U.S. 101/PALO COMADO CANYON ROAD INTERCHANGE PROJECT

Natural Environment Study

(Minimal Impacts)

AGOURA HILLS, LOS ANGELES COUNTY

May 2011

STATE OF CALIFORNIA
Department of Transportation
and
The City of Agoura Hills

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List of Abbreviated Terms

ac	acre
BGEPA	Bald and Golden Eagle Protection Act
°C	Degrees Celsius
Caltrans	California Department of Transportation
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Code
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CESA	California Endangered Species Act
CRF	California Red-Legged Frog
CWA	Clean Water Act
°F	Degrees Fahrenheit
FESA	Federal Endangered Species Act
ft	feet
ha	hectare
km	kilometers
m	meters
LOS	Level of Service
MBTA	Migratory Bird Treaty Act
MBTRA	Migratory Bird Treaty Reform Act
mi	mile
RWQCB	Regional Water Quality Control Board
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geologic Survey

1. Summary

The California Department of Transportation (Caltrans) and The City of Agoura Hills (City), propose to construct improvements at the U.S. 101/Palo Comado Canyon Road interchange (PM 33.0/34.4), in Los Angeles County within in the City of Agoura Hills (see Figure 1). The project would include widening the Palo Comado Canyon Road and Palo Comado Canyon Road Overcrossing over U.S. 101 and modification of the interchange ramps in order to improve traffic circulation, safety, and bicycle/pedestrian access.

The biological study area is comprised of a relatively narrow strip of commercial and residential development along U.S. 101, adjacent to extensive open spaces and park lands. Much of the biological study area may be characterized as urbanized, encompassing heavily travelled surface streets, residential and commercial development, and vacant lots. The undeveloped portions of land adjacent to the biological study area on the north side of U.S. 101 and east of the Palo Comado Canyon Road Overcrossing is completely vegetated, supporting grasslands, scrub, and a small amount of riparian habitats. Specifically, habitats present in this area include coastal sage scrub, native grassland, riparian herb/scrub and non-native annual grassland.

An unnamed perennial surface tributary to Medea Creek crosses the western end of the biological study area, passing beneath Chesebro Road, U.S. 101, and the intersection of Dorothy Drive and Lewis Road. No wetlands or riparian habitat are present within this channel in the biological study area. No special-status natural communities are present within the biological study area.

No federally or State-listed plant species have been detected within the biological study area and none is considered to have a high potential for occurring on site. No special-status species were recorded within the biological study area during a properly conducted floristic survey.

One State fully-protected animal species, white-tailed kite, is considered to have the potential to occur within the project area. An additional 12 special-status species are also considered to have a potential to occur on site. These include coastal whiptail, San Diego horned lizard, Southern California rufous-crowned sparrow, burrowing owl, loggerhead shrike, California horned lark, San Diego desert woodrat, San Diego black-tailed jackrabbit, pallid bat, western red bat, western mastiff bat and pale big-eared bat.

With the implementation of standard Best Management Practices, project implementation would not result in direct, indirect or cumulative impacts on water quality of nearby surface tributaries.

Project implementation would not result in direct, indirect or cumulative impacts on special-status plant species.

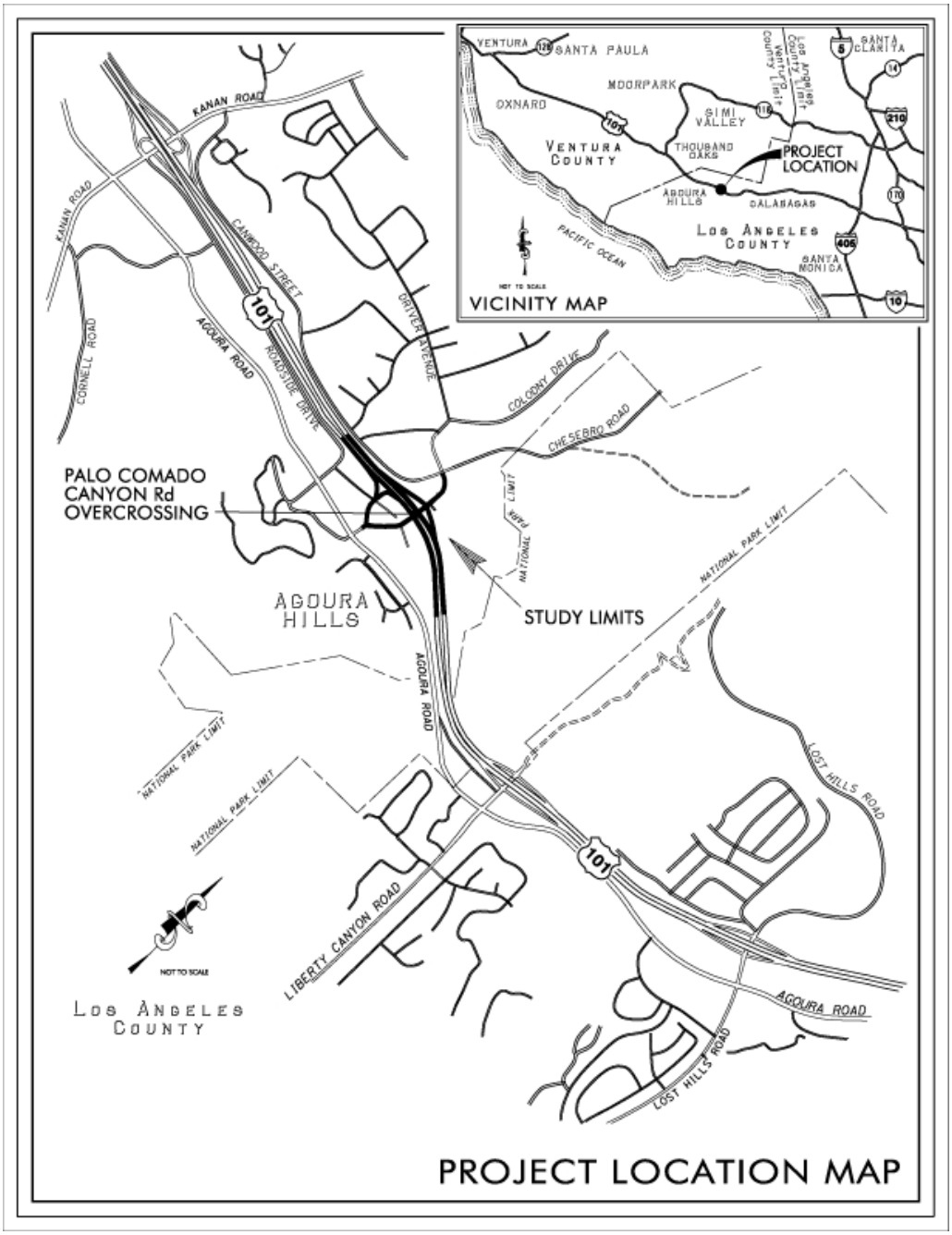
With the implementation of standard avoidance measures, project implementation would not result in direct, indirect or cumulative impacts on special-status animal species.

As proposed, the project would not require any federal or State permits pursuant to the Federal and California Endangered Species Acts, Clean Water Act, Lake and Streambed Alteration Program, the California Fish and Game Code, or the Porter-Cologne Water Quality Control Act.

2. Introduction

Caltrans and the City have initiated studies for the proposed project. Caltrans is acting as the NEPA lead agency under the provisions of the Memorandum of Understanding (MOU) between the Federal Highway Administration (FHWA) and the California Department of Transportation concerning the State of California's Participation in the Surface Transportation Project Delivery Pilot Program. Caltrans is also the lead agency under the California Environmental Quality Act (CEQA).

The need for this project was first identified by the City in their 1992 General Plan. The Plan's Circulation Element discusses the need for widening of the U.S. 101/Palo Comado Canyon Road overcrossing due to congested freeway access and poor circulation. Discussion of the need for this project was carried forth to the City's 2010 General Plan.



Source: Kimley-Horn & Associates, Inc.

Figure 1. Project Location

PURPOSE AND NEED

Purpose

The purpose of the project is to:

- Reduce existing and forecasted traffic congestion within the project limits;
- Improve circulation at the US 101/Palo Comado Canyon Road interchange and adjacent roadway network;
- Improve safety at the US 101/Palo Comado Canyon Road interchange; and
- Accommodate pedestrian and bicycle traffic along Palo Comado Canyon Road.

Need

Traffic

The quality of traffic flow can be identified in terms of level of service (LOS). There are six LOS, ranging from LOS A to LOS F. The City's recent General Plan update (March 2010) has identified the U.S. 101/Palo Comado Canyon Road interchange as deficient under existing as well as future forecast conditions. The General Plan identifies LOS C as the typical minimum acceptable standard for roadways within the city. Currently, the U.S. 101/Palo Comado Canyon Road northbound off-ramp intersection (two-way stop sign) operates at a LOS F in the AM peak period with a delay of 53.7 seconds, and at LOS F during the PM peak period with a delay of 190.9 seconds. The all-way stop located at the Driver Avenue/Chesebro Road intersection operates at a LOS of F in both the AM and PM peak periods, with a delay of 54.0 (AM) and 61.6 (PM). The City's minimum acceptable standard (LOS C) is not achievable under current existing conditions for the northbound off-ramp intersection or Driver/Chesebro intersection.

Safety

Accident data based on Caltrans Transportation Systems Network Traffic Accident Surveillance and Analysis System (TSN TASAS) for the three-year period ending December 31, 2008 shows that the total rate of accidents at the Palo Comado Canyon Road interchange is generally lower than the statewide average. There are two exceptions to this: the northbound off-ramp total accident rate is 18% higher than the statewide average and the northbound on-ramp fatality plus injury rate is 23% higher than the statewide average.

Operational Deficiencies

The existing bridge has non-standard stopping sight distance at the northbound off-ramp intersection. Additional non-standard features include a sidewalk on only one side (west side) of the bridge, and no bicycle lanes on the bridge.

PROJECT ALTERNATIVES

Alternative 1: No Build Alternative

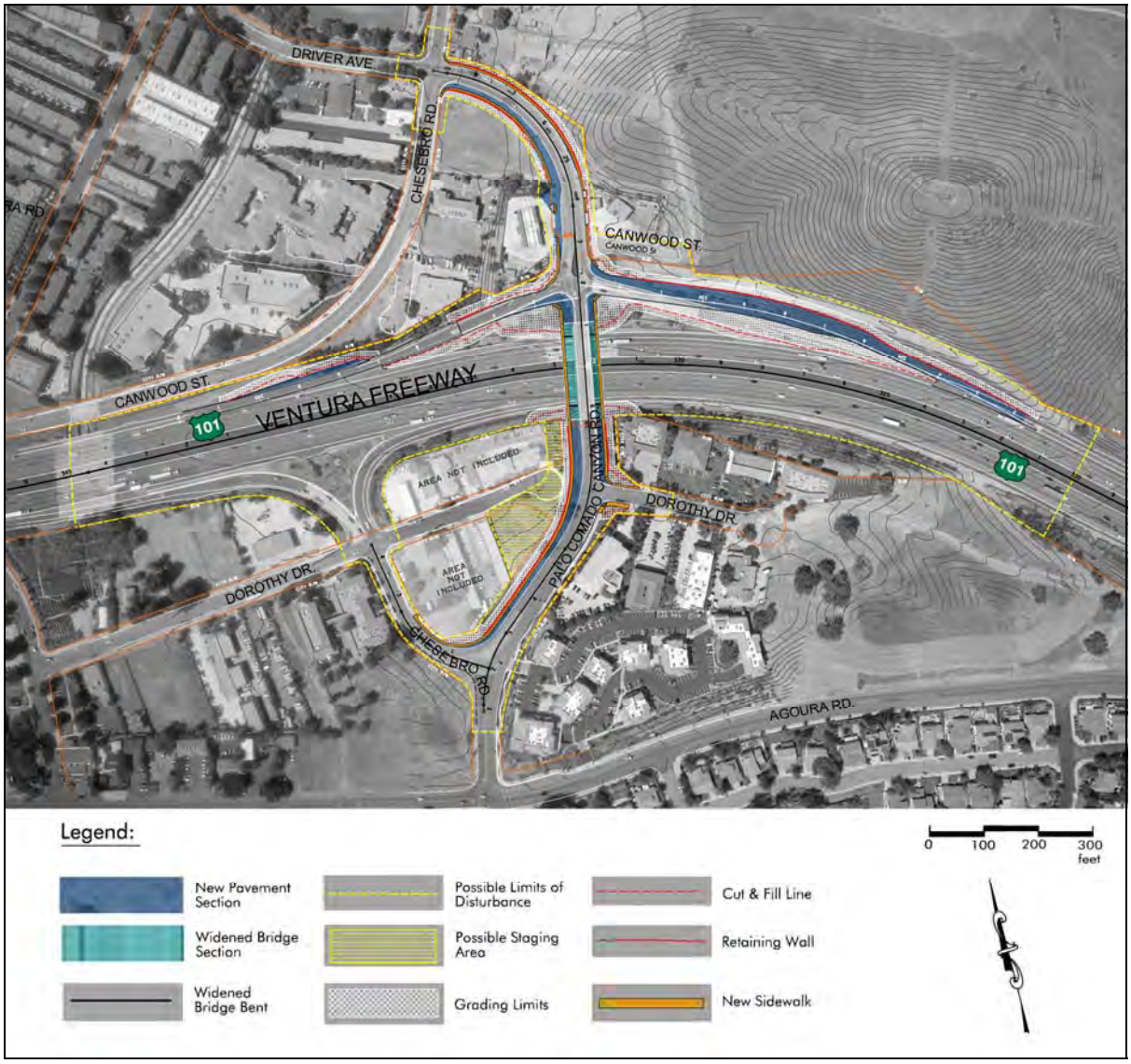
The No Build Alternative would maintain the existing configuration of the U.S. 101/Palo Comado Canyon Road Interchange, and the Palo Comado Canyon Overcrossing above U.S. 101 would remain as a two-lane facility with a sidewalk on the west side.

Alternative 2: Build Alternative

The Build Alternative would include widening the entire length of Palo Comado Canyon Road, between Driver Avenue to the north and Chesebro Road to the south; from two to four lanes (see Figure 2). Within these limits, the Palo Comado Canyon Road Overcrossing would be widened from one lane in each direction to provide two lanes in each direction, along with a dedicated left-hand turn lanes, for a total of five striped lanes. A Class II bike lane and sidewalks would be provided on both sides of the overcrossing.

The Build Alternative would maintain the existing layout of the interchange ramps; however, the northbound on- and off-ramps would be slightly re-configured, with an additional lane being provided on the northbound off-ramp at the Palo Comado Canyon Road intersection. The intersection of the northbound ramps and Palo Comado Road would be signalized; the remaining intersections would remain un-signalized.

Overhead electric and telephone lines would need to be relocated or undergrounded in some areas to accommodate the build alternative, and portions of the street light systems would be relocated along Palo Comado Canyon Road. The existing storm drain systems would remain in place. New inlets would be installed along the modified northbound off-ramp, as well as the northbound on-ramp. A new inlet system would be added to accommodate the widening of Palo Comado Canyon Road south of the bridge.



Source: Kimley-Horn & Associates, Inc.

Figure 2. Build Alternative

3. Study Methods

The findings contained in this report are based on the following:

1) Review of a database query for the Calabasas, Santa Susana, Oat Mountain, Thousand Oaks, Point Dume, Simi, Canoga Park, Malibu Beach, and Topanga 7.5-minute U.S. Geological Survey (USGS) quadrangles from the California Natural Diversity Database (CNDDB 2010).

2) A reconnaissance-level habitat assessment for wildlife and botanical resources by qualified biologists on November 13 and 14, 2009.

3) Focused floristic surveys conducted May 28 and June 21 (Forde Biological Consulting 2010).

Additional information regarding special-status plants, animals, and habitats was compiled through a review of published literature by the California Department of Fish and Game (CDFG 2009a,c; 2010 a,b,c), the California Native Plant Society (CNPS 2009), and U.S. Fish and Wildlife Service (USFWS 2010a). Nomenclature for common, widespread plants and animals conforms to Hickman (1993) and CDFG (2005), respectively; plant names have been updated to conform to the Jepson Online Interchange[1]. Nomenclature for special-status plants and animals conforms to CDFG (2010a) and CDFG (2009a), respectively. Plant community names conform to CDFG (2009c), Sawyer, *et al.* (2009), and Cowardin, *et al.* (1979). Species tables (*e.g.*, appendices 1 and 2) were prepared using the CalBiota database.

Additional background information reviewed included the *Heschel West School Recirculated Draft Environmental Impact Report* (Los Angeles County 2005). Focused biological studies of the school property included floristic surveys for special-status plants conducted in spring of 1998 and 2003 and surveys for coastal California gnatcatcher conducted in 1998. Also reviewed was the *Agoura Village Specific Plan Final Environmental Impact Report* (City of Agoura Hills 2006),

The analysis presented in this report is based on a reconnaissance-level survey performed by biologists Michael Wood and Patrick Kobernus on November 13 and 14, 2009. Focused floristic surveys, conforming to the guidelines outlined by the CDFG (2009b), CNPS (2001), or USFWS (2000), were performed on May 28 and June 21 by Forde Biological Consulting (2010). Based on the existing habitats on site and surrounding

[1] available online at http://ucjeps.berkeley.edu/interchange.html.

area, it was determined that no focused wildlife surveys were required as part of this analysis. The biological study area for this analysis is illustrated in Figure 2.

4. Environmental Setting

The biological study area is centered on the interchange at U.S. 101 and Palo Comado Canyon Road (see Figure 2, above). To the north of U.S. 101, the biological study area extends to the intersection of Palo Comado Canyon Road and Chesebro Road, encompassing commercial, single- and multi-family residential development. To the south, the biological study area extends to the intersection of Palo Comado Canyon Road and Agoura Road and includes a narrow strip of land adjacent to U.S. 101. To the west, the biological study area encompasses Dorothy Drive and the frontage roads Roadside Drive and Canwood Street. The eastern portion of the study area includes a narrow strip of undeveloped land immediately adjacent to the northbound and southbound U.S. 101 roadsides.

Land uses within and adjacent to the project area include residential and commercial properties, undeveloped parcels, undeveloped roadsides and existing surface streets. The neighborhood along Agoura Road south of the interchange is mostly residential with single-family homes, while the properties in the immediate area of the interchange are mostly commercial, including business parks, light industrial, retail, and gas stations. Gas stations exist in the northeast and northwest quadrants of the interchange adjacent to the northbound off ramp and onramp, and at the southbound off ramp. An extensive area of undeveloped land is present northeast of the interchange, immediately adjacent to the biological study area. Several multi-family residential properties, Agoura Park, and Agoura High School are located northwest of the interchange.

4.1. Description of the Existing Biological and Physical Conditions

The biological study area is restricted to a relatively narrow strip of commercial and residential development along U.S. 101, adjacent to extensive open spaces and park lands. To the north are the Simi Hills, which are part of the Santa Monica National Recreation Area (SMNRA). To the south are the Santa Monica Mountains, which encompass the SMNRA and Malibu Creek State Park. The County of Los Angeles has designated 62 Significant Ecological Areas (SEA) within its jurisdiction. SEA #6 (Virgenes Unit) is located south of the biological study area and SEA #12 (Palo Comado Canyon Unit) is located in the Simi Hills just north of the biological study area. Lands designated as SEAs were selected based on the presence of special-status plant and animal species and plant communities.

North of the biological study area are undeveloped lands contiguous with the SMNRA at Chesebro and Palo Comado canyons. The intermittent streams that drain Chesebro Canyon and Palo Comado Canyon converge near the biological study area and are conveyed via an open concrete-lined box culvert beneath U.S. 101; surface waters empty into Medea Creek and ultimately into Malibu Lake, Malibu Creek and the Pacific Ocean.

The entire biological study area may be characterized as urbanized, encompassing heavily travelled surface streets, residential and commercial development, and vacant lots. Biological resources in these areas are restricted due to limited habitat availability, noise and lighting associated with human activity. No natural plant communities are present in the urbanized portions of the biological study area and native plant diversity is predictably low.

Wildlife expected to occur here are restricted to those species associated with anthropogenic habitats (*i.e.*, structures and ornamental landscaping) and ruderal habitats (*i.e.*, vacant lots). The presence of a greater diversity of wildlife species, especially birds, is anticipated due to the presence and proximity of extensive natural habitats in the nearby hills, canyons and water courses. Still, the intense level of human activity here, and the limited availability of vegetative cover restricts opportunities for wildlife foraging, roosting, and breeding.

The undeveloped area adjacent to the biological study area north of U.S. 101 and east of the Palo Comado Canyon Road Overcrossing is completely vegetated, supporting grasslands, scrub, and a small amount of riparian habitats. Specifically, habitats present in this area include coastal sage scrub, native grassland, riparian herb/scrub and non-native annual grassland.

4.2. Regional Species and Habitats of Concern

4.2.1. Special-Status Natural Communities

Special-status natural communities are communities that are of limited distribution statewide or within a county or region. These communities may or may not contain special-status species or their habitat (CDFG 2009b). Special-status natural communities are also those that receive regulatory protection.[2] A summary of California vegetation alliances is maintained by the CDFG (2009c). Alliances and associations with a rarity ranking of G1, G2 or G3 are considered of high inventory priority; as such, impacts may qualify as significant pursuant to CEQA guidelines.

Riparian habitats are considered by federal and State regulatory agencies to represent a rare and declining resource. Wetlands and riparian areas can serve significant biological

[2] *e.g.*, under CWA §404 and/or CFGC §1600 *et seq.* (Lake and Streambed Alteration Program)

functions by providing nesting, breeding, foraging, and spawning habitat for a wide variety of resident and migratory wildlife species. Impacts to stream channels with a defined bed and bank, as well as adjacent riparian vegetation, are addressed specifically by the California Fish and Game Code (CFGC)[3] and may be regulated under the Clean Water Act (CWA)[4] and the Porter-Cologne Water Quality Control Act (Porter-Cologne).[5]

A natural surface tributary to Medea Creek crosses the western end of the biological study area, passing beneath Chesebro Road, U.S. 101, and the intersection of Dorothy Drive and Lewis Road. This unnamed stream appears as a "blue-line" creek on the 1967 USGS topographic map, qualifying as a waters of the U.S.[6] and a waters of the State[7] and falling under the jurisdiction of the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and the CDFG. Although there is extensive riparian habitat associated with this stream course upstream from the biological study area, within the project site the channel consists of a concrete lined open-box culvert. No wetlands or riparian habitat are present within the biological study area.

The locations of waters of the U.S./waters of the State occurring within or near the biological study area are illustrated in Figure 3.

No special-status natural communities are present within the biological study area.

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[3] CFGC §§1600 *et seq*.

[4] CWA §404

[5] Cal. Water Code §§1300 *et seq*.

[6] Waters of the U.S. include:

- All waters that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of tide;
- All interstate waters, including interstate wetlands;
- All other waters, such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, vernal pools, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce;
- Tributaries of the above;
- Territorial seas; and
- Wetlands adjacent to waters defined above.
- Although isolated wetlands no longer fall under USACE jurisdiction, impacts to isolated wetlands continue to be regulated under State law (see below).

[7] Waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state." (California Water Code Section 13050(e).) These waters include nearly every and all surface or ground water in the state, or tributaries thereto, and include drainage features outside USACE jurisdiction (*e.g.*, dry and ephemeral/seasonal stream beds and channels, *etc*., isolated wetlands such as vernal pools, seeps, springs and other groundwater-supplied wetlands, *etc*., and storm drains and flood control channels.

4.2.2. Special-Status Plant Species

Special-status plant species include those listed as Endangered, Threatened, Rare, or as Candidates for listing by the USFWS (2010) and CDFG (2010b), as well as special plant species as listed by the CDFG (2010a) and the CNPS (2009).

Based on a review of special-status plant species in recorded from the project region (CNDDB 2010, CNPS 2009), the potential for occurrence of 37 special-status plant species was evaluated. Based on the performance of appropriately timed floristic surveys, no federally or State-listed plant species or other special-status plant species are present within the biological study area and none is considered to have a high potential for occurring on site. (Forde Biological Consulting 2010). A summary of all target species, their status, habitat affinities, blooming period, and potential for occurrence on site is presented in Appendix 1. An explanation of all rarity status codes is provided in Appendix 3.

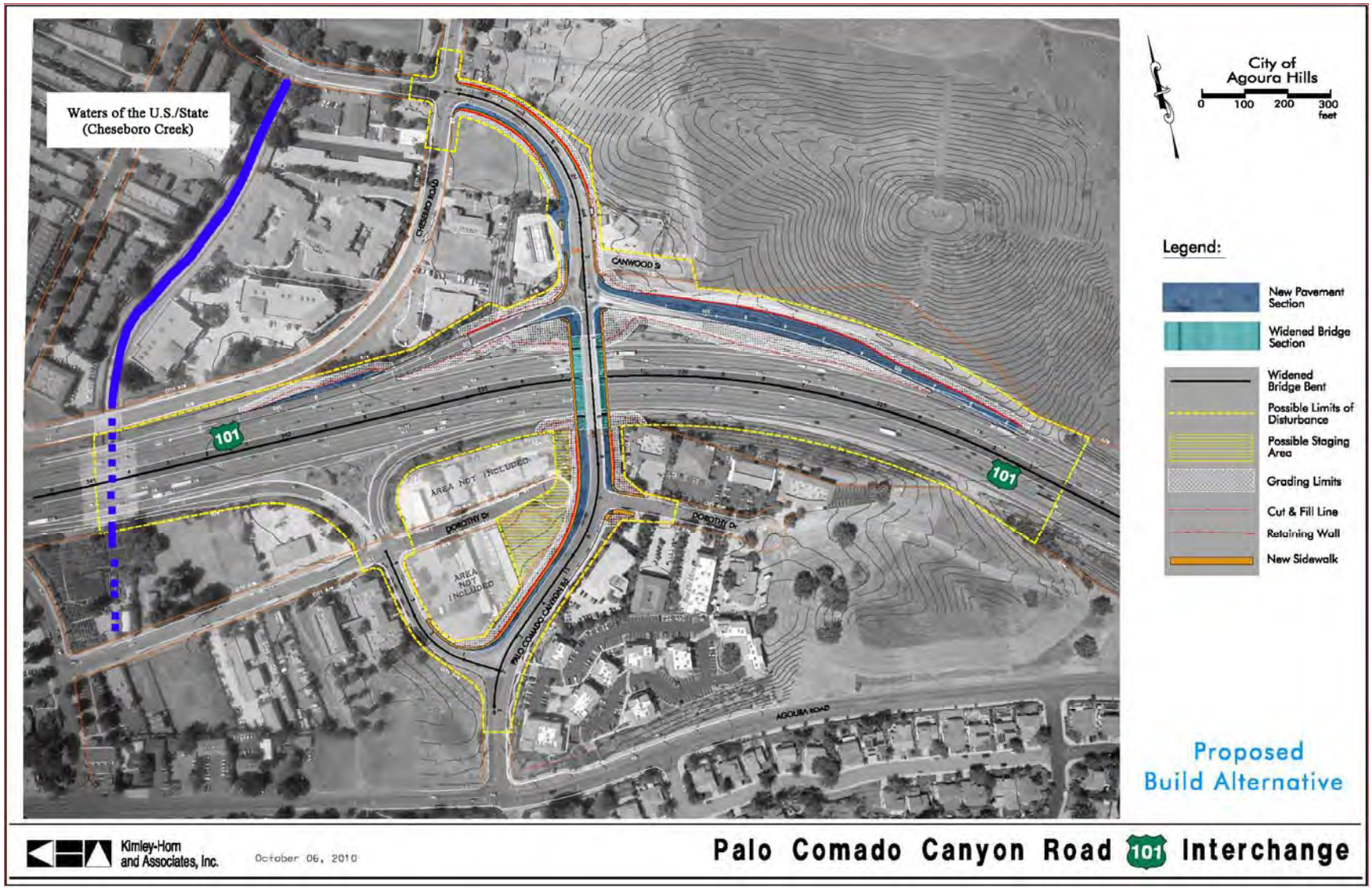

Figure 3. Locations of Waters of the U.S./Waters of the State

4.2.3. Special-Status Animal Species

Special-status animal species include those listed as Endangered, Threatened, Rare, or as Candidates for listing under the Federal Endangered Species Act (FESA) by the USFWS (2010) and/or the California Endangered Species Act (CESA) by the CDFG (2009a). Other species with special-status include Special Animals listed by the CDFG (2010c). Species considered "special-status" are those that receive protection under the Bald and Golden Eagle Protection Act (BGEPA)[8] and the Migratory Bird Treaty Act (MBTA).[9] The CFGC provides protection for "fully protected birds"[10], "fully protected mammals"[11], "fully protected reptiles and prohibits the take[12] of "protected amphibians"[13], "protected reptiles"[14] and "protected furbearers".[15] Additional definitions of endangered, threatened and rare species are provided in CEQA.[16]

Based on a review of the CNDDB (2010), the potential for occurrence of 60 special-status animal species was evaluated (Appendix B). No special-status animal species were recorded within the biological study area during the biological survey conducted in 2009. However, based on the presence of suitable habitat within the biological study area and/or their recorded or observed presence in the project vicinity, 13 special-status species are considered to have the potential to occur on site. These include the State fully protected species white-tailed kite and the special-status species coastal whiptail, coast horned lizard, Southern California rufous-crowned sparrow, burrowing owl, California horned lark, loggerhead shrike, San Diego black-tailed jackrabbit, San Diego desert woodrat, pallid bat, western red bat, western mastiff bat and pale big-eared bat. These species are discussed in more detail, below.

No species listed under FESA or CESA are considered to have any potential of occurring within the proposed project area. The occurrence of the remaining target species has been ruled out due to a lack of suitable habitat on site, lack of likely transit corridors,

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[8] 16 USC 668, *et seq*.
[9] MBTA 16 U.S.C. 703-711
[10] CFGC §3511
[11] CFGC §4700
[12] The Federal Endangered Species Act defines *take* to mean "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or attempt to engage in any such conduct" (16 USC 1532[19]). Under the California Endangered Species Act, *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 (Cal. Fish and Game Code §86). The MBTA defines *take* as pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner (16 U.S.C. 703).
[13] CCR Chapter 5 §41
[14] CCR Chapter 5 §42
[15] CCR Chapter 5 §460
[16] CEQA §15380(d)

and/or are not expected due to range limitations. A summary of all target special-status animal species, their status, habitat affinities, distribution, and potential for occurrence on site is presented in Appendix 2. An explanation of all rarity status codes is provided in Appendix 3.

State Fully Protected Species

White-Tailed Kite

White-tailed kite (*Elanus leucurus*) is listed by the CDFG as a State fully protected bird species[17] is protected under the MBTA and CFGC.[18] In the United States this species occurs in California, Texas and a disjunct group in Florida and has expanded its range into Washington and Oregon (Dunk 1995). Generally, white-tailed kites are observed in low elevation grasslands, agricultural, wetland, oak-woodland or savannah habitats (Dunk 1995). The majority of their diet is made up of small mammals. This species nests in a wide variety of trees up to 50 m high (164 ft), and, in some cases, shrubs as little as 3 m (9.8 ft) above the ground. Nests usually consist of platforms of small sticks, leaves, weed stalks, and similar materials lined with grass, hay or leaves. This species nests from February through August, with a peak in breeding occurring from late March through July.

The CNDDB does not contain any records for the species for the Calabasas USGS 7.5-minute quadrangle or surrounding eight quadrangles; however, two white-tailed kites were observed foraging within the study area during previous biological surveys (Los Angeles County 2005). Although there is no suitable nesting habitat for this species within the biological study area, suitable nesting habitat is present nearby; therefore, there is potential for this species to occur within the project area.

Other Special-Status Wildlife Species

Twelve non-listed special status animal species are considered to have potential for occurrence within the study area.

Coastal Whiptail

Coastal whiptail (*Aspidoscelis tigris stejnegeri*) is considered a special animal (CDFG 2009a). This species occurs in grasslands, scrublands and woodlands. This species has not been recorded within the Calabasas USGS 7.5 minute quadrangle, but there are multiple records for this species within the surrounding eight quadrangles (CNDDB 2010). This species has potential to occur within the study area.

[17] Division E, Title I, Section 143 of the Consolidated Appropriations Act, 2005, PL 108–447
[18] CFGC §3511

San Diego Horned Lizard

San Diego horned lizard (*Phrynosoma coronatum blainvillii*) is a State species of special concern. This species occurs within grasslands, scrublands and woodlands. Except for one older record of San Diego Horned Lizard (EO index #28021; 1954), this species have not been recorded within the Calabasas USGS 7.5 minute quadrangle. There are multiple records of this species however within the surrounding eight quadrangles (CNDDB 2010). This species has potential to occur within the study area.

Southern California Rufous-Crowned Sparrow

Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*) is a State species of special concern. The subspecies is a resident in southwest California on coastal slopes of Transverse and Peninsular Ranges from northwest Los Angeles County south into northwest Baja California (Collins 1999). The species inhabits semiarid grassy shrub lands and open woodlands on moderate to steep grassy and rocky hillsides and canyons from sea level to almost 3,000 m (9840 ft). The species uses shrub or tree cover that is usually short (0.5–1.0 m), fairly open, consisting of mixed species, and interspersed with patches of grass, rocky outcrops, or bare ground. Prefers younger stands with more open aspect and avoids dense, continuous stands of single shrub or tree species (Collins 1999).

This species was detected within the study area during previous biological surveys (Los Angeles County 2005). The species has also been recorded 11.8 km (7.3 mi) northwest of the project site (EO index #35127; 1995), (CNDDB 2010).

Burrowing Owl

The burrowing owl (*Athene cunicularia*) is listed as a State species of special concern by the CDFG and is federally designated as a Bird of Conservation Concern. This species receives additional protection under the MBTA and CFGC[19]. Burrowing owls range throughout the Central Valley, the inner and outer Coastal regions, portions of the San Francisco Bay Area, the southern California Coast from southern California to the Mexican Border, the Imperial Valley, and in portions of the desert and high desert habitats in southeastern and northeastern California. They require habitat with three basic attributes: open, well drained terrain; short, sparse vegetation; and underground burrows or burrow facsimiles. Throughout their range burrowing owls occupy grasslands, deserts, sagebrush scrub, agricultural areas (including pastures and untilled margins of cropland), earthen levees and berms, coastal uplands, urban vacant lots, and the margins of airports, golf courses, and roads (Haug *et al*. 1993).

[19] §3503

Burrowing owls rely on burrows excavated by fossorial mammals or reptiles, including prairie dogs, ground squirrels, badgers, skunks, armadillos, woodchucks, foxes, coyotes, and gopher tortoises (Karalus and Eckert 1987). Where the number and availability of natural burrows is limited (for example, where burrows have been destroyed or ground squirrels eradicated), owls will occupy drainage culverts, cavities under piles of rubble, discarded pipe, and other tunnel like structures (Haug *et al*. 1993). Like other owls, burrowing owls breed once each year in an extended reproductive period, during which most adults mate monogamously. Both sexes reach sexual maturity at 1 year of age. Clutch sizes vary, and the number of eggs laid is proportionate to prey abundance. The breeding season occurs from February 1 to August 31, but peaks between late April and July in most years.

The species has been observed approximately 6.1 km (3.8 mi) northeast of the project site (EO index #9846; 1990) (CNDDB 2010). Potential habitat is present for this species within the project area where grasslands and disturbed roadside areas with rodent burrows are present.

California Horned Lark

California horned lark (*Eremophila alpestris actia*) is considered a special animal (CDFG 2009a). The California horned lark prefers short, sparsely vegetated prairies, deserts, and agricultural lands for nesting and foraging. This species breeds in the Santa Monica Mountains, and has potential for occurrence within the project area.

Loggerhead Shrike

Loggerhead shrike (*Lanius ludovicianus*) is a State species of special concern. This species inhabits grasslands and other open habitats and feeds on a variety of invertebrate and vertebrate prey. The loggerhead shrike is a small avian predator that hunts from perches, such as taller shrubs or utility lines, and impales its prey on sharp objects such as thorns and barbed-wire fences. This species breeds in the Santa Monica Mountains, and could nest and forage within the study area.

San Diego Black-Tailed Jackrabbit

San Diego black-tailed jackrabbit (*Lepus californicus bennettii*) is a State species of special concern. This species utilizes grasslands, chaparral and coastal sage scrub habitats, and therefore has potential for occurrence within the study area. One black-tailed jackrabbit was observed within the study area during the biological survey in November 2009.

San Diego Desert Woodrat

San Diego desert woodrat (*Neotoma lepida intermedia*) is a State species of special concern. This species utilizes chaparral and coastal sage scrub habitats, and therefore has potential for occurrence within the study area. An unidentified and presumably active woodrat midden (nest) was observed on the south side of U.S. 101 near the eastern end of the biological study area during the November 2009 survey. A second midden was observed just beyond the study area to the south area. Based on the presence of suitable habitat and the detection of an unidentified woodrat midden, the potential exists for this species to be present within the project area.

Special-Status Bats

Bats designated as State species of special concern that have potential to occur within the study area include pallid bat (*Antrozous pallidus*), western red bat (*Lasiurus blossevillii*), western mastiff bat (*Eumops perotis californicus*) and pale big-eared bat (*Corynorhinus townsendii pallescens*). Each of these species has been recorded within 8 km (5 mi) of the project study area (CNDDB 2010). These species have potential to forage within the study area and while the presence of maternal roosting within the project area is unlikely, use of tree cavities or spaces in structures or bridges could support nocturnal roosting.

4.2.4. Existing Wildlife Corridors

For most species in the area, U.S Route 101 is the most obvious barrier between core reserves in the Santa Monica and Sierra Madre mountains. However, the area has four major wildlife corridors near the Build Alternative that allows for connectivity and provides habitat for many different species.

Of these, the first major corridor is Liberty Canyon, located approximately one mile southeast of the Build Alternative. Liberty Canyon is one of the few remaining areas along the 101 Freeway where habitat is still contiguous on both sides of the freeway due to the spanning bridge underpass. This allows species such as the mountain lion, mule deer, badger, brush rabbit, desert woodrat, loggerhead shrike, California thrasher, western toad, California kingsnake, western whiptail, and harvester ant, as well as all the Special Status Animal Species to cross this major barrier (Penrod et al.2006).[20]

Immediately west of the bridge is a drainage culvert for the intermittent creek that flows through Liberty Canyon. The structure is roughly 3 feet in diameter and about 623 feet

[20] Penrod et a,l pp.79.

long. Raccoon, opossum, spotted skunk, and striped skunk use the passage to cross the freeway (Penrod et al. 2006).[21]

Las Virgenes Creek is located approximately one mile west of Liberty Creek, and approximately 2 miles west of the proposed project. This corridor offers the best connection for riparian dependent species traveling between the Simi Hills and the Santa Monica Mountains. The creek flows from the Simi Hills under the 101 Freeway through a multi-chambered concrete tunnel, measuring 324.5 feet long, 15.8 feet wide, and 13.1 feet high. Ng et al documented movement of bobcat and raccoon through the structure.[22]

Crummer Canyon, the fourth major wildlife corridor is located approximately 2 miles west of the Build Alternative. The concrete culvert allows for the crossing of medium sized to large wildlife species (Penrod et al 2006).

4.3. Vegetation

A majority of the biological study area is paved or developed. On non-paved areas, the predominant habitat is anthropogenic, occurring on developed and landscaped areas. Non-native annual grassland is also present on disturbed roadsides and vacant lots. These plant associations are described below.

Outside of the biological study area but immediately adjacent to the north side of U.S. 101 east of the Palo Comado Canyon Road Overcrossing is a large undeveloped parcel dominated by non-native annual grassland, with patches of Venturan coastal sage scrub and valley needlegrass grassland on the hillsides, and riparian herb/scrub habitats associated with an ephemeral drainage. As these habitats are situated well away from the limits of the biological study area and would not be directly or indirectly affected by the proposed project, they are not discussed further.

Anthropogenic Plant Associations

Anthropogenic plant associations are those dominated by plant species introduced by humans and established or maintained by human disturbances or activities (Holland and Keil 1990). Some are entirely artificial such as areas under active cultivation (*i.e.,* row crops, orchards, vineyards, *etc.*). Others include areas used as rangeland or pasture, wasteland areas (*e.g.,* ruderal), and areas influence by urban or suburban landscaping or plantings. On such sites, the native vegetation has typically been removed by clearing in preparation for cultivation, landscaping, or development. Cleared areas that are planted with or colonized by non-indigenous plant species can create distinct communities dominated by annual grasses and forbs, shrubs, or trees. Some of these communities are

[21] IBID, pp 80.
[22] Ng et al, pp.58.

only perpetuated with direct human intervention such as irrigation or grazing, while others are capable of becoming naturalized. In some situations, introduced non-indigenous species invade native habitats, altering the composition of the native understory or canopy, or both.

Ornamental and screen plantings have been installed within the right-of-way (ROW) along U.S. 101, including oleander (*Nerium oleander*), copper tip photinia (*Photinia fraseri*), Peruvian peppertree (*Schinus molle*), toyon (*Heteromeles arbutifolia*), laurel sumac (*Malosma laurina*), Fremont cottonwood (*Populus fremontii*), Siberian elm (*Ulmus pumila*) and valley oak (*Quercus lobata*). A cluster of the highly invasive tree-of-Heaven (*Ailanthus altissima*) is also present in the ROW between U.S. 101 and Chesebro Road.

Outside of the highway ROW but within the biological study area are is variety street tree and shrub plantings including Peruvian peppertree, America sweet gum (*Liquidambar styraciflua*), Canary Island pine (*Pinus canariensis*), London plane tree (*Platanus acerifolia*), Aleppo pine (*Pinus halepensis*), gum trees (*Eucalyptus* spp.), European white birch (*Betula pendula*), evergreen ash (*Fraxinus uhdei*), ornamental cherry (*Prunus cerasifera*), Indian hawthorn (*Rhaphiolepis indica*), among others.

Along roadsides and vacant lots are remnants of the native flora is also present in some areas, consisting of valley oaks, toyon, California coffeeberry (*Rhamnus californica*) and Southern California black walnut (*Juglans californica*), and red willow (*Salix laevigata*).

Vacant lots in the biological study area are disked or mowed or otherwise altered. Vegetation is characteristic of ruderal areas, comprised of native and non-native herbaceous annuals and perennials. Commonly encountered species non-native species include wild oats (*Avena fatua*), brome grasses (*Bromus* spp.), field mustard (*Hirshfeldia incana*), red-stemmed filaree (*Erodium cicutarium*), bristly ox-tonge (*Picris echioides*), bur-clover (*Medicago polymorpha*), wild lettuce (*Lactuca serriola*), among others. Native species commonly encountered include telegraph weed (*Heterotheca grandiflora*), doveweed (*Croton setigerus*), narrow-leaf milkweed (*Asclepias fascicularis*), fiddleneck (*Amsinckia menziesii*), and common California aster (*Corethrogyne filaginifolia*), among others.

Anthropogenic habitats do not correspond to any specific alliance described by Sawyer, *et al.* (2009). On site, anthropogenic habitats would be classified as an upland following Cowardin, *et al.* (1979).

Non-native Annual Grassland

Non-native annual grassland is generally found in open areas in valleys and foothills throughout coastal and interior California (Holland 1986). It typically occurs on soils consisting of fine-textured loams or clays that are somewhat poorly drained. This vegetation type is dominated by non-native annual grasses and weedy annual and perennial forbs, primarily of Mediterranean origin, that have replaced native perennial grasslands, scrub and woodland as a result of human disturbance. Scattered native wildflowers and grasses, representing remnants of the original vegetation may also be common. On site, non-native annual grassland intergrades with coastal terrace prairie, northern coastal scrub and all of the disturbed habitats dominated by non-native species.

As described by Los Angeles County (2005), non-native annual grassland comprises the majority of the open field north of U.S. 101 and east of the Palo Comado Canyon Road Overcrossing. Characteristic non-native annual grasses that dominate this habitat on site include wild oats, brome grasses, Italian ryegrass (*Lolium multiflorum*), and wild barley (*Hordeum* spp.). Common non-native forbs include bur-clover, wild lettuce, field mustard, red-stemmed filaree, black mustard (*Brassica nigra*), tocalote (*Centaurea melitensis*), curly dock (*Rumex crispus*), field bindweed (*Convovulus arvensis*), horehound (*Marrubium vulgare*), and Italian thistle (*Carduus pycnocephalus*), among others. Native species also present in this plant community include narrow-leaf milkweed, fiddleneck, coast goldenbush (*Isocoma menziesii* var. *menziesii*), California poppy (*Eschscholzia californica*), creeping wildrye (*Leymus triticoides*), and giant wildrye (*Leymus condensatus*), among others.

Non-native annual grassland most closely conforms to the *Avena (barbata, fatua)* Semi-Natural herbaceous Stand as described in Sawyer, *et al.* (2009), and would be classified as an upland, following Cowardin, *et al.* (1979). Both species of wild oats have an invasive species ranking of “moderate” (Cal-IPC 2006).

4.4. Animals

The following information is provided to give examples of common wildlife species that occur within grassland, scrub and riparian habitats present within the study area. This information is based on the results of biological surveys conducted on site, as well as species information gathered from sources such as species lists for the Santa Monica Mountains National Recreation Area (NPS). Due to the great variety of animal species that utilize these habitats, this information is provided only to provide a general understanding of these habitats.

Grasslands, scrub and riparian habitats provide resources in the form of seeds, nectar and foliage that feed numerous herbivores that in turn support a wide variety of predatory

animals. Many species utilize more than one habitat type, as well as the edges along different habitat types.

Bird species that utilize grasslands include songbirds such as house finch (*Carpodacus mexicanus*), western meadowlark (*Sturnella neglecta*) and lesser goldfinch (*Carduelis psaltria*). Raptors frequently observed utilizing grasslands for foraging include white-tailed kite, red-tailed hawk (*Buteo jamaicensis*) and American kestrel (*Falco sparverius*).

Sage scrub habitat often provides cover habitat for species that forage within grasslands. Bird species that commonly occur within sage scrub include white-crowned sparrow (*Zonotrichia leucophrys*), California quail (*Callipepla californica*) and California towhee (*Pipilo crissalis*). Herbivorous mammals that utilize grasslands and scrub habitat include California meadow vole (*Microtus californicus*), Botha's pocket gopher (*Thomomys bottae*), black-tailed hare (*Lepus californicus*), California ground squirrel, Audubon's cottontail (*Sylvilagus audobonii*), and black-tailed mule deer (*Odocoileus hemionus*). Bat species that forage over grassland and brush habitats include pallid bat, fringed myotis (*Myotis thysanodes*) and long-eared bat (*Myotis evotis*).

Riparian scrub provides excellent habitat for passerine birds such as song sparrow (*Melospiza melodia*), Wilson's warbler (*Wilsonia pusilla*), spotted towhee (*Pipilo maculatus*), and bats such as California myotis (*Myotis californicus*) and Yuma bat (*Myotis yumanensis*).

Amphibians and reptiles that utilize the grassland, scrub and/or riparian habitat within the region include California toad (*Bufo boreas halophilus*), Pacific tree frog (*Pseudacris regilla*), southern pacific rattlesnake (*Crotalus viridis helleri*), western fence lizard (*Sceloporous occidentalis*), gopher snake (*Pituophis melanoleucus*) and common kingsnake (*Lampropeltis getulus*).

Larger predators that likely utilize the combination of grassland, scrub, and riparian habitat include raccoon (*Procyon lotor*), gray fox (*Urocyon cinereoargenteus*), bobcat (*Felis rufus*), and coyote (*Canis latrans*).

5. Project Impacts

Impacts to biological resources are classified as direct, indirect and cumulative. The significance of potential impacts conforms to the guidelines of the California Environmental Quality Act (CEQA).[23]

[23] CEQA §15065

For purposes of this analysis, the Build Alternative was considered to be the proposed project (see Section 2, above). This alternative includes the widening of Palo Comado Canyon Road from two to four lanes between Driver Avenue to the north and Chesebro Road to the south. The Palo Comado Canyon Road Overcrossing would be widened to a total of five lanes, with bike lanes and a sidewalk. The northbound on- and off-ramps would be slightly reconfigured, although the number of lanes would remain the same. The No Build Alternative would not result in any biological impacts, and was therefore not analyzed.

5.1. Special-Status Natural Communities

No special-status natural communities occur within the biological study area; however, the unnamed tributary to Medea Creek, a waters of the U.S./waters of the State, crosses the western portion of the biological study area. Based on the Build Alternative, project implementation would not result in direct or cumulative impacts on special-status natural communities. However, indirect impacts on water quality could result during construction by the release of sediment or pollutants into the water ways.

5.2. Special-Status Plant Species

No special-status plant species have been recorded in the biological study area and none is expected to be present. Based on the Build Alternative, project implementation would not result in direct, indirect or cumulative impacts on special-status plant species.

5.3. Special-Status Animal Species

Thirteen special-status animal species were determined to have potential for occurrence within the study area, making then susceptible to direct mortalities or indirect effects of construction. Specifically, construction-related activities could result in the destruction or abandonment of occupied nests; crushing of individual animals or eggs on the surface, in vegetation or in burrows; harassment of roosting animals in tree fissures, cavities, or structures. The species of concern include white-tailed kite and the special-status species coastal whiptail, coast horned lizard, Southern California rufous-crowned sparrow, burrowing owl, California horned lark, loggerhead shrike, San Diego black-tailed jackrabbit, San Diego desert woodrat, pallid bat, western red bat, western mastiff bat and pale big-eared bat.

5.4. Existing Wildlife Corridors

Due to the distance of the wildlife crossings to the project site, the project will not cause impacts from construction noise, vibrations, hauling and/or staging. The project consists of the widening of an existing road and a freeway overcrossing that is perpendicular to

the US 101 freeway barrier, which proves no threat to the existing wildlife crossings. The corridors will continue to accommodate all major habitats in the area along with Special Status-Animal Species. Therefore, the Build Alternative is not likely to result in direct, indirect or cumulative impacts on any of the major wildlife corridors.

The footprint of the Build Alternative would be limited to areas in and adjacent to existing roadways. With the incorporation of the avoidance and minimization measures outlined in Section 6, below, project implementation is not likely to result in direct, indirect or cumulative impacts on special-status animal species.

6. Mitigation Measures

With the incorporation of the avoidance and minimization measures outlined in this section, project implementation is not likely to result in direct, indirect or cumulative adverse effects on any potentially occurring special-status biological resources.

6.1. Special-Status Natural Communities

Protective measures are warranted to ensure that no adverse effects on water quality occur during construction.

- Best management practices (BMPs) shall be incorporated into construction operations to prevent the release of any contaminants (*e.g.*, soil, silt, construction debris, raw cement, concrete, petroleum products, or any substance that could be hazardous to aquatic life, wildlife, or riparian habitat) into any creek, storm channel, or storm drain. All erosion control devices shall be properly maintained and removed upon completion of construction activities.

- A spill prevention and control plan shall be developed and implemented to prevent hazardous materials from entering the waterway during construction. All leaks, drips and spills of hydraulic fluid, oil, fuel, or paving material shall be immediately cleaned up to prevent entry into water ways. All workers shall be informed of the importance of preventing spills and of the appropriate clean up and response measures.

- With the incorporation of these measures, project implementation would not result in any inadvertent impacts on downstream water quality.

6.2. Special-Status Plant Species

No further studies or impact avoidance measures are warranted regarding special-status plant species unless the project design changes.

6.3. Special-Status Animal Species

General and species-specific impact avoidance measures are outlined below.

6.3.1. General Impact Avoidance Measures

Pre-construction Biological-Resources Awareness Training

A biological-resources awareness training shall be presented to all construction personnel prior to the initiation of construction activities. The training shall be provided as follows:

- The training shall be developed and provided by a qualified biologist familiar with the special-status species that may occur in the study area.
- Training materials shall be language-appropriate for construction personnel.
- All personnel shall complete the training prior to conducting any work in the work area boundary, including tree trimming, demolition, vegetation clearing and grading.
- The training shall provide educational information on habitats and the natural history of the special-status species potentially occurring in the work area, a discussion of required impact avoidance measures, lines of communication and authority, and a discussion of penalties for noncompliance.
- If new construction personnel are added to the project, the contractor shall ensure that new personnel receive training before they start working. As an alternative to in-person training by a biologist, subsequent training of new personnel can include watching a videotape of the initial training and/or reviewing written materials approved by the project biologist.

6.3.2 Species-Specific Impact Avoidance Measures

The following impact avoidance measures are intended to protect special-status species from being harmed during construction. Many of these measures (*e.g.*, pre-construction surveys) may be implemented simultaneously; the timing and implementation of these measures is presented in Section 6.3.3, below.

Burrowing Owl

The study area is within the range of burrowing owl and supports suitable habitat for the species. Although not detected during the present surveys, the species could move onto the site prior to the initiation of grading. If that were to occur, disturbance during either

the wintering or nesting seasons may result in the take of adult burrowing owls, nest abandonment, and mortality of young. To further evaluate presence or absence of burrowing owl, the following measures are recommended:

- Within 30 days of the initiation of any grading or land clearing, a survey for suitable ground burrows should be performed by a qualified biologist. The survey shall be conducted by a qualified biologist and shall cover all open habitats (grassland or similar low vegetation) in the construction limits and within 250 feet of the construction limits, access permitting. Survey protocol calls for walking transects over the property affording 100 percent visual cover of the site. If no suitable ground burrows are observed, grading may proceed.

- If suitable ground burrows are present, a qualified biologist should conduct a pre-construction nesting burrowing owl survey following CDFG protocol. Survey protocol calls for the performance of four crepuscular (early morning or late evening) surveys.

- Any active nests may not be disturbed until the young have fledged and compensation of habitat loss, at a mitigation ratio to be determined in consultation with the CDFG, would be required.

- Areas of bare ground or with grasses less than six inches in height may attract burrowing owls during the winter season. If construction resumes after a period of construction inactivity following clearing, a habitat evaluation to determine burrowing owl occupancy of the site should be conducted prior to ground disturbance the following season.

- All burrows containing active nests shall be identified by flagging, and shall be protected by a no-disturbance buffer zone of 75 m (246 feet). Mitigation would be required for unavoidable impacts to nesting pairs and habitat loss; appropriate mitigation would be determined in consultation with the CDFG.

White-tailed Kite and Other Raptors

To avoid loss of active nests and potential mortality of special-status and non–special-status raptors, the following measures shall be implemented:

- If construction activity begins during the breeding season (February 1 - August 31), a pre-construction survey for nests and nesting raptors shall be conducted within two weeks of the initiation of construction activities. The survey shall be conducted by a qualified biologist and shall cover all forest, woodland, and scrub habitats in the construction limits and within 250 feet of the construction limits,

access permitting. Because construction at different sites may occur at different times, surveys shall be conducted in each individual construction area according to the schedule described above. Additionally, if there are any breaks in construction activity at any site for two weeks or more, surveys must be conducted again in adjacent habitats to ensure that no active nests or nesting raptors have taken residence adjacent to project sites.

- If no active nests are detected during surveys, then no additional mitigation is required. If any nests or nesting activity is observed, appropriate protective measures shall be implemented. Appropriate avoidance measures shall include the following (other equally effective measures may be developed in consultation with the USFWS and/or CDFG):
    - A no-disturbance buffer shall be established around occupied nests to prevent destruction of the nest and to prevent disruption of breeding and rearing behavior.
    - The extent of no-disturbance buffers shall be determined by a qualified wildlife biologist in consultation with the applicable resource agencies (*i.e.*, the USFWS and/or the CDFG) and will depend on the level of noise or disturbance, line of sight between the nest and the disturbance area, ambient levels of noise and other disturbances, and other topographic or artificial barriers.
    - No-disturbance buffers shall be maintained until the end of the breeding season or until a qualified wildlife biologist as determined that the young birds have fledged.

Southern California Rufous-Crowned Sparrow, Loggerhead Shrike, California Horned Lark and Other Nesting Migratory Birds

To avoid loss of active nests and potential mortality of special-status and other migratory bird species, the following measures shall be implemented if construction activities are scheduled to occur between February 1 and August 15:

- Pre-construction survey for active nests shall be conducted in all vegetated areas to be impacted and within 50 feet of the work areas, access permitting.
- The breeding bird survey shall be conducted by a qualified biologist no more than two weeks before the start of construction.

- If work stops at the project site for more than three consecutive days during the nesting season, a nesting bird survey must be conducted prior to the continuation of work.

- If no nesting or breeding behavior is observed, construction may proceed.

- If an active nest is detected, a determination shall be made by a qualified biologist as to whether construction work would affect the active nest. If it is determined that construction would not affect an active nest, work may proceed.

- If it is determined that construction activities are likely to impair the successful rearing of the young, a no-disturbance buffer shall be established around occupied nests to prevent destruction of the nest and to prevent disruption of breeding or rearing behavior.

- The extent of no-disturbance buffers shall be determined by a qualified biologist in consultation with the applicable resource agencies (*i.e.*, the USFWS and/or the CDFG) and will depend on the level of noise or disturbance, line of sight between the nest and the disturbance area, ambient levels of noise and other disturbances, and other topographic or artificial barriers.

- No-disturbance buffers shall be maintained until the end of the breeding season or until a qualified wildlife biologist as determined that the young birds have fledged.

Coastal Whiptail and San Diego Horned Lizard

To avoid harming coastal whiptails and San Diego horned lizards, which could occur in the project area, the following measures shall be implemented:

- A pre-construction survey shall be conducted in all vegetated areas that are to be impacted by the project, and within 50 feet of these work areas.

- The survey(s) shall be conducted by a qualified biologist within 48 hours of construction for coastal whiptail and San Diego horned lizard.

- If either of these species is encountered during pre-construction surveys, they should be allowed to disperse out of the construction zone.

- If dispersal is not likely to occur, the animals should be captured by a qualified biologist in possession of a valid scientific collecting permit and moved outside of the construction zone to an appropriate habitat location based on the habitat

requirements for each species, and where there is suitable cover to provide shelter from predators.

San Diego Black-tailed Jackrabbit and San Diego Desert Woodrat

To avoid harming special-status mammals, the following measures shall be implemented:

- Pre-construction surveys shall be conducted in all vegetated areas scheduled to be graded or cleared, and within 50 feet of these work areas

- The survey(s) shall be conducted by a qualified biologist within 30 days of the initiation of construction activities. The survey(s) must be conducted early enough prior to site clearing to address any woodrat middens requiring removal before construction.

- If no woodrat middens or jackrabbit dens are found, no further action is required.

- If woodrat middens and/or jackrabbit dens are found and can be avoided, the biologist shall direct the contractor in placing orange barrier fencing between the proposed construction area and the midden or den, allowing as much room as possible to avoid indirect disturbance to the midden or den.

- If woodrat middens cannot be protected and/or avoided, a qualified biologist shall disassemble middens or, if adjacent habitat is not suitable, trap and relocate desert woodrats out of the construction area (using live-traps) prior to the start of construction. In addition, the biologists shall attempt to relocate the disassembled midden to the same area where the woodrats are released. Trapping and relocation of woodrats shall be performed in consultation with CDFG.

- If any active black-tailed jackrabbit dens are identified on site and cannot be avoided, CDFG shall be consulted to determine appropriate mitigation measures.

Special Status Bats

To avoid harming pallid bat, western red bat, western mastiff bat or pale big-eared bat, which could roost in tree fissures or cavities, as well as buildings, bridge joints or other structures, the following measures shall be implemented:

- Prior to tree removal or the demolition or alteration of any structures, a qualified biologist (familiar with identification of bats and signs of bats) shall survey the trees and/or structures for evidence of bat occupation.

- The pre-construction survey(s) shall be conducted within 30 days of the removal of any large tree or snag, or demolition of or construction at any structures. If construction is postponed for more than 30 days from the date of the initial bat survey, a qualified biologist will repeat the pre-construction survey. The biologist shall thoroughly search trees or snags that provide appropriate roosting habitat (trees with foliage or cavities, or that are hollow) for bats or evidence of bats.

- If no potential for roosting bats is found, tree removal, demolition or construction activities may proceed.

- If a tree provides potentially suitable roosting habitat but bats are not present, exclusion of bats shall be conducted by sealing cavities, pruning limbs, or removing the entire tree, in consultation with the qualified biologist.

- If roosting bats or evidence of use by bats are found, the biologist shall determine the species and estimate the number of bats present. The CDFG shall be contacted to determine appropriate measures to remove trees and structures without impacting roosting bats. Trees and snags with cavities or loose bark that exhibit evidence of use by bats will be scheduled for humane bat exclusion and eviction, conducted during appropriate seasons and supervised by the bat biologist.

- If it is determined that an active bat maternity roost is present (typically between April and August), bat removal is prohibited. Humane exclusion is not permitted until after the breeding season or until after the maternity roost is no longer active, as determined by a qualified biologist.

