El Camino Specific Plan Amendment

NOISE AND VIBRATION ANALYSIS

CITY OF SAN JUAN CAPISTRANO

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LIST OF ABBREVIATED TERMS

(1)	Reference
ANSI	American National Standards Institute
Calveno	California Vehicle Noise
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dBA	A-weighted decibels
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
INCE	Institute of Noise Control Engineering
L_{eq}	Equivalent continuous (average) sound level
L_{max}	Maximum level measured over the time interval
mph	Miles per hour
PPV	Peak Particle Velocity
Project	El Camino Specific Plan Amendment
REMEL	Reference Energy Mean Emission Level
RMS	Root-mean-square
VdB	Vibration Decibels

EXECUTIVE SUMMARY

Urban Crossroads, Inc. has prepared this noise study to determine the noise exposure and the necessary noise mitigation measures for the proposed El Camino Specific Plan Amendment development ("Project"). This noise study has been prepared to satisfy applicable City of San Juan Capistrano noise standards and significance criteria based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1)

The results of this Noise and Vibration Analysis are summarized below based on the significance criteria in Section 4 of this report consistent with Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1) Table ES-1 shows the findings of significance for each potential noise and/or vibration impact under CEQA before and after any required mitigation measures.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
Off-Site Traffic Noise	7	*Less Than Significant*	-
Operational Noise	9	*Less Than Significant*	-
Project Construction Noise	10	*Potentially Significant*	*Less Than Significant*
Nighttime Concrete Pour		*Less Than Significant*	-
Construction Vibration		*Potentially Significant*	*Less Than Significant*

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1 INTRODUCTION

This noise analysis has been completed to determine the noise impacts associated with the development of the proposed El Camino Specific Plan Amendment (ECSPA). This noise study briefly describes the proposed Project, provides information regarding noise fundamentals, sets out the local regulatory setting, presents the study methods and procedures for transportation related CNEL traffic noise analysis, and evaluates the future exterior noise environment. In addition, this study includes an analysis of the potential Project-related long-term stationary-source operational noise and short-term construction noise and vibration impacts.

1.1 SITE LOCATION

The Project site encompasses approximately 5.61 acres of land in the downtown area of the City of San Juan Capistrano, as shown on Exhibit 1-A. The Forster & El Camino Mixed Use Project portion of the Project site is located at 31878 Camino Capistrano on a 3.15-acre property (Assessor's Parcel Numbers: 124-160-37, -51, and -52). The central portion of the Project site includes the Blas Aguilar Adobe and Historic Town Center (HTC) Park (Assessor's Parcel Numbers: 124-160-08, -09, -10, -11, -12, and -27). The Project site is located south of Old Mission Road, east of El Camino Real, and both west and north of Del Obispo Street. Local access to the Project site would be provided by Forster Street and Camino Capistrano. Regional access to the site would be provided by Interstate 5 (I-5), which is located approximately 568 feet northwest of the Project site.

1.2 ADOPTED EL CAMINO SPECIFIC PLAN

The El Camino Specific Plan (ECSP), adopted in August 2022, includes the recently approved mixed use developed located at the former Downtown Playhouse site. The ECSP site is a 1.68± acre single parcel of land that is generally located south of Old Mission Road, east of El Camino Real. The approved project consists of the development of a 27,457 square-foot (SF) mixed use development in place of the El Camino Real Downtown Playhouse and public parking lot. The Project's retail/commercial space consists of 7,391 SF of retail, of which 2,607 SF is located on the ground floor of the parking structure, and 7,586 SF of restaurant space, plus 5,436 SF of medical office use and 7,044 SF of office space. Parking will be provided via a total of 216 parking spaces; it is expected that this parking structure would also serve as parking to the Project's Performing Arts Center component.

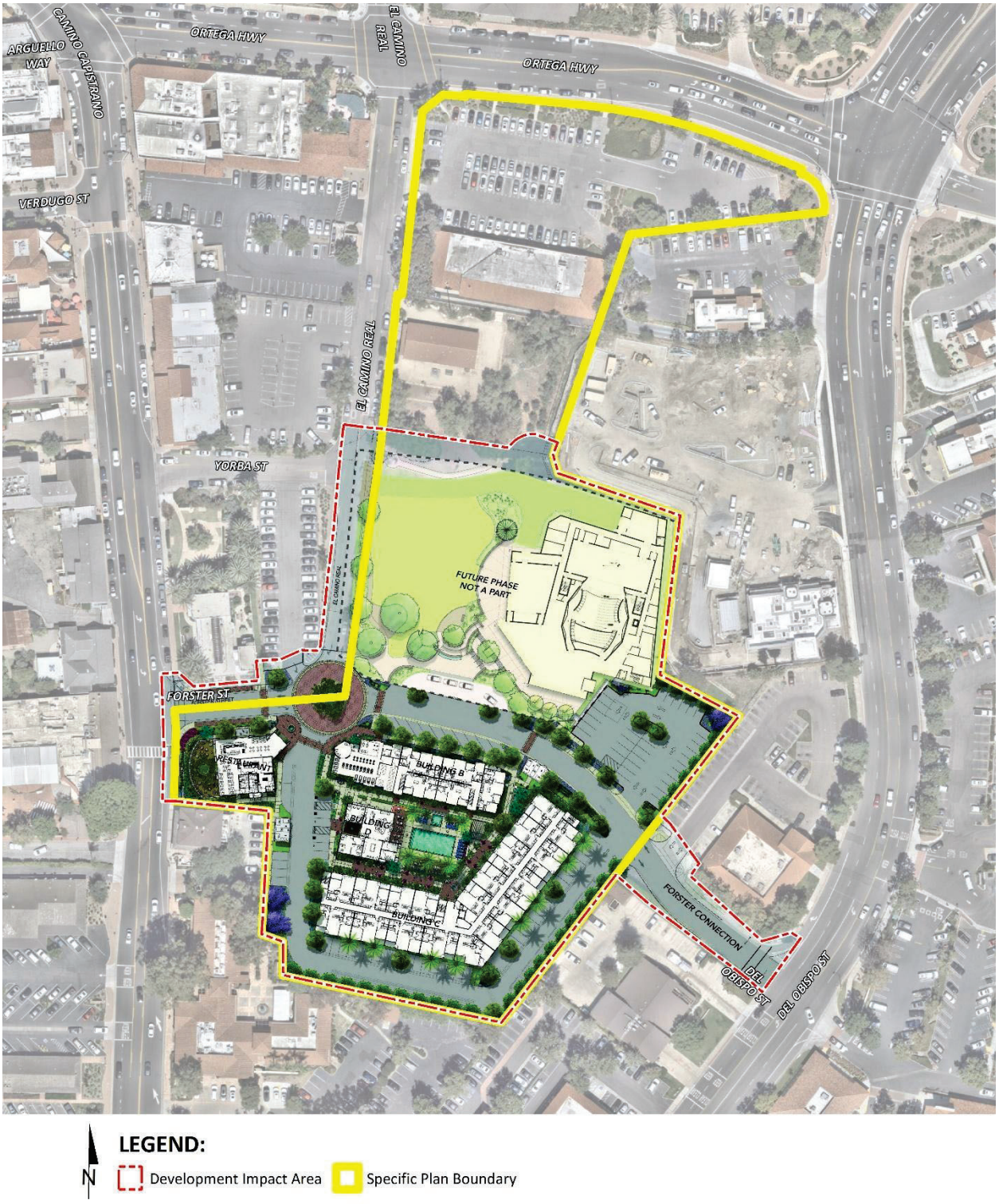
1.3 PROPOSED EL CAMINO SPECIFIC PLAN AMENDMENT

With the Project, the El Camino Specific Plan (ECSP), which now totals 1.68± acres, would be amended to encompass eight [8] parcels of land with a combined total of approximately 7.33± acres of land. Approximately 3.15± acres of land on the southern portion of the Project site would be redeveloped with the Forster & El Camino Mixed-Use Development. The middle 2.5± acres of the Project include a 1.0± acre HTC park and a 1.5± acre site that is set aside for development of a Performing Arts Center. Although no development will occur on the 1.0-acre Blas Aguilar Adobe Museum property, it is also proposed to be part of the expanded ECSPA.

EXHIBIT 1-A: LOCATION MAP

The proposed Forster & El Camino mixed-use component of the Project as shown on Exhibit 1-B, consists of 95 multi-family apartment homes with 50 one-bedroom units, and 45 two-bedroom units, a 3,500 SF residential clubhouse/leasing office, and a one building that would house a 4,294 SF quality restaurant and a one-story, 3,100 SF health/fitness club. This Project component will provide a total of 171 parking spaces, comprised of 83 structured spaces in the garage, and 88 surface spaces on site. The middle 2.5± acres of the Project include a 1.0± acre HTC park, and a 1.5±-acre site that is set aside for development of a 49,097 SF performing arts center with a capacity of 352 seats in the Main Auditorium and a capacity of 100 seats in the "Black Box" theater. This Project component is expected to share parking with the 216-space parking structure that is planned as a part of the adopted ECSP development.

EXHIBIT 1-B: FORSTER & EL CAMINO MIXED USE PROJECT SITE PLAN



2 FUNDAMENTALS

Noise is simply defined as *unwanted sound*. Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm or when it has adverse effects on health. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies which are audible to the human ear. Exhibit 2-A presents a summary of the typical noise levels and their subjective loudness and effects that are described in more detail below.

EXHIBIT 2-A: TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	COMMON INDOOR ACTIVITIES	A - WEIGHTED SOUND LEVEL dBA	SUBJECTIVE LOUDNESS	EFFECTS OF NOISE
THRESHOLD OF PAIN		140	INTOLERABLE OR DEAFENING	HEARING LOSS
NEAR JET ENGINE		130		
		120		
JET FLY-OVER AT 300m (1000 ft)	ROCK BAND	110		
LOUD AUTO HORN		100	VERY NOISY	
GAS LAWN MOWER AT 1m (3 ft)		90		
DIESEL TRUCK AT 15m (50 ft), at 80 km/hr (50 mph)	FOOD BLENDER AT 1m (3 ft)	80		SPEECH INTERFERENCE
NOISY URBAN AREA, DAYTIME	VACUUM CLEANER AT 3m (10 ft)	70	LOUD	
HEAVY TRAFFIC AT 90m (300 ft)	NORMAL SPEECH AT 1m (3 ft)	60		
QUIET URBAN DAYTIME	LARGE BUSINESS OFFICE	50	MODERATE	SLEEP DISTURBANCE
QUIET URBAN NIGHTTIME	THEATER, LARGE CONFERENCE ROOM (BACKGROUND)	40		
QUIET SUBURBAN NIGHTTIME	LIBRARY	30	FAINT	NO EFFECT
QUIET RURAL NIGHTTIME	BEDROOM AT NIGHT, CONCERT HALL (BACKGROUND)	20		
	BROADCAST/RECORDING STUDIO	10	VERY FAINT	
LOWEST THRESHOLD OF HUMAN HEARING	LOWEST THRESHOLD OF HUMAN HEARING	0		

Source: Environmental Protection Agency Office of Noise Abatement and Control, Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (EPA/ONAC 550/9-74-004) March 1974.

2.1 RANGE OF NOISE

Since the range of intensities that the human ear can detect is so large, the scale frequently used to measure intensity is a scale based on multiples of 10, the logarithmic scale. The scale for measuring intensity is the decibel scale. Each interval of 10 decibels indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud. (2) The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at three feet is roughly at 60 dBA, while loud jet engine noises equate to 110 dBA

at approximately 1,000 feet, which can cause serious discomfort. (3) Another important aspect of noise is the duration of the sound and the way it is described and distributed in time.

2.2 NOISE DESCRIPTORS

Environmental noise descriptors are generally based on averages, rather than instantaneous, noise levels. The most used metric is the equivalent level (L_{eq}). Equivalent sound levels are not measured directly but are calculated from sound pressure levels typically measured in A-weighted decibels (dBA). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period and is commonly used to describe the "average" noise levels within the environment.

Peak hour or average noise levels, while useful, do not completely describe a given noise environment. Noise levels lower than peak hour may be disturbing if they occur during times when quiet is most desirable, namely evening and nighttime (sleeping) hours. To account for this, the Community Noise Equivalent Level (CNEL), representing a composite 24-hour noise level is utilized. The CNEL is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time-of-day corrections require the addition of 5 decibels to dBA L_{eq} sound levels in the evening from 7:00 p.m. to 10:00 p.m., and the addition of 10 decibels to dBA L_{eq} sound levels at night between 10:00 p.m. and 7:00 a.m. These additions are made to account for the noise sensitive time periods during the evening and night hours when noise can become more intrusive. CNEL does not represent the actual sound level heard at any time, but rather represents the total sound exposure. The City of San Juan Capistrano relies on the 24-hour CNEL level to assess land use compatibility with transportation related noise sources.

2.3 SOUND PROPAGATION

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

2.3.1 GEOMETRIC SPREADING

Sound from a localized source (i.e., a stationary point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB 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 dB for each doubling of distance from a line source. (2)

2.3.2 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 ft. 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 dB 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 dB per doubling of distance from a line source. (4)

2.3.3 Atmospheric Effects

Receivers 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) 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. (2)

2.3.4 Shielding

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. Shielding by trees and other such vegetation typically only has an "out of sight, out of mind" effect. That is, the perception of noise impact tends to decrease when vegetation blocks the line-of-sight to nearby residents. However, for vegetation to provide a substantial, or even noticeable, noise reduction, the vegetation area must be at least 15 feet in height, 100 feet wide and dense enough to completely obstruct the line-of-sight between the source and the receiver. This size of vegetation may provide up to 5 dBA of noise reduction. The Federal Highway Administration (FHWA) does not consider the planting of vegetation to be a noise abatement measure. (5)

2.4 Noise Control

Noise control is the process of obtaining an acceptable noise environment for an observation point or receiver by controlling the noise source, transmission path, receiver, or all three. This concept is known as the source-path-receiver concept. In general, noise control measures can be applied to these three elements.

2.5 Noise Barrier Attenuation

Effective noise barriers can reduce noise levels by 10 to 15 dBA, cutting the loudness of traffic noise in half. A noise barrier is most effective when placed close to the noise source or receiver. Noise barriers, however, do have limitations. For a noise barrier to work, it must block the line-of-sight path of sound from the noise source.

2.6 LAND USE COMPATIBILITY WITH NOISE

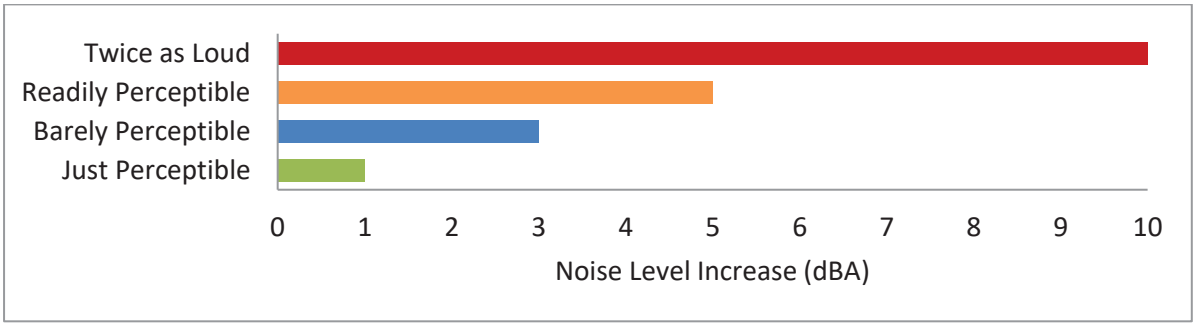
Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches, and residences are more sensitive to noise intrusion than are commercial or industrial developments and related activities. As ambient noise levels affect the perceived amenity or livability of a development, so too can the mismanagement of noise impacts impair the economic health and growth potential of a community by reducing the area's desirability as a place to live, shop and work. For this reason, land use compatibility with the noise environment is an important consideration in the planning and design process. The FHWA encourages State and Local government to regulate land development in such a way that noise-sensitive land uses are either prohibited from being located adjacent to a highway, or that the developments are planned, designed, and constructed in such a way that noise impacts are minimized. (6)

2.7 COMMUNITY RESPONSE TO NOISE

Approximately sixteen percent of the population has a very low tolerance for noise and will object to any noise not of their making. Consequently, even in the quietest environment, some complaints may occur. Twenty to thirty percent of the population will not complain even in very severe noise environments. (7 pp. 8-6) Thus, a variety of reactions can be expected from people exposed to any given noise environment.

Surveys have shown that community response to noise varies from no reaction to vigorous action for newly introduced noises averaging from 10 dB below existing to 25 dB above existing. (8) According to research originally published in the Noise Effects Handbook (7), the percentage of high annoyance ranges from approximately 0 percent at 45 dB or less, 10 percent are highly annoyed around 60 dB, and increases rapidly to approximately 70 percent being highly annoyed at approximately 85 dB or greater. Despite this variability in behavior on an individual level, the population can be expected to exhibit the following responses to changes in noise levels as shown on Exhibit 2-B. A change of 3 dBA is considered barely perceptible, and changes of 5 dBA are considered readily perceptible. (4)

EXHIBIT 2-B: NOISE LEVEL INCREASE PERCEPTION



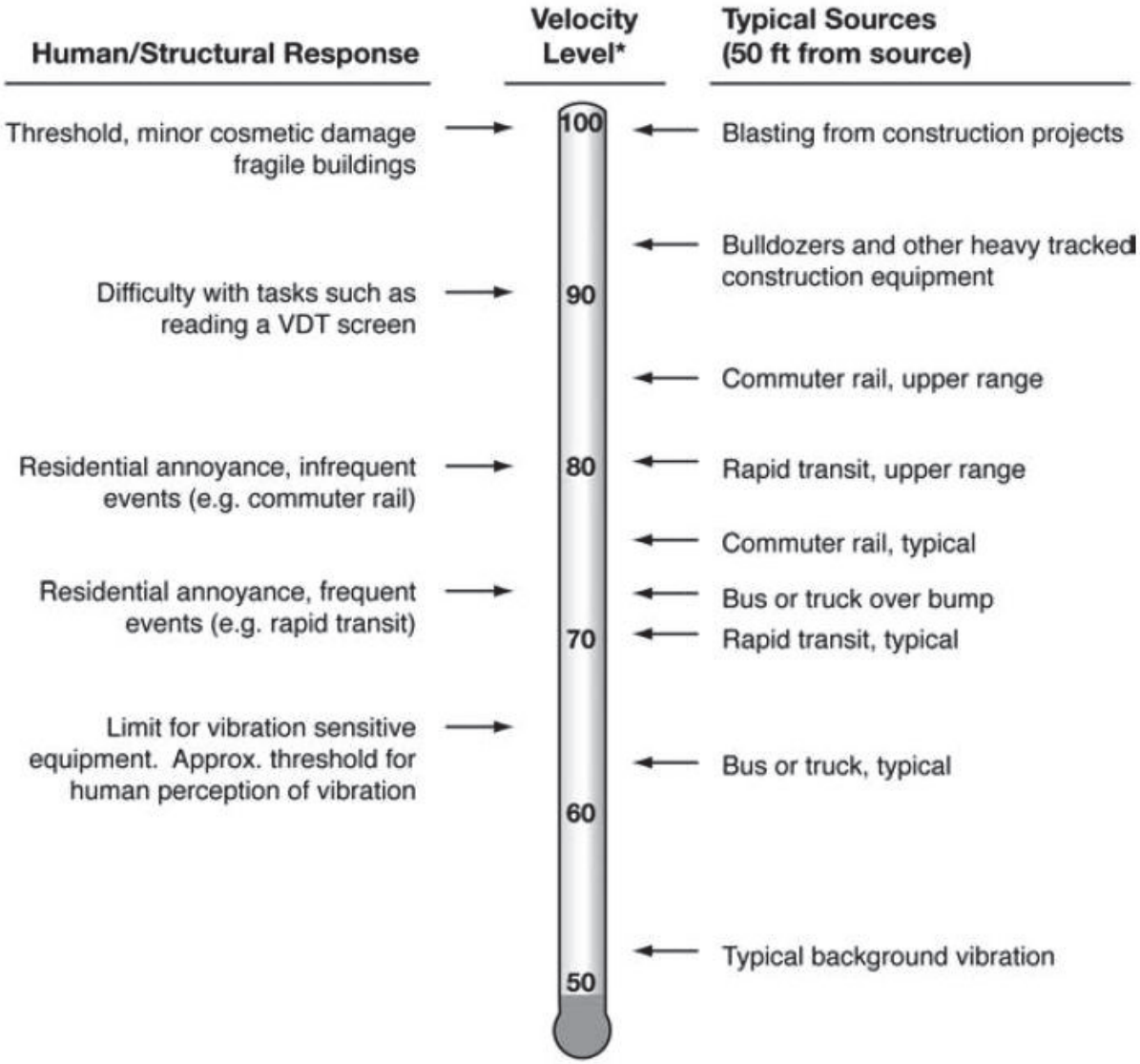
2.8 VIBRATION

Per the Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual*, vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure-borne noise. Sources of ground-borne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, ground-borne vibrations may be described by amplitude and frequency.

