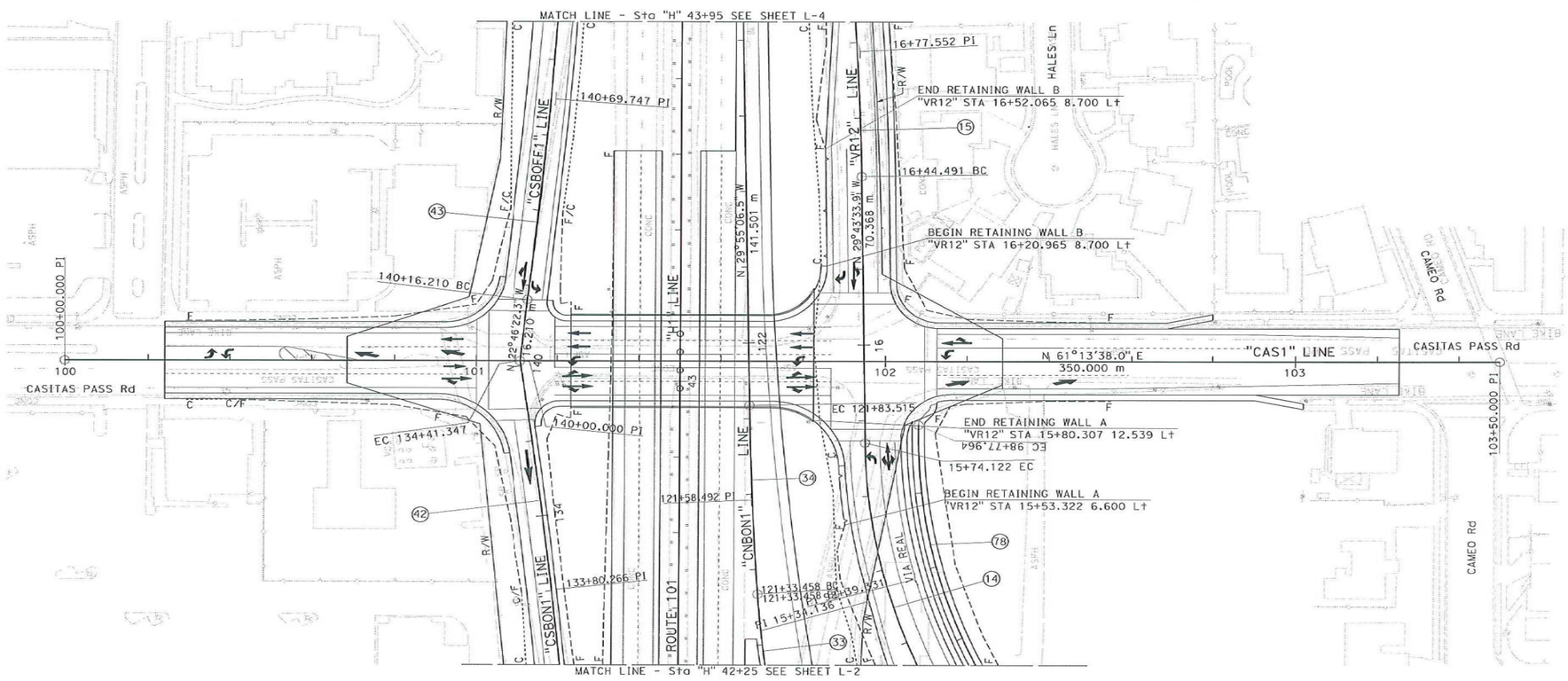

CURVE DATA

No.	R	Δ	T	L
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15	799.995	4°43'59"	33.062	66.086
33	259.999	11°11'22"	25.469	50.776
34	999.994	2°52'05"	25.034	50.057
42	1500.003	4°40'08"	61.149	122.229
43	1216.262	5°02'27"	53.537	107.005
78	136.626	33°20'55"	40.923	79.522

PRELIMINARY PLANS
ALTERNATIVE 2

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

LAYOUT

SCALE 1:500 **L-3**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

DESIGN

FUNCTIONAL SUPERVISOR: W. D. O'HALLORAN

CALCULATED-DESIGNED BY | CHECKED BY | REVISED BY | DATE REVISED

LAST REVISION 04-22-08 | DATE PLOTTED => 25-NOV-2008 | TIME PLOTTED => 15:59

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => s128394
DGN FILE => 54482Uea003alt2.dgn

CU 06233

EA 4482U0

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Caltrans Metric

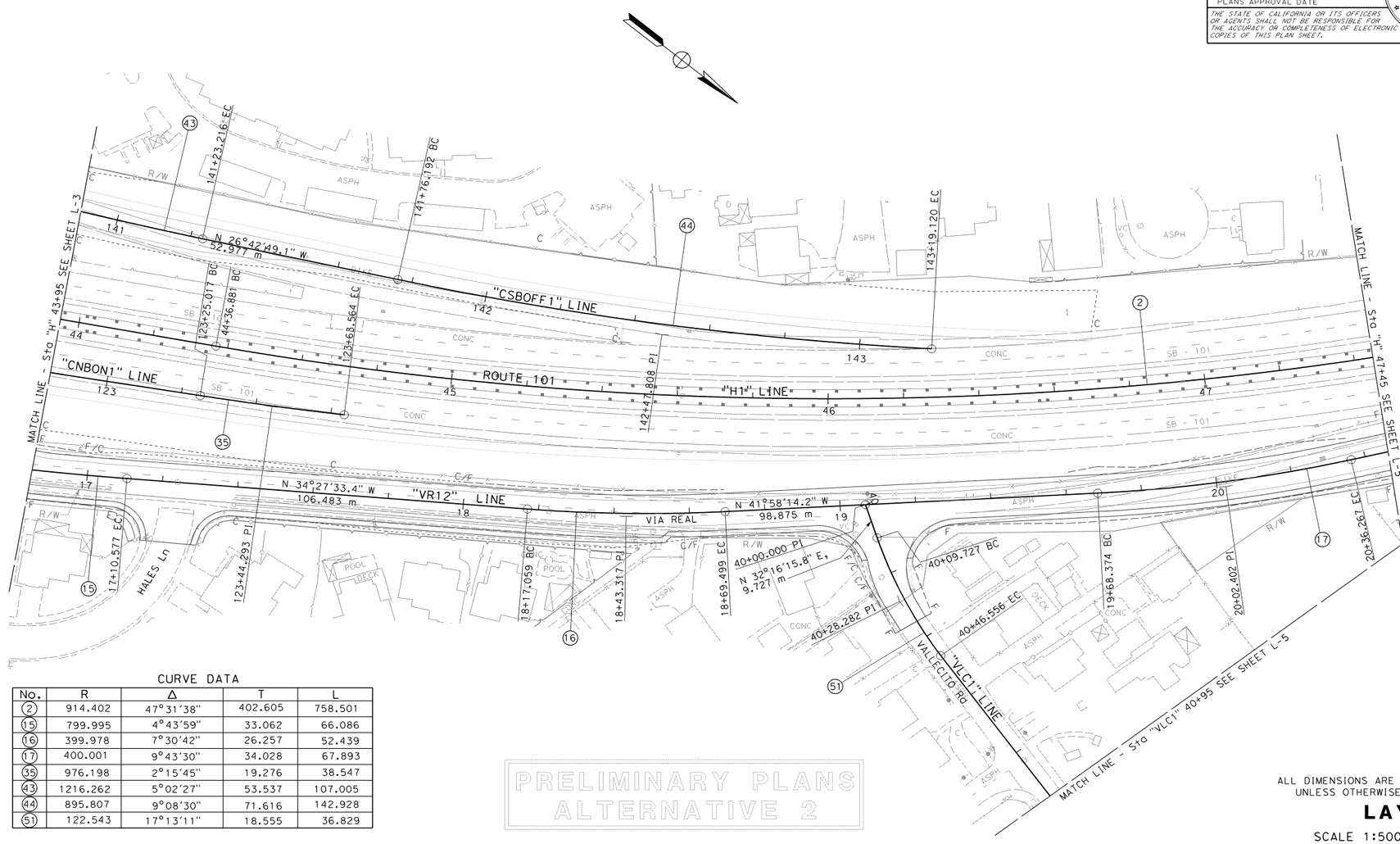
Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	3.4/5.5		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER KARI BHANA No. 65395 Exp. 09-30-09 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.



CURVE DATA

No.	R	Δ	T	L
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15	799.995	4°43'59"	33.062	66.086
16	399.978	7°30'42"	26.257	52.439
17	400.001	9°43'30"	34.028	67.893
35	976.198	2°15'45"	19.276	38.547
43	1216.262	5°02'27"	53.537	107.005
44	895.807	9°08'30"	71.616	142.928
51	122.543	17°13'11"	18.555	36.829

PRELIMINARY PLANS
ALTERNATIVE 2

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

LAYOUT

SCALE 1:500 **L-4**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans **DESIGN**

FUNCTIONAL SUPERVISOR W. D. O'HALLORAN

CALCULATED-DESIGNED BY

CHECKED BY

REVISED BY

DATE REVISED

LAST REVISION 04-22-08

DATE PLOTTED => $DATE

TIME PLOTTED => $TIME

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => $USER

DGN FILE => $REQUEST

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EA 4482U0

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NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	3.4/5.5		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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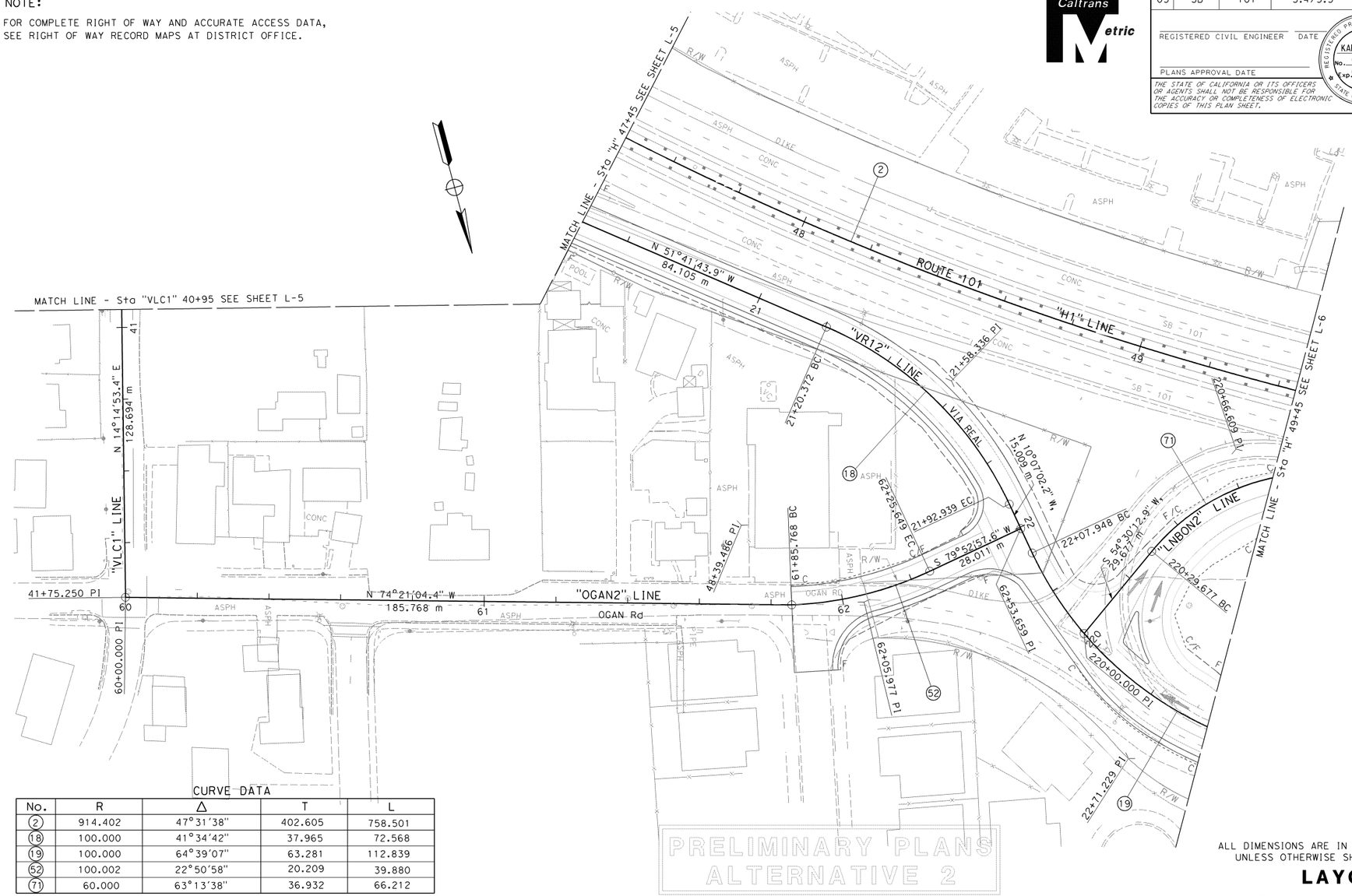
REGISTERED PROFESSIONAL ENGINEER KARI BHANA No. 65395 Exp. 09-30-09 CIVIL STATE OF CALIFORNIA



CURVE DATA

No.	R	Δ	T	L
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19	100.000	64°39'07"	63.281	112.839
52	100.002	22°50'58"	20.209	39.880
71	60.000	63°13'38"	36.932	66.212

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

LAYOUT

SCALE 1:500 **L-5**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans **DESIGN**

FUNCTIONAL SUPERVISOR W. D. O'HALLORAN

CALCULATED-DESIGNED BY

CHECKED BY

REVISED BY

DATE REVISED

LAST REVISION 04-22-08 DATE PLOTTED => $DATE TIME PLOTTED => $TIME

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

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CU 06233

EA 4482U0

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NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Caltrans Metric

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	3.4/5.5		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER KARI BHANA No. 65395 Exp. 09-30-09 CIVIL STATE OF CALIFORNIA