- If the biologist determines or presumes that roosting bats are present, they may be excluded by installing one-way exclusion devices. To avoid impacts on non-volant (*ie.*, non-flying) bats, the biologist will only conduct bat exclusion and eviction from February 15 through April 15 and from August 15 through October 30. After the bats vacate the cavities, the biologist will plug the cavities or remove the limbs. The construction contractor will only remove trees after the bat biologist verifies that the exclusion methods have successfully prevented bats from returning, usually in seven to 10 days. After construction activities are complete, the bat biologist will remove the exclusion devices.

6.3.2. Implementation of Impact Avoidance Measures

The following is a summary of all special status species impact avoidance measures that are to be implemented as part of the project. A discussion providing details for each measure is provided in section 6.3.2.

Exclusionary fencing

- Prior to the start of project activities, a minimum 3-foot high exclusion fence shall be installed along the northern boundary of construction limits, north and south of 101, east of Palo Comado Road. Fencing should be installed in coordination with the 48-hour pre-construction survey, described below. This measure is intended to avoid any potential incursion into the work area by San Diego Black-tailed Jackrabbit and San Diego Desert Woodrat, San Diego horned lizard and coastal whiptail, as well as common wildlife species.

To be conducted within 30 days of construction activities

- Within 30 days prior to the initiation grading, a survey for suitable burrowing owl burrows should be performed by a qualified biologist. The survey shall be conducted by qualified biologists and shall cover all open habitats (grassland or similar low vegetation) in the construction limits and within 250 feet of the construction limits, access permitting. This measure is intended to ensure that project implementation does not result in any harm to burrowing owl.

- Pre-construction surveys shall be conducted in all vegetated areas that are to be impacted by the project, and within 50 feet of these work areas within 30 days prior to construction activities to determine if San Diego black-tailed jackrabbit and/or San Diego desert woodrat are present on the project site. This measure is intended to ensure that project implementation does not result in any harm to San Diego black-tailed jackrabbit and/or San Diego desert woodrat.

- The pre-construction surveys for bats will be conducted within 30 days before removal of any large tree or snag or structures. If construction is postponed for more than 30 days from the date of the initial bat survey, a qualified biologist will repeat the pre-construction survey. This measure is intended to ensure that project implementation does not result in any harm to special-status bats.

To be conducted within two weeks of construction activities

- Pre-construction surveys for active nests of bird species of special concern shall be conducted within two weeks prior to construction activities, in all vegetated areas that are to be impacted by the project, and within 50 feet of these work areas. This measure is intended to ensure that project implementation does not result in any harm to Southern California rufous-crowned sparrow, loggerhead shrike, California horned lark, and other nesting migratory birds.

- If construction activity begins during the breeding season (February 1 - August 31), a pre-construction survey for nests and nesting raptors shall be conducted within two weeks prior to initiation of construction activities. This measure is intended to ensure that project implementation does not result in any harm to white-tailed kite and other raptors.

To be conducted within 48 hours of construction activities:

- Pre-construction surveys shall be conducted in all vegetated areas that are to be impacted by the project, and within 50 feet of these work areas by a qualified biologist within 48 hours of construction activities for San Diego horned lizard, coastal whiptail, San Diego black-tailed jackrabbit and San Diego desert woodrat. Ideally, this survey should be done at the time of installation of the exclusionary fencing. This measure is intended to ensure that these species are not present within the work area immediately prior to the initiation of ground clearing activities such as brushing/grubbing or grading operations.

7. Permits Required

Based on the Build Alternative, project implementation would not require any federal or State permits pursuant to the Federal of California Endangered Species Acts, CWA, Lake and Streambed Alteration Program, the CFGC, or the Porter-Cologne Water Quality Control Act.

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9. Appendix 1

Special-status Plant Species Evaluated for the U.S. 101/Palo Comado Canyon Road Interchange Project

Special-status Plant Species Evaluated For The Palo Comado Canyon Road Interchange Project

FAMILY *Scientific Name* Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Asteraceae - Sunflower Family				
Baccharis malibuensis Malibu baccharis	Federal: none State: none CNPS: 1B.1 Other: DFG: Special Plant	Occurs in cismontane woodland, coastal scrub, chaparral. Substrate: On Conejo volcanic substrates, often on exposed roadcuts. Recorded from Los Angeles. Nearest record is approx. 3 miles S of study area.	August Shrub (deciduous)	None: marginally suitable habitat present. Would have been detectable during present survey.
Centromadia parryi ssp. *australis* southern tarplant	Federal: none State: none CNPS: 1B.1 Other: DFG: Special Plant	Occurs in marshes and swamps, valley and foothill grassland, vernal pools. Recorded from Los Angeles, Orange, San Diego, Santa Barbara, Ventura.Santa Catalina Island.Also recorded from Baja California.	May-Nov Annual Herb	None: marginally suitable habitat present. Would have been detectable during floristic survey.
Deinandra minthornii Santa Susana tarplant	Federal: none State: SR CNPS: 1B.2 Other: DFG: Special Plant	Occurs in coastal scrub. Substrate: Usually on sandstone outcrops and crevices. Recorded from Los Angeles, Ventura. Nearest record is approx. 5 miles SSW of study area.	Jul-Nov Shrub (deciduous)	None: marginally suitable habitat present. Would have been detectable during floristic survey.
Pentachaeta lyonii Lyon's pentachaeta	Federal: FE State: SE CNPS: 1B.1 Other: DFG: Special Plant	Occurs in chaparral, coastal scrub, valley and foothill grassland. Substrate: clay, Habitats Note: exposed sites. Recorded from Los Angeles, Ventura.Santa Catalina Island. Nearest record is approx. 0.6 mile SWof study area.	Mar-Aug Annual Herb	None: suitable soils not present on site. Would have been detectable during present and prior floristic surveys.
Pseudognaphalium leucocephalum white rabbit-tobacco	Federal: none State: none CNPS: 2.2 Other:	Occurs in chaparral, coastal sage scrub, cismontane woodland, riparian woodland. Substrate: sandy or gravelly. Recorded from Los Angeles, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, Ventura.Also recorded from Arizona, Baja California, New Mexico, Sonora (Mexico), Texas.	Aug-Nov Perennial Herb	None: suitable habitat present. Would have been detectable during present survey.

Special-status Plant Species Evaluated For The Palo Comado Canyon Road Interchange Project

FAMILY *Scientific Name* Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Boraginaceae - Borage Family				
Harpagonella palmeri Palmer's grapplinghook	Federal: none State: none CNPS: 4.2 Other: DFG: Special Plant	Occurs in chaparral, coastal sage scrub, coastal scrub, valley and foothill grassland Habitats Note: clay. Recorded from Los Angeles, Orange, Riverside, San Diego.Santa Catalina Island.Also recorded from Arizona, Baja California, Sonora (Mexico).	Mar-May Annual Herb	None: marginally suitable habitat present. Would have been detectable during present and prior floristic surveys.
Brassicaceae - Mustard Family				
Dithyrea maritima beach spectaclepod	Federal: none State: ST CNPS: 1B.1 Other: DFG: Special Plant	Occurs in coastal dunes, coastal sage scrub, coastal scrub, coastal strand Habitats Note: sandy. Recorded from Los Angeles, San Luis Obispo, Santa Barbara.Santa Catalina Island, San Miguel Island, San Nicolas Island.Also recorded from Baja California.	Mar-May Perennial Herb (rhizomatous)	None: suitable soils not present on site. Would have been detectable during present and prior floristic surveys.
Chenopodiaceae - Goosefoot Family				
Atriplex coulteri Coulter's saltbush	Federal: none State: none CNPS: 1B.2 Other: DFG: Special Plant	Occurs in coastal bluff scrub, coastal dunes, coastal sage scrub, coastal scrub, coastal strand, valley and foothill grassland Substrate: alkaline, Habitats Note: clay alkaline. Recorded from Los Angeles, Orange, Riverside, San Bernardino, San Diego, Santa Barbara.Anacapa Island, San Clemente Island, Santa Catalina Island, Santa Cruz Island, San Miguel Island, Santa Rosa Island.Also recorded from Baja California.	Mar-Oct Perennial Herb	None: marginally suitable habitat present. Would have been detectable during present and prior floristic surveys.
Atriplex parishii Parish's brittlescale	Federal: none State: none CNPS: 1B.1 Other: DFG: Special Plant	Occurs in alkali sink, chenopod scrub, playas, shadscale scrub, vernal pools Moisture: vernally-flooded. Recorded from Los Angeles, Orange, Riverside, San Bernardino, San Diego.Also recorded from Baja California.	Jun-Oct Annual Herb	None: marginally suitable habitat present. Would have been detectable during floristic survey.

Special-status Plant Species Evaluated For The Palo Comado Canyon Road Interchange Project

FAMILY *Scientific Name* Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Convolvulaceae - Morning-glory Family				
Convolvulus simulans small-flowered morning-glory	Federal: none State: none CNPS: 4.2 Other: DFG: SP	Occurs in chaparral, coastal sage scrub, coastal scrub, northern coastal scrub, valley and foothill grassland Substrate: serpentine, Habitats Note: clay. Recorded from Contra Costa, Kern, Los Angeles, Orange, Riverside, San Benito, San Diego, San Joaquin, San Luis Obispo, Santa Barbara, Stanislaus.San Clemente Island, Santa Catalina Island, Santa Cruz Island.Also recorded from Baja California. Recorded offsite by Impact Sciences (Los Angeles County 2005).	Mar-Jul Annual Herb	None: marginally suitable habitat present. Would have been detectable during present survey.
Crassulaceae - Stonecrop Family				
Dudleya blochmaniae ssp. *blochmaniae* Blochman's dudleya	Federal: none State: none CNPS: 1B.1 Other: DFG: Special Plant	Occurs in coastal bluff scrub, coastal sage scrub, coastal scrub, valley and foothill grassland Substrate: serpentine, Habitats Note: clay rocky. Recorded from Los Angeles, Orange, San Diego, San Luis Obispo, Santa Barbara, Ventura.Also recorded from Baja California. Recorded from the Calabasas and/or Thousand Oaks Quadrangles.	Apr-Jun Perennial Herb	None: marginally suitable habitat present. Would have been detectable during floristic survey.
Dudleya cymosa ssp. *agourensis* Agoura Hills dudleya	Federal: FT State: none CNPS: 1B.2 Other: DFG: Special Plant	Occurs in chaparral, cismontane woodland. Substrate: On rocky, volcanic breccia soils. Recorded from Los Angeles, Ventura. Nearest record is approx. 0.6 mile SW of study area.	May-Jun Perennial Herb	None: no suitable habitat present. Would have been detectable during floristic survey.
Dudleya cymosa ssp. *marcescens* marcescent dudleya	Federal: FT State: SR CNPS: 1B.2 Other: DFG: Special Plant	Occurs in chaparral Substrate: On sheer volcanic rock surfaces, canyon walls. Recorded from Los Angeles, Ventura. Nearest record is approx. 2 miles SSW of study area.	Apr-Jun Perennial Herb	None: no suitable habitat present. Would have been detectable during floristic survey.

Special-status Plant Species Evaluated For The Palo Comado Canyon Road Interchange Project

FAMILY *Scientific Name* Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Dudleya cymosa ssp. *ovatifolia* Santa Monica dudleya	Federal: FT State: none CNPS: 1B.2 Other: DFG: Special Plant	Occurs in chaparral, coastal sage scrub, coastal scrub Substrate: volcanic. Recorded from Los Angeles, Orange.	Mar-Jun Perennial Herb	None: no suitable habitat present. Would have been detectable during floristic survey.
Dudleya multicaulis many-stemmed dudleya	Federal: none State: none CNPS: 1B.2 Other: DFG: Special Plant	Occurs in chaparral, coastal sage scrub, coastal scrub, valley and foothill grassland Habitats Note: clay. Recorded from Los Angeles, Orange, Riverside, San Bernardino, San Diego. Recorded from the Calabasas and/or Thousand Oaks Quadrangles.	Apr-Jul Perennial Herb	None: marginally suitable habitat present. Would have been detectable during floristic survey.
Dudleya parva Conejo dudleya	Federal: FT State: none CNPS: 1B.2 Other: DFG: Special Plant	Occurs in coastal scrub, valley and foothill grassland. Recorded from Ventura. Recorded from the Calabasas and/or Thousand Oaks Quadrangles.	May-Jun Perennial Herb	None: marginally suitable habitat present. Would have been detectable during floristic survey.
Fabaceae - Legume Family				
Astragalus brauntonii Braunton's milk-vetch	Federal: FE State: none CNPS: 1B.1 Other: DFG: Special Plant	Occurs in chaparral, closed-cone coniferous forest, closed-cone pine forest, coastal sage scrub, coastal scrub, valley and foothill grassland Substrate: On stiff gravelly clay soils overlying granite or limestone. Recorded from Los Angeles, Orange, Ventura. Nearest record is approx. 4 miles NNW of study area.	Feb-Jul Perennial Herb	None: suitable soils not present on site. Would have been detectable during present and prior floristic surveys.

Special-status Plant Species Evaluated For The Palo Comado Canyon Road Interchange Project

FAMILY *Scientific Name* Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Astragalus pycnostachyus var. *lanosissimus* Ventura marsh milk-vetch	Federal: FE State: SE CNPS: 1B.1 Other: DFG: Special Plant	Occurs in coastal dunes, coastal salt marsh, marshes and swamps. Recorded from Los Angeles, Orange, Ventura.	Jun-Oct Perennial Herb	None: no suitable habitat present. Would have been detectable during floristic survey.
Astragalus tener var. *titi* coastal dunes milk-vetch	Federal: FE State: SE CNPS: 1B.1 Other: DFG: Special Plant	Occurs in coastal bluff scrub, coastal dunes, coastal prairie, coastal sage scrub, coastal strand, northern coastal scrub Habitats Note: sandy. Recorded from Los Angeles, Monterey, San Diego.	Mar-May Annual Herb	None: no suitable habitat present. Would have been detectable during present and prior floristic surveys.
Geraniaceae - Geranium Family				
California macrophylla round-leaved filaree	Federal: none State: none CNPS: 1B.1 Other: DFG: Special Plant	Occurs in cismontane woodland, foothill woodland, valley and foothill grassland. Substrate: clay. Recorded from Alameda, Butte, Colusa, Contra Costa, Fresno, Glenn, Kern, Kings, Lake, Lassen, Los Angeles, Merced, Monterey, Napa, Riverside, San Benito, San Diego, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Solano, Sonoma, Stanislaus, Tehama, Ventura, Yolo.Santa Cruz Island.Also recorded from Baja California, Oregon, Utah. Recorded from 0.5 mile NE of study area.	Mar-May Annual Herb	None: marginally suitable habitat present. Would have been detectable during present and prior floristic surveys.
Hydrophyllaceae - Waterleaf Family				
Nama stenocarpum mud nama	Federal: none State: none CNPS: 2.2 Other: DFG: Special Plant	Occurs in freshwater marsh, marshes and swamps. Recorded from Imperial, Los Angeles, Orange, Riverside, San Diego.San Clemente Island.Also recorded from Arizona, Baja California.	Jan-Jul Annual/perennial Herb	None: no suitable habitat present. Would have been detectable during present and prior floristic surveys.

Special-status Plant Species Evaluated For The Palo Comado Canyon Road Interchange Project

FAMILY *Scientific Name* Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Juglandaceae - Walnut Family				
Juglans californica Southern California black walnut	Federal: none State: none CNPS: 4.2 Other: DFG: Special Plant	Occurs in chaparral, cismontane woodland, coastal scrub, southern oak woodland. Recorded from Los Angeles, Orange, Riverside, San Bernardino, San Diego, Santa Barbara, Ventura. Recorded offsite by Impact Sciences (Los Angeles County 2005).	Mar-May Tree (deciduous)	None: suitable habitat present. Would have been detectable during floristic survey.
Liliaceae - Lily Family				
Calochortus catalinae Catalina mariposa lily	Federal: none State: none CNPS: 4.2 Other: DFG: Special Plant	Occurs in chaparral, cismontane woodland, coastal sage scrub, coastal scrub, foothill woodland, valley and foothill grassland. Recorded from Los Angeles, Orange, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, Ventura.Santa Catalina Island, Santa Cruz Island, Santa Rosa Island. Recorded offsite by Impact Sciences (Los Angeles County 2005)..	Feb-May Perennial Herb (bulbiferous)	None: no suitable habitat present. Would have been detectable during present and prior surveys.
Calochortus clavatus var. *gracilis* slender mariposa lily	Federal: none State: none CNPS: 1B.2 Other: DFG: Special Plant	Occurs in chaparral, coastal scrub. Recorded from Los Angeles. Recorded from the Calabasas and/or Thousand Oaks Quadrangles.	Mar-May Perennial Herb (bulbiferous)	None: no suitable habitat present. Would have been detectable during present and prior surveys.
Calochortus plummerae Plummer's mariposa lily	Federal: none State: none CNPS: 1B.2 Other: DFG: Special Plant	Occurs in chaparral, cismontane woodland, coastal sage scrub, coastal scrub, foothill woodland, lower montane coniferous forest, valley and foothill grassland, yellow pine forest Substrate: On rocky and sandy sites, usually of granite or alluvial material, Habitats Note: Fire follower. Recorded from Los Angeles, Orange, Riverside, San Bernardino, Ventura. Recorded from the Calabasas and/or Thousand Oaks Quadrangles.	May-Jul Perennial Herb (bulbiferous)	None: no suitable habitat present. Would have been detectable during present and prior surveys.

Special-status Plant Species Evaluated For The Palo Comado Canyon Road Interchange Project

FAMILY *Scientific Name* Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Nolina cismontana chaparral nolina	Federal: none State: none CNPS: 1B.2 Other: DFG: Special Plant	Occurs in coastal scrub, chaparral Substrate: On sandstone and shale. Recorded from Los Angeles, Orange, San Diego, Ventura. Recorded from the Calabasas and/or Thousand Oaks Quadrangles.	May-Jul Shrub (evergreen)	None: no suitable habitat present. Would have been detectable during present survey.
Malvaceae - Mallow Family				
Sidalcea neomexicana Salt Spring checkerbloom	Federal: none State: none CNPS: 2.2 Other: DFG: Special Plant	Occurs in alkali sink, chaparral, coastal sage scrub, coastal scrub, creosote bush scrub, lower montane coniferous forest, mohavean desert scrub, playas, yellow pine forest moist, alkaline, Habitats Note: alkaline. Recorded from Los Angeles, Orange, Riverside, San Bernardino, Santa Barbara, Ventura.Also recorded from Arizona, Baja California, New Mexico, Nevada, Sonora (Mexico), Utah.	Mar-Jun Perennial Herb	None: marginally suitable habitat present. Would have been detectable during floristic survey.
Onagraceae - Evening Primrose Family				
Camissonia lewisii Lewis's evening-primrose	Federal: none State: none CNPS: 3 Other: DFG: Special Plant	Occurs in cismontane woodland, coastal bluff scrub, coastal dunes, coastal sage scrub, coastal scrub, coastal strand, foothill woodland, valley and foothill grassland Habitats Note: clay sandy. Recorded from Los Angeles, Orange, San Diego.Also recorded from Baja California.	Mar-Jun Annual Herb	None: marginally suitable habitat present. Would have been detectable during present and prior floristic surveys.
Poaceae - Grass Family				
Orcuttia californica California Orcutt grass	Federal: FE State: SE CNPS: 1B.1 Other: DFG: Special Plant	Occurs in vernal pools Moisture: vernally-flooded. Recorded from Los Angeles, Riverside, San Diego, Ventura.Also recorded from Baja California. Recorded from the Calabasas and/or Thousand Oaks Quadrangles.	Apr-Aug Annual Herb	None: no suitable habitat present. Would have been detectable during floristic survey.

Special-status Plant Species Evaluated For The Palo Comado Canyon Road Interchange Project

FAMILY *Scientific Name* Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Polygonaceae - Buckwheat Family				
Chorizanthe parryi var. *fernandina* San Fernando Valley spineflower	Federal: FC State: SE CNPS: 1B.1 Other: DFG: Special Plant	Occurs in coastal sage scrub, coastal scrub Substrate: Dry, gravelly or sandy soils, Habitats Note: sandy. Recorded from Los Angeles, Orange, Ventura. Recorded from the Calabasas and/or Thousand Oaks Quadrangles.	Apr-Jun Annual Herb	None: no suitable habitat present. Would have been detectable during floristic survey.
Chorizanthe parryi var. *parryi* Parry's spineflower	Federal: none State: none CNPS: 1B.1 Other: DFG: Special Plant	Occurs in chaparral, coastal sage scrub, coastal scrub Habitats Note: sandy. Recorded from Los Angeles, Riverside, San Bernardino.	Apr-Jun Annual Herb	None: marginally suitable habitat present. Would have been detectable during floristic survey.
Dodecahema leptoceras slender-horned spineflower	Federal: FE State: SE CNPS: 1B.1 Other: DFG: Special Plant	Occurs in chaparral, cismontane woodland, coastal sage scrub, coastal scrub. Recorded from Los Angeles, Riverside, San Bernardino. Occurs on alluvial fans/sandy substrate.	Apr-Jun Annual Herb	None: no suitable habitat present. Would have been detectable during floristic survey.
Eriogonum crocatum Conejo buckwheat	Federal: none State: SR CNPS: 1B.2 Other: DFG: Special Plant	Occurs in chaparral, coastal sage scrub, coastal scrub, valley and foothill grassland Substrate: volcanic. Recorded from Ventura. Recorded from the Calabasas and/or Thousand Oaks Quadrangles.	Apr-Jul Perennial Herb	None: Suitable soils not present on site. Would have been detectable during floristic survey.

Special-status Plant Species Evaluated For The Palo Comado Canyon Road Interchange Project

FAMILY *Scientific Name* Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Ranunculaceae - Buttercup Family				
Delphinium parryi ssp. *blochmaniae* dune larkspur	Federal: none State: none CNPS: 1B.2 Other: DFG: Special Plant	Occurs in chaparral, coastal dunes, coastal strand. Recorded from San Luis Obispo, Santa Barbara, Ventura. Recorded from the Calabasas and/or Thousand Oaks Quadrangles.	Apr-May Perennial Herb	None: no suitable habitat present. Would have been detectable during floristic survey.
Rosaceae - Rose Family				
Horkelia cuneata ssp. *puberula* mesa horkelia	Federal: none State: none CNPS: 1B.1 Other: DFG: Special Plant	Occurs in chaparral, cismontane woodland, coastal scrub. Recorded from Los Angeles, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, Ventura.	Feb-Sep Perennial Herb	None: marginally suitable habitat present. Would have been detectable during present and prior floristic surveys.
Scrophulariaceae - Figwort Family				
Cordylanthus maritimus ssp. *maritimus* saltmarsh bird's-beak	Federal: FE State: SE CNPS: 1B.2 Other: DFG: Special Plant	Occurs in coastal dunes, coastal salt marsh, coastal strand, marshes and swamps. Recorded from Los Angeles, Orange, San Diego, San Luis Obispo, Santa Barbara, Ventura.Also recorded from Baja California.	May-Oct Annual Herb, Hemiparasitic	None: no suitable habitat present. Would have been detectable during floristic survey.
Thelypteridaceae - Marsh Fern Family				
Thelypteris puberula var. *sonorensis* Sonoran maiden fern	Federal: none State: none CNPS: 2.2 Other: DFG: Special Plant	Occurs in meadows. Recorded from Los Angeles, Riverside, San Bernardino, Santa Barbara.Also recorded from Arizona, Baja California, Sonora (Mexico).	Jan-Sep Perennial Herb (rhizomatous)	None: no suitable habitat present. Would have been detectable during present and prior floristic surveys.

10. Appendix 2

Special-status Animal Species Evaluated for the U.S. 101/Palo Comado Canyon Road Interchange Project

Special-status Animal Species Evaluated For The Palo Comado Canyon Road Interchange Project

Oct 6, 2010

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Branchiopoda - Branchiopods			
Streptocephalus woottoni Riverside fairy shrimp	Federal FE State none Other DFG: SA	Occurs in areas of tectonic swales/earth slump basins in grassland and coastal sage scrub. Inhabit seasonally astatic pools filled by winter/spring rains. Hatches in warm water later in the season. Recorded from Orange, Riverside, San Diego, Ventura counties.	None: no suitable habitat present.
Arachnida - Arachnids			
Socalchemmis gertschi Gertsch's socalchemmis spider	Federal none State none Other DFG: SA	Recorded from Los Angeles County. Additional distribution: Known from only two localities in Los Angeles county, Brentwood (type locality) and Topanga Canyon.. Recorded from the Calabasas and/or Thousand Oaks Quadrangles.	Not expected: no suitable habitat present within project area. Could occur in project vicinity.
Insecta - Insects			
Aglaothorax longipennis Santa Monica shieldback katydid	Federal none State none Other DFG: SA	Inhabits chaparral and canyon stream bottom vegetation, as well as stands of introduced iceplant. Nocturnal. Recorded from Los Angeles County. Additional distribution: occurs in the Santa Monica Mountains of southern California.	None: no suitable habitat present within project area.
Cicindela hirticollis gravida sandy beach tiger beetle	Federal none State none Other DFG: SA	Inhabits clean, dry, light-colored sand in the upper tidal zone. Subterranean larvae prefer moist sand not affected by wave action. Occurs in areas adjacent to non-brackish water. Recorded from Los Angeles, San Diego, Santa Barbara, Ventura counties. Additional distribution: occurs along the coast of California from San Francisco Bay to northern Mexico.	None: no suitable habitat present.
Coelus globosus globose dune beetle	Federal none State none Other DFG: SA	Inhabits coastal sand dune habitat, foredunes and sand hummocks. Burrows beneath the sand surface and is most common beneath dune vegetation. Recorded from Los Angeles, Monterey, San Diego, Santa Barbara, Santa Cruz, Sonoma, Ventura counties.	None: no suitable habitat present.

Special-status Animal Species Evaluated For The Palo Comado Canyon Road Interchange Project

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Danaus plexippus monarch butterfly	Federal none State none Other DFG: SA (wintering)	Listing refers to wintering sites only. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, Monterey cypress), with nectar and water sources nearby. Recorded from Alameda, Contra Costa, Inyo, Kern, Los Angeles, Marin, Mendocino, Monterey, Orange, San Diego, San Francisco, San Luis Obispo, San Mateo, Santa Barbara, Santa Cruz, Solano, Sonoma, Ventura counties. Additional distribution: winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico.	None: no suitable habitat present.
Trimerotropis occidentaloides Santa Monica grasshopper	Federal none State none Other DFG: SA	Inhabits bare hillsides and along dirt trails in chaparral. Recorded from Los Angeles, Ventura counties. Additional distribution: known only from the western Santa Monica Mountains.	None: no suitable habitat present.
Actinopterygii - Ray-finned Fishes			
Eucyclogobius newberryi tidewater goby	Federal FE State none Other AFS: EN DFG: SSC	Found in shallow coastal lagoons and brackish bays at mouth of freshwater streams. Requires fairly still but not stagnant water and high oxygen levels. Tolerates a wide variation in salinity (1-28 ppt.) and temperature (9-25°C). The substrate and vegetation can vary among lagoon, creek and marsh habitats. Recorded from Alameda, Del Norte, Humboldt, Los Angeles, Marin, Mendocino, Monterey, Orange, San Diego, San Francisco, San Luis Obispo, San Mateo, Santa Barbara, Santa Cruz, Sonoma, Ventura counties. Additional distribution: occurs along the southern California coast from Agua Hedionda Lagoon, to the mouth of the Smith River.	None: no suitable habitat present.
Gila orcuttii arroyo chub	Federal none State none Other DFG: SSC FS: S	Inhabits sandy and muddy bottoms in flowing pools and runs of headwaters creeks and small to medium slow-flowing rivers. Often found in intermittent streams. Feeds heavily on aquatic vegetation and associated invertebrates. Recorded from Los Angeles, Orange, Riverside, San Bernardino, San Diego, Santa Barbara, Ventura counties.	None: no suitable habitat present.

Special-status Animal Species Evaluated For The Palo Comado Canyon Road Interchange Project

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Oncorhynchus mykiss irideus steelhead - south/central Calif. coast ESU	Federal FT State none Other DFG: SSC	Federal listing covers runs in coastal basins south from the Pajarro River to, but not including, the Santa Maria River. Recorded from Monterey, San Luis Obispo, Santa Clara, Santa Cruz counties.	None: no suitable habitat present. Project is outside of the species' geographic range.
Oncorhynchus mykiss irideus southern steelhead - southern Calif. ESU	Federal FE State none Other DFG: SSC	Federal listing refers to populations from the Santa Maria River south to southern extent of range (San Mateo Creek in San Diego County.) Southern steelhead are expected to have a greater physiological tolerance to warmer water and more variable conditions. Recorded from Los Angeles, Riverside, San Diego, San Luis Obispo, Santa Barbara, Ventura counties.	None: no suitable habitat present. Barriers in Malibu Creek prevent migration to project area.
Amphibia - Amphibians			
Anaxyrus californicus arroyo toad	Federal FE State none Other DFG: SSC	Inhabits rivers with sandy banks and vegetated with willows, cottonwoods, and sycamores. Also occurs in loose, gravelly areas of streams in drier parts of range. Occurs in semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash, etc. Recorded from Los Angeles, Monterey, Orange, Riverside, San Bernardino, San Diego, Santa Barbara, Ventura counties. Recorded from the Calabasas and/or Thousand Oaks Quadrangles..	Not expected: no suitable habitat present.
Rana draytonii California red-legged frog	Federal FT State none Other DFG: SSC	Inhabits lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat. Recorded from Alameda, Amador, Butte, Calaveras, Contra Costa, El Dorado, Fresno, Glenn, Lake, Los Angeles, Marin, Mariposa, Mendocino, Merced, Monterey, Napa, Nevada, Placer, Plumas, Riverside, San Benito, San Bernardino, San Diego, San Francisco, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Shasta, Solano, Sonoma, Stanislaus, Tehama, Tuolumne, Ventura, Yuba counties. Recorded from the Calabasas and/or Thousand Oaks Quadrangles.	None: no suitable habitat present within project area.

Special-status Animal Species Evaluated For The Palo Comado Canyon Road Interchange Project

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Spea hammondii western spadefoot toad	Federal none State none Other BLM: S DFG: SSC	Occurs primarily in grassland situations, but occasional populations also occur in valley-foothill hardwood woodlands. Some populations persist for a few years in orchard-vineyard habitats. Vernal pools are essential for breeding and egg-laying. Elevations of occurrence extend from sea level to 1363 m (4500 ft) in the southern Sierra foothills. Recorded from Alameda, Butte, Calaveras, Colusa, Fresno, Kern, Kings, Los Angeles, Madera, Merced, Monterey, Orange, Placer, Riverside, Sacramento, San Benito, San Diego, San Joaquin, San Luis Obispo, Santa Barbara, Stanislaus, Tehama, Tulare, Ventura, Yolo counties. Additional distribution: distributed from throughout the Central Valley and adjacent foothills. In the Coast Ranges it is found from Point Conception, Santa Barbara Co., south to the Mexican border.	None: no suitable habitat present within project area.
Taricha torosa torosa Coast Range newt	Federal none State none Other DFG: SSC (Monterey Co. south only)	Lives in terrestrial habitats and will migrate over 1 km to breed in ponds, reservoirs and slow moving streams. Listing refers to populations from Monterey Co. south only. Recorded from Los Angeles, Monterey, Orange, San Benito, San Diego counties. Additional distribution: found in coastal drainages from Mendocino County to San Diego County. Not recorded from project vicinity.	None: no suitable habitat present within project area.
Reptilia - Reptiles			
Actinemys marmorata pallida southwestern pond turtle	Federal none State none Other BLM: S DFG: SSC FS: S	Inhabits permanent or nearly permanent bodies of water in many habitat types. Requires basking sites such as partially submerged logs, vegetation mats, or open mud banks. Needs suitable nesting sites. Occurs below 6000 ft. in elevation. Recorded from Alameda, Kern, Los Angeles, Monterey, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, Santa Clara, Santa Cruz, Ventura counties. Recorded from the Calabasas and/or Thousand Oaks Quadrangles.	None: no suitable habitat present within project area. Could occur in Cheseboro Creek, NW of the study area.

Special-status Animal Species Evaluated For The Palo Comado Canyon Road Interchange Project

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Anniella pulchra pulchra silvery legless lizard	Federal none State none Other DFG: SSC FS: S	Inhabits sandy or loose loamy soils under sparse vegetation, on moist. Recorded from Contra Costa, Fresno, Los Angeles, Merced, Riverside, San Benito, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, Ventura counties. Not recorded from project vicinity.	None: no suitable habitat present within project area.
Aspidoscelis tigris stejnegeri coastal whiptail	Federal none State none Other DFG: SA	Inhabits deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland and riparian areas. Occurs on firm soil, sandy, or rocky ground. Recorded from Los Angeles, Riverside, San Bernardino, San Diego, Ventura counties. Recorded from the Calabasas and/or Thousand Oaks Quadrangles.	Possible: marginally suitable habitat present. Could occur in project vicinity.
Diadophis punctatus modestus San Bernardino ring-necked snake	Federal none State none Other DFG: SA FS: S	Inhabits open, relatively rocky areas, often in somewhat moist microhabitats near intermittent streams. Avoids moving through open or barren areas by restricting movements to areas of surface litter or herbaceous vegetation. Recorded from Kern, Los Angeles, Riverside, San Bernardino counties.	Not expected: marginally suitable habitat present. Could occur in project vicinity.
Lampropeltis zonata pulchra San Diego mountain kingsnake	Federal none State none Other DFG: SSC FS: S	San Diego populations. Inhabits a variety of habitats, including valley-foothill hardwood, coniferous, chaparral, riparian, and wet meadows. Restricted to the San Gabriel and San Jacinto Mountains of southern California. Recorded from Los Angeles, Orange, San Diego counties.	Not expected: marginally suitable habitat present. Species has not been recorded from the Santa Monica Mts.

Special-status Animal Species Evaluated For The Palo Comado Canyon Road Interchange Project

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Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Phrynosoma blainvillii coast horned lizard	Federal none State none Other DFG: SSC FS: S	Inhabits a wide variety of habitats, most commonly in lowlands along sandy washes with scattered low bushes. Prefers open areas for sunning, bushes for cover, pateches of loose soil for burial and an abundant supply of ants and other insects. Recorded from Alameda, Butte, Contra Costa, El Dorado, Fresno, Kern, Los Angeles, Merced, Monterey, Nevada, Orange, Placer, Riverside, San Benito, San Bernardino, San Diego, San Joaquin, San Luis Obispo, Santa Barbara, Santa Clara, Stanislaus, Tulare, Tuolumne, Ventura counties. Recorded from the Calabasas and/or Thousand Oaks Quadrangles.	Possible: marginally suitable habitat present. Could occur in project vicinity.
Salvadora hexalepis virgultea coast patch-nosed snake	Federal none State none Other DFG: SSC	Inhabits brushy or shrubby vegetation. Requires small mammal burrows for refuge and overwintering sites. Occurs in coastal southern California. Recorded from Orange, Riverside, San Diego, Santa Barbara, Ventura counties.	Not expected: no suitable habitat present within project area. Could occur in project vicinity.
Thamnophis hammondii two-striped gartersnake	Federal State Other BLM: S DFG: SSC FS: S	This highly aquatic snake is found in or near permanent fresh water. Often found along streams with rocky beds and riparian growth. Occurs in coastal California from the vicinity of Salinas to northwestern Baja California, from sea to about 7,000 ft. in elevation. Recorded from Fresno, Los Angeles, Monterey, Orange, Riverside, San Benito, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, Ventura counties.	None: no suitable habitat present within project area.

Special-status Animal Species Evaluated For The Palo Comado Canyon Road Interchange Project

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Aves - Birds			
Accipiter cooperii Cooper's hawk	Federal none State none Other DFG: WL FWS: MBTA	Inhabits primarily open, interrupted or marginal woodlands. Nests mainly in riparian groves of deciduous trees in canyon bottoms on river flood-plains. Also nests in coast live oak. DFG listing covers nesting individuals only. Recorded from Alameda, Colusa, Contra Costa, Fresno, Humboldt, Imperial, Inyo, Kern, Los Angeles, Monterey, Orange, Placer, Riverside, Sacramento, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, Santa Cruz, Siskiyou, Tulare, Ventura counties.	Not expected: no suitable habitat present within project area. Could occur in riparian woodland of Cheseboro Creek, NW of the study area.
Accipiter striatus sharp-shinned hawk	Federal none State none Other DFG: WL FWS: MBTA	Nests in ponderosa pine, black oak, riparian deciduous, mixed conifer and Jeffrey pine habitats. Prefers riparian areas. Nests on north-facing slopes, usually within 275 ft of water. Plucking perches are critical requirements. DFG listing covers nesting individuals only. Recorded from Alameda, Calaveras, Napa counties.	None: no suitable habitat present within project area.
Agelaius tricolor tricolored blackbird	Federal none State none Other ABC: WLBCC BLM: S DFG: SSC FWS: BCC; MBTA	Highly colonial species. Requires open water, protected nesting substrate, and foraging areas with insect prey within a few km of the colony. Greatest concentrations are in the Central Valley and vicinity. Largely endemic to California. DFG listing covers nesting colonies only. Recorded from Alameda, Butte, Calaveras, Colusa, Contra Costa, El Dorado, Fresno, Glenn, Humboldt, Kern, Kings, Lake, Lassen, Los Angeles, Madera, Marin, Mendocino, Merced, Modoc, Monterey, Napa, Orange, Placer, Riverside, Sacramento, San Benito, San Diego, San Joaquin, San Luis Obispo, Santa Barbara, Santa Clara, Santa Cruz, Shasta, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Tuolumne, Ventura, Yolo, Yuba counties. Recorded from the Calabasas and/or Thousand Oaks Quadrangles.	None: no suitable habitat present.
Aimophila ruficeps canescens Southern California rufous-crowned sparrow	Federal none State none Other DFG: SSC FWS: MBTA	Inhabits coastal sage scrub and sparse mixed chaparral in southern California. Frequents relatively steep, often rocky hillsides with grass and forb patches. Recorded from Riverside, San Diego, Ventura counties. Recorded from the Calabasas and/or Thousand Oaks Quadrangles.	Possible: suitable nesting and foraging habitat present. See report for details.

Special-status Animal Species Evaluated For The Palo Comado Canyon Road Interchange Project

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Amphispiza belli belli Bell's sage sparrow	Federal none State none Other Aud: WL (Yellow) DFG: SSC FWS: BCC (full species); MBTA	Nests in chaparral dominated by fairly dense stands of chamise. Found in coastal sage scrub in southern portion of its range. Nests are located on the ground beneath shrubs or in shrubs 6-18 inches above ground. Territories are about 50 yards apart. Recorded from Lake, Riverside, San Bernardino counties.	None: no suitable habitat present within project area.
Aquila chrysaetos golden eagle	Federal none State none Other BLM: S CDF: S DFG: FP, WL FWS: BEPA, BCC; MBTA	Nests and winters in rolling foothills and mountain areas in sage-juniper flats and deserts. Nests on cliff-walled canyons and large trees in open areas. DFG listing covers nesting, nonbreeding and wintering individuals. Recorded from Alameda, Colusa, Contra Costa, El Dorado, Fresno, Humboldt, Kern, Lassen, Madera, Modoc, Mono, Monterey, Napa, Orange, Riverside, Sacramento, San Bernardino, San Diego, Santa Clara, Siskiyou, Solano, Trinity counties. Recorded from the Calabasas and/or Thousand Oaks Quadrangles..	None: no suitable habitat present within project area.
Asio otus long-eared owl	Federal none State none Other DFG: SSC FWS: MBTA	Inhabits riparian bottomlands grown to tall willows and cottonwoods. Also occurs in belts of live oak paralleling stream courses. Requires adjacent open land with abundant mice. Utilizes old nests of crows, hawks, or magpies for breeding. Uncommon yearlong resident through California except the Central Valley and Southern California deserts where it is an uncommon winter visitor. DFG listing covers nesting individuals only.	None: no suitable habitat present within project area.

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Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Athene cunicularia burrowing owl	Federal none State none Other BLM: S DFG: SSC (burrow sites, some wintering sites) FWS: BCC; MBTA	Inhabits open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Nests underground in mammal burrows, especially those of California ground squirrel. Recorded from Alameda, Butte, Colusa, Contra Costa, Fresno, Glenn, Imperial, Inyo, Kern, Kings, Lassen, Los Angeles, Madera, Marin, Merced, Monterey, Napa, Orange, Placer, Riverside, Sacramento, San Benito, San Bernardino, San Diego, San Joaquin, San Luis Obispo, Santa Clara, Santa Cruz, Solano, Sonoma, Stanislaus, Sutter, Tehama, Tulare, Ventura, Yolo counties. Recorded from the Calabasas and/or Thousand Oaks Quadrangles.	Possible: suitable nesting and foraging habitat present. Not observed during present survey.
Buteo regalis ferruginous hawk	Federal none State none Other BLM: S DFG: WL FWS: BCC; MBTA	Winters in open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon-juniper habitats. Feeds primarily on lagomorphs (rabbits and hares), ground squirrels, and mice. Population trends may follow lagomorph population cycles. Does not nest in California. General distribution: recorded throughout coastal California, Central Valley, San Joaquin Valley, central and southern Sierra Nevada, eastern Sierras and inland deserts. Nesting has not been recorded in project vicinity.	Not expected: no suitable habitat present within project area. Could forage in project vicinity.
Buteo swainsoni Swainson's hawk	Federal none State ST Other ABC: WLBCC Aud: WL (Yellow) DFG: SA FS: S FWS: BCC; MBTA	Breeds in stands with few trees in juniper-sage flats, riparian areas and in oak savannah. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations. DFG listing covers nesting individuals only. Recorded from Butte, Colusa, Contra Costa, Fresno, Glenn, Inyo, Kern, Kings, Lassen, Los Angeles, Madera, Merced, Modoc, Mono, Placer, Sacramento, San Bernardino, San Joaquin, Siskiyou, Solano, Stanislaus, Sutter, Tehama, Tulare, Yolo counties. Nesting has not been recorded in project vicinity.	Not expected: no suitable habitat present within project area. Could forage in project vicinity.

Special-status Animal Species Evaluated For The Palo Comado Canyon Road Interchange Project

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Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Campylorhynchus brunneicapillus couesi coastal cactus wren	Federal none State none Other DFG: SSC FS: S FWS: BCC; MBTA	Inhabits southern california coastal sage scrub. Requires tall cactus (Opuntia) for nesting and roosting. DFG status applies to San Diego and Orange county populations only. Recorded from Los Angeles, Orange, Riverside, San Diego counties.	None: no suitable habitat present.
Circus cyaneus northern harrier	Federal none State none Other DFG: SSC FWS: MBTA	Inhabits coastal salt and freshwater marshes. Nests and forages in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge. Nests are large mounds of sticks in wet areas. Found throughout CA. DFG listing covers nesting individuals only. Recorded from project vicinity.	Not expected: no suitable habitat present within project area. Could forage or nest in project vicinity.
Elanus leucurus white-tailed kite	Federal none State none Other DFG: FP FWS: MNBMC, MBTA	Inhabits rolling foothills andvalley margins with scattered oaks and river bottomlands or marshes next to deciduous woodlands. Utilizes open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching. DFG listing covers nesting individuals only. Recorded from Alameda, Colusa, Contra Costa, Del Norte, Marin, Napa, Placer, Riverside, Sacramento, San Diego, San Luis Obispo, San Mateo, Santa Clara, Solano, Sonoma, Tehama, Ventura, Yolo counties. Recorded from project vicinity.	Possible: not expected to nest in project area. See report for details.
Empidonax traillii extimus southwestern willow flycatcher	Federal FE State SE Other ABC: WLBCC Aud: WL (full species; Yellow) DFG: SA FWS: MBTA	Inhabits riparian woodlands in southern California. DFG listing covers nesting individuals only. Recorded from Kern, Orange, San Bernardino, San Diego, Santa Barbara counties.	None: no suitable habitat present.

Special-status Animal Species Evaluated For The Palo Comado Canyon Road Interchange Project

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Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Eremophila alpestris actia California horned lark	Federal none State none Other DFG: WL	Inhabits short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats. Distributed in coastal regions, chiefly from Sonoma County to San Diego County. Also occurs in the main part of San Joaquin Valley and east to the foothills of the Sierra Nevada. Recorded from Alameda, Contra Costa, Fresno, Kern, Merced, Riverside, San Benito, San Diego, San Joaquin, San Luis Obispo, Stanislaus counties.	Possible: suitable nesting and foraging habitat present.
Falco columbarius merlin	Federal none State none Other DFG: SSC (non-breeding wintering) FWS: MBTA	Winters on the seacoast, in tidal estuaries, open woodlands, savannahs, edges of grasslands and deserts, farms and ranches. Clumps of trees or windbreaks are required for roosting in open country. Nesting has not been recorded in project vicinity.	Not expected: no suitable nesting habitat present. Could forage in project vicinity.
Falco mexicanus prairie falcon	Federal none State none Other DFG: WL FWS: BCC; MBTA	Inhabits dry, open terrain, either level or hilly. Breeding sites located on cliffs. Forages far afield, including marshlands and ocean shores. DFG listing covers nesting individuals only. Recorded from Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Imperial, Inyo, Kern, Kings, Lake, Lassen, Los Angeles, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Mono, Monterey, Napa, Nevada, Orange, Placer, Plumas, Riverside, Sacramento, San Benito, San Bernardino, San Diego, San Francisco, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Ventura, Yolo, Yuba counties.	Not expected: no suitable nesting habitat present. Could forage in project vicinity.
Falco peregrinus anatum American peregrine falcon	Federal none State SE Other CDF: S DFG: FP FS: S FWS: BCC, MBTA	Nests near wetlands, lakes, rivers, or other water bodies, on cliffs, banks, dunes, mounds, and human-made structures. Nests consist of a scrape on a depression or ledge in an open site. DFG listing covers nesting individuals only. Recorded from Alameda, Humboldt, Napa, Shasta, Siskiyou, Tehama counties.	Not expected: no suitable nesting habitat present. Could forage in project vicinity.

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Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Lanius ludovicianus loggerhead shrike	Federal none State none Other DFG: SSC FWS: BCC; MBTA	A common resident and winter visitor in lowlands and foothills throughout CA. Prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches. Highest density occurs in open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, pinyon-juniper, juniper, desert riparian, and Joshua tree habitats. DFG listing covers nesting individuals only. Recorded from Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Imperial, Inyo, Kern, Kings, Lake, Lassen, Los Angeles, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Mono, Monterey, Napa, Nevada, Orange, Placer, Plumas, Riverside, Sacramento, San Benito, San Bernardino, San Diego, San Francisco, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Santa Clara, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Ventura, Yolo, Yuba counties.	Possible: suitable nesting and foraging habitat present.
Polioptila californica californica coastal California gnatcatcher	Federal FT State none Other ABC: WLBCC Aud: WL (Yellow) DFG: SSC FWS: MBTA	Inhabits low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied. Obligate, permanent resident of coastal sage scrub below 2500 ft in Southern California. Recorded from Los Angeles, Orange, Riverside, San Bernardino, San Diego, Ventura counties. Recorded from the Calabasas and/or Thousand Oaks Quadrangles.	None: no suitable habitat present within project area.
Riparia riparia bank swallow	Federal none State ST Other DFG: SA FWS: MBTA	Nests colonially, primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole. DFG listing covers nesting individuals only. Recorded from Alameda, Butte, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Inyo, Lassen, Modoc, Mono, Monterey, Plumas, Sacramento, San Benito, San Diego, San Francisco, San Luis Obispo, San Mateo, Santa Barbara, Shasta, Siskiyou, Sonoma, Sutter, Tehama, Ventura, Yolo counties. Recorded from the Calabasas and/or Thousand Oaks Quadrangles.	None: no suitable habitat present.

Special-status Animal Species Evaluated For The Palo Comado Canyon Road Interchange Project

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Vireo bellii pusillus least Bell's vireo	Federal FE State SE Other ABC: WLBCC Aud: WL DFG: SA FWS: BCC; MBTA	Inhabits low riparian areas in the vicinity of water or in dry river bottoms. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, baccharis, mesquite. DFG listing covers nesting individuals only. Federal listing covers full species. Recorded from Inyo, Los Angeles, Mexico, Monterey, Orange, Riverside, San Benito, San Bernardino, San Diego, Santa Barbara, Ventura counties. Additional distribution: occurs in southern California at below 2000 feet in elevation.	Not expected: no suitable habitat present within project area.
Mammalia - Mammals			
Antrozous pallidus pallid bat	Federal none State none Other BLM: S DFG: SSC FS: S WBWG: H	Inhabits deserts, grasslands, shrublands, woodlands and forests. Most commonly found in open, dry habitats with rocky areas for roosting. Roosts must provide protection from high temperatures. Species is very sensitive to disturbances to roosting sites. Recorded from Calaveras, Imperial, Inyo, Kern, Lake, Marin, Mariposa, Mono, Napa, Orange, Riverside, San Bernardino, San Diego, San Joaquin, San Luis Obispo, Santa Barbara, Siskiyou, Sonoma, Tuolumne counties. Also from Arizona, Nevada, New Mexico, Oregon, Washington. Recorded from the Calabasas and/or Thousand Oaks Quadrangles.	Possible: marginally suitable habitat present. Could roost and forage in project vicinity.
Corynorhinus townsendii pallescens pale big-eared bat	Federal none State none Other BLM: S (full species) DFG: SSC (full species) FS: S (full species) WBWG: H	Inhabits a wide variety of habitats, but is most common in mesic sites. Need appropriate roosting, maternity, and hibernacula sites free from human disturbance. Recorded from Calaveras, Imperial, Inyo, Kern, Lassen, Mariposa, Mendocino, Modoc, Mono, Riverside, San Bernardino, San Diego, Santa Barbara, Shasta, Siskiyou, Tehama, Tuolumne counties.	Possible: marginally suitable habitat present. Could roost and forage in project vicinity.

Special-status Animal Species Evaluated For The Palo Comado Canyon Road Interchange Project

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Euderma maculatum spotted bat	Federal none State none Other BLM: S DFG: SSC WBWG: High priority	Occupies a wide variety of habitats from arid deserts and grasslands to mixed conifer forests. Feeds over water and along washes. Needs rock crevices in cliffs or caves for roosting. Recorded from Alameda, Fresno, Fresno, Imperial, Inyo, Kern, Kings, Los Angeles, Madera, Mariposa, Mariposa, Mono, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, Tulare, Tuolumne, Tuolumne, Ventura counties.	None: no suitable roosting or foraging habitat present.
Eumops perotis californicus western mastiff bat	Federal none State none Other BLM: S DFG: SSC WBWG: H	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban. Uncommon resident in southeastern San Joaquin Valley and Coastal Ranges from Monterey Co. southward through southern California, from the coast eastward to the Colorado Desert. Recorded from the Calabasas and/or Thousand Oaks Quadrangles.	Possible: marginally suitable habitat present. Could roost and forage in project vicinity.
Lasiurus blossevillii western red bat	Federal none State none Other DFG: SSC FS: S WBWG: H	The red bat is locally common in some areas of California, occurring from Shasta Co. to the Mexican border, west of the Sierra Nevada/Cascade crest and deserts. The winter range includes western lowlands and coastal regions south of San Francisco Bay. There is migration between summer and winter ranges, and migrants may be found outside the normal range. Roosting habitat includes forests and woodlands from sea level up through mixed conifer forests. Feeds over a wide variety of habitats including grasslands, shrublands, open woodlands and forests, and croplands. Not found in desert areas. During warm months, sexes occupy different portions of the range (Williams and Findley 1979).	Possible: marginally suitable habitat present. Could roost and forage in project vicinity.

Special-status Animal Species Evaluated For The Palo Comado Canyon Road Interchange Project

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Lasiurus cinereus hoary bat	Federal none State none Other DFG: SA WBWG: M	The hoary bat is the most widespread North American bat. May be found at any location in California, although distribution patchy in southeastern deserts. This common, solitary species winters along the coast and in southern California, breeding inland and north of the winter range. During migration, may be found at locations far from the normal range, such as the Channel Islands (Brown 1980) and the Farallon Islands (Tenaza 1966). Habitats suitable for bearing young include all woodlands and forests with medium to large-size trees and dense foliage.	Not expected: no suitable roosting habitat within project area. Could forage in project vicinity.
Lepus californicus bennettii San Diego black-tailed jackrabbit	Federal none State none Other DFG: SSC	Inhabits coastal sage scrub habitats. Occurs in intermediate canopy stages of scrub habitats and open shrub / herbaceous and tree / herbaceous edges. Recorded from Los Angeles, Riverside, San Diego counties. Additional distribution: ccurs in southern California.	Possible: marginally suitable habitat present. No dens identified during surveys.
Macrotus californicus California leaf-nosed bat	Federal none State none Other DFG: SSC FS: S WBWG: High priority	Inhabits desert riparian, desert wash, desert scrub, desert succulent scrub, alkali scrub and palm oasis habitats. Needs rocky, rugged terrain with mines or caves for roosting. Recorded from Imperial, San Diego, Orange, Riverside, San Bernardino, San Diego, Ventura counties. Also from Nevada, Arizona, Baja California.	None: no suitable habitat present.
Myotis ciliolabrum western small-footed myotis	Federal none State none Other BLM: S DFG: SA WBWG: M	Inhabits arid woody and brushy uplands near water. General distribution: east and west sides of the Sierra Nevada, Great Basin and deserts, Coastal California from Contra Costa County southward to Mexico. Recorded from the Calabasas and/or Thousand Oaks Quadrangles.	Not expected: no suitable roosting habitat within project area. Could forage or roost in project vicinity.

Special-status Animal Species Evaluated For The Palo Comado Canyon Road Interchange Project

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Myotis evotis long-eared myotis	Federal none State none Other BLM: S DFG: SA WBWG: M	Inhabits all brush, woodland and forest habitats from sea level to about 9000 ft. in elevation. Prefers coniferous woodlands and forests. Forms nursery colonies in buildings, crevices, spaces under bark, and snags. Caves used primarily as night roosts. General distribution:Occurs statewide.	Not expected: no suitable roosting habitat within project area. Could forage or roost in project vicinity.
Myotis thysanodes fringed myotis	Federal none State none Other BLM: S DFG: SA WBWG: H	Occurs in a wide variety of habitats. Optimal habitats include pinyon-juniper, valley foothill hardwood and hardwood-conifer woodlands. Forms maternity colonies and roosts in caves, mines, buildings and crevices. General distribution:occurs throughout California.	Not expected: no suitable roosting habitat within project area. Could forage or roost in project vicinity.
Myotis volans long-legged myotis	Federal none State none Other DFG: SA WBWG: H	Most common in woodland and forest habitats above 4000 ft. in elevation. Trees are important day roosts. Caves and mines serve as night roosts. Forms nursery colonies under bark or in hollow trees, and occasionally in crevices or buildings. General distribution:occurs throughout California.	Not expected: no suitable roosting habitat within project area. Could forage or roost in project vicinity.
Myotis yumanensis Yuma myotis	Federal none State none Other BLM: S DFG: SA WBWG: LM	Inhabits open forests and woodlands with sources of water over which to feed. Species is closely tied to bodies of water. Maternity colonies in caves, mines, buildings or crevices. General distribution:occurs throughout California.	Not expected: no suitable roosting habitat within project area. Could forage in riparian woodland of Cheseboro Creek, NW of the study area.
Neotoma lepida intermedia San Diego desert woodrat	Federal none State none Other DFG: SSC	Inhabits rock outcrops and rocky cliffs and slopes. Prefers habitat with a moderate to dense canopy. Recorded from Los Angeles, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, Ventura counties. Additional distribution: occurs in coastal southern California.	Possible: suitable habitat present. Nest of unidentified woodrat species detected on site.

Special-status Animal Species Evaluated For The Palo Comado Canyon Road Interchange Project

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Taxidea taxus American badger	Federal none State none Other DFG: SSC	Most abundant in dry, open stages of most shrub, forest, and herbaceous habitats. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Excavates its own burrows. General distribution: recorded from every California county except Del Norte.	Not expected: suitable habitat present. No dens identified during present surveys.

11. Appendix 3

Explanation of Rarity Codes

EXPLANATION OF RARITY STATUS CODES

ENDANGERED SPECIES ACT (ESA) LISTING CODES

FE = federally listed as Endangered
FT = federally listed as Threatened
FPE = federally proposed for listing as Endangered
FPT = federally proposed for listing as Threatened
FPD = federally proposed for delisting
FC = federal candidate; former Category 1 candidates
SC = species of concern; established by National Marine Fisheries Service, effective April 15, 2004.

CALIFORNIA ENDANGERED SPECIES ACT (CESA) LISTING CODES

SE = State-listed as Endangered
ST = State-listed as Threatened
SR = State-listed as Rare
SCE = State candidate for listing as Endangered
SCT = State candidate for listing as Threatened
SCD = State candidate for delisting

CALIFORNIA NATIVE PLANT SOCIETY DESIGNATIONS (CNPS)

List 1: Plants of highest priority
List 1A: Plants presumed extinct in California
List 1B: Plants rare and endangered in California and elsewhere
List 2: Plants rare and endangered in California but more common elsewhere
List 3: Plants about which additional data are needed
List 4: Plants of limited distribution

CNPS Threat Code Extensions
.1 - Seriously endangered in California
.2 – Fairly endangered in California
.3 – Not very endangered in California

OTHER CODES

ABC: WLBCC - American Bird Conservancy Watch List of Birds of Conservation Concern.

AFS - American Fisheries Society categories of risk for marine, estuarine and diadromous fish stocks. Codes: **EN**=endangered; **TH**=threatened; **VU**=vulnerable

Aud: WL - Audubon: Watch List 2007. Bird species facing population decline and/or threats such as loss of breeding and wintering grounds, or species with limited geographic ranges. **R** – Red List, global conservation concern; **Y** – Yellow List, national conservation concern.

BLM: S - Bureau of Land Management: Sensitive. Includes species under review by FWS or NMFS, species whose numbers are declining so rapidly that federal listing may become necessary, species with small and widely dispersed populations, or species inhabiting refugia or other unique habitats.

CDF: S - California Department of Forestry and Fire Protection: Sensitive. Includes species that warrant special protection during timber operations.

DFG: FP - Calif. Dept. of Fish and Game: Fully Protected. Species protected under Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the California Fish and Game Code.

DFG: SA - Calif. Dept. of Fish and Game: Special Animal. Species included on the DFG's lists of special animals.

DFG: SP - Calif. Dept. of Fish and Game: Special Plant. Species included on the DFG's lists of special plants.

DFG: SSC - Calif. Dept. of Fish and Game: California Species of Special Concern.

DFG: WL - Calif. Dept. of Fish and Game: (Watch List): taxa that don't meet SSC criteria but for which there is concern and additional information is needed to clarify status.

FS: S - USDA Forest Service: Sensitive. Species which population viability is a concern, as evidenced by significant current or predicted downward trends in population numbers or density, or in habitat capability that would reduce a species' existing distribution.

FWS: BCC - U.S. Fish and Wildlife Service: Birds of Conservation Concern. Migratory and non-migratory bird species that represent the FWS's highest conservation priorities.

FWS: BEPA - U.S. Fish and Wildlife Service: Bald and Golden Eagle Protection Act.

FWS: MBTA U.S. Fish and Wildlife Service: International Migratory Bird Treaty Act.

FWS: MNBMC - U.S. Fish and Wildlife Service: Migratory Nongame Birds of Management Concern. Species of concern in the U.S. due to documented or apparent population declines, small or restricted populations, or dependence on restricted or vulnerable habitats.

NMFS: SC - National Marine Fisheries Service: Species of Concern.

WBWG - The Western Bat Working Group. Species imperiled or at high, medium, or low risk. Codes: **H**=high; **MH**=medium-high; **M**=medium; **LM**=low-medium

Xerces - Xerces Society Red List.