Additionally, in contrast to airborne noise, ground-borne vibration outdoors is not a common environmental problem and annoyance from ground-borne vibration is almost exclusively an indoor phenomenon (8). Therefore, the effects of vibrations should only be evaluated at a structure and the effects of the building structure on the vibration should be considered. Wood-frame buildings, such as typical residential structures, are more easily excited by ground vibration than heavier buildings. In contrast, large masonry buildings with spread footings have a low response to ground vibration (8). In general, the heavier a building is, the lower the response will be to the incident vibration energy. However, all structurers reduce vibration levels due to the coupling of the building to the soil. There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal (8). The PPV is most frequently used to describe vibration impacts to buildings but is not always suitable for evaluating human response (annoyance) because it takes some time for the human body to respond to vibration signals. Instead, the human body responds to average vibration amplitude often described as the root mean square (RMS). The RMS amplitude is defined as the average of the squared amplitude of the signal and is most frequently used to describe the effect of vibration on the human body (8). However, the RMS amplitude and PPV are related mathematically, and the RMS amplitude of equipment is typically calculated from the PPV reference level. The RMS amplitude is approximately 70% of the PPV (9). Thus, either can be used in the description of vibration impacts.

While not universally accepted, vibration decibel notation (VdB) is another vibration notation developed and used by the FTA in their guidance manual to describe vibration levels and provide a background of common vibration levels and set vibration limits. (8) Decibel notation (VdB) serves to reduce the range of numbers used to describe vibration levels and is used in this report to describe vibration levels. As stated in the FTA guidance manual, the background vibration-velocity level in residential areas is generally 50 VdB. Ground-borne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground-borne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Exhibit 2-C illustrates common vibration sources and the human and structural response to ground-borne vibration.

EXHIBIT 2-C: TYPICAL LEVELS OF GROUND-BORNE VIBRATION



** RMS Vibration Velocity Level in VdB relative to 10^{-6} inches/second*

Source: Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual.

3 REGULATORY SETTING

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise. In most areas, automobile and truck traffic is the major source of environmental noise. Traffic activity generally produces an average sound level that remains constant with time. Air and rail traffic, and commercial and industrial activities are also major sources of noise in some areas. Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies.

3.1 STATE OF CALIFORNIA NOISE REQUIREMENTS

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards, and provides guidance for local land use compatibility. State law requires that each county and city adopt a General Plan that includes a Noise Element which is to be prepared per guidelines adopted by the Governor's Office of Planning and Research (OPR). (10) OPR identifies suggested land use noise compatibility levels as part of its General Plan Guidelines. These suggested guidelines provide planners with a tool to gauge the compatibility of land uses relative to existing and future noise levels. The guidelines identify normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable noise levels for various land uses. The land use compatibility guidelines are intended to be an advisory resource when considering changes in land use and policies, such as zoning modifications. In addition, the State through the California Environmental Quality Act (CEQA) requires that all known environmental effects of a project be analyzed, including environmental noise impacts.

3.2 CITY OF SAN JUAN CAPISTRANO GENERAL PLAN NOISE ELEMENT

The City of San Juan Capistrano has adopted a Noise Element to address noise sources in the community and identify ways to reduce the impacts of these noise sources on the community. (11) The Noise Element contains policies and programs to achieve and maintain noise levels compatible with various types of land uses. The following goals and policies are intended to assist the City in determining compatible land uses and provide adequate protection to its residents from noise intrusion related to the project:

Noise Goal 1: Minimize the effects of noise through proper land use planning.

Policy 1.1: *Utilize noise/land use compatibility standards as a guide for future planning and development decisions.*

Policy 1.2: *Provide noise control measures and sound attenuating construction in areas of new construction or rehabilitation.*

Noise Goal 2: Minimize transportation-related noise impacts.

Policy 2.1: *Reduce transportation-related noise impacts to sensitive land uses through the*

use of noise control measures.

Policy 2.2: *Control truck traffic routing to reduce transportation-related noise impacts to sensitive land uses.*

Policy 2.3: *Incorporate sound-reduction design in development projects impacted by transportation-related noise.*

Noise Goal 3: Minimize non-transportation-related noise impacts.

Policy 3.1: *Reduce the impacts of noise-producing land uses and activities on noise-sensitive land uses.*

Policy 3.2: *Incorporate sound-reduction design in new construction or rehabilitation projects impacted by non-transportation-related noise.*

In addition, the Noise Element establishes standards and criteria that specify acceptable limits of noise for various land uses throughout the City designed to integrate noise considerations into land use planning to prevent noise/land use conflicts. Table N-3 in the General Plan Noise Element shown on Exhibit 3-A, present criteria used to assess the compatibility of proposed land uses within the noise environment. These criteria are the basis for the development of specific noise level standards.

3.2.1 LAND USE COMPATIBILITY

The land use compatibility criteria, shown on Exhibit 3-A, provides the city with a planning tool to gauge the compatibility of land uses relative to existing and future exterior noise levels. The *Noise/Land Use Compatibility* matrix describes categories of compatibility for use when planning and making development decisions. (12) The commercial retail use of the Project is considered *normally acceptable* with unmitigated exterior noise levels of less than 70 dBA CNEL based on the Land Use Compatibility Matrix shown on Exhibit 3-A. Residential land uses in the Project study area are considered *normally acceptable* with exterior noise levels below 60 dBA CNEL, and *conditionally acceptable* with exterior noise levels of up to 70 dBA CNEL. For *conditionally acceptable* exterior noise levels for Project land uses, *new construction or development should be undertaken only after a detailed analysis of noise requirements is made and needed noise insulation features included in the design. Conventional construction but with closed windows and fresh air supply systems or air conditioning will normally suffice*. (11)

3.2.2 INTERIOR AND EXTERIOR NOISE STANDARDS

In addition to the *Noise/Land Use Compatibility* matrix that describes categories of compatibility, the City of San Juan Capistrano has adopted interior and exterior noise standards. Exhibit 3-B presents the city noise standards outlined on Table N-2 for various types of land uses. The noise standards represent the maximum acceptable noise level and are used to determine noise impacts. For noise sensitive residential land use, the City identifies an exterior noise level standard of 65 dBA CNEL and an interior noise level standard of 45 dBA CNEL.

EXHIBIT 3-A: NOISE/LAND USE COMPATIBILITY MATRIX

Land Use Category	Community Noise Equivalent Level CNEL, dB						
	55		60	65	70	75	80
Residential - Single Family, Multifamily, Duplex	A	A	B	B	C	- - -	- - -
Residential - Mobile Homes	A	A	B	C	C	- - -	- - -
Transient Lodging - Motels, Hotels	A	A	B	B	C	C	- - -
Schools, Libraries, Churches, Hospitals, Nursing Homes	A	A	B	C	C	- - -	- - -
Auditoriums, Concert Halls, Amphitheaters Meeting Halls	B	B	C	C	- - -	- - -	- - -
Sports Arenas, Outdoor Spectator Sports, Amusement Parks	A	A	A	B	B	- - -	- - -
Playgrounds, Neighborhood Parks	A	A	A	B	C	- - -	- - -
Golf Courses, Riding Stables, Cemeteries	A	A	A	A	B	C	C
Office and Professional Buildings	A	A	A	B	B	C	- - -
Commercial Retail, Banks, Restaurants, Theaters	A	A	A	A	B	B	C
Industrial, Manufacturing, Utilities, Wholesale, Service Stations	A	A	A	A	B	B	B
Agriculture	A	A	A	A	A	A	A

Source: Taken in part from Aircraft Noise Impact Planning Guidelines for Local Agencies, U.S. Department of Housing and Urban Development, TE/NA-472, November 1972.

A = Normally Acceptable - Specified land use is satisfactory based on the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

B = Conditionally Acceptable - New construction or development should be undertaken only after a detailed analysis of the noise requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

C = Normally Unacceptable - New construction or development should generally be discouraged. If it does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

- - - = Clearly Unacceptable - New construction or development should generally not be undertaken.

Source: City of San Juan Capistrano General Plan Noise Element, Table N-3.

EXHIBIT 3-B: INTERIOR AND EXTERIOR NOISE STANDARDS

Land Use	Noise Standards[1]	
	Exterior	Interior
Residential (all)- Single family, multi-family, duplex, mobile home	65 dB(A)	45 dB(A)
Residential- Transient lodging, hotels, motels, nursing homes, hospitals, assisted care facilities	65 dB(A)	45 dB(A)
Private offices, churches, libraries, theaters, concert halls, meeting halls, schools	65 dB(A)	45 dB(A)
General commercial, retail, reception, restaurant	65 dB(A)	50 dB(A)
Manufacturing, industrial[2]	---	---
Parks, playgrounds	65 dB(A)[3]	---
Golf courses, outdoor spectator sports	70 dB(A)[3]	—

[1] In Community Noise Level Equivalent (CNEL).
[2] Noise standards not applied to Industrial districts.
[3] Outdoor environment limited to playground areas, picnic areas, and other areas of frequent human use.

Source: City of San Juan Capistrano General Plan Noise Element, Table N-2.

3.3 CITY OF SAN JUAN CAPISTRANO MUNICIPAL CODE STANDARDS

To analyze noise impacts originating from a designated fixed location or private property such as the El Camino Specific Plan Amendment, stationary-source (operational) noise levels and noise from construction activities are typically evaluated against standards established under the City's Municipal Code.

3.3.1 OPERATIONAL NOISE STANDARDS

Section 9-3.531 – Table 3-29, of the City of San Juan Capistrano Municipal Code outlines the base exterior noise level standards affecting uses within the residential, public and institutional and commercial districts land uses as shown on Table 3-1. For the noise sensitive residential, public and institutional land uses, the Municipal Code identifies a noise level standard of 65 dBA L_{eq}, during the daytime hours of 7:00 a.m. to 10:00 p.m., 55 dBA L_{eq} during the evening hours of 7:00 p.m. to 10:00 p.m. and 45 dBA L_{eq} during the nighttime hour of 10:00 p.m. to 7:00 a.m. (12) For commercial uses, the municipal codes identifies a noise level limit of 65 dBA L_{eq} anytime during the day. The City of San Juan Capistrano Municipal Code Noise Standards are included in Appendix 3.1.

TABLE 3-1: OPERATIONAL NOISE STANDARDS

City	Land Use	Exterior Noise Level Standards (dBA Leq)[2]		
		Daytime	Evening	Nighttime
San Juan Capistrano[1]	Residential, Public and Institutional	65	55	45
	Commercial	65	65	65

[1] City of San Juan Capistrano Municipal Code, Section 9-3.531 Noise Standards - Table 3-29 (Appendix 3.1).
[2] Leq represents a steady state sound level containing the same total energy as a time varying signal over a given period. "Daytime" = 7:00 a.m. to 7:00 p.m.; "Evening" = 7:00 p.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

3.3.2 CONSTRUCTION NOISE STANDARDS

The City of San Juan Capistrano has set restrictions to control noise impacts associated with the construction of the proposed Project. Section 9-3.531[d][4] of the City's Municipal Code states that the following activities shall be exempted from the provisions of this section: *Noise sources associated with construction, repairs, remodeling, or the grading of any real property, except that such activities shall not be exempt from the provisions of this section if conducted from 6:00 p.m. to 7:00 a.m. on Monday through Friday, or from 4:30 p.m. to 8:30 a.m. on Saturday, or at any time on Sunday or a national holiday.* While the City's Municipal Code exempts construction noise during the noise hours, neither the City's General Plan nor Municipal Code establish numeric maximum acceptable construction source noise levels at potentially affected receivers, which would allow for a quantified determination of what CEQA constitutes a *substantial temporary or periodic noise increase*. Therefore, a numerical construction threshold based on Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual* is used for analysis of daytime construction impacts, as discussed below.

According to the FTA, local noise ordinances are typically not very useful in evaluating construction noise. They usually relate to nuisance and hours of allowed activity, and sometimes specify limits in terms of maximum levels, but are generally not practical for assessing the impact of a construction project. Project construction noise criteria should account for the existing noise environment, the absolute noise levels during construction activities, the duration of the construction, and the adjacent land use. Due to the lack of standardized construction noise thresholds, the FTA provides guidelines that can be considered reasonable criteria for construction noise assessment. The FTA considers a daytime exterior construction noise level of 80 dBA L_{eq} as a reasonable threshold. (8 p. 179)

3.4 VIBRATION STANDARDS

Construction activity can result in varying degrees of ground-borne vibration, depending on the equipment and methods used, distance to the affected structures and soil type. Construction vibration is generally associated with pile driving and rock blasting. Other construction equipment such as air compressors, light trucks, hydraulic loaders, etc., generates little or no ground vibration. (8)

To analyze vibration impacts originating from the operation and construction of the El Camino Specific Plan Amendment, vibration-generating activities are appropriately evaluated against standards established under a City's Municipal Code, if such standards exist. However, the City of San Juan Capistrano does not identify specific vibration level limits. Therefore, for analysis purposes, the Caltrans *Transportation and Construction Vibration Guidance Manual*, (9 p. 38) Table 19, vibration damage are used in this noise study to assess potential temporary construction-related impacts at adjacent building locations with a maximum acceptable continuous vibration threshold of 0.25 PPV(in/sec).

4 SIGNIFICANCE CRITERIA

The following significance criteria are based on currently adopted guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1) For the purposes of this report, impacts would be potentially significant if the Project results in or causes:

A. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

B. Generation of excessive ground-borne vibration or ground-borne noise levels?

C. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

4.1 NOISE LEVEL INCREASES (THRESHOLD A)

Noise level increases resulting from the Project are evaluated based on the Appendix G CEQA Guidelines described above at the closest receiver locations. Under CEQA, consideration must be given to the magnitude of the increase, the existing baseline ambient noise levels, and the location of receivers to determine if a noise increase represents a significant adverse environmental impact. This approach recognizes *that there is no single noise increase that renders a noise impact significant.* (13) This is primarily because of the wide variation in individual thresholds of annoyance and differing individual experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted—the so-called *ambient* environment. The ambient noise level is the composite of noise from all sources, excluding the alleged offensive noise. In this context, it represents the normal or existing level of environmental noise at a given location for a specified time of day or night.

4.1.1 TRANSPORTATION NOISE (SUBSTANTIAL PERMANENT NOISE LEVEL INCREASE)

The Federal Interagency Committee on Noise (FICON) (14) developed guidance to be used for the assessment of project-generated increases in noise levels that consider the ambient noise level. The FICON recommendations are based on studies that relate aircraft noise levels to the percentage of persons highly annoyed by aircraft noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, these recommendations are often used in environmental noise impact assessments involving the use of cumulative noise exposure metrics, such as the average-daily noise level (CNEL) and equivalent continuous noise level (L_{eq}).

As previously stated, the approach used in this noise study recognizes *that there is no single noise increase that renders a noise impact significant*, based on a 2008 California Court of Appeal ruling on Gray v. County of Madera. (13) For example, if the ambient noise environment is quiet (<60 dBA) and the new noise source greatly increases the noise levels, an impact may occur if the noise criteria may be exceeded. Therefore, for this analysis, a *readily perceptible* 5 dBA or greater

project-related noise level increase is considered a significant impact when the without project noise levels are below 60 dBA. Per the FICON, in areas where the without project noise levels range from 60 to 65 dBA, a 3 dBA *barely perceptible* noise level increase appears to be appropriate for most people. When the without project noise levels already exceed 65 dBA, any increase in community noise louder than 1.5 dBA or greater is considered a significant impact if the noise criteria for a given land use is exceeded, since it likely contributes to an existing noise exposure exceedance. The FICON guidance provides an established source of criteria to assess the impacts of substantial temporary or permanent increase in baseline ambient noise levels. Based on the FICON criteria, the amount to which a given noise level increase is considered acceptable is reduced when the without Project (baseline) noise levels are already shown to exceed certain land-use specific exterior noise level criteria. The specific levels are based on typical responses to noise level increases of 5 dBA or *readily perceptible*, 3 dBA or *barely perceptible*, and 1.5 dBA depending on the underlying without Project noise levels. These levels of increases and their perceived acceptance are consistent with guidance provided by both the Federal Highway Administration (4 p. 9) and Caltrans (15 p. 2_48).

4.1.2 Non-Transportation Noise (Substantial Permanent Noise Level Increase)

The FICON criteria are also used to determine if Project-related stationary source (operational) noise level increases are significant at off-site receiver locations. For non-transportation noise source activities, a substantial permanent noise level increase consists of increases of 5 dBA or *readily perceptible*, 3 dBA or *barely perceptible*, and 1.5 dBA depending on the underlying ambient noise levels.

4.1.3 Construction Noise (Substantial Temporary Noise Level Increase)

To control the noise-generating construction activities, the temporary noise level increases over the existing *ambient* conditions must be considered under CEQA Significance Threshold A. In California a *substantial* noise increase occurs when the project's predicted noise level exceeds the existing ambient noise level by 12 dBA or more. (16) The use of 12 dB was established in California many years ago and is based on the concept that a 10 dB increase generally is perceived as a doubling of loudness. (2 pp. 3-2) Therefore, if the Project-related construction noise levels generate a temporary noise level increase above the existing ambient noise levels of up to 12 dBA L_{eq}, then the Project construction noise level increases will be considered a *potentially significant impact*.

4.2 Vibration (Threshold B)

As described in Section 3.4, the vibration impacts originating from the construction of El Camino Specific Plan Amendment, vibration-generating activities are appropriately evaluated using the Caltrans vibration damage thresholds to assess potential temporary construction-related impacts at adjacent building locations with a maximum acceptable continuous vibration threshold of 0.25 PPV (in/sec).

4.3 CEQA GUIDELINES NOT FURTHER ANALYZED (THRESHOLD C)

CEQA Noise Threshold C applies when there are nearby public and private airports and/or air strips and focuses on land use compatibility of the Project to nearby airports and airstrips. The Project site is not located within two miles of an airport or airstrip. The closest airport is the John Wayne Airport located roughly 16 miles northwest of the Project site. As such, the Project site would not be exposed to excessive noise levels from airport operations, and therefore, impacts are considered *less than significant,* and no further noise analysis is conducted in relation to Appendix G to the CEQA Guidelines, Noise Threshold C.

4.4 SIGNIFICANCE CRITERIA SUMMARY

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development. Table 4-1 shows the significance criteria summary matrix that includes the allowable criteria used to identify potentially significant incremental noise level increases.