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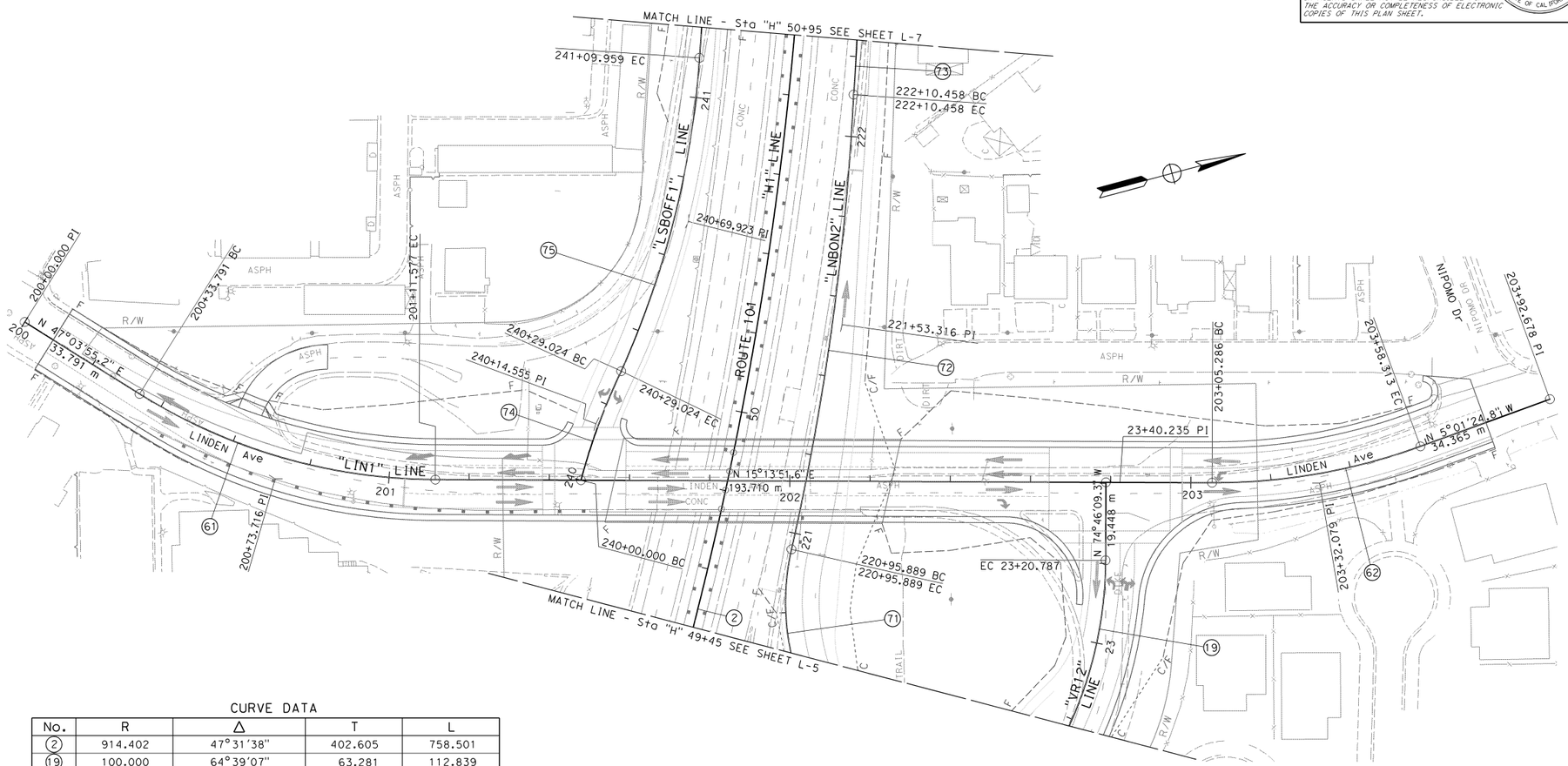

CURVE DATA

No.	R	Δ	T	L
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61	140.001	31°50'03"	39.925	77.786
62	150.000	20°15'16"	26.793	53.026
71	60.000	63°13'38"	36.932	66.212
72	663.285	9°53'48"	57.427	114.569
73	1115.399	5°37'33"	54.805	109.522
74	153.599	10°49'35"	14.555	29.024
75	227.695	20°21'58"	40.899	80.935

PRELIMINARY PLANS
ALTERNATIVE 2

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

LAYOUT

SCALE 1:500 **L-6**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans **DESIGN**

FUNCTIONAL SUPERVISOR: W. D. O'HALLORAN
CALCULATED-DESIGNED BY
CHECKED BY
REVISED BY
DATE REVISED

LAST REVISION 04-22-08 DATE PLOTTED => $DATE TIME PLOTTED => $TIME

BORDER LAST REVISED 3/1/2007 | RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80 | USERNAME => $USER DGN FILE => $REQUEST | CU 06233 | EA 4482U0

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NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA,
SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Caltrans Metric

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	3.4/5.5		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER KARI BHANA No. 65395 Exp. 09-30-09 CIVIL STATE OF CALIFORNIA

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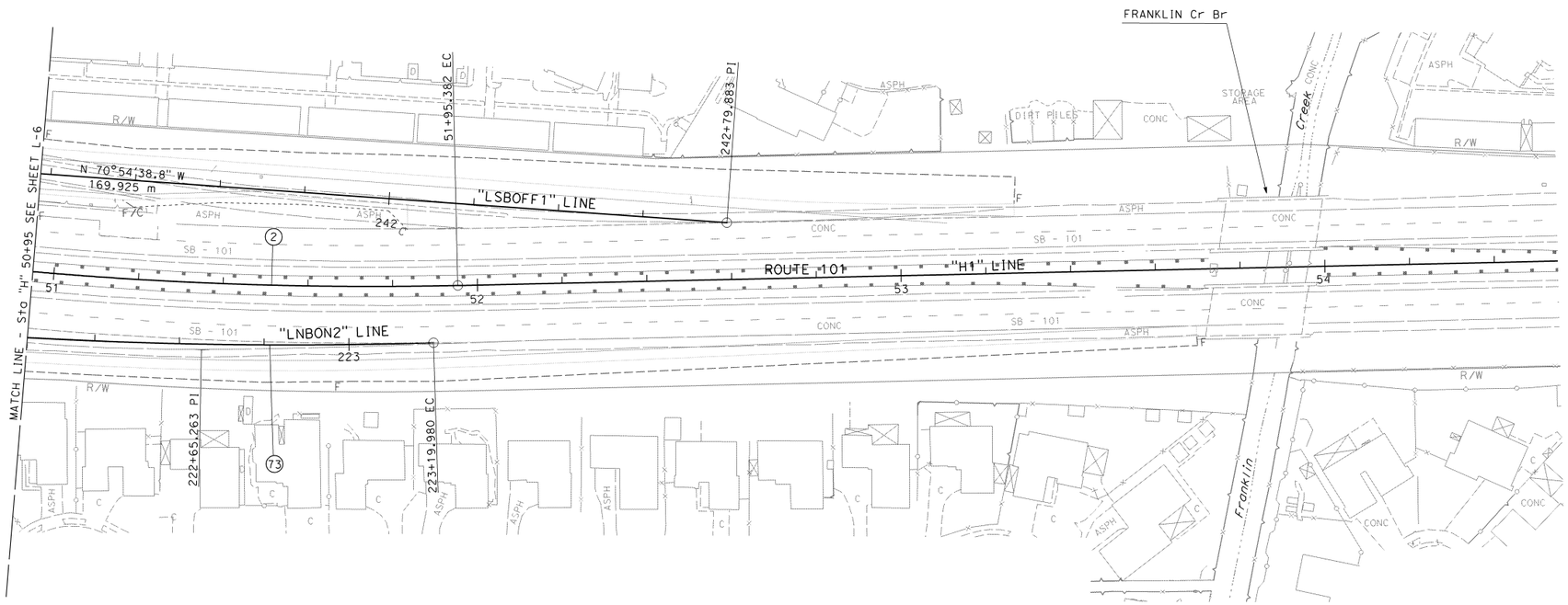

CURVE DATA

No.	R	Δ	T	L
2	914.402	47°31'38"	402.605	758.501
73	1115.399	5°37'33"	54.805	109.522

PRELIMINARY PLANS
ALTERNATIVE 2

ALL DIMENSIONS ARE IN METERS
UNLESS OTHERWISE SHOWN

LAYOUT

SCALE 1:500 **L-7**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans **DESIGN**

FUNCTIONAL SUPERVISOR W. D. O'HALLORAN

CALCULATED-DESIGNED BY | CHECKED BY

REVISED BY | DATE REVISED

LAST REVISION 04-22-08 | DATE PLOTTED => $DATE | TIME PLOTTED => $TIME

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

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CU 06233 | EA 4482U0

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Alternative 3

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Caltrans Metric

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	3.4/5.5		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER KARI BHANA No. 65395 Exp. 09-30-09 CIVIL STATE OF CALIFORNIA

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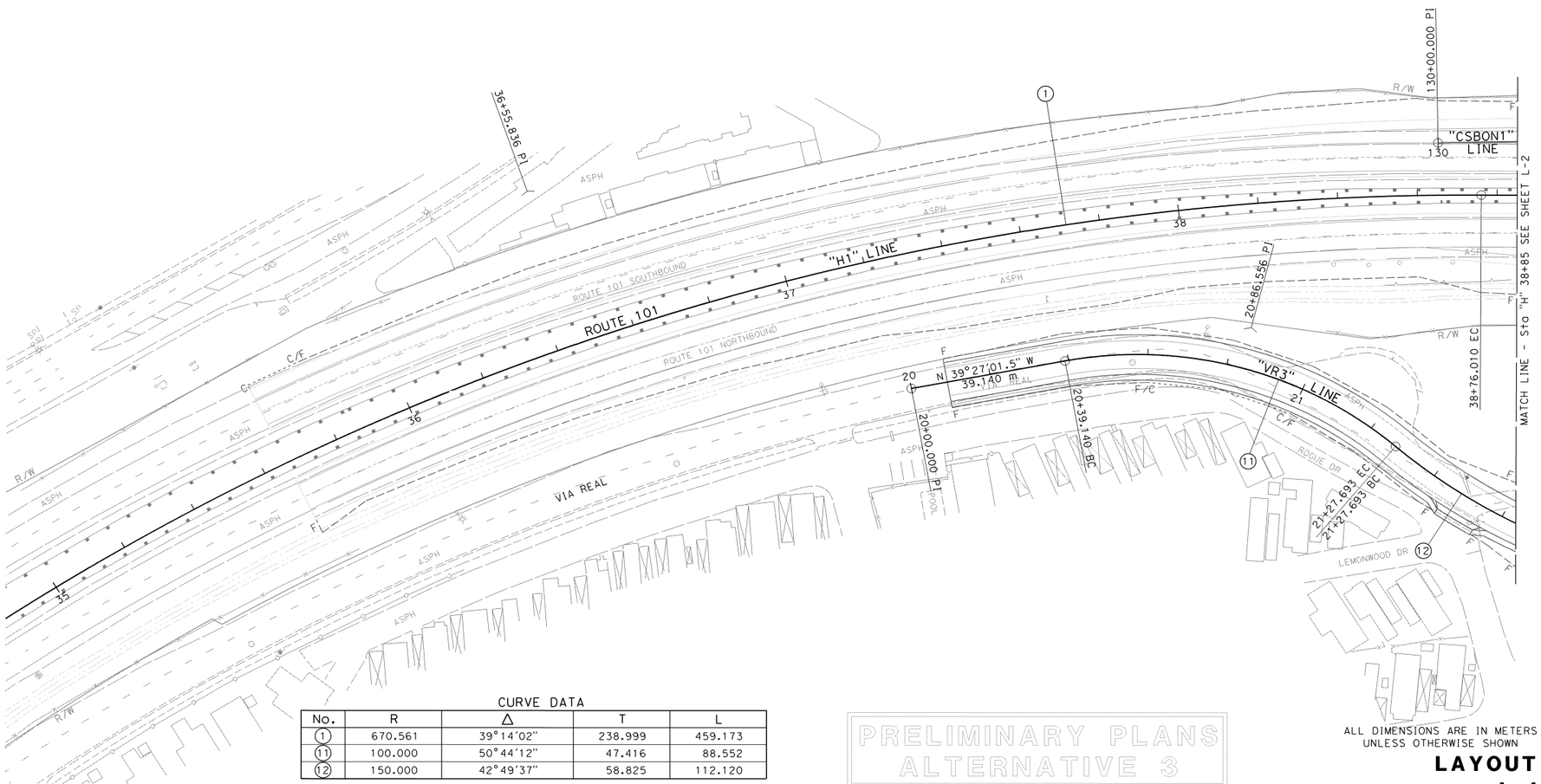

CURVE DATA

No.	R	Δ	T	L
1	670.561	39°14'02"	238.999	459.173
11	100.000	50°44'12"	47.416	88.552
12	150.000	42°49'37"	58.825	112.120

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

LAYOUT

SCALE 1:500 **L-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans **DESIGN**

FUNCTIONAL SUPERVISOR W. D. O'HALLORAN

CALCULATED-DESIGNED BY

CHECKED BY

REVISED BY

DATE REVISED

LAST REVISION 04-22-08 DATE PLOTTED => $DATE TIME PLOTTED => $TIME

BORDER LAST REVISED 3/1/2007

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RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

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DGN FILE => $REQUEST

CU 06233

EA 4482U0

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	3.4/5.5		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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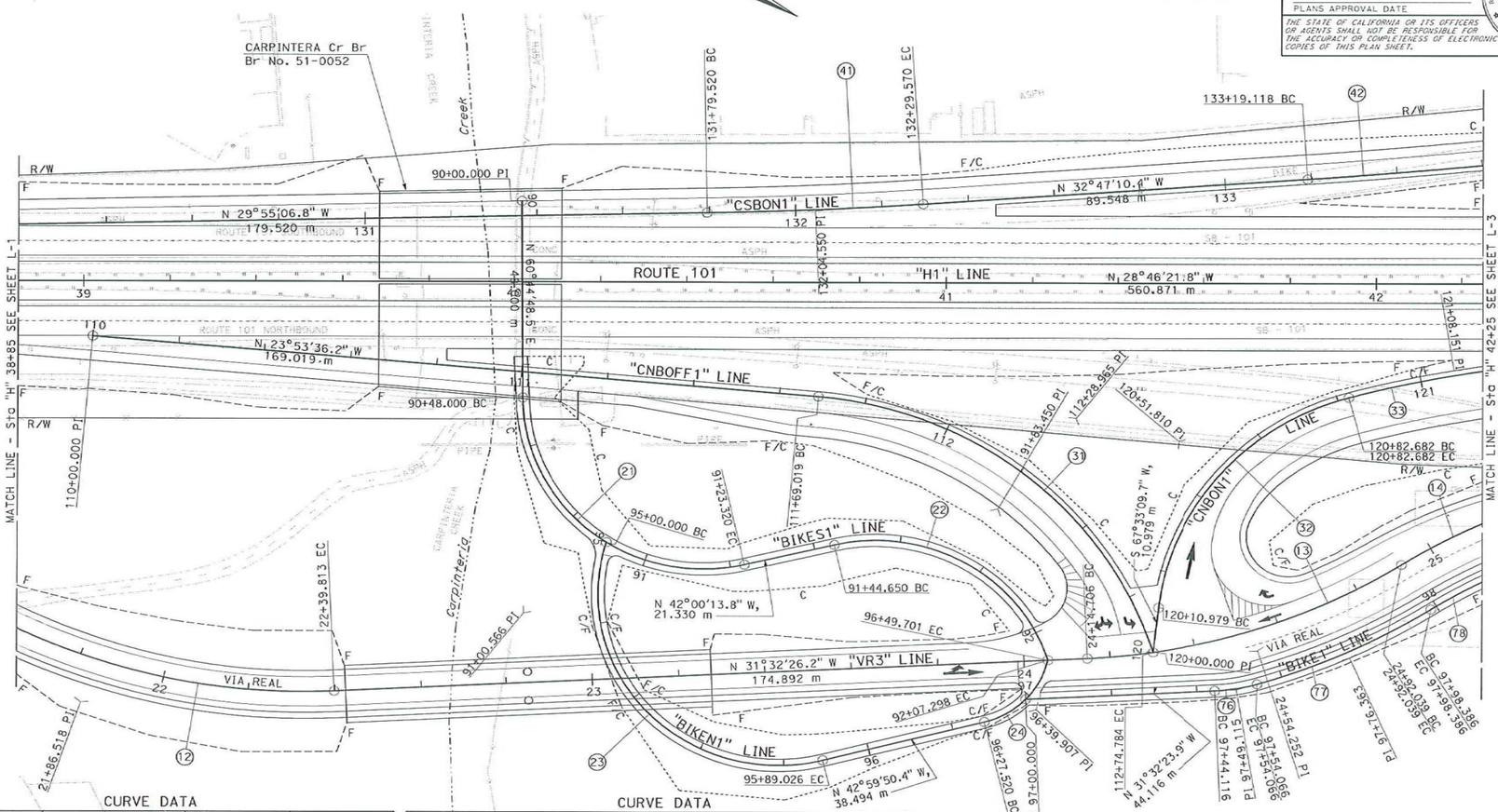
REGISTERED PROFESSIONAL ENGINEER KARI BHANA No. 65395 Exp. 09-30-09 CIVIL STATE OF CALIFORNIA