Codes: **CI**=critically imperiled; **IM**=imperiled; **VU**=vulnerable; **DD**=data deficient

Appendix 4

Database Print-outs for Special-Status Species

- California Natural Diversity Database (2009)
- California Native Plant Society (2009)
- US Fish and Wildlife Service (2010)

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1	***Accipiter cooperii*** Cooper's hawk	ABNKC12040			G5	S3	
2	***Agelaius tricolor*** tricolored blackbird	ABPBXB0020			G2G3	S2	SC
3	***Aglaothorax longipennis*** Santa Monica shieldback katydid	IIORT32020			G1G2	S1S2	
4	***Aimophila ruficeps canescens*** southern California rufous-crowned sparrow	ABPBX91091			G5T2T4	S2S3	
5	***Anaxyrus californicus*** arroyo toad	AAABB01230	Endangered		G2G3	S2S3	SC
6	***Anniella pulchra pulchra*** silvery legless lizard	ARACC01012			G3G4T3T4Q	S3	SC
7	***Antrozous pallidus*** pallid bat	AMACC10010			G5	S3	SC
8	***Aquila chrysaetos*** golden eagle	ABNKC22010			G5	S3	
9	***Aspidoscelis tigris stejnegeri*** coastal whiptail	ARACJ02143			G5T3T4	S2S3	
10	***Astragalus brauntonii*** Braunton's milk-vetch	PDFAB0F1G0	Endangered		G2	S2.1	1B.1
11	***Astragalus pycnostachyus var. lanosissimus*** Ventura Marsh milk-vetch	PDFAB0F7B1	Endangered	Endangered	G2T1	S1	1B.1
12	***Astragalus tener var. titi*** coastal dunes milk-vetch	PDFAB0F8R2	Endangered	Endangered	G1T1	S1.1	1B.1
13	***Athene cunicularia*** burrowing owl	ABNSB10010			G4	S2	SC
14	***Atriplex coulteri*** Coulter's saltbush	PDCHE040E0			G2	S2.2	1B.2
15	***Atriplex parishii*** Parish's brittlescale	PDCHE041D0			G1G2	S1.1	1B.1
16	***Baccharis malibuensis*** Malibu baccharis	PDAST0W0W0			G1	S1.1	1B.1
17	***California Walnut Woodland***	CTT71210CA			G2	S2.1	
18	***California macrophylla*** round-leaved filaree	PDGER01070			G2	S2	1B.1
19	***Calochortus clavatus var. gracilis*** slender mariposa-lily	PMLIL0D096			G4T2	S2	1B.2
20	***Calochortus plummerae*** Plummer's mariposa-lily	PMLIL0D150			G3	S3.2	1B.2
21	***Centromadia parryi ssp. australis*** southern tarplant	PDAST4R0P4			G4T2	S2.1	1B.1
22	***Chorizanthe parryi var. fernandina*** San Fernando Valley spineflower	PDPGN040J1	Candidate	Endangered	G2T1	S1.1	1B.1
23	***Chorizanthe parryi var. parryi*** Parry's spineflower	PDPGN040J2			G3T2	S2	1B.1
24	***Cicindela hirticollis gravida*** sandy beach tiger beetle	IICOL02101			G5T2	S1	

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
25	***Cismontane Alkali Marsh***	CTT52310CA			G1	S1.1	
26	***Coelus globosus*** globose dune beetle	IICOL4A010			G1	S1	
27	***Cordylanthus maritimus ssp. maritimus*** salt marsh bird's-beak	PDSCR0J0C2	Endangered	Endangered	G4?T2	S2.1	1B.2
28	***Danaus plexippus*** monarch butterfly	IILEPP2010			G5	S3	
29	***Deinandra minthornii*** Santa Susana tarplant	PDAST4R0J0		Rare	G2	S2.2	1B.2
30	***Delphinium parryi ssp. blochmaniae*** dune larkspur	PDRAN0B1B1			G4T2	S2.2	1B.2
31	***Diadophis punctatus modestus*** San Bernardino ringneck snake	ARADB10015			G5T2T3	S2?	
32	***Didymodon norrisii*** Norris' beard moss	NBMUS2C0H0			G3G4	S3S4	2.2
33	***Dithyrea maritima*** beach spectaclepod	PDBRA10020		Threatened	G2	S2.1	1B.1
34	***Dodecahema leptoceras*** slender-horned spineflower	PDPGN0V010	Endangered	Endangered	G1	S1	1B.1
35	***Dudleya blochmaniae ssp. blochmaniae*** Blochman's dudleya	PDCRA04051			G2T2	S2.1	1B.1
36	***Dudleya cymosa ssp. agourensis*** Agoura Hills dudleya	PDCRA040A7	Threatened		G5T1	S1.2	1B.2
37	***Dudleya cymosa ssp. marcescens*** marcescent dudleya	PDCRA040A3	Threatened	Rare	G5T2	S2.2	1B.2
38	***Dudleya cymosa ssp. ovatifolia*** Santa Monica dudleya	PDCRA040A5	Threatened		G5T2	S2.2	1B.2
39	***Dudleya multicaulis*** many-stemmed dudleya	PDCRA040H0			G2	S2	1B.2
40	***Dudleya parva*** Conejo dudleya	PDCRA04016	Threatened		G2	S2.1	1B.2
41	***Emys marmorata*** western pond turtle	ARAAD02030			G3G4	S3	SC
42	***Eriogonum crocatum*** Conejo buckwheat	PDPGN081G0		Rare	G2	S2.1	1B.2
43	***Eucyclogobius newberryi*** tidewater goby	AFCQN04010	Endangered		G3	S2S3	SC
44	***Euderma maculatum*** spotted bat	AMACC07010			G4	S2S3	SC
45	***Eumops perotis californicus*** western mastiff bat	AMACD02011			G5T4	S3?	SC
46	***Gila orcuttii*** arroyo chub	AFCJB13120			G2	S2	SC
47	***Harpagonella palmeri*** Palmer's grapplinghook	PDBOR0H010			G4	S3.2	4.2
48	***Lampropeltis zonata (pulchra)*** California mountain kingsnake (San Diego population)	ARADB19063			G4G5	S1S2	SC

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
49	***Lasiurus blossevillii*** western red bat	AMACC05060			G5	S3?	SC
50	***Lasiurus cinereus*** hoary bat	AMACC05030			G5	S4?	
51	***Macrotus californicus*** California leaf-nosed bat	AMACB01010			G4	S2S3	SC
52	***Myotis ciliolabrum*** western small-footed myotis	AMACC01140			G5	S2S3	
53	***Myotis yumanensis*** Yuma myotis	AMACC01020			G5	S4?	
54	***Nama stenocarpum*** mud nama	PDHYD0A0H0			G4G5	S1S2	2.2
55	***Neotoma lepida intermedia*** San Diego desert woodrat	AMAFF08041			G5T3?	S3?	SC
56	***Nolina cismontana*** Peninsular nolina	PMAGA080E0			G2	S2	1B.2
57	***Oncorhynchus mykiss irideus*** southern steelhead - southern California DPS	AFCHA0209J	Endangered		G5T2Q	S2	SC
58	***Orcuttia californica*** California Orcutt grass	PMPOA4G010	Endangered	Endangered	G2	S2.1	1B.1
59	***Pentachaeta lyonii*** Lyon's pentachaeta	PDAST6X060	Endangered	Endangered	G2	S2	1B.1
60	***Phrynosoma blainvillii*** coast horned lizard	ARACF12100			G4G5	S3S4	SC
61	***Polioptila californica californica*** coastal California gnatcatcher	ABPBJ08081	Threatened		G3T2	S2	SC
62	***Rana draytonii*** California red-legged frog	AAABH01022	Threatened		G4T2T3	S2S3	SC
63	***Riparia riparia*** bank swallow	ABPAU08010		Threatened	G5	S2S3	
64	***Sidalcea neomexicana*** Salt Spring checkerbloom	PDMAL110J0			G4?	S2S3	2.2
65	***Socalchemmis gertschi*** Gertsch's socalchemmis spider	ILARAU7010			G1	S1	
66	***Southern California Coastal Lagoon***	CALE1220CA			G?	SNR	
67	***Southern California Steelhead Stream***	CARE2310CA			G?	SNR	
68	***Southern Coast Live Oak Riparian Forest***	CTT61310CA			G4	S4	
69	***Southern Coastal Salt Marsh***	CTT52120CA			G2	S2.1	
70	***Southern Cottonwood Willow Riparian Forest***	CTT61330CA			G3	S3.2	
71	***Southern Mixed Riparian Forest***	CTT61340CA			G2	S2.1	
72	***Southern Riparian Scrub***	CTT63300CA			G3	S3.2	
73	***Southern Sycamore Alder Riparian Woodland***	CTT62400CA			G4	S4	
74	***Southern Willow Scrub***	CTT63320CA			G3	S2.1	
75	***Spea hammondii*** western spadefoot	AAABF02020			G3	S3	SC
76	***Streptocephalus woottoni*** Riverside fairy shrimp	ICBRA07010	Endangered		G1	S1	

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
77	***Taxidea taxus*** American badger	AMAJF04010			G5	S4	SC
78	***Thamnophis hammondii*** two-striped garter snake	ARADB36160			G3	S2	SC
79	***Thelypteris puberula var. sonorensis*** Sonoran maiden fern	PPTHE05192			G5T3	S2.2?	2.2
80	***Trimerotropis occidentiloides*** Santa Monica grasshopper	IIORT36300			G1G2	S1S2	
81	***Valley Needlegrass Grassland***	CTT42110CA			G1	S3.1	
82	***Valley Oak Woodland***	CTT71130CA			G3	S2.1	
83	***Vireo bellii pusillus*** least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S2	

Inventory of Rare and Endangered Plants

v7-09d 10-07-09

Status: search results - Wed, Oct. 21, 2009 13:15 c

scientific	common	family	CNPS
Astragalus brauntonii	Braunton's milk-vetch	Fabaceae	List 1B.1
Astragalus pycnostachyus var. lanosissimus	Ventura marsh milk-vetch	Fabaceae	List 1B.1
Astragalus tener var. titi	coastal dunes milk-vetch	Fabaceae	List 1B.1
Atriplex coulteri	Coulter's saltbush	Chenopodiaceae	List 1B.2
Baccharis malibuensis	Malibu baccharis	Asteraceae	List 1B.1
California macrophylla	round-leaved filaree	Geraniaceae	List 1B.1
Calochortus clavatus var. gracilis	slender mariposa lily	Liliaceae	List 1B.2
Calochortus plummerae	Plummer's mariposa lily	Liliaceae	List 1B.2
Camissonia lewisii	Lewis' evening-primrose	Onagraceae	List 3
Chorizanthe parryi var. fernandina	San Fernando Valley spineflower	Polygonaceae	List 1B.1
Chorizanthe parryi var. parryi	Parry's spineflower	Polygonaceae	List 1B.1
Cordylanthus maritimus ssp. maritimus	salt marsh bird's-beak	Scrophulariaceae	List 1B.2
Deinandra minthornii	Santa Susana tarplant	Asteraceae	List 1B.2
Delphinium parryi ssp. blochmaniae	dune larkspur	Ranunculaceae	List 1B.2
Dithyrea maritima	beach spectaclepod	Brassicaceae	List 1B.1
Dudleya blochmaniae ssp. blochmaniae	Blochman's dudleya	Crassulaceae	List 1B.1
Dudleya cymosa ssp. agourensis	Agoura Hills dudleya	Crassulaceae	List 1B.2

Dudleya cymosa ssp. marcescens	marcescent dudleya	Crassulaceae	List 1B.2
Dudleya cymosa ssp. ovatifolia	Santa Monica dudleya	Crassulaceae	List 1B.2
Dudleya multicaulis	many-stemmed dudleya	Crassulaceae	List 1B.2
Dudleya parva	Conejo dudleya	Crassulaceae	List 1B.2
Eriogonum crocatum	Conejo buckwheat	Polygonaceae	List 1B.2
Horkelia cuneata ssp. puberula	mesa horkelia	Rosaceae	List 1B.1
Nolina cismontana	Peninsular nolina	Liliaceae	List 1B.2
Orcuttia californica	California Orcutt grass	Poaceae	List 1B.1
Pentachaeta lyonii	Lyon's pentachaeta	Asteraceae	List 1B.1
Pseudognaphalium leucocephalum	white rabbit-tobacco	Asteraceae	List 2.2
Thelypteris puberula var. sonorensis	Sonoran maiden fern	Thelypteridaceae	List 2.2

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003

IN REPLY REFER TO:
81440-2010-SL-0048

March 11, 2010

Mike Wood
Michael Wood Biological Consulting
65 Alta Hill Way
Walnut Creek, California 94595

Subject: Species List for the Highway 101/Palo Comado Canyon Road Interchange, City of Agoura Hills, Los Angeles, County, California

Dear Mr. Wood:

We are responding to your request, dated October 30, 2009, and received in our office on the same day, for a list of endangered, threatened, and other special status species that may occur in the vicinity of the Highway 101/Palo Comado Canyon Road interchange in the city of Agoura Hills, California. Your request stated that the proposed project would occur along Highway 101, one half mile on both sides of the intersection with Palo Comado Canyon Road; however, you did not provide a description of the project activities. We have enclosed a list of federally listed and candidate species that may occur in the vicinity of the subject site.

The enclosed list of species fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act of 1973, as amended (Act). The Service's responsibilities include administering the Act, including sections 7, 9, and 10. Section 9 of the Act and its implementing regulations prohibits the taking of any federally listed endangered or threatened species. Section 3(18) of the Act defines take to mean to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Service regulations (50 CFR 17.3) define harm to include significant habitat modification or degradation which actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering. Harassment is defined by the Service as an intentional or negligent action that creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. The Act provides for civil and criminal penalties for the unlawful taking of listed species.

Exemptions to the prohibitions against take may be obtained through coordination with the Service through interagency consultation for projects with Federal involvement pursuant to section 7 or through the issuance of an incidental take permit under section 10(a)(1)(B) of the Act. If the subject project is to be funded, authorized, or carried out by a Federal agency and may affect a listed species, the Federal agency must consult with the Service, pursuant to section 7(a)(2) of the Act. If a proposed project does not involve a Federal agency but may result in the

TAKE PRIDE IN AMERICA

take of a listed animal species, the project proponent should apply for an incidental take permit, pursuant to section 10(a)(1)(B) of the Act. Once you have determined if the proposed project will have a lead Federal agency, we can provide you with more detailed information regarding section 7 interagency consultation or the 10(a)(1)(B) permitting process.

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

If you have any questions regarding this letter, please contact David Simmons of our staff at (805) 644-1766, extension 368.

Sincerely,

Chris Dellith
Senior Biologist

Enclosure

cc:
Paul Caron, California Department of Transportation

LISTED SPECIES, CANDIDATE SPECIES, AND CRITICAL HABITAT THAT MAY OCCUR NEAR THE INTERSECTION OF STATE HIGHWAY 101 AND PALO COMADO CANYON ROAD, AGOURA HILLS, LOS ANGELES COUNTY, CALIFORNIA

Plants

Braunton's milk-vetch	*Astragalus brauntonii*	E, CH
Lyon's pentachaeta	*Pentachaeta lyonii*	E, CH
Marcescent dudleya	*Dudleya cymosa* ssp. *marcescens*	T
Santa Monica Mountains Dudleya	*Dudleya cymosa* ssp. *ovatifolia*	T
San Fernando Valley spineflower	*Chorizanthe parryi* var. *fernandina*	C

Key:

E - Endangered

T - Threatened

CH – Critical Habitat

C - Candidate species for which the Fish and Wildlife Service has on file sufficient information on the biological vulnerability and threats to support proposals to list as endangered or threatened.

Noise Study Report

Palo Comado Canyon Road / US 101 Interchange Reconstruction

07-LA-US 101 PM 33.0/34.4

EA 25720k

May 2011

Noise Study Report

Palo Comado Canyon Road / US 101 Interchange Reconstruction

07-LA-US 101 PM 33.0/34.4

EA 25720k

May 2011

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District / Region San Diego

Approved By: Jeffrey Fuller, Senior Project Manager Date: 5/12/2011
Supervisor's Name, Title

Phone Number 619-234-9411
Office Name Kimley-Horn and Associates, Inc.
District / Region San Diego

Summary

This Noise Study Report (NSR) assesses potential noise impacts resulting from the proposed construction and operation of the Palo Comado Canyon Road / Highway 101 (US 101) Interchange Reconstruction and related improvements project. This study quantifies the existing traffic noise conditions in the project area, identifies noise sensitive locations, and predicts future traffic noise levels for the Build and No-Build alternatives. The traffic noise impact and abatement analysis was conducted in accordance with the California Traffic Noise Analysis Protocol (CaTNAP) and Technical Noise Supplement (TeNS).

The project is located in the City of Agoura Hills (City). The project study area is bordered by Chesebro Road to the north and Agoura Road to the south, and includes improvements along the northbound on and off ramps.

The Build Alternative would include widening the entire length of Palo Comado Canyon Road, between Driver Avenue to the north and Chesebro Road to the south, from two to four lanes. Within these limits, the Palo Comado Canyon Road Overcrossing would be widened from one lane in each direction to provide two lanes in each direction, along with a dedicated left turn lane, for a total of five striped lanes.

The No Build alternative represents the no action option. The No Build Alternative would maintain the existing configuration of the US 101 / Palo Comado Canyon Road Interchange, and the Palo Comado Canyon Overcrossing above US 101 would remain as a two-lane facility with a sidewalk on the west side. This alternative would not alleviate existing and anticipated traffic congestion or provide bicycle access, and would not be consistent with the project purpose and need.

Site reconnaissance visits were performed on January 13-14, 2010, January 18, 2010, January 28, 2010, October 13, 2010, and April 11-12, 2011 to identify noise-sensitive receptors and measure existing noise levels. Land uses in the project area include single-family residential, commercial/office, and vacant. The terrain in the project area is comprised of rolling hills.

Existing noise level measurements were conducted during the site visits to evaluate existing background noise levels in the vicinity of the project area. One long-term (24-hour) and one short-term (20-minute) measurement were conducted near the noise sensitive location in the project area. Measurement results indicate that existing peak hour traffic noise levels are approximately 69 dBA Leq(h) at the single-family residence at 5306 Chesebro Road, in the northeastern quadrant of the intersection of Palo Comado Canyon Road and Chesebro Road. Therefore, existing noise levels currently exceed the

Caltrans and Federal Highway Administration (FHWA) Noise Abatement Criteria (NAC) at outdoor usable areas for the noise-sensitive land use.

The unabated Build and No-Build noise levels were estimated using the FHWA Traffic Noise Model (TNM) version 2.5. The Level of Service (LOS) C traffic volume condition of 1,800 vehicles per lane per hour on the highway mainline through lanes was used to estimate the worst-case noise scenario.

The predicted peak hour sound level at the representative receptor is approximately 69 dBA Leq(h) in both Build and No-Build alternatives. The future traffic noise level would exceed the NAC at the outdoor usable areas of the noise-sensitive land use, under both Build and No-Build alternatives.

Noise abatement considered includes a sound wall with a height of 6 feet and a length of 183 feet (SW-1) along the right-of-way. This wall would reduce traffic noise levels at receptor location R1 by approximately 6 dBA and result in one benefited residence. This wall is feasible. The preliminary reasonable allowance for this wall is $45,000 per benefited residence, or $45,000 total.

Noise produced by construction equipment required to build this project would occur with varying intensity and duration. Construction noise exposure to noise-sensitive areas will be intermittent. The degree of construction noise impacts may vary for different areas of the project site depending on the construction activities and the site geometry. Construction of the project would be required to comply with Section 14-8.02: Noise Control of the 2006 Caltrans Standard Specifications Amendments and also with Caltrans Special Provisions S5-310: Noise Control.

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List of Abbreviated Terms

CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNEL	Community Noise Equivalent Level
dB	decibels
FHWA	Federal Highway Administration
Hz	hertz
kHz	kilohertz
Ldn	Day-Night Level
Leq	Equivalent Sound Level
Leq(h)	Equivalent Sound Level over one hour
Lmax	Maximum Sound Level
LOS	Level of Service
Ln	Percentile-Exceeded Sound Level
mPa	microPascals
mph	miles per hour
NAC	noise abatement criteria
NADR	Noise Abatement Decision Report
NEPA	National Environmental Policy Act
NSR	noise study reports
Protocol	Caltrans' Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects
SPL	sound pressure level
TeNS	Caltrans' Technical Noise Supplement
TNM 2.5	FHWA Traffic Noise Model Version 2.5

Chapter 1. Introduction

1.1. Purpose of the Noise Study Report

The purpose of this NSR is to evaluate noise impacts and abatement under the requirements of Title 23, Part 772 of the Code of Federal Regulations (23 CFR 772) "Procedures for Abatement of Highway Traffic Noise". 23 CFR 772 provides procedures for preparing operational and construction noise studies and evaluating noise abatement considered for federal and federal-aid highway projects. According to 23 CFR 772.3, all highway projects that are developed in conformance with this regulation are deemed to be in conformance with Federal Highway Administration (FHWA) noise standards.

The Caltrans Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects (Protocol) (Caltrans 2006) provides Caltrans policy for implementing 23 CFR 772 in California. The Protocol outlines the requirements for preparing noise study reports (NSRs). Noise impacts associated with this project under the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) are evaluated in the Initial Study /Environmental Assessment (IS/EA) [GPA 2011].

1.2. Project Purpose and Need

Purpose

The purpose of the project is to:

- Reduce existing and forecasted traffic congestion within the project limits;
- Improve circulation at the US 101 / Palo Comado Canyon Road interchange and adjacent roadway network;
- Improve safety at the US 101 / Palo Comado Canyon Road interchange; and
- Accommodate pedestrian and bicycle traffic along Palo Comado Canyon Road.

Need

Traffic

The quality of traffic flow can be identified in terms of level of service (LOS). There are six LOS, ranging from LOS A to LOS F. The City's recent General Plan update (March 2010) has identified the US 101/Palo Comado Canyon Road interchange as deficient under existing as well as future forecast conditions. The General Plan identifies LOS C as the typical minimum acceptable standard for roadways within the city. Currently, the US 101/Palo Comado Canyon Road northbound off-ramp intersection (two-way stop sign)

operates at a LOS F in the AM peak period with a delay of 53.7 seconds, and at LOS F during the PM peak period with a delay of 190.9 seconds. The all-way stop located at the Driver Avenue / Chesebro Road intersection operates at a LOS of F in both the AM and PM peak periods, with a delay of 54.0 (AM) and 61.6 (PM). The City's minimum acceptable standard (LOS C) is not achievable under current existing conditions for the northbound off-ramp intersection or Driver / Chesebro intersection.

Safety

Accident data based on Caltrans Transportation Systems Network Traffic Accident Surveillance and Analysis System (TSN TASAS) for the three-year period ending December 31, 2008 shows that the total rate of accidents at the Palo Comado Canyon Road interchange is generally lower than the statewide average. There are two exceptions to this: the northbound off-ramp total accident rate is 18% higher than the statewide average and the northbound on-ramp fatality plus injury rate is 23% higher than the statewide average.

Operational Deficiencies

The existing bridge has non-standard stopping sight distance at the northbound off-ramp intersection. Additional non-standard features include a sidewalk on only one side (west side) of the bridge, and no bicycle lanes on the bridge.

Chapter 2. Project Description

The California Department of Transportation (Caltrans) and The City of Agoura Hills (City), propose to construct improvements at the US 101/Palo Comado Canyon Road interchange (PM 33.0/34.4), in Los Angeles County within in the City of Agoura Hills. The project would include the widening of Palo Comado Canyon Road and the Palo Comado Canyon Road Overcrossing over US 101 and modification of the interchange ramps in order to improve traffic circulation, safety, and bicycle/pedestrian access. A vicinity map is provided as Figure 1; the Build Alternative Alignment is provided as Figure 2.

Caltrans and the City have initiated studies for the proposed project. Caltrans is acting as the NEPA lead agency under the provisions of the Memorandum of Understanding (MOU) between the Federal Highway Administration (FHWA) and the California Department of Transportation concerning the State of California's Participation in the Surface Transportation Project Delivery Pilot Program. Caltrans is also the lead agency under the California Environmental Quality Act (CEQA).

The need for this project was first identified by the City in their 1992 General Plan. The Plan's Circulation Element discusses the need for widening of the US 101 / Palo Comado Canyon Road overcrossing due to congested freeway access and poor circulation. Discussion of the need for this project was carried forth to the City's 2010 General Plan.

The US 101/Palo Comado Canyon Road Overcrossing structure was built in 1963. It provides two 12-foot lanes and 4-foot shoulders in each direction. A 5-foot sidewalk is provided on the west side of the overcrossing. The minimum vertical clearance is 15 feet, which is located in the northeast corner of the structure over the northbound US 101 number four lane. The interchange is configured with tight diamond (L-1) ramps on the northbound side and hook ramps (L-6) on the southbound side.

2.1. Project Alternatives

2.1.1. Alternative 1: No Build Alternative

The No Build Alternative would maintain the existing configuration of the US 101/Palo Comado Canyon Road Interchange, and the Palo Comado Canyon Overcrossing above US 101 would remain as a two-lane facility with a sidewalk on the west side.

2.1.2. Alternative 2: Build Alternative

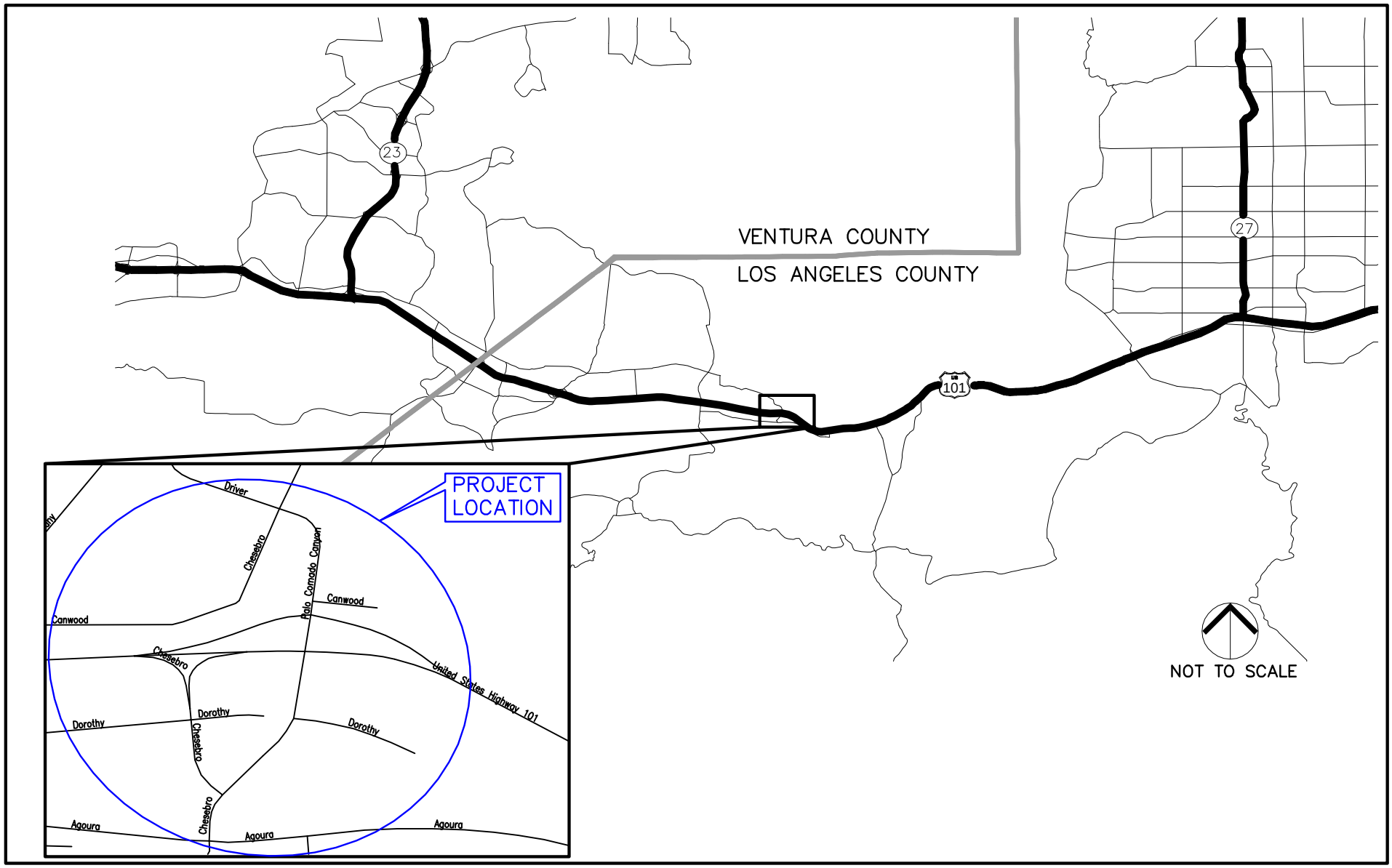
The Build Alternative would include widening the entire length of Palo Comado Canyon Road, between Driver Avenue to the north and Chesebro Road to the south; from two to four lanes (see Figure 2). Within these limits, the Palo Comado Canyon Road Overcrossing would be widened from one lane in each direction to provide two lanes in

each direction, along with a dedicated left-hand turn lane, for a total of five striped lanes. A Class II bike lane and sidewalks would be provided on both sides of the overcrossing.

The Build Alternative would maintain the existing layout of the interchange ramps; however, the northbound on- and off-ramps would be slightly re-configured, with an additional lane being provided on the northbound off-ramp at the Palo Comado Canyon Road intersection. The intersection of the northbound ramps and Palo Comado Road would be signalized; the remaining intersections would remain un-signalized.

2.1.3. Alternatives Considered and Rejected

The City studied several additional alternatives as part of the preliminary planning process. These alternatives included such elements as a local access road to the former Heschel West Day School project, local access road connection to the northbound off-ramp, a 5-way traffic signal at the northbound off-ramp, and a roundabout at the northbound off-ramp intersection. These alternatives were considered, but ultimately rejected due to Right-of-Way (ROW) impacts that were not acceptable to the City. In addition, some of the alternatives were analyzed primarily due to the proposed Heschel West Day School project, which has since been abandoned.



Kimley-Horn and Associates, Inc.

Figure 1
VICINITY MAP

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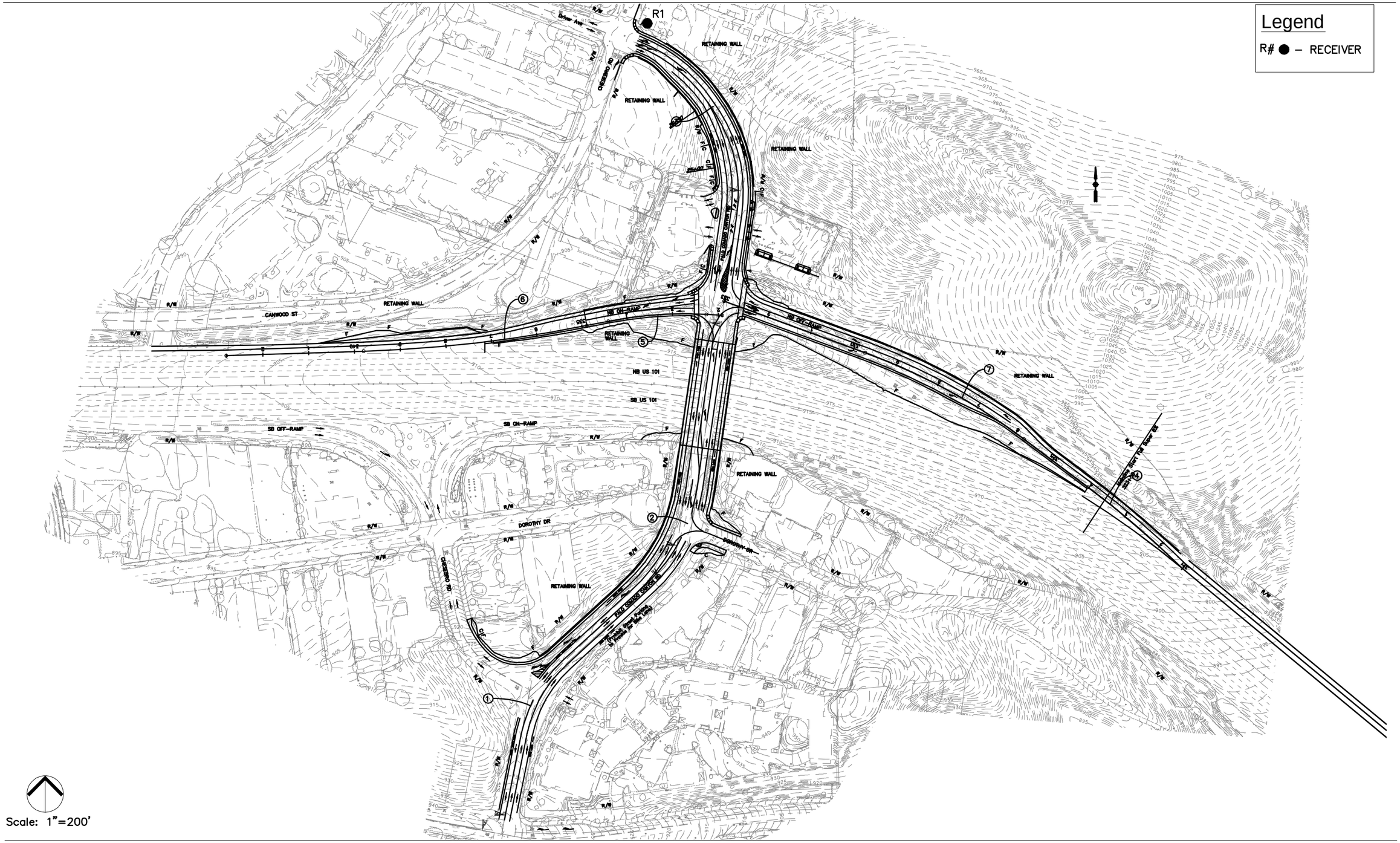

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Figure 2
BUILD ALTERNATIVE ALIGNMENT

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Chapter 3. Fundamentals of Traffic Noise

The following is a brief discussion of fundamental traffic noise concepts. For a detailed discussion, please refer to Caltrans' Technical Noise Supplement (TeNS) (Caltrans 1998), a technical supplement to the Protocol, that is available on Caltrans' website (http://www.dot.ca.gov/hq/env/noise/pub/tens_complete.pdf).

3.1. Sound, Noise, and Acoustics

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air) to a hearing organ, such as a human ear. Noise is defined as loud, unexpected, or annoying sound.

In the science of acoustics, the fundamental model consists of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source and obstructions or atmospheric factors affecting the propagation path to the receiver determine the sound level and characteristics of the noise perceived by the receiver. The field of acoustics deals primarily with the propagation and control of sound.

3.2. Frequency

Continuous sound can be described by frequency (pitch) and amplitude (loudness). A low-frequency sound is perceived as low in pitch. Frequency is expressed in terms of cycles per second, or Hertz (Hz) (e.g., a frequency of 250 cycles per second is referred to as 250 Hz). High frequencies are sometimes more conveniently expressed in kilohertz (kHz), or thousands of Hertz. The audible frequency range for humans is generally between 20 Hz and 20,000 Hz.

3.3. Sound Pressure Levels and Decibels

The amplitude of pressure waves generated by a sound source determines the loudness of that source. Sound pressure amplitude is measured in micro-Pascals (mPa). One mPa is approximately one hundred billionth (0.00000000001) of normal atmospheric pressure. Sound pressure amplitudes for different kinds of noise environments can range from less than 100 to 100,000,000 mPa. Because of this huge range of values, sound is rarely expressed in terms of mPa. Instead, a logarithmic scale is used to describe sound pressure level (SPL) in terms of decibels (dB). The threshold of hearing for young people is about 0 dB, which corresponds to 20 mPa.

3.4. Addition of Decibels

Because decibels are logarithmic units, SPL cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3-dB increase. In other words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dB higher than one source under the same conditions. For example, if one automobile produces an SPL of 70 dB when it passes an observer, two cars passing simultaneously would not produce 140 dB—rather, they would combine to produce 73 dB. Under the decibel scale, three sources of equal loudness together produce a sound level 5 dB louder than one source.

3.5. A-Weighted Decibels

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Although the intensity (energy per unit area) of the sound is a purely physical quantity, the loudness or human response is determined by the characteristics of the human ear.

Human hearing is limited in the range of audible frequencies as well as in the way it perceives the SPL in that range. In general, people are most sensitive to the frequency range of 1,000–8,000 Hz, and perceive sounds within that range better than sounds of the same amplitude in higher or lower frequencies. To approximate the response of the human ear, sound levels of individual frequency bands are weighted, depending on the human sensitivity to those frequencies. Then, an “A-weighted” sound level (expressed in units of dBA) can be computed based on this information.

The A-weighting network approximates the frequency response of the average young ear when listening to most ordinary sounds. When people make judgments of the relative loudness or annoyance of a sound, their judgments correlate well with the A-scale sound levels of those sounds. Other weighting networks have been devised to address high noise levels or other special problems (e.g., B-, C-, and D-scales), but these scales are rarely used in conjunction with highway-traffic noise. Noise levels for traffic noise reports are typically reported in terms of A-weighted decibels or dBA. Table 1 describes typical A-weighted noise levels for various noise sources.

Table 1. Typical Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock Band
Jet Flyover at 1,000 feet		
	100	
Gas Lawnmower at 3 feet		
	90	
Diesel Truck at 50 feet at 50 mph		Food Blender at 3 feet
	80	Garbage Disposal at 3 feet
Noisy Urban Area Daytime		
Gas Lawnmower at 100 feet	70	Vacuum Cleaner at 10 feet
Commercial Area		Normal Speech at 3 feet
Heavy Traffic at 300 feet	60	
		Large Business Office
Quiet Urban Daytime	50	Dishwasher in Next Room
Quiet Urban Nighttime	40	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime		
	30	Library
Quiet Rural Nighttime		Bedroom at Night, Concert Hall (Background)
	20	
		Broadcast / Recording Studio
	10	
Lowest Threshold of Human Hearing	0	

Source: TeNS (Caltrans 2009).

3.6. Human Response to Changes in Noise Levels

As discussed above, doubling sound energy results in a 3-dB increase in sound. However, given a sound level change measured with precise instrumentation, the subjective human perception of a doubling of loudness will usually be different than what is measured.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear is able to discern 1-dB changes in sound levels, when exposed to steady, single-frequency

("pure-tone") signals in the midfrequency (1,000 Hz–8,000 Hz) range. In typical noisy environments, changes in noise of 1 to 2 dB are generally not perceptible. However, it is widely accepted that people are able to begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5-dB increase is generally perceived as a distinctly noticeable increase, and a 10-dB increase is generally perceived as a doubling of loudness. Therefore, a doubling of sound energy (e.g., doubling the volume of traffic on a highway) that would result in a 3-dB increase in sound, would generally be perceived as barely detectable.

3.7. Noise Descriptors

Noise in our daily environment fluctuates over time. Some fluctuations are minor, but some are substantial. Some noise levels occur in regular patterns, but others are random. Some noise levels fluctuate rapidly, but others slowly. Some noise levels vary widely, but others are relatively constant. Various noise descriptors have been developed to describe time-varying noise levels. The following are the noise descriptors most commonly used in traffic noise analysis.

- **Equivalent Sound Level (Leq):** Leq represents an average of the sound energy occurring over a specified period. In effect, Leq is the steady-state sound level containing the same acoustical energy as the time-varying sound that actually occurs during the same period. The 1-hour A-weighted equivalent sound level (Leq(h)) is the energy average of A-weighted sound levels occurring during a one-hour period, and is the basis for noise abatement criteria (NAC) used by Caltrans and FHWA.

- **Percentile-Exceeded Sound Level (Ln):** Ln represents the sound level exceeded for a given percentage of a specified period (e.g., L10 is the sound level exceeded 10% of the time, and L90 is the sound level exceeded 90% of the time).

- **Maximum Sound Level (Lmax):** Lmax is the highest instantaneous sound level measured during a specified period.

- **Community Noise Equivalent Level (CNEL):** Similar to Ldn, CNEL is the energy average of the A-weighted sound levels occurring over a 24-hour period, with a 10-dB penalty applied to A-weighted sound levels occurring during the nighttime hours between 10 p.m. and 7 a.m., and a 5-dB penalty applied to the A-weighted sound levels occurring during evening hours between 7 p.m. and 10 p.m.

3.8. Sound Propagation

When sound propagates over a distance, it changes in level and frequency content. The manner in which noise reduces with distance depends on the following factors.

3.8.1. Geometric Spreading

Sound from a localized source (i.e., a point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 decibels for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path, and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 decibels for each doubling of distance from a line source.

3.8.2. Ground Absorption

The propagation path of noise from a highway to a receiver is usually very close to the ground. Noise attenuation from ground absorption and reflective-wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually sufficiently accurate for distances of less than 200 feet. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water,), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver, such as soft dirt, grass, or scattered bushes and trees), an excess ground-attenuation value of 1.5 decibels per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 decibels per doubling of distance.

3.8.3. Atmospheric Effects

Receptors located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) from the highway due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects.

3.8.4. Shielding by Natural or Human-Made Features

A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Natural terrain features (e.g., hills and dense woods) and human-made features (e.g., buildings and walls) can substantially reduce noise levels. Walls are often constructed between a source and a receiver specifically to reduce noise. A barrier that breaks the line of sight between a source and a receiver will typically result in at least 5 dB of noise reduction. Taller barriers provide increased noise reduction. Vegetation between the highway and receiver is rarely effective in reducing noise because it does not create a solid barrier.

Chapter 4. Federal Regulations and State Policies

This report focuses on the requirements of 23 CFR 772, as discussed below.

4.1. Federal Regulations

4.1.1. 23 CFR 772

23 CFR 772 provides procedures for preparing operational and construction noise studies and evaluating noise abatement considered for federal and federal-aid highway projects. Under 23 CFR 772.7, projects are categorized as Type I or Type II projects. FHWA defines a Type I project as a proposed federal or federal-aid highway project for the construction of a highway on a new location, or the physical alteration of an existing highway which significantly changes either the horizontal or vertical alignment, or increases the number of through-traffic lanes. A Type II project is a noise barrier retrofit project that involves no changes to highway capacity or alignment.

Type I projects include those that create a completely new noise source, as well as those that increase the volume or speed of traffic or move the traffic closer to a receiver. Type I projects include the addition of an interchange, ramp, auxiliary lane, or truck-climbing lane to an existing highway, or the widening an existing ramp by a full lane width for its entire length. Projects unrelated to increased noise levels, such as striping, lighting, signing, and landscaping projects, are not considered Type I projects.

Under 23 CFR 772.11, noise abatement must be considered for Type I projects if the project is predicted to result in a traffic noise impact. In such cases, 23 CFR 772 requires that the project sponsor “consider” noise abatement before adoption of the final NEPA document. This process involves identification of noise abatement measures that are reasonable, feasible, and likely to be incorporated into the project, and of noise impacts for which no apparent solution is available.

Traffic noise impacts, as defined in 23 CFR 772.5, occur when the predicted noise level in the design year approaches or exceeds the NAC specified in 23 CFR 772, or a predicted noise level substantially exceeds the existing noise level (a “substantial” noise increase). 23 CFR 772 does not specifically define the terms “substantial increase” or “approach”; these criteria are defined in the Protocol, as described below.

Table 2 summarizes NAC corresponding to various land use activity categories. Activity categories and related traffic noise impacts are determined based on the actual land use in a given area.

Table 2. Federal and California State Traffic Noise Abatement Criteria

Activity Category	Noise Abatement Criteria (Leq(h), dBA)	Description of Activity Category
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 sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (Exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D	–	Undeveloped lands.
E	52 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Source: Caltrans 2006

In identifying noise impacts, primary consideration is given to exterior areas of frequent human use. In situations where there are no exterior activities, or where the exterior activities are far from the roadway or physically shielded in a manner that prevents an impact on exterior activities, the interior criterion (Activity Category E) is used as the basis for determining a noise impact.

4.2. State Regulations and Policies

4.2.1. Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects

The Protocol specifies the policies, procedures, and practices to be used by agencies that sponsor new construction or reconstruction of federal or federal-aid highway projects. The NAC specified in the Protocol are the same as those specified in 23 CFR 772. The Protocol defines a noise increase as substantial when the predicted noise levels with project implementation exceed existing noise levels by 12 dBA. The Protocol also states that a sound level is considered to approach an NAC level when the sound level is within 1 dB of the NAC identified in 23 CFR 772 (e.g., 66 dBA is considered to approach the NAC of 67 dBA, but 65 dBA is not).

The TeNS to the Protocol provides detailed technical guidance for the evaluation of highway traffic noise. This includes field measurement methods, noise modeling methods, and report preparation guidance.

4.2.2. Section 216 of the California Streets and Highways Code

Section 216 of the California Streets and Highways Code relates to the noise effects of a proposed freeway project on public and private elementary and secondary schools. Under this code, a noise impact occurs if, as a result of a proposed freeway project, noise levels exceed 52 dBA Leq(h) in the interior of public or private elementary or secondary classrooms, libraries, multipurpose rooms, or spaces. This requirement does not replace the "approach or exceed" NAC criterion for FHWA Activity Category E for classroom interiors, but it is a requirement that must be addressed in addition to the requirements of 23 CFR 772.

If a project results in a noise impact under this code, noise abatement must be provided to reduce classroom noise to a level that is at or below 52 dBA Leq(h). If the noise levels generated from freeway and non-freeway sources exceed 52 dBA Leq(h) prior to the construction of the proposed freeway project, then noise abatement must be provided to reduce the noise to the level that existed prior to construction of the project.

4.3. California Environmental Quality Act

The California Environmental Quality Act (CEQA) is the foundation of California environmental law and policy. CEQA's main objectives are to disclose to decision makers and the public the significant environmental effects of proposed activities and to identify ways to avoid or reduce those effects by requiring implementation of feasible alternatives or abatement measures. Under CEQA, a substantial noise increase may result in a significant adverse environmental effect and, if so, must be abated or identified as a noise impact for which it is likely that only partial or no abatement measures are available. Specific economic, social, environmental, legal, and technological conditions may make noise abatement measures not feasible.

4.4. National Environmental Policy Act

The National Environmental Policy Act (NEPA) is a federal law that establishes national environmental policy, provides an interdisciplinary framework for federal agencies to prevent environmental damage, and contains "action-forcing" procedures to ensure that federal agency decision makers take environmental factors into account. Under NEPA, impacts and measures to abate adverse impacts must be identified, including the identification of impacts for which no abatement or only partial abatement is available. Projects complying with FHWA regulations are also in compliance with the requirements stemming from NEPA.

Chapter 5. Study Methods and Procedures

This section describes the methods followed during preparation of the noise study. The discussion addresses selection of representative noise-sensitive receptor sites, noise measurement procedures, and traffic noise modeling required to conduct the analysis.

5.1. Methods for Identifying Land Uses and Selecting Noise Measurement and Modeling Receiver Locations

A field investigation was conducted to identify land uses that could be subject to traffic and construction noise impacts from the proposed project. Land uses in the project area were categorized by land use type, Activity Category as defined in Table 2, and the extent of frequent human use. As stated in the Protocol, noise abatement is only considered for areas of frequent human use that would benefit from a lowered noise level. Although all developed land uses are evaluated in this analysis, the focus is on locations of frequent human use that would benefit from a lowered noise level. Accordingly, this impact analysis focuses on locations with defined outdoor activity areas, such as residential backyards. The geometry of the project relative to nearby existing and planned land uses was also identified.

Measurement locations were selected to represent the inhabitable area within the project area. One long-term measurement site was selected to capture the diurnal traffic noise level pattern in the project area. The short-term measurement location was selected to serve as an approximate representative modeling location.

The short-term measurement site was a location where a sound level measurement was taken to determine the existing noise level and calibrate the TNM model. This site was determined to be representative of the noise-sensitive area within the project limits. The measurement was performed near an area of frequent outdoor use. The measurement site was selected to minimize unusual noises from sources such as construction activities, children playing, barking dogs, or heating / ventilation / air-conditioning systems. These sources can affect measured sound levels.

5.2. Field Measurement Procedures

A field noise study was conducted in accordance with recommended procedures in TeNS. The following is a summary of the procedures used to collect short-term and long term sound level data.

5.2.1. Short-Term Measurements

Short-term monitoring was conducted at one location on Tuesday, April 12, 2011 (ST1), using a RION Model NL-31 ANSI (American National Standards Institute) Type 1 Integrating Sound Level Meter (SLM). Measurements were taken over a 20-minute

period at an Activity Category B land use. The short-term measurement location is identified in Figure 3. The calibration of the meter was checked before and after the measurement using a Larson-Davis Model 200 acoustic calibrator.

Temperature, wind speed, and humidity were recorded manually during the short-term monitoring session using a Nielsen Kellerman Model 3000 (Kestrel) handheld instrument. During the short-term measurement at ST1, wind speeds typically ranged from 0 to 2 miles per hour (mph). The temperature was 60°F, with 82% relative humidity.

Traffic on Palo Comado Canyon Road was classified and counted during the short-term noise measurement by the field acoustical technician. Vehicles were classified as automobiles, medium-duty trucks, heavy-duty trucks, buses, and motorcycles. An automobile was defined as a vehicle with two axles and four tires that are designed primarily to carry passengers. Small vans and light trucks were included in this category. Medium-duty trucks included all cargo vehicles with two axles and six tires. Heavy-duty trucks included all vehicles with three or more axles. Buses included all vehicles designed to carry more than ten passengers. Motorcycles included all vehicles with two or three wheels designed to transport one or two people. The posted speed limit was 35 mph on Palo Comado Canyon Road.

Short-term monitoring location ST1 was located within the right-of-way on the north side of Palo Comado Canyon Road, approximately 9 feet from the edge of pavement and 80 feet east of the Chesebro Road centerline, near the property line of the single-family residence at 5306 Chesebro Road. The preferred measurement location was on the property, within the fenced-in side yard; however, the resident refused access to the property. As a result, the measurement was performed at the nearest accessible location (ST1), which was outside of the fence and within the right-of-way.

5.2.2. Long -Term Measurements

Long-term monitoring was conducted at one location (LT1) using a Larson Davis Model 720 ANSI Type 2 Integrating SLM. The long-term measurement location is identified in Figure 3. The purpose of this measurement was to identify variations in sound levels throughout the day to determine any necessary adjustments to the simultaneous short-term measurement. A short-term measurement was necessary because a sound level meter could not be placed at the proper location for a 24-hour period. The long-term sound level data was collected over one 24-hour period, beginning Monday, April 11, 2011, and ending Tuesday, April 12, 2011.

Long-term monitoring location LT1 was located along the right-of-way line on the north side of Palo Comado Canyon Road, approximately 5 feet from the edge of pavement and 125 feet north of the Chesebro Road centerline. This is near the property line of the single-family residence at 5306 Chesebro Road, near the location where ST1

measurements were taken. Noise sources observed during the site visits were vehicular traffic on Palo Comado Canyon Road, Chesebro Road, and distant traffic noise from US-101.

Scale: 1"=500'

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Figure 3
NOISE MEASUREMENT LOCATIONS

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5.3. Traffic Noise Levels Prediction Methods

Traffic noise levels were predicted using the FHWA Traffic Noise Model Version 2.5 (TNM 2.5). TNM 2.5 is a computer model based on two FHWA reports: FHWA-PD-96-009 and FHWA-PD-96-010 (FHWA 1998a, 1998b). Key inputs to the traffic noise model were the locations of roadways, shielding features (e.g., topography and buildings), noise barriers, ground type, and receivers. Three-dimensional representations of these inputs were developed using CAD drawings, aerials, and topographic contours from the project Geometric Approval Drawings (KHA 2010).

Traffic noise was evaluated under design year no-project conditions, and design year conditions with the project alternative. Loudest-hour traffic volumes, vehicle classification percentages, and traffic speeds under design-year (2035) conditions were obtained from the project Traffic Impact Analysis (TIA) (KHA 2010). for input into the traffic noise model. The highest average traffic volumes on local roadways in the vicinity of the project are predicted to occur during the PM; therefore, PM peak hour traffic volumes were used in the model. LOS C traffic volumes were used as input for US 101. Table A1 in Appendix A summarizes the traffic volumes and assumptions used for modeling design-year conditions with and without the project alternative.

The loudest hour is generally characterized by free-flowing traffic at the highway design speed (i.e., Level of Service (LOS) C or better). For this analysis, it is assumed that each highway lane has a maximum capacity of 1,800 vehicles per hour at the design speed of the highway. The PM peak-hour traffic volumes on Palo Comado Canyon Road were obtained from the TIA.

The traffic mix (percentage of medium trucks, heavy trucks, buses, and motorcycles) was estimated based on traffic counts conducted between 9:00 a.m. and 11:00 a.m. on January 28, 2010.

To validate the accuracy of the model, TNM 2.5 was used to compare the measured traffic noise level to the modeled noise level at the field measurement location. Traffic volumes counted during the short-term measurement period were normalized to one-hour volumes. These normalized volumes were assigned to the corresponding project area roadways to simulate the noise source strength at the roadways during the actual measurement period. Modeled and measured sound levels were then compared to determine the accuracy of the model and if additional calibration of the model was necessary.

5.4. Methods for Identifying Traffic Noise Impacts and Consideration of Abatement

Traffic noise impacts are considered to occur at receiver locations where predicted design-year noise levels are at least 12 dB greater than existing noise levels, or where predicted design year noise levels approach or exceed the NAC for the applicable activity category. Where traffic noise impacts are identified, noise abatement must be considered for reasonableness and feasibility as required by 23 CFR 772 and the Protocol.

According to the Protocol, abatement measures are considered acoustically feasible if a minimum noise reduction of 5 dB at impacted receiver locations is predicted with implementation of the abatement measures. In addition, barriers should be designed to intercept the line-of-sight from the exhaust stack of a truck to the first tier of receivers, as required by the Highway Design Manual, Chapter 1100. Other factors that affect feasibility include topography, access requirements for driveways and ramps, presence of local cross streets, utility conflicts, other noise sources in the area, and safety considerations. The overall reasonableness of noise abatement is determined by considering factors such as cost; absolute predicted noise levels; predicted future increase in noise levels; expected noise abatement benefits; build date of surrounding residential development along the highway; environmental impacts of abatement construction; opinions of affected residents; input from the public and local agencies; and social, legal, and technological factors.

The Protocol defines the procedure for assessing reasonableness of noise barriers from a cost perspective. A cost-per-residence allowance is calculated for each benefited residence (i.e., residences that receive at least 5 dB of noise reduction from a noise barrier). The 2009 base allowance is $31,000 (Caltrans 2010). Additional allowance dollars are added to the base allowance based on absolute noise levels, the increase in noise levels resulting from the project, achievable noise reduction, and the date of building construction in the area. Total allowances are calculated by multiplying the cost-per-residence by the number of benefited residences. If the total allowance for all evaluated noise barriers is more than 50% of the estimated construction cost, the allowance per residence is modified to a reduced value.

Chapter 6. Existing Noise Environment

6.1. Existing Land Uses

Existing land use within the project area was determined through field reconnaissance and the interpretation of aerial photography (Figure 2). Land uses adjacent to the project area include single-family residential, office/commercial, and vacant properties. The area south of the interchange consists of commercial office buildings and vacant properties. The area adjacent to the interchange on the north includes two gas stations: one in the northeast quadrant and one in the northwest quadrant. North of the gas stations are one vacant parcel to the west and one single-family residential parcel to the east, the majority of which is unused. The primary area of outdoor use that may be affected by the proposed project is the side yard of the single-family residence at 5306 Chesebro Road.

Beyond the limits of the project, the Old Agoura Park is adjacent to the intersection of Chesebro Road and Palo Comado Canyon Road / Driver Avenue on the northwest; a daycare facility is adjacent to this intersection on the southwest. Commercial office buildings are adjacent to the intersection of Chesebro Road and Agoura Road on the southwest; single-family residences are adjacent to this intersection on the southeast.

As required by the Protocol, although all developed land uses are evaluated in this analysis, noise abatement is only considered for areas of frequent human use that would benefit from a lowered noise level. Accordingly, this impact analysis focuses on locations with defined outdoor activity areas.

Areas of frequent outdoor human use adjacent to the project include the backyard and side yard of the single-family residence at 5306 Chesebro Road. The side yard is currently surrounded by a 6-foot-high wood slat fence.

6.2. Noise Measurement Results

The existing noise environment in the project area is characterized below based on short- and long-term noise monitoring.

6.2.1. Short-Term Monitoring

Tables 3 and 4 summarize the results of the short-term noise monitoring conducted in the project area.

Table 3. Summary of Short-Term Sound Level Measurements

Position	Address	Land Use	Date / Time	Noise Level
ST1	5306 Chesebro Road	Single-Family Residential	04/12/2011 0800 - 0820	70 dBA

Table 4. Traffic Counts during Short-Term Sound Level Measurements

Position	Roadway	Count Duration	Autos	Medium Trucks	Heavy Trucks	Buses	Motor-cycles
ST1	Palo Comado Canyon Road NB	20 minutes	222	7	0	0	0
	Palo Comado Canyon Road SB	20 minutes	197	16	0	0	0

6.2.2. Long-Term Monitoring

The Leq(h) at LT1 ranged from 53.4 dBA to 70.8 dBA, with an average of 64 dBA. The highest hourly Leq occurred between 6:00 p.m. 7:00 p.m.; however, this hour included one anomalous noise event, which lasted for less than one minute, that generated an Lmax over 100 dB. This event, likely an ambulance or unmuffled vehicle, artificially raised the Leq to a level higher than standard traffic patterns would cause. As such, for the purposes of this NSR, the peak-noise-hour period was considered to occur between 12:00 p.m. and 1:00 p.m. Table 5 summarizes the results of the long-term monitoring.

Table 5. Long-Term Noise Measurements (dBA)

Time	Leq	Lmax	Lmin	L10	L50	L90
1500 - 1600	67.6	80.8	57.6	69.8	66.3	62.7
1600 - 1700	68.0	86.8	59.1	69.9	66.5	63.2
1700 - 1800	67.2	85.8	57.1	69.5	65.8	61.5
1800 - 1900	70.8	100.4	54.6	68.4	64.1	58.8
1900 - 2000	65.1	86.6	52.1	67.4	62.0	57.0
2000 - 2100	64.0	84.3	53.2	66.8	61.2	57.7
2100 - 2200	62.7	85.9	48.2	65.1	57.5	51.8
2200 - 2300	58.8	73.7	48.5	62.2	55.6	51.4
2300 - 2400	55.1	76.4	44.8	56.9	51.6	48.0
0000 - 0100	54.4	74.4	38.9	56.4	49.7	45.6
0100 - 0200	53.4	72.2	43.2	54.6	50.2	46.8
0200 - 0300	55.0	79.6	43.0	55.6	51.4	47.8
0300 - 0400	59.2	79.7	48.6	60.7	57.0	53.5
0400 - 0500	63.8	79.8	54.1	66.4	61.5	57.2
0500 - 0600	68.1	84.8	60.3	70.4	66.5	63.4
0600 - 0700	68.4	83.2	57.4	70.6	67.2	63.5
0700 - 0800	68.3	83.4	55.9	70.5	66.7	63.2
0800 - 0900	68.2	92.4	50.4	69.7	65.1	59.1
0900 - 1000	66.1	79.5	52.9	69.1	64.3	58.2
1000 - 1100	66.8	85.9	51.7	69.3	64.2	57.9
1100 - 1200	67.5	85.5	52.9	69.8	65.5	60.2
1200 - 1300	69.5	91.3	52.6	70.9	65.6	59.9
1300 - 1400	67.5	85.5	53.4	69.7	65.5	60.1
1400 - 1500	68.7	89.2	56.9	70.7	67.0	63.3

Measurement LT1 conducted near the single-family residence at 5306 Chesebro Road.

6.2.3. Adjustments

Calibration Adjustment

TNM 2.5 was used to compare measured traffic noise levels to modeled noise levels at the field measurement locations. At ST1, the predicted sound level of 68.4 dBA Leq(h) was approximately 1.5 dBA below the measured level of 69.9 dBA Leq(h). The predicted sound level is approximately within 2 dBA of the measured sound level and is, therefore, considered to be in reasonable agreement with the measured sound level. Therefore, no calibration adjustment was made to the model.

Distance Adjustment

As discussed in Section 5.2.1, ST1 was closer to the roadway than the desired measurement location; as such, the measured noise level was higher than would have been measured within the yard. Because the measurement location was closer to Palo Comado Canyon Road than desired, and closer than the proper evaluation point within the side yard, a distance adjustment was necessary. In the interest of determining an adjusted existing noise level to correct for distance to Palo Comado Canyon Road, a receptor point at the location of R1 (the evaluation point for future noise levels, as described in Section 7.2) was added to the calibration model.

In the calibration model, ST1 was projected to be approximately 70 dBA Leq(h). Using the same model, with the same traffic volumes and speeds, the noise level at R1 was projected to be approximately 67 dBA Leq(h). This difference of 3 dBA Leq(h) between ST1 and R1 is solely a result of the difference in distance to Palo Comado Canyon Road. Therefore, a -3 dBA Leq(h) distance adjustment was applied to the noise level at R1.

Peak-Noise-Hour Adjustment

As discussed in Section 6.2.2, the peak-noise-hour period occurred between 12:00 p.m. and 1:00 p.m. The noise level at LT1 during the peak-noise-hour period was approximately 70 dBA Leq(h). The short-term measurement at ST1 was conducted between 8:00 a.m. and 8:20 a.m.; the noise level at LT1 between 8:00 a.m. and 9:00 a.m. was approximately 68 dBA Leq(h), or 2 dBA Leq(h) lower than the peak-noise-hour period. Therefore, a +2 dBA Leq(h) peak-noise-hour adjustment was applied to the noise level at R1.