TABLE 4-1: SIGNIFICANCE CRITERIA SUMMARY

Analysis	Condition(s)	Significance Criteria		
		Daytime	Evening	Nighttime
Off-Site Traffic[1]	If ambient is < 60 dBA CNEL	≥ 5 dBA CNEL Project increase		
	If ambient is 60 - 65 dBA CNEL	≥ 3 dBA CNEL Project increase		
	If ambient is > 65 dBA CNEL	≥ 1.5 dBA CNEL Project increase		
Operational	Exterior Noise Level Standards[2]	See Table 3-1		
	If ambient is < 60 dBA Leq[1]	≥ 5 dBA L_{eq} Project increase		
	If ambient is 60 - 65 dBA Leq[1]	≥ 3 dBA L_{eq} Project increase		
	If ambient is > 65 dBA Leq[1]	≥ 1.5 dBA L_{eq} Project increase		
Construction	Exempt from the provisions of noise ordinance except from 6:00 p.m. to 7:00 a.m. on Monday through Friday, or from 4:30 p.m. to 8:30 a.m. on Saturday, or at any time on Sunday or a national holiday[3]			
	Noise Level Threshold[4]	80 dBA L_{eq}		
	Exterior Noise Level Increase	12 dBA L_{eq}[5]		
	Vibration Level Threshold[6]	0.25 PPV (in/sec)		

[1] FICON, 1992.
[2] City of San Juan Capistrano Municipal Code Section 9-3.531 Noise Standards - Table 3-29 (Appendix 3.1).
[3] City of San Juan Capistrano Municipal Code Chapter Section 9-3.531[d][4].
[4] Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual.
[5] Caltrans substantial noise level increase criteria.
[6] Caltrans Transportation and Construction Vibration Manual, April 2020 Table 19.
"Daytime" = 7:00 a.m. to 7:00 p.m.; "Evening" = 7:00 p.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

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5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, 24-hour noise level measurements were taken at six locations in the Project study area. The receiver locations were selected to describe and document the existing noise environment within the Project study area. Exhibit 5-A provides the boundaries of the Project study area and the noise level measurement locations. To fully describe the existing noise conditions, long-term noise level measurements were collected by Urban Crossroads, Inc. on Thursday, November 30, 2023. Appendix 5.1 includes study area photos.

5.1 MEASUREMENT PROCEDURE AND CRITERIA

To describe the existing noise environment, the hourly noise levels were measured during typical weekday conditions over a 24-hour period. By collecting individual hourly noise level measurements, it is possible to describe the equivalent daytime and nighttime hourly noise levels and calculate the 24-hour CNEL. The long-term noise readings were recorded using Piccolo Type 2 integrating sound level meter and dataloggers. The Piccolo sound level meters were calibrated using a Larson-Davis calibrator, Model CAL 150. All noise meters were programmed in "slow" mode to record noise levels in "A" weighted form. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (17)

5.2 NOISE MEASUREMENT LOCATIONS

The long-term noise level measurements were positioned as close to the nearest receiver locations as possible to assess the existing equivalent hourly noise levels surrounding the Project site. Both Caltrans and the FTA recognize that it is not reasonable to collect noise level measurements that can fully represent every part of a private yard, patio, deck, or balcony normally used for human activity when estimating impacts for new development projects. This is demonstrated in the Caltrans general site location guidelines which indicate that *sites must be free of noise contamination by sources other than sources of interest. Avoid sites located near sources such as barking dogs, lawnmowers, pool pumps, and air conditioners unless it is the express intent of the analyst to measure these sources*. (2) Further, FTA guidance states, t*hat it is not necessary nor recommended that existing noise exposure be determined by measuring at every noise-sensitive location in the project area. Rather, the recommended approach is to characterize the noise environment for clusters of sites based on measurements or estimates at representative locations in the community*. (8)

Based on recommendations of Caltrans and the FTA, it is not necessary to collect measurements at each individual building or residence, because each receiver measurement represents a group of buildings that share acoustical equivalence. (8) In other words, the area represented by the receiver shares similar shielding, terrain, and geometric relationship to the reference noise source. Receivers represent a location of noise sensitive areas and are used to estimate the future noise level impacts. Collecting noise level measurements at the nearby receiver locations

allows for a comparison of the before and after Project noise levels and is necessary to assess potential noise increase due to the Project's contribution to the ambient noise levels. This approach is necessary to calculate the temporary or permanent increase in *ambient* noise levels as required by the CEQA Guidelines Environmental Checklist.

5.3 NOISE MEASUREMENT RESULTS

The noise measurements presented below focus on the equivalent or the energy average hourly sound levels (L_{eq}) to describe the existing *ambient* conditions. The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. Table 5-1 identifies the hourly daytime (7:00 a.m. to 7:00 p.m.), evening (7:00 p.m. to 10:00 p.m.), and nighttime (10:00 p.m. to 7:00 a.m.) noise levels at each noise level measurement location.

TABLE 5-1: AMBIENT NOISE LEVEL MEASUREMENTS

Location[1]	Description	Energy Average Noise Level (dBA L_{eq})[2]		
		Daytime	Evening	Nighttime
L1	Located north of the site near the Camino Real Playhouse building at 31776 El Camino Real	60.7	56.7	54.5
L2	Located east of the site boundary in the parking lot near 31791 Del Obispo St.	63.0	61.0	59.9
L3	Located south of the site near the Mercado Village building at 31952 Camino Capistrano	57.4	55.3	54.3
L4	Located west of the site near the Egan House at 31892 Camino Capistrano	60.0	56.8	58.6
L5	Located west of the site near the El Adobe restaurant building at 31891 Camino Capistrano	63.5	63.4	59.9
L6	Located west of the site within the Veterans Park.	61.6	58.0	54.8

[1] See Exhibit 5-A for the noise level measurement locations.
[2] Energy (logarithmic) average levels. The long-term 24-hour measurement worksheets are included in Appendix 5.2.
"Daytime" = 7:00 a.m. to 7:00 p.m.; "Evening" = 7:00 p.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

Table 5-1 provides the equivalent noise levels used to describe the daytime and nighttime ambient conditions. These daytime and nighttime energy average noise levels represent the average of all hourly noise levels observed during these time periods expressed as a single number. Appendix 5.2 provides summary worksheets of the noise levels for each hour as well as the minimum, maximum, L_1, L_2, L_5, L_8, L_{25}, L_{50}, L_{90}, L_{95}, and L_{99} percentile noise levels observed during the daytime and nighttime periods.

EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS

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6 TRAFFIC NOISE METHODS AND PROCEDURES

The following section outlines the methods and procedures used to estimate and analyze the future transportation related noise environment. Consistent with City of San Juan Capistrano *Noise/Land Use Compatibility* Matrix (see Exhibit 3-A), all transportation related noise levels are presented in terms of the 24-hour CNEL's.

6.1 FHWA TRAFFIC NOISE PREDICTION MODEL

The expected roadway noise level increases from vehicular traffic were calculated by Urban Crossroads, Inc. using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108. (18) The FHWA Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). In California the national REMELs are substituted with the California Vehicle Noise (Calveno) Emission Levels. (19) Adjustments are then made to the REMEL to account for: the roadway classification (e.g., collector, secondary, major or arterial), the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway), the total average daily traffic (ADT), the travel speed, the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume, the roadway grade, the angle of view (e.g., whether the roadway view is blocked), the site conditions ("hard" or "soft" relates to the absorption of the ground, pavement, or landscaping), and the percentage of total ADT which flows each hour throughout a 24-hour period. Research conducted by Caltrans has shown that the use of soft site conditions is appropriate for the application of the FHWA traffic noise prediction model used in this analysis. (20)

6.1.1 OFF-SITE TRAFFIC NOISE PREDICTION MODEL INPUTS

Table 6-1 presents the roadway parameters used to assess the Project's off-site transportation noise impacts. Table 6-1 identifies the seven off-site study area roadway segments, the distance from the centerline to adjacent land use based on the functional roadway classifications per the City of San Juan Capistrano General Plan Circulation Element, and the vehicle speeds. The ADT volumes used in this study area presented on Tables 6-2 and 6-3 are based on the *El Camino Specific Plan Amendment Traffic Impact Analysis Report*, prepared by Linscott, Law & Greenspan, Engineers for the following traffic scenarios without and with the potential future extension of Forster Lane to Del Obispo Street (21).

Without Forster Extension

- Existing (E)
- Existing plus Project (EP)
- Existing plus Cumulative (EC 2028) without Project Conditions
- Existing plus Cumulative (ECP 2028) with Project Conditions
- General Plan Buildout (GPBO) without Project Conditions
- General Plan Buildout (GPBO) with Project Conditions

With Forster Extension

- Existing (E)
- Existing plus Project (EP)
- Existing plus Cumulative (EC 2028) without Project Conditions
- Existing plus Cumulative (ECP 2028) with Project Conditions
- General Plan Buildout (GPBO) without Project Conditions
- General Plan Buildout (GPBO) with Project Conditions

The ADT volumes vary for each roadway segment based on the existing traffic volumes and the combination of project traffic distributions. In addition, the off-site traffic noise analysis is based on a PM peak hour to average daily traffic (peak-to-daily) relationship of 10%. This analysis relies on a comparative evaluation of the off-site traffic noise impacts at the boundary of the right-of-way of the receiving adjacent land use, without and with project ADT traffic volumes from the Project traffic study. The Project is anticipated to generate a net total of 1,234 two-way trips per day (actual vehicles). Table 6-4 provides the time of day (daytime, evening, and nighttime) vehicle splits. Table 6-5 shows the traffic flow by vehicle type (vehicle mix).

TABLE 6-1: OFF-SITE ROADWAY PARAMETERS

ID	Roadway	Segment	Classification[1]	Receiving Land Use[2]	Distance from Centerline to Receiving Land Use (Feet)[3]	Vehicle Speed (mph)
1	Old Mission Rd.	e/o Camino Capistrano	Secondary	Sensitive	40'	25
2	Ortega Hwy.	w/o I-5 SB Ramps	Primary	Sensitive	50'	45
3	Ortega Hwy.	at I-5 Fwy. Overpass	Primary	Non-Sensitive	50'	45
4	Camino Capistrano	n/o Del Obispo St.	Secondary	Non-Sensitive	30'	40
5	Del Obispo St.	e/o Camino Capistrano	Primary	Non-Sensitive	50'	40
6	Del Obispo St.	e/o Alipaz St.	Primary	Sensitive	50'	40
7	Del Obispo St.	w/o Camino Capistrano	Primary	Non-Sensitive	50'	40

[1] El Camino Specific Plan Amendment Traffic Impact Analysis Report, Linscott Law & Greenspan, Engineers.
[2] Based on a review of existing aerial imagery.
[3] Distance to receiving land use is based upon the right-of-way distances.

TABLE 6-2: ADT VOLUMES (WITHOUT FORSTER EXTENSION)

ID	Roadway	Segment	Average Daily Traffic Volumes[1]					
			Existing		EC 2028		GPBO	
			Without Project	With Project	Without Project	With Project	Without Project	With Project
1	Old Mission Rd.	e/o Camino Capistrano	6,183	6,940	7,745	8,502	7,745	8,502
2	Ortega Hwy.	w/o I-5 SB Ramps	36,749	37,506	41,774	42,531	41,774	42,531
3	Ortega Hwy.	at I-5 Fwy. Overpass	39,479	39,972	43,617	44,110	45,274	45,767
4	Camino Capistrano	n/o Del Obispo St.	13,722	14,197	16,584	17,059	16,584	17,059
5	Del Obispo St.	e/o Camino Capistrano	23,538	23,538	27,198	27,198	27,198	27,198
6	Del Obispo St.	e/o Alipaz St.	30,588	30,736	34,799	34,947	34,799	34,947
7	Del Obispo St.	w/o Camino Capistrano	33,448	33,596	38,498	38,646	38,498	38,646

[1] El Camino Specific Plan Amendment Traffic Impact Analysis Report, Linscott Law & Greenspan, Engineers.

TABLE 6-3: ADT VOLUMES (WITH FORSTER EXTENSION)

ID	Roadway	Segment	Average Daily Traffic Volumes[1]					
			Existing		EC 2028		GPBO	
			Without Project	With Project	Without Project	With Project	Without Project	With Project
1	Old Mission Rd.	e/o Camino Capistrano	6,183	6,737	7,745	8,299	7,745	8,299
2	Ortega Hwy.	w/o I-5 SB Ramps	36,749	37,506	41,774	42,531	41,774	42,531
3	Ortega Hwy.	at I-5 Fwy. Overpass	39,479	39,972	43,617	44,110	45,274	45,767
4	Camino Capistrano	n/o Del Obispo St.	13,722	14,009	16,584	16,871	16,584	16,871
5	Del Obispo St.	e/o Camino Capistrano	23,538	23,726	27,198	27,386	27,198	27,386
6	Del Obispo St.	e/o Alipaz St.	30,588	30,736	34,799	34,947	34,799	34,947
7	Del Obispo St.	w/o Camino Capistrano	33,448	33,596	38,498	38,646	38,498	38,646

[1] El Camino Specific Plan Amendment Traffic Impact Analysis Report, Linscott Law & Greenspan, Engineers.

TABLE 6-4: TIME OF DAY VEHICLE SPLITS

Vehicle Type	Time of Day Splits			Total of Time of Day Splits
	Daytime	Evening	Nighttime	
Autos	77.50%	12.90%	9.60%	100.00%
Medium Trucks	84.80%	4.90%	10.30%	100.00%
Heavy Trucks	86.50%	2.70%	10.80%	100.00%

"Daytime" = 7:00 a.m. to 7:00 p.m.; "Evening" = 7:00 p.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

TABLE 6-5: DAILY VEHICLE MIX

Classification	Total % Traffic Flow[1]			Total
	Autos	Medium Trucks	Heavy Trucks	
All Segments	97.42%	1.84%	0.74%	100.00%

[1] Typical California Vehicle Mix.

7 OFF-SITE TRAFFIC NOISE ANALYSIS

To assess the off-site transportation CNEL noise level impacts associated with development of the proposed Project, noise contours were developed based on *the El Camino Specific Plan Amendment Traffic Impact Analysis Report*, prepared by Linscott, Law & Greenspan, Engineers. (21) Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway.

7.1 TRAFFIC NOISE CONTOURS

Noise contours were used to assess the Project's incremental 24-hour dBA CNEL traffic-related noise impacts at receiving land uses adjacent to roadways conveying Project traffic. The noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 70, 65, and 60 dBA CNEL noise levels. The noise contours do not consider the effect of any existing noise barriers or topography that may attenuate ambient noise levels. In addition, because the noise contours reflect modeling of vehicular noise on area roadways, they appropriately do not reflect noise contributions from the surrounding stationary noise sources within the Project study area. Tables 7-1 and 7-2 present a summary of the exterior CNEL traffic noise levels at the receiving land use without barrier attenuation for each traffic condition. Appendix 7.1 includes the traffic noise level contours worksheets for each traffic condition.

TABLE 7-1: OFF-SITE TRAFFIC NOISE ANLAYSIS (WITHOUT FORSTER)

ID	Roadway	Segment	CNEL at Receiving Land Use (dBA)[1]					
			Existing		EC 2028		GPBO	
			Without Project	With Project	Without Project	With Project	Without Project	With Project
1	Old Mission Rd.	e/o Camino Capistrano	61.1	61.6	62.1	62.5	62.1	62.5
2	Ortega Hwy.	w/o I-5 SB Ramps	73.0	73.1	73.6	73.7	73.6	73.7
3	Ortega Hwy.	at I-5 Fwy. Overpass	74.8	74.8	75.2	75.2	75.4	75.4
4	Camino Capistrano	n/o Del Obispo St.	70.0	70.1	70.8	70.9	70.8	70.9
5	Del Obispo St.	e/o Camino Capistrano	69.8	69.8	70.4	70.4	70.4	70.4
6	Del Obispo St.	e/o Alipaz St.	71.0	71.0	71.5	71.5	71.5	71.5
7	Del Obispo St.	w/o Camino Capistrano	71.3	71.4	72.0	72.0	72.0	72.0

[1] Off-site traffic noise level calculations and contours are included in Appendix 7.1.

TABLE 7-2: OFF-SITE TRAFFIC NOISE ANLAYSIS (WITH FORSTER)

ID	Roadway	Segment	CNEL at Receiving Land Use (dBA)[1]					
			Existing		EC 2028		GPBO	
			Without Project	With Project	Without Project	With Project	Without Project	With Project
1	Old Mission Rd.	e/o Camino Capistrano	61.1	61.4	62.1	62.4	62.1	62.4
2	Ortega Hwy.	w/o I-5 SB Ramps	73.0	73.1	73.6	73.7	73.6	73.7
3	Ortega Hwy.	at I-5 Fwy. Overpass	74.8	74.8	75.2	75.2	75.4	75.4
4	Camino Capistrano	n/o Del Obispo St.	70.0	70.1	70.8	70.9	70.8	70.9
5	Del Obispo St.	e/o Camino Capistrano	69.8	69.9	70.4	70.5	70.4	70.5
6	Del Obispo St.	e/o Alipaz St.	71.0	71.0	71.5	71.5	71.5	71.5
7	Del Obispo St.	w/o Camino Capistrano	71.3	71.4	72.0	72.0	72.0	72.0

[1] Off-site traffic noise level calculations and contours are included in Appendix 7.1.

7.2 WITHOUT FORSTER PROJECT TRAFFIC NOISE LEVEL INCREASES

Table 7-3 provides a summary of the without Forster Project traffic noise level increases for each of the traffic scenarios. Table 7-3 shows that the off-site traffic noise level increases attributed to the Project range from 0.0 to 0.5 dBA CNEL on the study area roadway segments. Based on the significance criteria for off-site traffic noise presented in Table 4-1, land uses adjacent to the study area roadway segments would experience *less than significant* noise level impacts due to unmitigated without Forster Project-related traffic noise level increases.

7.3 WITH FORSTER PROJECT TRAFFIC NOISE LEVEL INCREASES

Table 7-4 provides a summary of the with Forster Project traffic noise level increases for each of the traffic scenarios. Table 7-4 shows that the off-site traffic noise level increases attributed to the Project range from 0.0 to 0.3 dBA CNEL on the study area roadway segments. Based on the significance criteria for off-site traffic noise presented in Table 4-1, land uses adjacent to the study area roadway segments would experience *less than significant* noise level impacts due to unmitigated with Forster Project-related traffic noise level increases.

TABLE 7-3: PROJECT TRAFFIC NOISE LEVEL INCREASES (WITHOUT FORSTER)

ID	Roadway	Segment	Project CNEL Traffic Noise Increase (dBA)			Incremental Noise Level Increase Threshold[3]	
			Existing	EC 2028	GPBO	Limit	Exceeded?
1	Old Mission Rd.	e/o Camino Capistrano	0.5	0.4	0.4	3.0	No
2	Ortega Hwy.	w/o I-5 SB Ramps	0.1	0.1	0.1	1.5	No
3	Ortega Hwy.	at I-5 Fwy. Overpass	0.0	0.0	0.0	1.5	No
4	Camino Capistrano	n/o Del Obispo St.	0.1	0.1	0.1	1.5	No
5	Del Obispo St.	e/o Camino Capistrano	0.0	0.0	0.0	1.5	No
6	Del Obispo St.	e/o Alipaz St.	0.0	0.0	0.0	1.5	No
7	Del Obispo St.	w/o Camino Capistrano	0.1	0.0	0.0	1.5	No

[1] CNEL at Receiving Land Use (dBA) as shown on Table 7-1. Off-site traffic noise level calculations and contours are included in Appendix 7.1.