CURVE DATA

No.	R	Δ	T	L
12	150.000	42°49'37"	58.825	112.120
13	150.000	29°32'21"	39.547	77.333
14	150.000	31°21'13"	42.097	82.083
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23	42.000	121°26'55"	74.917	89.026
24	20.000	63°32'33"	12.387	22.181
31	90.000	67°19'55"	59.945	105.765

CURVE DATA

No.	R	Δ	T	L
32	60.000	68°28'16"	40.830	71.703
33	259.999	11°11'22"	25.469	50.76
41	1000.006	2°52'03"	25.030	50.050
42	1500.003	4°40'08"	61.149	122.229
76	46.443	12°12'34"	4.967	9.897
77	164.005	15°30'38"	22.336	44.398
78	136.626	33°20'55"	40.923	79.522

PRELIMINARY PLANS
ALTERNATIVE 3

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

LAYOUT

SCALE 1:500 **L-2**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

DESIGN

FUNCTIONAL SUPERVISOR W. D. O'HALLORAN

CALCULATED-DESIGNED BY

CHECKED BY

REVISED BY

DATE REVISED

LAST REVISION 04-22-08

DATE PLOTTED => 25-NOV-2008

TIME PLOTTED => 14:33

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => s128394

DGN FILE => 54482Uac002al13.dgn

CU 06233

EA 4482U0

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	3.4/5.5		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER KARI BHANA No. 65395 Exp 09-30-09 CIVIL STATE OF CALIFORNIA

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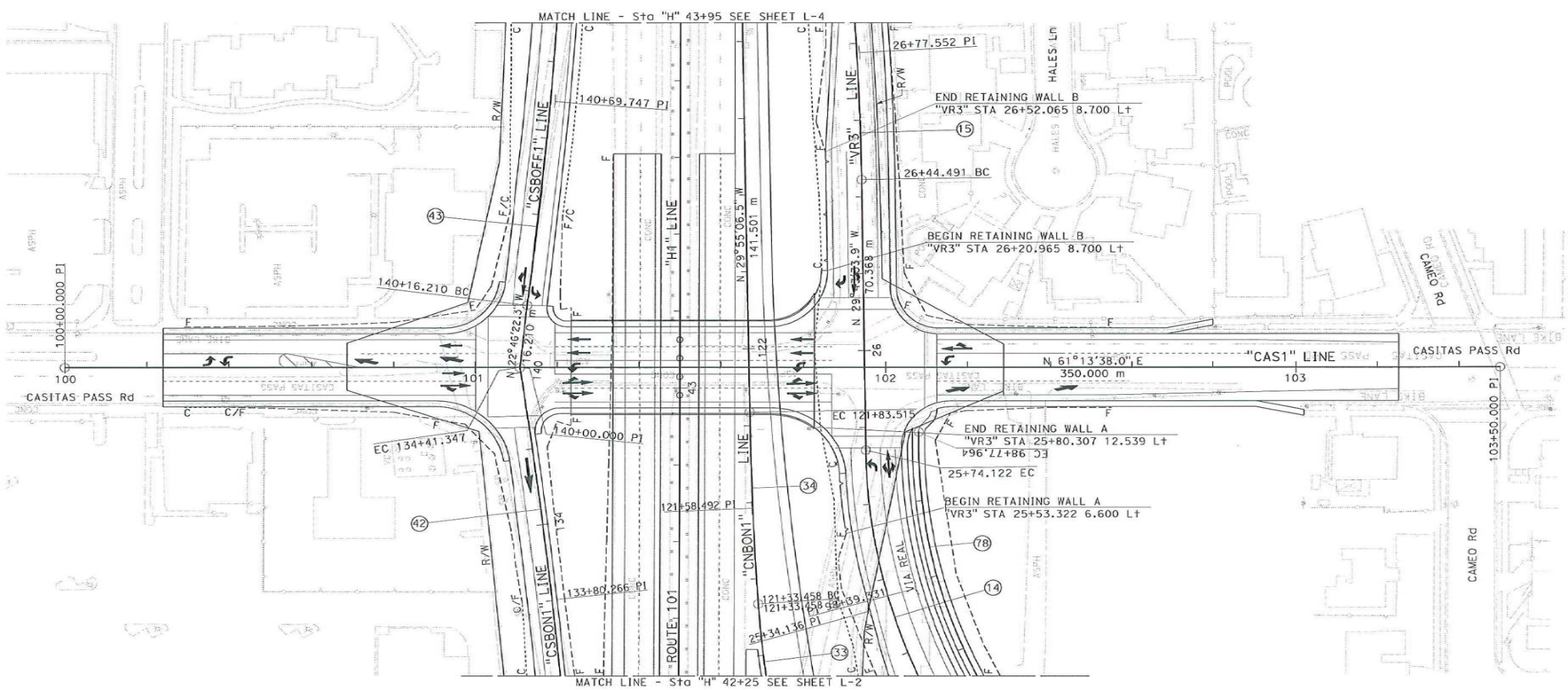


CURVE DATA

No.	R	Δ	T	L
14	150.000	31°21'13"	42.097	82.083
15	799.995	4°43'59"	33.062	66.086
33	259.999	11°11'22"	25.469	50.776
34	999.994	2°52'05"	25.034	50.057
42	1500.003	4°40'08"	61.149	122.229
43	1216.262	5°02'27"	53.537	107.005
78	136.626	33°20'55"	40.923	79.522

PRELIMINARY PLANS
ALTERNATIVE 3

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

LAYOUT

SCALE 1:500 **L-3**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans **DESIGN**

FUNCTIONAL SUPERVISOR W. D. O'HALLORAN

CALCULATED-DESIGNED BY

CHECKED BY

REVISED BY

DATE REVISED

LAYOUT REVISION 04-22-08

DATE PLOTTED => 25-NOV-2008

TIME PLOTTED => 15:58

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => s128394

DGN FILE => 54482Uea003alt3.dgn

CU 06233

EA 4482U0

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Caltrans Metric

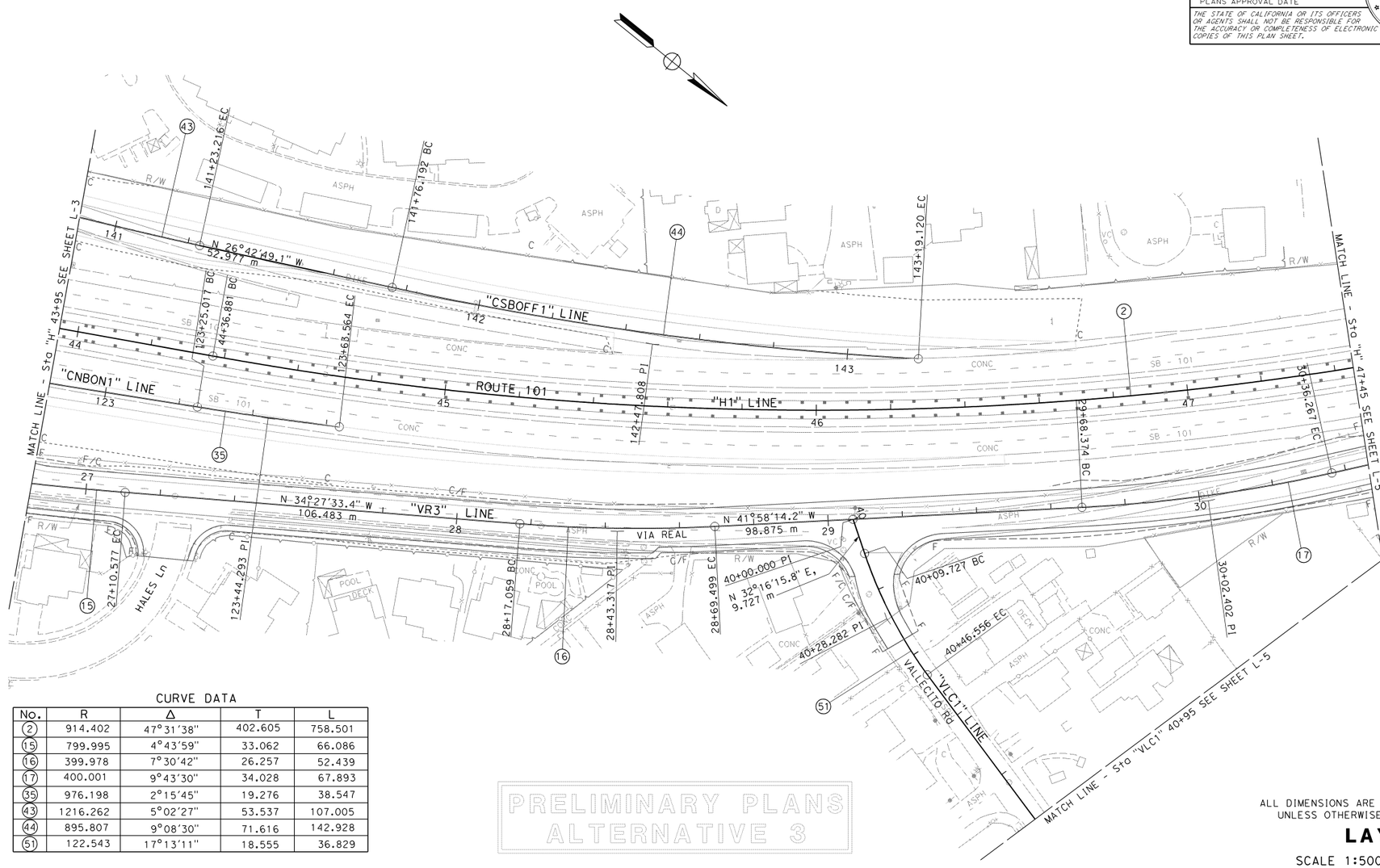
Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	3.4/5.5		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER KARI BHANA No. 65395 Exp. 09-30-09 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.



CURVE DATA

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16	399.978	7°30'42"	26.257	52.439
17	400.001	9°43'30"	34.028	67.893
35	976.198	2°15'45"	19.276	38.547
43	1216.262	5°02'27"	53.537	107.005
44	895.807	9°08'30"	71.616	142.928
51	122.543	17°13'11"	18.555	36.829

PRELIMINARY PLANS
ALTERNATIVE 3

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

LAYOUT

SCALE 1:500 **L-4**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans **DESIGN**

FUNCTIONAL SUPERVISOR W. D. O'HALLORAN

CALCULATED-DESIGNED BY
CHECKED BY
REVISED BY
DATE REVISED

LAST REVISION 04-22-08
DATE PLOTTED => $DATE
TIME PLOTTED => $TIME

BORDER LAST REVISED 3/1/2007
...\54482Uea004alt3.dgn 9/10/2008 9:01:21 AM

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

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DGN FILE => $REQUEST

CU 06233

EA 4482U0

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

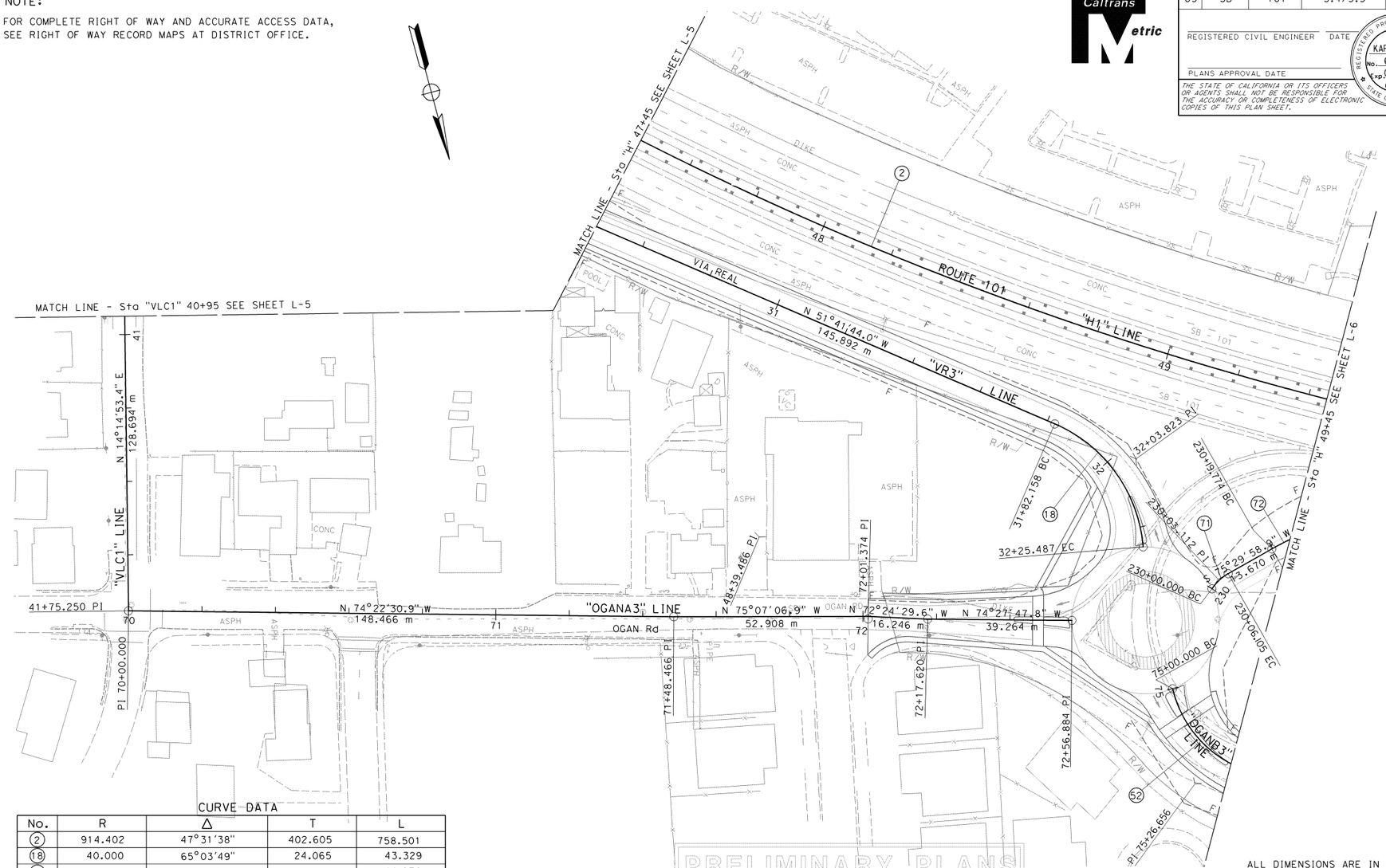
Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	3.4/5.5		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER KARI BHANA No. 65395 Exp. 09-30-09 CIVIL STATE OF CALIFORNIA



CURVE DATA

No.	R	Δ	T	L
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18	40.000	65°03'49"	24.065	43.329
52	31.103	81°11'38"	26.656	44.076
71	12.800	27°19'35"	3.112	6.105
72	82.396	35°28'22"	26.354	51.013

PRELIMINARY PLANS
ALTERNATIVE 3

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

LAYOUT

SCALE 1:500 **L-5**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans **DESIGN**

FUNCTIONAL SUPERVISOR W. D. O'HALLORAN

CALCULATED-DESIGNED BY
CHECKED BY
REVISED BY
DATE REVISED

LAST REVISION 04-22-08 DATE PLOTTED => $DATE TIME PLOTTED => $TIME

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

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DGN FILE => $REQUEST

CU 06233

EA 4482U0

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NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