Total Adjustments

The existing noise level at R1 is 69 dBA Leq(h). This was calculated by applying a distance adjustment of -3 dBA Leq(h) and a peak-noise-hour adjustment of +2 dBA Leq(h) to the measured level of 70 dBA Leq(h) at ST1. Table B1 in Appendix B presents existing noise levels.

Chapter 7. Future Noise Environment, Impacts, and Considered Abatement

7.1. Future Noise Environment and Impacts

Table B1 in Appendix B summarizes the traffic noise modeling results for existing conditions and design-year conditions with and without the project. Predicted design-year traffic noise levels with the project are compared to existing conditions and to design-year no-project conditions. The comparison to existing conditions is included in the analysis to identify traffic noise impacts under 23 CFR 772. The comparison to no-project conditions indicates the direct effect of the project.

As stated in the TeNS, modeling results are rounded to the nearest decibel before comparisons are made. In some cases, this can result in relative changes that may not appear intuitive. An example would be a comparison between sound levels of 64.4 and 64.5 dBA. The difference between these two values is 0.1 dB. However, after rounding, the difference is reported as 1 dB.

Modeling results in Table B1 indicate that predicted traffic noise levels for the design-year with-project conditions approach or exceed the NAC of 67 dBA Leq(h) for Activity Category B land uses at residences in the project area. The input and output data for the TNM roadway noise calculations are shown in Appendix F.

Therefore, traffic noise impacts are predicted to occur at Activity Category B land uses within the project area, and noise abatement must be considered.

7.2. Preliminary Noise Abatement Analysis

In accordance with 23 CFR 772, noise abatement is considered where noise impacts are predicted in areas of frequent human use that would benefit from a lowered noise level. Potential noise abatement measures identified in the Protocol include the following:

- Avoiding the impact by using design alternatives, such as altering the horizontal and vertical alignment of the project;
- Constructing noise barriers;
- Acquiring property to serve as a buffer zone;
- Using traffic management measures to regulate types of vehicles and speeds; and
- Acoustically insulating public-use or nonprofit institutional structures.

All of these abatement options have been considered. However, because of the configuration and location of the project, abatement in the form of noise barriers is the only abatement that is considered to be feasible.

The noise barrier has been evaluated for feasibility based on the achievable noise reduction. For the noise barrier found to be acoustically feasible, reasonable cost allowances were calculated. Worksheets provided in Appendix C summarize the reasonable cost allowance calculations at the critical design receiver based on the allowance calculation procedure identified in the Protocol. Refer to the Protocol for the definition of the critical design receiver.

For any noise barrier to be considered reasonable from a cost perspective, the estimated cost of the noise barrier should be equal to or less than the total cost allowance calculated for the barrier. The cost calculations of the noise barrier should include all items appropriate and necessary for construction of the barrier, such as traffic control, drainage modification, and retaining walls. Construction cost estimates are not provided in this NSR, but will be presented in the Noise Abatement Decision Report (NADR). The NADR is a design responsibility and is prepared to compile information from the NSR, other relevant environmental studies, and design considerations into a single, comprehensive document before public review of the project. The NADR is prepared by the project engineer after completion of the NSR and prior to publication of the draft environmental document. The NADR includes noise abatement construction cost estimates that have been prepared and signed by the project engineer based on site-specific conditions. Construction cost estimates are compared to reasonableness allowances in the NADR to identify which wall configurations are reasonable from a cost perspective.

The noise barrier design presented in this report is preliminary and has been conducted at a level appropriate for environmental review and not for final design of the project. Preliminary information on the physical location, length, and height of the noise barrier is provided in this report. If pertinent parameters change substantially during the final project design, the preliminary noise barrier design may be modified or eliminated from the final project. A final decision on the construction of the noise abatement will be made upon completion of the project design.

The following is a discussion of noise abatement considered where traffic noise impacts are predicted.

The traffic noise modeling results in Table B1 indicate that the traffic noise level at the residence in the project area is predicted to be approximately 69 dBA Leq(h) in the design year. The results also indicate that the increase in noise between existing conditions and the design year is predicted to be 0 dB. Because the predicted noise level in the design year exceeds the noise abatement criterion (67 dBA Leq(h)), a traffic noise

impact is predicted at the residence in the project area, and noise abatement must be considered.

Receiver R1 represents 1 residence. Detailed modeling analysis was conducted for a barrier along the right-of-way. The barrier evaluated is identified as SW-1 on Figure 4. Barrier heights in the range of 6 to 16 feet were evaluated in 2-foot increments. Table D1 in Appendix D summarizes the results of the barrier analysis. The reasonable allowance calculation sheets for this barrier are provided in Appendix C. Table 6 summarizes the calculated noise reductions and reasonable allowances for each barrier height.

Table 6. Preliminary Data for Reasonableness Calculation

Barrier I.D.: SW-1						
Predicted Sound Level without Barrier						
Critical Design Receiver: R1						
Design Year Noise Level, dBA Leq(h): 69						
Design Year Noise Level Minus Existing Noise Level: 0						
Design Year with Barrier	6-Foot Barrier	8-Foot Barrier	10-Foot Barrier	12-Foot Barrier	14-Foot Barrier	16-Foot Barrier
Barrier Noise Reduction (dB)	6	7	9	9	10	11
Number of Benefited Residences	1	1	1	1	1	
New Highway or More than 50% of Residences Predate 1978[b]	Yes	Yes	Yes	Yes	Yes	Yes
Reasonable Allowance per Benefitted Residence	$45,000	$45,000	$47,000	$47,000	$47,000	$47,000
Total Reasonable Allowance	$45,000	$45,000	$47,000	$47,000	$47,000	$47,000

Notes:

a. A NADR will be prepared that will identify noise barrier construction cost information and the noise barriers that are reasonable from a cost perspective.

b. This adjustment increases the abatement allowance by $10,000 if the project is new highway construction or if most of the benefited residences (more than 50%) existed before January 1, 1978.

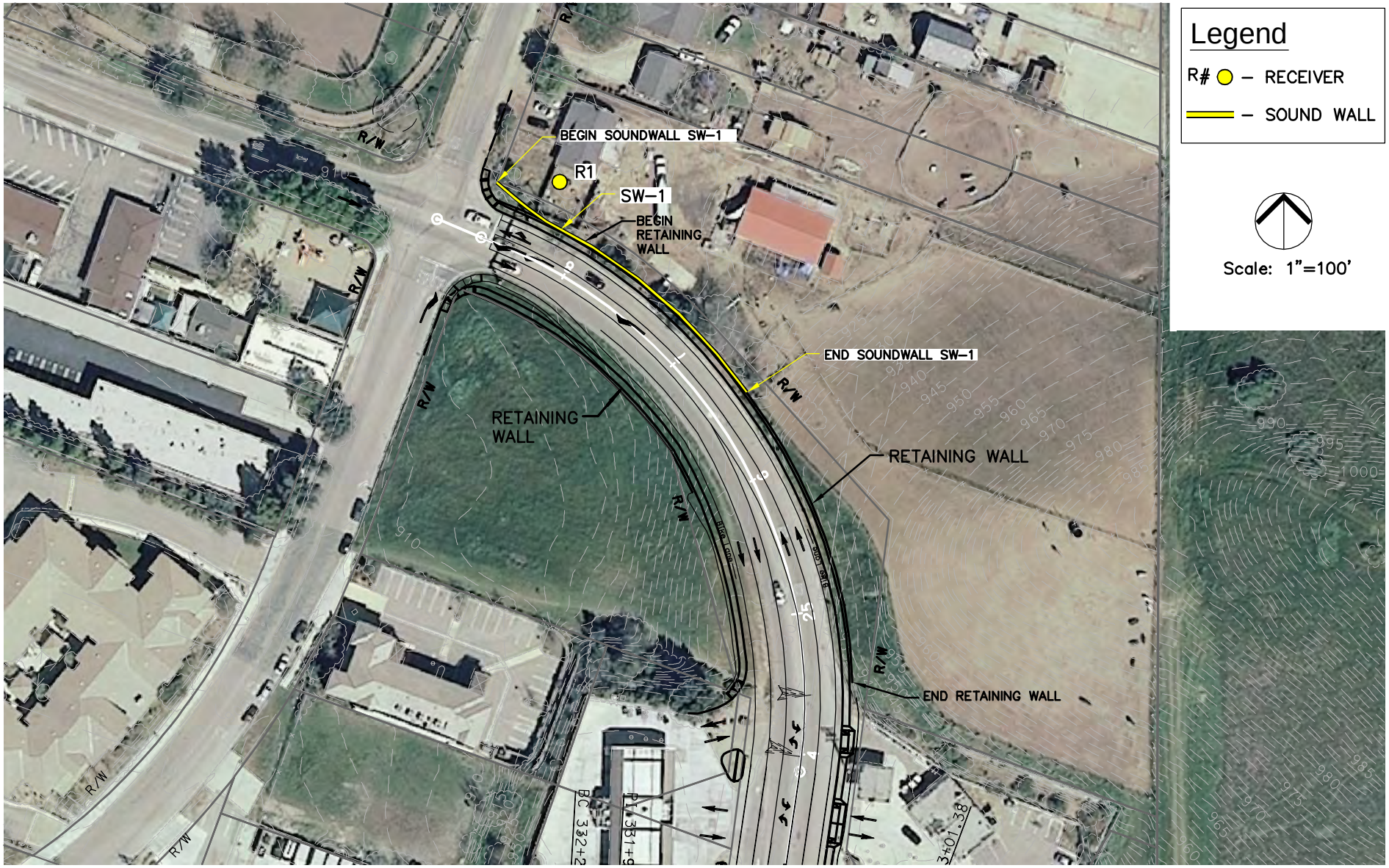

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Figure 4
NOISE BARRIER LOCATION

Chapter 8. Construction Noise

During construction of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Construction noise is regulated by Caltrans Standard Specifications Section 14-8.02: Noise Control, which states:

- Do not exceed 86 dBA Leq(h) at 50 feet from the job site activities from 9 p.m. to 6 a.m. Use an alternative warning method instead of a sound signal unless required by safety laws.

- Equip an internal combustion engine with the manufacturer-recommended muffler. Do not operate an internal combustion engine on the job site without the appropriate muffler.

The project would also comply with Caltrans Special Provisions S5-310: Noise Control.

Table 7 summarizes noise levels produced by construction equipment that is commonly used on roadway construction projects. Construction equipment is expected to generate noise levels ranging from 70 to 90 dB at a distance of 50 feet, and noise produced by construction equipment would be reduced over distance at a rate of about 6 dB per doubling of distance.

Table 7. Construction Equipment Noise

Equipment	Maximum Noise Level (dBA at 50 feet)
Scrapers	89
Bulldozers	85
Heavy Trucks	88
Backhoe	80
Pneumatic Tools	85
Concrete Pump	82

Source: FTA 1995

No adverse noise impacts from construction are anticipated because construction would be conducted in accordance with Caltrans Standard Specifications Section 14-8.02. Construction noise would be short-term, intermittent, and overshadowed by local traffic noise. Further, implementing the following measures would minimize the temporary noise impacts from construction:

All equipment will have sound-control devices that are no less effective than those provided on the original equipment. No equipment will have an unmuffled exhaust.

As directed by Caltrans, the contractor will implement appropriate additional noise abatement measures, including changing the location of stationary construction equipment, turning off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, and installing acoustic barriers around stationary construction noise sources.

Chapter 9. References

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Appendix A Traffic Data

Table A1. Traffic Data for Design Year No-Project Conditions

Segment	Number of Lanes	Total Peak Hour Volume	Vehicle Type Percentages and Peak Hour Volumes per Lane										
			Autos		Medium Trucks		Heavy Trucks		Buses		Motor-cycles		Speed
Mainline													
US 101 Eastbound Outer Lanes	2	3,600	89%	1,602	6%	108	5%	90	0%	-	0%	-	65 mph
US 101 Eastbound Inner Lanes	2	3,600	98%	1,764	1%	18	0%	-	0%	-	1%	18	65 mph
US 101 Westbound Outer Lanes	2	3,600	89%	1,602	6%	108	5%	90	0%	-	0%	-	65 mph
US 101 Westbound Inner Lanes	2	3,600	98%	1,764	1%	18	0%	-	0%	-	1%	18	65 mph
Ramps													
Westbound Offramp to Palo Comado Canyon Road	2	939	95%	446	4%	19	0%	-	0%	-	1%	5	65 mph
Westbound Onramp [1] from Palo Comado Canyon Road	1	363	95%	345	4%	15	0%	-	0%	-	1%	3	65 mph
Surface Streets													
Palo Comado Canyon Road Northbound	1	920	95%	874	4%	37	0%	-	0%	-	1%	9	35 mph
Palo Comado Canyon Road Southbound	1	630	95%	599	4%	25	0%	-	0%	-	1%	6	35 mph

[1] All onramp vehicles were assumed to accelerate to 65 mph from a starting speed of 10 mph at the ramp entrance.

Table A2. Traffic Data for Design Year Project Conditions

Segment	Number of Lanes	Total Peak Hour Volume	Vehicle Type Percentages and Peak Hour Volumes per Lane										
			Autos		MT		HT		Buses		MC		Speed
Mainline													
US 101 Eastbound Outer Lanes	2	3,600	89%	1,602	6%	108	5%	90	0%	-	0%	-	65 mph
US 101 Eastbound Inner Lanes	2	3,600	98%	1,764	1%	18	0%	-	0%	-	1%	18	65 mph
US 101 Westbound Outer Lanes	2	3,600	89%	1,602	6%	108	5%	90	0%	-	0%	-	65 mph
US 101 Westbound Inner Lanes	2	3,600	98%	1,764	1%	18	0%	-	0%	-	1%	18	65 mph
Ramps													
Westbound Offramp to Palo Comado Canyon Road	3	939	95%	297	4%	13	0%	-	0%	-	1%	3	65 mph
Westbound Onramp [1] from Palo Comado Canyon Road	2	363	95%	173	4%	7	0%	-	0%	-	1%	2	65 mph
Surface Streets													
Palo Comado Canyon Road Northbound	2	920	95%	437	4%	18	0%	-	0%	-	1%	5	35 mph
Palo Comado Canyon Road Southbound	2	630	95%	299	4%	13	0%	-	0%	-	1%	3	35 mph

[1] All onramp vehicles were assumed to accelerate to listed speed from a starting speed of 10 mph at the ramp entrance.

Appendix B Predicted Future Noise Levels and Noise Barrier Analysis

Table B1. Predicted Future Noise and Barrier Analysis (dBA Leq(h))

Receiver I.D.	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level	Future Worst Hour Noise Levels																							
						Design Year Noise Level without Project	Design Year Noise Level with Project	Design Year Noise Level without Project minus Existing Conditions	Design Year Noise Level with Project minus No Project Conditions	Activity Category (NAC)	Impact Type	Noise Prediction with Barrier, Barrier Insertion Loss (IL), and Number of Benefited Receivers (NBR)																	
												6 feet			8 feet			10 feet			12 feet [a]			14 feet			16 feet		
												Leq(h)	IL	NBR	Leq(h)	IL	NBR	Leq(h)	IL	NBR	Leq(h)	IL	NBR	Leq(h)	IL	NBR	Leq(h)	IL	NBR
R1	SW-1	RES	1	5306 Chesebro Road	69	69	69	0	0	B (67)	A / E	63	6	1	62	7	1	60	9	1	60	9	1	59	10	1	58	11	1

Notes:

A / E = Future noise conditions approach or exceed the Noise Abatement Criteria.

a Minimum height needed to break the line of sight between 11.5 foot truck stack and first row receivers.

- = Not evaluated. Lower height barrier would provide 5 dB of noise reduction and reduce noise level to below the NAC approach level.

Appendix C Noise Barrier Reasonableness Analysis Worksheets

Worksheet C1

Reasonable Allowance Calculation for Noise Abatement based on Critical Design Receiver

Base Allowance			
Base Year 2008			**$31,000**
1. Absolute Noise Levels		check one	
69 dBA or less	Add $2,000	x	$2,000
70-74 dBA	Add $4,000		
75-78 dBA	Add $6,000		
More than 78 dBA	Add $8,000		
2. Design Year Increase over Existing Noise Levels		check one	
Less than 3 dBA	Add $0	x	$0
3-7 dBA	Add $2,000		
8-11 dBA	Add $4,000		
12 dBA or more	Add $6,000		
3. Achievable Noise Reduction		check one	
5 dBA	Add $0		
6-8 dBA	Add $2,000	x	$2,000
9-11 dBA	Add $4,000		
12 dBA or more	Add $6,000		
4. New Hwy Construction or Pre 1978 residences?		check one	
YES on either one	Add $10,000	x	$10,000
NO on both	Add $0		
Reasonable Allowance for Benefited Residence		$45,000	
Unmodified Barrier Allowance		$45,000	
Adjusted Reasonable Allowance for Benefited Residence			
Adjusted Unmodified Barrier Allowance			

Adjusted reasonable allowance for Residence and Barrier must be rounded up to nearest $1,000.

County: Los Angeles
Route: 07-LA-US 101
Post Mile: 33.0 / 34.4
Project Exp Auth:
Program Code:

Barrier Name or ID	SW-1
Barrier Height	6 feet
Critical Design Receiver	R1
Number of benefited Residences	1
New Hwy Construction	NO
Pre 1978 residences	YES
Existing Noise Level	69 dBA
Future Noise Level	69 dBA
Change in Noise Level	+0 dBA
Noise Level with Abatement	63 dBA
Barrier Insertion Loss	6 dBA

Continue to Worksheet B

Worksheet C2

Reasonable Allowance Calculation for Noise Abatement based on Critical Design Receiver

Base Allowance			
Base Year 2008			**$31,000**
1. Absolute Noise Levels		check one	
69 dBA or less	Add $2,000	x	$2,000
70-74 dBA	Add $4,000		
75-78 dBA	Add $6,000		
More than 78 dBA	Add $8,000		
2. Design Year Increase over Existing Noise Levels		check one	
Less than 3 dBA	Add $0	x	$0
3-7 dBA	Add $2,000		
8-11 dBA	Add $4,000		
12 dBA or more	Add $6,000		
3. Achievable Noise Reduction		check one	
5 dBA	Add $0		
6-8 dBA	Add $2,000	x	$2,000
9-11 dBA	Add $4,000		
12 dBA or more	Add $6,000		
4. New Hwy Construction or Pre 1978 residences?		check one	
YES on either one	Add $10,000	x	$10,000
NO on both	Add $0		
Reasonable Allowance for Benefited Residence		$45,000	
Unmodified Barrier Allowance		$45,000	
Adjusted Reasonable Allowance for Benefited Residence			
Adjusted Unmodified Barrier Allowance			

Adjusted reasonable allowance for Residence and Barrier must be rounded up to nearest $1,000.

County: Los Angeles
Route: 07-LA-US 101
Post Mile: 33.0 / 34.4
Project Exp Auth:
Program Code:

Barrier Name or ID	SW-1
Barrier Height	8 feet
Critical Design Receiver	R1
Number of benefited Residences	1
New Hwy Construction	NO
Pre 1978 residences	YES
Existing Noise Level	69 dBA
Future Noise Level	69 dBA
Change in Noise Level	+0 dBA
Noise Level with Abatement	62 dBA
Barrier Insertion Loss	7 dBA

Continue to Worksheet B

Worksheet C3

Reasonable Allowance Calculation for Noise Abatement based on Critical Design Receiver

Base Allowance			
Base Year 2008			**$31,000**
1. Absolute Noise Levels		check one	
69 dBA or less	Add $2,000	x	$2,000
70-74 dBA	Add $4,000		
75-78 dBA	Add $6,000		
More than 78 dBA	Add $8,000		
2. Design Year Increase over Existing Noise Levels		check one	
Less than 3 dBA	Add $0	x	$0
3-7 dBA	Add $2,000		
8-11 dBA	Add $4,000		
12 dBA or more	Add $6,000		
3. Achievable Noise Reduction		check one	
5 dBA	Add $0		
6-8 dBA	Add $2,000		
9-11 dBA	Add $4,000	x	$4,000
12 dBA or more	Add $6,000		
4. New Hwy Construction or Pre 1978 residences?		check one	
YES on either one	Add $10,000	x	$10,000
NO on both	Add $0		
Reasonable Allowance for Benefited Residence		$47,000	
Unmodified Barrier Allowance		$47,000	
Adjusted Reasonable Allowance for Benefited Residence			
Adjusted Unmodified Barrier Allowance			

Adjusted reasonable allowance for Residence and Barrier must be rounded up to nearest $1,000.

County: Los Angeles
Route: 07-LA-US 101
Post Mile: 33.0 / 34.4
Project Exp Auth:
Program Code:

Barrier Name or ID	SW-1
Barrier Height	10 feet
Critical Design Receiver	R1
Number of benefited Residences	1
New Hwy Construction	NO
Pre 1978 residences	YES
Existing Noise Level	69 dBA
Future Noise Level	69 dBA
Change in Noise Level	+0 dBA
Noise Level with Abatement	60 dBA
Barrier Insertion Loss	9 dBA

Continue to Worksheet B

Worksheet C4

Reasonable Allowance Calculation for Noise Abatement based on Critical Design Receiver

Base Allowance			
Base Year 2008			**$31,000**
1. Absolute Noise Levels		check one	
69 dBA or less	Add $2,000	x	$2,000
70-74 dBA	Add $4,000		
75-78 dBA	Add $6,000		
More than 78 dBA	Add $8,000		
2. Design Year Increase over Existing Noise Levels		check one	
Less than 3 dBA	Add $0	x	$0
3-7 dBA	Add $2,000		
8-11 dBA	Add $4,000		
12 dBA or more	Add $6,000		
3. Achievable Noise Reduction		check one	
5 dBA	Add $0		
6-8 dBA	Add $2,000		
9-11 dBA	Add $4,000	x	$4,000
12 dBA or more	Add $6,000		
4. New Hwy Construction or Pre 1978 residences?		check one	
YES on either one	Add $10,000	x	$10,000
NO on both	Add $0		
Reasonable Allowance for Benefited Residence		$47,000	
Unmodified Barrier Allowance		$47,000	
Adjusted Reasonable Allowance for Benefited Residence			
Adjusted Unmodified Barrier Allowance			

Adjusted reasonable allowance for Residence and Barrier must be rounded up to nearest $1,000.

County: Los Angeles
Route: 07-LA-US 101
Post Mile: 33.0 / 34.4
Project Exp Auth:
Program Code:

Barrier Name or ID	SW-1
Barrier Height	12 feet
Critical Design Receiver	R1
Number of benefited Residences	1
New Hwy Construction	NO
Pre 1978 residences	YES
Existing Noise Level	69 dBA
Future Noise Level	69 dBA
Change in Noise Level	+0 dBA
Noise Level with Abatement	60 dBA
Barrier Insertion Loss	9 dBA

Continue to Worksheet B

Worksheet C5

Reasonable Allowance Calculation for Noise Abatement based on Critical Design Receiver

Base Allowance			
Base Year 2008			**$31,000**
1. Absolute Noise Levels		check one	
69 dBA or less	Add $2,000	x	$2,000
70-74 dBA	Add $4,000		
75-78 dBA	Add $6,000		
More than 78 dBA	Add $8,000		
2. Design Year Increase over Existing Noise Levels		check one	
Less than 3 dBA	Add $0	x	$0
3-7 dBA	Add $2,000		
8-11 dBA	Add $4,000		
12 dBA or more	Add $6,000		
3. Achievable Noise Reduction		check one	
5 dBA	Add $0		
6-8 dBA	Add $2,000		
9-11 dBA	Add $4,000	x	$4,000
12 dBA or more	Add $6,000		
4. New Hwy Construction or Pre 1978 residences?		check one	
YES on either one	Add $10,000	x	$10,000
NO on both	Add $0		
Reasonable Allowance for Benefited Residence		$47,000	
Unmodified Barrier Allowance		$47,000	
Adjusted Reasonable Allowance for Benefited Residence			
Adjusted Unmodified Barrier Allowance			

Adjusted reasonable allowance for Residence and Barrier must be rounded up to nearest $1,000.

County: Los Angeles
Route: 07-LA-US 101
Post Mile: 33.0 / 34.4
Project Exp Auth:
Program Code:

Barrier Name or ID	SW-1
Barrier Height	14 feet
Critical Design Receiver	R1
Number of benefited Residences	1
New Hwy Construction	NO
Pre 1978 residences	YES
Existing Noise Level	69 dBA
Future Noise Level	69 dBA
Change in Noise Level	+0 dBA
Noise Level with Abatement	59 dBA
Barrier Insertion Loss	10 dBA

Continue to Worksheet B

Worksheet C6

Reasonable Allowance Calculation for Noise Abatement based on Critical Design Receiver

Base Allowance			
Base Year 2008			**$31,000**
1. Absolute Noise Levels		check one	
69 dBA or less	Add $2,000	x	$2,000
70-74 dBA	Add $4,000		
75-78 dBA	Add $6,000		
More than 78 dBA	Add $8,000		
2. Design Year Increase over Existing Noise Levels		check one	
Less than 3 dBA	Add $0	x	$0
3-7 dBA	Add $2,000		
8-11 dBA	Add $4,000		
12 dBA or more	Add $6,000		
3. Achievable Noise Reduction		check one	
5 dBA	Add $0		
6-8 dBA	Add $2,000		
9-11 dBA	Add $4,000	x	$4,000
12 dBA or more	Add $6,000		
4. New Hwy Construction or Pre 1978 residences?		check one	
YES on either one	Add $10,000	x	$10,000
NO on both	Add $0		
Reasonable Allowance for Benefited Residence		$47,000	
Unmodified Barrier Allowance		$47,000	
Adjusted Reasonable Allowance for Benefited Residence			
Adjusted Unmodified Barrier Allowance			

Adjusted reasonable allowance for Residence and Barrier must be rounded up to nearest $1,000.

County: Los Angeles
Route: 07-LA-US 101
Post Mile: 33.0 / 34.4
Project Exp Auth:
Program Code:

Barrier Name or ID	SW-1
Barrier Height	16 feet
Critical Design Receiver	R1
Number of benefited Residences	1
New Hwy Construction	NO
Pre 1978 residences	YES
Existing Noise Level	69 dBA
Future Noise Level	69 dBA
Change in Noise Level	+0 dBA
Noise Level with Abatement	58 dBA
Barrier Insertion Loss	11 dBA

Continue to Worksheet B

Appendix D Noise Barrier Analysis

Table D1. Analysis of Barrier SW-1 (dBA Leq(h))

	Position	Total Number of Benefited Receivers
	R1	
Number of Units Represented	1	
Existing Traffic Noise Level	69	
Design Year with Project Traffic Noise Level	69	
Design Year with Project minus Existing Traffic Noise Level	+0	
6-Foot Barrier		
Design Year with Project Traffic Noise Level	69	
Predicted Noise Reduction	6	
Number of Benefited Receivers	1	1
8-Foot Barrier		
Design Year with Project Traffic Noise Level	69	
Predicted Noise Reduction	7	
Number of Benefited Receivers	1	1
10-Foot Barrier		
Design Year with Project Traffic Noise Level	69	
Predicted Noise Reduction	9	
Number of Benefited Receivers	1	1
12-Foot Barrier [b]		
Design Year with Project Traffic Noise Level	69	
Predicted Noise Reduction	9	
Number of Benefited Receivers	1	1
14-Foot Barrier		
Design Year with Project Traffic Noise Level	69	
Predicted Noise Reduction	10	
Number of Benefited Receivers	1	1
16-Foot Barrier		
Design Year with Project Traffic Noise Level	69	
Predicted Noise Reduction	11	
Number of Benefited Receivers	1	1

[a] Traffic noise levels that approach or exceed 67 dBA Leq(h) are shown in bold.
[b] 12-foot-high barrier breaks the line of sight to an 11.5-foot-high truck stack.

Appendix E Supplemental Data

FIELD NOISE MEASUREMENT DATA

Project Name: PALO COMADO CANYON ROAD / US 101 INTERCHANGE Page 1 of

Project #: 099083012 Day / Date: TUES 4/12/2011 My Name: FIEDLER

Sound Level Meter	Calibrator	Weather Meter
Model # RION NL-31	Model # LD 200	Model # NK3000 Serial # 1695985
Serial # 00593619	Serial # 4818	
Weighting: A / C / Flat	Pre-Test: 114.0 dBA SPL	Terrain: Hard / Soft / Mixed
Response: Slow / Fast / Impl	Post-Test: 114.0 dBA SPL	Topo: Flat / Hilly (describe)
Windscreen: Yes / No		Wind: Steady / Gusty

ID	Time Start	Time Stop	Leq	Lmin	Lmax	L10	L50	L90	Wind Spd/ Dir (mph)	Temp (°F)	RH (%)	Bar Psr (in Hg)	Cloud Cover (%)
ST1	0800	0820	69.9	63.5	79.6	71.9	68.6	66.4	0-2 W	60	82	—	0

Roadway Name PALO COMADO CANYON ROAD

Speed (post/obs) 30/30

Number of Lanes 1+1 (+1 LT @ INTERSECTION w/CHESERO)

Width (pave/row)

1- or 2- way 2

Grade +2% S

Bus Stops —

Stoplights — (S/S @ CHESERO)

Street Parking —

	→	←
Automobiles	222	197
Medium Trucks	7	16
Heavy Trucks	—	—
Buses	—	—
Motorcycles	—	—

→→→→→ ←←←←←

NB SB

Location(s) / GPS Reading(s):

ST1: 5306 CHESERO ROAD

4' FROM FENCE, CENTER.

CONSTANT FREEWAY BACKGROUND.

KIDS @ HOME & CHILD CARE CENTER.

Other Noise Sources: distant: aircraft / roadway traffic / trains / landscaping / rustling leaves / children playing / dogs barking / birds vocalizing

Notes and Sketches on Reverse

RION CO., LTD.

3-20-41 Higashimotomachi Kokubunji Tokyo 185-8533
Phone:042(359)7888, Facsimile:042(359)7442

Certificate of Calibration

Name	:	**Precision sound level meter**		
Model	:	**NL-31**	**S/No.**	: **00593619**
Microphone	:	**UC-53A**	**S/No.**	: **316147**
Preamplifier	:	**NH-21**	**S/No.**	: **30381**
Date of Calibration	:	**September, 18, 2009**		

We hereby certify that the above product was tested and calibrated according to the prescribed Rion procedures, and that it fulfills specification requirements.

The measuring equipment and reference devices used for testing and calibrating this unit are managed under the Rion traceability system and are traceable according to official Japanese standards and official standards of countries belonging to the International Committee of Weights and Measures.

RION CO., LTD.

J. Kano

Manager, Quality Control Department

Scantek, Inc.
CALIBRATION LABORATORY

ISO 17025: 2005, ANSI/NCSL Z540:1994 Part 1
ACCREDITED by NVLAP (an ILAC and APLAC signatory)

NVLAP®
NVLAP Lab Code: 200625-0

Calibration Certificate No.23318

Instrument:	**Acoustical Calibrator**	*Date Calibrated:* **2/3/2011**	*Cal Due:*		
Model:	**CAL200**	*Status:*	**Received**	**Sent**	
Manufacturer:	**Larson Davis**	*In tolerance:*	**X**	**X**	
Serial number:	**4818**	*Out of tolerance:*			
Class (IEC 60942):	**1**	*See comments:*			
Barometer type:		*Contains non-accredited tests:*	**__Yes _X_ No**		
Barometer s/n:					

Customer:	**Kimley-Horn and Associates, Inc.**	*Address:*	**401 B Street, Suite 600, San Diego, CA 92101**
Tel/Fax:	**619-234-9411 /**		

Tested in accordance with the following procedures and standards:
Calibration of Acoustical Calibrators, Scantek Inc., 06/06/2005

Instrumentation used for calibration: Nor-1504 Norsonic Test System:

Instrument - Manufacturer	Description	S/N	Cal. Date	Traceability evidence Cal. Lab / Accreditation	Cal. Due
483B-Norsonic	SME Cal Unit	31052	Sep 10, 2010	Scantek, Inc./NVLAP	Sep 10, 2011
DS-360-SRS	Function Generator	33584	Oct 5, 2009	ACR. Env / A2LA	Oct 5, 2011
34401A-Agilent	Digital Voltmeter	US36120731	Sep 3, 2010	ACR Env. / A2LA	Sep 3, 2011
HM30-Thommen	Meteo Station	1040170/39633	Jun 26, 2010	ACR Env. / A2LA	Dec 26, 2011
8903-HP	Audio Analyzer	2514A05691	Dec 1, 2010	ACR Env. / A2LA	Dec 1, 2013
PC Program 1018 Norsonic	Calibration software	v.5.0	Validated July 2009	-	-
1253-Norsonic	Calibrator	28326	Dec 6, 2010	Scantek, Inc./ NVLAP	Dec 6, 2011
1203-Norsonic	Preamplifier	92268	Dec 6, 2010	Scantek, Inc./ NVLAP	Dec 6, 2011
4180-Brüel&Kjær	Microphone	2246115	Dec 14, 2009	NPL (UK) / UKAS	Dec 14, 2011

Instrumentation and test results are traceable to SI (International System of Units) through standards maintained by NIST (USA) and NPL (UK)

Calibrated by	Alex Buzduga	**Checked by**	Mariana Buzduga
Signature	Buzduga	Signature	Mb
Date	2/3/2011	Date	2/3/2011

Calibration Certificates or Test Reports shall not be reproduced, except in full, without written approval of the laboratory.
This Calibration Certificate or Test Reports shall not be used to claim product certification, approval or endorsement by NVLAP, NIST, or any agency of the federal government.
Document stored as: Z:\Calibration Lab\Cal 2011\LDCAL200_4818_M2.doc

Results summary: Device was tested and complies with following clauses of mentioned specifications:

CLAUSES[1] FROM STANDARDS REFERENCED IN PROCEDURES:	MET[2]	NOT MET	COMMENTS
Manufacturer specifications	X		
Manufacturer specifications: Sound pressure level	X		
Manufacturer specifications: Frequency	X		
Manufacturer specifications: Total harmonic distortion	X		
Current standards			
ANSI S1.40:2006 B.3 / IEC 60942: 2003 B.2 - Preliminary inspection	X		
ANSI S1.40:2006 B.4.4 / IEC 60942: 2003 B.3.4 - Sound pressure level	X		
ANSI S1.40:2006 A.5.4 / IEC 60942: 2003 A.4.4 - Sound pressure level stability	-	-	
ANSI S1.40:2006 B.4.5 / IEC 60942: 2003 B.3.5 - Frequency	X		
ANSI S1.40:2006 B.4.6 / IEC 60942: 2003 B.3.6 - Total harmonic distortion	X		

[1] The results of this calibration apply only to the instrument type with serial number identified in this report.

[2] The tests marked with (*) are not covered by the current NVLAP accreditation.

Main measured parameters[3]:

Measured[4]/Acceptable Tone frequency (Hz):	Measured[4]/Acceptable Total Harmonic Distortion (%):	Measured [4]/Acceptable Level (dB):
1000.36 ± 1.0/1000.0 ± 10.0	0.4 ± 0.1/ < 3	94.03 ± 0.12/94.0 ± 0.4
1000.37 ± 1.0/1000.0 ± 10.0	0.4 ± 0.1/ < 3	114.06 ± 0.12/114.0 ± 0.4

[3] Parameters are certified at actual environmental conditions.

[4] The above expanded uncertainties for frequency and distortion are calculated with a coverage factor k=2; for level k=2.00

Environmental conditions:

Temperature (°C)	Barometric pressure (kPa)	Relative Humidity (%)
23.8 ± 1.1	101.38 ± 0.015	35.1 ± 2.1

Tests made with following attachments to instrument:

	Calibrator ½" Adaptor Type
	Other

Adjustments: Unit was not adjusted.

Comments: The instrument was tested and met all specifications found in the referenced procedures.

Note: The instrument was tested for the parameters listed in the table above, using the test methods described in the listed standards. All tests were performed around the reference conditions. The test results were compared with the manufacturer's or with the standard's specifications, whichever are larger. Compliance with any standard cannot be claimed based solely on the periodic tests.

Measured Data: in Acoustical Calibrator Test Report # 23318 of two pages.

Place of Calibration: Scantek, Inc.
6430 Dobbin Road, Suite C
Columbia, MD 21045 USA

Ph/Fax: 410-290-7726/ -9167
callab@scantekinc.com

Calibration Certificates or Test Reports shall not be reproduced, except in full, without written approval of the laboratory.
This Calibration Certificate or Test Reports shall not be used to claim product certification, approval or endorsement by NVLAP, NIST, or any agency of the federal government.

PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2010-130231

Instrument Model 720 (MPR005), Serial Number 0487, was calibrated on 03JUN2010. The instrument meets factory specifications per Procedure D0001.8208, ANSI S1.4 1983, IEC 651-Type 2 1979, and IEC 804-Type 2 1985.

Instrument found to be in calibration as received: YES
Date Calibrated: 03JUN2010
Calibration due:

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Larson Davis	2559	2847	12 Months	19NOV2010	2009-124204
Larson Davis	LDSigGn/2209	0277 / 0109	12 Months	24MAR2011	2010-127832
Larson Davis	900B	3382	12 Months	01APR2011	2010-128253

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Temperature: 24 ° Centigrade

Relative Humidity: 38 %

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

This calibration complies with the requirements of ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

"AS RECEIVED" data same as shipped data.

Signed: Ron Harris

Technician: Ron Harris

Provo Engineering and Manufacturing Center, 1681 West 820 North, Provo, Utah 84601
Toll Free: 888.258.3222 Telephone: 716.926.8243 Fax: 716.926.8215
ISO 9001-2000 Certified

Appendix F TNM Roadway Noise Calculations

Kimley-Horn and Associates, Inc. 13 April 2011
ASG TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: Palo Comado / US 101
RUN: Calibration

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
US 101 EB Off Ramp	12.0	point1	1	6,336,934.5	1,875,226.6	902.00				Average	
		point2	2	6,337,006.0	1,875,222.4	903.00				Average	
		point3	3	6,337,098.0	1,875,213.4	899.62				Average	
		point4	4	6,337,235.5	1,875,213.2	903.22				Average	
		point5	5	6,337,323.5	1,875,211.8	903.11				Average	
		point6	6	6,337,432.0	1,875,202.8	902.16				Average	
		point7	7	6,337,514.5	1,875,196.4	902.08				Average	
		point8	8	6,337,594.5	1,875,170.2	901.75				Average	
		point9	9	6,337,649.5	1,875,130.8	901.86				Average	
		point10	10	6,337,691.5	1,875,083.1	901.77				Average	
		point11	11	6,337,714.0	1,875,044.6	901.55				Average	
		point12	12	6,337,724.0	1,875,009.0	901.31					
US 101 EB Off Ramp Ex	12.0	point13	13	6,337,392.0	1,875,213.8	903.23				Average	
		point14	14	6,337,467.0	1,875,214.0	902.79				Average	
		point15	15	6,337,522.0	1,875,209.8	902.82				Average	
		point16	16	6,337,580.0	1,875,193.6	902.96				Average	
		point17	17	6,337,645.5	1,875,153.1	902.80				Average	
		point18	18	6,337,680.5	1,875,120.0	902.60				Average	
		point19	19	6,337,718.0	1,875,071.5	902.87				Average	
		point20	20	6,337,742.5	1,875,013.1	902.09					
US 101 EB Off Ramp s/o Dorothy	12.0	point21	21	6,337,756.0	1,874,950.6	903.52				Average	
		point22	22	6,337,779.0	1,874,831.4	914.00				Average	
		point23	23	6,337,796.5	1,874,769.6	921.00				Average	
		point24	24	6,337,821.0	1,874,724.9	926.66				Average	
		point25	25	6,337,864.5	1,874,682.4	932.00				Average	

		point26	26	6,337,936.0	1,874,637.5	933.60					
US 101 EB On Ramp s/o Dorothy	12.0	point27	27	6,337,947.0	1,874,658.4	933.23				Average	
		point28	28	6,337,880.5	1,874,693.9	931.59				Average	
		point29	29	6,337,842.0	1,874,728.4	926.91				Average	
		point30	30	6,337,813.0	1,874,778.8	920.00				Average	
		point31	31	6,337,794.5	1,874,836.6	913.52				Average	
		point32	32	6,337,771.5	1,874,954.5	903.80					
US 101 EB On Ramp	12.0	point33	33	6,337,763.5	1,875,006.2	903.00	Onramp	0.00	100	Average	
		point34	34	6,337,751.5	1,875,084.8	903.57				Average	
		point35	35	6,337,766.0	1,875,146.6	904.28				Average	
		point36	36	6,337,805.0	1,875,187.5	905.00				Average	
		point37	37	6,337,872.5	1,875,219.5	906.68				Average	
		point38	38	6,338,018.0	1,875,233.0	907.76				Average	
		point39	39	6,338,099.5	1,875,236.4	908.36				Average	
		point40	40	6,338,178.0	1,875,236.1	908.69				Average	
		point41	41	6,338,309.5	1,875,223.5	910.00				Average	
		point42	42	6,338,400.5	1,875,211.1	910.19				Average	
		point43	43	6,338,519.0	1,875,187.4	910.82				Average	
		point44	44	6,338,640.5	1,875,154.9	910.49				Average	
		point45	45	6,338,766.0	1,875,111.2	910.01				Average	
		point46	46	6,338,871.5	1,875,066.8	909.19				Average	
		point47	47	6,338,949.0	1,875,028.2	908.17				Average	
		point48	48	6,339,105.0	1,874,938.2	904.63				Average	
		point49	49	6,339,219.0	1,874,854.8	900.83				Average	
		point50	50	6,339,298.0	1,874,797.0	898.58				Average	
		point51	51	6,339,585.5	1,874,556.1	889.52					
US 101 WB Off Ramp LT	12.0	point52	52	6,338,741.5	1,875,308.0	920.20				Average	
		point53	53	6,338,543.5	1,875,409.2	929.79				Average	
		point54	54	6,338,411.5	1,875,477.2	934.13					
US 101 WB Off Ramp	12.0	point55	55	6,339,606.5	1,874,728.9	894.00				Average	
		point56	56	6,339,522.5	1,874,798.6	897.78				Average	
		point57	57	6,339,452.5	1,874,857.0	901.19				Average	
		point58	58	6,339,355.0	1,874,936.2	905.53				Average	
		point59	59	6,339,290.0	1,874,987.6	908.32				Average	
		point60	60	6,339,241.0	1,875,020.5	910.00				Average	
		point61	61	6,339,168.5	1,875,069.2	912.11				Average	
		point62	62	6,339,075.0	1,875,126.2	914.29				Average	
		point63	63	6,339,000.5	1,875,169.4	915.61				Average	
		point64	64	6,338,917.5	1,875,215.0	917.03				Average	

		point65	65	6,338,818.0	1,875,270.9	918.77				Average	
		point66	66	6,338,746.0	1,875,313.6	921.00					
US 101 WB 4	12.0	point71	71	6,339,602.5	1,874,717.6	893.62				Average	
		point73	73	6,339,514.0	1,874,790.8	897.46				Average	
		point74	74	6,339,452.0	1,874,842.1	900.36				Average	
		point75	75	6,339,352.5	1,874,923.0	904.62				Average	
		point76	76	6,339,282.5	1,874,978.0	907.58				Average	
		point77	77	6,339,228.0	1,875,015.6	909.55				Average	
		point78	78	6,339,167.0	1,875,057.5	911.49				Average	
		point79	79	6,339,070.5	1,875,113.5	913.61				Average	
		point80	80	6,338,995.0	1,875,152.5	914.60				Average	
		point81	81	6,338,915.5	1,875,191.4	915.68				Average	
		point82	82	6,338,852.5	1,875,217.2	916.07				Average	
		point83	83	6,338,780.5	1,875,246.6	916.72				Average	
		point84	84	6,338,695.0	1,875,275.9	916.94				Average	
		point85	85	6,338,614.0	1,875,303.5	917.12				Average	
		point86	86	6,338,501.0	1,875,329.0	916.37				Average	
		point87	87	6,338,426.0	1,875,344.0	915.83				Average	
		point90	90	6,338,320.0	1,875,358.4	915.00				Average	
		point91	91	6,338,229.5	1,875,370.6	914.45				Average	
		point92	92	6,338,180.0	1,875,374.1	914.14				Average	
		point93	93	6,338,034.0	1,875,377.5	913.14				Average	
		point94	94	6,337,925.0	1,875,376.2	911.88				Average	
		point95	95	6,337,778.0	1,875,374.6	909.79				Average	
		point96	96	6,337,708.0	1,875,373.8	908.81				Average	
		point97	97	6,337,643.0	1,875,373.0	907.94				Average	
		point98	98	6,337,520.0	1,875,371.5	906.14				Average	
		point99	99	6,337,430.5	1,875,370.4	905.00				Average	
		point100	100	6,337,331.5	1,875,368.9	904.16				Average	
		point101	101	6,337,240.0	1,875,367.5	903.20				Average	
		point102	102	6,337,141.0	1,875,366.0	902.14				Average	
		point103	103	6,337,021.0	1,875,365.8	901.35				Average	
		point104	104	6,336,971.0	1,875,365.9	901.04					
US 101 EB 4	12.0	point105	105	6,336,939.0	1,875,244.9	902.00				Average	
		point106	106	6,337,049.5	1,875,245.0	903.00				Average	
		point107	107	6,337,133.5	1,875,245.5	902.12				Average	
		point108	108	6,337,261.5	1,875,247.2	903.90				Average	
		point109	109	6,337,345.5	1,875,248.4	904.17				Average	
		point110	110	6,337,489.0	1,875,250.1	905.18				Average	

		point111	111	6,337,598.0	1,875,251.5	906.11				Average	
		point112	112	6,337,710.5	1,875,252.9	907.08				Average	
		point113	113	6,337,892.5	1,875,255.1	908.25				Average	
		point114	114	6,337,982.0	1,875,256.2	908.73				Average	
		point115	115	6,338,072.5	1,875,257.4	909.32				Average	
		point116	116	6,338,123.0	1,875,254.9	909.54				Average	
		point117	117	6,338,202.0	1,875,248.8	909.68				Average	
		point118	118	6,338,240.5	1,875,245.8	910.00				Average	
		point119	119	6,338,313.0	1,875,235.8	910.49				Average	
		point120	120	6,338,383.5	1,875,225.6	910.84				Average	
		point121	121	6,338,439.0	1,875,217.8	911.25				Average	
		point122	122	6,338,522.0	1,875,199.1	911.56				Average	
		point123	123	6,338,620.5	1,875,175.0	911.48				Average	
		point124	124	6,338,676.0	1,875,156.4	911.28				Average	
		point125	125	6,338,765.0	1,875,125.8	910.92				Average	
		point126	126	6,338,820.0	1,875,102.5	910.42				Average	
		point127	127	6,338,891.0	1,875,072.2	909.76				Average	
		point128	128	6,338,951.5	1,875,040.9	909.00				Average	
		point129	129	6,339,033.0	1,874,995.0	907.23				Average	
		point130	130	6,339,077.0	1,874,969.2	906.21				Average	
		point131	131	6,339,123.0	1,874,941.1	905.03				Average	
		point132	132	6,339,178.5	1,874,900.2	903.04				Average	
		point133	133	6,339,237.5	1,874,857.0	901.21				Average	
		point134	134	6,339,278.0	1,874,827.4	900.00				Average	
		point135	135	6,339,328.5	1,874,787.8	898.53				Average	
		point136	136	6,339,374.0	1,874,750.1	897.00				Average	
		point137	137	6,339,428.5	1,874,704.5	895.34				Average	
		point138	138	6,339,494.5	1,874,649.6	893.27				Average	
		point139	139	6,339,561.0	1,874,594.2	891.00				Average	
		point140	140	6,339,588.0	1,874,571.5	890.10					
US 101 WB 3	12.0	point141	141	6,339,607.0	1,874,697.2	892.84				Average	
		point142	142	6,339,546.0	1,874,748.9	895.42				Average	
		point143	143	6,339,497.5	1,874,788.8	897.43				Average	
		point144	144	6,339,441.0	1,874,835.6	900.00				Average	
		point145	145	6,339,375.0	1,874,889.8	903.00				Average	
		point146	146	6,339,319.5	1,874,933.9	905.00				Average	
		point147	147	6,339,256.0	1,874,981.6	907.50				Average	
		point148	148	6,339,207.5	1,875,015.1	909.27				Average	
		point149	149	6,339,153.5	1,875,052.0	911.00				Average	

		point150	150	6,339,081.0	1,875,093.5	912.57				Average	
		point151	151	6,339,026.5	1,875,123.6	913.48				Average	
		point152	152	6,338,981.5	1,875,145.6	914.00				Average	
		point153	153	6,338,906.0	1,875,182.4	914.95				Average	
		point154	154	6,338,838.0	1,875,210.0	915.42				Average	
		point155	155	6,338,757.5	1,875,242.1	916.02				Average	
		point156	156	6,338,676.5	1,875,269.5	916.28				Average	
		point157	157	6,338,605.5	1,875,293.0	916.42				Average	
		point158	158	6,338,529.5	1,875,310.2	916.00				Average	
		point159	159	6,338,445.5	1,875,329.2	915.40				Average	
		point160	160	6,338,385.5	1,875,337.4	914.93				Average	
		point161	161	6,338,281.5	1,875,351.5	914.34				Average	
		point162	162	6,338,207.0	1,875,361.1	913.90				Average	
		point163	163	6,338,112.0	1,875,364.4	913.19				Average	
		point164	164	6,337,982.5	1,875,364.9	912.15				Average	
		point165	165	6,337,890.5	1,875,363.9	911.00				Average	
		point166	166	6,337,798.5	1,875,362.9	909.84				Average	
		point167	167	6,337,719.5	1,875,361.9	908.85				Average	
		point168	168	6,337,643.5	1,875,361.0	907.90				Average	
		point169	169	6,337,528.5	1,875,359.6	906.30				Average	
		point170	170	6,337,473.0	1,875,359.0	905.89				Average	
		point171	171	6,337,382.0	1,875,357.8	904.73				Average	
		point172	172	6,337,278.0	1,875,356.1	904.00				Average	
		point173	173	6,337,183.0	1,875,354.6	903.00				Average	
		point174	174	6,337,113.5	1,875,353.6	902.21				Average	
		point175	175	6,337,006.0	1,875,353.8	901.46				Average	
		point176	176	6,336,968.0	1,875,353.9	901.15					
US 101 EB 3	12.0	point177	177	6,336,949.5	1,875,256.9	902.35				Average	
		point178	178	6,337,060.5	1,875,257.0	903.00				Average	
		point179	179	6,337,150.0	1,875,257.8	903.00				Average	
		point180	180	6,337,250.5	1,875,259.1	904.00				Average	
		point181	181	6,337,349.5	1,875,260.4	904.38				Average	
		point182	182	6,337,482.5	1,875,262.0	905.45				Average	
		point183	183	6,337,629.5	1,875,263.9	906.76				Average	
		point185	185	6,337,716.0	1,875,265.0	907.41				Average	
		point186	186	6,337,887.5	1,875,267.1	908.68				Average	
		point187	187	6,337,977.5	1,875,268.2	909.23				Average	
		point188	188	6,338,050.5	1,875,269.1	909.76				Average	
		point189	189	6,338,116.0	1,875,267.8	910.20				Average	

		point190	190	6,338,170.5	1,875,264.0	910.29				Average	
		point191	191	6,338,248.0	1,875,258.6	910.98				Average	
		point192	192	6,338,306.0	1,875,250.1	911.33				Average	
		point193	193	6,338,383.0	1,875,239.0	911.66				Average	
		point194	194	6,338,469.0	1,875,225.6	912.14				Average	
		point195	195	6,338,538.0	1,875,208.1	912.25				Average	
		point196	196	6,338,611.0	1,875,189.8	912.17				Average	
		point197	197	6,338,687.5	1,875,165.0	911.90				Average	
		point198	198	6,338,773.5	1,875,135.5	911.60				Average	
		point199	199	6,338,856.5	1,875,100.1	910.86				Average	
		point200	200	6,338,941.5	1,875,059.8	909.79				Average	
		point201	201	6,338,995.5	1,875,030.8	909.00				Average	
		point202	202	6,339,066.0	1,874,989.8	907.35				Average	
		point203	203	6,339,122.0	1,874,956.6	906.00				Average	
		point204	204	6,339,191.5	1,874,905.5	903.59				Average	
		point205	205	6,339,282.5	1,874,838.9	900.82				Average	
		point206	206	6,339,338.0	1,874,795.4	899.00				Average	
		point207	207	6,339,402.5	1,874,741.8	896.73				Average	
		point208	208	6,339,485.0	1,874,673.1	893.90				Average	
		point209	209	6,339,590.0	1,874,585.4	890.40					
US 101 WB 2	12.0	point210	210	6,339,604.5	1,874,683.0	892.39				Average	
		point211	211	6,339,526.0	1,874,749.9	895.59				Average	
		point212	212	6,339,451.0	1,874,811.6	898.77				Average	
		point213	213	6,339,403.5	1,874,850.9	900.78				Average	
		point214	214	6,339,309.0	1,874,927.0	904.54				Average	
		point215	215	6,339,233.0	1,874,982.9	907.30				Average	
		point216	216	6,339,139.5	1,875,046.1	910.45				Average	
		point217	217	6,339,046.5	1,875,099.6	912.37				Average	
		point218	218	6,338,944.0	1,875,150.8	913.71				Average	
		point219	219	6,338,857.0	1,875,189.4	914.58				Average	
		point220	220	6,338,781.0	1,875,220.5	915.10				Average	
		point221	221	6,338,686.0	1,875,253.6	915.45				Average	
		point222	222	6,338,614.5	1,875,277.9	915.72				Average	
		point223	223	6,338,555.5	1,875,292.0	915.49				Average	
		point224	224	6,338,463.0	1,875,312.9	914.89				Average	
		point225	225	6,338,383.0	1,875,325.6	914.45				Average	
		point226	226	6,338,260.0	1,875,342.2	913.78				Average	
		point227	227	6,338,188.5	1,875,349.8	913.27				Average	
		point228	228	6,338,109.0	1,875,352.5	912.74				Average	

		point229	229	6,338,006.5	1,875,353.1	912.02				Average	
		point230	230	6,337,926.5	1,875,352.4	911.09				Average	
		point231	231	6,337,790.0	1,875,350.8	909.58				Average	
		point232	232	6,337,650.5	1,875,349.1	907.88				Average	
		point233	233	6,337,527.0	1,875,347.6	906.41				Average	
		point234	234	6,337,409.0	1,875,346.1	905.20				Average	
		point235	235	6,337,298.0	1,875,344.4	904.29				Average	
		point236	236	6,337,221.5	1,875,343.2	903.52				Average	
		point237	237	6,337,083.0	1,875,341.6	902.14				Average	
		point238	238	6,336,977.0	1,875,341.9	901.32				Average	
		point239	239	6,336,965.0	1,875,341.9	901.27					
US 101 EB 2	12.0	point240	240	6,336,948.5	1,875,268.9	902.00				Average	
		point241	241	6,337,078.5	1,875,269.1	902.47				Average	
		point242	242	6,337,170.0	1,875,270.0	903.00				Average	
		point243	243	6,337,280.0	1,875,271.5	904.00				Average	
		point244	244	6,337,349.5	1,875,272.4	904.58				Average	
		point245	245	6,337,482.0	1,875,274.0	905.70				Average	
		point246	246	6,337,617.5	1,875,275.8	906.93				Average	
		point247	247	6,337,711.5	1,875,276.9	907.68				Average	
		point248	248	6,337,819.0	1,875,278.2	908.63				Average	
		point249	249	6,337,921.0	1,875,279.5	909.40				Average	
		point250	250	6,337,999.5	1,875,280.5	909.96				Average	
		point251	251	6,338,078.0	1,875,281.5	910.58				Average	
		point252	252	6,338,165.5	1,875,276.9	911.03				Average	
		point253	253	6,338,250.0	1,875,271.6	911.80				Average	
		point254	254	6,338,309.0	1,875,262.6	912.07				Average	
		point255	255	6,338,407.0	1,875,247.6	912.49				Average	
		point256	256	6,338,474.0	1,875,236.4	912.88				Average	
		point257	257	6,338,570.0	1,875,212.4	912.92				Average	
		point258	258	6,338,659.5	1,875,187.4	912.72				Average	
		point259	259	6,338,734.0	1,875,161.8	912.41				Average	
		point260	260	6,338,797.5	1,875,138.2	912.14				Average	
		point261	261	6,338,862.0	1,875,110.8	911.64				Average	
		point262	262	6,338,944.5	1,875,071.6	910.50				Average	
		point263	263	6,339,042.5	1,875,017.4	908.82				Average	
		point264	264	6,339,126.0	1,874,968.4	906.81				Average	
		point265	265	6,339,225.5	1,874,895.6	903.42				Average	
		point266	266	6,339,307.0	1,874,835.8	901.00				Average	
		point267	267	6,339,354.5	1,874,797.2	899.24				Average	

		point268	268	6,339,405.0	1,874,755.4	897.29				Average	
		point269	269	6,339,513.0	1,874,665.1	893.59				Average	
		point270	270	6,339,592.0	1,874,599.2	890.71					
US 101 WB 1	12.0	point271	271	6,339,601.0	1,874,669.9	892.00				Average	
		point272	272	6,339,527.0	1,874,733.4	894.97				Average	
		point273	273	6,339,445.0	1,874,801.0	898.28				Average	
		point274	274	6,339,361.5	1,874,869.9	901.66				Average	
		point275	275	6,339,295.0	1,874,922.8	904.20				Average	
		point276	276	6,339,224.5	1,874,974.4	906.63				Average	
		point277	277	6,339,156.0	1,875,021.5	909.00				Average	
		point278	278	6,339,086.5	1,875,062.8	910.66				Average	
		point279	279	6,339,014.0	1,875,103.1	912.00				Average	
		point280	280	6,338,928.0	1,875,145.2	913.13				Average	
		point281	281	6,338,809.0	1,875,196.0	914.30				Average	
		point282	282	6,338,741.5	1,875,222.1	914.60				Average	
		point283	283	6,338,620.5	1,875,263.2	914.96				Average	
		point284	284	6,338,559.0	1,875,279.0	914.83				Average	
		point285	285	6,338,449.0	1,875,303.9	914.31				Average	
		point286	286	6,338,369.0	1,875,315.4	915.73				Average	
		point287	287	6,338,271.5	1,875,328.6	913.24				Average	
		point288	288	6,338,145.5	1,875,339.2	912.56				Average	
		point289	289	6,338,053.0	1,875,341.6	912.00				Average	
		point290	290	6,338,001.0	1,875,341.1	911.52				Average	
		point291	291	6,337,917.5	1,875,340.2	910.73				Average	
		point292	292	6,337,831.0	1,875,339.2	910.00				Average	
		point293	293	6,337,708.0	1,875,337.8	908.38				Average	
		point294	294	6,337,613.0	1,875,336.6	907.33				Average	
		point295	295	6,337,495.5	1,875,335.2	906.00				Average	
		point296	296	6,337,376.5	1,875,333.6	905.00				Average	
		point297	297	6,337,237.0	1,875,331.5	903.83				Average	
		point298	298	6,337,103.0	1,875,329.6	902.37				Average	
		point299	299	6,337,018.0	1,875,329.8	901.95				Average	
		point301	301	6,336,970.5	1,875,329.9	901.43				Average	
		point302	302	6,336,961.5	1,875,329.9	901.39					
US 101 EB 1	12.0	point303	303	6,336,948.5	1,875,280.9	901.87				Average	
		point304	304	6,337,111.0	1,875,281.2	903.00				Average	
		point306	306	6,337,254.0	1,875,283.1	904.00				Average	
		point307	307	6,337,446.5	1,875,285.6	905.51				Average	
		point308	308	6,337,632.0	1,875,287.9	907.30				Average	