TABLE 7-4: PROJECT TRAFFIC NOISE LEVEL INCREASES (WITH FORSTER)

ID	Roadway	Segment	Project CNEL Traffic Noise Increase (dBA)			Incremental Noise Level Increase Threshold[3]	
			Existing	EC 2028	GPBO	Limit	Exceeded?
1	Old Mission Rd.	e/o Camino Capistrano	0.3	0.3	0.3	3.0	No
2	Ortega Hwy.	w/o I-5 SB Ramps	0.1	0.1	0.1	1.5	No
3	Ortega Hwy.	at I-5 Fwy. Overpass	0.0	0.0	0.0	1.5	No
4	Camino Capistrano	n/o Del Obispo St.	0.1	0.1	0.1	1.5	No
5	Del Obispo St.	e/o Camino Capistrano	0.1	0.1	0.1	1.5	No
6	Del Obispo St.	e/o Alipaz St.	0.0	0.0	0.0	1.5	No
7	Del Obispo St.	w/o Camino Capistrano	0.1	0.0	0.0	1.5	No

[1] CNEL at Receiving Land Use (dBA) as shown on Table 7-1. Off-site traffic noise level calculations and contours are included in Appendix 7.1.

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8 RECEIVER LOCATIONS

To assess the potential for long-term operational and short-term construction noise impacts, the following receiver locations, as shown on Exhibit 8-A, were identified as representative locations for analysis. Sensitive receivers are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land. Noise-sensitive land uses are generally considered to include schools, hospitals, single-family dwellings, mobile home parks, churches, libraries, and recreation areas. Moderately noise-sensitive land uses typically include multi-family dwellings, hotels, motels, dormitories, out-patient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and equestrian clubs. Land uses that are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals.

To describe the potential off-site Project noise levels, nine receiver locations in the vicinity of the Project site were identified. Other land uses in the Project study area that are located at greater distances than those identified in this noise study will experience lower noise levels than those presented in this report due to the additional attenuation from distance and the shielding of intervening structures. Distance is measured in a straight line from the project boundary to each receiver location.

R1: Location R1 represents the Camino Real Playhouse at 31776 El Camino Real, approximately 139 feet north of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R1 is placed at the building façade. A 24-hour noise measurement was taken near this location, L1, to describe the existing ambient noise environment.

R2: Location R2 represents the Orange County Fire Authority Station #7 at 31865 Del Obispo Street, approximately 49 feet southeast of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R2 is placed at the building façade. A 24-hour noise measurement was taken near this location, L2, to describe the existing ambient noise environment.

R3: Location R3 represents the existing Plaza de Prosperidad office building at 31877 Del Obispo Street Capistrano approximately 92 feet south of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R3 is placed at the building façade. A 24-hour noise measurement was taken near this location, L3, to describe the existing ambient noise environment.

R4: Location R4 represents the existing Mercado Village at 31952 Camino Capistrano approximately 9 feet south of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R4 is placed at the building façade. A 24-hour noise measurement was taken near this location, L3, to describe the existing ambient noise environment.

EXHIBIT 8-A: RECEIVER LOCATIONS

R5: Location R5 represents Ellie's Table at the Egan House at 31892 Camino Capistrano, approximately 6 feet south of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R5 is placed at the building façade. A 24-hour noise measurement was taken near this location, L4, to describe the existing ambient noise environment. ambient noise environment.

R6: Location R6 represents the El Adobe restaurant building at 31891 Camino Capistrano, approximately 84 feet west of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R6 is placed at the building façade. A 24-hour noise measurement was taken near this location, L5, to describe the existing ambient noise environment.

R7: Location R7 represents the office building at 31866 Forster Street, approximately 10 feet northwest of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R7 is placed at the building façade. A 24-hour noise measurement was taken near this location, L6, to describe the existing ambient noise environment.

R8: Location R8 represents the commercial retail building at 31812 Camino Capistrano, approximately 122 feet west of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R8 is placed at the building façade. A 24-hour noise measurement was taken near this location, L6, to describe the existing ambient noise environment. ambient noise environment.

R9: Location R9 represents the Blas Aguilar Adobe Museum at 31806 El Camino Real, approximately 78 feet north of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R9 is placed at the building façade. A 24-hour noise measurement was taken near this location, L1, to describe the existing ambient noise environment. ambient noise environment.

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9 OPERATIONAL NOISE IMPACTS

This section analyzes the potential stationary-source operational noise impacts at the nearest receiver locations, identified in Section 8, resulting from the operation of the proposed El Camino Specific Plan Amendment Project. Exhibit 9-A of the Noise Study includes over 83 individual noise sources to fully describe the potential reasonable worst-case noise environment. This includes potential outdoor courtyard activities or crowd noise associated with a Performing Arts Center event.

9.1 OPERATIONAL NOISE SOURCES

This operational noise analysis is intended to describe noise level impacts associated with the expected typical of daytime and nighttime activities at the Project site. The on-site Project-related noise sources are expected to include: roof-top air conditioning units, courtyard activity, pool activity, trash enclosure activity, and parking lot vehicle movements.

9.2 REFERENCE NOISE LEVELS

To estimate the Project operational noise impacts, reference noise level measurements were collected from similar types of activities to represent the noise levels expected with the development of the proposed Project. This section provides a detailed description of the reference noise level measurements shown on Table 9-1 used to estimate the Project operational noise impacts. It is important to note that the following projected noise levels assume the reasonable worst-case noise environment with the typical noise sources operating at the same time. These sources of noise activity will likely vary throughout the day.

9.2.1 MEASUREMENT PROCEDURES

The reference noise level measurements presented in this section were collected using a Larson Davis LxT Type 1 precision sound level meter (serial number 01146). The LxT sound level meter was calibrated using a Larson-Davis calibrator, Model CAL 200, was programmed in "slow" mode to record noise levels in "A" weighted form and was located at approximately five feet above the ground elevation for each measurement. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (17)

EXHIBIT 9-A: OPERATIONAL NOISE SOURCE LOCATIONS

TABLE 9-1: REFERENCE NOISE LEVEL MEASUREMENTS

Noise Source[1]	Noise Source Height (Feet)	Min./Hour[2]			Reference Noise Level (dBA L_{eq}) @ 50 Feet	Sound Power Level (dBA)[3]
		Day	Eve	Night		
Roof-Top Air Conditioning Units	5'	39	39	28	57.2	88.9
Courtyard Activity	5'	60	60	30	59.8	91.5
Pool Activity	5'	60	60	0	54.7	86.4
Trash Enclosure Activity	5'	60	60	30	57.3	89.0
Parking Lot Vehicle Movements	5'	60	60	30	52.6	81.1

[1] As measured by Urban Crossroads, Inc.

[2] Anticipated duration (minutes within the hour) of noise activity during typical hourly conditions expected at the Project site. "Daytime" = 7:01 a.m. to 10:00 p.m.; "Nighttime" = 10:01 p.m. to 7:00 a.m.

[3] Sound power level represents the total amount of acoustical energy (noise level) produced by a sound source independent of distance or surroundings. Sound power levels calculated using the CadnaA noise model at the reference distance to the noise source.

9.2.2 ROOF-TOP AIR CONDITIONING UNITS

The noise level measurements describe a single mechanical roof-top air conditioning unit. The reference noise level represents a Lennox SCA120 series 10-ton model packaged air conditioning unit. At the uniform reference distance of 50 feet, the reference noise level is 57.2 dBA L_{eq}. Based on the typical operating conditions observed over a four-day measurement period, the roof-top air conditioning units are estimated to operate for and average 39 minutes per hour during the daytime hours, and 28 minutes per hour during the nighttime hours. These operating conditions reflect peak summer cooling requirements with measured temperatures approaching 96 degrees Fahrenheit (°F) with average daytime temperatures of 82°F. For this noise analysis, the air conditioning units are expected to be located on the roof of the Project building.

9.2.3 COURTYARD ACTIVITY

To describe the outdoor common area courtyards activity areas, a reference noise level measurement was taken. At 50 feet, the reference noise level is 59.8 dBA L_{eq} at a noise source height of 5 feet. The reference noise level measurement includes outdoor eating, drinking, laughing, and talking. In addition, it is expected that the Performing Arts Center will include outdoor courtyard activities or crowd noise with guests gathering outside. This will likely take place before an event, during intermission and for a short period of time after the event.

9.2.4 POOL ACTIVITY

To represent the noise levels associated with potential hotel pool activities, Urban Crossroads collected a reference noise level measurement at the Covenant Hill Clubhouse Pool in the unincorporated community of Ladera Ranch in the County of Orange. The reference noise level at 50 feet is 54.7 dBA L_{eq} for pool activity. The pool activity noise levels include kids playing, running, screaming, splashing, playing with a ball, and parents talking. Pool and Spa activities are estimated to occur for 60 minutes during all the daytime hours, with no nighttime activities.

9.2.5 TRASH ENCLOSURE ACTIVITY

To describe the noise levels associated with a trash enclosure activity, Urban Crossroads collected a reference noise level measurement at an existing trash enclosure containing two dumpster bins. The trash enclosure noise levels describe metal gates opening and closing, metal scraping against concrete floor sounds, dumpster movement on metal wheels, and trash dropping into the metal dumpster. The reference noise levels describe trash enclosure noise activities when trash is dropped into an empty metal dumpster, as would occur at the Project Site. The measured reference noise level at the uniform 50-foot reference distance is 57.3 dBA L_{eq} for the trash enclosure activity. The reference noise level describes the expected noise source activities associated with the trash enclosures for the Project's proposed building.

9.2.6 PARKING LOT VEHICLE MOVEMENTS

To describe the on-site parking lot activity, a long-term reference noise level measurement was collected for twenty-nine hours in the center of activity within a large parking lot. At 50 feet from the center of activity, the parking lot produced a reference noise level of 52.6 dBA L_{eq}. The parking lot noise levels are mainly due to cars pulling in and out of parking spaces in combination with car doors opening and closing.

9.3 CADNAA NOISE PREDICTION MODEL

To fully describe the exterior operational noise levels from the Project, Urban Crossroads, Inc. developed a noise prediction model using the CadnaA (Computer Aided Noise Abatement) computer program. CadnaA can analyze multiple types of noise sources using the spatially accurate Project site plan, georeferenced Nearmap aerial imagery, topography, buildings, and barriers in its calculations to predict outdoor noise levels. Using the ISO 9613-2 protocol, CadnaA will calculate the distance from each noise source to the noise receiver locations, using the ground absorption, distance, and barrier/building attenuation inputs to provide a summary of noise level at each receiver and the partial noise level contributions by noise source. Consistent with the ISO 9613-2 protocol, the CadnaA noise prediction model relies on the reference sound power level (L_w) to describe individual noise sources.

While sound pressure levels (e.g., L_{eq}) quantify in decibels the intensity of given sound sources at a reference distance, sound power levels (L_w) are connected to the sound source and are independent of distance. Sound pressure levels vary substantially with distance from the source and diminish because of intervening obstacles and barriers, air absorption, wind, and other factors. Sound power is the acoustical energy emitted by the sound source and is an absolute value that is not affected by the environment. The operational noise level calculations provided in this noise study account for the distance attenuation provided due to geometric spreading, when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. A default ground attenuation factor of 0.5 was used in the CadnaA noise analysis to account for mixed ground representing a combination of hard and soft surfaces. Appendix 9.1 includes the detailed noise model inputs including the planned screenwall used to estimate the Project operational noise levels presented in this section.

9.4 PROJECT STATIONARY OPERATIONAL NOISE LEVELS

Using the reference noise levels to represent the proposed Project operations that include roof-top air conditioning units, courtyard activity, pool activity, trash enclosure activity, and parking lot vehicle movements, Urban Crossroads, Inc. calculated the stationary source operational noise levels that are expected to be generated at the Project site and the Project-related noise level increases that would be experienced at each of the receiver locations. Table 9-2 shows the Project stationary operational noise levels during the daytime hours of 7:00 a.m. to 10:00 p.m. The daytime hourly noise levels at the off-site receiver locations are expected to range from 45.9 to 58.4 dBA L_{eq}.

TABLE 9-2: DAYTIME PROJECT STATIONARY OPERATIONAL NOISE LEVELS

Noise Source[1]	Operational Noise Levels by Receiver Location (dBA Leq)								
	R1	R2	R3	R4	R5	R6	R7	R8	R9
Roof-Top Air Conditioning Units	43.1	45.6	43.8	43.7	52.0	47.2	49.7	43.5	44.2
Courtyard Activity	42.1	40.4	25.2	29.2	49.1	52.7	54.0	43.9	46.1
Pool Activity	12.5	19.9	18.5	22.8	30.0	29.7	25.4	16.3	14.8
Trash Enclosure Activity	30.9	30.8	22.4	21.3	55.8	29.9	38.5	35.2	34.6
Parking Lot Vehicle Movements	30.1	46.7	43.5	50.4	49.7	36.1	39.7	35.0	34.0
Total (All Noise Sources)	**45.9**	**49.8**	**46.7**	**51.3**	**58.5**	**53.9**	**55.6**	**47.3**	**48.6**

[1] See Exhibit 9-A for the noise source locations. CadnaA noise model calculations are included in Appendix 9.1.

Table 9-3 shows the Project operational noise levels during the evening hours of 7:00 p.m. to 7:00 a.m. The evening hourly noise levels at the off-site receiver locations are expected to range from 45.9 to 58.5 dBA L_{eq}.

TABLE 9-3: EVENING PROJECT STATIONARY OPERATIONAL NOISE LEVELS

Noise Source[1]	Operational Noise Levels by Receiver Location (dBA Leq)								
	R1	R2	R3	R4	R5	R6	R7	R8	R9
Roof-Top Air Conditioning Units	43.1	45.6	43.8	43.7	52.0	47.2	49.7	43.5	44.2
Courtyard Activity	42.1	40.4	25.2	29.2	49.1	52.7	54.0	43.9	46.1
Pool Activity	12.5	19.9	18.5	22.8	30.0	29.7	25.4	16.3	14.8
Trash Enclosure Activity	30.9	30.8	22.4	21.3	55.8	29.9	38.5	35.2	34.6
Parking Lot Vehicle Movements	30.1	46.7	43.5	50.4	49.7	36.1	39.7	35.0	34.0
Total (All Noise Sources)	**45.9**	**49.8**	**46.7**	**51.3**	**58.5**	**53.9**	**55.6**	**47.3**	**48.6**

[1] See Exhibit 9-A for the noise source locations. CadnaA noise model calculations are included in Appendix 9.1.

Table 9-4 shows the Project operational noise levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. with no pool activity. The nighttime hourly noise levels at the off-site receiver locations are expected to range from 43.8 to 55.9 dBA L_{eq}. The differences between the daytime, evening and nighttime noise levels are largely related to the estimated duration of noise activity as outlined in Table 9-1 and Appendix 9.1.

TABLE 9-4: NIGHTTIME PROJECT STATIONARY OPERATIONAL NOISE LEVELS

Noise Source[1]	Operational Noise Levels by Receiver Location (dBA Leq)								
	R1	R2	R3	R4	R5	R6	R7	R8	R9
Roof-Top Air Conditioning Units	41.7	44.1	42.3	42.2	50.6	45.7	48.3	42.1	42.8
Courtyard Activity	39.0	37.4	22.2	26.2	46.1	49.7	51.0	40.9	43.1
Pool Activity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trash Enclosure Activity	27.9	27.8	19.4	18.3	52.8	26.9	35.5	32.2	31.6
Parking Lot Vehicle Movements	27.1	43.6	40.5	47.4	46.7	33.1	36.7	32.0	31.0
Total (All Noise Sources)	**43.8**	**47.4**	**44.5**	**48.6**	**55.9**	**51.2**	**53.0**	**45.0**	**46.3**

1 See Exhibit 9-A for the noise source locations. CadnaA noise model calculations are included in Appendix 9.1.

9.5 PROJECT OPERATIONAL NOISE LEVEL COMPLIANCE

To demonstrate compliance with local noise regulations, the Project-only operational noise levels are evaluated against exterior noise level thresholds based on the City of San Juan Capistrano exterior noise level standards at the nearest receiver locations. Table 9-5 shows the operational noise levels associated with El Camino Specific Plan Amendment will not exceed the City of San Juan Capistrano daytime, evening, and nighttime exterior noise level standards. Therefore, the operational noise impacts are considered *less than significant* at the nearby receiver locations.

TABLE 9-5: OPERATIONAL NOISE LEVEL COMPLIANCE

Receiver Location[1]	Land Use	Project Operational Noise Levels (dBA Leq)[2]			Noise Level Standards (dBA Leq)[3]			Noise Level Standards Exceeded?[4]		
		Daytime	Evening	Nighttime	Daytime	Evening	Nighttime	Daytime	Evening	Nighttime
R1	Commercial	45.9	45.9	43.8	65	65	65	No	No	No
R2	Commercial	49.8	49.8	47.4	65	65	65	No	No	No
R3	Commercial	46.7	46.7	44.5	65	65	65	No	No	No
R4	Commercial	51.3	51.3	48.6	65	65	65	No	No	No
R5	Commercial	58.5	58.5	55.9	65	65	65	No	No	No
R6	Commercial	53.9	53.9	51.2	65	65	65	No	No	No
R7	Commercial	55.6	55.6	53.0	65	65	65	No	No	No
R8	Commercial	47.3	47.3	45.0	65	65	65	No	No	No
R9	Commercial	48.6	48.6	46.3	65	65	65	No	No	No

[1] See Exhibit 8-A for the receiver locations.
[2] Proposed Project operational noise levels as shown on Tables 9-2, 9-3 and 9-4.
[3] Exterior noise level standards, as shown on Table 4-1.
[4] Do the estimated Project operational noise source activities exceed the noise level standards?
"Daytime" = 7:00 a.m. to 7:00 p.m.; "Evening" = 7:00 p.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

9.6 PROJECT OPERATIONAL NOISE LEVEL INCREASES

To describe the Project operational noise level increases, the Project operational noise levels are combined with the existing ambient noise levels measurements for the nearby receiver locations that may be potentially impacted by Project operational noise sources. Since the units used to measure noise, decibels (dB), are logarithmic units, the Project-operational and existing ambient noise levels cannot be combined using standard arithmetic equations. (2) Instead, they must be logarithmically added using the following base equation:

$$SPL_{Total} = 10\log_{10}[10^{SPL1/10} + 10^{SPL2/10} + \ldots 10^{SPLn/10}]$$

Where "SPL1," "SPL2," etc. are equal to the sound pressure levels being combined, or in this case, the Project-operational and existing ambient noise levels. The difference between the combined Project and ambient noise levels describes the Project noise level increases to the existing ambient noise environment. Noise levels that would be experienced at receiver locations when Project-source noise is added to the daytime and nighttime ambient conditions are presented on Tables 9-6, 9-7 and 9-8, respectively. As indicated on Tables 9-6, the Project will generate a daytime operational noise level increases ranging from 0.1 to 2.3 dBA L_{eq} at the nearest receiver locations. Table 9-7 shows that the Project will generate an evening operational noise level increase ranging from 0.3 to 4.0 dBA L_{eq} at the nearest receiver locations. Table 9-8 shows that the Project will generate a nighttime operational noise level increase ranging from 0.2 to 2.2 dBA L_{eq} at the nearest receiver locations. Project-related operational noise level increases will not exceed the operational noise level increase significance criteria presented in Table 4-1. Therefore, the increases at the receiver locations will be *less than significant.*

TABLE 9-6: DAYTIME PROJECT OPERATIONAL NOISE LEVEL INCREASES

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Increase[6]	Increase Criteria[7]	Increase Criteria Exceeded?
R1	45.9	L1	60.7	60.8	0.1	3.0	No
R2	49.8	L2	63.0	63.2	0.2	3.0	No
R3	46.7	L3	57.4	57.8	0.4	5.0	No
R4	51.3	L3	57.4	58.3	0.9	5.0	No
R5	58.5	L4	60.0	62.3	2.3	5.0	No
R6	53.9	L5	63.5	64.0	0.5	3.0	No
R7	55.6	L6	61.6	62.6	1.0	3.0	No
R8	47.3	L6	61.6	61.8	0.2	3.0	No
R9	48.6	L1	60.7	61.0	0.3	3.0	No

[1] See Exhibit 8-A for the receiver locations.
[2] Total Project daytime operational noise levels as shown on Table 9-5.
[3] Reference noise level measurement locations as shown on Exhibit 5-A.
[4] Observed daytime ambient noise levels as shown on Table 5-1.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the proposed Project activities.
[7] Significance increase criteria as shown on Table 4-1.