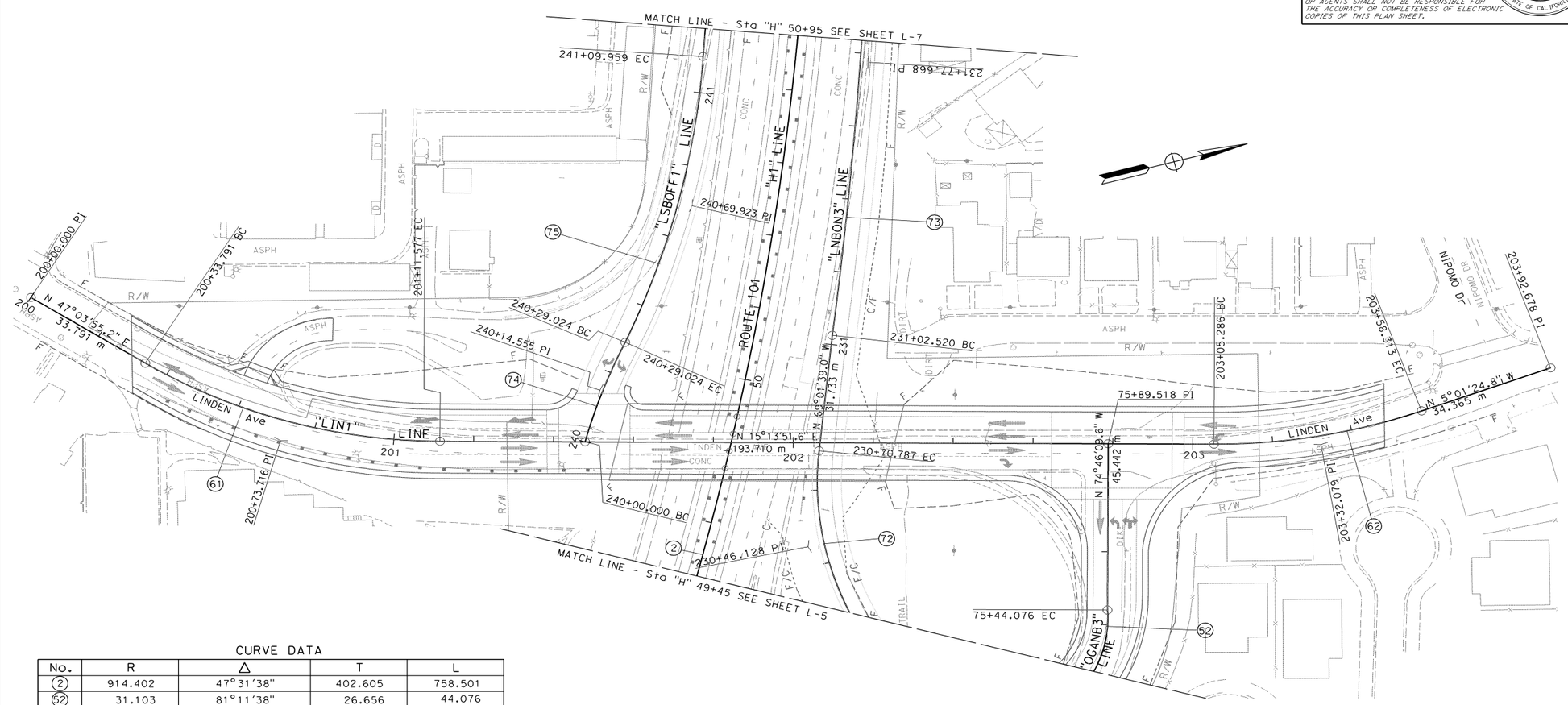
Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	3.4/5.5		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER KARI BHANA No. 65395 EXP. 09-30-09 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.



CURVE DATA

No.	R	Δ	T	L
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52	31.103	81°11'38"	26.656	44.076
61	140.001	31°50'03"	39.925	77.786
62	150.000	20°15'16"	26.793	53.026
72	82.396	35°28'22"	26.354	51.013
73	1347.826	6°22'57"	75.149	150.142
74	153.599	10°49'35"	14.555	29.024
75	227.695	20°21'58"	40.899	80.935

PRELIMINARY PLANS
ALTERNATIVE 3

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

LAYOUT

SCALE 1:500 **L-6**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans **DESIGN**

FUNCTIONAL SUPERVISOR W. D. O'HALLORAN

CALCULATED-DESIGNED BY

CHECKED BY

REVISED BY

DATE REVISED

LAST REVISION 04-22-08

DATE PLOTTED => $DATE

TIME PLOTTED => $TIME

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => $USER

DGN FILE => $REQUEST

CU 06233

EA 4482U0

54482Uea006alt3.dgn 9/10/2008 9:58:49 AM

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Caltrans Metric

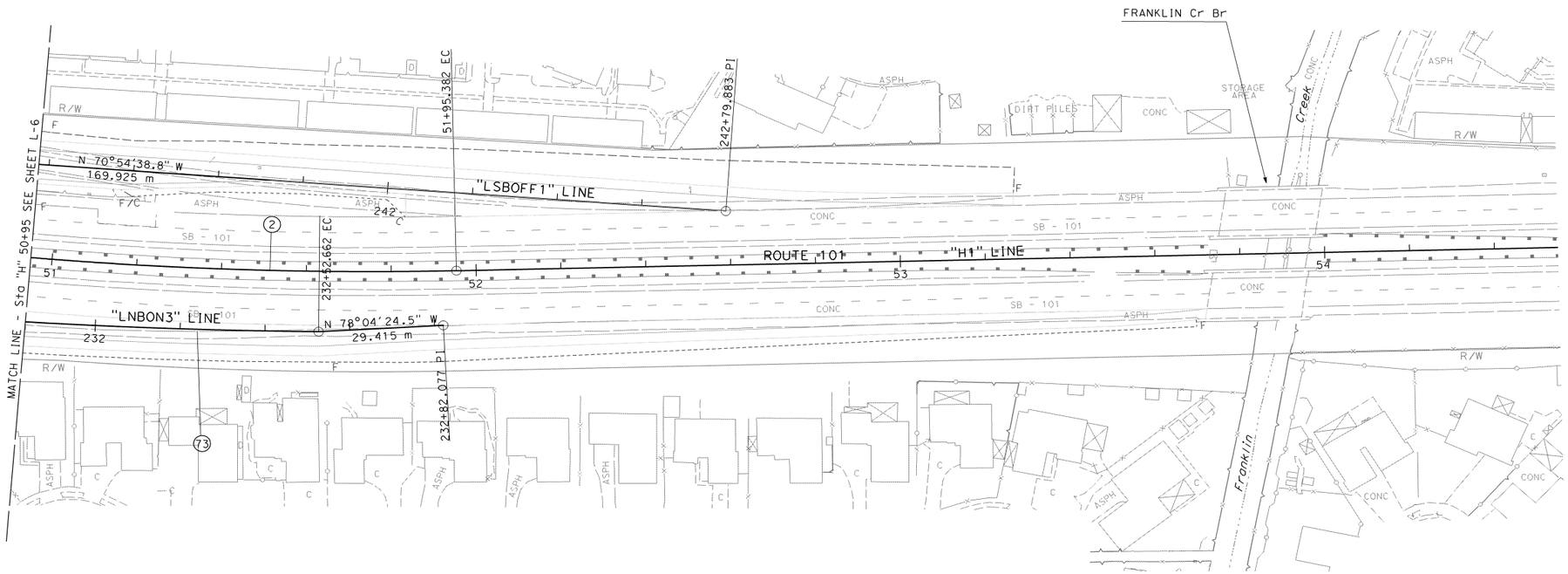
Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	3.4/5.5		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER KARI BHANA No. 65395 Exp. 09-30-09 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.



CURVE DATA

No.	R	Δ	T	L
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73	1347.826	6°22'57"	75.149	150.142

PRELIMINARY PLANS
ALTERNATIVE 3

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

LAYOUT

SCALE 1:500 **L-7**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans **DESIGN**

FUNCTIONAL SUPERVISOR: W. D. O'HALLORAN

CALCULATED-DESIGNED BY | CHECKED BY

REVISED BY | DATE REVISED

LAST REVISION 04-22-08 | DATE PLOTTED => $DATE | TIME PLOTTED => $TIME

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => $USER
DGN FILE => $REQUEST

CU 06233 | EA 4482U0

54482Uea007alt3.dgn 9/10/2008 9:59:30 AM

Alternative 4

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Caltrans Metric

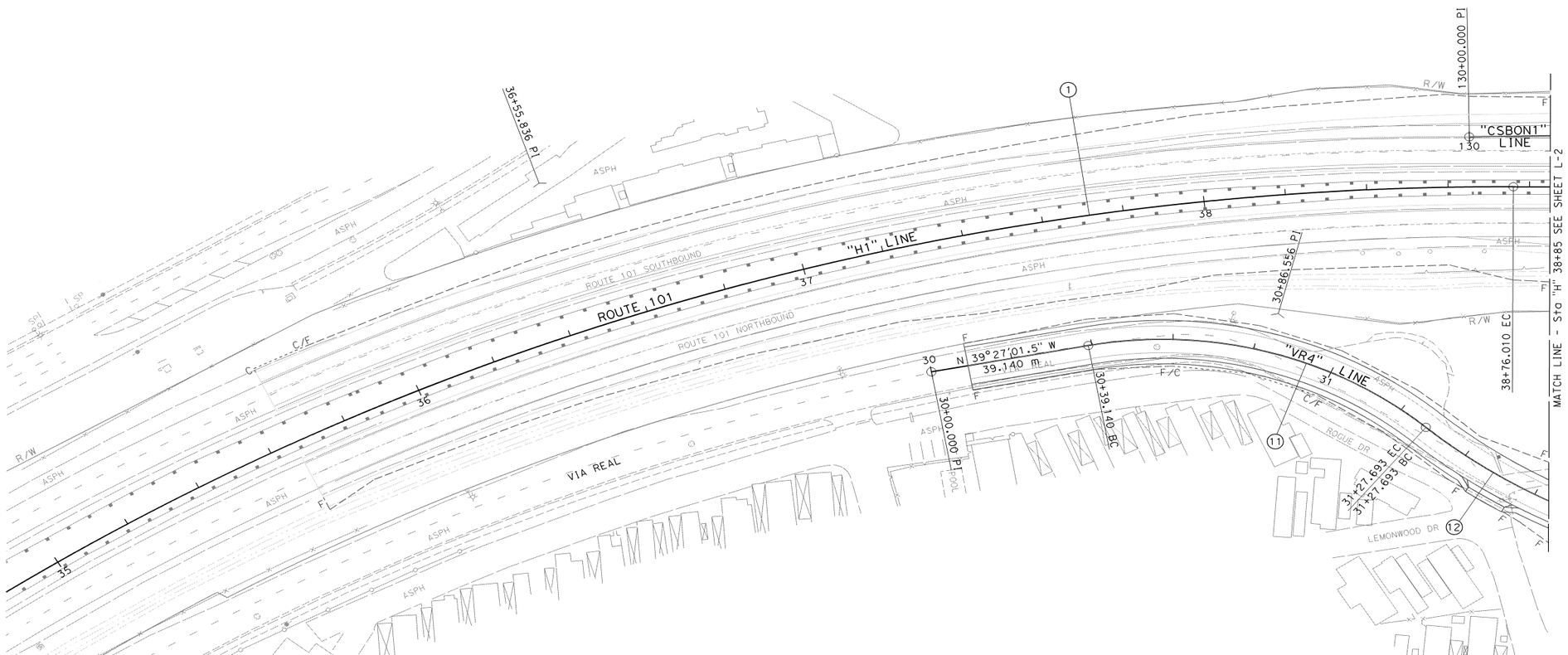
Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	3.4/5.5		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER KARI BHANA No. 65395 Exp. 09-30-09 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.



CURVE DATA

No.	R	Δ	T	L
1	670.561	39°14'02"	238.999	459.173
11	100.000	50°44'12"	47.416	88.552
12	150.000	42°49'37"	58.825	112.120

PRELIMINARY PLANS
ALTERNATIVE 4

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

LAYOUT

SCALE 1:500 **L-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: W. D. O'HALLORAN
CALCULATED-DESIGNED BY
CHECKED BY
REVISED BY
DATE REVISED

LAST REVISION 04-22-08
DATE PLOTTED => $DATE
TIME PLOTTED => $TIME

BORDER LAST REVISED 3/1/2007
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USERNAME => $USER
DGN FILE => $REQUEST
CU 06233
EA 4482U0

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

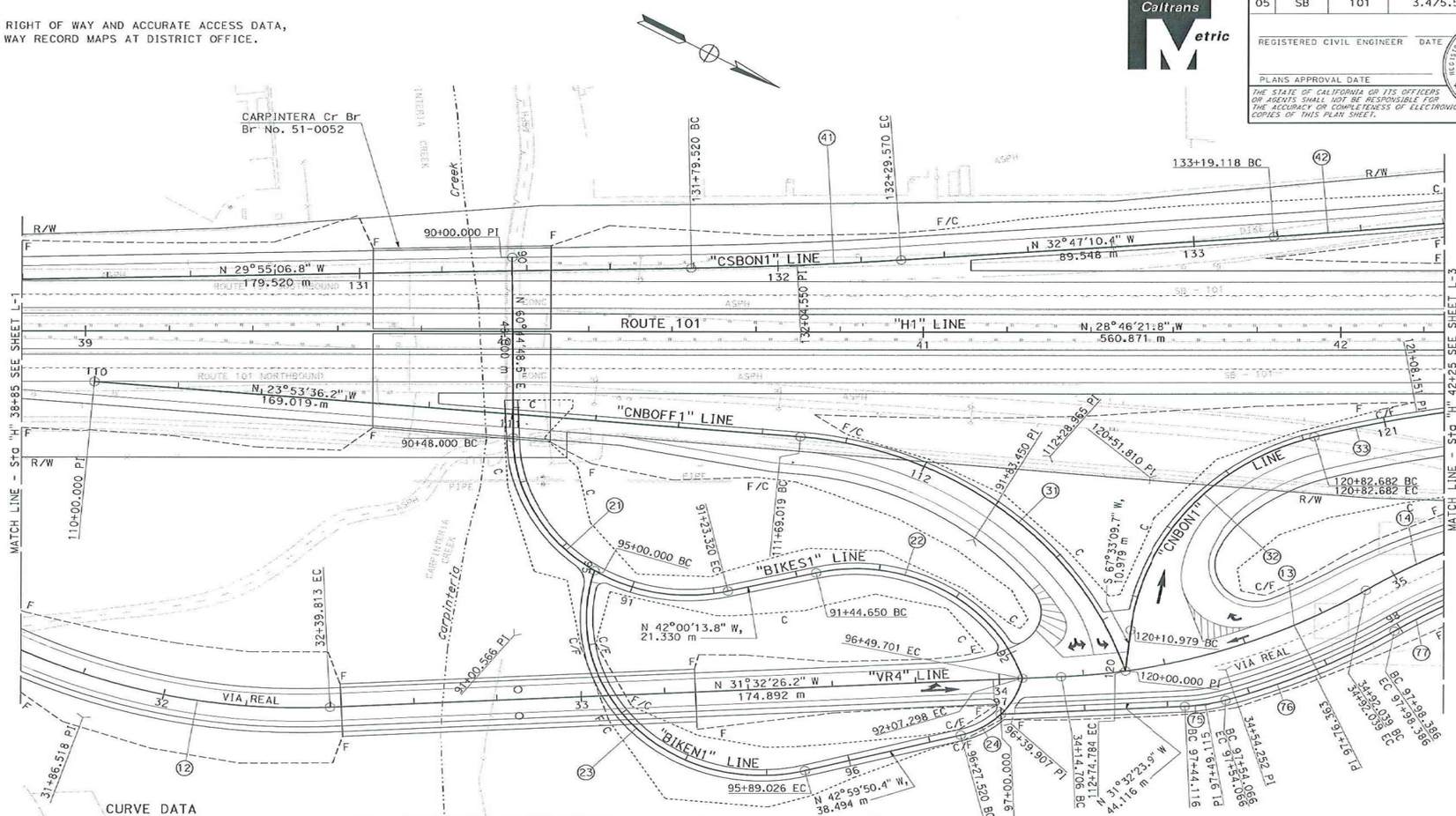
Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	3.4/5.5		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER KARI BHANA No. 65395 Exp. 09-30-09 CIVIL STATE OF CALIFORNIA