		point310	310	6,337,769.5	1,875,289.6	908.45				Average	
		point311	311	6,337,872.0	1,875,290.9	909.58				Average	
		point312	312	6,338,005.0	1,875,292.6	910.62				Average	
		point313	313	6,338,110.5	1,875,292.2	911.53				Average	
		point314	314	6,338,182.5	1,875,287.6	911.87				Average	
		point315	315	6,338,252.5	1,875,283.0	912.56				Average	
		point316	316	6,338,405.0	1,875,260.2	913.10				Average	
		point317	317	6,338,502.5	1,875,242.0	913.58				Average	
		point318	318	6,338,612.0	1,875,214.2	913.58				Average	
		point319	319	6,338,700.5	1,875,186.0	913.26				Average	
		point320	320	6,338,786.0	1,875,156.2	912.90				Average	
		point321	321	6,338,879.0	1,875,116.8	912.28				Average	
		point322	322	6,338,963.5	1,875,075.0	910.99				Average	
		point323	323	6,339,062.0	1,875,019.8	909.21				Average	
		point324	324	6,339,149.0	1,874,966.5	907.01				Average	
		point325	325	6,339,210.0	1,874,921.9	904.80				Average	
		point326	326	6,339,308.0	1,874,850.0	901.71				Average	
		point327	327	6,339,373.0	1,874,797.6	899.36				Average	
		point328	328	6,339,461.0	1,874,724.2	896.00				Average	
		point329	329	6,339,530.0	1,874,666.8	893.46				Average	
		point330	330	6,339,593.5	1,874,613.6	891.03					
US 101 WB On Ramp Ex	12.0	point331	331	6,338,336.0	1,875,514.8	934.00	Onramp	0.00	100	Average	
		point332	332	6,338,245.5	1,875,490.2	931.27				Average	
		point333	333	6,338,170.5	1,875,474.2	927.34				Average	
		point334	334	6,338,047.5	1,875,448.0	919.49					
US 101 WB On Ramp Main	12.0	point335	335	6,338,344.0	1,875,496.9	934.28	Onramp	0.00	100	Average	
		point336	336	6,338,259.5	1,875,480.8	931.93				Average	
		point337	337	6,338,181.0	1,875,465.8	928.00				Average	
		point338	338	6,338,051.5	1,875,443.0	921.00					
Palo Comado SB RT to US 101 EB	12.0	point356	356	6,338,165.5	1,874,859.0	934.07				Average	
		point357	357	6,338,104.5	1,874,800.8	934.00				Average	
		point358	358	6,338,064.0	1,874,761.6	933.00				Average	
		point359	359	6,338,029.0	1,874,730.2	933.00				Average	
		point360	360	6,337,981.0	1,874,694.2	933.00				Average	
		point361	361	6,337,946.0	1,874,683.8	933.01				Average	
		point362	362	6,337,906.5	1,874,685.6	932.70					
Palo Comado Canyon Road NB	12.0	point363	363	6,337,918.0	1,874,360.1	939.00				Average	
		point364	364	6,337,939.5	1,874,469.5	934.00				Average	
		point365	365	6,337,960.5	1,874,550.4	933.01				Average	

		point366	366	6,337,990.0	1,874,621.4	932.57				Average	
		point367	367	6,338,034.0	1,874,686.9	932.84				Average	
		point368	368	6,338,079.5	1,874,735.5	933.00				Average	
		point369	369	6,338,152.0	1,874,802.1	934.56				Average	
		point370	370	6,338,224.5	1,874,870.5	935.69				Average	
		point371	371	6,338,264.5	1,874,914.5	936.14				Average	
		point372	372	6,338,294.5	1,874,965.9	936.13				Average	
		point373	373	6,338,322.0	1,875,057.4	936.00				Average	
		point374	374	6,338,337.5	1,875,146.0	935.00				Average	
		point375	375	6,338,343.5	1,875,191.9	920.00				Average	Y
		point376	376	6,338,368.5	1,875,376.1	936.00				Average	
		point377	377	6,338,379.0	1,875,444.4	935.00				Average	
		point378	378	6,338,394.5	1,875,540.5	934.00				Average	
		point379	379	6,338,407.0	1,875,628.5	933.00				Average	
		point380	380	6,338,417.5	1,875,727.6	932.00				Average	
		point381	381	6,338,414.0	1,875,778.8	930.85				Average	
		point382	382	6,338,397.0	1,875,847.5	928.00				Average	
		point383	383	6,338,369.0	1,875,912.0	925.00				Average	
		point384	384	6,338,315.0	1,875,984.4	919.26				Average	
		point504	504	6,338,284.0	1,876,014.1	917.35				Average	
		point385	385	6,338,247.0	1,876,039.9	915.45				Average	
		point386	386	6,338,200.0	1,876,060.0	912.59				Average	
		point387	387	6,338,158.5	1,876,077.4	911.56				Average	
		point389	389	6,338,145.0	1,876,082.0	911.14				Average	
		point390	390	6,338,072.0	1,876,106.5	909.63				Average	
		point391	391	6,337,980.0	1,876,137.2	908.00				Average	
		point392	392	6,337,894.0	1,876,165.8	908.00				Average	
		point393	393	6,337,814.0	1,876,192.5	908.00					
Palo Comado Canyon Road NB LT	12.0	point394	394	6,338,354.5	1,875,917.0	923.81				Average	
		point395	395	6,338,317.0	1,875,967.0	920.00				Average	
		point396	396	6,338,282.5	1,875,999.2	917.20				Average	
		point397	397	6,338,222.5	1,876,039.8	913.90				Average	
		point398	398	6,338,189.0	1,876,055.6	912.24					
Palo Comado Canyon Road SB	12.0	point399	399	6,337,806.5	1,876,191.1	908.00				Average	
		point400	400	6,337,878.0	1,876,164.2	908.00				Average	
		point401	401	6,337,961.0	1,876,132.9	908.00				Average	
		point402	402	6,338,079.0	1,876,088.5	910.00				Average	
		point404	404	6,338,138.5	1,876,066.0	911.18				Average	
		point405	405	6,338,150.5	1,876,060.6	911.54				Average	

		point406	406	6,338,194.5	1,876,037.2	912.32				Average	
		point407	407	6,338,251.5	1,876,005.4	915.00				Average	
		point408	408	6,338,290.5	1,875,978.6	918.00				Average	
		point409	409	6,338,322.0	1,875,942.2	920.81				Average	
		point410	410	6,338,353.5	1,875,898.1	924.00				Average	
		point411	411	6,338,378.5	1,875,845.8	926.80				Average	
		point412	412	6,338,390.0	1,875,807.4	928.27				Average	
		point413	413	6,338,394.5	1,875,788.9	929.00				Average	
		point414	414	6,338,399.5	1,875,741.6	930.60				Average	
		point415	415	6,338,398.0	1,875,705.6	931.79				Average	
		point416	416	6,338,391.0	1,875,652.4	933.00				Average	
		point417	417	6,338,383.5	1,875,594.2	933.76				Average	
		point418	418	6,338,376.0	1,875,529.4	934.00				Average	
		point419	419	6,338,370.5	1,875,482.8	935.00				Average	
		point420	420	6,338,366.5	1,875,449.6	935.00				Average	
		point421	421	6,338,362.0	1,875,415.4	935.64				Average	
		point422	422	6,338,356.0	1,875,376.2	936.00				Average	Y
		point423	423	6,338,327.5	1,875,191.2	921.88				Average	
		point424	424	6,338,321.0	1,875,149.5	935.00				Average	
		point425	425	6,338,315.5	1,875,117.6	935.40				Average	
		point426	426	6,338,308.0	1,875,077.6	935.24				Average	
		point427	427	6,338,303.0	1,875,049.4	935.14				Average	
		point428	428	6,338,292.5	1,875,018.5	934.78				Average	
		point429	429	6,338,275.5	1,874,980.1	934.46				Average	
		point430	430	6,338,255.0	1,874,943.6	934.32				Average	
		point431	431	6,338,237.5	1,874,918.4	934.35				Average	
		point432	432	6,338,210.0	1,874,886.5	934.48				Average	
		point433	433	6,338,174.0	1,874,849.8	934.53				Average	
		point434	434	6,338,144.0	1,874,819.8	934.23				Average	
		point435	435	6,338,098.0	1,874,777.8	934.00				Average	
		point436	436	6,338,063.0	1,874,745.8	933.00				Average	
		point437	437	6,338,040.0	1,874,725.1	933.00				Average	
		point438	438	6,338,014.5	1,874,697.0	933.01				Average	
		point439	439	6,337,980.0	1,874,659.1	933.01				Average	
		point440	440	6,337,951.5	1,874,627.5	933.45				Average	
		point441	441	6,337,946.5	1,874,616.1	933.01				Average	
		point442	442	6,337,937.0	1,874,574.2	933.00				Average	
		point443	443	6,337,924.5	1,874,519.4	933.00				Average	
		point444	444	6,337,912.0	1,874,462.9	934.64				Average	

		point445	445	6,337,903.5	1,874,427.4	937.00				Average	
		point446	446	6,337,893.0	1,874,384.1	938.47				Average	
		point447	447	6,337,887.5	1,874,361.2	939.72					
Chesebro Road NB	12.0	point453	453	6,337,701.0	1,875,484.8	902.01				Average	
		point454	454	6,337,763.0	1,875,514.1	902.01				Average	
		point455	455	6,337,824.5	1,875,544.6	902.00				Average	
		point456	456	6,337,864.0	1,875,575.9	902.01				Average	
		point457	457	6,337,938.0	1,875,634.8	903.32				Average	
		point458	458	6,337,977.5	1,875,683.6	904.00				Average	
		point459	459	6,338,012.0	1,875,725.6	905.00				Average	
		point460	460	6,338,072.5	1,875,832.4	907.00				Average	
		point463	463	6,338,101.0	1,875,912.5	908.17				Average	
		point464	464	6,338,115.0	1,875,955.2	908.71				Average	
		point465	465	6,338,132.5	1,876,007.2	910.00				Average	
		point466	466	6,338,147.5	1,876,052.2	911.39				Average	
		point467	467	6,338,150.5	1,876,060.6	911.54				Average	
		point468	468	6,338,158.5	1,876,077.4	911.56				Average	
		point469	469	6,338,180.0	1,876,137.2	913.00				Average	
		point470	470	6,338,197.0	1,876,183.8	913.00				Average	
		point471	471	6,338,214.0	1,876,230.8	913.44				Average	
		point472	472	6,338,229.0	1,876,272.2	914.00				Average	
		point473	473	6,338,241.5	1,876,307.1	914.39					
Chesebro Road SB	12.0	point474	474	6,338,231.5	1,876,310.2	914.10				Average	
		point475	475	6,338,215.5	1,876,267.5	913.75				Average	
		point476	476	6,338,203.5	1,876,235.9	913.09				Average	
		point477	477	6,338,193.5	1,876,210.2	913.07				Average	
		point478	478	6,338,179.0	1,876,172.0	913.00				Average	
		point479	479	6,338,166.0	1,876,137.8	912.67				Average	
		point480	480	6,338,154.0	1,876,105.9	911.54				Average	
		point481	481	6,338,145.0	1,876,082.0	911.14				Average	
		point482	482	6,338,138.5	1,876,066.0	911.18				Average	
		point483	483	6,338,123.5	1,876,025.6	910.15				Average	
		point484	484	6,338,116.5	1,876,007.1	909.62				Average	
		point485	485	6,338,100.5	1,875,963.6	908.68				Average	
		point486	486	6,338,090.0	1,875,935.2	908.00				Average	
		point487	487	6,338,069.0	1,875,878.0	907.26				Average	
		point488	488	6,338,059.5	1,875,852.2	907.00				Average	
		point489	489	6,338,049.5	1,875,830.9	906.53				Average	
		point490	490	6,338,028.0	1,875,789.8	906.00				Average	

		point491	491	6,338,012.5	1,875,759.9	905.00				Average	
		point492	492	6,338,005.5	1,875,746.5	905.00				Average	
		point493	493	6,337,990.0	1,875,722.5	905.00				Average	
		point494	494	6,337,955.0	1,875,680.6	904.00				Average	
		point495	495	6,337,935.5	1,875,657.5	903.55				Average	
		point496	496	6,337,926.5	1,875,646.8	903.27				Average	
		point497	497	6,337,897.0	1,875,625.0	903.00				Average	
		point498	498	6,337,840.5	1,875,582.8	902.01				Average	
		point499	499	6,337,813.0	1,875,562.1	902.01				Average	
		point500	500	6,337,742.0	1,875,528.6	902.01				Average	
		point501	501	6,337,689.0	1,875,504.2	902.01					
US 101 WB Off Ramp RT	12.0	point502	502	6,338,746.0	1,875,313.6	921.00				Average	
		point67	67	6,338,631.0	1,875,379.9	925.00				Average	
		point68	68	6,338,539.5	1,875,427.2	930.00				Average	
		point69	69	6,338,432.5	1,875,482.2	933.50				Average	
		point70	70	6,338,414.0	1,875,491.9	933.82					
US 101 WB On Ramp	12.0	point503	503	6,338,051.5	1,875,443.0	921.00				Average	
		point339	339	6,337,985.5	1,875,432.4	916.24				Average	
		point340	340	6,337,897.0	1,875,417.2	912.45				Average	
		point341	341	6,337,825.0	1,875,405.6	910.73				Average	
		point342	342	6,337,760.0	1,875,399.8	909.46				Average	
		point343	343	6,337,683.0	1,875,394.4	908.20				Average	
		point344	344	6,337,584.0	1,875,389.0	906.71				Average	
		point345	345	6,337,472.5	1,875,385.1	905.00				Average	
		point346	346	6,337,388.0	1,875,382.9	904.26				Average	
		point347	347	6,337,304.0	1,875,380.9	903.55				Average	
		point348	348	6,337,222.0	1,875,380.9	902.57				Average	
		point349	349	6,337,160.5	1,875,380.9	901.84				Average	
		point350	350	6,337,072.5	1,875,380.8	901.35				Average	
		point351	351	6,337,010.0	1,875,380.4	901.00				Average	
		point352	352	6,336,975.0	1,875,380.2	900.66					

Kimley-Horn and Associates, Inc. **13 April 2011**
ASG **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **Palo Comado / US 101**
RUN: **Calibration**

Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
US 101 EB Off Ramp	point1	1	808	65	30	65	46	65	1	65	3	65
	point2	2	808	65	30	65	46	65	1	65	3	65
	point3	3	808	65	30	65	46	65	1	65	3	65
	point4	4	808	65	30	65	46	65	1	65	3	65
	point5	5	808	65	30	65	46	65	1	65	3	65
	point6	6	808	65	30	65	46	65	1	65	3	65
	point7	7	808	65	30	65	46	65	1	65	3	65
	point8	8	808	65	30	65	46	65	1	65	3	65
	point9	9	808	65	30	65	46	65	1	65	3	65
	point10	10	808	65	30	65	46	65	1	65	3	65
	point11	11	808	65	30	65	46	65	1	65	3	65
	point12	12										
US 101 EB Off Ramp Ex	point13	13	0	0	0	0	0	0	0	0	0	0
	point14	14	0	0	0	0	0	0	0	0	0	0
	point15	15	0	0	0	0	0	0	0	0	0	0
	point16	16	0	0	0	0	0	0	0	0	0	0
	point17	17	0	0	0	0	0	0	0	0	0	0
	point18	18	0	0	0	0	0	0	0	0	0	0
	point19	19	0	0	0	0	0	0	0	0	0	0
	point20	20										
US 101 EB Off Ramp s/o Dorothy	point21	21	0	0	0	0	0	0	0	0	0	0
	point22	22	0	0	0	0	0	0	0	0	0	0
	point23	23	0	0	0	0	0	0	0	0	0	0

	point24	24	0	0	0	0	0	0	0	0	0	0
	point25	25	0	0	0	0	0	0	0	0	0	0
	point26	26										
US 101 EB On Ramp s/o Dorothy	point27	27	0	0	0	0	0	0	0	0	0	0
	point28	28	0	0	0	0	0	0	0	0	0	0
	point29	29	0	0	0	0	0	0	0	0	0	0
	point30	30	0	0	0	0	0	0	0	0	0	0
	point31	31	0	0	0	0	0	0	0	0	0	0
	point32	32										
US 101 EB On Ramp	point33	33	808	65	30	65	46	65	1	65	3	65
	point34	34	808	65	30	65	46	65	1	65	3	65
	point35	35	808	65	30	65	46	65	1	65	3	65
	point36	36	808	65	30	65	46	65	1	65	3	65
	point37	37	808	65	30	65	46	65	1	65	3	65
	point38	38	808	65	30	65	46	65	1	65	3	65
	point39	39	808	65	30	65	46	65	1	65	3	65
	point40	40	808	65	30	65	46	65	1	65	3	65
	point41	41	808	65	30	65	46	65	1	65	3	65
	point42	42	808	65	30	65	46	65	1	65	3	65
	point43	43	808	65	30	65	46	65	1	65	3	65
	point44	44	808	65	30	65	46	65	1	65	3	65
	point45	45	808	65	30	65	46	65	1	65	3	65
	point46	46	808	65	30	65	46	65	1	65	3	65
	point47	47	808	65	30	65	46	65	1	65	3	65
	point48	48	808	65	30	65	46	65	1	65	3	65
	point49	49	808	65	30	65	46	65	1	65	3	65
	point50	50	808	65	30	65	46	65	1	65	3	65
	point51	51										
US 101 WB Off Ramp LT	point52	52	92	30	1	30	0	0	0	0	0	0
	point53	53	92	30	1	30	0	0	0	0	0	0
	point54	54										
US 101 WB Off Ramp	point55	55	185	65	3	65	0	0	0	0	0	0
	point56	56	185	65	3	65	0	0	0	0	0	0
	point57	57	185	65	3	65	0	0	0	0	0	0
	point58	58	185	65	3	65	0	0	0	0	0	0
	point59	59	185	65	3	65	0	0	0	0	0	0

	point60	60	185	65	3	65	0	0	0	0	0	0
	point61	61	185	65	3	65	0	0	0	0	0	0
	point62	62	185	65	3	65	0	0	0	0	0	0
	point63	63	185	65	3	65	0	0	0	0	0	0
	point64	64	185	65	3	65	0	0	0	0	0	0
	point65	65	185	65	3	65	0	0	0	0	0	0
	point66	66										
US 101 WB 4	point71	71	963	70	138	70	102	70	0	0	0	0
	point73	73	963	70	138	70	102	70	0	0	0	0
	point74	74	963	70	138	70	102	70	0	0	0	0
	point75	75	963	70	138	70	102	70	0	0	0	0
	point76	76	963	70	138	70	102	70	0	0	0	0
	point77	77	963	70	138	70	102	70	0	0	0	0
	point78	78	963	70	138	70	102	70	0	0	0	0
	point79	79	963	70	138	70	102	70	0	0	0	0
	point80	80	963	70	138	70	102	70	0	0	0	0
	point81	81	963	70	138	70	102	70	0	0	0	0
	point82	82	963	70	138	70	102	70	0	0	0	0
	point83	83	963	70	138	70	102	70	0	0	0	0
	point84	84	963	70	138	70	102	70	0	0	0	0
	point85	85	963	70	138	70	102	70	0	0	0	0
	point86	86	963	70	138	70	102	70	0	0	0	0
	point87	87	963	70	138	70	102	70	0	0	0	0
	point90	90	963	70	138	70	102	70	0	0	0	0
	point91	91	963	70	138	70	102	70	0	0	0	0
	point92	92	963	70	138	70	102	70	0	0	0	0
	point93	93	963	70	138	70	102	70	0	0	0	0
	point94	94	963	70	138	70	102	70	0	0	0	0
	point95	95	963	70	138	70	102	70	0	0	0	0
	point96	96	963	70	138	70	102	70	0	0	0	0
	point97	97	963	70	138	70	102	70	0	0	0	0
	point98	98	963	70	138	70	102	70	0	0	0	0
	point99	99	963	70	138	70	102	70	0	0	0	0
	point100	100	963	70	138	70	102	70	0	0	0	0
	point101	101	963	70	138	70	102	70	0	0	0	0
	point102	102	963	70	138	70	102	70	0	0	0	0

	point103	103	963	70	138	70	102	70	0	0	0	0
	point104	104										
US 101 EB 4	point105	105	808	70	30	70	46	70	1	70	3	70
	point106	106	808	70	30	70	46	70	1	70	3	70
	point107	107	808	70	30	70	46	70	1	70	3	70
	point108	108	808	70	30	70	46	70	1	70	3	70
	point109	109	808	70	30	70	46	70	1	70	3	70
	point110	110	808	70	30	70	46	70	1	70	3	70
	point111	111	808	70	30	70	46	70	1	70	3	70
	point112	112	808	70	30	70	46	70	1	70	3	70
	point113	113	808	70	30	70	46	70	1	70	3	70
	point114	114	808	70	30	70	46	70	1	70	3	70
	point115	115	808	70	30	70	46	70	1	70	3	70
	point116	116	808	70	30	70	46	70	1	70	3	70
	point117	117	808	70	30	70	46	70	1	70	3	70
	point118	118	808	70	30	70	46	70	1	70	3	70
	point119	119	808	70	30	70	46	70	1	70	3	70
	point120	120	808	70	30	70	46	70	1	70	3	70
	point121	121	808	70	30	70	46	70	1	70	3	70
	point122	122	808	70	30	70	46	70	1	70	3	70
	point123	123	808	70	30	70	46	70	1	70	3	70
	point124	124	808	70	30	70	46	70	1	70	3	70
	point125	125	808	70	30	70	46	70	1	70	3	70
	point126	126	808	70	30	70	46	70	1	70	3	70
	point127	127	808	70	30	70	46	70	1	70	3	70
	point128	128	808	70	30	70	46	70	1	70	3	70
	point129	129	808	70	30	70	46	70	1	70	3	70
	point130	130	808	70	30	70	46	70	1	70	3	70
	point131	131	808	70	30	70	46	70	1	70	3	70
	point132	132	808	70	30	70	46	70	1	70	3	70
	point133	133	808	70	30	70	46	70	1	70	3	70
	point134	134	808	70	30	70	46	70	1	70	3	70
	point135	135	808	70	30	70	46	70	1	70	3	70
	point136	136	808	70	30	70	46	70	1	70	3	70
	point137	137	808	70	30	70	46	70	1	70	3	70
	point138	138	808	70	30	70	46	70	1	70	3	70

	point139	139	808	70	30	70	46	70	1	70	3	70
	point140	140										
US 101 WB 3	point141	141	963	70	69	70	51	70	0	0	0	0
	point142	142	963	70	69	70	51	70	0	0	0	0
	point143	143	963	70	69	70	51	70	0	0	0	0
	point144	144	963	70	69	70	51	70	0	0	0	0
	point145	145	963	70	69	70	51	70	0	0	0	0
	point146	146	963	70	69	70	51	70	0	0	0	0
	point147	147	963	70	69	70	51	70	0	0	0	0
	point148	148	963	70	69	70	51	70	0	0	0	0
	point149	149	963	70	69	70	51	70	0	0	0	0
	point150	150	963	70	69	70	51	70	0	0	0	0
	point151	151	963	70	69	70	51	70	0	0	0	0
	point152	152	963	70	69	70	51	70	0	0	0	0
	point153	153	963	70	69	70	51	70	0	0	0	0
	point154	154	963	70	69	70	51	70	0	0	0	0
	point155	155	963	70	69	70	51	70	0	0	0	0
	point156	156	963	70	69	70	51	70	0	0	0	0
	point157	157	963	70	69	70	51	70	0	0	0	0
	point158	158	963	70	69	70	51	70	0	0	0	0
	point159	159	963	70	69	70	51	70	0	0	0	0
	point160	160	963	70	69	70	51	70	0	0	0	0
	point161	161	963	70	69	70	51	70	0	0	0	0
	point162	162	963	70	69	70	51	70	0	0	0	0
	point163	163	963	70	69	70	51	70	0	0	0	0
	point164	164	963	70	69	70	51	70	0	0	0	0
	point165	165	963	70	69	70	51	70	0	0	0	0
	point166	166	963	70	69	70	51	70	0	0	0	0
	point167	167	963	70	69	70	51	70	0	0	0	0
	point168	168	963	70	69	70	51	70	0	0	0	0
	point169	169	963	70	69	70	51	70	0	0	0	0
	point170	170	963	70	69	70	51	70	0	0	0	0
	point171	171	963	70	69	70	51	70	0	0	0	0
	point172	172	963	70	69	70	51	70	0	0	0	0
	point173	173	963	70	69	70	51	70	0	0	0	0
	point174	174	963	70	69	70	51	70	0	0	0	0

	point175	175	963	70	69	70	51	70	0	0	0	0
	point176	176										
US 101 EB 3	point177	177	808	70	46	70	30	70	1	70	3	70
	point178	178	808	70	46	70	30	70	1	70	3	70
	point179	179	808	70	46	70	30	70	1	70	3	70
	point180	180	808	70	46	70	30	70	1	70	3	70
	point181	181	808	70	46	70	30	70	1	70	3	70
	point182	182	808	70	46	70	30	70	1	70	3	70
	point183	183	808	70	46	70	30	70	1	70	3	70
	point185	185	808	70	46	70	30	70	1	70	3	70
	point186	186	808	70	46	70	30	70	1	70	3	70
	point187	187	808	70	46	70	30	70	1	70	3	70
	point188	188	808	70	46	70	30	70	1	70	3	70
	point189	189	808	70	46	70	30	70	1	70	3	70
	point190	190	808	70	46	70	30	70	1	70	3	70
	point191	191	808	70	46	70	30	70	1	70	3	70
	point192	192	808	70	46	70	30	70	1	70	3	70
	point193	193	808	70	46	70	30	70	1	70	3	70
	point194	194	808	70	46	70	30	70	1	70	3	70
	point195	195	808	70	46	70	30	70	1	70	3	70
	point196	196	808	70	46	70	30	70	1	70	3	70
	point197	197	808	70	46	70	30	70	1	70	3	70
	point198	198	808	70	46	70	30	70	1	70	3	70
	point199	199	808	70	46	70	30	70	1	70	3	70
	point200	200	808	70	46	70	30	70	1	70	3	70
	point201	201	808	70	46	70	30	70	1	70	3	70
	point202	202	808	70	46	70	30	70	1	70	3	70
	point203	203	808	70	46	70	30	70	1	70	3	70
	point204	204	808	70	46	70	30	70	1	70	3	70
	point205	205	808	70	46	70	30	70	1	70	3	70
	point206	206	808	70	46	70	30	70	1	70	3	70
	point207	207	808	70	46	70	30	70	1	70	3	70
	point208	208	808	70	46	70	30	70	1	70	3	70
	point209	209										
US 101 WB 2	point210	210	1442	70	8	70	0	0	2	70	3	70
	point211	211	1442	70	8	70	0	0	2	70	3	70

	point212	212	1442	70	8	70	0	0	2	70	3	70
	point213	213	1442	70	8	70	0	0	2	70	3	70
	point214	214	1442	70	8	70	0	0	2	70	3	70
	point215	215	1442	70	8	70	0	0	2	70	3	70
	point216	216	1442	70	8	70	0	0	2	70	3	70
	point217	217	1442	70	8	70	0	0	2	70	3	70
	point218	218	1442	70	8	70	0	0	2	70	3	70
	point219	219	1442	70	8	70	0	0	2	70	3	70
	point220	220	1442	70	8	70	0	0	2	70	3	70
	point221	221	1442	2	8	70	0	0	2	70	3	70
	point222	222	1442	70	8	70	0	0	2	70	3	70
	point223	223	1442	70	8	70	0	0	2	70	3	70
	point224	224	1442	70	8	70	0	0	2	70	3	70
	point225	225	1442	70	8	70	0	0	2	70	3	70
	point226	226	1442	70	8	70	0	0	2	70	3	70
	point227	227	1442	70	8	70	0	0	2	70	3	70
	point228	228	1442	70	8	70	0	0	2	70	3	70
	point229	229	1442	70	8	70	0	0	2	70	3	70
	point230	230	1442	70	8	70	0	0	2	70	3	70
	point231	231	1442	70	8	70	0	0	2	70	3	70
	point232	232	1442	70	8	70	0	0	2	70	3	70
	point233	233	1442	70	8	70	0	0	2	70	3	70
	point234	234	1442	70	8	70	0	0	2	70	3	70
	point235	235	1442	70	8	70	0	0	2	70	3	70
	point236	236	1442	70	8	70	0	0	2	70	3	70
	point237	237	1442	70	8	70	0	0	2	70	3	70
	point238	238	1442	70	8	70	0	0	2	70	3	70
	point239	239										
US 101 EB 2	point240	240	1584	70	36	70	5	70	0	0	5	70
	point241	241	1584	70	36	70	5	70	0	0	5	70
	point242	242	1584	70	36	70	5	70	0	0	5	70
	point243	243	1584	70	36	70	5	70	0	0	5	70
	point244	244	1584	70	36	70	5	70	0	0	5	70
	point245	245	1584	70	36	70	5	70	0	0	5	70
	point246	246	1584	70	36	70	5	70	0	0	5	70
	point247	247	1584	70	36	70	5	70	0	0	5	70

	point248	248	1584	70	36	70	5	70	0	0	5	70
	point249	249	1584	70	36	70	5	70	0	0	5	70
	point250	250	1584	70	36	70	5	70	0	0	5	70
	point251	251	1584	70	36	70	5	70	0	0	5	70
	point252	252	1584	70	36	70	5	70	0	0	5	70
	point253	253	1584	70	36	70	5	70	0	0	5	70
	point254	254	1584	70	36	70	5	70	0	0	5	70
	point255	255	1584	70	36	70	5	70	0	0	5	70
	point256	256	1584	70	36	70	5	70	0	0	5	70
	point257	257	1584	70	36	70	5	70	0	0	5	70
	point258	258	1584	70	36	70	5	70	0	0	5	70
	point259	259	1584	70	36	70	5	70	0	0	5	70
	point260	260	1584	70	36	70	5	70	0	0	5	70
	point261	261	1584	70	36	70	5	70	0	0	5	70
	point262	262	1584	70	36	70	5	70	0	0	5	70
	point263	263	1584	70	36	70	5	70	0	0	5	70
	point264	264	1584	70	36	70	5	70	0	0	5	70
	point265	265	1584	70	36	70	5	70	0	0	5	70
	point266	266	1584	70	36	70	5	70	0	0	5	70
	point267	267	1584	70	36	70	5	70	0	0	5	70
	point268	268	1584	70	36	70	5	70	0	0	5	70
	point269	269	1584	70	36	70	5	70	0	0	5	70
	point270	270										
US 101 WB 1	point271	271	1442	70	8	70	0	0	2	70	3	70
	point272	272	1442	70	8	70	0	0	2	70	3	70
	point273	273	1442	70	8	70	0	0	2	70	3	70
	point274	274	1442	70	8	70	0	0	2	70	3	70
	point275	275	1442	70	8	70	0	0	2	70	3	70
	point276	276	1442	70	8	70	0	0	2	70	3	70
	point277	277	1442	70	8	70	0	0	2	70	3	70
	point278	278	1442	70	8	70	0	0	2	70	3	70
	point279	279	1442	70	8	70	0	0	2	70	3	70
	point280	280	1442	70	8	70	0	0	2	70	3	70
	point281	281	1442	70	8	70	0	0	2	70	3	70
	point282	282	1442	70	8	70	0	0	2	70	3	70
	point283	283	1442	70	8	70	0	0	2	70	3	70

	point284	284	1442	70	8	70	0	0	2	70	3	70
	point285	285	1442	70	8	70	0	0	2	70	3	70
	point286	286	1442	70	8	70	0	0	2	70	3	70
	point287	287	1442	70	8	70	0	0	2	70	3	70
	point288	288	1442	70	8	70	0	0	2	70	3	70
	point289	289	1442	70	8	70	0	0	2	70	3	70
	point290	290	1442	70	8	70	0	0	2	70	3	70
	point291	291	1442	70	8	70	0	0	2	70	3	70
	point292	292	1442	70	8	70	0	0	2	70	3	70
	point293	293	1442	70	8	70	0	0	2	70	3	70
	point294	294	1442	70	8	70	0	0	2	70	3	70
	point295	295	1442	70	8	70	0	0	2	70	3	70
	point296	296	1442	70	8	70	0	0	2	70	3	70
	point297	297	1442	70	8	70	0	0	2	70	3	70
	point298	298	1442	70	8	70	0	0	2	70	3	70
	point299	299	1442	70	8	70	0	0	2	70	3	70
	point301	301	1442	70	8	70	0	0	2	70	3	70
	point302	302										
US 101 EB 1	point303	303	1584	70	36	70	5	70	0	0	5	70
	point304	304	1584	70	36	70	5	70	0	0	5	70
	point306	306	1584	70	36	70	5	70	0	0	5	70
	point307	307	1584	70	36	70	5	70	0	0	5	70
	point308	308	1584	70	36	70	5	70	0	0	5	70
	point310	310	1584	70	36	70	5	70	0	0	5	70
	point311	311	1584	70	36	70	5	70	0	0	5	70
	point312	312	1584	70	36	70	5	70	0	0	5	70
	point313	313	1584	70	36	70	5	70	0	0	5	70
	point314	314	1584	70	36	70	5	70	0	0	5	70
	point315	315	1584	70	36	70	5	70	0	0	5	70
	point316	316	1584	70	36	70	5	70	0	0	5	70
	point317	317	1584	70	36	70	5	70	0	0	5	70
	point318	318	1584	70	36	70	5	70	0	0	5	70
	point319	319	1584	70	36	70	5	70	0	0	5	70
	point320	320	1584	70	36	70	5	70	0	0	5	70
	point321	321	1584	70	36	70	5	70	0	0	5	70
	point322	322	1584	70	36	70	5	70	2	0	5	70

	point323	323	1584	70	36	70	5	70	0	0	5	70
	point324	324	1584	70	36	70	5	70	0	0	5	70
	point325	325	1584	70	36	70	5	70	0	0	5	70
	point326	326	1584	70	36	70	5	70	0	0	5	70
	point327	327	1584	70	36	70	5	70	0	0	5	70
	point328	328	1584	70	36	70	5	70	0	0	5	70
	point329	329	1584	70	36	70	5	70	0	0	5	70
	point330	330										
US 101 WB On Ramp Ex	point331	331	0	0	0	0	0	0	0	0	0	0
	point332	332	0	0	0	0	0	0	0	0	0	0
	point333	333	0	0	0	0	0	0	0	0	0	0
	point334	334										
US 101 WB On Ramp Main	point335	335	177	30	6	30	0	0	0	0	0	0
	point336	336	177	30	6	30	0	0	0	0	0	0
	point337	337	177	30	6	30	0	0	0	0	0	0
	point338	338										
Palo Comado SB RT to US 101 EB	point356	356	0	0	0	0	0	0	0	0	0	0
	point357	357	0	0	0	0	0	0	0	0	0	0
	point358	358	0	0	0	0	0	0	0	0	0	0
	point359	359	0	0	0	0	0	0	0	0	0	0
	point360	360	0	0	0	0	0	0	0	0	0	0
	point361	361	0	0	0	0	0	0	0	0	0	0
	point362	362										
Palo Comado Canyon Road NB	point363	363	666	35	21	35	0	0	0	0	0	0
	point364	364	666	35	21	35	0	0	0	0	0	0
	point365	365	666	35	21	35	0	0	0	0	0	0
	point366	366	666	35	21	35	0	0	0	0	0	0
	point367	367	666	35	21	35	0	0	0	0	0	0
	point368	368	666	35	21	35	0	0	0	0	0	0
	point369	369	666	35	21	35	0	0	0	0	0	0
	point370	370	666	35	21	35	0	0	0	0	0	0
	point371	371	666	35	21	35	0	0	0	0	0	0
	point372	372	666	35	21	35	0	0	0	0	0	0
	point373	373	666	35	21	35	0	0	0	0	0	0
	point374	374	666	35	21	35	0	0	0	0	0	0
	point375	375	666	35	21	35	0	0	0	0	0	0

	point376	376	666	35	21	35	0	0	0	0	0	0
	point377	377	666	35	21	35	0	0	0	0	0	0
	point378	378	666	35	21	35	0	0	0	0	0	0
	point379	379	666	35	21	35	0	0	0	0	0	0
	point380	380	666	35	21	35	0	0	0	0	0	0
	point381	381	666	35	21	35	0	0	0	0	0	0
	point382	382	666	35	21	35	0	0	0	0	0	0
	point383	383	666	35	21	35	0	0	0	0	0	0
	point384	384	666	35	21	35	0	0	0	0	0	0
	point504	504	666	35	21	35	0	0	0	0	0	0
	point385	385	666	35	21	35	0	0	0	0	0	0
	point386	386	666	35	21	35	0	0	0	0	0	0
	point387	387	666	35	21	35	0	0	0	0	0	0
	point389	389	666	35	21	35	0	0	0	0	0	0
	point390	390	666	35	21	35	0	0	0	0	0	0
	point391	391	666	35	21	35	0	0	0	0	0	0
	point392	392	666	35	21	35	0	0	0	0	0	0
	point393	393										
Palo Comado Canyon Road NB LT	point394	394	0	0	0	0	0	0	0	0	0	0
	point395	395	0	0	0	0	0	0	0	0	0	0
	point396	396	0	0	0	0	0	0	0	0	0	0
	point397	397	0	0	0	0	0	0	0	0	0	0
	point398	398										
Palo Comado Canyon Road SB	point399	399	591	35	48	35	0	0	0	0	0	0
	point400	400	591	35	48	35	0	0	0	0	0	0
	point401	401	591	35	48	35	0	0	0	0	0	0
	point402	402	591	35	48	35	0	0	0	0	0	0
	point404	404	591	35	48	35	0	0	0	0	0	0
	point405	405	591	35	48	35	0	0	0	0	0	0
	point406	406	591	35	48	35	0	0	0	0	0	0
	point407	407	591	35	48	35	0	0	0	0	0	0
	point408	408	591	35	48	35	0	0	0	0	0	0
	point409	409	591	35	48	35	0	0	0	0	0	0
	point410	410	591	35	48	35	0	0	0	0	0	0
	point411	411	591	35	48	35	0	0	0	0	0	0
	point412	412	591	35	48	35	0	0	0	0	0	0

	point413	413	591	35	48	35	0	0	0	0	0	0
	point414	414	591	35	48	35	0	0	0	0	0	0
	point415	415	591	35	48	35	0	0	0	0	0	0
	point416	416	591	35	48	35	0	0	0	0	0	0
	point417	417	591	35	48	35	0	0	0	0	0	0
	point418	418	591	35	48	35	0	0	0	0	0	0
	point419	419	591	35	48	35	0	0	0	0	0	0
	point420	420	591	35	48	35	0	0	0	0	0	0
	point421	421	591	35	48	35	0	0	0	0	0	0
	point422	422	591	35	48	35	0	0	0	0	0	0
	point423	423	591	35	48	35	0	0	0	0	0	0
	point424	424	591	35	48	35	0	0	0	0	0	0
	point425	425	591	35	48	35	0	0	0	0	0	0
	point426	426	591	35	48	35	0	0	0	0	0	0
	point427	427	591	35	48	35	0	0	0	0	0	0
	point428	428	591	35	48	35	0	0	0	0	0	0
	point429	429	591	35	48	35	0	0	0	0	0	0
	point430	430	591	35	48	35	0	0	0	0	0	0
	point431	431	591	35	48	35	0	0	0	0	0	0
	point432	432	591	35	48	35	0	0	0	0	0	0
	point433	433	591	35	48	35	0	0	0	0	0	0
	point434	434	591	35	48	35	0	0	0	0	0	0
	point435	435	591	35	48	35	0	0	0	0	0	0
	point436	436	591	35	48	35	0	0	0	0	0	0
	point437	437	591	35	48	35	0	0	0	0	0	0
	point438	438	591	35	48	35	0	0	0	0	0	0
	point439	439	591	35	48	35	0	0	0	0	0	0
	point440	440	591	35	48	35	0	0	0	0	0	0
	point441	441	591	35	48	35	0	0	0	0	0	0
	point442	442	591	35	48	35	0	0	0	0	0	0
	point443	443	591	35	48	35	0	0	0	0	0	0
	point444	444	591	35	48	35	0	0	0	0	0	0
	point445	445	591	35	48	35	0	0	0	0	0	0
	point446	446	591	35	48	35	0	0	0	0	0	0
	point447	447										
Chesebro Road NB	point453	453	0	0	0	0	0	0	0	0	0	0

	point454	454	0	0	0	0	0	0	0	0	0	0
	point455	455	0	0	0	0	0	0	0	0	0	0
	point456	456	0	0	0	0	0	0	0	0	0	0
	point457	457	0	0	0	0	0	0	0	0	0	0
	point458	458	0	0	0	0	0	0	0	0	0	0
	point459	459	0	0	0	0	0	0	0	0	0	0
	point460	460	0	0	0	0	0	0	0	0	0	0
	point463	463	0	0	0	0	0	0	0	0	0	0
	point464	464	0	0	0	0	0	0	0	0	0	0
	point465	465	0	0	0	0	0	0	0	0	0	0
	point466	466	0	0	0	0	0	0	0	0	0	0
	point467	467	0	0	0	0	0	0	0	0	0	0
	point468	468	0	0	0	0	0	0	0	0	0	0
	point469	469	0	0	0	0	0	0	0	0	0	0
	point470	470	0	0	0	0	0	0	0	0	0	0
	point471	471	0	0	0	0	0	0	0	0	0	0
	point472	472	0	0	0	0	0	0	0	0	0	0
	point473	473										
Chesebro Road SB	point474	474	0	0	0	0	0	0	0	0	0	0
	point475	475	0	0	0	0	0	0	0	0	0	0
	point476	476	0	0	0	0	0	0	0	0	0	0
	point477	477	0	0	0	0	0	0	0	0	0	0
	point478	478	0	0	0	0	0	0	0	0	0	0
	point479	479	0	0	0	0	0	0	0	0	0	0
	point480	480	0	0	0	0	0	0	0	0	0	0
	point481	481	0	0	0	0	0	0	0	0	0	0
	point482	482	0	0	0	0	0	0	0	0	0	0
	point483	483	0	0	0	0	0	0	0	0	0	0
	point484	484	0	0	0	0	0	0	0	0	0	0
	point485	485	0	0	0	0	0	0	0	0	0	0
	point486	486	0	0	0	0	0	0	0	0	0	0
	point487	487	0	0	0	0	0	0	0	0	0	0
	point488	488	0	0	0	0	0	0	0	0	0	0
	point489	489	0	0	0	0	0	0	0	0	0	0
	point490	490	0	0	0	0	0	0	0	0	0	0
	point491	491	0	0	0	0	0	0	0	0	0	0

	point492	492	0	0	0	0	0	0	0	0	0	0
	point493	493	0	0	0	0	0	0	0	0	0	0
	point494	494	0	0	0	0	0	0	0	0	0	0
	point495	495	0	0	0	0	0	0	0	0	0	0
	point496	496	0	0	0	0	0	0	0	0	0	0
	point497	497	0	0	0	0	0	0	0	0	0	0
	point498	498	0	0	0	0	0	0	0	0	0	0
	point499	499	0	0	0	0	0	0	0	0	0	0
	point500	500	0	0	0	0	0	0	0	0	0	0
	point501	501										
US 101 WB Off Ramp RT	point502	502	63	30	2	30	0	0	0	0	0	0
	point67	67	63	30	2	30	0	0	0	0	0	0
	point68	68	63	30	2	30	0	0	0	0	0	0
	point69	69	63	30	2	30	0	0	0	0	0	0
	point70	70										
US 101 WB On Ramp	point503	503	177	30	6	30	0	0	0	0	0	0
	point339	339	177	30	6	30	0	0	0	0	0	0
	point340	340	177	30	6	30	0	0	0	0	0	0
	point341	341	177	30	6	30	0	0	0	0	0	0
	point342	342	177	30	6	30	0	0	0	0	0	0
	point343	343	177	30	6	30	0	0	0	0	0	0
	point344	344	177	30	6	30	0	0	0	0	0	0
	point345	345	177	30	6	30	0	0	0	0	0	0
	point346	346	177	30	6	30	0	0	0	0	0	0
	point347	347	177	30	6	30	0	0	0	0	0	0
	point348	348	177	30	6	30	0	0	0	0	0	0
	point349	349	177	30	6	30	0	0	0	0	0	0
	point350	350	177	30	6	30	0	0	0	0	0	0
	point351	351	177	30	6	30	0	0	0	0	0	0
	point352	352										

Kimley-Horn and Associates, Inc. 13 April 2011
ASG TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: Palo Comado / US 101
RUN: Calibration

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria Existing LAeq1h	Impact Criteria LAeq1h	Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
ST1	6	0	6,338,234.0	1,876,073.0	915.00	4.92	69.90	66	10.0	8.0	Y
R1	9	1	6,338,238.0	1,876,085.0	914.00	4.92	0.00	66	10.0	8.0	
R1A	10	1	6,338,317.5	1,876,034.6	917.00	4.92	0.00	66	10.0	8.0	

Kimley-Horn and Associates, Inc. 13 April 2011
ASG TNM 2.5

INPUT: BARRIERS
PROJECT/CONTRACT: Palo Comado / US 101
RUN: Calibration

Barrier Name	Type	Height Min	Height Max	If Wall $ per Unit Area	If Berm $ per Unit Vol.	Top Width	Run:Rise	Add'tnl $ per Unit Length	Points Name	No.	Coordinates (bottom) X	Y	Z	Height at Point	Segment Seg Ht Increment	Perturbs #Up	Perturbs #Dn	On Struct?	Important Reflections?
		ft	ft	$/sq ft	$/cu yd	ft	ft:ft	$/ft			ft	ft	ft	ft	ft				
Barrier2	W	0.00	99.99	0.00				0.00	point1	1	6,337,802.0	1,875,610.9	904.04	25.00	0.00	0	0		
									point2	2	6,337,854.0	1,875,650.4	904.20	25.00	0.00	0	0		
									point3	3	6,337,987.5	1,875,800.5	908.00	25.00	0.00	0	0		
									point4	4	6,337,944.0	1,875,831.8	908.00	25.00	0.00	0	0		
									point5	5	6,337,916.5	1,875,804.6	908.16	25.00	0.00	0	0		
									point6	6	6,337,844.0	1,875,867.1	908.00	25.00	0.00	0	0		
									point7	7	6,337,779.0	1,875,788.0	909.00	25.00	0.00	0	0		
									point8	8	6,337,731.0	1,875,831.8	908.52	25.00	0.00	0	0		
									point9	9	6,337,783.5	1,875,881.8	907.24	25.00	0.00	0	0		
									point10	10	6,337,666.5	1,875,963.0	901.81	25.00	0.00	0	0		
									point11	11	6,337,518.5	1,875,800.5	904.00	25.00	0.00	0	0		
									point14	14	6,337,802.0	1,875,610.9	904.04	25.00					
Barrier3	W	0.00	99.99	0.00				0.00	point15	15	6,337,727.5	1,875,974.9	902.14	15.00	0.00	0	0		
									point16	16	6,338,021.0	1,875,864.9	907.00	15.00	0.00	0	0		
									point17	17	6,338,037.5	1,875,904.0	907.17	15.00	0.00	0	0		
									point18	18	6,337,745.5	1,876,019.8	904.40	15.00	0.00	0	0		
									point19	19	6,337,727.5	1,875,974.9	902.14	15.00					
Barrier4	W	0.00	99.99	0.00				0.00	point20	20	6,338,034.5	1,875,593.6	905.08	15.00	0.00	0	0		
									point21	21	6,338,008.0	1,875,509.4	904.92	15.00	0.00	0	0		
									point22	22	6,338,042.5	1,875,496.1	906.55	15.00	0.00	0	0		
									point23	23	6,338,129.5	1,875,516.9	910.79	15.00	0.00	0	0		
									point24	24	6,338,141.5	1,875,555.8	909.65	15.00	0.00	0	0		
									point25	25	6,338,034.5	1,875,593.6	905.08	15.00					
Barrier5	W	0.00	99.99	0.00				0.00	point26	26	6,338,270.5	1,875,601.9	934.00	15.00	0.00	0	0		
									point27	27	6,338,272.5	1,875,696.4	933.79	15.00	0.00	0	0		
									point28	28	6,338,317.5	1,875,695.5	934.00	15.00	0.00	0	0		
									point29	29	6,338,316.0	1,875,601.0	933.77	15.00	0.00	0	0		
									point30	30	6,338,270.5	1,875,601.9	934.00	15.00					
Barrier6	W	0.00	99.99	0.00				0.00	point31	31	6,338,269.0	1,876,252.2	914.81	15.00	0.00	0	0		
									point32	32	6,338,340.5	1,876,219.2	916.00	15.00	0.00	0	0		
									point34	34	6,338,328.5	1,876,192.1	915.71	15.00	0.00	0	0		
									point35	35	6,338,256.5	1,876,217.9	914.43	15.00	0.00	0	0		
									point36	36	6,338,269.0	1,876,252.2	914.81	15.00					
Barrier7	W	0.00	99.99	0.00				0.00	point37	37	6,338,326.0	1,876,180.2	915.72	15.00	0.00	0	0		
									point38	38	6,338,314.0	1,876,150.4	915.15	15.00	0.00	0	0		

									point39	39	6,338,289.0	1,876,159.6	914.88	15.00	0.00	0	0		
									point40	40	6,338,299.5	1,876,189.9	915.24	15.00	0.00	0	0		
									point41	41	6,338,326.0	1,876,180.2	915.72	15.00					
5306 Chesebro Road	W	0.00	99.99	0.00				0.00	point42	42	6,338,278.5	1,876,143.1	914.30	15.00	0.00	0	0		
									point43	43	6,338,261.5	1,876,097.4	914.19	15.00	0.00	0	0		
									point44	44	6,338,233.0	1,876,111.4	913.94	15.00	0.00	0	0		
									point45	45	6,338,233.5	1,876,125.0	913.80	15.00	0.00	0	0		
									point46	46	6,338,246.0	1,876,155.0	913.76	15.00	0.00	0	0		
									point47	47	6,338,278.5	1,876,143.1	914.30	15.00					
Barrier9	W	0.00	99.99	0.00				0.00	point48	48	6,338,448.5	1,875,684.8	933.07	15.00	0.00	0	0		
									point49	49	6,338,445.5	1,875,660.1	933.41	15.00	0.00	0	0		
									point51	51	6,338,469.5	1,875,657.0	934.27	15.00	0.00	0	0		
									point52	52	6,338,473.0	1,875,681.8	934.07	15.00	0.00	0	0		
									point53	53	6,338,448.5	1,875,684.8	933.07	15.00					
Barrier10	W	0.00	99.99	0.00				0.00	point54	54	6,338,510.5	1,875,678.2	938.13	15.00	0.00	0	0		
									point55	55	6,338,545.0	1,875,636.6	935.94	15.00	0.00	0	0		
									point56	56	6,338,519.5	1,875,614.9	935.51	15.00	0.00	0	0		
									point57	57	6,338,502.5	1,875,635.1	934.96	15.00	0.00	0	0		
									point58	58	6,338,499.5	1,875,632.5	934.90	15.00	0.00	0	0		
									point59	59	6,338,481.5	1,875,654.0	934.51	15.00	0.00	0	0		
									point60	60	6,338,510.5	1,875,678.2	938.13	15.00					
Barrier12	W	0.00	99.99	0.00				0.00	point69	69	6,338,437.5	1,875,161.0	919.18	15.00	0.00	0	0		
									point70	70	6,338,514.5	1,875,124.8	924.53	15.00	0.00	0	0		
									point71	71	6,338,480.5	1,875,053.9	926.00	15.00	0.00	0	0		
									point72	72	6,338,430.0	1,875,077.9	925.40	15.00	0.00	0	0		
									point73	73	6,338,422.0	1,875,060.8	927.00	15.00	0.00	0	0		
									point74	74	6,338,393.5	1,875,074.0	923.12	15.00	0.00	0	0		
									point75	75	6,338,410.5	1,875,104.2	922.84	15.00	0.00	0	0		
									point76	76	6,338,398.5	1,875,109.9	922.00	15.00	0.00	0	0		
									point77	77	6,338,418.5	1,875,151.2	919.80	15.00	0.00	0	0		
									point78	78	6,338,430.0	1,875,145.6	920.23	15.00	0.00	0	0		
									point80	80	6,338,437.5	1,875,161.0	919.18	15.00					
Barrier13	W	0.00	99.99	0.00				0.00	point81	81	6,338,612.5	1,875,064.1	937.92	15.00	0.00	0	0		
									point82	82	6,338,574.5	1,874,991.4	932.83	15.00	0.00	0	0		
									point83	83	6,338,485.0	1,875,036.6	929.03	15.00	0.00	0	0		
									point84	84	6,338,521.5	1,875,109.9	925.73	15.00	0.00	0	0		
									point85	85	6,338,612.5	1,875,064.1	937.92	15.00					
Barrier14	W	0.00	99.99	0.00				0.00	point86	86	6,338,649.0	1,875,027.2	941.00	15.00	0.00	0	0		
									point87	87	6,338,624.5	1,874,976.0	936.21	15.00	0.00	0	0		
									point88	88	6,338,721.0	1,874,930.5	941.89	15.00	0.00	0	0		
									point89	89	6,338,745.0	1,874,981.4	942.00	15.00	0.00	0	0		
									point90	90	6,338,649.0	1,875,027.2	941.00	15.00					
Barrier15	W	0.00	99.99	0.00				0.00	point91	91	6,338,766.5	1,874,976.4	948.67	15.00	0.00	0	0		
									point92	92	6,338,877.5	1,874,911.4	947.38	15.00	0.00	0	0		
									point93	93	6,338,847.0	1,874,866.5	944.00	15.00	0.00	0	0		
									point94	94	6,338,788.5	1,874,882.2	944.00	15.00	0.00	0	0		
									point95	95	6,338,753.5	1,874,902.6	944.69	15.00	0.00	0	0		
									point96	96	6,338,749.0	1,874,894.6	944.00	15.00	0.00	0	0		
									point97	97	6,338,722.5	1,874,909.9	944.00	15.00	0.00	0	0		

									point98	98	6,338,766.5	1,874,976.4	948.67	15.00						
Barrier16	W	0.00	99.99	0.00				0.00	point99	99	6,338,047.0	1,875,123.9	908.42	15.00	0.00	0	0			
									point102	102	6,338,053.5	1,875,076.4	908.43	15.00	0.00	0	0			
									point104	104	6,338,194.0	1,875,095.4	911.00	15.00	0.00	0	0			
									point105	105	6,338,203.0	1,875,104.8	911.00	15.00	0.00	0	0			
									point106	106	6,338,201.5	1,875,135.1	911.00	15.00	0.00	0	0			
									point107	107	6,338,181.5	1,875,137.1	911.00	15.00	0.00	0	0			
									point108	108	6,338,121.0	1,875,134.2	910.00	15.00	0.00	0	0			
									point109	109	6,338,047.0	1,875,123.9	908.42	15.00						
Barrier17	W	0.00	99.99	0.00				0.00	point110	110	6,337,977.0	1,875,162.9	908.00	15.00	0.00	0	0			
									point111	111	6,337,991.0	1,875,066.8	907.00	15.00	0.00	0	0			
									point112	112	6,337,955.5	1,875,061.8	907.00	15.00	0.00	0	0			
									point113	113	6,337,942.0	1,875,157.5	904.72	15.00	0.00	0	0			
									point115	115	6,337,977.0	1,875,162.9	908.00	15.00						

Kimley-Horn and Associates, Inc. 13 April 2011
ASG TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Palo Comado / US 101
RUN: Calibration
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver												
Name	No.	#DUs	Existing	No Barrier					With Barrier			
			LAeq1h	LAeq1h		Increase over existing		Type	Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
ST1	6	0	69.9	68.4	66	-1.5	10	Snd Lvl	68.4	0.0	8	-8.0
R1	9	1	0.0	67.0	66	67.0	10	Snd Lvl	67.0	0.0	8	-8.0
R1A	10	1	0.0	66.8	66	66.8	10	Snd Lvl	66.8	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction		
		Min	Avg	Max
		dB	dB	dB
All Selected	2	0.0	0.0	0.0
All Impacted	2	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Kimley-Horn and Associates 6 January 2011
ASG TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: Agoura Hills / US 101
RUN: 2035 No Build

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
US 101 EB Off Ramp	12.0	point1	1	6,336,934.5	1,875,226.6	902.00				Average	
		point2	2	6,337,006.0	1,875,222.4	903.00				Average	
		point3	3	6,337,098.0	1,875,213.4	899.62				Average	
		point4	4	6,337,235.5	1,875,213.2	903.22				Average	
		point5	5	6,337,323.5	1,875,211.8	903.11				Average	
		point6	6	6,337,395.5	1,875,207.0	902.16					
US 101 EB Off Ramp ST/LT	12.0	point13	13	6,337,392.0	1,875,213.8	903.23				Average	
		point14	14	6,337,467.0	1,875,214.0	902.79				Average	
		point15	15	6,337,522.0	1,875,209.8	902.82				Average	
		point16	16	6,337,580.0	1,875,193.6	902.96				Average	
		point17	17	6,337,645.5	1,875,153.1	902.80				Average	
		point18	18	6,337,680.5	1,875,120.0	902.60				Average	
		point19	19	6,337,718.0	1,875,071.5	902.87				Average	
		point20	20	6,337,742.5	1,875,013.1	902.09					
S Chesebro Road w/o PC SB	12.0	point21	21	6,337,756.0	1,874,950.6	903.52	Stop	0.00	100	Average	
		point22	22	6,337,779.0	1,874,831.4	914.00				Average	
		point23	23	6,337,796.5	1,874,769.6	921.00				Average	
		point24	24	6,337,821.0	1,874,724.9	926.66				Average	
		point25	25	6,337,864.5	1,874,682.4	932.00				Average	
		point26	26	6,337,936.0	1,874,637.5	933.60					
S Chesebro Road w/o PC NB	12.0	point28	28	6,337,880.5	1,874,693.9	931.59				Average	
		point29	29	6,337,842.0	1,874,728.4	926.91				Average	
		point30	30	6,337,813.0	1,874,778.8	920.00				Average	
		point31	31	6,337,794.5	1,874,836.6	913.52				Average	
		point32	32	6,337,771.5	1,874,954.5	903.80					