TABLE 9-7: EVENING OPERATIONAL NOISE LEVEL INCREASES

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Increase[6]	Increase Criteria[7]	Increase Criteria Exceeded?
R1	45.9	L1	56.7	57.0	0.3	5.0	No
R2	49.8	L2	61.0	61.3	0.3	3.0	No
R3	46.7	L3	55.3	55.9	0.6	5.0	No
R4	51.3	L3	55.3	56.7	1.4	5.0	No
R5	58.5	L4	56.8	60.8	4.0	5.0	No
R6	53.9	L5	63.4	63.9	0.5	3.0	No
R7	55.6	L6	58.0	60.0	2.0	5.0	No
R8	47.3	L6	58.0	58.4	0.4	5.0	No
R9	48.6	L1	56.7	57.3	0.6	5.0	No

[1] See Exhibit 8-A for the receiver locations.
[2] Total Project evening operational noise levels as shown on Table 9-5.
[3] Reference noise level measurement locations as shown on Exhibit 5-A.
[4] Observed evening ambient noise levels as shown on Table 5-1.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the proposed Project activities.
[7] Significance increase criteria as shown on Table 4-1.

TABLE 9-8: NIGHTTIME OPERATIONAL NOISE LEVEL INCREASES

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Increase[6]	Increase Criteria[7]	Increase Criteria Exceeded?
R1	43.8	L1	54.5	54.9	0.4	5.0	No
R2	47.4	L2	59.9	60.1	0.2	5.0	No
R3	44.5	L3	54.3	54.7	0.4	5.0	No
R4	48.6	L3	54.3	55.3	1.0	5.0	No
R5	55.9	L4	58.6	60.5	1.9	5.0	No
R6	51.2	L5	59.9	60.5	0.6	5.0	No
R7	53.0	L6	54.8	57.0	2.2	5.0	No
R8	45.0	L6	54.8	55.2	0.4	5.0	No
R9	46.3	L1	54.5	55.1	0.6	5.0	No

[1] See Exhibit 8-A for the receiver locations.
[2] Total Project nighttime operational noise levels as shown on Table 9-5.
[3] Reference noise level measurement locations as shown on Exhibit 5-A.
[4] Observed nighttime ambient noise levels as shown on Table 5-1.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the proposed Project activities.
[7] Significance increase criteria as shown on Table 4-1.

10 CONSTRUCTION ANALYSIS

This section analyzes potential impacts resulting from the short-term construction activities associated with the development of the Project. Exhibit 10-A shows the construction noise source locations in relation to the nearest receiver locations previously described in Section 8. To prevent high levels of construction noise, the City of San Juan Capistrano Municipal Code Section 9-3.531[d][4] exempts noise sources associated with construction from the provision of the noise standards; the following activities shall be exempted from the provisions of this section: *Noise sources associated with construction, repairs, remodeling, or the grading of any real property, except that such activities shall not be exempt from the provisions of this section if conducted from 6:00 p.m. to 7:00 a.m. on Monday through Friday, or from 4:30 p.m. to 8:30 a.m. on Saturday, or at any time on Sunday or a national holiday.*

10.1 CONSTRUCTION NOISE LEVELS

The FTA *Transit Noise and Vibration Impact Assessment Manual* recognizes that construction projects are accomplished in several different stages and outlines the procedures for assessing noise impacts during construction. Each stage has a specific equipment mix, depending on the work to be completed during that stage. As a result of the equipment mix, each stage has its own noise characteristics; some stages have higher continuous noise levels than others, and some have higher impact noise levels than others. The Project construction activities are expected to occur in the following stages:

- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

10.2 CONSTRUCTION REFERENCE NOISE LEVELS

To describe construction noise activities, this construction noise analysis was prepared using reference construction equipment noise levels from the Federal Highway Administration (FHWA) published the Roadway Construction Noise Model (RCNM), which includes a national database of construction equipment reference noise emission levels. (22) The RCNM equipment database, provides a comprehensive list of the noise generating characteristics for specific types of construction equipment. In addition, the database provides an acoustical usage factor to estimate the fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation.

EXHIBIT 10-A: CONSTRUCTION NOISE SOURCE LOCATIONS

10.3 CONSTRUCTION NOISE ANALYSIS

Using the reference construction equipment noise levels and the CadnaA noise prediction model, calculations of the Project construction noise level impacts at the nearby receiver locations were completed. Consistent with FTA guidance for detailed construction noise assessment, Table 10-1 presents the combined noise levels for the loudest construction equipment, assuming all equipment operates at the same time. To account for the dynamic nature of construction activities, the CadnaA construction noise analysis evaluates the equipment as multiple moving point sources within the construction area (Project site boundary). Construction impacts are based on the highest noise level calculated at each receiver location. As shown on Table 10-2, the construction noise levels are expected to range from 61.2 to 79.0 dBA L_{eq} at the nearby receiver locations. Appendix 10.1 includes the detailed CadnaA construction noise model inputs.

TABLE 10-1: CONSTRUCTION REFERENCE NOISE LEVELS

Construction Stage	Reference Construction Equipmnet[1]	Reference Noise Level @ 50 Feet (dBA L_{eq})	Composite Reference Noise Level (dBA L_{eq})[2]	Reference Power Level (dBA L_w)[3]
Site Preparation	Tractor	80	84.0	115.6
	Backhoe	74		
	Grader	81		
Grading	Scraper	80	83.3	114.9
	Excavator	77		
	Dozer	78		
Building Construction	Crane	73	80.6	112.2
	Generator	78		
	Front End Loader	75		
Paving	Paver	74	77.8	109.5
	Dump Truck	72		
	Roller	73		
Architectural Coating	Man Lift	68	76.2	107.8
	Compressor (air)	74		
	Generator (<25kVA)	70		

[1] FHWA Road Construction Noise Model.
[2] Represents the combined noise level for all equipment assuming they operate at the same time consistent with FTA Transit Noise and Vibration Impact Assessment guidance.
[3] Sound power level represents the total amount of acoustical energy (noise level) produced by a sound source independent of distance or surroundings.

10.4 CONSTRUCTION NOISE LEVEL COMPLIANCE

To evaluate whether the Project will generate potentially significant short-term noise levels at nearest receiver locations, a construction-related daytime noise level of 80 dBA L_{eq} is used as a reasonable threshold to assess the daytime construction noise level impacts. The construction noise analysis shows that the nearest receiver locations will not exceed the reasonable daytime

80 dBA L_{eq} significance threshold during Project construction activities as shown on Table 10-3. Therefore, the noise impacts due to Project construction noise are considered *less than significant* at all receiver locations.

TABLE 10-2: ON-SITE CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY

Receiver Location[1]	Construction Noise Levels (dBA L_{eq})					
	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Highest Levels[2]
R1	69.0	68.3	65.6	62.9	61.2	69.0
R2	74.1	73.4	70.7	68.0	66.3	74.1
R3	70.6	69.9	67.2	64.5	62.8	70.6
R4	76.2	75.5	72.8	70.1	68.4	76.2
R5	79.0	78.3	75.6	72.9	71.2	79.0
R6	69.8	69.1	66.4	63.7	62.0	69.8
R7	77.7	77.0	74.3	71.6	69.9	77.7
R8	69.6	68.9	66.2	63.5	61.8	69.6
R9	72.1	71.4	68.7	66.0	64.3	72.1

[1] Construction noise source and receiver locations are shown on Exhibit 10-A.
[2] Construction noise level calculations based on distance from the construction activity, which is measured from the Project site boundary to the nearest receiver locations. CadnaA construction noise model inputs are included in Appendix 10.1.

TABLE 10-3: CONSTRUCTION NOISE LEVEL COMPLIANCE

Receiver Location[1]	Construction Noise Levels (dBA L_{eq})		
	Highest Construction Noise Levels[2]	Threshold[3]	Threshold Exceeded?[4]
R1	69.0	80	No
R2	74.1	80	No
R3	70.6	80	No
R4	76.2	80	No
R5	79.0	80	No
R6	69.8	80	No
R7	77.7	80	No
R8	69.6	80	No
R9	72.1	80	No

[1] Construction noise source and receiver locations are shown on Exhibit 10-A.
[2] Highest construction noise level calculations based on distance from the construction noise source activity to the nearest receiver locations as shown on Table 10-2.
[3] Construction noise level thresholds as shown on Table 4-1.
[4] Do the estimated Project construction noise levels exceed the construction noise level threshold?

10.5 CONSTRUCTION NOISE LEVEL INCREASE

To describe the temporary Project construction noise level contributions to the existing ambient noise environment, the Project construction noise levels were combined with the existing *ambient* noise levels measurements at the nearest off-site receiver locations. The difference between the combined Project-construction and ambient noise levels is used to describe the construction noise level contributions. Temporary noise level increases that would be experienced at sensitive receiver locations when Project construction-source noise is added to the *ambient* daytime conditions are presented on Table 5-1. As indicated in Table 10-4, the Project will contribute unmitigated construction noise level increases ranging from 7.2 to 19.1 dBA L_{eq} during the daytime hours at the closest receiver locations. The unmitigated construction noise analysis shows that the nearest receiver locations will exceed the Caltrans *substantial* 12 dBA L_{eq} noise level increase significance threshold during Project construction activities. The temporary construction noise level increase analysis shows that the noise impacts due to Project-related construction noise are considered *potentially significant* without mitigation.

Therefore, a minimum 8-foot-high temporary noise barrier is required at the limits of construction as shown on Exhibit 10-B. Table 10-5 shows that the mitigated construction noise levels at the nearest noise sensitive receiver locations are expected to range from 64.2 to 71.7 dBA L_{eq}. Appendix 10.2 includes the mitigated construction CadnaA noise calculations. The mitigated Project construction noise level increases will range from 3.8 to 12.0 dBA L_{eq} and will not exceed the Caltrans *substantial* 12 dBA L_{eq} increase threshold. With the required 8 -foot-high temporary noise barrier and the construction noise mitigation measures outlined below in Section 10.6, the construction noise impacts are considered *less than significant*.

TABLE 10-4: CONSTRUCTION NOISE LEVEL INCREASES

Receiver Location[1]	Total Project Construction Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Increase[6]	Increase Criteria[7]	Increase Criteria Exceeded?
R1	69.0	L1	60.7	69.6	8.9	12	No
R2	74.1	L2	63.0	74.4	11.4	12	No
R3	70.6	L3	57.4	70.8	13.4	12	**Yes**
R4	76.2	L3	57.4	76.3	18.9	12	**Yes**
R5	79.0	L4	60.0	79.1	19.1	12	**Yes**
R6	69.8	L5	63.5	70.7	7.2	12	No
R7	77.7	L6	61.6	77.8	16.2	12	**Yes**
R8	69.6	L6	61.6	70.2	8.6	12	No
R9	72.1	L1	60.7	72.4	11.7	12	No

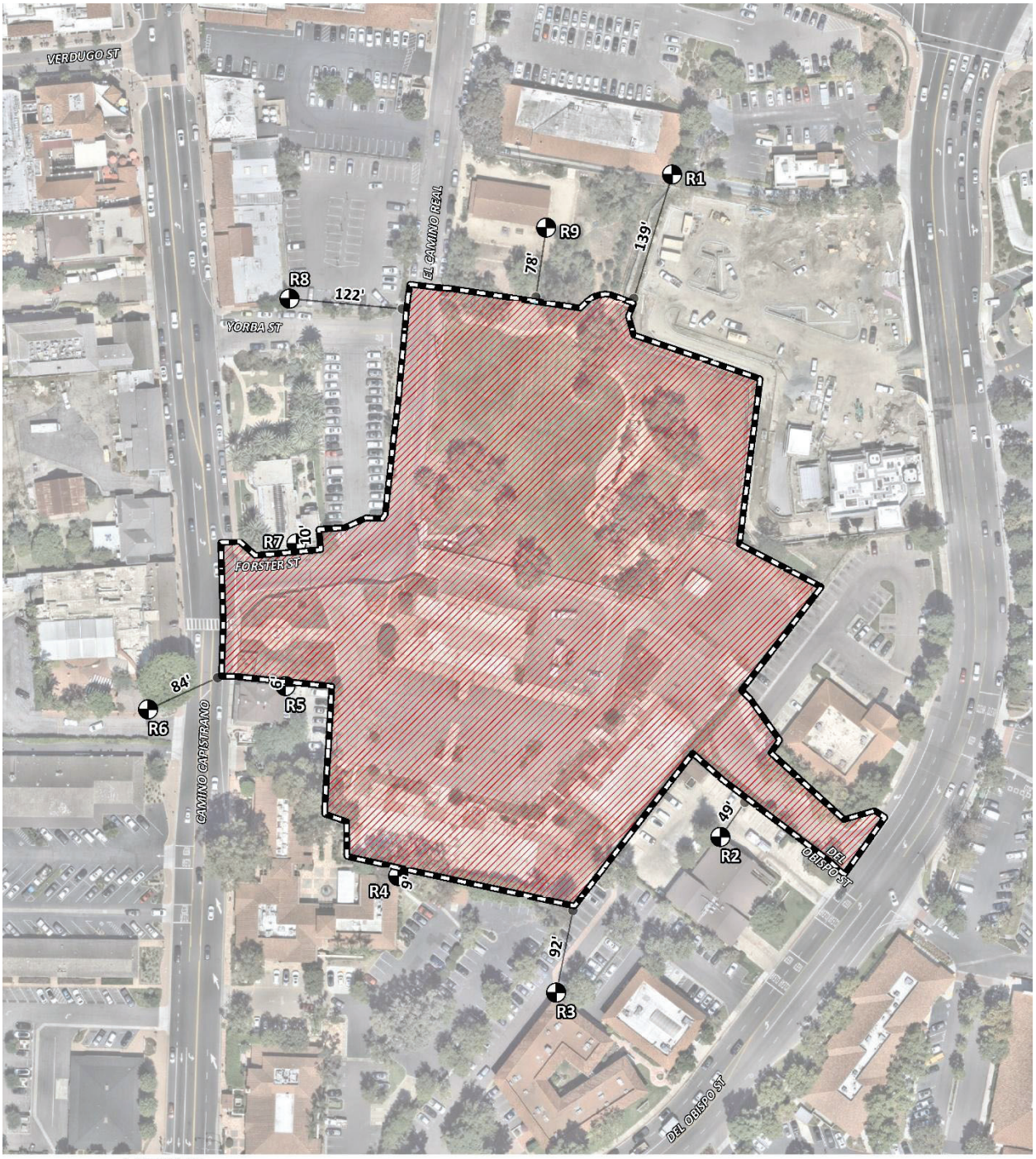
[1] See Exhibit 10-A for the receiver locations.
[2] Highest construction noise levels as shown on Table 10-3.
[3] Reference noise level measurement locations as shown on Exhibit 5-A.
[4] Observed daytime ambient noise levels as shown on Table 5-1.
[5] Represents the combined ambient conditions plus the Project construction activities.
[6] The noise level increase expected with the addition of the proposed Project construction activities.
[7] Significance increase criteria as shown on Table 4-1.

TABLE 10-5: MITIGATED CONSTRUCTION NOISE LEVEL INCREASES

Receiver Location[1]	Total Project Construction Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Increase[6]	Increase Criteria[7]	Increase Criteria Exceeded?
R1	64.2	L1	60.7	65.8	5.1	12	No
R2	69.1	L2	63.0	70.1	7.1	12	No
R3	65.7	L3	57.4	66.3	8.9	12	No
R4	68.6	L3	57.4	68.9	11.5	12	No
R5	71.7	L4	60.0	72.0	12.0	12	No
R6	64.9	L5	63.5	67.3	3.8	12	No
R7	70.8	L6	61.6	71.3	9.7	12	No
R8	64.8	L6	61.6	66.5	4.9	12	No
R9	67.2	L1	60.7	68.1	7.4	12	No

[1] See Exhibit 10-A for the receiver locations.
[2] Mitigated Project construction noise level calculations are included in Appendix 10.2.
[3] Reference noise level measurement locations as shown on Exhibit 5-A.
[4] Observed daytime ambient noise levels as shown on Table 5-1.
[5] Represents the combined ambient conditions plus the mitigated Project construction activities.
[6] The noise level increase expected with the addition of the proposed mitigated Project construction activities.
[7] Significance increase criteria as shown on Table 4-1.

EXHIBIT 10-B: CONSTRUCTION NOISE MITIGATION MEASURES



10.6 PROJECT CONSTRUCTION NOISE MITIGATION MEASURES

The following mitigation measures are required to reduce noise levels produced by the construction equipment.

MM-1 Install a minimum 8-foot-high temporary construction noise barrier as shown on Exhibit 10-B. The noise control barriers must have a solid face from top to bottom. The noise control barriers must meet the minimum height and be constructed as follows:

1. The temporary noise barriers shall provide a minimum transmission loss of 20 dBA (Federal Highway Administration, Noise Barrier Design Handbook). The noise barrier shall be constructed using an acoustical blanket (e.g. vinyl acoustic curtains or quilted blankets) attached to the construction site perimeter fence or equivalent temporary fence posts.
2. The noise barrier must be maintained, and any damage promptly repaired. Gaps, holes, or weaknesses in the barrier or openings between the barrier and the ground shall be promptly repaired.
3. The noise control barrier and associated elements shall be completely removed, and the site appropriately restored upon the conclusion of the construction activity.

MM-2 All construction activities shall comply with City of San Juan Capistrano Municipal Code Section 9-3.531[d][4] restricting construction activities during the from 6:00 p.m. to 7:00 a.m. on Monday through Friday, or from 4:30 p.m. to 8:30 a.m. on Saturday, or at any time on Sunday or a national holiday

MM-3 Construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards.

MM-4 All stationary construction equipment shall be placed in such a manner so that emitted noise is directed away from any sensitive receivers.

MM-5 Construction equipment staging areas shall be located at the greatest feasible distance between the staging area and the nearest sensitive receivers.

MM-6 The construction contractor shall limit equipment and material deliveries to the same hours specified for construction equipment for MM-2.

MM-7 Electrically powered air compressors and similar power tools shall be used, when feasible, in place of diesel equipment.

MM-8 No music or electronically reinforced speech from construction workers shall be allowed.

10.7 CONSTRUCTION VIBRATION ANALYSIS

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods employed. The operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Ground vibration levels associated with various types of construction equipment are summarized on Table 10-6. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the potential Project construction vibration levels using the following vibration assessment methods defined by the FTA. To calculate the vibration levles, the FTA provides the following equation: $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$

TABLE 10-6: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	PPV (in/sec) at 25 feet
Small bulldozer	0.003
Jackhammer	0.035
Loaded Trucks	0.076
Large bulldozer	0.089
Vibratory Roller	0.210

Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual

Table 10-7 presents the expected Project related vibration levels at the nearby receiver locations. At distances ranging from 6 to 145 feet from Project construction activities, construction vibration velocity levels are estimated to range from 0.015 to 1.786 PPV (in/sec). Based on maximum acceptable continuous vibration threshold of 0.25 PPV (in/sec), the typical Project construction vibration levels will exceed the building damage thresholds at receiver locations R4, R5 and R7. The Project-related construction vibration impacts will be *potentially significant* during the construction activities at the Project site and mitigation is required.