CURVE DATA

No.	R	Δ	T	L
12	150.000	42°49'37"	58.825	112.120
13	150.000	29°32'21"	39.547	77.333
14	150.000	31°21'13"	42.097	82.083
21	42.000	102°45'03"	52.566	75.320
22	42.000	85°27'48"	38.799	62.648
23	42.000	121°26'55"	74.917	89.026
24	20.000	63°32'33"	12.387	22.181
31	90.000	67°19'55"	59.945	105.765

No.	R	Δ	T	L
32	60.000	68°28'16"	40.830	71.703
33	259.999	11°11'22"	25.469	50.776
41	1000.006	2°52'03"	25.030	50.050
42	1500.003	4°40'08"	61.149	122.229
75	46.443	12°12'34"	4.967	9.897
76	164.005	15°30'38"	22.336	44.398
77	136.626	33°20'55"	40.923	79.522

PRELIMINARY PLANS
ALTERNATIVE 4

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

LAYOUT

SCALE 1:500 **L-2**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

DESIGN

FUNCTIONAL SUPERVISOR: W. D. O'HALLORAN

CALCULATED-DESIGNED BY

CHECKED BY

REVISED BY

DATE REVISED

LAST REVISION 04-22-08

DATE PLOTTED => 25-NOV-2008
TIME PLOTTED => 14:51

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => s128394
DGN FILE => 54482ea002alt4.dgn

CU 06233

EA 4482U0

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Caltrans Metric

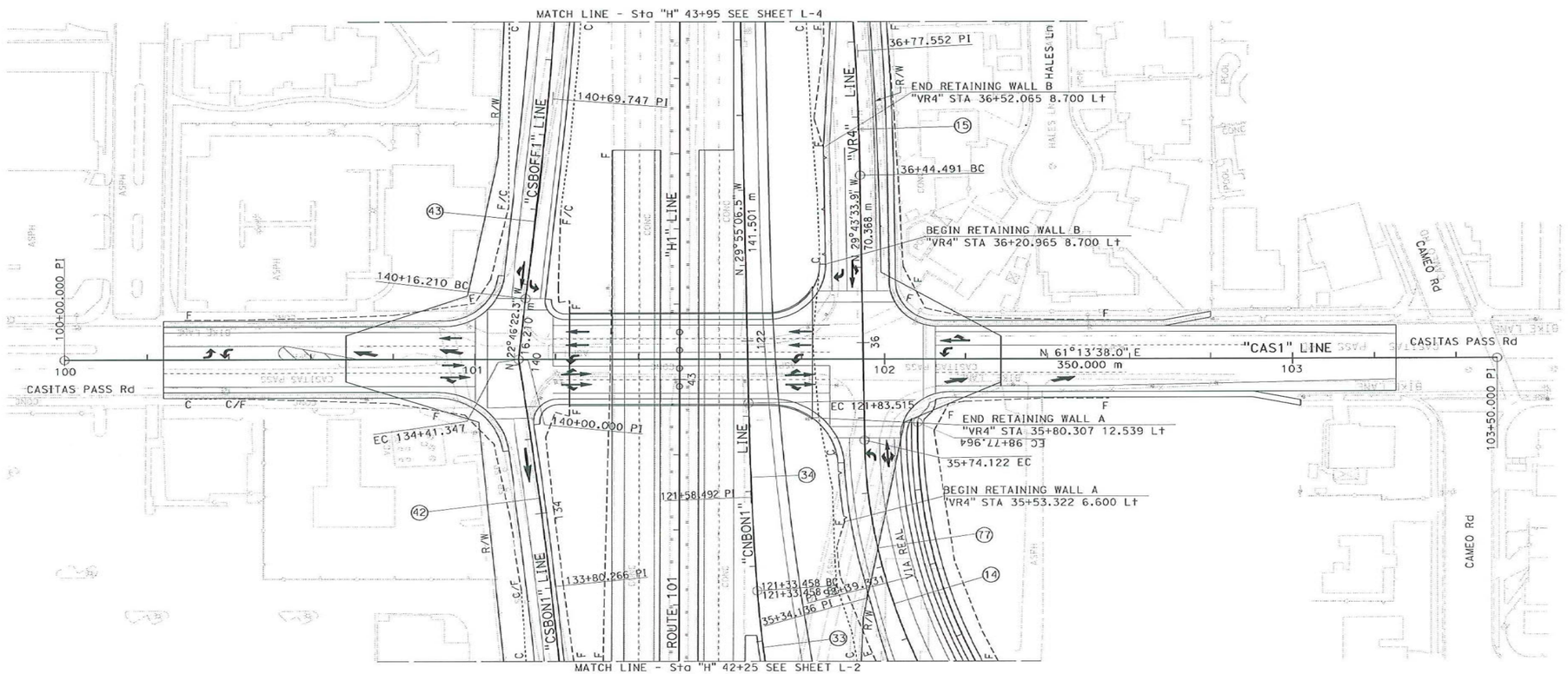
Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	3.4/5.5		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER KARI BHANA 65395 EXP. 09-30-09 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.



CURVE DATA

No.	R	Δ	T	L
14	150.000	31°21'13"	42.097	82.083
15	799.995	4°43'59"	33.062	66.086
33	259.999	11°11'22"	25.469	50.776
34	999.994	2°52'05"	25.034	50.057
42	1500.003	4°40'08"	61.149	122.229
43	1216.262	5°02'27"	53.537	107.005
77	136.626	33°20'55"	40.923	79.522

PRELIMINARY PLANS
ALTERNATIVE 4

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

LAYOUT

SCALE 1:500 **L-3**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans **DESIGN**

FUNCTIONAL SUPERVISOR W. D. O'HALLORAN

CALCULATED-DESIGNED BY / CHECKED BY / REVISED BY / DATE REVISED

LAST REVISION 04-22-08 DATE PLOTTED => 25-NOV-2008 TIME PLOTTED => 16:01

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NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Caltrans Metric

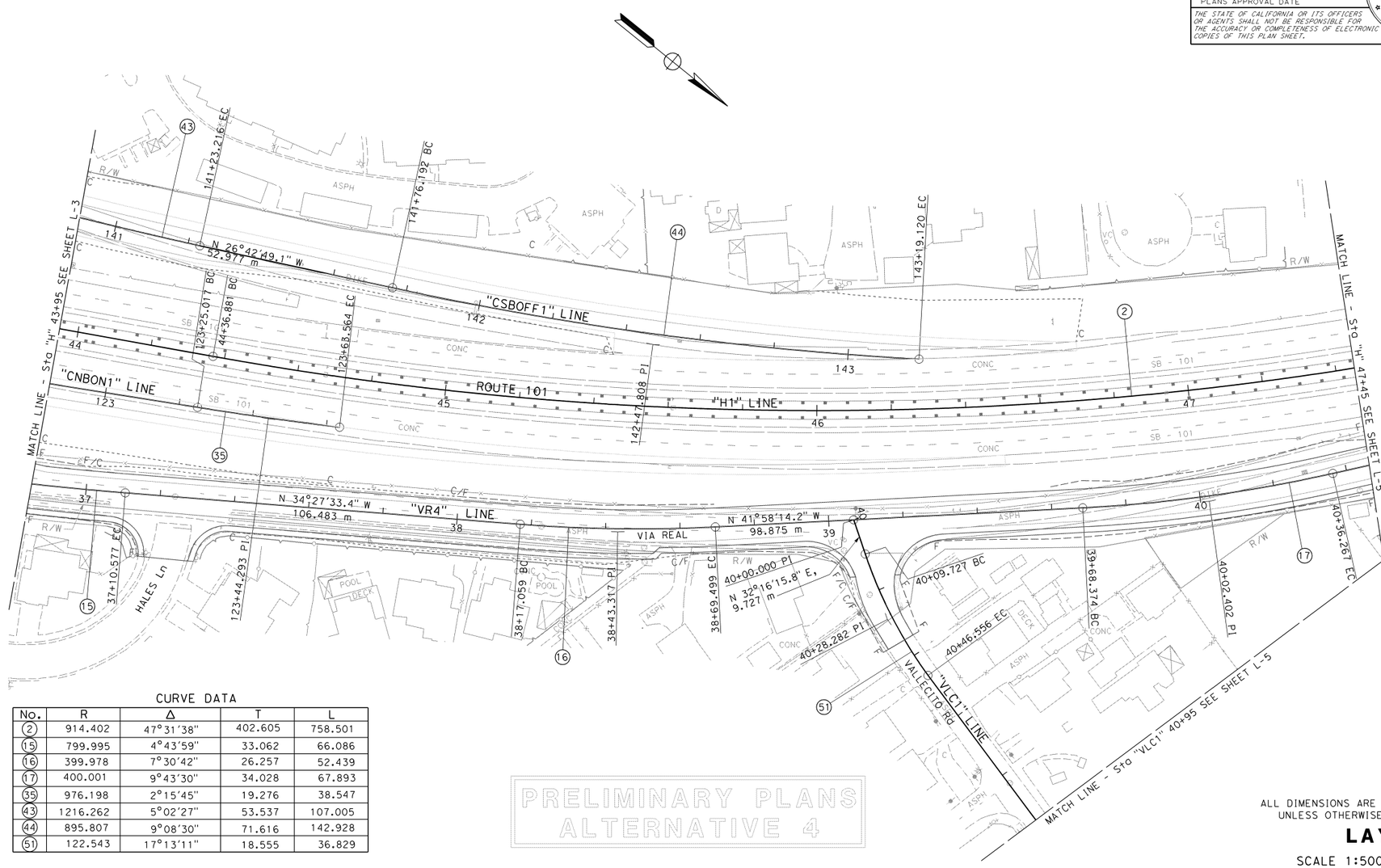
Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	3.4/5.5		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER KARI BHANA No. 65395 Exp. 09-30-09 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.



CURVE DATA

No.	R	Δ	T	L
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15	799.995	4°43'59"	33.062	66.086
16	399.978	7°30'42"	26.257	52.439
17	400.001	9°43'30"	34.028	67.893
35	976.198	2°15'45"	19.276	38.547
43	1216.262	5°02'27"	53.537	107.005
44	895.807	9°08'30"	71.616	142.928
51	122.543	17°13'11"	18.555	36.829

PRELIMINARY PLANS
ALTERNATIVE 4

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

LAYOUT

SCALE 1:500 **L-4**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans **DESIGN**

FUNCTIONAL SUPERVISOR W. D. O'HALLORAN

CALCULATED-DESIGNED BY
CHECKED BY

REVISED BY
DATE REVISED

LAST REVISION 04-22-08
DATE PLOTTED => $DATE
TIME PLOTTED => $TIME

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

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CU 06233

EA 4482U0

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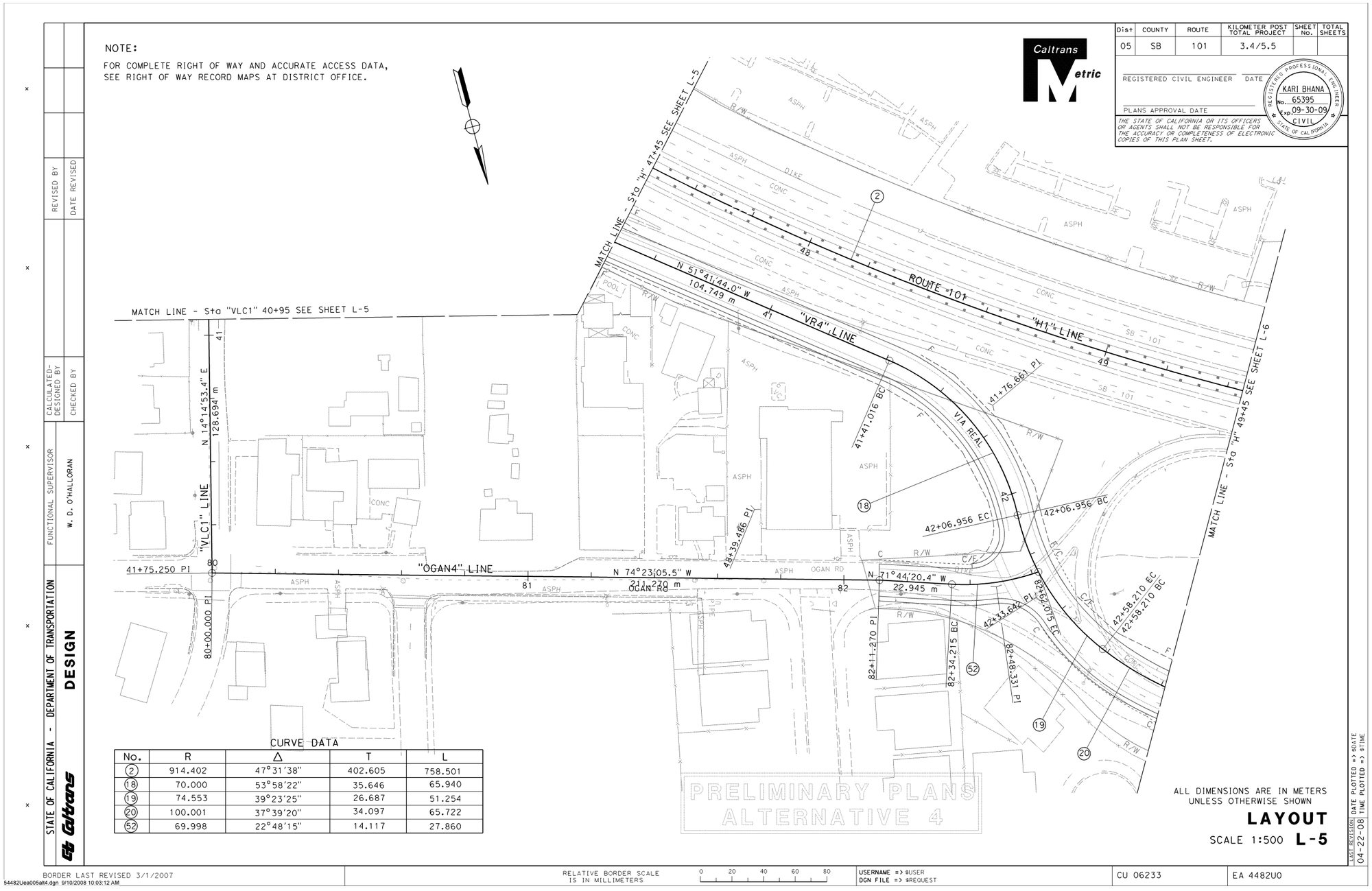

CURVE DATA

No.	R	Δ	T	L
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18	70.000	53°58'22"	35.646	65.940
19	74.553	39°23'25"	26.687	51.254
20	100.001	37°39'20"	34.097	65.722
52	69.998	22°48'15"	14.117	27.860

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Caltrans Metric

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	3.4/5.5		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER KARI BHANA No. 65395 Exp. 09-30-09 CIVIL STATE OF CALIFORNIA