US 101 EB On Ramp	12.0	point33	33	6,337,763.5	1,875,006.2	903.00	Onramp	10.00	100	Average	
		point34	34	6,337,751.5	1,875,084.8	903.57				Average	
		point35	35	6,337,766.0	1,875,146.6	904.28				Average	
		point36	36	6,337,805.0	1,875,187.5	905.00				Average	
		point37	37	6,337,872.5	1,875,219.5	906.68				Average	
		point38	38	6,338,018.0	1,875,233.0	907.76				Average	
		point39	39	6,338,099.5	1,875,236.4	908.36				Average	
		point40	40	6,338,178.0	1,875,236.1	908.69				Average	
		point41	41	6,338,309.5	1,875,223.5	910.00				Average	
		point42	42	6,338,400.5	1,875,211.1	910.19				Average	
		point43	43	6,338,519.0	1,875,187.4	910.82				Average	
		point44	44	6,338,640.5	1,875,154.9	910.49				Average	
		point45	45	6,338,766.0	1,875,111.2	910.01				Average	
		point46	46	6,338,871.5	1,875,066.8	909.19				Average	
		point47	47	6,338,949.0	1,875,028.2	908.17				Average	
		point48	48	6,339,105.0	1,874,938.2	904.63				Average	
		point49	49	6,339,219.0	1,874,854.8	900.83				Average	
		point50	50	6,339,298.0	1,874,797.0	898.58				Average	
		point51	51	6,339,585.5	1,874,556.1	889.52					
US 101 WB Off Ramp LT	12.0	point52	52	6,338,741.5	1,875,308.0	920.20				Average	
		point53	53	6,338,543.5	1,875,409.2	929.79				Average	
		point54	54	6,338,411.5	1,875,477.2	934.13					
US 101 WB Off Ramp	12.0	point55	55	6,339,606.5	1,874,728.9	894.00				Average	
		point56	56	6,339,522.5	1,874,798.6	897.78				Average	
		point57	57	6,339,452.5	1,874,857.0	901.19				Average	
		point58	58	6,339,355.0	1,874,936.2	905.53				Average	
		point59	59	6,339,290.0	1,874,987.6	908.32				Average	
		point60	60	6,339,241.0	1,875,020.5	910.00				Average	
		point61	61	6,339,168.5	1,875,069.2	912.11				Average	
		point62	62	6,339,075.0	1,875,126.2	914.29				Average	
		point63	63	6,339,000.5	1,875,169.4	915.61				Average	
		point64	64	6,338,917.5	1,875,215.0	917.03				Average	
		point65	65	6,338,818.0	1,875,270.9	918.77				Average	
		point66	66	6,338,746.0	1,875,313.6	921.00					
US 101 WB 4	12.0	point71	71	6,339,602.5	1,874,717.6	893.62				Average	
		point73	73	6,339,514.0	1,874,790.8	897.46				Average	
		point74	74	6,339,452.0	1,874,842.1	900.36				Average	
		point75	75	6,339,352.5	1,874,923.0	904.62				Average	
		point76	76	6,339,282.5	1,874,978.0	907.58				Average	

		point77	77	6,339,228.0	1,875,015.6	909.55				Average	
		point78	78	6,339,167.0	1,875,057.5	911.49				Average	
		point79	79	6,339,070.5	1,875,113.5	913.61				Average	
		point80	80	6,338,995.0	1,875,152.5	914.60				Average	
		point81	81	6,338,915.5	1,875,191.4	915.68				Average	
		point82	82	6,338,852.5	1,875,217.2	916.07				Average	
		point83	83	6,338,780.5	1,875,246.6	916.72				Average	
		point84	84	6,338,695.0	1,875,275.9	916.94				Average	
		point85	85	6,338,614.0	1,875,303.5	917.12				Average	
		point86	86	6,338,501.0	1,875,329.0	916.37				Average	
		point87	87	6,338,426.0	1,875,344.0	915.83				Average	
		point90	90	6,338,320.0	1,875,358.4	915.00				Average	
		point91	91	6,338,229.5	1,875,370.6	914.45				Average	
		point92	92	6,338,180.0	1,875,374.1	914.14				Average	
		point93	93	6,338,034.0	1,875,377.5	913.14				Average	
		point94	94	6,337,925.0	1,875,376.2	911.88				Average	
		point95	95	6,337,778.0	1,875,374.6	909.79				Average	
		point96	96	6,337,708.0	1,875,373.8	908.81				Average	
		point97	97	6,337,643.0	1,875,373.0	907.94				Average	
		point98	98	6,337,520.0	1,875,371.5	906.14				Average	
		point99	99	6,337,430.5	1,875,370.4	905.00				Average	
		point100	100	6,337,331.5	1,875,368.9	904.16				Average	
		point101	101	6,337,240.0	1,875,367.5	903.20				Average	
		point102	102	6,337,141.0	1,875,366.0	902.14				Average	
		point103	103	6,337,021.0	1,875,365.8	901.35				Average	
		point104	104	6,336,971.0	1,875,365.9	901.04					
US 101 EB 4	12.0	point105	105	6,336,939.0	1,875,244.9	902.00				Average	
		point106	106	6,337,049.5	1,875,245.0	903.00				Average	
		point107	107	6,337,133.5	1,875,245.5	902.12				Average	
		point108	108	6,337,261.5	1,875,247.2	903.90				Average	
		point109	109	6,337,345.5	1,875,248.4	904.17				Average	
		point110	110	6,337,489.0	1,875,250.1	905.18				Average	
		point111	111	6,337,598.0	1,875,251.5	906.11				Average	
		point112	112	6,337,710.5	1,875,252.9	907.08				Average	
		point113	113	6,337,892.5	1,875,255.1	908.25				Average	
		point114	114	6,337,982.0	1,875,256.2	908.73				Average	
		point115	115	6,338,072.5	1,875,257.4	909.32				Average	
		point116	116	6,338,123.0	1,875,254.9	909.54				Average	
		point117	117	6,338,202.0	1,875,248.8	909.68				Average	

		point118	118	6,338,240.5	1,875,245.8	910.00				Average	
		point119	119	6,338,313.0	1,875,235.8	910.49				Average	
		point120	120	6,338,383.5	1,875,225.6	910.84				Average	
		point121	121	6,338,439.0	1,875,217.8	911.25				Average	
		point122	122	6,338,522.0	1,875,199.1	911.56				Average	
		point123	123	6,338,620.5	1,875,175.0	911.48				Average	
		point124	124	6,338,676.0	1,875,156.4	911.28				Average	
		point125	125	6,338,765.0	1,875,125.8	910.92				Average	
		point126	126	6,338,820.0	1,875,102.5	910.42				Average	
		point127	127	6,338,891.0	1,875,072.2	909.76				Average	
		point128	128	6,338,951.5	1,875,040.9	909.00				Average	
		point129	129	6,339,033.0	1,874,995.0	907.23				Average	
		point130	130	6,339,077.0	1,874,969.2	906.21				Average	
		point131	131	6,339,123.0	1,874,941.1	905.03				Average	
		point132	132	6,339,178.5	1,874,900.2	903.04				Average	
		point133	133	6,339,237.5	1,874,857.0	901.21				Average	
		point134	134	6,339,278.0	1,874,827.4	900.00				Average	
		point135	135	6,339,328.5	1,874,787.8	898.53				Average	
		point136	136	6,339,374.0	1,874,750.1	897.00				Average	
		point137	137	6,339,428.5	1,874,704.5	895.34				Average	
		point138	138	6,339,494.5	1,874,649.6	893.27				Average	
		point139	139	6,339,561.0	1,874,594.2	891.00				Average	
		point140	140	6,339,588.0	1,874,571.5	890.10					
US 101 WB 3	12.0	point141	141	6,339,607.0	1,874,697.2	892.84				Average	
		point142	142	6,339,546.0	1,874,748.9	895.42				Average	
		point143	143	6,339,497.5	1,874,788.8	897.43				Average	
		point144	144	6,339,441.0	1,874,835.6	900.00				Average	
		point145	145	6,339,375.0	1,874,889.8	903.00				Average	
		point146	146	6,339,319.5	1,874,933.9	905.00				Average	
		point147	147	6,339,256.0	1,874,981.6	907.50				Average	
		point148	148	6,339,207.5	1,875,015.1	909.27				Average	
		point149	149	6,339,153.5	1,875,052.0	911.00				Average	
		point150	150	6,339,081.0	1,875,093.5	912.57				Average	
		point151	151	6,339,026.5	1,875,123.6	913.48				Average	
		point152	152	6,338,981.5	1,875,145.6	914.00				Average	
		point153	153	6,338,906.0	1,875,182.4	914.95				Average	
		point154	154	6,338,838.0	1,875,210.0	915.42				Average	
		point155	155	6,338,757.5	1,875,242.1	916.02				Average	
		point156	156	6,338,676.5	1,875,269.5	916.28				Average	

		point157	157	6,338,605.5	1,875,293.0	916.42				Average	
		point158	158	6,338,529.5	1,875,310.2	916.00				Average	
		point159	159	6,338,445.5	1,875,329.2	915.40				Average	
		point160	160	6,338,385.5	1,875,337.4	914.93				Average	
		point161	161	6,338,281.5	1,875,351.5	914.34				Average	
		point162	162	6,338,207.0	1,875,361.1	913.90				Average	
		point163	163	6,338,112.0	1,875,364.4	913.19				Average	
		point164	164	6,337,982.5	1,875,364.9	912.15				Average	
		point165	165	6,337,890.5	1,875,363.9	911.00				Average	
		point166	166	6,337,798.5	1,875,362.9	909.84				Average	
		point167	167	6,337,719.5	1,875,361.9	908.85				Average	
		point168	168	6,337,643.5	1,875,361.0	907.90				Average	
		point169	169	6,337,528.5	1,875,359.6	906.30				Average	
		point170	170	6,337,473.0	1,875,359.0	905.89				Average	
		point171	171	6,337,382.0	1,875,357.8	904.73				Average	
		point172	172	6,337,278.0	1,875,356.1	904.00				Average	
		point173	173	6,337,183.0	1,875,354.6	903.00				Average	
		point174	174	6,337,113.5	1,875,353.6	902.21				Average	
		point175	175	6,337,006.0	1,875,353.8	901.46				Average	
		point176	176	6,336,968.0	1,875,353.9	901.15					
US 101 EB 3	12.0	point177	177	6,336,949.5	1,875,256.9	902.35				Average	
		point178	178	6,337,060.5	1,875,257.0	903.00				Average	
		point179	179	6,337,150.0	1,875,257.8	903.00				Average	
		point180	180	6,337,250.5	1,875,259.1	904.00				Average	
		point181	181	6,337,349.5	1,875,260.4	904.38				Average	
		point182	182	6,337,482.5	1,875,262.0	905.45				Average	
		point183	183	6,337,629.5	1,875,263.9	906.76				Average	
		point185	185	6,337,716.0	1,875,265.0	907.41				Average	
		point186	186	6,337,887.5	1,875,267.1	908.68				Average	
		point187	187	6,337,977.5	1,875,268.2	909.23				Average	
		point188	188	6,338,050.5	1,875,269.1	909.76				Average	
		point189	189	6,338,116.0	1,875,267.8	910.20				Average	
		point190	190	6,338,170.5	1,875,264.0	910.29				Average	
		point191	191	6,338,248.0	1,875,258.6	910.98				Average	
		point192	192	6,338,306.0	1,875,250.1	911.33				Average	
		point193	193	6,338,383.0	1,875,239.0	911.66				Average	
		point194	194	6,338,469.0	1,875,225.6	912.14				Average	
		point195	195	6,338,538.0	1,875,208.1	912.25				Average	
		point196	196	6,338,611.0	1,875,189.8	912.17				Average	

		point197	197	6,338,687.5	1,875,165.0	911.90				Average	
		point198	198	6,338,773.5	1,875,135.5	911.60				Average	
		point199	199	6,338,856.5	1,875,100.1	910.86				Average	
		point200	200	6,338,941.5	1,875,059.8	909.79				Average	
		point201	201	6,338,995.5	1,875,030.8	909.00				Average	
		point202	202	6,339,066.0	1,874,989.8	907.35				Average	
		point203	203	6,339,122.0	1,874,956.6	906.00				Average	
		point204	204	6,339,191.5	1,874,905.5	903.59				Average	
		point205	205	6,339,282.5	1,874,838.9	900.82				Average	
		point206	206	6,339,338.0	1,874,795.4	899.00				Average	
		point207	207	6,339,402.5	1,874,741.8	896.73				Average	
		point208	208	6,339,485.0	1,874,673.1	893.90				Average	
		point209	209	6,339,590.0	1,874,585.4	890.40					
US 101 WB 2	12.0	point210	210	6,339,604.5	1,874,683.0	892.39				Average	
		point211	211	6,339,526.0	1,874,749.9	895.59				Average	
		point212	212	6,339,451.0	1,874,811.6	898.77				Average	
		point213	213	6,339,403.5	1,874,850.9	900.78				Average	
		point214	214	6,339,309.0	1,874,927.0	904.54				Average	
		point215	215	6,339,233.0	1,874,982.9	907.30				Average	
		point216	216	6,339,139.5	1,875,046.1	910.45				Average	
		point217	217	6,339,046.5	1,875,099.6	912.37				Average	
		point218	218	6,338,944.0	1,875,150.8	913.71				Average	
		point219	219	6,338,857.0	1,875,189.4	914.58				Average	
		point220	220	6,338,781.0	1,875,220.5	915.10				Average	
		point221	221	6,338,686.0	1,875,253.6	915.45				Average	
		point222	222	6,338,614.5	1,875,277.9	915.72				Average	
		point223	223	6,338,555.5	1,875,292.0	915.49				Average	
		point224	224	6,338,463.0	1,875,312.9	914.89				Average	
		point225	225	6,338,383.0	1,875,325.6	914.45				Average	
		point226	226	6,338,260.0	1,875,342.2	913.78				Average	
		point227	227	6,338,188.5	1,875,349.8	913.27				Average	
		point228	228	6,338,109.0	1,875,352.5	912.74				Average	
		point229	229	6,338,006.5	1,875,353.1	912.02				Average	
		point230	230	6,337,926.5	1,875,352.4	911.09				Average	
		point231	231	6,337,790.0	1,875,350.8	909.58				Average	
		point232	232	6,337,650.5	1,875,349.1	907.88				Average	
		point233	233	6,337,527.0	1,875,347.6	906.41				Average	
		point234	234	6,337,409.0	1,875,346.1	905.20				Average	
		point235	235	6,337,298.0	1,875,344.4	904.29				Average	

		point236	236	6,337,221.5	1,875,343.2	903.52				Average	
		point237	237	6,337,083.0	1,875,341.6	902.14				Average	
		point238	238	6,336,977.0	1,875,341.9	901.32				Average	
		point239	239	6,336,965.0	1,875,341.9	901.27					
US 101 EB 2	12.0	point240	240	6,336,948.5	1,875,268.9	902.00				Average	
		point241	241	6,337,078.5	1,875,269.1	902.47				Average	
		point242	242	6,337,170.0	1,875,270.0	903.00				Average	
		point243	243	6,337,280.0	1,875,271.5	904.00				Average	
		point244	244	6,337,349.5	1,875,272.4	904.58				Average	
		point245	245	6,337,482.0	1,875,274.0	905.70				Average	
		point246	246	6,337,617.5	1,875,275.8	906.93				Average	
		point247	247	6,337,711.5	1,875,276.9	907.68				Average	
		point248	248	6,337,819.0	1,875,278.2	908.63				Average	
		point249	249	6,337,921.0	1,875,279.5	909.40				Average	
		point250	250	6,337,999.5	1,875,280.5	909.96				Average	
		point251	251	6,338,078.0	1,875,281.5	910.58				Average	
		point252	252	6,338,165.5	1,875,276.9	911.03				Average	
		point253	253	6,338,250.0	1,875,271.6	911.80				Average	
		point254	254	6,338,309.0	1,875,262.6	912.07				Average	
		point255	255	6,338,407.0	1,875,247.6	912.49				Average	
		point256	256	6,338,474.0	1,875,236.4	912.88				Average	
		point257	257	6,338,570.0	1,875,212.4	912.92				Average	
		point258	258	6,338,659.5	1,875,187.4	912.72				Average	
		point259	259	6,338,734.0	1,875,161.8	912.41				Average	
		point260	260	6,338,797.5	1,875,138.2	912.14				Average	
		point261	261	6,338,862.0	1,875,110.8	911.64				Average	
		point262	262	6,338,944.5	1,875,071.6	910.50				Average	
		point263	263	6,339,042.5	1,875,017.4	908.82				Average	
		point264	264	6,339,126.0	1,874,968.4	906.81				Average	
		point265	265	6,339,225.5	1,874,895.6	903.42				Average	
		point266	266	6,339,307.0	1,874,835.8	901.00				Average	
		point267	267	6,339,354.5	1,874,797.2	899.24				Average	
		point268	268	6,339,405.0	1,874,755.4	897.29				Average	
		point269	269	6,339,513.0	1,874,665.1	893.59				Average	
		point270	270	6,339,592.0	1,874,599.2	890.71					
US 101 WB 1	12.0	point271	271	6,339,601.0	1,874,669.9	892.00				Average	
		point272	272	6,339,527.0	1,874,733.4	894.97				Average	
		point273	273	6,339,445.0	1,874,801.0	898.28				Average	
		point274	274	6,339,361.5	1,874,869.9	901.66				Average	

		point275	275	6,339,295.0	1,874,922.8	904.20				Average	
		point276	276	6,339,224.5	1,874,974.4	906.63				Average	
		point277	277	6,339,156.0	1,875,021.5	909.00				Average	
		point278	278	6,339,086.5	1,875,062.8	910.66				Average	
		point279	279	6,339,014.0	1,875,103.1	912.00				Average	
		point280	280	6,338,928.0	1,875,145.2	913.13				Average	
		point281	281	6,338,809.0	1,875,196.0	914.30				Average	
		point282	282	6,338,741.5	1,875,222.1	914.60				Average	
		point283	283	6,338,620.5	1,875,263.2	914.96				Average	
		point284	284	6,338,559.0	1,875,279.0	914.83				Average	
		point285	285	6,338,449.0	1,875,303.9	914.31				Average	
		point286	286	6,338,369.0	1,875,315.4	915.73				Average	
		point287	287	6,338,271.5	1,875,328.6	913.24				Average	
		point288	288	6,338,145.5	1,875,339.2	912.56				Average	
		point289	289	6,338,053.0	1,875,341.6	912.00				Average	
		point290	290	6,338,001.0	1,875,341.1	911.52				Average	
		point291	291	6,337,917.5	1,875,340.2	910.73				Average	
		point292	292	6,337,831.0	1,875,339.2	910.00				Average	
		point293	293	6,337,708.0	1,875,337.8	908.38				Average	
		point294	294	6,337,613.0	1,875,336.6	907.33				Average	
		point295	295	6,337,495.5	1,875,335.2	906.00				Average	
		point296	296	6,337,376.5	1,875,333.6	905.00				Average	
		point297	297	6,337,237.0	1,875,331.5	903.83				Average	
		point298	298	6,337,103.0	1,875,329.6	902.37				Average	
		point299	299	6,337,018.0	1,875,329.8	901.95				Average	
		point301	301	6,336,970.5	1,875,329.9	901.43				Average	
		point302	302	6,336,961.5	1,875,329.9	901.39					
US 101 EB 1	12.0	point303	303	6,336,948.5	1,875,280.9	901.87				Average	
		point304	304	6,337,111.0	1,875,281.2	903.00				Average	
		point306	306	6,337,254.0	1,875,283.1	904.00				Average	
		point307	307	6,337,446.5	1,875,285.6	905.51				Average	
		point308	308	6,337,632.0	1,875,287.9	907.30				Average	
		point310	310	6,337,769.5	1,875,289.6	908.45				Average	
		point311	311	6,337,872.0	1,875,290.9	909.58				Average	
		point312	312	6,338,005.0	1,875,292.6	910.62				Average	
		point313	313	6,338,110.5	1,875,292.2	911.53				Average	
		point314	314	6,338,182.5	1,875,287.6	911.87				Average	
		point315	315	6,338,252.5	1,875,283.0	912.56				Average	
		point316	316	6,338,405.0	1,875,260.2	913.10				Average	

		point317	317	6,338,502.5	1,875,242.0	913.58				Average	
		point318	318	6,338,612.0	1,875,214.2	913.58				Average	
		point319	319	6,338,700.5	1,875,186.0	913.26				Average	
		point320	320	6,338,786.0	1,875,156.2	912.90				Average	
		point321	321	6,338,879.0	1,875,116.8	912.28				Average	
		point322	322	6,338,963.5	1,875,075.0	910.99				Average	
		point323	323	6,339,062.0	1,875,019.8	909.21				Average	
		point324	324	6,339,149.0	1,874,966.5	907.01				Average	
		point325	325	6,339,210.0	1,874,921.9	904.80				Average	
		point326	326	6,339,308.0	1,874,850.0	901.71				Average	
		point327	327	6,339,373.0	1,874,797.6	899.36				Average	
		point328	328	6,339,461.0	1,874,724.2	896.00				Average	
		point329	329	6,339,530.0	1,874,666.8	893.46				Average	
		point330	330	6,339,593.5	1,874,613.6	891.03					
US 101 WB On Ramp R	12.0	point331	331	6,338,336.0	1,875,514.8	934.00	Onramp	10.00	100	Average	
		point332	332	6,338,245.5	1,875,490.2	931.27				Average	
		point333	333	6,338,170.5	1,875,474.2	927.34				Average	
		point334	334	6,338,047.5	1,875,448.0	919.49					
US 101 WB On Ramp L	12.0	point335	335	6,338,344.0	1,875,496.9	934.28	Onramp	10.00	100	Average	
		point336	336	6,338,259.5	1,875,480.8	931.93				Average	
		point337	337	6,338,181.0	1,875,465.8	928.00				Average	
		point338	338	6,338,051.5	1,875,443.0	921.00					
Palo Comado s/o ramps SB RT	12.0	point356	356	6,338,165.5	1,874,859.0	934.07				Average	
		point357	357	6,338,104.5	1,874,800.8	934.00				Average	
		point358	358	6,338,064.0	1,874,761.6	933.00				Average	
		point359	359	6,338,029.0	1,874,730.2	933.00				Average	
		point360	360	6,337,981.0	1,874,694.2	933.00				Average	
		point361	361	6,337,946.0	1,874,683.8	933.01				Average	
		point362	362	6,337,906.5	1,874,685.6	932.70					
S Chesebro Road s/o PC NB	12.0	point363	363	6,337,918.0	1,874,360.1	939.00				Average	
		point364	364	6,337,939.5	1,874,469.5	934.00				Average	
		point365	365	6,337,960.5	1,874,550.4	933.01				Average	
		point366	366	6,337,990.0	1,874,621.4	932.57					
Palo Comado n/o ramps NB LT	12.0	point394	394	6,338,354.5	1,875,917.0	923.81				Average	
		point395	395	6,338,317.0	1,875,967.0	920.00				Average	
		point396	396	6,338,282.5	1,875,999.2	917.20				Average	
		point510	510	6,338,252.5	1,876,019.5	915.55				Average	
		point397	397	6,338,222.5	1,876,038.2	913.90				Average	
		point516	516	6,338,191.5	1,876,052.5	913.07				Average	

		point398	398	6,338,162.0	1,876,065.1	912.24					
Driver Avenue EB	12.0	point399	399	6,337,806.5	1,876,191.1	908.00				Average	
		point400	400	6,337,878.0	1,876,164.2	908.00				Average	
		point401	401	6,337,961.0	1,876,132.9	908.00				Average	
		point402	402	6,338,079.0	1,876,088.5	910.00				Average	
		point404	404	6,338,138.5	1,876,066.0	911.18					
N Chesebro Road n/o PC SB	12.0	point474	474	6,338,231.5	1,876,310.2	914.10				Average	
		point475	475	6,338,215.5	1,876,267.5	913.75				Average	
		point476	476	6,338,203.5	1,876,235.9	913.09				Average	
		point477	477	6,338,193.5	1,876,210.2	913.07				Average	
		point478	478	6,338,179.0	1,876,172.0	913.00				Average	
		point479	479	6,338,166.0	1,876,137.8	912.67				Average	
		point480	480	6,338,154.0	1,876,105.9	911.54				Average	
		point481	481	6,338,145.0	1,876,082.0	911.14					
US 101 WB Off Ramp RT	12.0	point502	502	6,338,746.0	1,875,313.6	921.00				Average	
		point67	67	6,338,631.0	1,875,379.9	925.00				Average	
		point68	68	6,338,539.5	1,875,427.2	930.00				Average	
		point69	69	6,338,432.5	1,875,482.2	933.50				Average	
		point70	70	6,338,414.0	1,875,491.9	933.82					
US 101 WB On Ramp	12.0	point503	503	6,338,051.5	1,875,443.0	921.00				Average	
		point339	339	6,337,985.5	1,875,432.4	916.24				Average	
		point340	340	6,337,897.0	1,875,417.2	912.45				Average	
		point341	341	6,337,825.0	1,875,405.6	910.73				Average	
		point342	342	6,337,760.0	1,875,399.8	909.46				Average	
		point343	343	6,337,683.0	1,875,394.4	908.20				Average	
		point344	344	6,337,584.0	1,875,389.0	906.71				Average	
		point345	345	6,337,472.5	1,875,385.1	905.00				Average	
		point346	346	6,337,388.0	1,875,382.9	904.26				Average	
		point347	347	6,337,304.0	1,875,380.9	903.55				Average	
		point348	348	6,337,222.0	1,875,380.9	902.57				Average	
		point349	349	6,337,160.5	1,875,380.9	901.84				Average	
		point350	350	6,337,072.5	1,875,380.8	901.35				Average	
		point351	351	6,337,010.0	1,875,380.4	901.00				Average	
		point352	352	6,336,975.0	1,875,380.2	900.66					
US 101 EB Off Ramp RT	12.0	point504	504	6,337,395.5	1,875,207.0	902.16				Average	
		point7	7	6,337,514.5	1,875,196.4	902.08				Average	
		point8	8	6,337,594.5	1,875,170.2	901.75				Average	
		point9	9	6,337,649.5	1,875,130.8	901.86				Average	
		point10	10	6,337,691.5	1,875,083.1	901.77				Average	

		point11	11	6,337,714.0	1,875,044.6	901.55				Average	
		point12	12	6,337,724.0	1,875,009.0	901.31					
Palo Comado s/o ramps NB	12.0	point505	505	6,337,990.0	1,874,621.4	932.57				Average	
		point367	367	6,338,034.0	1,874,686.9	932.84				Average	
		point368	368	6,338,079.5	1,874,735.5	933.00				Average	
		point369	369	6,338,152.0	1,874,802.1	934.56				Average	
		point370	370	6,338,224.5	1,874,870.5	935.69				Average	
		point371	371	6,338,264.5	1,874,914.5	936.14				Average	
		point372	372	6,338,294.5	1,874,965.9	936.13				Average	
		point373	373	6,338,322.0	1,875,057.4	936.00				Average	
		point374	374	6,338,337.5	1,875,146.0	935.00				Average	
		point375	375	6,338,343.5	1,875,191.9	920.00				Average	Y
		point376	376	6,338,368.5	1,875,376.1	936.00				Average	
		point377	377	6,338,379.0	1,875,444.4	935.00				Average	
		point513	513	6,338,387.0	1,875,492.5	934.50					
S Chesebro Road s/o PC SB	12.0	point506	506	6,337,951.5	1,874,627.5	933.45				Average	
		point441	441	6,337,946.5	1,874,616.1	933.01				Average	
		point442	442	6,337,937.0	1,874,574.2	933.00				Average	
		point443	443	6,337,924.5	1,874,519.4	933.00				Average	
		point444	444	6,337,912.0	1,874,462.9	934.64				Average	
		point445	445	6,337,903.5	1,874,427.4	937.00				Average	
		point446	446	6,337,893.0	1,874,384.1	938.47				Average	
		point447	447	6,337,887.5	1,874,361.2	939.72					
Driver Avenue WB	12.0	point511	511	6,338,145.0	1,876,082.0	911.14	Stop	0.00	100	Average	
		point390	390	6,338,073.0	1,876,102.8	909.63				Average	
		point391	391	6,337,980.0	1,876,137.2	908.00				Average	
		point392	392	6,337,895.5	1,876,169.2	908.00				Average	
		point393	393	6,337,816.5	1,876,198.1	908.00					
Palo Comado n/o ramps SB	12.0	point512	512	6,338,138.5	1,876,066.0	911.18	Stop	0.00	100	Average	
		point405	405	6,338,150.5	1,876,060.6	911.54				Average	
		point406	406	6,338,194.5	1,876,037.2	912.32				Average	
		point407	407	6,338,251.5	1,876,005.4	915.00				Average	
		point408	408	6,338,290.5	1,875,978.6	918.00				Average	
		point409	409	6,338,322.0	1,875,942.2	920.81				Average	
		point410	410	6,338,353.5	1,875,898.1	924.00				Average	
		point411	411	6,338,378.5	1,875,845.8	926.80				Average	
		point412	412	6,338,390.0	1,875,807.4	928.27				Average	
		point413	413	6,338,394.5	1,875,788.9	929.00				Average	
		point414	414	6,338,399.5	1,875,741.6	930.60				Average	

		point415	415	6,338,398.0	1,875,705.6	931.79				Average	
		point416	416	6,338,391.0	1,875,652.4	933.00				Average	
		point417	417	6,338,383.5	1,875,594.2	933.76				Average	
		point418	418	6,338,376.0	1,875,529.4	934.00				Average	
		point419	419	6,338,370.5	1,875,482.8	935.00					
Palo Comado n/o ramps NB	12.0	point514	514	6,338,387.0	1,875,492.5	934.50				Average	
		point378	378	6,338,394.5	1,875,540.5	934.00				Average	
		point379	379	6,338,407.0	1,875,628.5	933.00				Average	
		point380	380	6,338,417.5	1,875,727.6	932.00				Average	
		point381	381	6,338,414.0	1,875,778.8	930.85				Average	
		point382	382	6,338,397.0	1,875,847.5	928.00				Average	
		point383	383	6,338,369.0	1,875,912.0	925.00					
Palo Comado s/o ramps SB	12.0	point515	515	6,338,370.5	1,875,482.8	935.00				Average	
		point420	420	6,338,366.5	1,875,449.6	935.00				Average	
		point421	421	6,338,362.0	1,875,415.4	935.64				Average	
		point422	422	6,338,356.0	1,875,376.2	936.00				Average	Y
		point423	423	6,338,327.5	1,875,191.2	921.88				Average	
		point424	424	6,338,321.0	1,875,149.5	935.00				Average	
		point425	425	6,338,315.5	1,875,117.6	935.40				Average	
		point426	426	6,338,308.0	1,875,077.6	935.24				Average	
		point427	427	6,338,303.0	1,875,049.4	935.14				Average	
		point428	428	6,338,292.5	1,875,018.5	934.78				Average	
		point429	429	6,338,275.5	1,874,980.1	934.46				Average	
		point430	430	6,338,255.0	1,874,943.6	934.32				Average	
		point431	431	6,338,237.5	1,874,918.4	934.35				Average	
		point432	432	6,338,210.0	1,874,886.5	934.48				Average	
		point433	433	6,338,174.0	1,874,849.8	934.53					
Palo Comado n/o ramps NB RT/ST	12.0	point517	517	6,338,369.0	1,875,912.0	925.00				Average	
		point384	384	6,338,315.0	1,875,984.4	919.26				Average	
		point509	509	6,338,284.5	1,876,015.8	917.35				Average	
		point385	385	6,338,246.5	1,876,039.6	915.45				Average	
		point386	386	6,338,200.0	1,876,060.0	912.59				Average	
		point387	387	6,338,158.5	1,876,077.4	911.56				Average	
		point389	389	6,338,145.0	1,876,082.0	911.14					
Palo Comado s/o ramps SB ST	12.0	point518	518	6,338,174.0	1,874,849.8	934.53				Average	
		point434	434	6,338,144.0	1,874,819.8	934.23				Average	
		point435	435	6,338,098.0	1,874,777.8	934.00				Average	
		point436	436	6,338,063.0	1,874,745.8	933.00				Average	
		point437	437	6,338,040.0	1,874,725.1	933.00				Average	

		point438	438	6,338,014.5	1,874,697.0	933.01				Average	
		point439	439	6,337,980.0	1,874,659.1	933.01				Average	
		point440	440	6,337,951.5	1,874,627.5	933.45					
N Chesebro Road n/o PC NB-2	12.0	point519	519	6,338,158.5	1,876,077.4	911.56	Stop	0.00	100	Average	
		point469	469	6,338,180.0	1,876,137.2	913.00				Average	
		point470	470	6,338,197.0	1,876,183.8	913.00				Average	
		point471	471	6,338,214.0	1,876,230.8	913.44				Average	
		point472	472	6,338,229.0	1,876,272.2	914.00				Average	
		point473	473	6,338,241.5	1,876,307.1	914.39					
Chesebro / Canwood SB	12.0	point520	520	6,338,145.0	1,876,082.0	911.14	Stop	0.00	100	Average	
		point508	508	6,338,138.5	1,876,066.0	911.18				Average	
		point483	483	6,338,123.5	1,876,025.6	910.15				Average	
		point484	484	6,338,116.5	1,876,007.1	909.62				Average	
		point485	485	6,338,100.5	1,875,963.6	908.68				Average	
		point486	486	6,338,090.0	1,875,935.2	908.00				Average	
		point487	487	6,338,069.0	1,875,878.0	907.26				Average	
		point488	488	6,338,059.5	1,875,852.2	907.00				Average	
		point489	489	6,338,049.5	1,875,830.9	906.53				Average	
		point490	490	6,338,028.0	1,875,789.8	906.00				Average	
		point491	491	6,338,012.5	1,875,759.9	905.00				Average	
		point492	492	6,338,005.5	1,875,746.5	905.00				Average	
		point493	493	6,337,990.0	1,875,722.5	905.00				Average	
		point494	494	6,337,955.0	1,875,680.6	904.00				Average	
		point495	495	6,337,935.5	1,875,657.5	903.55				Average	
		point496	496	6,337,926.5	1,875,646.8	903.27				Average	
		point497	497	6,337,897.0	1,875,625.0	903.00				Average	
		point498	498	6,337,840.5	1,875,582.8	902.01				Average	
		point499	499	6,337,813.0	1,875,562.1	902.01				Average	
		point500	500	6,337,742.0	1,875,528.6	902.01				Average	
		point501	501	6,337,689.0	1,875,504.2	902.01					
Chesebro / Canwood NB	12.0	point453	453	6,337,701.0	1,875,484.8	902.01	Stop	0.00	100	Average	
		point454	454	6,337,763.0	1,875,514.1	902.01				Average	
		point455	455	6,337,824.5	1,875,544.6	902.00				Average	
		point456	456	6,337,864.0	1,875,575.9	902.01				Average	
		point457	457	6,337,938.0	1,875,634.8	903.32				Average	
		point458	458	6,337,977.5	1,875,683.6	904.00				Average	
		point459	459	6,338,012.0	1,875,725.6	905.00				Average	
		point460	460	6,338,072.5	1,875,832.4	907.00				Average	
		point463	463	6,338,101.0	1,875,912.5	908.17				Average	

		point464	464	6,338,115.0	1,875,955.2	908.71				Average	
		point465	465	6,338,132.5	1,876,007.2	910.00				Average	
		point466	466	6,338,147.5	1,876,052.2	911.39				Average	
		point507	507	6,338,150.5	1,876,060.6	911.54				Average	
		point468	468	6,338,158.5	1,876,077.4	911.56					

Kimley-Horn and Associates **6 January 201**

ASG **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Percentages

PROJECT/CONTRACT: **Agoura Hills / US 101**

RUN: **2035 No Build**

Roadway	Points												
Name	Name	No.	Segment										
			Total	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			Volume	P	S	P	S	P	S	P	S	P	S
			veh/hr	%	mph	%	mph	%	mph	%	mph	%	mph
US 101 EB Off Ramp	point1	1	279	95	65	4	65	0	0	0	0	1	65
	point2	2	279	95	65	4	65	0	0	0	0	1	65
	point3	3	279	95	65	4	65	0	0	0	0	1	65
	point4	4	279	95	65	4	65	0	0	0	0	1	65
	point5	5	279	95	65	4	65	0	0	0	0	1	65
	point6	6											
US 101 EB Off Ramp ST/LT	point13	13	194	95	65	4	65	0	0	0	0	1	65
	point14	14	194	95	65	4	65	0	0	0	0	1	65
	point15	15	194	95	65	4	65	0	0	0	0	1	65
	point16	16	194	95	65	4	65	0	0	0	0	1	65
	point17	17	194	95	65	4	65	0	0	0	0	1	65
	point18	18	194	95	65	4	65	0	0	0	0	1	65
	point19	19	194	95	65	4	65	0	0	0	0	1	65
	point20	20											
S Chesebro Road w/o PC SB	point21	21	274	95	35	4	35	0	0	0	0	1	35
	point22	22	274	95	35	4	35	0	0	0	0	1	35
	point23	23	274	95	35	4	35	0	0	0	0	1	35
	point24	24	274	95	35	4	35	0	0	0	0	1	35
	point25	25	274	95	35	4	35	0	0	0	0	1	35
	point26	26											
S Chesebro Road w/o PC NB	point28	28	533	95	35	4	35	0	0	0	0	1	35
	point29	29	533	95	35	4	35	0	0	0	0	1	35
	point30	30	533	95	35	4	35	0	0	0	0	1	35

	point31	31	533	95	35	4	35	0	0	0	0	1	35
	point32	32											
US 101 EB On Ramp	point33	33	564	95	65	4	65	0	0	0	0	1	65
	point34	34	564	95	65	4	65	0	0	0	0	1	65
	point35	35	564	95	65	4	65	0	0	0	0	1	65
	point36	36	564	95	65	4	65	0	0	0	0	1	65
	point37	37	564	95	65	4	65	0	0	0	0	1	65
	point38	38	564	95	65	4	65	0	0	0	0	1	65
	point39	39	564	95	65	4	65	0	0	0	0	1	65
	point40	40	564	95	65	4	65	0	0	0	0	1	65
	point41	41	564	95	65	4	65	0	0	0	0	1	65
	point42	42	564	95	65	4	65	0	0	0	0	1	65
	point43	43	564	95	65	4	65	0	0	0	0	1	65
	point44	44	564	95	65	4	65	0	0	0	0	1	65
	point45	45	564	95	65	4	65	0	0	0	0	1	65
	point46	46	564	95	65	4	65	0	0	0	0	1	65
	point47	47	564	95	65	4	65	0	0	0	0	1	65
	point48	48	564	95	65	4	65	0	0	0	0	1	65
	point49	49	564	95	65	4	65	0	0	0	0	1	65
	point50	50	564	95	65	4	65	0	0	0	0	1	65
	point51	51											
US 101 WB Off Ramp LT	point52	52	470	95	65	4	65	0	0	0	0	1	65
	point53	53	470	95	65	4	65	0	0	0	0	1	65
	point54	54											
US 101 WB Off Ramp	point55	55	939	95	65	4	65	0	0	0	0	1	65
	point56	56	939	95	65	4	65	0	0	0	0	1	65
	point57	57	939	95	65	4	65	0	0	0	0	1	65
	point58	58	939	95	65	4	65	0	0	0	0	1	65
	point59	59	939	95	65	4	65	0	0	0	0	1	65
	point60	60	939	95	65	4	65	0	0	0	0	1	65
	point61	61	939	95	65	4	65	0	0	0	0	1	65
	point62	62	939	95	65	4	65	0	0	0	0	1	65
	point63	63	939	95	65	4	65	0	0	0	0	1	65
	point64	64	939	95	65	4	65	0	0	0	0	1	65
	point65	65	939	95	65	4	65	0	0	0	0	1	65
	point66	66											

US 101 WB 4	point71	71	1800	89	65	6	65	5	65	0	0	0	0
	point73	73	1800	89	65	6	65	5	65	0	0	0	0
	point74	74	1800	89	65	6	65	5	65	0	0	0	0
	point75	75	1800	89	65	6	65	5	65	0	0	0	0
	point76	76	1800	89	65	6	65	5	65	0	0	0	0
	point77	77	1800	89	65	6	65	5	65	0	0	0	0
	point78	78	1800	89	65	6	65	5	65	0	0	0	0
	point79	79	1800	89	65	6	65	5	65	0	0	0	0
	point80	80	1800	89	65	6	65	5	65	0	0	0	0
	point81	81	1800	89	65	6	65	5	65	0	0	0	0
	point82	82	1800	89	65	6	65	5	65	0	0	0	0
	point83	83	1800	89	65	6	65	5	65	0	0	0	0
	point84	84	1800	89	65	6	65	5	65	0	0	0	0
	point85	85	1800	89	65	6	65	5	65	0	0	0	0
	point86	86	1800	89	65	6	65	5	65	0	0	0	0
	point87	87	1800	89	65	6	65	5	65	0	0	0	0
	point90	90	1800	89	65	6	65	5	65	0	0	0	0
	point91	91	1800	89	65	6	65	5	65	0	0	0	0
	point92	92	1800	89	65	6	65	5	65	0	0	0	0
	point93	93	1800	89	65	6	65	5	65	0	0	0	0
	point94	94	1800	89	65	6	65	5	65	0	0	0	0
	point95	95	1800	89	65	6	65	5	65	0	0	0	0
	point96	96	1800	89	65	6	65	5	65	0	0	0	0
	point97	97	1800	89	65	6	65	5	65	0	0	0	0
	point98	98	1800	89	65	6	65	5	65	0	0	0	0
	point99	99	1800	89	65	6	65	5	65	0	0	0	0
	point100	100	1800	89	65	6	65	5	65	0	0	0	0
	point101	101	1800	89	65	6	65	5	65	0	0	0	0
	point102	102	1800	89	65	6	65	5	65	0	0	0	0
	point103	103	1800	89	65	6	65	5	65	0	0	0	0
	point104	104											
US 101 EB 4	point105	105	1800	89	65	6	65	5	65	0	0	0	0
	point106	106	1800	89	65	6	65	5	65	0	0	0	0
	point107	107	1800	89	65	6	65	5	65	0	0	0	0
	point108	108	1800	89	65	6	65	5	65	0	0	0	0
	point109	109	1800	89	65	6	65	5	65	0	0	0	0

	point110	110	1800	89	65	6	65	5	65	0	0	0	0
	point111	111	1800	89	65	6	65	5	65	0	0	0	0
	point112	112	1800	89	65	6	65	5	65	0	0	0	0
	point113	113	1800	89	65	6	65	5	65	0	0	0	0
	point114	114	1800	89	65	6	65	5	65	0	0	0	0
	point115	115	1800	89	65	6	65	5	65	0	0	0	0
	point116	116	1800	89	65	6	65	5	65	0	0	0	0
	point117	117	1800	89	65	6	65	5	65	0	0	0	0
	point118	118	1800	89	65	6	65	5	65	0	0	0	0
	point119	119	1800	89	65	6	65	5	65	0	0	0	0
	point120	120	1800	89	65	6	65	5	65	0	0	0	0
	point121	121	1800	89	65	6	65	5	65	0	0	0	0
	point122	122	1800	89	65	6	65	5	65	0	0	0	0
	point123	123	1800	89	65	6	65	5	65	0	0	0	0
	point124	124	1800	89	65	6	65	5	65	0	0	0	0
	point125	125	1800	89	65	6	65	5	65	0	0	0	0
	point126	126	1800	89	65	6	65	5	65	0	0	0	0
	point127	127	1800	89	65	6	65	5	65	0	0	0	0
	point128	128	1800	89	65	6	65	5	65	0	0	0	0
	point129	129	1800	89	65	6	65	5	65	0	0	0	0
	point130	130	1800	89	65	6	65	5	65	0	0	0	0
	point131	131	1800	89	65	6	65	5	65	0	0	0	0
	point132	132	1800	89	65	6	65	5	65	0	0	0	0
	point133	133	1800	89	65	6	65	5	65	0	0	0	0
	point134	134	1800	89	65	6	65	5	65	0	0	0	0
	point135	135	1800	89	65	6	65	5	65	0	0	0	0
	point136	136	1800	89	65	6	65	5	65	0	0	0	0
	point137	137	1800	89	65	6	65	5	65	0	0	0	0
	point138	138	1800	89	65	6	65	5	65	0	0	0	0
	point139	139	1800	89	65	6	65	5	65	0	0	0	0
	point140	140											
US 101 WB 3	point141	141	1800	89	65	6	65	5	65	0	0	0	0
	point142	142	1800	89	65	6	65	5	65	0	0	0	0
	point143	143	1800	89	65	6	65	5	65	0	0	0	0
	point144	144	1800	89	65	6	65	5	65	0	0	0	0
	point145	145	1800	89	65	6	65	5	65	0	0	0	0

	point146	146	1800	89	65	6	65	5	65	0	0	0	0
	point147	147	1800	89	65	6	65	5	65	0	0	0	0
	point148	148	1800	89	65	6	65	5	65	0	0	0	0
	point149	149	1800	89	65	6	65	5	65	0	0	0	0
	point150	150	1800	89	65	6	65	5	65	0	0	0	0
	point151	151	1800	89	65	6	65	5	65	0	0	0	0
	point152	152	1800	89	65	6	65	5	65	0	0	0	0
	point153	153	1800	89	65	6	65	5	65	0	0	0	0
	point154	154	1800	89	65	6	65	5	65	0	0	0	0
	point155	155	1800	89	65	6	65	5	65	0	0	0	0
	point156	156	1800	89	65	6	65	5	65	0	0	0	0
	point157	157	1800	89	65	6	65	5	65	0	0	0	0
	point158	158	1800	89	65	6	65	5	65	0	0	0	0
	point159	159	1800	89	65	6	65	5	65	0	0	0	0
	point160	160	1800	89	65	6	65	5	65	0	0	0	0
	point161	161	1800	89	65	6	65	5	65	0	0	0	0
	point162	162	1800	89	65	6	65	5	65	0	0	0	0
	point163	163	1800	89	65	6	65	5	65	0	0	0	0
	point164	164	1800	89	65	6	65	5	65	0	0	0	0
	point165	165	1800	89	65	6	65	5	65	0	0	0	0
	point166	166	1800	89	65	6	65	5	65	0	0	0	0
	point167	167	1800	89	65	6	65	5	65	0	0	0	0
	point168	168	1800	89	65	6	65	5	65	0	0	0	0
	point169	169	1800	89	65	6	65	5	65	0	0	0	0
	point170	170	1800	89	65	6	65	5	65	0	0	0	0
	point171	171	1800	89	65	6	65	5	65	0	0	0	0
	point172	172	1800	89	65	6	65	5	65	0	0	0	0
	point173	173	1800	89	65	6	65	5	65	0	0	0	0
	point174	174	1800	89	65	6	65	5	65	0	0	0	0
	point175	175	1800	89	65	6	65	5	65	0	0	0	0
	point176	176											
US 101 EB 3	point177	177	1800	89	65	6	65	5	65	0	0	0	0
	point178	178	1800	89	65	6	65	5	65	0	0	0	0
	point179	179	1800	89	65	6	65	5	65	0	0	0	0
	point180	180	1800	89	65	6	65	5	65	0	0	0	0
	point181	181	1800	89	65	6	65	5	65	0	0	0	0

	point182	182	1800	89	65	6	65	5	65	0	0	0	0
	point183	183	1800	89	65	6	65	5	65	0	0	0	0
	point185	185	1800	89	65	6	65	5	65	0	0	0	0
	point186	186	1800	89	65	6	65	5	65	0	0	0	0
	point187	187	1800	89	65	6	65	5	65	0	0	0	0
	point188	188	1800	89	65	6	65	5	65	0	0	0	0
	point189	189	1800	89	65	6	65	5	65	0	0	0	0
	point190	190	1800	89	65	6	65	5	65	0	0	0	0
	point191	191	1800	89	65	6	65	5	65	0	0	0	0
	point192	192	1800	89	65	6	65	5	65	0	0	0	0
	point193	193	1800	89	65	6	65	5	65	0	0	0	0
	point194	194	1800	89	65	6	65	5	65	0	0	0	0
	point195	195	1800	89	65	6	65	5	65	0	0	0	0
	point196	196	1800	89	65	6	65	5	65	0	0	0	0
	point197	197	1800	89	65	6	65	5	65	0	0	0	0
	point198	198	1800	89	65	6	65	5	65	0	0	0	0
	point199	199	1800	89	65	6	65	5	65	0	0	0	0
	point200	200	1800	89	65	6	65	5	65	0	0	0	0
	point201	201	1800	89	65	6	65	5	65	0	0	0	0
	point202	202	1800	89	65	6	65	5	65	0	0	0	0
	point203	203	1800	89	65	6	65	5	65	0	0	0	0
	point204	204	1800	89	65	6	65	5	65	0	0	0	0
	point205	205	1800	89	65	6	65	5	65	0	0	0	0
	point206	206	1800	89	65	6	65	5	65	0	0	0	0
	point207	207	1800	89	65	6	65	5	65	0	0	0	0
	point208	208	1800	89	65	6	65	5	65	0	0	0	0
	point209	209											
US 101 WB 2	point210	210	1800	98	65	1	65	0	0	0	0	1	65
	point211	211	1800	98	65	1	65	0	0	0	0	1	65
	point212	212	1800	98	65	1	65	0	0	0	0	1	65
	point213	213	1800	98	65	1	65	0	0	0	0	1	65
	point214	214	1800	98	65	1	65	0	0	0	0	1	65
	point215	215	1800	98	65	1	65	0	0	0	0	1	65
	point216	216	1800	98	65	1	65	0	0	0	0	1	65
	point217	217	1800	98	65	1	65	0	0	0	0	1	65
	point218	218	1800	98	65	1	65	0	0	0	0	1	65

	point219	219	1800	98	65	1	65	0	0	0	0	1	65
	point220	220	1800	98	65	1	65	0	0	0	0	1	65
	point221	221	1800	98	65	1	65	0	0	0	0	1	65
	point222	222	1800	98	65	1	65	0	0	0	0	1	65
	point223	223	1800	98	65	1	65	0	0	0	0	1	65
	point224	224	1800	98	65	1	65	0	0	0	0	1	65
	point225	225	1800	98	65	1	65	0	0	0	0	1	65
	point226	226	1800	98	65	1	65	0	0	0	0	1	65
	point227	227	1800	98	65	1	65	0	0	0	0	1	65
	point228	228	1800	98	65	1	65	0	0	0	0	1	65
	point229	229	1800	98	65	1	65	0	0	0	0	1	65
	point230	230	1800	98	65	1	65	0	0	0	0	1	65
	point231	231	1800	98	65	1	65	0	0	0	0	1	65
	point232	232	1800	98	65	1	65	0	0	0	0	1	65
	point233	233	1800	98	65	1	65	0	0	0	0	1	65
	point234	234	1800	98	65	1	65	0	0	0	0	1	65
	point235	235	1800	98	65	1	65	0	0	0	0	1	65
	point236	236	1800	98	65	1	65	0	0	0	0	1	65
	point237	237	1800	98	65	1	65	0	0	0	0	1	65
	point238	238	1800	98	65	1	65	0	0	0	0	1	65
	point239	239											
US 101 EB 2	point240	240	1800	98	65	1	65	0	0	0	0	1	65
	point241	241	1800	98	65	1	65	0	0	0	0	1	65
	point242	242	1800	98	65	1	65	0	0	0	0	1	65
	point243	243	1800	98	65	1	65	0	0	0	0	1	65
	point244	244	1800	98	65	1	65	0	0	0	0	1	65
	point245	245	1800	98	65	1	65	0	0	0	0	1	65
	point246	246	1800	98	65	1	65	0	0	0	0	1	65
	point247	247	1800	98	65	1	65	0	0	0	0	1	65
	point248	248	1800	98	65	1	65	0	0	0	0	1	65
	point249	249	1800	98	65	1	65	0	0	0	0	1	65
	point250	250	1800	98	65	1	65	0	0	0	0	1	65
	point251	251	1800	98	65	1	65	0	0	0	0	1	65
	point252	252	1800	98	65	1	65	0	0	0	0	1	65
	point253	253	1800	98	65	1	65	0	0	0	0	1	65
	point254	254	1800	98	65	1	65	0	0	0	0	1	65

	point255	255	1800	98	65	1	65	0	0	0	0	1	65
	point256	256	1800	98	65	1	65	0	0	0	0	1	65
	point257	257	1800	98	65	1	65	0	0	0	0	1	65
	point258	258	1800	98	65	1	65	0	0	0	0	1	65
	point259	259	1800	98	65	1	65	0	0	0	0	1	65
	point260	260	1800	98	65	1	65	0	0	0	0	1	65
	point261	261	1800	98	65	1	65	0	0	0	0	1	65
	point262	262	1800	98	65	1	65	0	0	0	0	1	65
	point263	263	1800	98	65	1	65	0	0	0	0	1	65
	point264	264	1800	98	65	1	65	0	0	0	0	1	65
	point265	265	1800	98	65	1	65	0	0	0	0	1	65
	point266	266	1800	98	65	1	65	0	0	0	0	1	65
	point267	267	1800	98	65	1	65	0	0	0	0	1	65
	point268	268	1800	98	65	1	65	0	0	0	0	1	65
	point269	269	1800	98	65	1	65	0	0	0	0	1	65
	point270	270											
US 101 WB 1	point271	271	1800	98	65	1	65	0	0	0	0	1	65
	point272	272	1800	98	65	1	65	0	0	0	0	1	65
	point273	273	1800	98	65	1	65	0	0	0	0	1	65
	point274	274	1800	98	65	1	65	0	0	0	0	1	65
	point275	275	1800	98	65	1	65	0	0	0	0	1	65
	point276	276	1800	98	65	1	65	0	0	0	0	1	65
	point277	277	1800	98	65	1	65	0	0	0	0	1	65
	point278	278	1800	98	65	1	65	0	0	0	0	1	65
	point279	279	1800	98	65	1	65	0	0	0	0	1	65
	point280	280	1800	98	65	1	65	0	0	0	0	1	65
	point281	281	1800	98	65	1	65	0	0	0	0	1	65
	point282	282	1800	98	65	1	65	0	0	0	0	1	65
	point283	283	1800	98	65	1	65	0	0	0	0	1	65
	point284	284	1800	98	65	1	65	0	0	0	0	1	65
	point285	285	1800	98	65	1	65	0	0	0	0	1	65
	point286	286	1800	98	65	1	65	0	0	0	0	1	65
	point287	287	1800	98	65	1	65	0	0	0	0	1	65
	point288	288	1800	98	65	1	65	0	0	0	0	1	65
	point289	289	1800	98	65	1	65	0	0	0	0	1	65
	point290	290	1800	98	65	1	65	0	0	0	0	1	65

	point291	291	1800	98	65	1	65	0	0	0	0	1	65
	point292	292	1800	98	65	1	65	0	0	0	0	1	65
	point293	293	1800	98	65	1	65	0	0	0	0	1	65
	point294	294	1800	98	65	1	65	0	0	0	0	1	65
	point295	295	1800	98	65	1	65	0	0	0	0	1	65
	point296	296	1800	98	65	1	65	0	0	0	0	1	65
	point297	297	1800	98	65	1	65	0	0	0	0	1	65
	point298	298	1800	98	65	1	65	0	0	0	0	1	65
	point299	299	1800	98	65	1	65	0	0	0	0	1	65
	point301	301	1800	98	65	1	65	0	0	0	0	1	65
	point302	302											
US 101 EB 1	point303	303	1800	98	65	1	65	0	0	0	0	1	65
	point304	304	1800	98	65	1	65	0	0	0	0	1	65
	point306	306	1800	98	65	1	65	0	0	0	0	1	65
	point307	307	1800	98	65	1	65	0	0	0	0	1	65
	point308	308	1800	98	65	1	65	0	0	0	0	1	65
	point310	310	1800	98	65	1	65	0	0	0	0	1	65
	point311	311	1800	98	65	1	65	0	0	0	0	1	65
	point312	312	1800	98	65	1	65	0	0	0	0	1	65
	point313	313	1800	98	65	1	65	0	0	0	0	1	65
	point314	314	1800	98	65	1	65	0	0	0	0	1	65
	point315	315	1800	98	65	1	65	0	0	0	0	1	65
	point316	316	1800	98	65	1	65	0	0	0	0	1	65
	point317	317	1800	98	65	1	65	0	0	0	0	1	65
	point318	318	1800	98	65	1	65	0	0	0	0	1	65
	point319	319	1800	98	65	1	65	0	0	0	0	1	65
	point320	320	1800	98	65	1	65	0	0	0	0	1	65
	point321	321	1800	98	65	1	65	0	0	0	0	1	65
	point322	322	1800	98	65	1	65	0	0	0	0	1	65
	point323	323	1800	98	65	1	65	0	0	0	0	1	65
	point324	324	1800	98	65	1	65	0	0	0	0	1	65
	point325	325	1800	98	65	1	65	0	0	0	0	1	65
	point326	326	1800	98	65	1	65	0	0	0	0	1	65
	point327	327	1800	98	65	1	65	0	0	0	0	1	65
	point328	328	1800	98	65	1	65	0	0	0	0	1	65
	point329	329	1800	98	65	1	65	0	0	0	0	1	65

	point330	330											
US 101 WB On Ramp R	point331	331	182	95	65	4	65	0	0	0	0	1	65
	point332	332	182	95	65	4	65	0	0	0	0	1	65
	point333	333	182	95	65	4	65	0	0	0	0	1	65
	point334	334											
US 101 WB On Ramp L	point335	335	182	95	65	4	65	0	0	0	0	1	65
	point336	336	182	95	65	4	65	0	0	0	0	1	65
	point337	337	182	95	65	4	65	0	0	0	0	1	65
	point338	338											
Palo Comado s/o ramps SB RT	point356	356	438	95	35	4	35	0	0	0	0	1	35
	point357	357	438	95	35	4	35	0	0	0	0	1	35
	point358	358	438	95	35	4	35	0	0	0	0	1	35
	point359	359	438	95	35	4	35	0	0	0	0	1	35
	point360	360	438	95	35	4	35	0	0	0	0	1	35
	point361	361	438	95	35	4	35	0	0	0	0	1	35
	point362	362											
S Chesebro Road s/o PC NB	point363	363	267	95	35	4	35	0	0	0	0	1	35
	point364	364	267	95	35	4	35	0	0	0	0	1	35
	point365	365	267	95	35	4	35	0	0	0	0	1	35
	point366	366											
Palo Comado n/o ramps NB LT	point394	394	245	95	35	4	35	0	0	0	0	1	35
	point395	395	245	95	35	4	35	0	0	0	0	1	35
	point396	396	245	95	35	4	35	0	0	0	0	1	35
	point510	510	245	95	35	4	35	0	0	0	0	1	35
	point397	397	245	95	35	4	35	0	0	0	0	1	35
	point516	516	245	95	35	4	35	0	0	0	0	1	35
	point398	398											
Driver Avenue EB	point399	399	284	95	35	4	35	0	0	0	0	1	35
	point400	400	284	95	35	4	35	0	0	0	0	1	35
	point401	401	284	95	35	4	35	0	0	0	0	1	35
	point402	402	284	95	35	4	35	0	0	0	0	1	35
	point404	404											
N Chesebro Road n/o PC SB	point474	474	72	95	35	4	35	0	0	0	0	1	35
	point475	475	72	95	35	4	35	0	0	0	0	1	35
	point476	476	72	95	35	4	35	0	0	0	0	1	35
	point477	477	72	95	35	4	35	0	0	0	0	1	35

	point478	478	72	95	35	4	35	0	0	0	0	1	35
	point479	479	72	95	35	4	35	0	0	0	0	1	35
	point480	480	72	95	35	4	35	0	0	0	0	1	35
	point481	481											
US 101 WB Off Ramp RT	point502	502	470	95	65	4	65	0	0	0	0	1	65
	point67	67	470	95	65	4	65	0	0	0	0	1	65
	point68	68	470	95	65	4	65	0	0	0	0	1	65
	point69	69	470	95	65	4	65	0	0	0	0	1	65
	point70	70											
US 101 WB On Ramp	point503	503	363	95	65	4	65	0	0	0	0	1	65
	point339	339	363	95	65	4	65	0	0	0	0	1	65
	point340	340	363	95	65	4	65	0	0	0	0	1	65
	point341	341	363	95	65	4	65	0	0	0	0	1	65
	point342	342	363	95	65	4	65	0	0	0	0	1	65
	point343	343	363	95	65	4	65	0	0	0	0	1	65
	point344	344	363	95	65	4	65	0	0	0	0	1	65
	point345	345	363	95	65	4	65	0	0	0	0	1	65
	point346	346	363	95	65	4	65	0	0	0	0	1	65
	point347	347	363	95	65	4	65	0	0	0	0	1	65
	point348	348	363	95	65	4	65	0	0	0	0	1	65
	point349	349	363	95	65	4	65	0	0	0	0	1	65
	point350	350	363	95	65	4	65	0	0	0	0	1	65
	point351	351	363	95	65	4	65	0	0	0	0	1	65
	point352	352											
US 101 EB Off Ramp RT	point504	504	85	95	65	4	65	0	0	0	0	1	65
	point7	7	85	95	65	4	65	0	0	0	0	1	65
	point8	8	85	95	65	4	65	0	0	0	0	1	65
	point9	9	85	95	65	4	65	0	0	0	0	1	65
	point10	10	85	95	65	4	65	0	0	0	0	1	65
	point11	11	85	95	65	4	65	0	0	0	0	1	65
	point12	12											
Palo Comado s/o ramps NB	point505	505	400	95	35	4	35	0	0	0	0	1	35
	point367	367	400	95	35	4	35	0	0	0	0	1	35
	point368	368	400	95	35	4	35	0	0	0	0	1	35
	point369	369	400	95	35	4	35	0	0	0	0	1	35
	point370	370	400	95	35	4	35	0	0	0	0	1	35

	point371	371	400	95	35	4	35	0	0	0	0	1	35
	point372	372	400	95	35	4	35	0	0	0	0	1	35
	point373	373	400	95	35	4	35	0	0	0	0	1	35
	point374	374	400	95	35	4	35	0	0	0	0	1	35
	point375	375	400	95	35	4	35	0	0	0	0	1	35
	point376	376	400	95	35	4	35	0	0	0	0	1	35
	point377	377	400	95	35	4	35	0	0	0	0	1	35
	point513	513											
S Chesebro Road s/o PC SB	point506	506	382	95	35	4	35	0	0	0	0	1	35
	point441	441	382	95	35	4	35	0	0	0	0	1	35
	point442	442	382	95	35	4	35	0	0	0	0	1	35
	point443	443	382	95	35	4	35	0	0	0	0	1	35
	point444	444	382	95	35	4	35	0	0	0	0	1	35
	point445	445	382	95	35	4	35	0	0	0	0	1	35
	point446	446	382	95	35	4	35	0	0	0	0	1	35
	point447	447											
Driver Avenue WB	point511	511	696	95	35	4	35	0	0	0	0	1	35
	point390	390	696	95	35	4	35	0	0	0	0	1	35
	point391	391	696	95	35	4	35	0	0	0	0	1	35
	point392	392	696	95	35	4	35	0	0	0	0	1	35
	point393	393											
Palo Comado n/o ramps SB	point512	512	630	95	35	4	35	0	0	0	0	1	35
	point405	405	630	95	35	4	35	0	0	0	0	1	35
	point406	406	630	95	35	4	35	0	0	0	0	1	35
	point407	407	630	95	35	4	35	0	0	0	0	1	35
	point408	408	630	95	35	4	35	0	0	0	0	1	35
	point409	409	630	95	35	4	35	0	0	0	0	1	35
	point410	410	630	95	35	4	35	0	0	0	0	1	35
	point411	411	630	95	35	4	35	0	0	0	0	1	35
	point412	412	630	95	35	4	35	0	0	0	0	1	35
	point413	413	630	95	35	4	35	0	0	0	0	1	35
	point414	414	630	95	35	4	35	0	0	0	0	1	35
	point415	415	630	95	35	4	35	0	0	0	0	1	35
	point416	416	630	95	35	4	35	0	0	0	0	1	35
	point417	417	630	95	35	4	35	0	0	0	0	1	35
	point418	418	630	95	35	4	35	0	0	0	0	1	35

	point419	419											
Palo Comado n/o ramps NB	point514	514	920	95	35	4	35	0	0	0	0	1	35
	point378	378	920	95	35	4	35	0	0	0	0	1	35
	point379	379	920	95	35	4	35	0	0	0	0	1	35
	point380	380	920	95	35	4	35	0	0	0	0	1	35
	point381	381	920	95	35	4	35	0	0	0	0	1	35
	point382	382	920	95	35	4	35	0	0	0	0	1	35
	point383	383											
Palo Comado s/o ramps SB	point515	515	786	95	35	4	35	0	0	0	0	1	35
	point420	420	786	95	35	4	35	0	0	0	0	1	35
	point421	421	786	95	35	4	35	0	0	0	0	1	35
	point422	422	786	95	35	4	35	0	0	0	0	1	35
	point423	423	786	95	35	4	35	0	0	0	0	1	35
	point424	424	786	95	35	4	35	0	0	0	0	1	35
	point425	425	786	95	35	4	35	0	0	0	0	1	35
	point426	426	786	95	35	4	35	0	0	0	0	1	35
	point427	427	786	95	35	4	35	0	0	0	0	1	35
	point428	428	786	95	35	4	35	0	0	0	0	1	35
	point429	429	786	95	35	4	35	0	0	0	0	1	35
	point430	430	786	95	35	4	35	0	0	0	0	1	35
	point431	431	786	95	35	4	35	0	0	0	0	1	35
	point432	432	786	95	35	4	35	0	0	0	0	1	35
	point433	433											
Palo Comado n/o ramps NB RT/ST	point517	517	675	95	35	4	35	0	0	0	0	1	35
	point384	384	675	95	35	4	35	0	0	0	0	1	35
	point509	509	675	95	35	4	35	0	0	0	0	1	35
	point385	385	675	95	35	4	35	0	0	0	0	1	35
	point386	386	675	95	35	4	35	0	0	0	0	1	35
	point387	387	675	95	35	4	35	0	0	0	0	1	35
	point389	389											
Palo Comado s/o ramps SB ST	point518	518	348	95	35	4	35	0	0	0	0	1	35
	point434	434	348	95	35	4	35	0	0	0	0	1	35
	point435	435	348	95	35	4	35	0	0	0	0	1	35
	point436	436	348	95	35	4	35	0	0	0	0	1	35
	point437	437	348	95	35	4	35	0	0	0	0	1	35
	point438	438	348	95	35	4	35	0	0	0	0	1	35

	point439	439	348	95	35	4	35	0	0	0	0	1	35
	point440	440											
N Chesebro Road n/o PC NB-2	point519	519	52	95	35	4	35	0	0	0	0	1	35
	point469	469	52	95	35	4	35	0	0	0	0	1	35
	point470	470	52	95	35	4	35	0	0	0	0	1	35
	point471	471	52	95	35	4	35	0	0	0	0	1	35
	point472	472	52	95	35	4	35	0	0	0	0	1	35
	point473	473											
Chesebro / Canwood SB	point520	520	260	95	35	4	35	0	0	0	0	1	35
	point508	508	260	95	35	4	35	0	0	0	0	1	35
	point483	483	260	95	35	4	35	0	0	0	0	1	35
	point484	484	260	95	35	4	35	0	0	0	0	1	35
	point485	485	260	95	35	4	35	0	0	0	0	1	35
	point486	486	260	95	35	4	35	0	0	0	0	1	35
	point487	487	260	95	35	4	35	0	0	0	0	1	35
	point488	488	260	95	35	4	35	0	0	0	0	1	35
	point489	489	260	95	35	4	35	0	0	0	0	1	35
	point490	490	260	95	35	4	35	0	0	0	0	1	35
	point491	491	260	95	35	4	35	0	0	0	0	1	35
	point492	492	260	95	35	4	35	0	0	0	0	1	35
	point493	493	260	95	35	4	35	0	0	0	0	1	35
	point494	494	260	95	35	4	35	0	0	0	0	1	35
	point495	495	260	95	35	4	35	0	0	0	0	1	35
	point496	496	260	95	35	4	35	0	0	0	0	1	35
	point497	497	260	95	35	4	35	0	0	0	0	1	35
	point498	498	260	95	35	4	35	0	0	0	0	1	35
	point499	499	260	95	35	4	35	0	0	0	0	1	35
	point500	500	260	95	35	4	35	0	0	0	0	1	35
	point501	501											
Chesebro / Canwood NB	point453	453	362	95	35	4	35	0	0	0	0	1	35
	point454	454	362	95	35	4	35	0	0	0	0	1	35
	point455	455	362	95	35	4	35	0	0	0	0	1	35
	point456	456	362	95	35	4	35	0	0	0	0	1	35
	point457	457	362	95	35	4	35	0	0	0	0	1	35
	point458	458	362	95	35	4	35	0	0	0	0	1	35
	point459	459	362	95	35	4	35	0	0	0	0	1	35

	point460	460	362	95	35	4	35	0	0	0	0	1	35
	point463	463	362	95	35	4	35	0	0	0	0	1	35
	point464	464	362	95	35	4	35	0	0	0	0	1	35
	point465	465	362	95	35	4	35	0	0	0	0	1	35
	point466	466	362	95	35	4	35	0	0	0	0	1	35
	point507	507	362	95	35	4	35	0	0	0	0	1	35
	point468	468											