TABLE 10-7: UNMITIGATED PROJECT CONSTRUCTION VIBRATION LEVELS

Location[1]	Distance to Const. Activity (Feet)[2]	Typical Construction Vibration Levels PPV (in/sec)[3]						Thresholds PPV (in/sec)[4]	Thresholds Exceeded?[5]
		Small bulldozer	Jack-hammer	Loaded Trucks	Large bulldozer	Vibratory Roller	Highest Vibration Level		
R1	139'	0.000	0.003	0.006	0.007	0.016	0.016	0.25	No
R2	49'	0.001	0.013	0.028	0.032	0.077	0.077	0.25	No
R3	92'	0.000	0.005	0.011	0.013	0.030	0.030	0.25	No
R4	9'	0.014	0.162	0.352	0.412	0.972	0.972	0.25	**Yes**
R5	6'	0.026	0.298	0.646	0.757	1.786	1.786	0.25	**Yes**
R6	84'	0.000	0.006	0.012	0.014	0.034	0.034	0.25	No
R7	10'	0.012	0.138	0.300	0.352	0.830	0.830	0.25	**Yes**
R8	122'	0.000	0.003	0.007	0.008	0.019	0.019	0.25	No
R9	145'	0.000	0.003	0.005	0.006	0.015	0.015	0.25	No

[1] Construction noise source and receiver locations are shown on Exhibit 10-A.
[2] Distance from receiver to limits of construction activity.
[3] Based on the Vibration Source Levels of Construction Equipment (Table 10-6).
[4] Caltrans Transportation and Construction Vibration Guidance Manual, April 2020, Table 19, p. 38.
[5] Does the peak vibration exceed the acceptable vibration thresholds?
"PPV" = Peak Particle Velocity

Therefore, a 25-foot buffer setback mitigation measure is required which would restrict the use of large, loaded trucks, heavy mobile equipment greater than 80,000 pounds, jack hammers and vibratory rollers within 25-feet of receiver location R4, R5 and R7. Instead, small rubber-tired or alternative equipment, as well as soil compaction equipment shall be used during Project construction to reduce vibration effects on nearby structures and their occupants. Table 10-8 shows that with the 25-foot setback buffer, Project construction vibration levels will not exceed the 0.25 PPV (in/sec) construction vibration threshold.

TABLE 10-8: MITIGATED PROJECT CONSTRUCTION VIBRATION LEVELS

Location[1]	Distance to Const. Activity (Feet)[2]	Typical Construction Vibration Levels PPV (in/sec)[3]						Thresholds PPV (in/sec)[4]	Thresholds Exceeded?[5]
		Small bulldozer	Jack-hammer	Loaded Trucks	Large bulldozer	Vibratory Roller	Highest Vibration Level		
R4	25'	0.003	0.035	0.076	0.089	0.210	0.210	0.25	No
R5	25'	0.003	0.035	0.076	0.089	0.210	0.210	0.25	No
R7	25'	0.003	0.035	0.076	0.089	0.210	0.210	0.25	No

[1] Construction noise source and receiver locations are shown on Exhibit 10-A.
[2] Distance from receiver to limits of construction activity.
[3] Based on the Vibration Source Levels of Construction Equipment (Table 10-4).
[4] Caltrans Transportation and Construction Vibration Guidance Manual, April 2020, Table 19, p. 38.
[5] Does the peak vibration exceed the acceptable vibration thresholds?
"PPV" = Peak Particle Velocity

11 REFERENCES

1. **State of California.** *California Environmental Quality Act, Appendix G.* 2018.
2. **California Department of Transportation Environmental Program.** *Technical Noise Supplement - A Technical Supplement to the Traffic Noise Analysis Protocol.* Sacramento, CA : s.n., September 2013.
3. **Environmental Protection Agency Office of Noise Abatement and Control.** *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety.* March 1974. EPA/ONAC 550/9/74-004.
4. **U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning, Noise and Air Quality Branch.** *Highway Traffic Noise Analysis and Abatement Policy and Guidance.* December 2011.
5. **U.S. Department of Transportation Federal Highway Administration.** *Highway Noise Barrier Design Handbook.* 2001.
6. **U.S. Department of Transportation, Federal Highway Administration.** *Highway Traffic Noise in the United States, Problem and Response.* April 2000. p. 3.
7. **U.S. Environmental Protection Agency Office of Noise Abatement and Control.** *Noise Effects Handbook-A Desk Reference to Health and Welfare Effects of Noise.* October 1979 (revised July 1981). EPA 550/9/82/106.
8. **U.S. Department of Transportation, Federal Transit Administration.** *Transit Noise and Vibration Impact Assessment Manual, FTA Report No. 0123.* September 2018.
9. **California Department of Transportation.** *Transportation and Construction Vibration Guidance Manual.* April 2020.
10. **Office of Planning and Research.** *State of California General Plan Guidelines.* 2019.
11. **City of San Juan Capistrano.** *General Plan Noise Element.* December 14, 1999.
12. —. *Municipal Code Section 9-3.531. Noise Standards.*
13. **California Court of Appeal.** *Gray v. County of Madera, F053661.* 167 Cal.App.4th 1099; - Cal.Rptr.3d, October 2008.
14. **Federal Interagency Committee on Noise.** *Federal Agency Review of Selected Airport Noise Analysis Issues.* August 1992.
15. **California Department of Transportation.** *Technical Noise Supplement.* November 2009.
16. —. *Traffic Noise Analysis Protocol.* April 2020.
17. **American National Standards Institute (ANSI).** *Specification for Sound Level Meters ANSI S1.4-2014/IEC 61672-1:2013.*
18. **U.S. Department of Transportation, Federal Highway Administration.** *FHWA Highway Traffic Noise Prediction Model.* December 1978. FHWA-RD-77-108.
19. **California Department of Transportation Environmental Program, Office of Environmental Engineering.** *Use of California Vehicle Noise Reference Energy Mean Emission Levels (Calveno REMELs) in FHWA Highway Traffic Noise Prediction.* September 1995. TAN 95-03.
20. **California Department of Transportation.** *Traffic Noise Attenuation as a Function of Ground and Vegetation Final Report.* June 1995. FHWA/CA/TL-95/23.

21. **Linscott Law & Greenspan Engineers.** *El Camino Specific Plan Amendment Traffic Impact Analysis Report.* October 25, 2023.

22. **U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning.** *FHWA Roadway Construction Noise Model.* January, 2006.

12 CERTIFICATION

The contents of this noise study report represent an accurate depiction of the noise environment and impacts associated with the proposed El Camino Specific Plan Amendment Project. The information contained in this noise study report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (949) 584-3148.

Bill Lawson, P.E., INCE
Principal
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Newport Beach, CA 92658
(949) 581-3148
blawson@urbanxroads.com

EDUCATION

Master of Science in Civil and Environmental Engineering
California Polytechnic State University, San Luis Obispo • December, 1993

Bachelor of Science in City and Regional Planning
California Polytechnic State University, San Luis Obispo • June, 1992

PROFESSIONAL REGISTRATIONS

PE – Registered Professional Traffic Engineer – TR 2537 • January, 2009
AICP – American Institute of Certified Planners – 013011 • June, 1997–January 1, 2012
PTP – Professional Transportation Planner • May, 2007 – May, 2013
INCE – Institute of Noise Control Engineering • March, 2004

PROFESSIONAL AFFILIATIONS

ASA – Acoustical Society of America
ITE – Institute of Transportation Engineers

PROFESSIONAL CERTIFICATIONS

Certified Acoustical Consultant – County of San Diego • March, 2018
Certified Acoustical Consultant – County of Orange • February, 2011
FHWA-NHI-142051 Highway Traffic Noise Certificate of Training • February, 2013

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APPENDIX 3.1:

CITY OF SAN JUAN CAPISTRANO MUNICIPAL CODE

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Sec. 9-3.531. Noise standards (residential and nonresidential).

(a) Noise level measurements. Any noise level measurement made pursuant to the provisions of this Code shall be performed using a sound level meter. For the purposes of this section, “sound level meter” shall mean an instrument meeting the American National Standard Institute’s Standard 51.4-1971 for Type 1 or Type 2 sound level meters or an instrument with associated recording and analyzing equipment which will provide equivalent data.

(b) Minimum exterior noise standards.

(1) The following noise standards in Table 3-29 and 3-30 shall be used as the base of measurement for determining noise violations affecting uses within the residential, public and institutional and commercial districts. The General Plan contains noise compatibility standards for use when planning and making development decisions.

Table 3-29

Exterior Noise Standards for Residential and Public and Institutional Districts

Noise Level	Time Period
65 dB(A)	7:00 a.m. to 7:00 p.m.
55 dB(A)	7:00 p.m. to 10:00 p.m.
45 dB(A)	10:00 p.m. to 7:00 a.m.

Table 3-30

Exterior Noise Standards for

Commercial Districts

Noise Level	Time Period
65 dB(A)	At any time during the day

Each of the noise levels set forth in this subsection shall be reduced by five (5) dB(A) for impacts of simple tone noises or noises consisting of speech or music.

(2) No person at any location within the City, including the industrial and open space districts, shall create any noise, or permit the creation of any noise, which causes the noise level within a residential, public and institutional or commercial district to exceed the standards included in Tables 3-29 and 3-30 by the amount and for the period of time identified in Table 3-31.

Table 3-31

Maximum Noise Levels Not to be Exceeded

Maximum Noise Level Not to be Exceeded During Period of Time	**Period of Time**
Exterior noise standard plus 20 dB(A)	Any period of time
Exterior noise standard plus 15 dB(A)	Cumulative period of more than 1 minute in any hour
Exterior noise standard plus 10 dB(A)	Cumulative period of more than 5 minutes
Exterior noise standard plus 5 dB(A)	Cumulative period of more than 15 minutes in any hour
Exterior noise standard	Cumulative period of more than 30 minutes in any hour

(3) The location selected for measuring exterior noise levels shall be at a point within the affected property.

(c) Interior noise standards.

(1) No person at any location, including the industrial and open space districts, within the City shall create any noise, or permit the creation of any noise, on property owned, leased, occupied, or otherwise controlled by such person, which noise causes the noise level, when measured within a dwelling unit on any residential property during the period from 10:00 p.m. to 7:00 a.m., to exceed:

(A) The noise standard plus ten (10) dB(A) for any period of time; or

(B) The noise standard plus five (5) dB(A) for a cumulative period of more than one minute in any hour; or

(C) The noise standard for a cumulative period of more than five (5) minutes in any hour.

(2) The method of noise level measurement for interior noise shall be made with the windows and doors closed with the measurements made at a point at least four (4) feet from the wall, ceiling, or floor nearest the noise source in the affected residential unit.

(d) Special provisions. The following activities shall be exempted from the provisions of this section:

(1) School bands, school athletic, and school entertainment events;

(2) Carnivals, festivals, parades, arts and crafts exhibits, public dances, skating, and entertainment events provided such events are conducted pursuant to a permit issued by the Planning Director pursuant to the provisions of Section 9-3.553 Temporary Uses and Structures;

(3) Any mechanical device, apparatus, or equipment used, related to, or connected with emergency machinery, vehicles, or work;

(4) Noise sources associated with construction, repairs, remodeling, or the grading of any real property, except that such activities shall not be exempt from the provisions of this section if conducted from 6:00 p.m. to 7:00 a.m. on Monday through Friday, or from 4:30 p.m. to 8:30 a.m. on Saturday, or at any time on Sunday or a national holiday;

(5) Any mechanical device, apparatus, or equipment utilized for the protection or salvage of agricultural crops during periods of potential or actual frost damage or other adverse weather conditions;

(6) Mobile noise sources associated with agricultural operations, except that such operations shall not be exempt from the provisions of this section if conducted from 8:00 p.m. to 7:00 a.m. on Monday through Saturday or at any time on Sunday or a Federal holiday;

(7) Mobile noise sources associated with agricultural pest control through pesticide applications provided such applications are made in accordance with restricted material permits issued by, or regulations enforced by, the County Agriculture Commissioner;

(8) Noise sources associated with the maintenance of real property used for residential purposes provided such activities take place from 7:00 a.m. to 8:00 p.m. on any day except Sunday or from 9:00 a.m. to 8:00 p.m. on Sunday, for example, mowing lawns and carpentry repairs; and

(9) Any activity for which regulation is preempted by State or Federal laws.

(e) Nuisances. Noise shall be considered a nuisance pursuant to Article 4 of Chapter 2 of this title. (Ord. No. 869, § 2)

Contact:

City Clerk: 949-443-6308

APPENDIX 5.1:

STUDY AREA PHOTOS

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15534_L1_B 1.North
33, 30' 3.600000", 117, 39' 39.890000"

15534_L1_B 2.South
33, 30' 3.600000", 117, 39' 39.890000"

15534_L1_B 3.East
33, 30' 3.580000", 117, 39' 39.800000"

15534_L1_B 4.West
33, 30' 3.580000", 117, 39' 39.830000"

JN:15534

15534_L2_O 1.North
33, 29' 59.710000", 117, 39' 37.280000"

15534_L2_O 2.South
33, 29' 59.680000", 117, 39' 37.300000"

15534_L2_O 3.East
33, 29' 59.630000", 117, 39' 37.300000"

15534_L2_O 4.West
33, 29' 59.620000", 117, 39' 37.330000"

15534_L3_D 1.North
33, 29' 56.140000", 117, 39' 42.110000"

15534_L3_D 2.South
33, 29' 56.070000", 117, 39' 42.080000"

15534_L3_D 3.East
33, 29' 56.090000", 117, 39' 42.060000"

15534_L3_D 4.West
33, 29' 56.100000", 117, 39' 42.110000"

JN:15534

15534_L4_E 1.North
33, 29' 58.390000", 117, 39' 43.650000"

15534_L4_E 2.South
33, 29' 58.350000", 117, 39' 43.730000"

15534_L4_E 3.East
33, 29' 58.350000", 117, 39' 43.760000"

15534_L4_E 4.West
33, 29' 58.370000", 117, 39' 43.790000"

15534_L5_L 1.North
33, 29' 58.120000", 117, 39' 45.680000"

15534_L5_L 2.South
33, 29' 58.080000", 117, 39' 45.930000"

15534_L5_L 3.East
33, 29' 58.090000", 117, 39' 45.870000"

15534_L5_L 4.West
33, 29' 58.050000", 117, 39' 45.850000"

JN:15534

15534_L6_G 1.North
33, 30' 1.570000", 117, 39' 44.530000"

15534_L6_G 2.South
33, 30' 1.480000", 117, 39' 44.450000"

15534_L6_G 3.East
33, 30' 1.540000", 117, 39' 44.450000"

15534_L6_G 4.West
33, 30' 1.500000", 117, 39' 44.500000"

APPENDIX 5.2:

NOISE LEVEL MEASUREMENT WORKSHEETS

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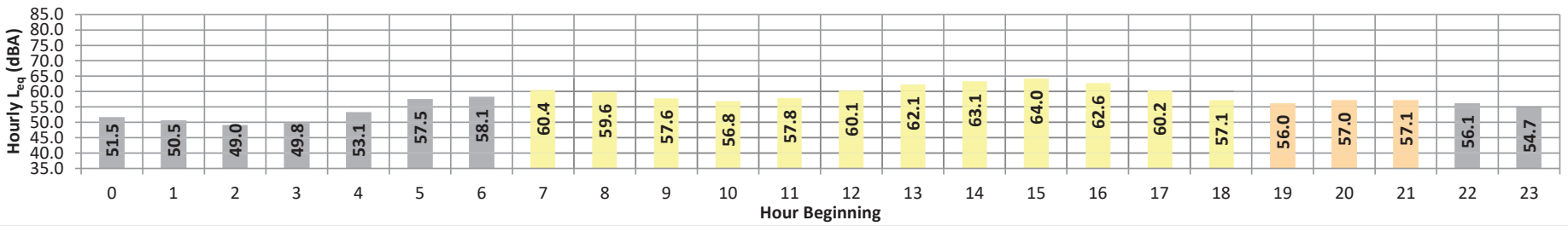
24-Hour Noise Level Measurement Summary

Date: Thursday, November 30, 2023 *Location:* L1 - Located north of the site near the Camino Real Playhouse building at 31776 El Camino Real *Meter:* Piccolo II *JN:* 15534

Project: El Camino SPA *Analyst:* Z. Ibrahim

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	51.5	55.9	48.7	55.6	55.3	54.7	53.9	52.0	50.9	49.3	49.0	48.8	51.5	10.0	61.5
	1	50.5	54.7	47.0	54.5	54.4	53.7	53.0	51.1	49.8	47.9	47.5	47.1	50.5	10.0	60.5
	2	49.0	53.8	45.3	53.4	53.0	52.1	51.4	49.8	48.4	46.1	45.7	45.4	49.0	10.0	59.0
	3	49.8	56.8	45.5	56.4	56.1	55.0	52.7	50.1	48.6	46.3	45.9	45.6	49.8	10.0	59.8
	4	53.1	56.0	50.9	55.8	55.7	55.2	54.7	53.7	52.8	51.5	51.2	51.0	53.1	10.0	63.1
	5	57.5	63.2	54.5	62.8	62.6	62.0	60.8	57.5	56.2	55.0	54.8	54.6	57.5	10.0	67.5
	6	58.1	61.3	56.4	61.0	60.7	59.9	59.5	58.5	57.9	56.9	56.6	56.4	58.1	10.0	68.1
Day	7	60.4	62.7	58.8	62.4	62.2	61.8	61.5	60.8	60.3	59.3	59.1	58.9	60.4	0.0	60.4
	8	59.6	63.3	57.8	62.9	62.7	61.9	61.4	59.9	59.2	58.2	58.1	57.9	59.6	0.0	59.6
	9	57.6	62.3	55.9	61.8	61.3	60.5	59.9	57.7	57.0	56.2	56.1	55.9	57.6	0.0	57.6
	10	56.8	60.8	54.6	60.4	60.0	59.2	58.7	57.3	56.2	55.1	54.9	54.7	56.8	0.0	56.8
	11	57.8	60.4	56.4	60.1	59.9	59.3	59.0	58.2	57.5	56.7	56.6	56.5	57.8	0.0	57.8
	12	60.1	63.1	58.7	62.7	62.3	61.5	61.1	60.5	60.0	59.1	58.9	58.8	60.1	0.0	60.1
	13	62.1	64.3	60.5	64.1	63.9	63.5	63.2	62.5	61.9	61.0	60.8	60.6	62.1	0.0	62.1
	14	63.1	65.0	61.6	64.9	64.7	64.4	64.2	63.5	62.9	62.0	61.8	61.6	63.1	0.0	63.1
	15	64.0	65.9	62.5	65.8	65.6	65.3	65.1	64.4	63.9	63.0	62.8	62.6	64.0	0.0	64.0
	16	62.6	65.4	61.1	65.1	64.7	64.1	63.9	62.9	62.3	61.5	61.4	61.2	62.6	0.0	62.6
	17	60.2	62.0	59.2	61.7	61.4	61.1	60.9	60.4	60.1	59.5	59.4	59.3	60.2	0.0	60.2
	18	57.1	60.0	55.6	59.7	59.5	58.9	58.4	57.3	56.8	56.0	55.9	55.7	57.1	0.0	57.1
Evening	19	56.0	58.9	54.4	58.6	58.3	57.6	57.2	56.4	55.7	54.9	54.7	54.5	56.0	5.0	61.0
	20	57.0	58.8	55.7	58.6	58.4	58.1	57.9	57.4	57.0	56.1	55.9	55.8	57.0	5.0	62.0
	21	57.1	64.0	54.5	63.4	63.1	61.0	59.7	56.9	56.0	55.0	54.8	54.5	57.1	5.0	62.1
Night	22	56.1	60.1	53.2	59.9	59.6	59.0	58.4	56.9	55.5	53.8	53.5	53.3	56.1	10.0	66.1
	23	54.7	57.3	52.7	57.1	56.9	56.3	56.0	55.1	54.5	53.3	53.0	52.8	54.7	10.0	64.7

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day (7am-7pm)	Min	56.8	60.0	54.6	59.7	59.5	58.9	58.4	57.3	56.2	55.1	54.9	54.7
	Max	64.0	65.9	62.5	65.8	65.6	65.3	65.1	64.4	63.9	63.0	62.8	62.6
Energy Average		60.7	Average:		62.6	62.3	61.8	61.4	60.5	59.8	59.0	58.8	58.6
Evening (7pm-10pm)	Min	56.0	58.8	54.4	58.6	58.3	57.6	57.2	56.4	55.7	54.9	54.7	54.5
	Max	57.1	64.0	55.7	63.4	63.1	61.0	59.7	57.4	57.0	56.1	55.9	55.8
Energy Average		56.7	Average:		60.2	60.0	58.9	58.3	56.9	56.2	55.3	55.1	54.9
Night (10pm-7am)	Min	49.0	53.8	45.3	53.4	53.0	52.1	51.4	49.8	48.4	46.1	45.7	45.4
	Max	58.1	63.2	56.4	62.8	62.6	62.0	60.8	58.5	57.9	56.9	56.6	56.4
Energy Average		54.5	Average:		57.4	57.1	56.4	55.6	53.8	52.7	51.1	50.8	50.5

L_{eq} (dBA)

Daytime (7am-10pm)	Evening (7pm-7pm)	Nighttime (10pm-7am)
60.7	56.7	54.5

24-Hour CNEL (dBA)

62.6

24-Hour Noise Level Measurement Summary

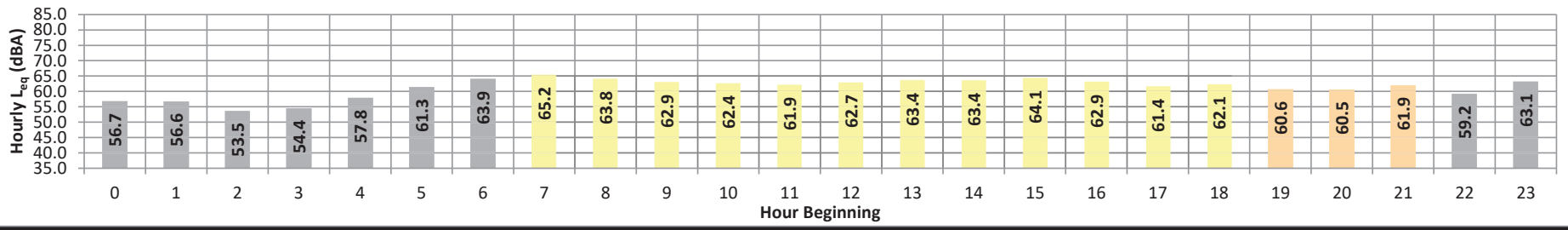
Date: Thursday, November 30, 2023
Project: El Camino SPA

Location: L2 - Located east of the site boundary in the parking lot near 31791 Del Obispo St.