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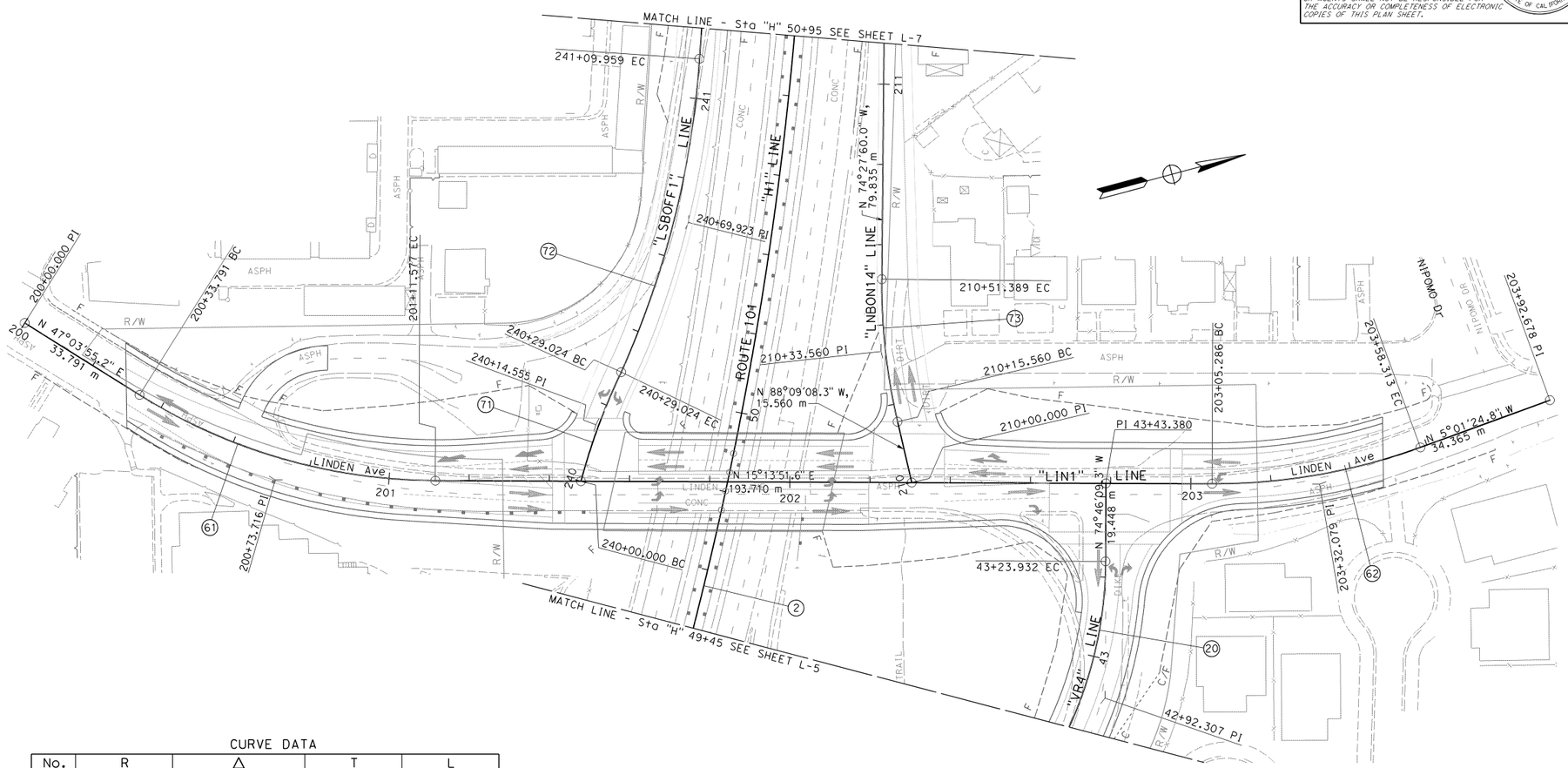

CURVE DATA

No.	R	Δ	T	L
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61	140.001	31°50'03"	39.925	77.786
62	150.000	20°15'16"	26.793	53.026
71	153.599	10°49'35"	14.555	29.024
72	227.695	20°21'58"	40.899	80.935
73	149.998	13°41'09"	18.000	35.829

PRELIMINARY PLANS
ALTERNATIVE 4

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

LAYOUT

SCALE 1:500 **L-6**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans **DESIGN**

FUNCTIONAL SUPERVISOR: W. D. O'HALLORAN
CALCULATED-DESIGNED BY
CHECKED BY
REVISED BY
DATE REVISED

LAST REVISION 04-22-08 DATE PLOTTED => $DATE TIME PLOTTED => $TIME

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

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CU 06233

EA 4482U0

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NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA,
SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Caltrans Metric

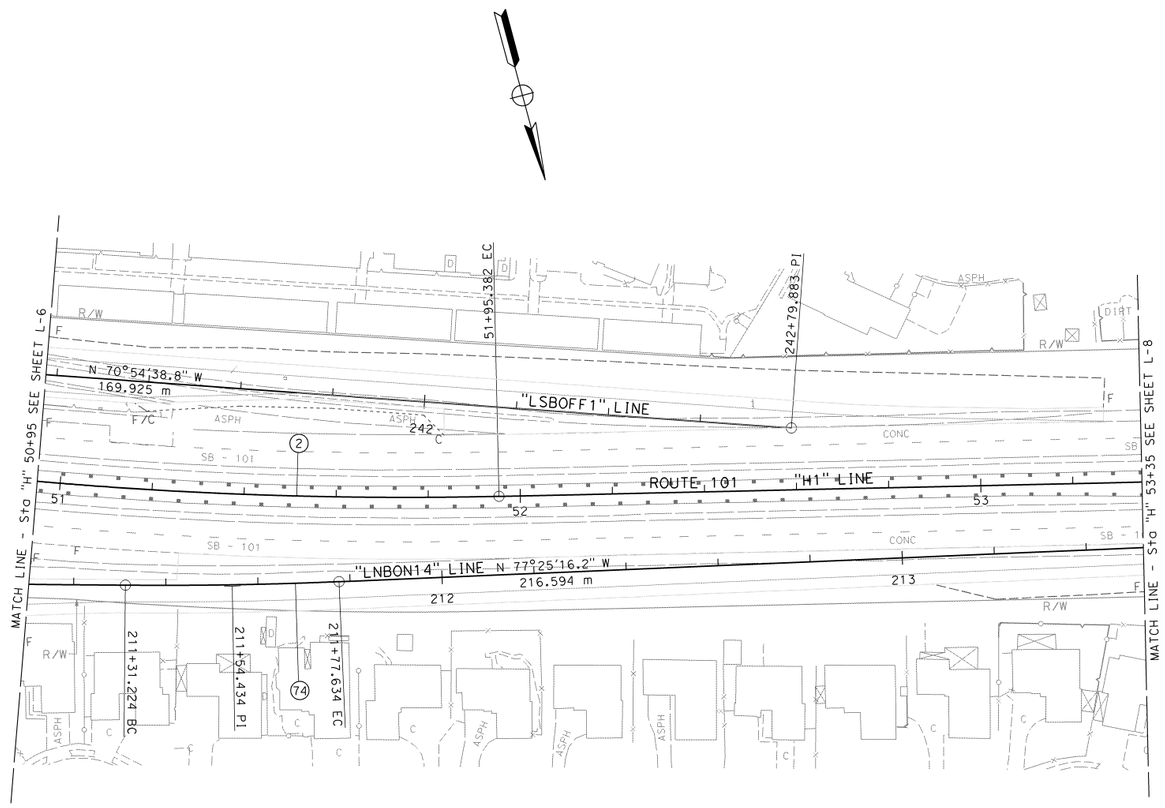
Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	3.4/5.5		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER KARI BHANA No. 65395 Exp. 09-30-09 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.



CURVE DATA

No.	R	Δ	T	L
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74	900.061	2°57'16"	23.210	46.411

PRELIMINARY PLANS
ALTERNATIVE 4

ALL DIMENSIONS ARE IN METERS
UNLESS OTHERWISE SHOWN

LAYOUT

SCALE 1:500 **L-7**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans **DESIGN**

FUNCTIONAL SUPERVISOR: W. D. O'HALLORAN

CALCULATED-DESIGNED BY | CHECKED BY | REVISED BY | DATE REVISED

LAST REVISION 04-22-08 | DATE PLOTTED => $DATE | TIME PLOTTED => $TIME

BORDER LAST REVISED 3/1/2007

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DGN FILE => $REQUEST

CU 06233 | EA 4482U0

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Caltrans Metric

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	3.4/5.5		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER KARI BHANA No. 65395 Exp. 09-30-09 CIVIL STATE OF CALIFORNIA

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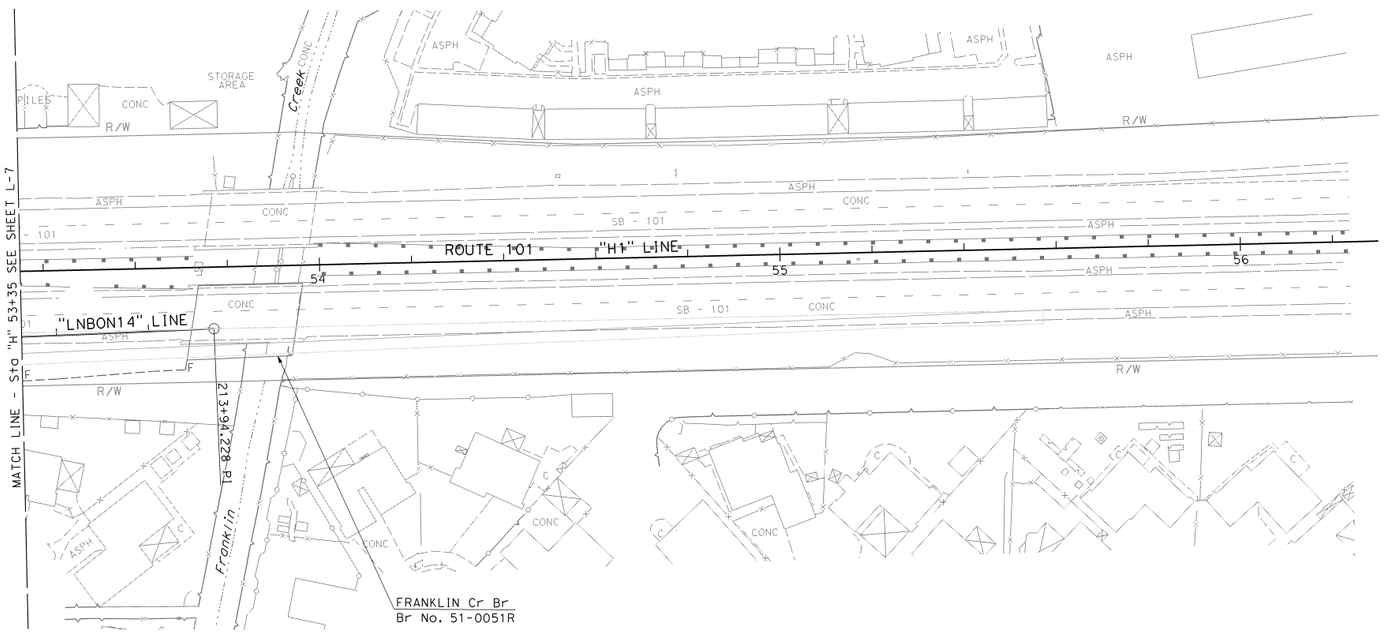

PRELIMINARY PLANS
ALTERNATIVE 4

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

LAYOUT

SCALE 1:500 **L-8**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans **DESIGN**

FUNCTIONAL SUPERVISOR: W. D. O'HALLORAN

CALCULATED-DESIGNED BY

CHECKED BY

REVISED BY

DATE REVISED

LAST REVISION 04-22-08

DATE PLOTTED => $DATE

TIME PLOTTED => $TIME

BORDER LAST REVISED 3/1/2007

54482Uea008alt4.dgn 9/10/2008 10:05:18 AM

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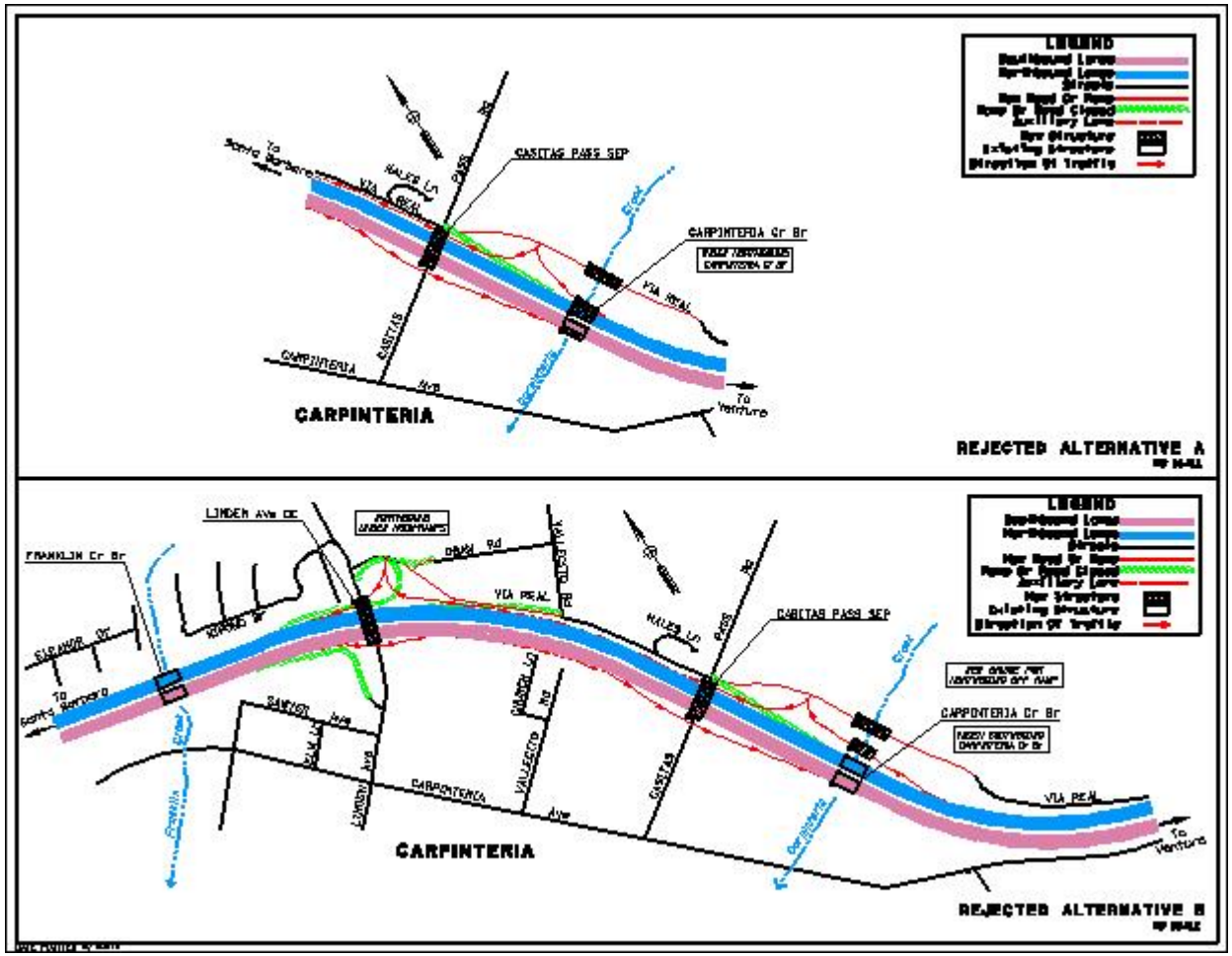
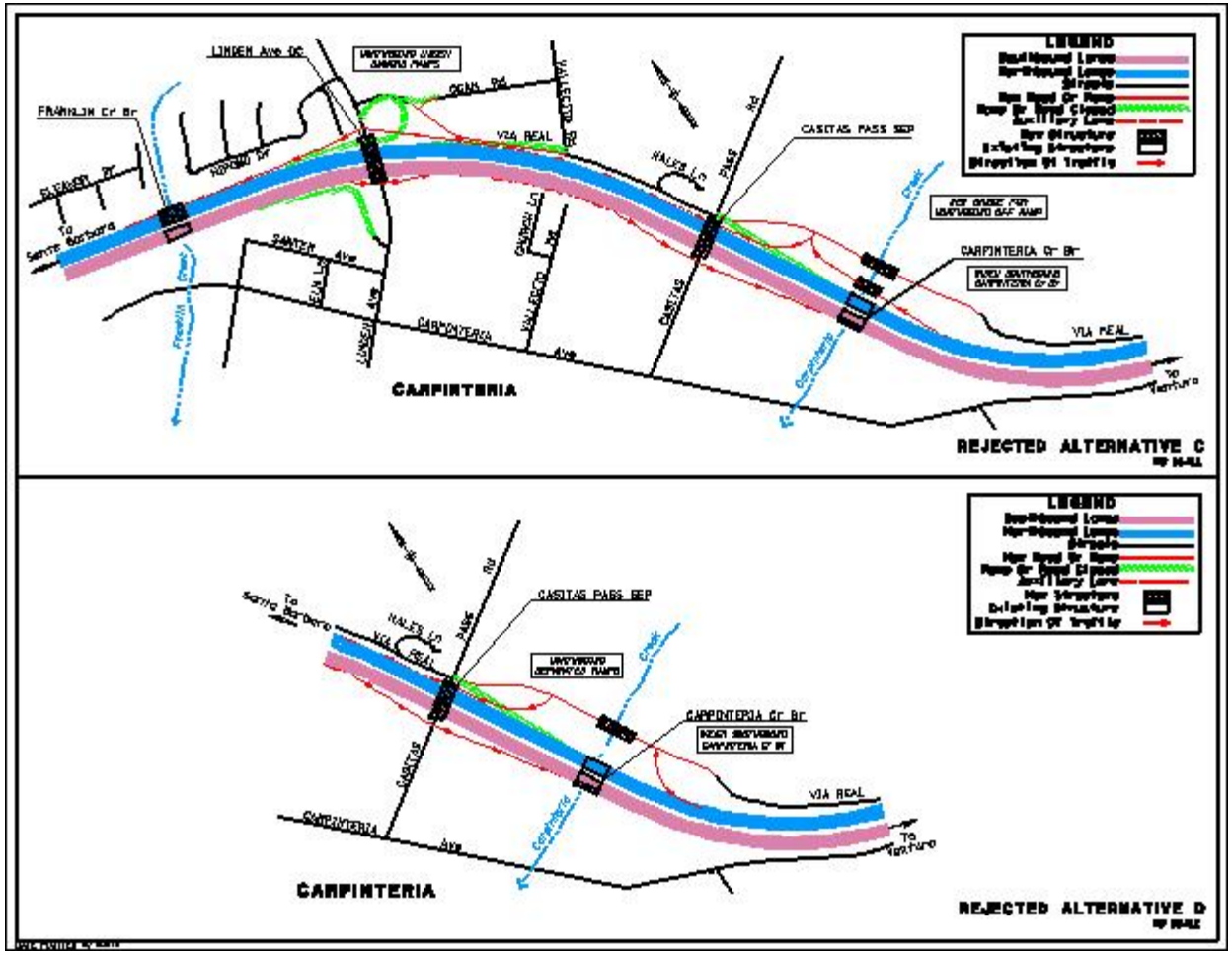
DGN FILE => $REQUEST