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ASG TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: Agoura Hills / US 101
RUN: 2035 No Build

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria Existing LAeq1h	Impact Criteria LAeq1h	Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
R1	9	1	6,338,238.0	1,876,085.0	914.00	4.92	70.30	66	12.0	8.0	Y
R1A	10	1	6,338,317.5	1,876,034.6	917.00	4.92	70.30	66	12.0	8.0	
R1 5306 Chesebro Road - Side Yard											
R1A 5306 Chesebro Road - Backyard											

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INPUT: BARRIERS
PROJECT/CONTRACT: Agoura Hills / US 101
RUN: 2035 No Build

Barrier Name	Type	Height Min	Height Max	If Wall $ per Unit Area	If Berm $ per Unit Vol.	Top Width	Run:Rise	Add'tnl $ per Unit Length	Points Name	No.	Coordinates (bottom) X	Y	Z	Height at Point	Segment Seg Ht Incre-ment	Perturbs #Up	#Dn	On Struct?	Important Reflec-tions?
		ft	ft	$/sq ft	$/cu yd	ft	ft:ft	$/ft			ft	ft	ft	ft	ft				
Barrier2	W	0.00	99.99	0.00				0.00	point1	1	6,337,802.0	1,875,610.9	904.04	25.00	0.00	0	0		
									point2	2	6,337,854.0	1,875,650.4	904.20	25.00	0.00	0	0		
									point3	3	6,337,987.5	1,875,800.5	908.00	25.00	0.00	0	0		
									point4	4	6,337,944.0	1,875,831.8	908.00	25.00	0.00	0	0		
									point5	5	6,337,916.5	1,875,804.6	908.16	25.00	0.00	0	0		
									point6	6	6,337,844.0	1,875,867.1	908.00	25.00	0.00	0	0		
									point7	7	6,337,779.0	1,875,788.0	909.00	25.00	0.00	0	0		
									point8	8	6,337,731.0	1,875,831.8	908.52	25.00	0.00	0	0		
									point9	9	6,337,783.5	1,875,881.8	907.24	25.00	0.00	0	0		
									point10	10	6,337,666.5	1,875,963.0	901.81	25.00	0.00	0	0		
									point11	11	6,337,518.5	1,875,800.5	904.00	25.00	0.00	0	0		
									point14	14	6,337,802.0	1,875,610.9	904.04	25.00					
Barrier3	W	0.00	99.99	0.00				0.00	point15	15	6,337,727.5	1,875,974.9	902.14	15.00	0.00	0	0		
									point16	16	6,338,021.0	1,875,864.9	907.00	15.00	0.00	0	0		
									point17	17	6,338,037.5	1,875,904.0	907.17	15.00	0.00	0	0		
									point18	18	6,337,745.5	1,876,019.8	904.40	15.00	0.00	0	0		
									point19	19	6,337,727.5	1,875,974.9	902.14	15.00					
Barrier4	W	0.00	99.99	0.00				0.00	point20	20	6,338,034.5	1,875,593.6	905.08	15.00	0.00	0	0		
									point21	21	6,338,008.0	1,875,509.4	904.92	15.00	0.00	0	0		
									point22	22	6,338,042.5	1,875,496.1	906.55	15.00	0.00	0	0		
									point23	23	6,338,129.5	1,875,516.9	910.79	15.00	0.00	0	0		
									point24	24	6,338,141.5	1,875,555.8	909.65	15.00	0.00	0	0		
									point25	25	6,338,034.5	1,875,593.6	905.08	15.00					
Barrier5	W	0.00	99.99	0.00				0.00	point26	26	6,338,270.5	1,875,601.9	934.00	15.00	0.00	0	0		
									point27	27	6,338,272.5	1,875,696.4	933.79	15.00	0.00	0	0		
									point28	28	6,338,317.5	1,875,695.5	934.00	15.00	0.00	0	0		
									point29	29	6,338,316.0	1,875,601.0	933.77	15.00	0.00	0	0		
									point30	30	6,338,270.5	1,875,601.9	934.00	15.00					
Barrier6	W	0.00	99.99	0.00				0.00	point31	31	6,338,269.0	1,876,252.2	914.81	15.00	0.00	0	0		
									point32	32	6,338,340.5	1,876,219.2	916.00	15.00	0.00	0	0		
									point34	34	6,338,328.5	1,876,192.1	915.71	15.00	0.00	0	0		
									point35	35	6,338,256.5	1,876,217.9	914.43	15.00	0.00	0	0		
									point36	36	6,338,269.0	1,876,252.2	914.81	15.00					
Barrier7	W	0.00	99.99	0.00				0.00	point37	37	6,338,326.0	1,876,180.2	915.72	15.00	0.00	0	0		
									point38	38	6,338,314.0	1,876,150.4	915.15	15.00	0.00	0	0		

									point39	39	6,338,289.0	1,876,159.6	914.88	15.00	0.00	0	0			
									point40	40	6,338,299.5	1,876,189.9	915.24	15.00	0.00	0	0			
									point41	41	6,338,326.0	1,876,180.2	915.72	15.00						
Barrier8	W	0.00	99.99	0.00				0.00	point42	42	6,338,278.5	1,876,143.1	914.30	15.00	0.00	0	0			
									point43	43	6,338,261.5	1,876,097.4	914.19	15.00	0.00	0	0			
									point44	44	6,338,233.0	1,876,111.4	913.94	15.00	0.00	0	0			
									point45	45	6,338,233.5	1,876,125.0	913.80	15.00	0.00	0	0			
									point46	46	6,338,246.0	1,876,155.0	913.76	15.00	0.00	0	0			
									point47	47	6,338,278.5	1,876,143.1	914.30	15.00						
Barrier9	W	0.00	99.99	0.00				0.00	point48	48	6,338,448.5	1,875,684.8	933.07	15.00	0.00	0	0			
									point49	49	6,338,445.5	1,875,660.1	933.41	15.00	0.00	0	0			
									point51	51	6,338,469.5	1,875,657.0	934.27	15.00	0.00	0	0			
									point52	52	6,338,473.0	1,875,681.8	934.07	15.00	0.00	0	0			
									point53	53	6,338,448.5	1,875,684.8	933.07	15.00						
Barrier10	W	0.00	99.99	0.00				0.00	point54	54	6,338,510.5	1,875,678.2	938.13	15.00	0.00	0	0			
									point55	55	6,338,545.0	1,875,636.6	935.94	15.00	0.00	0	0			
									point56	56	6,338,519.5	1,875,614.9	935.51	15.00	0.00	0	0			
									point57	57	6,338,502.5	1,875,635.1	934.96	15.00	0.00	0	0			
									point58	58	6,338,499.5	1,875,632.5	934.90	15.00	0.00	0	0			
									point59	59	6,338,481.5	1,875,654.0	934.51	15.00	0.00	0	0			
									point60	60	6,338,510.5	1,875,678.2	938.13	15.00						
Barrier12	W	0.00	99.99	0.00				0.00	point69	69	6,338,437.5	1,875,161.0	919.18	15.00	0.00	0	0			
									point70	70	6,338,514.5	1,875,124.8	924.53	15.00	0.00	0	0			
									point71	71	6,338,480.5	1,875,053.9	926.00	15.00	0.00	0	0			
									point72	72	6,338,430.0	1,875,077.9	925.40	15.00	0.00	0	0			
									point73	73	6,338,422.0	1,875,060.8	927.00	15.00	0.00	0	0			
									point74	74	6,338,393.5	1,875,074.0	923.12	15.00	0.00	0	0			
									point75	75	6,338,410.5	1,875,104.2	922.84	15.00	0.00	0	0			
									point76	76	6,338,398.5	1,875,109.9	922.00	15.00	0.00	0	0			
									point77	77	6,338,418.5	1,875,151.2	919.80	15.00	0.00	0	0			
									point78	78	6,338,430.0	1,875,145.6	920.23	15.00	0.00	0	0			
									point80	80	6,338,437.5	1,875,161.0	919.18	15.00						
Barrier13	W	0.00	99.99	0.00				0.00	point81	81	6,338,612.5	1,875,064.1	937.92	15.00	0.00	0	0			
									point82	82	6,338,574.5	1,874,991.4	932.83	15.00	0.00	0	0			
									point83	83	6,338,485.0	1,875,036.6	929.03	15.00	0.00	0	0			
									point84	84	6,338,521.5	1,875,109.9	925.73	15.00	0.00	0	0			
									point85	85	6,338,612.5	1,875,064.1	937.92	15.00						
Barrier14	W	0.00	99.99	0.00				0.00	point86	86	6,338,649.0	1,875,027.2	941.00	15.00	0.00	0	0			
									point87	87	6,338,624.5	1,874,976.0	936.21	15.00	0.00	0	0			
									point88	88	6,338,721.0	1,874,930.5	941.89	15.00	0.00	0	0			
									point89	89	6,338,745.0	1,874,981.4	942.00	15.00	0.00	0	0			
									point90	90	6,338,649.0	1,875,027.2	941.00	15.00						
Barrier15	W	0.00	99.99	0.00				0.00	point91	91	6,338,766.5	1,874,976.4	948.67	15.00	0.00	0	0			
									point92	92	6,338,877.5	1,874,911.4	947.38	15.00	0.00	0	0			
									point93	93	6,338,847.0	1,874,866.5	944.00	15.00	0.00	0	0			
									point94	94	6,338,788.5	1,874,882.2	944.00	15.00	0.00	0	0			
									point95	95	6,338,753.5	1,874,902.6	944.69	15.00	0.00	0	0			
									point96	96	6,338,749.0	1,874,894.6	944.00	15.00	0.00	0	0			
									point97	97	6,338,722.5	1,874,909.9	944.00	15.00	0.00	0	0			

									point98	98	6,338,766.5	1,874,976.4	948.67	15.00						
Barrier16	W	0.00	99.99	0.00				0.00	point99	99	6,338,047.0	1,875,123.9	908.42	15.00	0.00	0	0			
									point102	102	6,338,053.5	1,875,076.4	908.43	15.00	0.00	0	0			
									point104	104	6,338,194.0	1,875,095.4	911.00	15.00	0.00	0	0			
									point105	105	6,338,203.0	1,875,104.8	911.00	15.00	0.00	0	0			
									point106	106	6,338,201.5	1,875,135.1	911.00	15.00	0.00	0	0			
									point107	107	6,338,181.5	1,875,137.1	911.00	15.00	0.00	0	0			
									point108	108	6,338,121.0	1,875,134.2	910.00	15.00	0.00	0	0			
									point109	109	6,338,047.0	1,875,123.9	908.42	15.00						
Barrier17	W	0.00	99.99	0.00				0.00	point110	110	6,337,977.0	1,875,162.9	908.00	15.00	0.00	0	0			
									point111	111	6,337,991.0	1,875,066.8	907.00	15.00	0.00	0	0			
									point112	112	6,337,955.5	1,875,061.8	907.00	15.00	0.00	0	0			
									point113	113	6,337,942.0	1,875,157.5	904.72	15.00	0.00	0	0			
									point115	115	6,337,977.0	1,875,162.9	908.00	15.00						

Kimley-Horn and Associates							6 January 2011					
ASG							TNM 2.5					
							Calculated with TNM 2.5					
RESULTS: SOUND LEVELS												
PROJECT/CONTRACT:		Agoura Hills / US 101										
RUN:		2035 No Build										
BARRIER DESIGN:		INPUT HEIGHTS						Average pavement type shall be used unless				
								a State highway agency substantiates the use				
ATMOSPHERICS:		68 deg F, 50% RH						of a different type with approval of FHWA.				
Receiver												
Name	No.	#DUs	Existing	No Barrier					With Barrier			
			LAeq1h	LAeq1h		Increase over existing		Type	Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R1	9	1	70.3	68.9	66	-1.4	12	Snd Lvl	68.9	0.0	8	-8.0
R1A	10	1	70.3	67.7	66	-2.6	12	Snd Lvl	67.7	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction		
		Min	Avg	Max
		dB	dB	dB
All Selected	2	0.0	0.0	0.0
All Impacted	2	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

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INPUT: ROADWAYS
PROJECT/CONTRACT: Agoura Hills / US 101
RUN: 2035 Build

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
US 101 EB Off Ramp	12.0	point1	1	6,336,934.5	1,875,226.6	902.00				Average	
		point2	2	6,337,006.0	1,875,222.4	903.00				Average	
		point3	3	6,337,098.0	1,875,213.4	899.62				Average	
		point4	4	6,337,235.5	1,875,213.2	903.22				Average	
		point5	5	6,337,323.5	1,875,211.8	903.11				Average	
		point6	6	6,337,395.5	1,875,207.0	902.16					
US 101 EB Off Ramp ST/LT	12.0	point13	13	6,337,392.0	1,875,213.8	903.23				Average	
		point14	14	6,337,467.0	1,875,214.0	902.79				Average	
		point15	15	6,337,522.0	1,875,209.8	902.82				Average	
		point16	16	6,337,580.0	1,875,193.6	902.96				Average	
		point17	17	6,337,645.5	1,875,153.1	902.80				Average	
		point18	18	6,337,680.5	1,875,120.0	902.60				Average	
		point19	19	6,337,718.0	1,875,071.5	902.87				Average	
		point20	20	6,337,742.5	1,875,013.1	902.09					
S Chesebro Road w/o PC SB	12.0	point21	21	6,337,756.0	1,874,950.6	903.52	Stop	0.00	100	Average	
		point22	22	6,337,779.0	1,874,831.4	914.00				Average	
		point23	23	6,337,796.5	1,874,769.6	921.00				Average	
		point24	24	6,337,821.0	1,874,724.9	926.66				Average	
		point25	25	6,337,864.5	1,874,682.4	932.00				Average	
		point26	26	6,337,936.0	1,874,637.5	933.60					
S Chesebro Road w/o PC NB	12.0	point27	27	6,337,947.0	1,874,658.4	933.23				Average	
		point28	28	6,337,880.5	1,874,693.9	931.59				Average	
		point29	29	6,337,842.0	1,874,728.4	926.91				Average	
		point30	30	6,337,813.0	1,874,778.8	920.00				Average	
		point31	31	6,337,794.5	1,874,836.6	913.52				Average	

		point32	32	6,337,771.5	1,874,954.5	903.80					
US 101 EB On Ramp	12.0	point33	33	6,337,763.5	1,875,006.2	903.00	Onramp	10.00	100	Average	
		point34	34	6,337,751.5	1,875,084.8	903.57				Average	
		point35	35	6,337,766.0	1,875,146.6	904.28				Average	
		point36	36	6,337,805.0	1,875,187.5	905.00				Average	
		point37	37	6,337,872.5	1,875,219.5	906.68				Average	
		point38	38	6,338,018.0	1,875,233.0	907.76				Average	
		point39	39	6,338,099.5	1,875,236.4	908.36				Average	
		point40	40	6,338,178.0	1,875,236.1	908.69				Average	
		point41	41	6,338,309.5	1,875,223.5	910.00				Average	
		point42	42	6,338,400.5	1,875,211.1	910.19				Average	
		point43	43	6,338,519.0	1,875,187.4	910.82				Average	
		point44	44	6,338,640.5	1,875,154.9	910.49				Average	
		point45	45	6,338,766.0	1,875,111.2	910.01				Average	
		point46	46	6,338,871.5	1,875,066.8	909.19				Average	
		point47	47	6,338,949.0	1,875,028.2	908.17				Average	
		point48	48	6,339,105.0	1,874,938.2	904.63				Average	
		point49	49	6,339,219.0	1,874,854.8	900.83				Average	
		point50	50	6,339,298.0	1,874,797.0	898.58				Average	
		point51	51	6,339,585.5	1,874,556.1	889.52					
US 101 WB Off Ramp	12.0	point55	55	6,339,606.5	1,874,728.9	894.00				Average	
		point56	56	6,339,522.5	1,874,798.6	897.78				Average	
		point57	57	6,339,452.5	1,874,857.0	901.19				Average	
		point58	58	6,339,291.5	1,874,985.8	905.53					
US 101 WB 4	12.0	point71	71	6,339,602.5	1,874,717.6	893.62				Average	
		point73	73	6,339,514.0	1,874,790.8	897.46				Average	
		point74	74	6,339,452.0	1,874,842.1	900.36				Average	
		point75	75	6,339,352.5	1,874,923.0	904.62				Average	
		point76	76	6,339,282.5	1,874,978.0	907.58				Average	
		point77	77	6,339,228.0	1,875,015.6	909.55				Average	
		point78	78	6,339,167.0	1,875,057.5	911.49				Average	
		point79	79	6,339,070.5	1,875,113.5	913.61				Average	
		point80	80	6,338,995.0	1,875,152.5	914.60				Average	
		point81	81	6,338,915.5	1,875,191.4	915.68				Average	
		point82	82	6,338,852.5	1,875,217.2	916.07				Average	
		point83	83	6,338,780.5	1,875,246.6	916.72				Average	
		point84	84	6,338,695.0	1,875,275.9	916.94				Average	
		point85	85	6,338,614.0	1,875,303.5	917.12				Average	
		point86	86	6,338,501.0	1,875,329.0	916.37				Average	

		point87	87	6,338,426.0	1,875,344.0	915.83				Average	
		point90	90	6,338,320.0	1,875,358.4	915.00				Average	
		point91	91	6,338,229.5	1,875,370.6	914.45				Average	
		point92	92	6,338,180.0	1,875,374.1	914.14				Average	
		point93	93	6,338,034.0	1,875,377.5	913.14				Average	
		point94	94	6,337,925.0	1,875,376.2	911.88				Average	
		point95	95	6,337,778.0	1,875,374.6	909.79				Average	
		point96	96	6,337,708.0	1,875,373.8	908.81				Average	
		point97	97	6,337,643.0	1,875,373.0	907.94				Average	
		point98	98	6,337,520.0	1,875,371.5	906.14				Average	
		point99	99	6,337,430.5	1,875,370.4	905.00				Average	
		point100	100	6,337,331.5	1,875,368.9	904.16				Average	
		point101	101	6,337,240.0	1,875,367.5	903.20				Average	
		point102	102	6,337,141.0	1,875,366.0	902.14				Average	
		point103	103	6,337,021.0	1,875,365.8	901.35				Average	
		point104	104	6,336,971.0	1,875,365.9	901.04					
US 101 EB 4	12.0	point105	105	6,336,939.0	1,875,244.9	902.00				Average	
		point106	106	6,337,049.5	1,875,245.0	903.00				Average	
		point107	107	6,337,133.5	1,875,245.5	902.12				Average	
		point108	108	6,337,261.5	1,875,247.2	903.90				Average	
		point109	109	6,337,345.5	1,875,248.4	904.17				Average	
		point110	110	6,337,489.0	1,875,250.1	905.18				Average	
		point111	111	6,337,598.0	1,875,251.5	906.11				Average	
		point112	112	6,337,710.5	1,875,252.9	907.08				Average	
		point113	113	6,337,892.5	1,875,255.1	908.25				Average	
		point114	114	6,337,982.0	1,875,256.2	908.73				Average	
		point115	115	6,338,072.5	1,875,257.4	909.32				Average	
		point116	116	6,338,123.0	1,875,254.9	909.54				Average	
		point117	117	6,338,202.0	1,875,248.8	909.68				Average	
		point118	118	6,338,240.5	1,875,245.8	910.00				Average	
		point119	119	6,338,313.0	1,875,235.8	910.49				Average	
		point120	120	6,338,383.5	1,875,225.6	910.84				Average	
		point121	121	6,338,439.0	1,875,217.8	911.25				Average	
		point122	122	6,338,522.0	1,875,199.1	911.56				Average	
		point123	123	6,338,620.5	1,875,175.0	911.48				Average	
		point124	124	6,338,676.0	1,875,156.4	911.28				Average	
		point125	125	6,338,765.0	1,875,125.8	910.92				Average	
		point126	126	6,338,820.0	1,875,102.5	910.42				Average	
		point127	127	6,338,891.0	1,875,072.2	909.76				Average	

		point128	128	6,338,951.5	1,875,040.9	909.00				Average	
		point129	129	6,339,033.0	1,874,995.0	907.23				Average	
		point130	130	6,339,077.0	1,874,969.2	906.21				Average	
		point131	131	6,339,123.0	1,874,941.1	905.03				Average	
		point132	132	6,339,178.5	1,874,900.2	903.04				Average	
		point133	133	6,339,237.5	1,874,857.0	901.21				Average	
		point134	134	6,339,278.0	1,874,827.4	900.00				Average	
		point135	135	6,339,328.5	1,874,787.8	898.53				Average	
		point136	136	6,339,374.0	1,874,750.1	897.00				Average	
		point137	137	6,339,428.5	1,874,704.5	895.34				Average	
		point138	138	6,339,494.5	1,874,649.6	893.27				Average	
		point139	139	6,339,561.0	1,874,594.2	891.00				Average	
		point140	140	6,339,588.0	1,874,571.5	890.10					
US 101 WB 3	12.0	point141	141	6,339,607.0	1,874,697.2	892.84				Average	
		point142	142	6,339,546.0	1,874,748.9	895.42				Average	
		point143	143	6,339,497.5	1,874,788.8	897.43				Average	
		point144	144	6,339,441.0	1,874,835.6	900.00				Average	
		point145	145	6,339,375.0	1,874,889.8	903.00				Average	
		point146	146	6,339,319.5	1,874,933.9	905.00				Average	
		point147	147	6,339,256.0	1,874,981.6	907.50				Average	
		point148	148	6,339,207.5	1,875,015.1	909.27				Average	
		point149	149	6,339,153.5	1,875,052.0	911.00				Average	
		point150	150	6,339,081.0	1,875,093.5	912.57				Average	
		point151	151	6,339,026.5	1,875,123.6	913.48				Average	
		point152	152	6,338,981.5	1,875,145.6	914.00				Average	
		point153	153	6,338,906.0	1,875,182.4	914.95				Average	
		point154	154	6,338,838.0	1,875,210.0	915.42				Average	
		point155	155	6,338,757.5	1,875,242.1	916.02				Average	
		point156	156	6,338,676.5	1,875,269.5	916.28				Average	
		point157	157	6,338,605.5	1,875,293.0	916.42				Average	
		point158	158	6,338,529.5	1,875,310.2	916.00				Average	
		point159	159	6,338,445.5	1,875,329.2	915.40				Average	
		point160	160	6,338,385.5	1,875,337.4	914.93				Average	
		point161	161	6,338,281.5	1,875,351.5	914.34				Average	
		point162	162	6,338,207.0	1,875,361.1	913.90				Average	
		point163	163	6,338,112.0	1,875,364.4	913.19				Average	
		point164	164	6,337,982.5	1,875,364.9	912.15				Average	
		point165	165	6,337,890.5	1,875,363.9	911.00				Average	
		point166	166	6,337,798.5	1,875,362.9	909.84				Average	

		point167	167	6,337,719.5	1,875,361.9	908.85				Average	
		point168	168	6,337,643.5	1,875,361.0	907.90				Average	
		point169	169	6,337,528.5	1,875,359.6	906.30				Average	
		point170	170	6,337,473.0	1,875,359.0	905.89				Average	
		point171	171	6,337,382.0	1,875,357.8	904.73				Average	
		point172	172	6,337,278.0	1,875,356.1	904.00				Average	
		point173	173	6,337,183.0	1,875,354.6	903.00				Average	
		point174	174	6,337,113.5	1,875,353.6	902.21				Average	
		point175	175	6,337,006.0	1,875,353.8	901.46				Average	
		point176	176	6,336,968.0	1,875,353.9	901.15					
US 101 EB 3	12.0	point177	177	6,336,949.5	1,875,256.9	902.35				Average	
		point178	178	6,337,060.5	1,875,257.0	903.00				Average	
		point179	179	6,337,150.0	1,875,257.8	903.00				Average	
		point180	180	6,337,250.5	1,875,259.1	904.00				Average	
		point181	181	6,337,349.5	1,875,260.4	904.38				Average	
		point182	182	6,337,482.5	1,875,262.0	905.45				Average	
		point183	183	6,337,629.5	1,875,263.9	906.76				Average	
		point185	185	6,337,716.0	1,875,265.0	907.41				Average	
		point186	186	6,337,887.5	1,875,267.1	908.68				Average	
		point187	187	6,337,977.5	1,875,268.2	909.23				Average	
		point188	188	6,338,050.5	1,875,269.1	909.76				Average	
		point189	189	6,338,116.0	1,875,267.8	910.20				Average	
		point190	190	6,338,170.5	1,875,264.0	910.29				Average	
		point191	191	6,338,248.0	1,875,258.6	910.98				Average	
		point192	192	6,338,306.0	1,875,250.1	911.33				Average	
		point193	193	6,338,383.0	1,875,239.0	911.66				Average	
		point194	194	6,338,469.0	1,875,225.6	912.14				Average	
		point195	195	6,338,538.0	1,875,208.1	912.25				Average	
		point196	196	6,338,611.0	1,875,189.8	912.17				Average	
		point197	197	6,338,687.5	1,875,165.0	911.90				Average	
		point198	198	6,338,773.5	1,875,135.5	911.60				Average	
		point199	199	6,338,856.5	1,875,100.1	910.86				Average	
		point200	200	6,338,941.5	1,875,059.8	909.79				Average	
		point201	201	6,338,995.5	1,875,030.8	909.00				Average	
		point202	202	6,339,066.0	1,874,989.8	907.35				Average	
		point203	203	6,339,122.0	1,874,956.6	906.00				Average	
		point204	204	6,339,191.5	1,874,905.5	903.59				Average	
		point205	205	6,339,282.5	1,874,838.9	900.82				Average	
		point206	206	6,339,338.0	1,874,795.4	899.00				Average	

		point207	207	6,339,402.5	1,874,741.8	896.73				Average	
		point208	208	6,339,485.0	1,874,673.1	893.90				Average	
		point209	209	6,339,590.0	1,874,585.4	890.40					
US 101 WB 2	12.0	point210	210	6,339,604.5	1,874,683.0	892.39				Average	
		point211	211	6,339,526.0	1,874,749.9	895.59				Average	
		point212	212	6,339,451.0	1,874,811.6	898.77				Average	
		point213	213	6,339,403.5	1,874,850.9	900.78				Average	
		point214	214	6,339,309.0	1,874,927.0	904.54				Average	
		point215	215	6,339,233.0	1,874,982.9	907.30				Average	
		point216	216	6,339,139.5	1,875,046.1	910.45				Average	
		point217	217	6,339,046.5	1,875,099.6	912.37				Average	
		point218	218	6,338,944.0	1,875,150.8	913.71				Average	
		point219	219	6,338,857.0	1,875,189.4	914.58				Average	
		point220	220	6,338,781.0	1,875,220.5	915.10				Average	
		point221	221	6,338,686.0	1,875,253.6	915.45				Average	
		point222	222	6,338,614.5	1,875,277.9	915.72				Average	
		point223	223	6,338,555.5	1,875,292.0	915.49				Average	
		point224	224	6,338,463.0	1,875,312.9	914.89				Average	
		point225	225	6,338,383.0	1,875,325.6	914.45				Average	
		point226	226	6,338,260.0	1,875,342.2	913.78				Average	
		point227	227	6,338,188.5	1,875,349.8	913.27				Average	
		point228	228	6,338,109.0	1,875,352.5	912.74				Average	
		point229	229	6,338,006.5	1,875,353.1	912.02				Average	
		point230	230	6,337,926.5	1,875,352.4	911.09				Average	
		point231	231	6,337,790.0	1,875,350.8	909.58				Average	
		point232	232	6,337,650.5	1,875,349.1	907.88				Average	
		point233	233	6,337,527.0	1,875,347.6	906.41				Average	
		point234	234	6,337,409.0	1,875,346.1	905.20				Average	
		point235	235	6,337,298.0	1,875,344.4	904.29				Average	
		point236	236	6,337,221.5	1,875,343.2	903.52				Average	
		point237	237	6,337,083.0	1,875,341.6	902.14				Average	
		point238	238	6,336,977.0	1,875,341.9	901.32				Average	
		point239	239	6,336,965.0	1,875,341.9	901.27					
US 101 EB 2	12.0	point240	240	6,336,948.5	1,875,268.9	902.00				Average	
		point241	241	6,337,078.5	1,875,269.1	902.47				Average	
		point242	242	6,337,170.0	1,875,270.0	903.00				Average	
		point243	243	6,337,280.0	1,875,271.5	904.00				Average	
		point244	244	6,337,349.5	1,875,272.4	904.58				Average	
		point245	245	6,337,482.0	1,875,274.0	905.70				Average	

		point246	246	6,337,617.5	1,875,275.8	906.93				Average	
		point247	247	6,337,711.5	1,875,276.9	907.68				Average	
		point248	248	6,337,819.0	1,875,278.2	908.63				Average	
		point249	249	6,337,921.0	1,875,279.5	909.40				Average	
		point250	250	6,337,999.5	1,875,280.5	909.96				Average	
		point251	251	6,338,078.0	1,875,281.5	910.58				Average	
		point252	252	6,338,165.5	1,875,276.9	911.03				Average	
		point253	253	6,338,250.0	1,875,271.6	911.80				Average	
		point254	254	6,338,309.0	1,875,262.6	912.07				Average	
		point255	255	6,338,407.0	1,875,247.6	912.49				Average	
		point256	256	6,338,474.0	1,875,236.4	912.88				Average	
		point257	257	6,338,570.0	1,875,212.4	912.92				Average	
		point258	258	6,338,659.5	1,875,187.4	912.72				Average	
		point259	259	6,338,734.0	1,875,161.8	912.41				Average	
		point260	260	6,338,797.5	1,875,138.2	912.14				Average	
		point261	261	6,338,862.0	1,875,110.8	911.64				Average	
		point262	262	6,338,944.5	1,875,071.6	910.50				Average	
		point263	263	6,339,042.5	1,875,017.4	908.82				Average	
		point264	264	6,339,126.0	1,874,968.4	906.81				Average	
		point265	265	6,339,225.5	1,874,895.6	903.42				Average	
		point266	266	6,339,307.0	1,874,835.8	901.00				Average	
		point267	267	6,339,354.5	1,874,797.2	899.24				Average	
		point268	268	6,339,405.0	1,874,755.4	897.29				Average	
		point269	269	6,339,513.0	1,874,665.1	893.59				Average	
		point270	270	6,339,592.0	1,874,599.2	890.71					
US 101 WB 1	12.0	point271	271	6,339,601.0	1,874,669.9	892.00				Average	
		point272	272	6,339,527.0	1,874,733.4	894.97				Average	
		point273	273	6,339,445.0	1,874,801.0	898.28				Average	
		point274	274	6,339,361.5	1,874,869.9	901.66				Average	
		point275	275	6,339,295.0	1,874,922.8	904.20				Average	
		point276	276	6,339,224.5	1,874,974.4	906.63				Average	
		point277	277	6,339,156.0	1,875,021.5	909.00				Average	
		point278	278	6,339,086.5	1,875,062.8	910.66				Average	
		point279	279	6,339,014.0	1,875,103.1	912.00				Average	
		point280	280	6,338,928.0	1,875,145.2	913.13				Average	
		point281	281	6,338,809.0	1,875,196.0	914.30				Average	
		point282	282	6,338,741.5	1,875,222.1	914.60				Average	
		point283	283	6,338,620.5	1,875,263.2	914.96				Average	
		point284	284	6,338,559.0	1,875,279.0	914.83				Average	

		point285	285	6,338,449.0	1,875,303.9	914.31				Average	
		point286	286	6,338,369.0	1,875,315.4	915.73				Average	
		point287	287	6,338,271.5	1,875,328.6	913.24				Average	
		point288	288	6,338,145.5	1,875,339.2	912.56				Average	
		point289	289	6,338,053.0	1,875,341.6	912.00				Average	
		point290	290	6,338,001.0	1,875,341.1	911.52				Average	
		point291	291	6,337,917.5	1,875,340.2	910.73				Average	
		point292	292	6,337,831.0	1,875,339.2	910.00				Average	
		point293	293	6,337,708.0	1,875,337.8	908.38				Average	
		point294	294	6,337,613.0	1,875,336.6	907.33				Average	
		point295	295	6,337,495.5	1,875,335.2	906.00				Average	
		point296	296	6,337,376.5	1,875,333.6	905.00				Average	
		point297	297	6,337,237.0	1,875,331.5	903.83				Average	
		point298	298	6,337,103.0	1,875,329.6	902.37				Average	
		point299	299	6,337,018.0	1,875,329.8	901.95				Average	
		point301	301	6,336,970.5	1,875,329.9	901.43				Average	
		point302	302	6,336,961.5	1,875,329.9	901.39					
US 101 EB 1	12.0	point303	303	6,336,948.5	1,875,280.9	901.87				Average	
		point304	304	6,337,111.0	1,875,281.2	903.00				Average	
		point306	306	6,337,254.0	1,875,283.1	904.00				Average	
		point307	307	6,337,446.5	1,875,285.6	905.51				Average	
		point308	308	6,337,632.0	1,875,287.9	907.30				Average	
		point310	310	6,337,769.5	1,875,289.6	908.45				Average	
		point311	311	6,337,872.0	1,875,290.9	909.58				Average	
		point312	312	6,338,005.0	1,875,292.6	910.62				Average	
		point313	313	6,338,110.5	1,875,292.2	911.53				Average	
		point314	314	6,338,182.5	1,875,287.6	911.87				Average	
		point315	315	6,338,252.5	1,875,283.0	912.56				Average	
		point316	316	6,338,405.0	1,875,260.2	913.10				Average	
		point317	317	6,338,502.5	1,875,242.0	913.58				Average	
		point318	318	6,338,612.0	1,875,214.2	913.58				Average	
		point319	319	6,338,700.5	1,875,186.0	913.26				Average	
		point320	320	6,338,786.0	1,875,156.2	912.90				Average	
		point321	321	6,338,879.0	1,875,116.8	912.28				Average	
		point322	322	6,338,963.5	1,875,075.0	910.99				Average	
		point323	323	6,339,062.0	1,875,019.8	909.21				Average	
		point324	324	6,339,149.0	1,874,966.5	907.01				Average	
		point325	325	6,339,210.0	1,874,921.9	904.80				Average	
		point326	326	6,339,308.0	1,874,850.0	901.71				Average	

		point327	327	6,339,373.0	1,874,797.6	899.36				Average	
		point328	328	6,339,461.0	1,874,724.2	896.00				Average	
		point329	329	6,339,530.0	1,874,666.8	893.46				Average	
		point330	330	6,339,593.5	1,874,613.6	891.03					
Chesebro / Canwood NB	12.0	point453	453	6,337,701.0	1,875,484.8	902.01				Average	
		point454	454	6,337,763.0	1,875,514.1	902.01				Average	
		point455	455	6,337,824.5	1,875,544.6	902.00				Average	
		point456	456	6,337,864.0	1,875,575.9	902.01				Average	
		point457	457	6,337,938.0	1,875,634.8	903.32				Average	
		point458	458	6,337,977.5	1,875,683.6	904.00				Average	
		point459	459	6,338,012.0	1,875,725.6	905.00				Average	
		point460	460	6,338,072.5	1,875,832.4	907.00				Average	
		point463	463	6,338,101.0	1,875,912.5	908.17				Average	
		point464	464	6,338,115.0	1,875,955.2	908.71				Average	
		point465	465	6,338,132.5	1,876,007.2	910.00				Average	
		point466	466	6,338,147.5	1,876,052.2	911.00				Average	
		point467	467	6,338,151.0	1,876,061.1	911.00				Average	
		point664	664	6,338,155.0	1,876,069.2	911.00				Average	
		point468	468	6,338,158.5	1,876,077.4	911.00					
N Chesebro Road n/o PC SB	12.0	point474	474	6,338,231.5	1,876,310.2	914.10				Average	
		point475	475	6,338,215.5	1,876,267.5	913.75				Average	
		point476	476	6,338,203.5	1,876,235.9	913.09				Average	
		point477	477	6,338,193.5	1,876,210.2	913.07				Average	
		point478	478	6,338,179.0	1,876,172.0	913.00				Average	
		point479	479	6,338,166.0	1,876,137.8	912.67				Average	
		point480	480	6,338,151.5	1,876,099.0	911.00				Average	
		point481	481	6,338,145.0	1,876,082.0	911.00					
US 101 WB On Ramp	12.0	point339	339	6,337,989.0	1,875,433.6	921.00				Average	
		point340	340	6,337,897.0	1,875,417.2	916.00				Average	
		point341	341	6,337,825.0	1,875,405.6	910.73				Average	
		point342	342	6,337,760.0	1,875,399.8	909.46				Average	
		point343	343	6,337,683.0	1,875,394.4	908.20				Average	
		point344	344	6,337,584.0	1,875,389.0	906.71				Average	
		point345	345	6,337,472.5	1,875,385.1	905.00				Average	
		point346	346	6,337,388.0	1,875,382.9	904.26				Average	
		point347	347	6,337,304.0	1,875,380.9	903.55				Average	
		point348	348	6,337,222.0	1,875,380.9	902.57				Average	
		point349	349	6,337,160.5	1,875,380.9	901.84				Average	
		point350	350	6,337,072.5	1,875,380.8	901.35				Average	

		point351	351	6,337,010.0	1,875,380.4	901.00				Average	
		point352	352	6,336,975.0	1,875,380.2	900.66					
US 101 WB Off Ramp 2	12.0	point515	515	6,339,290.0	1,874,987.6	908.30				Average	
		point514	514	6,339,167.0	1,875,085.8	914.00				Average	
		point513	513	6,339,080.0	1,875,151.0	916.00				Average	
		point512	512	6,338,992.0	1,875,229.5	920.00				Average	
		point511	511	6,338,909.5	1,875,284.5	923.00					
US 101 WB Off Ramp RT/LT	12.0	point519	519	6,338,888.5	1,875,281.2	925.00				Average	
		point518	518	6,338,787.0	1,875,335.9	928.00				Average	
		point517	517	6,338,674.5	1,875,382.1	930.00				Average	
		point516	516	6,338,419.0	1,875,475.6	935.00					
US 101 WB Off Ramp LT	12.0	point523	523	6,338,868.0	1,875,281.4	925.00				Average	
		point522	522	6,338,788.5	1,875,322.1	928.00				Average	
		point521	521	6,338,655.5	1,875,378.5	930.00				Average	
		point520	520	6,338,417.5	1,875,463.5	935.00					
S Chesebro Road s/o PC NB outer	12.0	point555	555	6,337,908.0	1,874,372.6	933.00				Average	
		point554	554	6,337,941.0	1,874,542.1	933.00				Average	
		point553	553	6,337,952.5	1,874,581.0	933.00				Average	
		point552	552	6,337,971.5	1,874,621.0	933.00					
S Chesebro Road s/o PC NB inner	12.0	point583	583	6,337,895.5	1,874,372.6	933.00				Average	
		point582	582	6,337,903.5	1,874,414.2	933.00				Average	
		point581	581	6,337,930.5	1,874,545.4	933.00				Average	
		point580	580	6,337,940.5	1,874,581.0	933.00				Average	
		point579	579	6,337,957.5	1,874,621.0	933.00					
Palo Comado n/o ramps SB inner	12.0	point608	608	6,338,138.5	1,876,066.0	911.00	Stop	0.00	100	Average	
		point665	665	6,338,151.0	1,876,061.1	911.00				Average	
		point607	607	6,338,207.5	1,876,026.9	915.00				Average	
		point606	606	6,338,242.0	1,876,003.2	917.00				Average	
		point605	605	6,338,274.0	1,875,978.8	919.00				Average	
		point604	604	6,338,302.0	1,875,949.2	921.00				Average	
		point603	603	6,338,328.0	1,875,917.0	923.00				Average	
		point602	602	6,338,348.0	1,875,874.8	925.00				Average	
		point601	601	6,338,365.5	1,875,824.1	927.00				Average	
		point600	600	6,338,374.0	1,875,783.1	930.00				Average	
		point599	599	6,338,379.0	1,875,731.8	932.00				Average	
		point598	598	6,338,375.5	1,875,677.8	934.00				Average	
		point597	597	6,338,351.0	1,875,514.2	936.00				Average	Y
		point652	652	6,338,344.0	1,875,459.0	936.00					
US 101 WB On Ramp R	12.0	point630	630	6,338,316.0	1,875,479.4	935.00	Onramp	10.00	100	Average	

		point629	629	6,338,238.0	1,875,478.8	935.00				Average	
		point628	628	6,338,144.0	1,875,468.6	933.00				Average	
		point659	659	6,337,994.0	1,875,438.6	916.20					
US 101 WB On Ramp L	12.0	point635	635	6,338,311.5	1,875,464.8	935.00	Onramp	10.00	100	Average	
		point634	634	6,338,239.0	1,875,465.0	935.00				Average	
		point633	633	6,338,147.0	1,875,455.4	933.00				Average	
		point632	632	6,338,058.5	1,875,442.9	925.00				Average	
		point631	631	6,337,989.0	1,875,433.6	921.00					
Driver Ave EB	12.0	point638	638	6,337,806.5	1,876,191.1	908.00				Average	
		point637	637	6,337,878.0	1,876,164.2	908.00				Average	
		point660	660	6,337,961.0	1,876,132.9	908.00				Average	
		point636	636	6,338,079.0	1,876,088.5	910.00				Average	
		point662	662	6,338,138.5	1,876,066.0	911.00					
Driver Ave WB	12.0	point639	639	6,338,145.0	1,876,082.0	911.00	Stop	0.00	100	Average	
		point640	640	6,338,073.0	1,876,102.8	909.60				Average	
		point641	641	6,337,980.0	1,876,137.2	908.00				Average	
		point642	642	6,337,895.5	1,876,169.2	908.00				Average	
		point661	661	6,337,816.5	1,876,198.1	908.00					
US 101 WB Off Ramp RT	12.0	point643	643	6,338,909.5	1,875,284.5	923.00				Average	
		point510	510	6,338,846.5	1,875,319.2	925.00				Average	
		point509	509	6,338,766.5	1,875,357.0	928.00				Average	
		point508	508	6,338,645.5	1,875,405.6	930.00				Average	
		point507	507	6,338,439.0	1,875,480.0	932.00				Average	
		point506	506	6,338,421.0	1,875,487.6	935.00					
N Chesebro Road n/o PC NB	12.0	point645	645	6,338,158.5	1,876,077.4	911.00	Stop	0.00	100	Average	
		point469	469	6,338,180.0	1,876,137.2	913.00				Average	
		point470	470	6,338,197.0	1,876,183.8	913.00				Average	
		point471	471	6,338,214.0	1,876,230.8	913.44				Average	
		point472	472	6,338,229.0	1,876,272.2	914.00				Average	
		point473	473	6,338,241.5	1,876,307.1	914.39					
US 101 EB Off Ramp RT	12.0	point647	647	6,337,395.5	1,875,207.0	902.16				Average	
		point7	7	6,337,514.5	1,875,196.4	902.08				Average	
		point8	8	6,337,594.5	1,875,170.2	901.75				Average	
		point9	9	6,337,649.5	1,875,130.8	901.86				Average	
		point10	10	6,337,691.5	1,875,083.1	901.77				Average	
		point11	11	6,337,714.0	1,875,044.6	901.55				Average	
		point12	12	6,337,724.0	1,875,009.0	901.31					
Palo Comado s/o ramps NB outer	12.0	point648	648	6,337,971.5	1,874,621.0	933.00				Average	
		point551	551	6,338,000.5	1,874,663.0	933.00				Average	

		point550	550	6,338,028.0	1,874,692.0	933.00				Average	
		point549	549	6,338,125.0	1,874,782.2	933.00				Average	
		point548	548	6,338,209.0	1,874,858.4	933.00				Average	
		point547	547	6,338,239.5	1,874,890.2	934.00				Average	
		point546	546	6,338,264.0	1,874,922.5	934.00				Average	
		point545	545	6,338,286.5	1,874,962.0	935.00				Average	
		point544	544	6,338,316.5	1,875,031.9	935.00				Average	
		point543	543	6,338,326.5	1,875,082.2	936.00				Average	Y
		point542	542	6,338,341.0	1,875,186.9	936.00				Average	Y
		point541	541	6,338,371.5	1,875,396.2	935.00				Average	
		point654	654	6,338,381.5	1,875,470.2	935.00					
Palo Comado s/o ramps NB inner	12.0	point649	649	6,337,957.5	1,874,621.0	933.00				Average	
		point578	578	6,337,991.5	1,874,671.8	933.00				Average	
		point577	577	6,338,020.0	1,874,699.1	933.00				Average	
		point576	576	6,338,200.0	1,874,867.0	933.00				Average	
		point575	575	6,338,228.0	1,874,895.5	934.00				Average	
		point574	574	6,338,253.0	1,874,928.6	934.00				Average	
		point573	573	6,338,274.0	1,874,964.4	935.00				Average	
		point572	572	6,338,304.0	1,875,031.9	935.00				Average	
		point571	571	6,338,312.5	1,875,072.5	936.00				Average	Y
		point570	570	6,338,329.0	1,875,188.6	936.00				Average	Y
		point569	569	6,338,360.5	1,875,406.0	935.00				Average	
		point653	653	6,338,372.0	1,875,484.5	935.00					
S Chesebro Road s/o PC SB	12.0	point650	650	6,337,937.0	1,874,623.2	933.00				Average	
		point586	586	6,337,918.0	1,874,546.8	933.00				Average	
		point585	585	6,337,888.0	1,874,401.0	933.00				Average	
		point584	584	6,337,880.5	1,874,358.5	933.00					
Palo Comado s/o ramps SB outer	12.0	point655	655	6,338,332.0	1,875,460.6	936.00				Average	Y
		point615	615	6,338,324.5	1,875,405.4	936.00				Average	Y
		point614	614	6,338,277.5	1,875,083.0	935.00				Average	
		point613	613	6,338,270.0	1,875,046.1	935.00				Average	
		point612	612	6,338,243.0	1,874,970.5	934.00				Average	
		point611	611	6,338,213.0	1,874,921.0	934.00				Average	
		point610	610	6,338,161.0	1,874,863.4	933.00				Average	
		point609	609	6,338,032.0	1,874,744.6	933.00					
Palo Comado s/o ramps SB inner	12.0	point656	656	6,338,344.0	1,875,459.0	936.00				Average	Y
		point596	596	6,338,336.5	1,875,403.8	936.00				Average	Y
		point595	595	6,338,289.5	1,875,080.9	935.00				Average	
		point594	594	6,338,281.5	1,875,042.9	935.00				Average	

		point593	593	6,338,254.0	1,874,965.4	934.00				Average	
		point592	592	6,338,222.5	1,874,913.8	934.00				Average	
		point591	591	6,338,169.5	1,874,855.0	933.00				Average	
		point590	590	6,338,038.0	1,874,734.0	933.00				Average	
		point589	589	6,337,986.5	1,874,683.9	933.00				Average	
		point588	588	6,337,955.5	1,874,645.6	933.00				Average	
		point587	587	6,337,937.0	1,874,623.2	933.00					
Palo Comado n/o ramps NB inner	12.0	point657	657	6,338,372.0	1,875,484.5	935.00				Average	
		point568	568	6,338,383.0	1,875,563.0	935.00				Average	
		point567	567	6,338,399.5	1,875,679.5	935.00				Average	
		point566	566	6,338,403.0	1,875,712.5	934.00				Average	
		point565	565	6,338,403.0	1,875,751.2	934.00				Average	
		point564	564	6,338,396.5	1,875,789.5	932.00				Average	
		point563	563	6,338,386.5	1,875,829.2	930.00				Average	
		point562	562	6,338,380.0	1,875,846.1	927.00				Average	
		point561	561	6,338,358.0	1,875,892.1	925.00				Average	
		point560	560	6,338,336.5	1,875,922.5	923.00				Average	
		point559	559	6,338,322.0	1,875,942.2	921.00				Average	
		point558	558	6,338,273.5	1,875,993.1	919.00				Average	
		point557	557	6,338,233.5	1,876,022.2	916.00				Average	
		point663	663	6,338,198.5	1,876,044.1	913.50				Average	
		point556	556	6,338,155.0	1,876,069.2	911.00					
Palo Comado n/o ramps NB outer	12.0	point658	658	6,338,381.5	1,875,470.2	935.00				Average	
		point540	540	6,338,391.5	1,875,544.2	935.00				Average	
		point539	539	6,338,410.0	1,875,678.5	935.00				Average	
		point538	538	6,338,413.5	1,875,712.5	934.00				Average	
		point537	537	6,338,413.5	1,875,752.0	934.00				Average	
		point536	536	6,338,408.5	1,875,790.0	932.00				Average	
		point535	535	6,338,396.5	1,875,832.4	930.00				Average	
		point534	534	6,338,390.5	1,875,849.4	927.00				Average	
		point533	533	6,338,384.0	1,875,864.5	925.00				Average	
		point532	532	6,338,366.5	1,875,898.8	923.00				Average	
		point531	531	6,338,343.0	1,875,933.5	921.00				Average	
		point530	530	6,338,317.0	1,875,965.5	919.00				Average	
		point529	529	6,338,286.5	1,875,996.2	915.00				Average	
		point528	528	6,338,254.5	1,876,021.9	915.00				Average	
		point527	527	6,338,214.5	1,876,046.9	913.00				Average	
		point526	526	6,338,186.0	1,876,062.1	911.00				Average	
		point667	667	6,338,158.5	1,876,077.4	911.00				Average	

		point525	525	6,338,145.0	1,876,082.0	911.00					
Chesebro / Canwood SB	12.0	point666	666	6,338,145.0	1,876,082.0	911.00	Stop	0.00	100	Average	
		point644	644	6,338,138.5	1,876,066.0	911.00				Average	
		point483	483	6,338,123.5	1,876,025.6	910.15				Average	
		point484	484	6,338,116.5	1,876,007.1	909.62				Average	
		point485	485	6,338,100.5	1,875,963.6	908.68				Average	
		point486	486	6,338,090.0	1,875,935.2	908.00				Average	
		point487	487	6,338,069.0	1,875,878.0	907.26				Average	
		point488	488	6,338,059.5	1,875,852.2	907.00				Average	
		point489	489	6,338,049.5	1,875,830.9	906.53				Average	
		point490	490	6,338,028.0	1,875,789.8	906.00				Average	
		point491	491	6,338,012.5	1,875,759.9	905.00				Average	
		point492	492	6,338,005.5	1,875,746.5	905.00				Average	
		point493	493	6,337,990.0	1,875,722.5	905.00				Average	
		point494	494	6,337,955.0	1,875,680.6	904.00				Average	
		point495	495	6,337,935.5	1,875,657.5	903.55				Average	
		point496	496	6,337,926.5	1,875,646.8	903.27				Average	
		point497	497	6,337,897.0	1,875,625.0	903.00				Average	
		point498	498	6,337,840.5	1,875,582.8	902.01				Average	
		point499	499	6,337,813.0	1,875,562.1	902.01				Average	
		point500	500	6,337,742.0	1,875,528.6	902.01				Average	
		point501	501	6,337,689.0	1,875,504.2	902.01					
Palo Comado n/o ramps SB outer-2-2	12.0	point669	669	6,338,240.0	1,876,002.2	917.00				Average	
		point624	624	6,338,265.5	1,875,969.8	919.00				Average	
		point623	623	6,338,293.0	1,875,941.2	921.00				Average	
		point622	622	6,338,318.0	1,875,910.6	923.00				Average	
		point621	621	6,338,336.5	1,875,870.2	925.00				Average	
		point620	620	6,338,354.0	1,875,821.0	927.00				Average	
		point619	619	6,338,362.0	1,875,781.4	930.00				Average	
		point618	618	6,338,367.0	1,875,731.6	932.00				Average	
		point617	617	6,338,363.5	1,875,679.0	934.00				Average	
		point616	616	6,338,339.0	1,875,515.9	936.00				Average	Y
		point651	651	6,338,332.0	1,875,460.6	936.00					