Meter: Piccolo II

JN: 15534
Analyst: Z. Ibrahim

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	56.7	62.5	52.8	61.8	61.3	59.9	59.2	57.3	56.0	53.9	53.4	53.0	56.7	10.0	66.7
	1	56.6	63.8	51.1	63.4	62.9	61.3	60.1	57.2	54.9	52.2	51.7	51.3	56.6	10.0	66.6
	2	53.5	59.6	46.8	59.4	58.9	57.8	56.9	54.5	52.3	48.4	47.6	47.0	53.5	10.0	63.5
	3	54.4	60.7	48.1	60.5	60.2	59.0	58.1	55.0	53.0	49.6	48.9	48.3	54.4	10.0	64.4
	4	57.8	63.0	53.4	62.7	62.4	61.4	60.6	58.5	57.0	54.6	54.0	53.5	57.8	10.0	67.8
	5	61.3	66.5	57.5	66.2	65.9	64.9	63.9	62.0	60.6	58.4	58.0	57.6	61.3	10.0	71.3
	6	63.9	68.0	60.8	67.8	67.5	66.8	66.1	64.5	63.4	61.7	61.3	60.9	63.9	10.0	73.9
Day	7	65.2	68.8	62.7	68.6	68.2	67.2	66.7	65.7	65.0	63.5	63.2	62.8	65.2	0.0	65.2
	8	63.8	69.0	60.8	68.6	68.2	67.1	66.2	64.3	63.3	61.5	61.2	60.9	63.8	0.0	63.8
	9	62.9	67.2	59.7	66.9	66.6	65.8	65.2	63.5	62.3	60.5	60.1	59.8	62.9	0.0	62.9
	10	62.4	68.3	58.7	68.0	67.6	66.2	65.0	62.8	61.5	59.6	59.1	58.8	62.4	0.0	62.4
	11	61.9	65.9	59.1	65.6	65.2	64.5	63.9	62.6	61.6	59.8	59.5	59.2	61.9	0.0	61.9
	12	62.7	67.0	59.9	66.7	66.4	65.5	64.9	63.3	62.2	60.6	60.2	60.0	62.7	0.0	62.7
	13	63.4	67.3	61.2	67.0	66.6	65.6	65.1	63.9	63.1	61.7	61.5	61.2	63.4	0.0	63.4
	14	63.4	66.1	61.5	65.8	65.4	64.9	64.6	63.9	63.2	62.1	61.8	61.6	63.4	0.0	63.4
	15	64.1	66.9	62.5	66.7	66.3	65.6	65.1	64.5	63.9	63.0	62.8	62.6	64.1	0.0	64.1
	16	62.9	66.4	61.0	66.0	65.7	65.0	64.4	63.3	62.6	61.5	61.3	61.1	62.9	0.0	62.9
	17	61.4	65.2	59.2	64.9	64.6	63.8	63.1	61.9	61.0	59.7	59.5	59.3	61.4	0.0	61.4
	18	62.1	69.2	58.3	68.9	68.4	66.7	65.1	62.1	60.9	59.2	58.8	58.5	62.1	0.0	62.1
Evening	19	60.6	64.4	57.5	64.2	63.9	63.1	62.6	61.3	60.2	58.4	58.0	57.6	60.6	5.0	65.6
	20	60.5	64.2	57.5	64.0	63.7	63.0	62.5	61.2	60.0	58.3	57.9	57.6	60.5	5.0	65.5
	21	61.9	69.1	57.0	68.8	68.3	67.5	66.3	61.7	59.7	57.8	57.5	57.1	61.9	5.0	66.9
Night	22	59.2	65.8	55.7	65.2	64.5	62.3	61.2	59.5	58.5	56.6	56.2	55.8	59.2	10.0	69.2
	23	63.1	66.0	61.7	65.6	65.2	64.4	64.0	63.3	62.9	62.3	61.9	61.8	63.1	10.0	73.1

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day (7am-7pm)	Min	61.4	65.2	58.3	64.9	64.6	63.8	63.1	61.9	60.9	59.2	58.8	58.5
	Max	65.2	69.2	62.7	68.9	68.4	67.2	66.7	65.7	65.0	63.5	63.2	62.8
Energy Average		63.1	Average:		67.0	66.6	65.7	64.9	63.5	62.5	61.1	60.8	60.5
Evening (7pm-10pm)	Min	60.5	64.2	57.0	64.0	63.7	63.0	62.5	61.2	59.7	57.8	57.5	57.1
	Max	61.9	69.1	57.5	68.8	68.3	67.5	66.3	61.7	60.2	58.4	58.0	57.6
Energy Average		61.0	Average:		65.6	65.3	64.5	63.8	61.4	60.0	58.2	57.8	57.5
Night (10pm-7am)	Min	53.5	59.6	46.8	59.4	58.9	57.8	56.9	54.5	52.3	48.4	47.6	47.0
	Max	63.9	68.0	61.7	67.8	67.5	66.8	66.1	64.5	63.4	62.3	61.9	61.8
Energy Average		59.9	Average:		63.6	63.2	62.0	61.1	59.1	57.6	55.3	54.8	54.4

L_{eq} (dBA)

Daytime (7am-10pm)	*Evening (7pm-7pm)*	*Nighttime (10pm-7am)*
63.1	**61.0**	**59.9**

24-Hour CNEL (dBA)

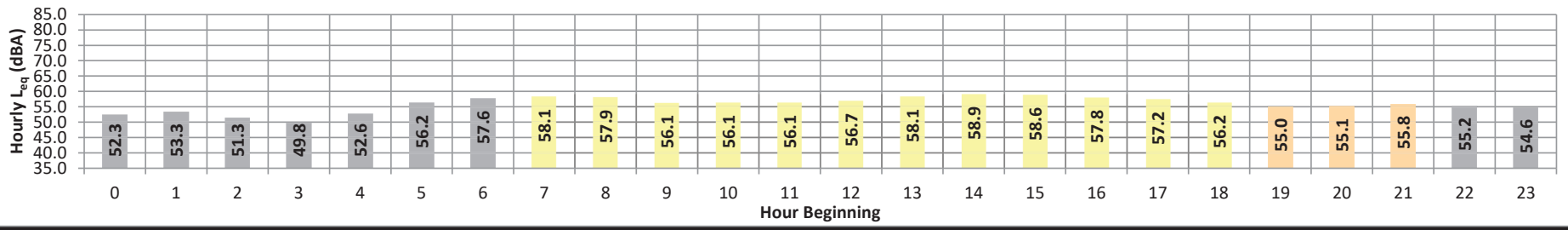
67.1

24-Hour Noise Level Measurement Summary

Date: Thursday, November 30, 2023 *Location:* L3 - Located south of the site near the Mercado Village building at 31952 Camino Capistrano *Meter:* Piccolo II *JN:* 15534

Project: El Camino SPA *Analyst:* Z. Ibrahim

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	52.3	56.1	50.8	55.4	54.9	54.0	53.6	52.5	52.0	51.3	51.2	51.0	52.3	10.0	62.3
	1	53.3	57.5	51.7	56.7	56.0	55.0	54.6	53.5	52.9	52.2	52.0	51.8	53.3	10.0	63.3
	2	51.3	55.5	49.2	54.6	53.9	53.0	52.7	51.9	51.1	49.9	49.6	49.3	51.3	10.0	61.3
	3	49.8	53.5	47.6	53.2	52.9	52.1	51.6	50.4	49.4	48.0	47.9	47.7	49.8	10.0	59.8
	4	52.6	54.8	51.1	54.6	54.4	54.1	53.8	53.0	52.4	51.6	51.4	51.2	52.6	10.0	62.6
	5	56.2	62.5	53.9	61.9	61.3	59.4	57.5	56.3	55.6	54.4	54.2	54.0	56.2	10.0	66.2
	6	57.6	64.2	55.7	63.0	61.6	59.7	58.9	57.8	57.0	56.2	56.0	55.8	57.6	10.0	67.6
Day	7	58.1	62.0	56.3	61.4	60.9	60.0	59.6	58.5	57.7	56.8	56.6	56.4	58.1	0.0	58.1
	8	57.9	61.8	55.3	61.1	60.7	60.1	59.7	58.6	57.5	55.9	55.6	55.4	57.9	0.0	57.9
	9	56.1	61.2	53.5	60.4	59.9	59.0	58.3	56.6	55.4	54.0	53.8	53.6	56.1	0.0	56.1
	10	56.1	62.6	52.8	61.9	61.3	60.4	59.2	56.6	54.9	53.3	53.1	52.9	56.1	0.0	56.1
	11	56.1	60.9	53.8	60.3	59.8	59.0	58.3	56.5	55.4	54.3	54.1	53.9	56.1	0.0	56.1
	12	56.7	59.5	55.0	59.2	58.8	58.2	57.9	57.2	56.5	55.5	55.3	55.1	56.7	0.0	56.7
	13	58.1	61.5	56.1	61.0	60.5	60.0	59.7	58.7	57.8	56.7	56.5	56.2	58.1	0.0	58.1
	14	58.9	63.1	56.9	62.5	62.0	61.0	60.3	59.4	58.6	57.5	57.3	57.0	58.9	0.0	58.9
	15	58.6	61.6	57.2	61.2	60.8	59.9	59.6	59.0	58.5	57.6	57.4	57.2	58.6	0.0	58.6
	16	57.8	60.1	56.4	59.8	59.5	59.1	58.9	58.2	57.6	56.8	56.6	56.4	57.8	0.0	57.8
	17	57.2	61.7	55.8	61.0	60.2	59.1	58.4	57.4	56.9	56.2	56.0	55.9	57.2	0.0	57.2
	18	56.2	65.2	53.8	63.7	62.2	59.4	58.2	56.0	54.9	54.1	54.0	53.8	56.2	0.0	56.2
Evening	19	55.0	60.4	53.3	59.8	59.0	57.6	56.9	55.0	54.4	53.7	53.5	53.4	55.0	5.0	60.0
	20	55.1	57.3	54.0	57.0	56.8	56.2	56.0	55.4	55.0	54.4	54.2	54.1	55.1	5.0	60.1
	21	55.8	62.4	53.7	61.9	61.1	58.9	57.6	55.8	55.0	54.1	53.9	53.8	55.8	5.0	60.8
Night	22	55.2	61.1	53.4	60.3	59.1	57.6	56.7	55.4	54.7	53.8	53.6	53.4	55.2	10.0	65.2
	23	54.6	59.2	52.9	58.5	57.7	56.5	55.9	54.9	54.2	53.3	53.2	53.0	54.6	10.0	64.6

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day (7am-7pm)	Min	56.1	59.5	52.8	59.2	58.8	58.2	57.9	56.0	54.9	53.3	53.1	52.9
	Max	58.9	65.2	57.2	63.7	62.2	61.0	60.3	59.4	58.6	57.6	57.4	57.2
Energy Average		57.4	Average:		61.1	60.6	59.6	59.0	57.7	56.8	55.7	55.5	55.3
Evening (7pm-10pm)	Min	55.0	57.3	53.3	57.0	56.8	56.2	56.0	55.0	54.4	53.7	53.5	53.4
	Max	55.8	62.4	54.0	61.9	61.1	58.9	57.6	55.8	55.0	54.4	54.2	54.1
Energy Average		55.3	Average:		59.6	58.9	57.6	56.8	55.4	54.8	54.0	53.9	53.8
Night (10pm-7am)	Min	49.8	53.5	47.6	53.2	52.9	52.1	51.6	50.4	49.4	48.0	47.9	47.7
	Max	57.6	64.2	55.7	63.0	61.6	59.7	58.9	57.8	57.0	56.2	56.0	55.8
Energy Average		54.3	Average:		57.6	56.9	55.7	55.0	54.0	53.3	52.3	52.1	51.9

L_{eq} (dBA)

Daytime (7am-10pm)	Evening (7pm-7pm)	Nighttime (10pm-7am)
57.4	55.3	54.3

24-Hour CNEL (dBA)

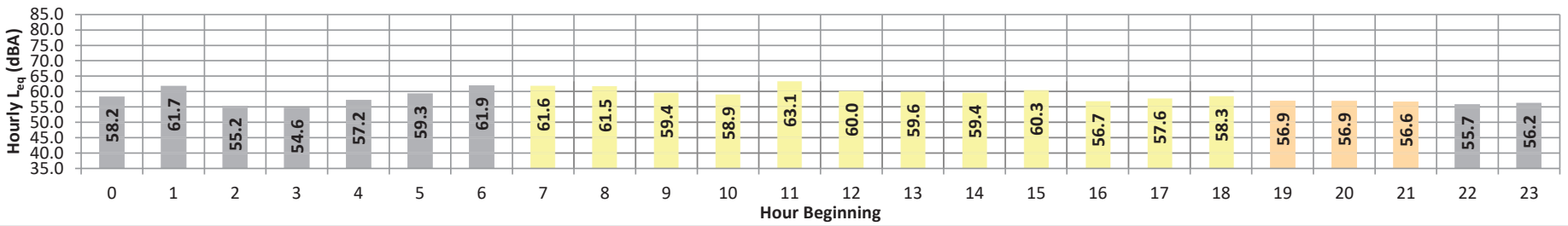
61.5

24-Hour Noise Level Measurement Summary

Date: Wednesday, November 29, 2023 *Location:* L4 - Located west of the site near the Egan House at 31892 Camino Capistrano *Meter:* Piccolo II *JN:* 15534

Project: El Camino SPA *Analyst:* Z. Ibrahim

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	58.2	66.9	53.7	65.4	64.5	62.6	61.5	58.5	56.6	54.7	54.4	54.0	58.2	10.0	68.2
	1	61.7	73.8	54.7	71.8	70.4	67.5	65.7	61.0	58.2	55.8	55.4	54.9	61.7	10.0	71.7
	2	55.2	66.5	52.2	64.3	62.2	57.6	56.1	54.9	54.0	52.8	52.6	52.3	55.2	10.0	65.2
	3	54.6	60.0	51.8	59.0	58.3	57.5	56.9	55.3	53.7	52.5	52.2	52.0	54.6	10.0	64.6
	4	57.2	66.3	54.2	64.5	62.8	60.3	59.3	57.2	56.0	54.8	54.6	54.3	57.2	10.0	67.2
	5	59.3	63.1	57.0	62.6	62.2	61.5	61.1	60.0	58.8	57.5	57.3	57.1	59.3	10.0	69.3
	6	61.9	69.0	58.9	68.0	67.1	65.4	64.7	62.0	60.8	59.4	59.2	58.9	61.9	10.0	71.9
Day	7	61.6	66.0	59.8	65.2	64.6	63.4	63.0	62.0	61.3	60.3	60.1	59.9	61.6	0.0	61.6
	8	61.5	68.2	59.1	66.9	65.7	63.9	63.3	61.8	60.8	59.7	59.5	59.2	61.5	0.0	61.5
	9	59.4	65.3	57.3	64.5	63.5	61.8	61.1	59.7	58.9	57.8	57.6	57.4	59.4	0.0	59.4
	10	58.9	64.2	56.0	63.5	62.9	62.0	61.2	59.3	58.2	56.6	56.3	56.1	58.9	0.0	58.9
	11	63.1	75.7	53.7	74.1	72.3	69.1	67.3	62.7	57.7	54.4	54.1	53.8	63.1	0.0	63.1
	12	60.0	66.7	56.8	66.0	65.2	63.7	62.8	60.6	58.6	57.4	57.1	56.9	60.0	0.0	60.0
	13	59.6	64.9	57.5	64.0	63.1	61.7	61.2	60.0	59.2	58.0	57.8	57.6	59.6	0.0	59.6
	14	59.4	65.2	57.1	64.5	63.8	62.0	61.3	59.6	58.8	57.7	57.5	57.2	59.4	0.0	59.4
	15	60.3	68.4	56.2	68.1	67.6	66.4	64.3	59.6	57.9	56.8	56.5	56.3	60.3	0.0	60.3
	16	56.7	63.2	54.2	62.6	61.9	60.3	58.9	56.8	55.8	54.7	54.5	54.3	56.7	0.0	56.7
	17	57.6	65.1	54.3	64.6	64.0	62.3	60.8	57.2	56.0	54.8	54.6	54.4	57.6	0.0	57.6
	18	58.3	63.4	56.1	63.1	62.6	61.5	60.8	58.7	57.6	56.5	56.3	56.2	58.3	0.0	58.3
Evening	19	56.9	61.9	54.8	61.3	60.7	59.5	59.0	57.3	56.3	55.2	55.1	54.9	56.9	5.0	61.9
	20	56.9	60.4	55.0	60.1	59.8	59.0	58.5	57.2	56.5	55.5	55.3	55.1	56.9	5.0	61.9
	21	56.6	60.6	54.7	60.4	60.0	59.1	58.3	56.9	56.2	55.2	55.0	54.8	56.6	5.0	61.6
Night	22	55.7	60.4	53.6	59.9	59.4	58.4	57.9	56.1	55.0	54.0	53.9	53.6	55.7	10.0	65.7
	23	56.2	61.2	53.8	60.4	59.8	58.7	58.4	56.6	55.5	54.4	54.2	53.9	56.2	10.0	66.2