CU 06233

EA 4482U0

Appendix J Maps of Rejected Alternatives

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FRANKLIN Cr Br
VIA REAL
CASITAS PASS SEP
CARPINTERIA Cr Br
CARPINTERIA
CARPINTERIA Ave
CASITAS
VIA REAL
REJECTED ALTERNATIVE C
LEGEND
CASITAS PASS SEP
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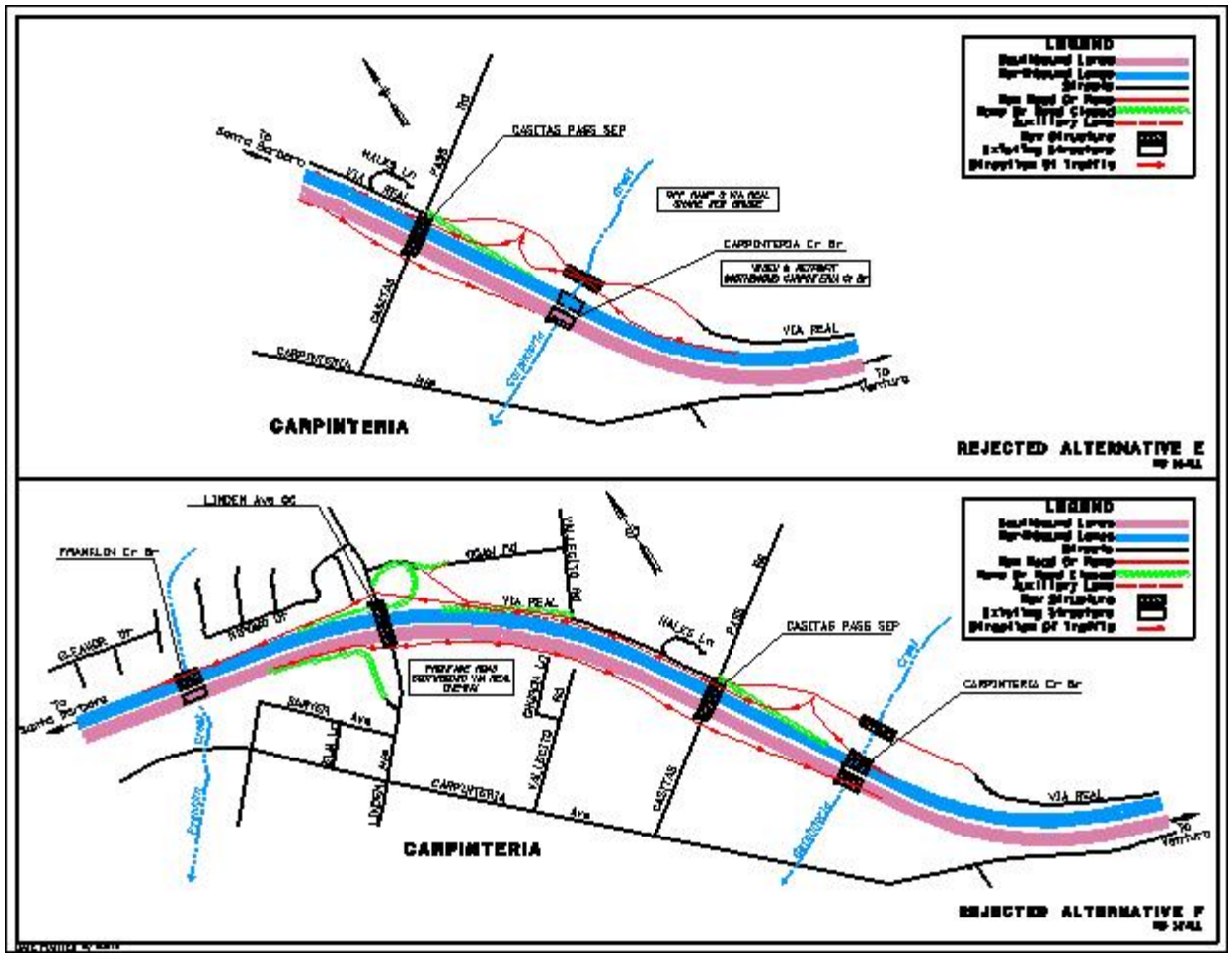
VIA REAL
CARPINTERIA
CARPINTERIA Ave
CASITAS
REJECTED ALTERNATIVE D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CASITAS PASS SEP
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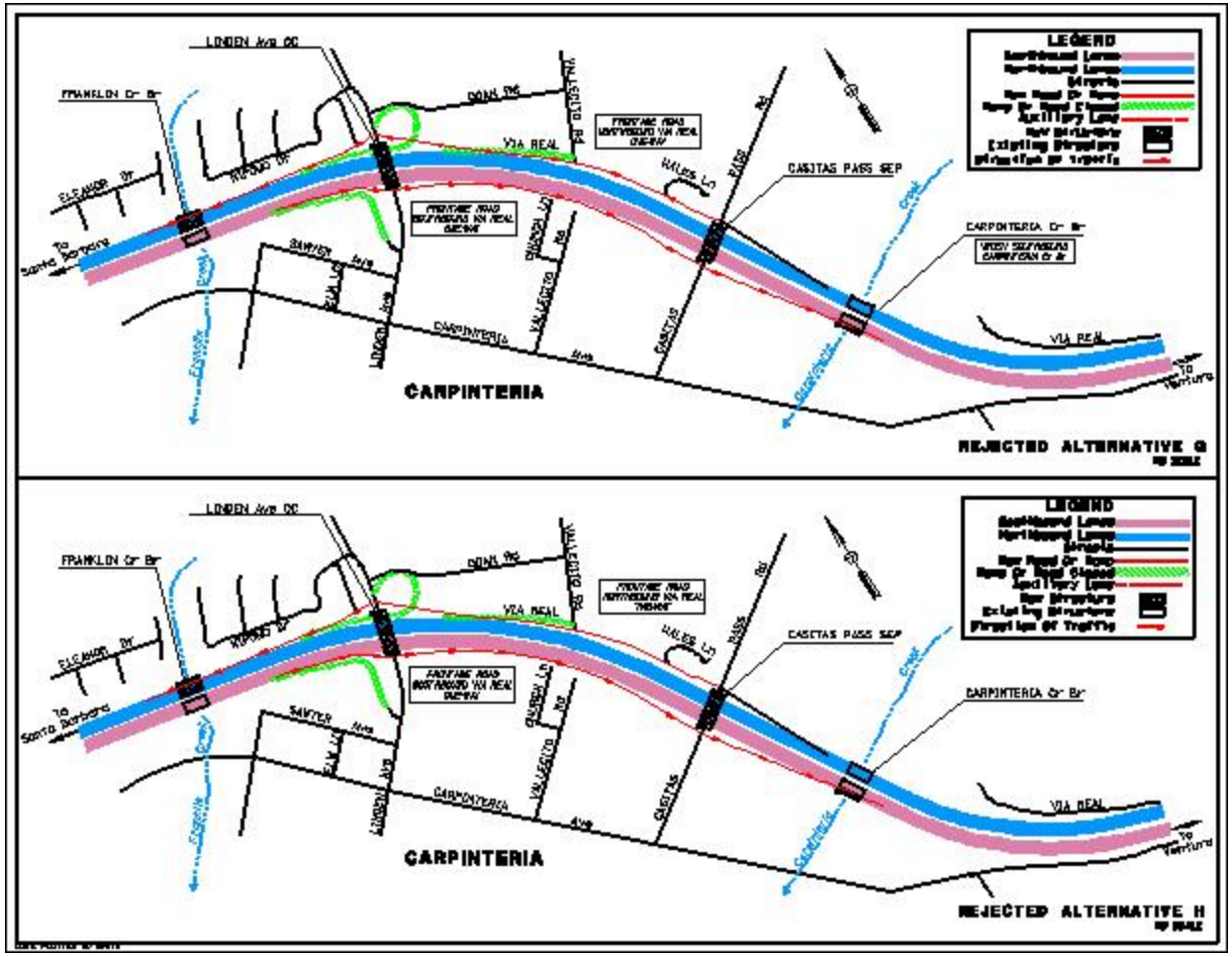
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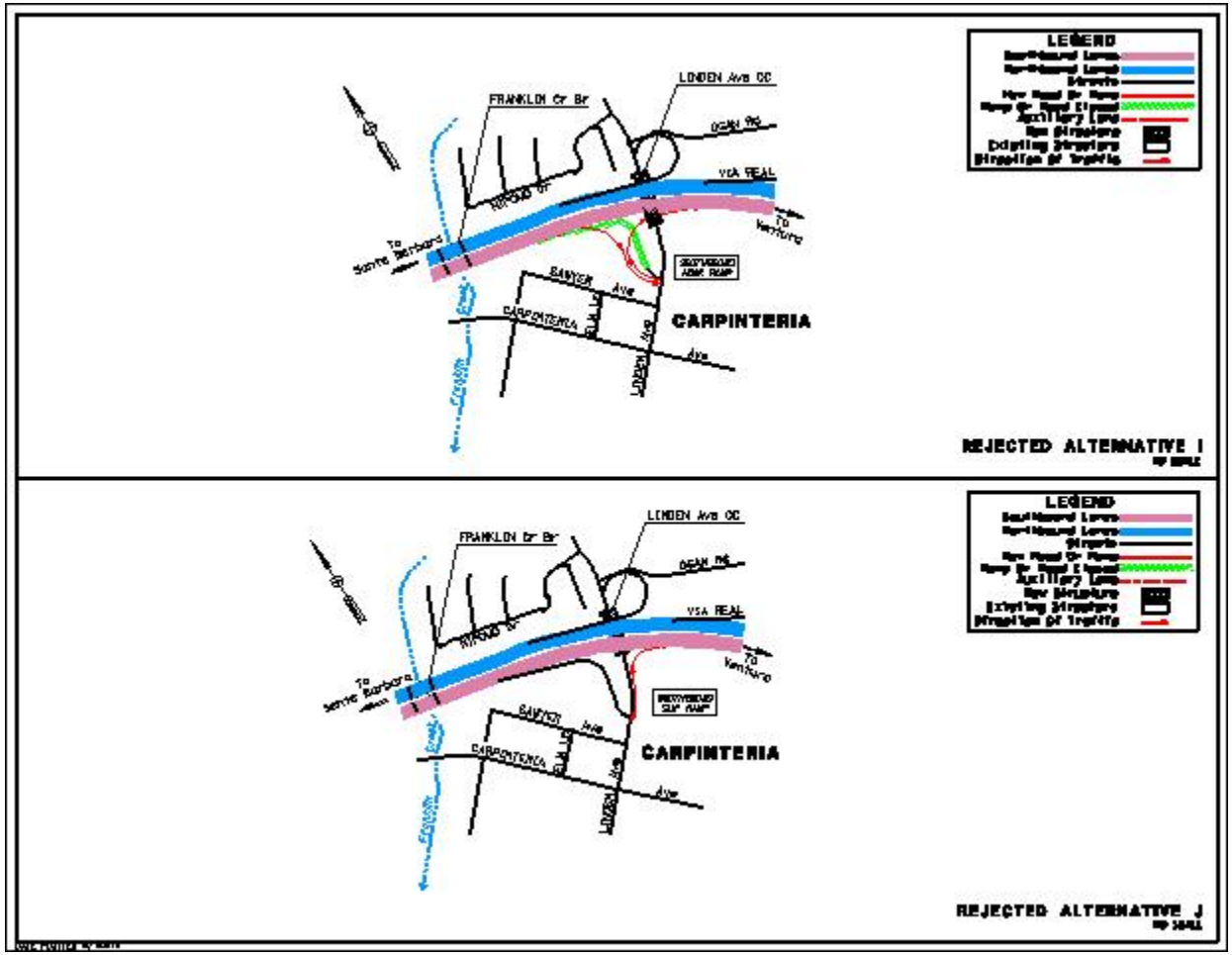
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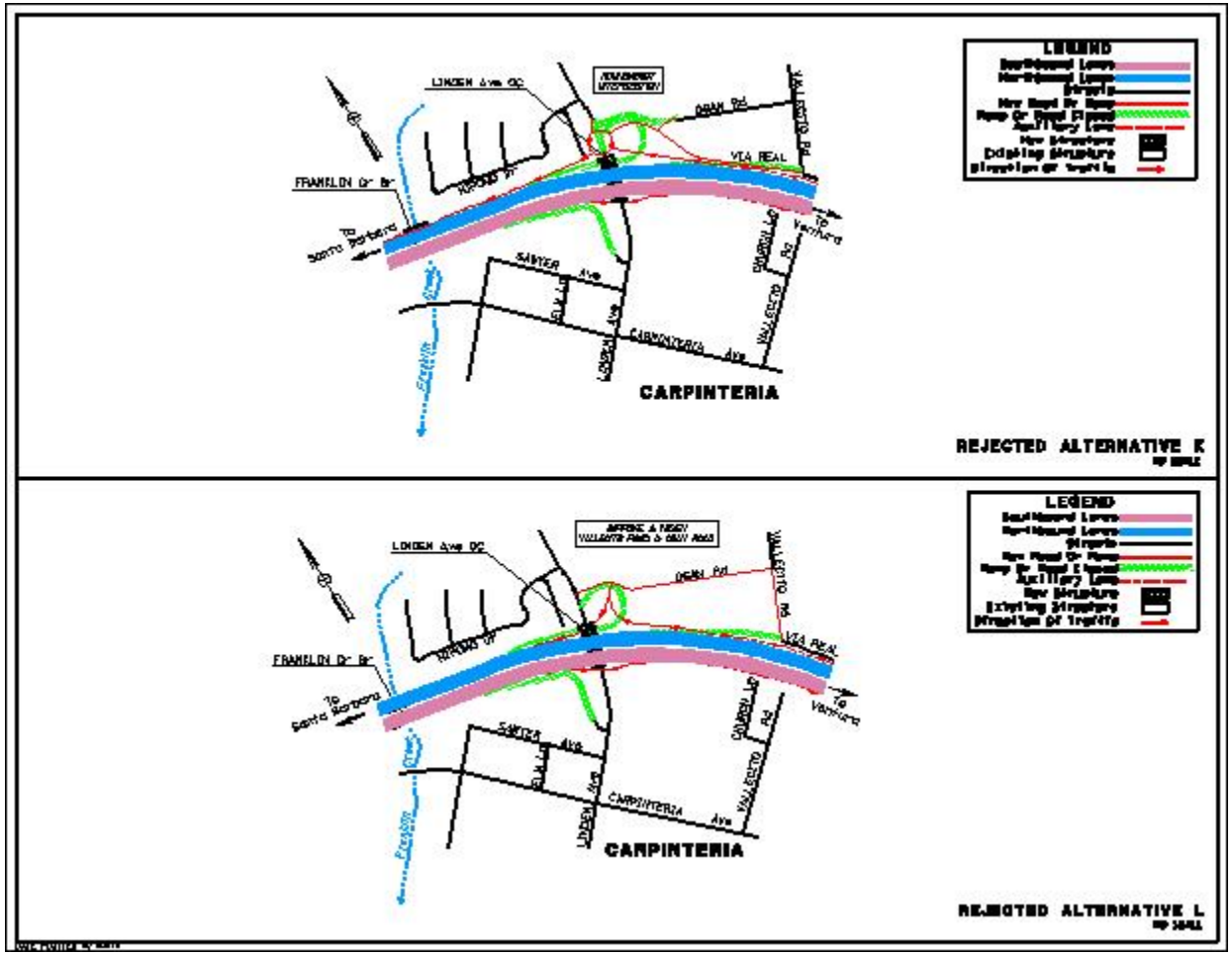
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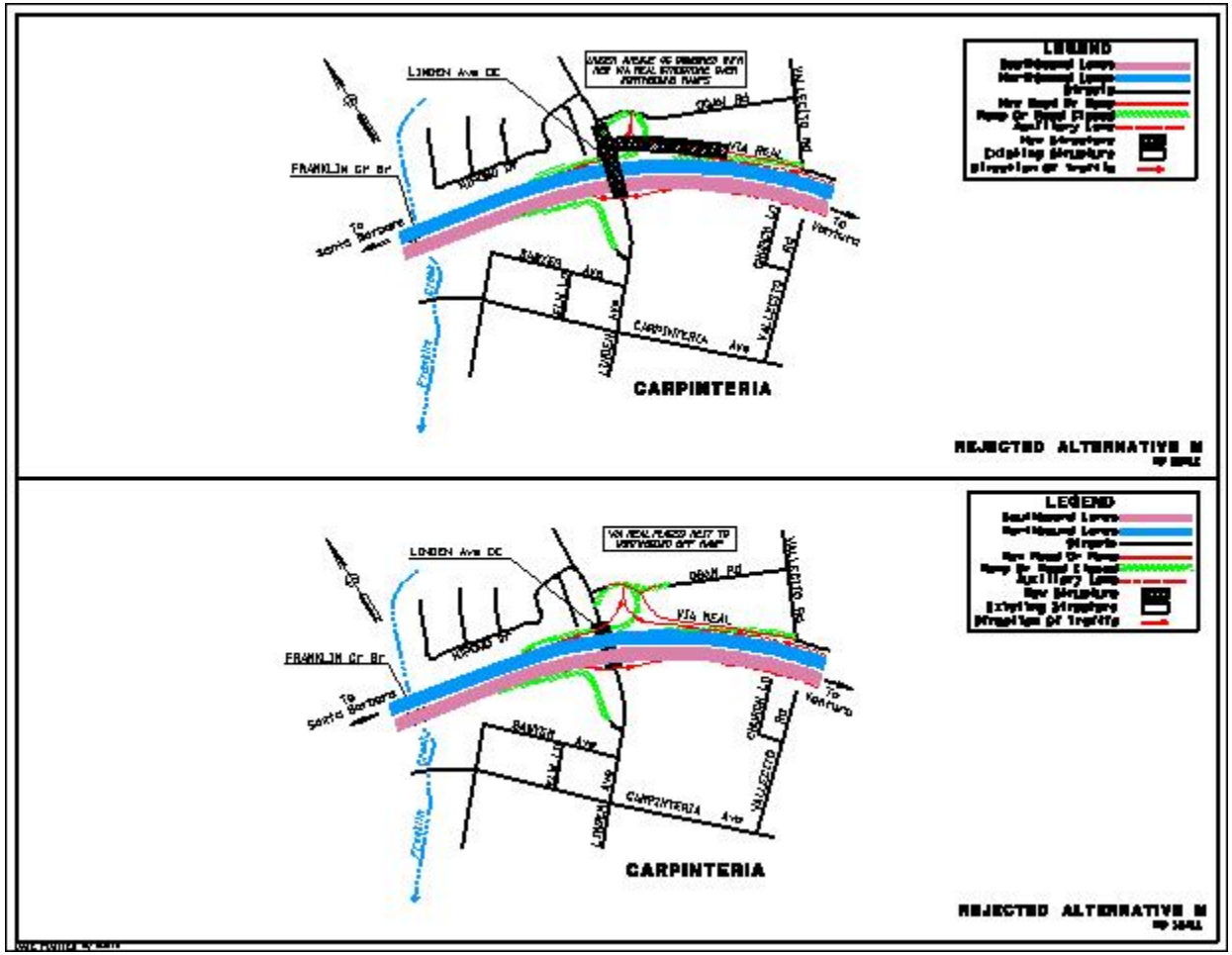
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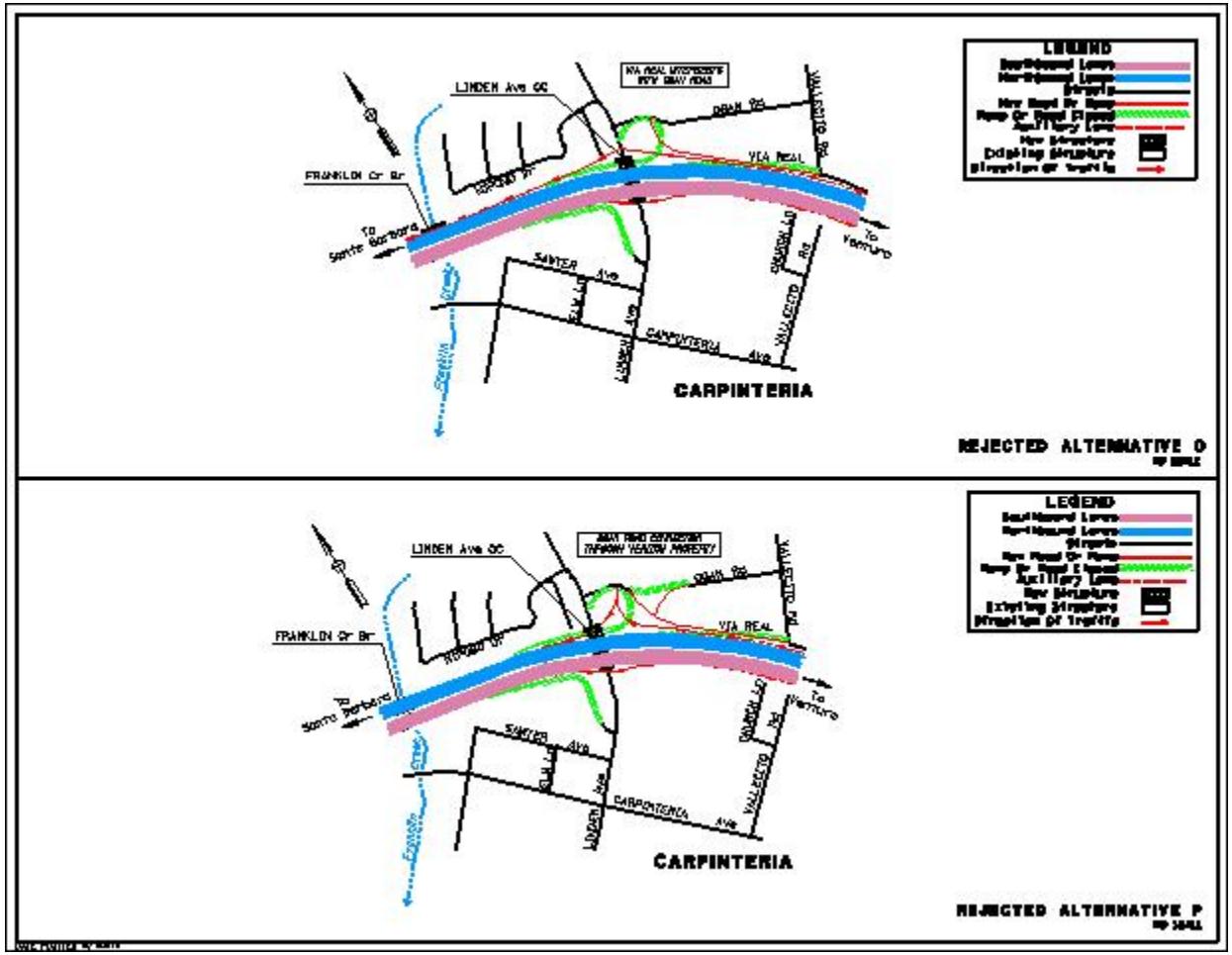
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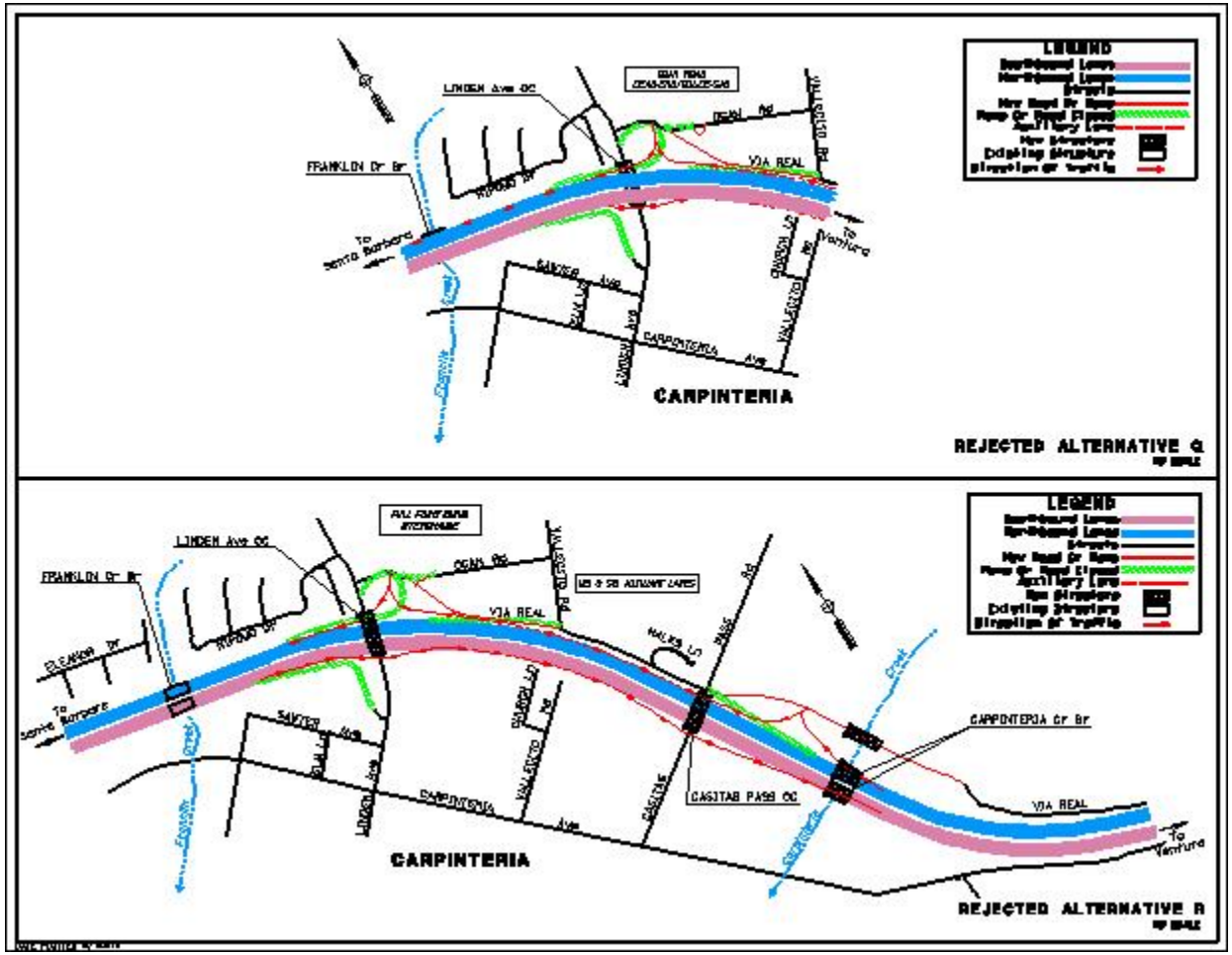
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Appendix K Carpenteria Census Tract