Kimley-Horn and Associates **6 January 201**

ASG **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Percentages

PROJECT/CONTRACT: **Agoura Hills / US 101**

RUN: **2035 Build**

Roadway	Points												
Name	Name	No.	Segment										
			Total	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			Volume	P	S	P	S	P	S	P	S	P	S
			veh/hr	%	mph	%	mph	%	mph	%	mph	%	mph
US 101 EB Off Ramp	point1	1	279	91	65	3	65	5	65	0	0	1	65
	point2	2	279	91	65	3	65	5	65	0	0	1	65
	point3	3	279	91	65	3	65	5	65	0	0	1	65
	point4	4	279	91	65	3	65	5	65	0	0	1	65
	point5	5	279	91	65	3	65	5	65	0	0	1	65
	point6	6											
US 101 EB Off Ramp ST/LT	point13	13	194	95	65	4	65	0	0	0	0	1	65
	point14	14	194	95	65	4	65	0	0	0	0	1	65
	point15	15	194	95	65	4	65	0	0	0	0	1	65
	point16	16	194	95	65	4	65	0	0	0	0	1	65
	point17	17	194	95	65	4	65	0	0	0	0	1	65
	point18	18	194	95	65	4	65	0	0	0	0	1	65
	point19	19	194	95	65	4	65	0	0	0	0	1	65
	point20	20											
S Chesebro Road w/o PC SB	point21	21	274	95	35	4	35	0	0	0	0	1	35
	point22	22	274	95	35	4	35	0	0	0	0	1	35
	point23	23	274	95	35	4	35	0	0	0	0	1	35
	point24	24	274	95	35	4	35	0	0	0	0	1	35
	point25	25	274	95	35	4	35	0	0	0	0	1	35
	point26	26											
S Chesebro Road w/o PC NB	point27	27	533	95	35	4	35	0	0	0	0	1	35
	point28	28	533	95	35	4	35	0	0	0	0	1	35
	point29	29	533	95	35	4	35	0	0	0	0	1	35

	point30	30	533	95	35	4	35	0	0	0	0	1	35
	point31	31	533	95	35	4	35	0	0	0	0	1	35
	point32	32											
US 101 EB On Ramp	point33	33	564	95	65	4	65	0	0	0	0	1	65
	point34	34	564	95	65	4	65	0	0	0	0	1	65
	point35	35	564	95	65	4	65	0	0	0	0	1	65
	point36	36	564	95	65	4	65	0	0	0	0	1	65
	point37	37	564	95	65	4	65	0	0	0	0	1	65
	point38	38	564	95	65	4	65	0	0	0	0	1	65
	point39	39	564	95	65	4	65	0	0	0	0	1	65
	point40	40	564	95	65	4	65	0	0	0	0	1	65
	point41	41	564	95	65	4	65	0	0	0	0	1	65
	point42	42	564	95	65	4	65	0	0	0	0	1	65
	point43	43	564	95	65	4	65	0	0	0	0	1	65
	point44	44	564	95	65	4	65	0	0	0	0	1	65
	point45	45	564	95	65	4	65	0	0	0	0	1	65
	point46	46	564	95	65	4	65	0	0	0	0	1	65
	point47	47	564	95	65	4	65	0	0	0	0	1	65
	point48	48	564	95	65	4	65	0	0	0	0	1	65
	point49	49	564	95	65	4	65	0	0	0	0	1	65
	point50	50	564	95	65	4	65	0	0	0	0	1	65
	point51	51											
US 101 WB Off Ramp	point55	55	470	99	65	1	65	0	0	0	0	0	0
	point56	56	470	99	65	1	65	0	0	0	0	0	0
	point57	57	470	99	65	1	65	0	0	0	0	0	0
	point58	58											
US 101 WB 4	point71	71	1800	89	65	6	65	5	65	0	0	0	0
	point73	73	1800	89	65	6	65	5	65	0	0	0	0
	point74	74	1800	89	65	6	65	5	65	0	0	0	0
	point75	75	1800	89	65	6	65	5	65	0	0	0	0
	point76	76	1800	89	65	6	65	5	65	0	0	0	0
	point77	77	1800	89	65	6	65	5	65	0	0	0	0
	point78	78	1800	89	65	6	65	5	65	0	0	0	0
	point79	79	1800	89	65	6	65	5	65	0	0	0	0
	point80	80	1800	89	65	6	65	5	65	0	0	0	0
	point81	81	1800	89	65	6	65	5	65	0	0	0	0

	point82	82	1800	89	65	6	65	5	65	0	0	0	0
	point83	83	1800	89	65	6	65	5	65	0	0	0	0
	point84	84	1800	89	65	6	65	5	65	0	0	0	0
	point85	85	1800	89	65	6	65	5	65	0	0	0	0
	point86	86	1800	89	65	6	65	5	65	0	0	0	0
	point87	87	1800	89	65	6	65	5	65	0	0	0	0
	point90	90	1800	89	65	6	65	5	65	0	0	0	0
	point91	91	1800	89	65	6	65	5	65	0	0	0	0
	point92	92	1800	89	65	6	65	5	65	0	0	0	0
	point93	93	1800	89	65	6	65	5	65	0	0	0	0
	point94	94	1800	89	65	6	65	5	65	0	0	0	0
	point95	95	1800	89	65	6	65	5	65	0	0	0	0
	point96	96	1800	89	65	6	65	5	65	0	0	0	0
	point97	97	1800	89	65	6	65	5	65	0	0	0	0
	point98	98	1800	89	65	6	65	5	65	0	0	0	0
	point99	99	1800	89	65	6	65	5	65	0	0	0	0
	point100	100	1800	89	65	6	65	5	65	0	0	0	0
	point101	101	1800	89	65	6	65	5	65	0	0	0	0
	point102	102	1800	89	65	6	65	5	65	0	0	0	0
	point103	103	1800	89	65	6	65	5	65	0	0	0	0
	point104	104											
US 101 EB 4	point105	105	1800	89	65	6	65	5	65	0	0	0	0
	point106	106	1800	89	65	6	65	5	65	0	0	0	0
	point107	107	1800	89	65	6	65	5	65	0	0	0	0
	point108	108	1800	89	65	6	65	5	65	0	0	0	0
	point109	109	1800	89	65	6	65	5	65	0	0	0	0
	point110	110	1800	89	65	6	65	5	65	0	0	0	0
	point111	111	1800	89	65	6	65	5	65	0	0	0	0
	point112	112	1800	89	65	6	65	5	65	0	0	0	0
	point113	113	1800	89	65	6	65	5	65	0	0	0	0
	point114	114	1800	89	65	6	65	5	65	0	0	0	0
	point115	115	1800	89	65	6	65	5	65	0	0	0	0
	point116	116	1800	89	65	6	65	5	65	0	0	0	0
	point117	117	1800	89	65	6	65	5	65	0	0	0	0
	point118	118	1800	89	65	6	65	5	65	0	0	0	0
	point119	119	1800	89	65	6	65	5	65	0	0	0	0

	point120	120	1800	89	65	6	65	5	65	0	0	0	0
	point121	121	1800	89	65	6	65	5	65	0	0	0	0
	point122	122	1800	89	65	6	65	5	65	0	0	0	0
	point123	123	1800	89	65	6	65	5	65	0	0	0	0
	point124	124	1800	89	65	6	65	5	65	0	0	0	0
	point125	125	1800	89	65	6	65	5	65	0	0	0	0
	point126	126	1800	89	65	6	65	5	65	0	0	0	0
	point127	127	1800	89	65	6	65	5	65	0	0	0	0
	point128	128	1800	89	65	6	65	5	65	0	0	0	0
	point129	129	1800	89	65	6	65	5	65	0	0	0	0
	point130	130	1800	89	65	6	65	5	65	0	0	0	0
	point131	131	1800	89	65	6	65	5	65	0	0	0	0
	point132	132	1800	89	65	6	65	5	65	0	0	0	0
	point133	133	1800	89	65	6	65	5	65	0	0	0	0
	point134	134	1800	89	65	6	65	5	65	0	0	0	0
	point135	135	1800	89	65	6	65	5	65	0	0	0	0
	point136	136	1800	89	65	6	65	5	65	0	0	0	0
	point137	137	1800	89	65	6	65	5	65	0	0	0	0
	point138	138	1800	89	65	6	65	5	65	0	0	0	0
	point139	139	1800	89	65	6	65	5	65	0	0	0	0
	point140	140											
US 101 WB 3	point141	141	1800	89	65	6	65	5	65	0	0	0	0
	point142	142	1800	89	65	6	65	5	65	0	0	0	0
	point143	143	1800	89	65	6	65	5	65	0	0	0	0
	point144	144	1800	89	65	6	65	5	65	0	0	0	0
	point145	145	1800	89	65	6	65	5	65	0	0	0	0
	point146	146	1800	89	65	6	65	5	65	0	0	0	0
	point147	147	1800	89	65	6	65	5	65	0	0	0	0
	point148	148	1800	89	65	6	65	5	65	0	0	0	0
	point149	149	1800	89	65	6	65	5	65	0	0	0	0
	point150	150	1800	89	65	6	65	5	65	0	0	0	0
	point151	151	1800	89	65	6	65	5	65	0	0	0	0
	point152	152	1800	89	65	6	65	5	65	0	0	0	0
	point153	153	1800	89	65	6	65	5	65	0	0	0	0
	point154	154	1800	89	65	6	65	5	65	0	0	0	0
	point155	155	1800	89	65	6	65	5	65	0	0	0	0

	point156	156	1800	89	65	6	65	5	65	0	0	0	0
	point157	157	1800	89	65	6	65	5	65	0	0	0	0
	point158	158	1800	89	65	6	65	5	65	0	0	0	0
	point159	159	1800	89	65	6	65	5	65	0	0	0	0
	point160	160	1800	89	65	6	65	5	65	0	0	0	0
	point161	161	1800	89	65	6	65	5	65	0	0	0	0
	point162	162	1800	89	65	6	65	5	65	0	0	0	0
	point163	163	1800	89	65	6	65	5	65	0	0	0	0
	point164	164	1800	89	65	6	65	5	65	0	0	0	0
	point165	165	1800	89	65	6	65	5	65	0	0	0	0
	point166	166	1800	89	65	6	65	5	65	0	0	0	0
	point167	167	1800	89	65	6	65	5	65	0	0	0	0
	point168	168	1800	89	65	6	65	5	65	0	0	0	0
	point169	169	1800	89	65	6	65	5	65	0	0	0	0
	point170	170	1800	89	65	6	65	5	65	0	0	0	0
	point171	171	1800	89	65	6	65	5	65	0	0	0	0
	point172	172	1800	89	65	6	65	5	65	0	0	0	0
	point173	173	1800	89	65	6	65	5	65	0	0	0	0
	point174	174	1800	89	65	6	65	5	65	0	0	0	0
	point175	175	1800	89	65	6	65	5	65	0	0	0	0
	point176	176											
US 101 EB 3	point177	177	1800	89	65	6	65	5	65	0	0	0	0
	point178	178	1800	89	65	6	65	5	65	0	0	0	0
	point179	179	1800	89	65	6	65	5	65	0	0	0	0
	point180	180	1800	89	65	6	65	5	65	0	0	0	0
	point181	181	1800	89	65	6	65	5	65	0	0	0	0
	point182	182	1800	89	65	6	65	5	65	0	0	0	0
	point183	183	1800	89	65	6	65	5	65	0	0	0	0
	point185	185	1800	89	65	6	65	5	65	0	0	0	0
	point186	186	1800	89	65	6	65	5	65	0	0	0	0
	point187	187	1800	89	65	6	65	5	65	0	0	0	0
	point188	188	1800	89	65	6	65	5	65	0	0	0	0
	point189	189	1800	89	65	6	65	5	65	0	0	0	0
	point190	190	1800	89	65	6	65	5	65	0	0	0	0
	point191	191	1800	89	65	6	65	5	65	0	0	0	0
	point192	192	1800	89	65	6	65	5	65	0	0	0	0

	point193	193	1800	89	65	6	65	5	65	0	0	0	0
	point194	194	1800	89	65	6	65	5	65	0	0	0	0
	point195	195	1800	89	65	6	65	5	65	0	0	0	0
	point196	196	1800	89	65	6	65	5	65	0	0	0	0
	point197	197	1800	89	65	6	65	5	65	0	0	0	0
	point198	198	1800	89	65	6	65	5	65	0	0	0	0
	point199	199	1800	89	65	6	65	5	65	0	0	0	0
	point200	200	1800	89	65	6	65	5	65	0	0	0	0
	point201	201	1800	89	65	6	65	5	65	0	0	0	0
	point202	202	1800	89	65	6	65	5	65	0	0	0	0
	point203	203	1800	89	65	6	65	5	65	0	0	0	0
	point204	204	1800	89	65	6	65	5	65	0	0	0	0
	point205	205	1800	89	65	6	65	5	65	0	0	0	0
	point206	206	1800	89	65	6	65	5	65	0	0	0	0
	point207	207	1800	89	65	6	65	5	65	0	0	0	0
	point208	208	1800	89	65	6	65	5	65	0	0	0	0
	point209	209											
US 101 WB 2	point210	210	1800	98	65	1	65	0	0	0	0	1	65
	point211	211	1800	98	65	1	65	0	0	0	0	1	65
	point212	212	1800	98	65	1	65	0	0	0	0	1	65
	point213	213	1800	98	65	1	65	0	0	0	0	1	65
	point214	214	1800	98	65	1	65	0	0	0	0	1	65
	point215	215	1800	98	65	1	65	0	0	0	0	1	65
	point216	216	1800	98	65	1	65	0	0	0	0	1	65
	point217	217	1800	98	65	1	65	0	0	0	0	1	65
	point218	218	1800	98	65	1	65	0	0	0	0	1	65
	point219	219	1800	98	65	1	65	0	0	0	0	1	65
	point220	220	1800	98	65	1	65	0	0	0	0	1	65
	point221	221	1800	98	65	1	65	0	0	0	0	1	65
	point222	222	1800	98	65	1	65	0	0	0	0	1	65
	point223	223	1800	98	65	1	65	0	0	0	0	1	65
	point224	224	1800	98	65	1	65	0	0	0	0	1	65
	point225	225	1800	98	65	1	65	0	0	0	0	1	65
	point226	226	1800	98	65	1	65	0	0	0	0	1	65
	point227	227	1800	98	65	1	65	0	0	0	0	1	65
	point228	228	1800	98	65	1	65	0	0	0	0	1	65

	point229	229	1800	98	65	1	65	0	0	0	0	1	65
	point230	230	1800	98	65	1	65	0	0	0	0	1	65
	point231	231	1800	98	65	1	65	0	0	0	0	1	65
	point232	232	1800	98	65	1	65	0	0	0	0	1	65
	point233	233	1800	98	65	1	65	0	0	0	0	1	65
	point234	234	1800	98	65	1	65	0	0	0	0	1	65
	point235	235	1800	98	65	1	65	0	0	0	0	1	65
	point236	236	1800	98	65	1	65	0	0	0	0	1	65
	point237	237	1800	98	65	1	65	0	0	0	0	1	65
	point238	238	1800	98	65	1	65	0	0	0	0	1	65
	point239	239											
US 101 EB 2	point240	240	1800	98	65	1	65	0	0	0	0	1	65
	point241	241	1800	98	65	1	65	0	0	0	0	1	65
	point242	242	1800	98	65	1	65	0	0	0	0	1	65
	point243	243	1800	98	65	1	65	0	0	0	0	1	65
	point244	244	1800	98	65	1	65	0	0	0	0	1	65
	point245	245	1800	98	65	1	65	0	0	0	0	1	65
	point246	246	1800	98	65	1	65	0	0	0	0	1	65
	point247	247	1800	98	65	1	65	0	0	0	0	1	65
	point248	248	1800	98	65	1	65	0	0	0	0	1	65
	point249	249	1800	98	65	1	65	0	0	0	0	1	65
	point250	250	1800	98	65	1	65	0	0	0	0	1	65
	point251	251	1800	98	65	1	65	0	0	0	0	1	65
	point252	252	1800	98	65	1	65	0	0	0	0	1	65
	point253	253	1800	98	65	1	65	0	0	0	0	1	65
	point254	254	1800	98	65	1	65	0	0	0	0	1	65
	point255	255	1800	98	65	0	65	0	0	0	0	1	65
	point256	256	1800	98	65	1	65	0	0	0	0	1	65
	point257	257	1800	98	65	1	65	0	0	0	0	1	65
	point258	258	1800	98	65	1	65	0	0	0	0	1	65
	point259	259	1800	98	65	1	65	0	0	0	0	1	65
	point260	260	1800	98	65	1	65	0	0	0	0	1	65
	point261	261	1800	98	65	1	65	0	0	0	0	1	65
	point262	262	1800	98	65	1	65	0	0	0	0	1	65
	point263	263	1800	98	65	1	65	0	0	0	0	1	65
	point264	264	1800	98	65	1	65	0	0	0	0	1	65

	point265	265	1800	98	65	1	65	0	0	0	0	1	65
	point266	266	1800	98	65	1	65	0	0	0	0	1	65
	point267	267	1800	98	65	1	65	0	0	0	0	1	65
	point268	268	1800	98	65	1	65	0	0	0	0	1	65
	point269	269	1800	98	65	1	65	0	0	0	0	1	65
	point270	270											
US 101 WB 1	point271	271	1800	98	65	1	65	0	0	0	0	1	65
	point272	272	1800	98	65	1	65	0	0	0	0	1	65
	point273	273	1800	98	65	1	65	0	0	0	0	1	65
	point274	274	1800	98	65	1	65	0	0	0	0	1	65
	point275	275	1800	98	65	1	65	0	0	0	0	1	65
	point276	276	1800	98	65	1	65	0	0	0	0	1	65
	point277	277	1800	98	65	1	65	0	0	0	0	1	65
	point278	278	1800	98	65	1	65	0	0	0	0	1	65
	point279	279	1800	98	65	1	65	0	0	0	0	1	65
	point280	280	1800	98	65	1	65	0	0	0	0	1	65
	point281	281	1800	98	65	1	65	0	0	0	0	1	65
	point282	282	1800	98	65	1	65	0	0	0	0	1	65
	point283	283	1800	98	65	1	65	0	0	0	0	1	65
	point284	284	1800	98	65	1	65	0	0	0	0	1	65
	point285	285	1800	98	65	1	65	0	0	0	0	1	65
	point286	286	1800	98	65	1	65	0	0	0	0	1	65
	point287	287	1800	98	65	1	65	0	0	0	0	1	65
	point288	288	1800	98	65	1	65	0	0	0	0	1	65
	point289	289	1800	98	65	1	65	0	0	0	0	1	65
	point290	290	1800	98	65	1	65	0	0	0	0	1	65
	point291	291	1800	98	65	1	65	0	0	0	0	1	65
	point292	292	1800	98	65	1	65	0	0	0	0	1	65
	point293	293	1800	98	65	1	65	0	0	0	0	1	65
	point294	294	1800	98	65	1	65	0	0	0	0	1	65
	point295	295	1800	98	65	1	65	0	0	0	0	1	65
	point296	296	1800	98	65	1	65	0	0	0	0	1	65
	point297	297	1800	98	65	1	65	0	0	0	0	1	65
	point298	298	1800	98	65	1	65	0	0	0	0	1	65
	point299	299	1800	98	65	1	65	0	0	0	0	1	65
	point301	301	1800	98	65	1	65	0	0	0	0	1	65

	point302	302											
US 101 EB 1	point303	303	1800	98	65	1	65	0	0	0	0	1	65
	point304	304	1800	98	65	1	65	0	0	0	0	1	65
	point306	306	1800	98	65	1	65	0	0	0	0	1	65
	point307	307	1800	98	65	1	65	0	0	0	0	1	65
	point308	308	1800	98	65	1	65	0	0	0	0	1	65
	point310	310	1800	98	65	1	65	0	0	0	0	1	65
	point311	311	1800	98	65	1	65	0	0	0	0	1	65
	point312	312	1800	98	65	1	65	0	0	0	0	1	65
	point313	313	1800	98	65	1	65	0	0	0	0	1	65
	point314	314	1800	98	65	1	65	0	0	0	0	1	65
	point315	315	1800	98	65	1	65	0	0	0	0	1	65
	point316	316	1800	98	65	1	65	0	0	0	0	1	65
	point317	317	1800	98	65	1	65	0	0	0	0	1	65
	point318	318	1800	98	65	1	65	0	0	0	0	1	65
	point319	319	1800	98	65	1	65	0	0	0	0	1	65
	point320	320	1800	98	65	1	65	0	0	0	0	1	65
	point321	321	1800	98	65	1	65	0	0	0	0	1	65
	point322	322	1800	98	65	1	65	0	0	0	0	1	65
	point323	323	1800	98	65	1	65	0	0	0	0	1	65
	point324	324	1800	98	65	1	65	0	0	0	0	1	65
	point325	325	1800	98	65	1	65	0	0	0	0	1	65
	point326	326	1800	98	65	1	65	0	0	0	0	1	65
	point327	327	1800	98	65	1	65	0	0	0	0	1	65
	point328	328	1800	98	65	1	65	0	0	0	0	1	65
	point329	329	1800	98	65	1	65	0	0	0	0	1	65
	point330	330											
Chesebro / Canwood NB	point453	453	362	95	35	4	35	0	0	0	0	1	35
	point454	454	362	95	35	4	35	0	0	0	0	1	35
	point455	455	362	95	35	4	35	0	0	0	0	1	35
	point456	456	362	95	35	4	35	0	0	0	0	1	35
	point457	457	362	95	35	4	35	0	0	0	0	1	35
	point458	458	362	95	35	4	35	0	0	0	0	1	35
	point459	459	362	95	35	4	35	0	0	0	0	1	35
	point460	460	362	95	35	4	35	0	0	0	0	1	35
	point463	463	362	95	35	4	35	0	0	0	0	1	35

	point464	464	362	95	35	4	35	0	0	0	0	1	35
	point465	465	362	95	35	4	35	0	0	0	0	1	35
	point466	466	362	95	35	4	35	0	0	0	0	1	35
	point467	467	362	95	35	4	35	0	0	0	0	1	35
	point664	664	362	95	35	4	35	0	0	0	0	1	35
	point468	468											
N Chesebro Road n/o PC SB	point474	474	72	95	35	4	35	0	0	0	0	1	35
	point475	475	72	95	35	4	35	0	0	0	0	1	35
	point476	476	72	95	35	4	35	0	0	0	0	1	35
	point477	477	72	95	35	4	35	0	0	0	0	1	35
	point478	478	72	95	35	4	35	0	0	0	0	1	35
	point479	479	72	95	35	4	35	0	0	0	0	1	35
	point480	480	72	95	35	4	35	0	0	0	0	1	35
	point481	481											
US 101 WB On Ramp	point339	339	363	95	65	4	65	0	0	0	0	1	65
	point340	340	363	95	65	4	65	0	0	0	0	1	65
	point341	341	363	95	65	4	65	0	0	0	0	1	65
	point342	342	363	95	65	4	65	0	0	0	0	1	65
	point343	343	363	95	65	4	65	0	0	0	0	1	65
	point344	344	363	95	65	4	65	0	0	0	0	1	65
	point345	345	363	95	65	4	65	0	0	0	0	1	65
	point346	346	363	95	65	4	65	0	0	0	0	1	65
	point347	347	363	95	65	4	65	0	0	0	0	1	65
	point348	348	363	95	65	4	65	0	0	0	0	1	65
	point349	349	363	95	65	4	65	0	0	0	0	1	65
	point350	350	363	95	65	4	65	0	0	0	0	1	65
	point351	351	363	95	65	4	65	0	0	0	0	1	65
	point352	352											
US 101 WB Off Ramp 2	point515	515	939	99	65	1	65	0	0	0	0	0	0
	point514	514	939	99	65	1	65	0	0	0	0	0	0
	point513	513	939	99	65	1	65	0	0	0	0	0	0
	point512	512	939	99	65	1	65	0	0	0	0	0	0
	point511	511											
US 101 WB Off Ramp RT/LT	point519	519	39	95	65	4	65	0	0	0	0	1	65
	point518	518	39	95	65	4	65	0	0	0	0	1	65
	point517	517	39	95	65	4	65	0	0	0	0	1	65

	point516	516											
US 101 WB Off Ramp LT	point523	523	232	95	65	4	65	0	0	0	0	1	65
	point522	522	232	95	65	4	65	0	0	0	0	1	65
	point521	521	232	95	65	4	65	0	0	0	0	1	65
	point520	520											
S Chesebro Road s/o PC NB outer	point555	555	134	97	35	1	35	0	0	1	35	1	35
	point554	554	134	97	35	1	35	0	0	1	35	1	35
	point553	553	134	97	35	1	35	0	0	1	35	1	35
	point552	552											
S Chesebro Road s/o PC NB inner	point583	583	133	95	35	4	35	0	0	0	0	1	35
	point582	582	133	95	35	4	35	0	0	0	0	1	35
	point581	581	133	95	35	4	35	0	0	0	0	1	35
	point580	580	133	95	35	4	35	0	0	0	0	1	35
	point579	579											
Palo Comado n/o ramps SB inner	point608	608	630	95	35	4	35	0	0	0	0	1	35
	point665	665	630	95	35	4	35	0	0	0	0	1	35
	point607	607	630	95	35	4	35	0	0	0	0	1	35
	point606	606	315	95	35	4	35	0	0	0	0	1	35
	point605	605	315	95	35	4	35	0	0	0	0	1	35
	point604	604	315	95	35	4	35	0	0	0	0	1	35
	point603	603	315	95	35	4	35	0	0	0	0	1	35
	point602	602	315	95	35	4	35	0	0	0	0	1	35
	point601	601	315	95	35	4	35	0	0	0	0	1	35
	point600	600	315	95	35	4	35	0	0	0	0	1	35
	point599	599	315	95	35	4	35	0	0	0	0	1	35
	point598	598	315	95	35	4	35	0	0	0	0	1	35
	point597	597	315	95	35	4	35	0	0	0	0	1	35
	point652	652											
US 101 WB On Ramp R	point630	630	182	95	65	4	65	0	0	0	0	1	65
	point629	629	182	95	65	4	65	0	0	0	0	1	65
	point628	628	182	95	65	4	65	0	0	0	0	1	65
	point659	659											
US 101 WB On Ramp L	point635	635	182	95	65	4	65	0	0	0	0	1	65
	point634	634	182	95	65	4	65	0	0	0	0	1	65
	point633	633	182	95	65	4	65	0	0	0	0	1	65
	point632	632	182	95	65	4	65	0	0	0	0	1	65

	point631	631											
Driver Ave EB	point638	638	284	95	35	4	35	0	0	0	0	1	35
	point637	637	284	95	35	4	35	0	0	0	0	1	35
	point660	660	284	95	35	4	35	0	0	0	0	1	35
	point636	636	284	95	35	4	35	0	0	0	0	1	35
	point662	662											
Driver Ave WB	point639	639	696	95	35	4	35	0	0	0	0	1	35
	point640	640	696	95	35	4	35	0	0	0	0	1	35
	point641	641	696	95	35	4	35	0	0	0	0	1	35
	point642	642	696	95	35	4	35	0	0	0	0	1	35
	point661	661											
US 101 WB Off Ramp RT	point643	643	668	95	65	4	65	0	0	0	0	1	65
	point510	510	668	95	65	4	65	0	0	0	0	1	65
	point509	509	668	95	65	4	65	0	0	0	0	1	65
	point508	508	668	95	65	4	65	0	0	0	0	1	65
	point507	507	668	95	65	4	65	0	0	0	0	1	65
	point506	506											
N Chesebro Road n/o PC NB	point645	645	52	95	35	4	35	0	0	0	0	1	35
	point469	469	52	95	35	4	35	0	0	0	0	1	35
	point470	470	52	95	35	4	35	0	0	0	0	1	35
	point471	471	52	95	35	4	35	0	0	0	0	1	35
	point472	472	52	95	35	4	35	0	0	0	0	1	35
	point473	473											
US 101 EB Off Ramp RT	point647	647	85	95	65	4	65	0	0	0	0	1	65
	point7	7	85	95	65	4	65	0	0	0	0	1	65
	point8	8	85	95	65	4	65	0	0	0	0	1	65
	point9	9	85	95	65	4	65	0	0	0	0	1	65
	point10	10	85	95	65	4	65	0	0	0	0	1	65
	point11	11	85	95	65	4	65	0	0	0	0	1	65
	point12	12											
Palo Comado s/o ramps NB outer	point648	648	200	95	35	4	35	0	0	0	0	1	35
	point551	551	200	95	35	4	35	0	0	0	0	1	35
	point550	550	200	95	35	4	35	0	0	0	0	1	35
	point549	549	200	95	35	4	35	0	0	0	0	1	35
	point548	548	200	95	35	4	35	0	0	0	0	1	35
	point547	547	200	95	35	4	35	0	0	0	0	1	35

	point546	546	200	95	35	4	35	0	0	0	0	1	35
	point545	545	200	95	35	4	35	0	0	0	0	1	35
	point544	544	200	95	35	4	35	0	0	0	0	1	35
	point543	543	200	95	35	4	35	0	0	0	0	1	35
	point542	542	200	95	35	4	35	0	0	0	0	1	35
	point541	541	200	95	35	4	35	0	0	0	0	1	35
	point654	654											
Palo Comado s/o ramps NB inner	point649	649	200	95	35	4	35	0	0	0	0	1	35
	point578	578	200	95	35	4	35	0	0	0	0	1	35
	point577	577	200	95	35	4	35	0	0	0	0	1	35
	point576	576	200	95	35	4	35	0	0	0	0	1	35
	point575	575	200	95	35	4	35	0	0	0	0	1	35
	point574	574	200	95	35	4	35	0	0	0	0	1	35
	point573	573	200	95	35	4	35	0	0	0	0	1	35
	point572	572	200	95	35	4	35	0	0	0	0	1	35
	point571	571	200	95	35	4	35	0	0	0	0	1	35
	point570	570	200	95	35	4	35	0	0	0	0	1	35
	point569	569	200	95	35	4	35	0	0	0	0	1	35
	point653	653											
S Chesebro Road s/o PC SB	point650	650	393	95	35	4	35	0	0	0	0	1	35
	point586	586	393	95	35	4	35	0	0	0	0	1	35
	point585	585	393	95	35	4	35	0	0	0	0	1	35
	point584	584											
Palo Comado s/o ramps SB outer	point655	655	393	95	35	4	35	0	0	0	0	1	35
	point615	615	393	95	35	4	35	0	0	0	0	1	35
	point614	614	393	95	35	4	35	0	0	0	0	1	35
	point613	613	393	95	35	4	35	0	0	0	0	1	35
	point612	612	393	95	35	4	35	0	0	0	0	1	35
	point611	611	393	95	35	4	35	0	0	0	0	1	35
	point610	610	393	95	35	4	35	0	0	0	0	1	35
	point609	609											
Palo Comado s/o ramps SB inner	point656	656	393	95	35	4	35	0	0	0	0	1	35
	point596	596	393	95	35	4	35	0	0	0	0	1	35
	point595	595	393	95	35	4	35	0	0	0	0	1	35
	point594	594	393	95	35	4	35	0	0	0	0	1	35
	point593	593	393	95	35	4	35	0	0	0	0	1	35

	point592	592	393	95	35	4	35	0	0	0	0	1	35
	point591	591	393	95	35	4	35	0	0	0	0	1	35
	point590	590	393	95	35	4	35	0	0	0	0	1	35
	point589	589	393	95	35	4	35	0	0	0	0	1	35
	point588	588	393	95	35	4	35	0	0	0	0	1	35
	point587	587											
Palo Comado n/o ramps NB inner	point657	657	245	95	35	4	35	0	0	0	0	1	35
	point568	568	245	95	35	4	35	0	0	0	0	1	35
	point567	567	245	95	35	4	35	0	0	0	0	1	35
	point566	566	245	95	35	4	35	0	0	0	0	1	35
	point565	565	245	95	35	4	35	0	0	0	0	1	35
	point564	564	245	95	35	4	35	0	0	0	0	1	35
	point563	563	245	95	35	4	35	0	0	0	0	1	35
	point562	562	245	95	35	4	35	0	0	0	0	1	35
	point561	561	245	95	35	4	35	0	0	0	0	1	35
	point560	560	245	95	35	4	35	0	0	0	0	1	35
	point559	559	245	95	35	4	35	0	0	0	0	1	35
	point558	558	245	95	35	4	35	0	0	0	0	1	35
	point557	557	245	95	35	4	35	0	0	0	0	1	35
	point663	663	245	95	35	4	35	0	0	0	0	1	35
	point556	556											
Palo Comado n/o ramps NB outer	point658	658	675	95	35	4	35	0	0	0	0	1	35
	point540	540	675	95	35	4	35	0	0	0	0	1	35
	point539	539	675	95	35	4	35	0	0	0	0	1	35
	point538	538	675	95	35	4	35	0	0	0	0	1	35
	point537	537	675	95	35	4	35	0	0	0	0	1	35
	point536	536	675	95	35	4	35	0	0	0	0	1	35
	point535	535	675	95	35	4	35	0	0	0	0	1	35
	point534	534	675	95	35	4	35	0	0	0	0	1	35
	point533	533	675	95	35	4	35	0	0	0	0	1	35
	point532	532	675	95	35	4	35	0	0	0	0	1	35
	point531	531	675	95	35	4	35	0	0	0	0	1	35
	point530	530	675	95	35	4	35	0	0	0	0	1	35
	point529	529	675	95	35	4	35	0	0	0	0	1	35
	point528	528	675	95	35	4	35	0	0	0	0	1	35
	point527	527	675	95	35	4	35	0	0	0	0	1	35

	point526	526	675	95	35	4	35	0	0	0	0	1	35
	point667	667	675	95	35	4	35	0	0	0	0	1	35
	point525	525											
Chesebro / Canwood SB	point666	666	260	95	35	4	35	0	0	0	0	1	35
	point644	644	260	95	35	4	35	0	0	0	0	1	35
	point483	483	260	95	35	4	35	0	0	0	0	1	35
	point484	484	260	95	35	4	35	0	0	0	0	1	35
	point485	485	260	95	35	4	35	0	0	0	0	1	35
	point486	486	260	95	35	4	35	0	0	0	0	1	35
	point487	487	260	95	35	4	35	0	0	0	0	1	35
	point488	488	260	95	35	4	35	0	0	0	0	1	35
	point489	489	260	95	35	4	35	0	0	0	0	1	35
	point490	490	260	95	35	4	35	0	0	0	0	1	35
	point491	491	260	95	35	4	35	0	0	0	0	1	35
	point492	492	260	95	35	4	35	0	0	0	0	1	35
	point493	493	260	95	35	4	35	0	0	0	0	1	35
	point494	494	260	95	35	4	35	0	0	0	0	1	35
	point495	495	260	95	35	4	35	0	0	0	0	1	35
	point496	496	260	95	35	4	35	0	0	0	0	1	35
	point497	497	260	95	35	4	35	0	0	0	0	1	35
	point498	498	260	95	35	4	35	0	0	0	0	1	35
	point499	499	260	95	35	4	35	0	0	0	0	1	35
	point500	500	260	95	35	4	35	0	0	0	0	1	35
	point501	501											
Palo Comado n/o ramps SB outer-2-2	point669	669	315	95	35	4	35	0	0	0	0	1	35
	point624	624	315	95	35	4	35	0	0	0	0	1	35
	point623	623	315	95	35	4	35	0	0	0	0	1	35
	point622	622	315	95	35	4	35	0	0	0	0	1	35
	point621	621	315	95	35	4	35	0	0	0	0	1	35
	point620	620	315	95	35	4	35	0	0	0	0	1	35
	point619	619	315	95	35	4	35	0	0	0	0	1	35
	point618	618	315	95	35	4	35	0	0	0	0	1	35
	point617	617	315	95	35	4	35	0	0	0	0	1	35
	point616	616	315	95	35	4	35	0	0	0	0	1	35
	point651	651											

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INPUT: RECEIVERS
PROJECT/CONTRACT: Agoura Hills / US 101
RUN: 2035 Build

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria Existing LAeq1h	Impact Criteria LAeq1h	Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
R1	9	1	6,338,238.0	1,876,085.0	914.00	4.92	0.00	66	12.0	8.0	Y
R1A	10	1	6,338,317.5	1,876,034.6	917.00	4.92	0.00	66	12.0	8.0	
R1 5306 Chesebro Road - Side Yard											
R1A 5306 Chesebro Road - Backyard											

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INPUT: BARRIERS
PROJECT/CONTRACT: Agoura Hills / US 101
RUN: 2035 Build

Barrier Name	Type	Height Min	Height Max	If Wall $ per Unit Area	If Berm $ per Unit Vol.	Top Width	Run:Rise	Add'tnl $ per Unit Length	Points Name	No.	Coordinates (bottom) X	Y	Z	Height at Point	Segment Seg Ht Incre-ment	Perturbs #Up	#Dn	On Struct?	Important Reflec-tions?
		ft	ft	$/sq ft	$/cu yd	ft	ft:ft	$/ft			ft	ft	ft	ft	ft				
Barrier2	W	0.00	99.99	0.00				0.00	point1	1	6,337,802.0	1,875,610.9	904.04	25.00	0.00	0	0		
									point2	2	6,337,854.0	1,875,650.4	904.20	25.00	0.00	0	0		
									point3	3	6,337,987.5	1,875,800.5	908.00	25.00	0.00	0	0		
									point4	4	6,337,944.0	1,875,831.8	908.00	25.00	0.00	0	0		
									point5	5	6,337,916.5	1,875,804.6	908.16	25.00	0.00	0	0		
									point6	6	6,337,844.0	1,875,867.1	908.00	25.00	0.00	0	0		
									point7	7	6,337,779.0	1,875,788.0	909.00	25.00	0.00	0	0		
									point8	8	6,337,731.0	1,875,831.8	908.52	25.00	0.00	0	0		
									point9	9	6,337,783.5	1,875,881.8	907.24	25.00	0.00	0	0		
									point10	10	6,337,666.5	1,875,963.0	901.81	25.00	0.00	0	0		
									point11	11	6,337,518.5	1,875,800.5	904.00	25.00	0.00	0	0		
									point14	14	6,337,802.0	1,875,610.9	904.04	25.00					
Barrier3	W	0.00	99.99	0.00				0.00	point15	15	6,337,727.5	1,875,974.9	902.14	15.00	0.00	0	0		
									point16	16	6,338,021.0	1,875,864.9	907.00	15.00	0.00	0	0		
									point17	17	6,338,037.5	1,875,904.0	907.17	15.00	0.00	0	0		
									point18	18	6,337,745.5	1,876,019.8	904.40	15.00	0.00	0	0		
									point19	19	6,337,727.5	1,875,974.9	902.14	15.00					
Barrier4	W	0.00	99.99	0.00				0.00	point20	20	6,338,034.5	1,875,593.6	905.08	15.00	0.00	0	0		
									point21	21	6,338,008.0	1,875,509.4	904.92	15.00	0.00	0	0		
									point22	22	6,338,042.5	1,875,496.1	906.55	15.00	0.00	0	0		
									point23	23	6,338,129.5	1,875,516.9	910.79	15.00	0.00	0	0		
									point24	24	6,338,141.5	1,875,555.8	909.65	15.00	0.00	0	0		
									point25	25	6,338,034.5	1,875,593.6	905.08	15.00					
Barrier5	W	0.00	99.99	0.00				0.00	point26	26	6,338,270.5	1,875,601.9	934.00	15.00	0.00	0	0		
									point27	27	6,338,272.5	1,875,696.4	933.79	15.00	0.00	0	0		
									point28	28	6,338,317.5	1,875,695.5	934.00	15.00	0.00	0	0		
									point29	29	6,338,316.0	1,875,601.0	933.77	15.00	0.00	0	0		
									point30	30	6,338,270.5	1,875,601.9	934.00	15.00					
Barrier6	W	0.00	99.99	0.00				0.00	point31	31	6,338,269.0	1,876,252.2	914.81	15.00	0.00	0	0		
									point32	32	6,338,340.5	1,876,219.2	916.00	15.00	0.00	0	0		
									point34	34	6,338,328.5	1,876,192.1	915.71	15.00	0.00	0	0		
									point35	35	6,338,256.5	1,876,217.9	914.43	15.00	0.00	0	0		
									point36	36	6,338,269.0	1,876,252.2	914.81	15.00					
Barrier7	W	0.00	99.99	0.00				0.00	point37	37	6,338,326.0	1,876,180.2	915.72	15.00	0.00	0	0		
									point38	38	6,338,314.0	1,876,150.4	915.15	15.00	0.00	0	0		

									point39	39	6,338,289.0	1,876,159.6	914.88	15.00	0.00	0	0		
									point40	40	6,338,299.5	1,876,189.9	915.24	15.00	0.00	0	0		
									point41	41	6,338,326.0	1,876,180.2	915.72	15.00					
5306 Chesebro Road	W	0.00	99.99	0.00				0.00	point42	42	6,338,278.5	1,876,143.1	914.30	15.00	0.00	0	0		
									point43	43	6,338,261.5	1,876,097.4	914.19	15.00	0.00	0	0		
									point44	44	6,338,233.0	1,876,111.4	913.94	15.00	0.00	0	0		
									point45	45	6,338,233.5	1,876,125.0	913.80	15.00	0.00	0	0		
									point46	46	6,338,246.0	1,876,155.0	913.76	15.00	0.00	0	0		
									point47	47	6,338,278.5	1,876,143.1	914.30	15.00					
Barrier9	W	0.00	99.99	0.00				0.00	point48	48	6,338,448.5	1,875,684.8	933.07	15.00	0.00	0	0		
									point49	49	6,338,445.5	1,875,660.1	933.41	15.00	0.00	0	0		
									point51	51	6,338,469.5	1,875,657.0	934.27	15.00	0.00	0	0		
									point52	52	6,338,473.0	1,875,681.8	934.07	15.00	0.00	0	0		
									point53	53	6,338,448.5	1,875,684.8	933.07	15.00					
Barrier10	W	0.00	99.99	0.00				0.00	point54	54	6,338,510.5	1,875,678.2	938.13	15.00	0.00	0	0		
									point55	55	6,338,545.0	1,875,636.6	935.94	15.00	0.00	0	0		
									point56	56	6,338,519.5	1,875,614.9	935.51	15.00	0.00	0	0		
									point57	57	6,338,502.5	1,875,635.1	934.96	15.00	0.00	0	0		
									point58	58	6,338,499.5	1,875,632.5	934.90	15.00	0.00	0	0		
									point59	59	6,338,481.5	1,875,654.0	934.51	15.00	0.00	0	0		
									point60	60	6,338,510.5	1,875,678.2	938.13	15.00					
Barrier12	W	0.00	99.99	0.00				0.00	point69	69	6,338,437.5	1,875,161.0	919.18	15.00	0.00	0	0		
									point70	70	6,338,514.5	1,875,124.8	924.53	15.00	0.00	0	0		
									point71	71	6,338,480.5	1,875,053.9	926.00	15.00	0.00	0	0		
									point72	72	6,338,430.0	1,875,077.9	925.40	15.00	0.00	0	0		
									point73	73	6,338,422.0	1,875,060.8	927.00	15.00	0.00	0	0		
									point74	74	6,338,393.5	1,875,074.0	923.12	15.00	0.00	0	0		
									point75	75	6,338,410.5	1,875,104.2	922.84	15.00	0.00	0	0		
									point76	76	6,338,398.5	1,875,109.9	922.00	15.00	0.00	0	0		
									point77	77	6,338,418.5	1,875,151.2	919.80	15.00	0.00	0	0		
									point78	78	6,338,430.0	1,875,145.6	920.23	15.00	0.00	0	0		
									point80	80	6,338,437.5	1,875,161.0	919.18	15.00					
Barrier13	W	0.00	99.99	0.00				0.00	point81	81	6,338,612.5	1,875,064.1	937.92	15.00	0.00	0	0		
									point82	82	6,338,574.5	1,874,991.4	932.83	15.00	0.00	0	0		
									point83	83	6,338,485.0	1,875,036.6	929.03	15.00	0.00	0	0		
									point84	84	6,338,521.5	1,875,109.9	925.73	15.00	0.00	0	0		
									point85	85	6,338,612.5	1,875,064.1	937.92	15.00					
Barrier14	W	0.00	99.99	0.00				0.00	point86	86	6,338,649.0	1,875,027.2	941.00	15.00	0.00	0	0		
									point87	87	6,338,624.5	1,874,976.0	936.21	15.00	0.00	0	0		
									point88	88	6,338,721.0	1,874,930.5	941.89	15.00	0.00	0	0		
									point89	89	6,338,745.0	1,874,981.4	942.00	15.00	0.00	0	0		
									point90	90	6,338,649.0	1,875,027.2	941.00	15.00					
Barrier15	W	0.00	99.99	0.00				0.00	point91	91	6,338,766.5	1,874,976.4	948.67	15.00	0.00	0	0		
									point92	92	6,338,877.5	1,874,911.4	947.38	15.00	0.00	0	0		
									point93	93	6,338,847.0	1,874,866.5	944.00	15.00	0.00	0	0		
									point94	94	6,338,788.5	1,874,882.2	944.00	15.00	0.00	0	0		
									point95	95	6,338,753.5	1,874,902.6	944.69	15.00	0.00	0	0		
									point96	96	6,338,749.0	1,874,894.6	944.00	15.00	0.00	0	0		
									point97	97	6,338,722.5	1,874,909.9	944.00	15.00	0.00	0	0		

									point98	98	6,338,766.5	1,874,976.4	948.67	15.00						
Barrier16	W	0.00	99.99	0.00				0.00	point99	99	6,338,047.0	1,875,123.9	908.42	15.00	0.00	0	0			
									point102	102	6,338,053.5	1,875,076.4	908.43	15.00	0.00	0	0			
									point104	104	6,338,194.0	1,875,095.4	911.00	15.00	0.00	0	0			
									point105	105	6,338,203.0	1,875,104.8	911.00	15.00	0.00	0	0			
									point106	106	6,338,201.5	1,875,135.1	911.00	15.00	0.00	0	0			
									point107	107	6,338,181.5	1,875,137.1	911.00	15.00	0.00	0	0			
									point108	108	6,338,121.0	1,875,134.2	910.00	15.00	0.00	0	0			
									point109	109	6,338,047.0	1,875,123.9	908.42	15.00						
Barrier17	W	0.00	99.99	0.00				0.00	point110	110	6,337,977.0	1,875,162.9	908.00	15.00	0.00	0	0			
									point111	111	6,337,991.0	1,875,066.8	907.00	15.00	0.00	0	0			
									point112	112	6,337,955.5	1,875,061.8	907.00	15.00	0.00	0	0			
									point113	113	6,337,942.0	1,875,157.5	904.72	15.00	0.00	0	0			
									point115	115	6,337,977.0	1,875,162.9	908.00	15.00						
Sound Wall	W	0.00	99.99	0.00				0.00	point130	130	6,338,178.5	1,876,093.6	912.00	6.00	2.00	2	0			
									point131	131	6,338,192.0	1,876,082.5	912.00	6.00	2.00	2	0			
									point132	132	6,338,200.5	1,876,075.5	912.50	6.00	2.00	2	0			
									point133	133	6,338,213.5	1,876,066.0	913.00	6.00	2.00	2	0			
									point134	134	6,338,245.5	1,876,048.4	914.00	6.00	2.00	2	0			
									point136	136	6,338,268.5	1,876,032.6	915.00	6.00	2.00	2	0			
									point138	138	6,338,285.0	1,876,020.1	916.00	6.00	2.00	2	0			
									point139	139	6,338,295.5	1,876,011.2	917.00	6.00	2.00	2	0			
									point141	141	6,338,311.5	1,875,996.5	918.00	6.00	2.00	2	0			
									point142	142	6,338,323.5	1,875,983.9	919.00	6.00	2.00	2	0			
									point143	143	6,338,334.5	1,875,972.1	920.00	6.00	2.00	2	0			
									point145	145	6,338,343.0	1,875,961.1	921.00	6.00	2.00	2	0			
									point146	146	6,338,350.0	1,875,952.6	922.00	6.00	2.00	2	0			
									point147	147	6,338,356.0	1,875,944.9	922.50	6.00						

Kimley-Horn and Associates 6 January 2011
ASG TNM 2.5

RESULTS: BARRIER-SEGMENT DESCRIPTIONS
PROJECT/CONTRACT: Agoura Hills / US 101
RUN: 2035 Build
BARRIER DESIGN: Unabated

Barriers		Segments										
Name	Type	Name	No.	Heights			Length	If Wall			If Berm	Cost
				First	Average	Second		Area	On	Important	Volume	
				Point		Point			Struc?	Reflections?		
				ft	ft	ft	ft	sq ft			cu yd	$
Sound Wall	W	point130	130	0.00	0.00	0.00	0	0				0
		point131	131	0.00	0.00	0.00	0	0				0
		point132	132	0.00	0.00	0.00	0	0				0
		point133	133	0.00	0.00	0.00	0	0				0
		point134	134	0.00	0.00	0.00	0	0				0
		point136	136	0.00	0.00	0.00	0	0				0
		point138	138	0.00	0.00	0.00	0	0				0
		point139	139	0.00	0.00	0.00	0	0				0
		point141	141	0.00	0.00	0.00	0	0				0
		point142	142	0.00	0.00	0.00	0	0				0
		point143	143	0.00	0.00	0.00	0	0				0
		point145	145	0.00	0.00	0.00	0	0				0
		point146	146	0.00	0.00	0.00	0	0				0

Kimley-Horn and Associates							6 January 2011					
ASG							TNM 2.5					
							Calculated with TNM 2.5					
RESULTS: SOUND LEVELS												
PROJECT/CONTRACT:		Agoura Hills / US 101										
RUN:		2035 Build										
BARRIER DESIGN:		Unabated						Average pavement type shall be used unless				
								a State highway agency substantiates the use				
ATMOSPHERICS:		68 deg F, 50% RH						of a different type with approval of FHWA.				
Receiver												
Name	No.	#DUs	Existing	No Barrier					With Barrier			
			LAeq1h	LAeq1h		Increase over existing		Type	Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R1A	10	1	0.0	66.8	66	66.8	12	Snd Lvl	66.8	0.0	8	-8.0
R1	9	1	0.0	68.7	66	68.7	12	Snd Lvl	68.7	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction		
		Min	Avg	Max
		dB	dB	dB
All Selected	2	0.0	0.0	0.0
All Impacted	2	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Kimley-Horn and Associates 6 January 2011
ASG TNM 2.5

RESULTS: BARRIER-SEGMENT DESCRIPTIONS
PROJECT/CONTRACT: Agoura Hills / US 101
RUN: 2035 Build
BARRIER DESIGN: 6'

Barriers		Segments										
Name	Type	Name	No.	Heights			Length	If Wall			If Berm	Cost
				First	Average	Second		Area	On	Important	Volume	
				Point		Point			Struc?	Reflections?		
				ft	ft	ft	ft	sq ft			cu yd	$
Sound Wall	W	point130	130	6.00	6.00	6.00	17	105				0
		point131	131	6.00	6.00	6.00	11	66				0
		point132	132	6.00	6.00	6.00	16	97				0
		point133	133	6.00	6.00	6.00	37	219				0
		point134	134	6.00	6.00	6.00	28	167				0
		point136	136	6.00	6.00	6.00	21	124				0
		point138	138	6.00	6.00	6.00	14	82				0
		point139	139	6.00	6.00	6.00	22	131				0
		point141	141	6.00	6.00	6.00	17	105				0
		point142	142	0.00	0.00	0.00	0	0				0
		point143	143	0.00	0.00	0.00	0	0				0
		point145	145	0.00	0.00	0.00	0	0				0
		point146	146	0.00	0.00	0.00	0	0				0

Kimley-Horn and Associates							**6 January 2011**					
ASG							**TNM 2.5**					
							Calculated with TNM 2.5					
RESULTS: SOUND LEVELS												
PROJECT/CONTRACT:		**Agoura Hills / US 101**										
RUN:		**2035 Build**										
BARRIER DESIGN:		**6'**						**Average pavement type shall be used unless**				
								a State highway agency substantiates the use				
ATMOSPHERICS:		**68 deg F, 50% RH**						**of a different type with approval of FHWA.**				
Receiver												
Name	**No.**	**#DUs**	**Existing**	**No Barrier**					**With Barrier**			
			LAeq1h	**LAeq1h**		**Increase over existing**		**Type**	**Calculated**	**Noise Reduction**		
				Calculated	**Crit'n**	**Calculated**	**Crit'n**	**Impact**	**LAeq1h**	**Calculated**	**Goal**	**Calculated**
							Sub'l Inc					**minus**
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R1A	10	1	0.0	66.8	66	66.8	12	Snd Lvl	61.8	5.0	8	-3.0
R1	9	1	0.0	68.7	66	68.7	12	Snd Lvl	63.4	5.3	8	-2.7
Dwelling Units		**# DUs**	**Noise Reduction**									
			Min	**Avg**	**Max**							
			dB	**dB**	**dB**							
All Selected		2	5.0	5.1	5.3							
All Impacted		2	5.0	5.1	5.3							
All that meet NR Goal		0	0.0	0.0	0.0							

Kimley-Horn and Associates 14 April 2011
ASG TNM 2.5

RESULTS: BARRIER-SEGMENT DESCRIPTIONS
PROJECT/CONTRACT: Agoura Hills / US 101
RUN: 2035 Build
BARRIER DESIGN: 8'

Barriers		Segments										
Name	Type	Name	No.	Heights			Length	If Wall			If Berm	Cost
				First	Average	Second		Area	On	Important	Volume	
				Point		Point			Struc?	Reflections?		
				ft	ft	ft	ft	sq ft			cu yd	$
Sound Wall	W	point130	130	8.00	8.00	8.00	17	140				0
		point131	131	8.00	8.00	8.00	11	88				0
		point132	132	8.00	8.00	8.00	16	129				0
		point133	133	8.00	8.00	8.00	37	292				0
		point134	134	8.00	8.00	8.00	28	223				0
		point136	136	8.00	8.00	8.00	21	166				0
		point138	138	8.00	8.00	8.00	14	110				0
		point139	139	8.00	8.00	8.00	22	174				0
		point141	141	8.00	8.00	8.00	17	139				0
		point142	142	0.00	0.00	0.00	0	0				0
		point143	143	0.00	0.00	0.00	0	0				0
		point145	145	0.00	0.00	0.00	0	0				0
		point146	146	0.00	0.00	0.00	0	0				0

Kimley-Horn and Associates							14 April 2011					
ASG							TNM 2.5					
							Calculated with TNM 2.5					
RESULTS: SOUND LEVELS												
PROJECT/CONTRACT:		Agoura Hills / US 101										
RUN:		2035 Build										
BARRIER DESIGN:		8'						Average pavement type shall be used unless				
								a State highway agency substantiates the use				
ATMOSPHERICS:		68 deg F, 50% RH						of a different type with approval of FHWA.				
Receiver												
Name	No.	#DUs	Existing	No Barrier					With Barrier			
			LAeq1h	LAeq1h		Increase over existing		Type	Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R1A	10	1	0.0	66.8	66	66.8	12	Snd Lvl	60.5	6.3	8	-1.7
R1	9	1	0.0	68.7	66	68.7	12	Snd Lvl	61.5	7.2	8	-0.8
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		2	6.3	6.8	7.2							
All Impacted		2	6.3	6.8	7.2							
All that meet NR Goal		0	0.0	0.0	0.0							

Kimley-Horn and Associates 14 April 2011
ASG TNM 2.5

RESULTS: BARRIER-SEGMENT DESCRIPTIONS
PROJECT/CONTRACT: Agoura Hills / US 101
RUN: 2035 Build
BARRIER DESIGN: 10'

Barriers		Segments										
Name	Type	Name	No.	Heights			Length	If Wall			If Berm	Cost
				First	Average	Second		Area	On	Important	Volume	
				Point		Point			Struc?	Reflections?		
				ft	ft	ft	ft	sq ft			cu yd	$
Sound Wall	W	point130	130	10.00	10.00	10.00	17	175				0
		point131	131	10.00	10.00	10.00	11	110				0
		point132	132	10.00	10.00	10.00	16	161				0
		point133	133	10.00	10.00	10.00	37	365				0
		point134	134	10.00	10.00	10.00	28	279				0
		point136	136	10.00	10.00	10.00	21	207				0
		point138	138	10.00	10.00	10.00	14	137				0
		point139	139	10.00	10.00	10.00	22	218				0
		point141	141	10.00	10.00	10.00	17	174				0
		point142	142	0.00	0.00	0.00	0	0				0
		point143	143	0.00	0.00	0.00	0	0				0
		point145	145	0.00	0.00	0.00	0	0				0
		point146	146	0.00	0.00	0.00	0	0				0

Kimley-Horn and Associates							**14 April 2011**					
ASG							**TNM 2.5**					
							Calculated with TNM 2.5					
RESULTS: SOUND LEVELS												
PROJECT/CONTRACT:		**Agoura Hills / US 101**										
RUN:		**2035 Build**										
BARRIER DESIGN:		**10'**						**Average pavement type shall be used unless**				
								a State highway agency substantiates the use				
ATMOSPHERICS:		**68 deg F, 50% RH**						**of a different type with approval of FHWA.**				
Receiver												
Name	**No.**	**#DUs**	**Existing**	**No Barrier**					**With Barrier**			
			LAeq1h	**LAeq1h**		**Increase over existing**		**Type**	**Calculated**	**Noise Reduction**		
				Calculated	**Crit'n**	**Calculated**	**Crit'n**	**Impact**	**LAeq1h**	**Calculated**	**Goal**	**Calculated**
							Sub'l Inc					**minus**
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R1A	10	1	0.0	66.8	66	66.8	12	Snd Lvl	59.7	7.1	8	-0.9
R1	9	1	0.0	68.7	66	68.7	12	Snd Lvl	60.4	8.3	8	0.3
Dwelling Units		**# DUs**	**Noise Reduction**									
			Min	**Avg**	**Max**							
			dB	**dB**	**dB**							
All Selected		2	7.1	7.7	8.3							
All Impacted		2	7.1	7.7	8.3							
All that meet NR Goal		1	8.3	8.3	8.3							

Kimley-Horn and Associates 14 April 2011
ASG TNM 2.5

RESULTS: BARRIER-SEGMENT DESCRIPTIONS
PROJECT/CONTRACT: Agoura Hills / US 101
RUN: 2035 Build
BARRIER DESIGN: 12'

Barriers		Segments										
Name	Type	Name	No.	Heights			Length	If Wall			If Berm	Cost
				First	Average	Second		Area	On	Important	Volume	
				Point		Point			Struc?	Reflections?		
				ft	ft	ft	ft	sq ft			cu yd	$
Sound Wall	W	point130	130	12.00	12.00	12.00	17	210				0
		point131	131	12.00	12.00	12.00	11	132				0
		point132	132	12.00	12.00	12.00	16	193				0
		point133	133	12.00	12.00	12.00	37	438				0
		point134	134	12.00	12.00	12.00	28	335				0
		point136	136	12.00	12.00	12.00	21	248				0
		point138	138	12.00	12.00	12.00	14	165				0
		point139	139	12.00	12.00	12.00	22	261				0
		point141	141	12.00	12.00	12.00	17	209				0
		point142	142	0.00	0.00	0.00	0	0				0
		point143	143	0.00	0.00	0.00	0	0				0
		point145	145	0.00	0.00	0.00	0	0				0
		point146	146	0.00	0.00	0.00	0	0				0

Kimley-Horn and Associates							14 April 2011					
ASG							TNM 2.5					
							Calculated with TNM 2.5					
RESULTS: SOUND LEVELS												
PROJECT/CONTRACT:		Agoura Hills / US 101										
RUN:		2035 Build										
BARRIER DESIGN:		12'						Average pavement type shall be used unless				
								a State highway agency substantiates the use				
ATMOSPHERICS:		68 deg F, 50% RH						of a different type with approval of FHWA.				
Receiver												
Name	No.	#DUs	Existing	No Barrier					With Barrier			
			LAeq1h	LAeq1h		Increase over existing		Type	Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R1A	10	1	0.0	66.8	66	66.8	12	Snd Lvl	59.2	7.6	8	-0.4
R1	9	1	0.0	68.7	66	68.7	12	Snd Lvl	59.6	9.1	8	1.1

Dwelling Units	# DUs	Noise Reduction		
		Min	Avg	Max
		dB	dB	dB
All Selected	2	7.6	8.4	9.1
All Impacted	2	7.6	8.4	9.1
All that meet NR Goal	1	9.1	9.1	9.1

Kimley-Horn and Associates 14 April 2011
ASG TNM 2.5

RESULTS: BARRIER-SEGMENT DESCRIPTIONS
PROJECT/CONTRACT: Agoura Hills / US 101
RUN: 2035 Build
BARRIER DESIGN: 14'

Barriers		Segments										
Name	Type	Name	No.	Heights			Length	If Wall			If Berm	Cost
				First	Average	Second		Area	On	Important	Volume	
				Point		Point			Struc?	Reflections?		
				ft	ft	ft	ft	sq ft			cu yd	$
Sound Wall	W	point130	130	14.00	14.00	14.00	17	245				0
		point131	131	14.00	14.00	14.00	11	154				0
		point132	132	14.00	14.00	14.00	16	225				0
		point133	133	14.00	14.00	14.00	37	511				0
		point134	134	14.00	14.00	14.00	28	390				0
		point136	136	14.00	14.00	14.00	21	290				0
		point138	138	14.00	14.00	14.00	14	192				0
		point139	139	14.00	14.00	14.00	22	305				0
		point141	141	14.00	14.00	14.00	17	244				0
		point142	142	0.00	0.00	0.00	0	0				0
		point143	143	0.00	0.00	0.00	0	0				0
		point145	145	0.00	0.00	0.00	0	0				0
		point146	146	0.00	0.00	0.00	0	0				0

Kimley-Horn and Associates							14 April 2011					
ASG							TNM 2.5					
							Calculated with TNM 2.5					
RESULTS: SOUND LEVELS												
PROJECT/CONTRACT:		Agoura Hills / US 101										
RUN:		2035 Build										
BARRIER DESIGN:		14'						Average pavement type shall be used unless				
								a State highway agency substantiates the use				
ATMOSPHERICS:		68 deg F, 50% RH						of a different type with approval of FHWA.				
Receiver												
Name	No.	#DUs	Existing	No Barrier					With Barrier			
			LAeq1h	LAeq1h		Increase over existing		Type	Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R1A	10	1	0.0	66.8	66	66.8	12	Snd Lvl	58.7	8.1	8	0.1
R1	9	1	0.0	68.7	66	68.7	12	Snd Lvl	58.9	9.8	8	1.8
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		2	8.1	8.9	9.8							
All Impacted		2	8.1	8.9	9.8							
All that meet NR Goal		2	8.1	8.9	9.8							

Kimley-Horn and Associates 14 April 2011
ASG TNM 2.5

RESULTS: BARRIER-SEGMENT DESCRIPTIONS
PROJECT/CONTRACT: Agoura Hills / US 101
RUN: 2035 Build
BARRIER DESIGN: 16'

Barriers		Segments										
Name	Type	Name	No.	Heights			Length	If Wall			If Berm	Cost
				First	Average	Second		Area	On	Important	Volume	
				Point		Point			Struc?	Reflections?		
				ft	ft	ft	ft	sq ft			cu yd	$
Sound Wall	W	point130	130	16.00	16.00	16.00	17	280				0
		point131	131	16.00	16.00	16.00	11	176				0
		point132	132	16.00	16.00	16.00	16	258				0
		point133	133	16.00	16.00	16.00	37	585				0
		point134	134	16.00	16.00	16.00	28	446				0
		point136	136	16.00	16.00	16.00	21	331				0
		point138	138	16.00	16.00	16.00	14	220				0
		point139	139	16.00	16.00	16.00	22	348				0
		point141	141	16.00	16.00	16.00	17	279				0
		point142	142	0.00	0.00	0.00	0	0				0
		point143	143	0.00	0.00	0.00	0	0				0
		point145	145	0.00	0.00	0.00	0	0				0
		point146	146	0.00	0.00	0.00	0	0				0

Kimley-Horn and Associates							14 April 2011					
ASG							TNM 2.5					
							Calculated with TNM 2.5					
RESULTS: SOUND LEVELS												
PROJECT/CONTRACT:		Agoura Hills / US 101										
RUN:		2035 Build										
BARRIER DESIGN:		16'						Average pavement type shall be used unless				
								a State highway agency substantiates the use				
ATMOSPHERICS:		68 deg F, 50% RH						of a different type with approval of FHWA.				
Receiver												
Name	No.	#DUs	Existing	No Barrier					With Barrier			
			LAeq1h	LAeq1h		Increase over existing		Type	Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R1A	10	1	0.0	66.8	66	66.8	12	Snd Lvl	58.4	8.4	8	0.4
R1	9	1	0.0	68.7	66	68.7	12	Snd Lvl	58.3	10.4	8	2.4
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		2	8.4	9.4	10.4							
All Impacted		2	8.4	9.4	10.4							
All that meet NR Goal		2	8.4	9.4	10.4							