	Block Group 1, Census Tract 16.01, Santa Barbara County, California	Block Group 2, Census Tract 16.01, Santa Barbara County, California	Block Group 3, Census Tract 16.01, Santa Barbara County, California	Block Group 1, Census Tract 16.02, Santa Barbara County, California	Block Group 2, Census Tract 16.02, Santa Barbara County, California	Block Group 3, Census Tract 16.02, Santa Barbara County, California	Block Group 5, Census Tract 16.02, Santa Barbara County, California	Block Group 6, Census Tract 16.02, Santa Barbara County, California	Block Group 1, Census Tract 17.02, Santa Barbara County, California	Total
Total:	1,287	2,611	1,917	1,251	1,336	532	1,263	1,054	3,118	14,369
Hispanic or Latino	591	1,286	514	411	764	77	796	290	1,445	6,174
White alone	609	1,238	1,253	783	506	440	431	706	1,459	7,425
Black or African American alone	8	6	5	8	14	0	3	5	26	75
American Indian and Alaska Native alone	4	12	14	7	3	2	2	3	16	63
Asian alone	46	48	87	16	40	6	13	18	85	359
Native Hawaiian and Other Pacific Islander alone	0	0	3	2	1	1	0	3	2	12
Some other race alone	0	0	2	0	0	0	0	2	1	5
Population of two or more races:	29	21	39	24	8	6	18	27	84	256

U.S. Census Bureau
Census 2000

List of Technical Studies that are Bound Separately

Draft Relocation Impact Memorandum
Air Quality Report
Noise Study Report
Water Quality Report
Natural Environment Study
Location Hydraulic Study
Hazardous Waste Reports
    Preliminary Site Investigation (Geophysical Survey)
Visual Impact Assessment
Initial Paleontology Study
Preliminary Geotechnical Report
Vibration Report