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day (7am-7pm)	Min	56.7	63.2	53.7	62.6	61.9	60.3	58.9	56.8	55.8	54.4	54.1	53.8
	Max	63.1	75.7	59.8	74.1	72.3	69.1	67.3	62.7	61.3	60.3	60.1	59.9
Energy Average		60.0	Average:		65.6	64.8	63.2	62.2	59.8	58.4	57.1	56.8	56.6
Evening (7pm-10pm)	Min	56.6	60.4	54.7	60.1	59.8	59.0	58.3	56.9	56.2	55.2	55.0	54.8
	Max	56.9	61.9	55.0	61.3	60.7	59.5	59.0	57.3	56.5	55.5	55.3	55.1
Energy Average		56.8	Average:		60.6	60.2	59.2	58.6	57.1	56.3	55.3	55.1	54.9
Night (10pm-7am)	Min	54.6	60.0	51.8	59.0	58.3	57.5	56.1	54.9	53.7	52.5	52.2	52.0
	Max	61.9	73.8	58.9	71.8	70.4	67.5	65.7	62.0	60.8	59.4	59.2	58.9
Energy Average		58.6	Average:		64.0	63.0	61.1	60.2	57.9	56.5	55.1	54.9	54.6

L_{eq} (dBA)

Daytime (7am-10pm)	Evening (7pm-7pm)	Nighttime (10pm-7am)
60.0	56.8	58.6

24-Hour CNEL (dBA)

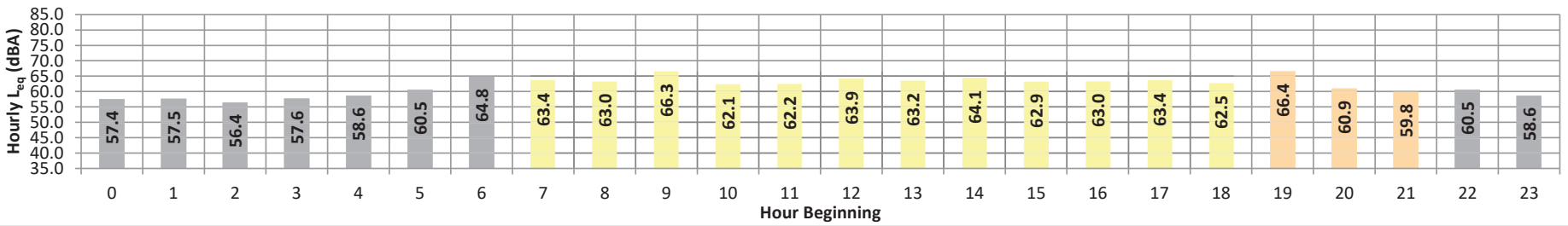
65.3

24-Hour Noise Level Measurement Summary

Date: Thursday, November 30, 2023 *Location:* L5 - Located west of the site near the El Adobe restaurant building at 31891 Camino Capistrano *Meter:* Piccolo II *JN:* 15534

Project: El Camino SPA *Analyst:* Z. Ibrahim

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	57.4	63.7	55.3	63.4	63.0	61.3	60.2	57.0	56.2	55.7	55.6	55.4	57.4	10.0	67.4
	1	57.5	64.5	55.7	63.8	63.2	61.8	60.0	57.0	56.4	56.0	55.9	55.7	57.5	10.0	67.5
	2	56.4	59.2	55.5	59.0	58.7	58.1	57.5	56.3	56.1	55.8	55.7	55.6	56.4	10.0	66.4
	3	57.6	63.1	55.6	62.9	62.6	61.4	60.3	57.3	56.6	56.0	55.9	55.7	57.6	10.0	67.6
	4	58.6	66.6	55.8	66.3	65.8	63.7	62.0	57.9	56.6	56.2	56.1	55.9	58.6	10.0	68.6
	5	60.5	68.3	56.3	67.9	67.5	66.0	64.8	60.4	57.9	56.6	56.6	56.4	60.5	10.0	70.5
	6	64.8	75.2	57.4	74.6	73.7	71.3	68.0	64.7	61.3	58.2	57.8	57.5	64.8	10.0	74.8
Day	7	63.4	69.3	58.1	68.9	68.4	67.3	66.5	64.4	62.4	59.0	58.6	58.2	63.4	0.0	63.4
	8	63.0	69.4	57.9	68.9	68.3	66.8	65.9	63.9	62.0	58.8	58.4	58.0	63.0	0.0	63.0
	9	66.3	70.1	64.8	69.9	69.5	68.6	68.0	66.7	65.8	65.1	65.0	64.9	66.3	0.0	66.3
	10	62.1	68.2	58.3	67.7	67.3	66.1	65.1	62.8	60.9	58.9	58.7	58.5	62.1	0.0	62.1
	11	62.2	68.5	58.4	68.1	67.4	66.1	64.9	62.8	61.2	59.2	58.8	58.5	62.2	0.0	62.2
	12	63.9	70.0	59.9	69.5	68.9	67.4	66.7	64.7	63.1	60.6	60.3	60.0	63.9	0.0	63.9
	13	63.2	68.1	60.1	67.7	67.3	66.3	65.5	63.8	62.7	60.8	60.5	60.2	63.2	0.0	63.2
	14	64.1	71.0	60.9	70.6	69.9	67.7	66.4	64.4	63.2	61.6	61.3	61.0	64.1	0.0	64.1
	15	62.9	68.3	60.0	68.0	67.5	66.4	65.3	63.3	62.2	60.6	60.3	60.1	62.9	0.0	62.9
	16	63.0	68.7	60.1	68.2	67.5	66.0	65.3	63.5	62.4	60.7	60.4	60.2	63.0	0.0	63.0
	17	63.4	71.2	59.8	70.7	69.8	67.8	66.5	63.3	62.1	60.4	60.1	59.9	63.4	0.0	63.4
	18	62.5	69.2	58.6	68.7	68.0	66.4	65.3	62.9	61.4	59.3	59.0	58.7	62.5	0.0	62.5
Evening	19	66.4	80.3	57.5	78.9	77.1	72.2	69.4	63.7	61.3	58.4	58.0	57.6	66.4	5.0	71.4
	20	60.9	67.9	57.2	67.2	66.6	65.0	64.1	61.4	59.5	57.7	57.5	57.3	60.9	5.0	65.9
	21	59.8	67.1	55.9	66.6	66.0	64.3	63.4	60.3	57.8	56.3	56.2	56.0	59.8	5.0	64.8
Night	22	60.5	69.2	56.2	68.9	68.4	66.4	64.9	59.9	57.7	56.5	56.4	56.3	60.5	10.0	70.5
	23	58.6	65.0	55.9	64.7	64.4	63.1	61.9	58.5	57.0	56.3	56.2	56.0	58.6	10.0	68.6

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	62.1	68.1	57.9	67.7	67.3	66.0	64.9	62.8	60.9	58.8	58.4	58.0
(7am-7pm)	Max	66.3	71.2	64.8	70.7	69.9	68.6	68.0	66.7	65.8	65.1	65.0	64.9
Energy Average		63.5	Average:		68.9	68.3	66.9	66.0	63.9	62.4	60.4	60.1	59.8
Evening	Min	59.8	67.1	55.9	66.6	66.0	64.3	63.4	60.3	57.8	56.3	56.2	56.0
(7pm-10pm)	Max	66.4	80.3	57.5	78.9	77.1	72.2	69.4	63.7	61.3	58.4	58.0	57.6
Energy Average		63.4	Average:		70.9	69.9	67.2	65.6	61.8	59.5	57.5	57.2	57.0
Night	Min	56.4	59.2	55.3	59.0	58.7	58.1	57.5	56.3	56.1	55.7	55.6	55.4
(10pm-7am)	Max	64.8	75.2	57.4	74.6	73.7	71.3	68.0	64.7	61.3	58.2	57.8	57.5
Energy Average		59.9	Average:		65.7	65.2	63.7	62.2	58.8	57.3	56.3	56.2	56.1

L_{eq} (dBA)

Daytime (7am-10pm)	*Evening (7pm-7pm)*	*Nighttime (10pm-7am)*
63.5	**63.4**	**59.9**

24-Hour CNEL (dBA)

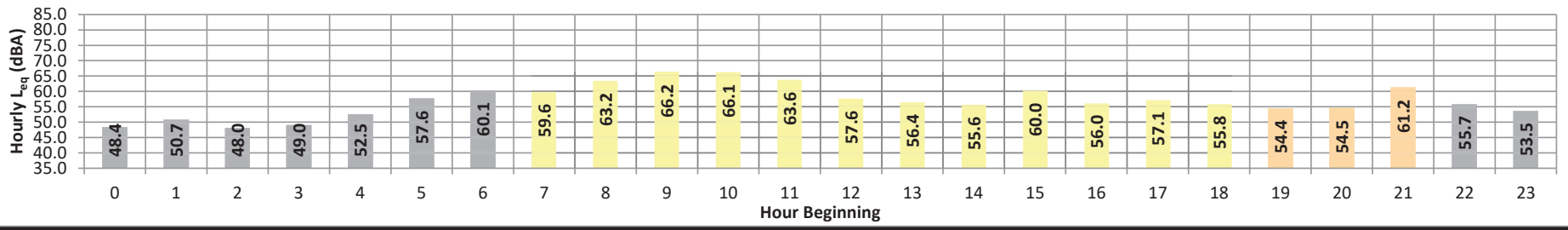
67.5

24-Hour Noise Level Measurement Summary

Date: Wednesday, November 29, 2023 *Location:* L6 - Located west of the site within the Veterans Park. *Meter:* Piccolo II *JN:* 15534

Project: El Camino SPA *Analyst:* Z. Ibrahim

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	48.4	55.4	44.5	55.0	54.7	53.4	52.4	48.4	46.3	45.1	44.9	44.6	48.4	10.0	58.4
	1	50.7	58.7	46.4	58.3	57.8	56.5	55.3	50.1	48.4	47.0	46.8	46.5	50.7	10.0	60.7
	2	48.0	53.7	45.3	53.4	53.1	51.8	50.6	48.1	47.2	45.9	45.7	45.4	48.0	10.0	58.0
	3	49.0	56.7	44.0	56.2	55.8	54.6	53.4	49.0	46.7	44.7	44.4	44.1	49.0	10.0	59.0
	4	52.5	60.4	47.8	60.1	59.8	58.6	57.2	51.9	49.5	48.2	48.0	47.9	52.5	10.0	62.5
	5	57.6	63.9	53.4	63.6	63.3	62.5	61.6	58.2	55.6	53.8	53.7	53.5	57.6	10.0	67.6
	6	60.1	68.2	53.3	67.8	67.4	66.4	65.0	60.2	56.9	54.0	53.6	53.3	60.1	10.0	70.1
Day	7	59.6	64.6	54.4	64.4	64.1	63.4	62.8	60.6	58.7	55.3	54.8	54.5	59.6	0.0	59.6
	8	63.2	70.4	54.8	69.5	68.6	66.8	66.1	64.3	62.7	56.7	55.8	55.0	63.2	0.0	63.2
	9	66.2	72.6	54.3	72.2	71.9	71.2	70.4	67.2	64.6	58.2	56.1	54.6	66.2	0.0	66.2
	10	66.1	71.4	56.4	71.0	70.8	70.1	69.6	67.3	65.5	59.0	58.0	56.9	66.1	0.0	66.1
	11	63.6	76.1	49.3	74.7	73.3	70.1	68.0	62.0	58.8	54.3	52.7	49.7	63.6	0.0	63.6
	12	57.6	64.4	52.0	63.9	63.3	62.3	61.5	59.0	55.2	52.7	52.4	52.1	57.6	0.0	57.6
	13	56.4	64.4	52.4	63.7	63.2	61.7	59.9	56.2	54.7	53.0	52.8	52.5	56.4	0.0	56.4
	14	55.6	62.3	51.9	61.8	61.2	59.6	58.4	56.0	54.5	52.5	52.3	52.0	55.6	0.0	55.6
	15	60.0	71.6	51.4	71.2	70.8	67.3	65.0	56.7	54.3	52.2	51.8	51.5	60.0	0.0	60.0
	16	56.0	64.3	50.0	63.9	63.5	61.8	60.1	55.8	53.9	50.8	50.5	50.1	56.0	0.0	56.0
	17	57.1	66.4	49.7	66.1	65.5	63.4	61.8	56.5	54.0	50.8	50.3	49.9	57.1	0.0	57.1
	18	55.8	63.7	50.9	63.3	62.9	60.7	59.3	55.8	54.2	51.6	51.3	51.0	55.8	0.0	55.8
Evening	19	54.4	61.6	49.9	61.1	60.4	58.7	57.5	54.8	53.1	50.6	50.3	50.0	54.4	5.0	59.4
	20	54.5	62.2	49.7	61.9	61.5	59.9	58.6	54.5	52.3	50.2	50.0	49.7	54.5	5.0	59.5
	21	61.2	69.8	49.4	69.4	69.2	68.5	68.0	55.8	52.2	49.9	49.7	49.5	61.2	5.0	66.2
Night	22	55.7	66.1	48.3	65.6	65.1	63.4	61.6	53.4	50.7	48.9	48.7	48.4	55.7	10.0	65.7
	23	53.5	61.8	48.2	61.5	61.2	59.9	58.4	53.1	50.0	48.6	48.5	48.2	53.5	10.0	63.5

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day (7am-7pm)	Min	55.6	62.3	49.3	61.8	61.2	59.6	58.4	55.8	53.9	50.8	50.3	49.7
	Max	66.2	76.1	56.4	74.7	73.3	71.2	70.4	67.3	65.5	59.0	58.0	56.9
Energy Average		61.6	Average:		67.1	66.6	64.8	63.6	59.8	57.6	53.9	53.2	52.5
Evening (7pm-10pm)	Min	54.4	61.6	49.4	61.1	60.4	58.7	57.5	54.5	52.2	49.9	49.7	49.5
	Max	61.2	69.8	49.9	69.4	69.2	68.5	68.0	55.8	53.1	50.6	50.3	50.0
Energy Average		58.0	Average:		64.1	63.7	62.4	61.4	55.0	52.5	50.3	50.0	49.7
Night (10pm-7am)	Min	48.0	53.7	44.0	53.4	53.1	51.8	50.6	48.1	46.3	44.7	44.4	44.1
	Max	60.1	68.2	53.4	67.8	67.4	66.4	65.0	60.2	56.9	54.0	53.7	53.5
Energy Average		54.8	Average:		60.2	59.8	58.6	57.3	52.5	50.1	48.5	48.2	48.0

L_{eq} (dBA)		
Daytime (7am-10pm)	*Evening (7pm-7pm)*	*Nighttime (10pm-7am)*
61.6	58.0	54.8

24-Hour CNEL (dBA)

63.2

APPENDIX 7.1:

OFF-SITE TRAFFIC NOISE LEVEL CALCULATIONS

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E | Project Name: El Camino SPA
Road Name: Old Mission Rd. | Job Number: 15534
Road Segment: e/o Camino Capistrano

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,183 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	618 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	32.388
Medium Trucks:	32.114
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	58.73	-1.49	2.73	-1.20	-4.59	0.000	0.000
Medium Trucks:	70.80	-18.72	2.78	-1.20	-4.87	0.000	0.000
Heavy Trucks:	77.97	-22.68	2.78	-1.20	-5.56	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.8	56.9	55.1	49.1	57.7	58.3
Medium Trucks:	53.7	52.1	45.8	44.2	52.7	52.9
Heavy Trucks:	56.9	55.4	46.4	47.7	56.0	56.1
Vehicle Noise:	61.7	60.0	56.1	52.2	60.7	61.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	10	21	44	96
CNEL:	10	22	47	102

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP | Project Name: El Camino SPA
Road Name: Old Mission Rd. | Job Number: 15534
Road Segment: e/o Camino Capistrano

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,940 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	694 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	32.388
Medium Trucks:	32.114
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	58.73	-0.98	2.73	-1.20	-4.59	0.000	0.000
Medium Trucks:	70.80	-18.22	2.78	-1.20	-4.87	0.000	0.000
Heavy Trucks:	77.97	-22.18	2.78	-1.20	-5.56	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.3	57.4	55.6	49.6	58.2	58.8
Medium Trucks:	54.2	52.6	46.3	44.7	53.2	53.4
Heavy Trucks:	57.4	55.9	46.9	48.2	56.5	56.6
Vehicle Noise:	62.2	60.5	56.6	52.7	61.2	61.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	10	22	48	103
CNEL:	11	24	51	110

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EC | Project Name: El Camino SPA
Road Name: Old Mission Rd. | Job Number: 15534
Road Segment: e/o Camino Capistrano

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,745 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	775 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	32.388
Medium Trucks:	32.114
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	58.73	-0.51	2.73	-1.20	-4.59	0.000	0.000
Medium Trucks:	70.80	-17.75	2.78	-1.20	-4.87	0.000	0.000
Heavy Trucks:	77.97	-21.70	2.78	-1.20	-5.56	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.8	57.9	56.1	50.0	58.7	59.3
Medium Trucks:	54.6	53.1	46.8	45.2	53.7	53.9
Heavy Trucks:	57.8	56.4	47.4	48.6	57.0	57.1
Vehicle Noise:	62.7	61.0	57.1	53.2	61.7	62.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	11	24	52	111
CNEL:	12	25	55	118

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: ECP | Project Name: El Camino SPA
Road Name: Old Mission Rd. | Job Number: 15534
Road Segment: e/o Camino Capistrano

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,502 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	850 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	32.388
Medium Trucks:	32.114
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	58.73	-0.10	2.73	-1.20	-4.59	0.000	0.000
Medium Trucks:	70.80	-17.34	2.78	-1.20	-4.87	0.000	0.000
Heavy Trucks:	77.97	-21.30	2.78	-1.20	-5.56	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.2	58.3	56.5	50.4	59.1	59.7
Medium Trucks:	55.0	53.5	47.2	45.6	54.1	54.3
Heavy Trucks:	58.3	56.8	47.8	49.0	57.4	57.5
Vehicle Noise:	63.1	61.4	57.5	53.6	62.1	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	12	26	55	118
CNEL:	13	27	58	126

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: BO
Road Name: Old Mission Rd.
Road Segment: e/o Camino Capistrano
Project Name: El Camino SPA
Job Number: 15534

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,745 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	775 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	32.388
Medium Trucks:	32.114
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	58.73	-0.51	2.73	-1.20	-4.59	0.000	0.000
Medium Trucks:	70.80	-17.75	2.78	-1.20	-4.87	0.000	0.000
Heavy Trucks:	77.97	-21.70	2.78	-1.20	-5.56	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.8	57.9	56.1	50.0	58.7	59.3
Medium Trucks:	54.6	53.1	46.8	45.2	53.7	53.9
Heavy Trucks:	57.8	56.4	47.4	48.6	57.0	57.1
Vehicle Noise:	62.7	61.0	57.1	53.2	61.7	62.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	11	24	52	111
CNEL:	12	25	55	118

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: BOP
Road Name: Old Mission Rd.
Road Segment: e/o Camino Capistrano
Project Name: El Camino SPA
Job Number: 15534

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,502 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	850 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	32.388
Medium Trucks:	32.114
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	58.73	-0.10	2.73	-1.20	-4.59	0.000	0.000
Medium Trucks:	70.80	-17.34	2.78	-1.20	-4.87	0.000	0.000
Heavy Trucks:	77.97	-21.30	2.78	-1.20	-5.56	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.2	58.3	56.5	50.4	59.1	59.7
Medium Trucks:	55.0	53.5	47.2	45.6	54.1	54.3
Heavy Trucks:	58.3	56.8	47.8	49.0	57.4	57.5
Vehicle Noise:	63.1	61.4	57.5	53.6	62.1	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	12	26	55	118
CNEL:	13	27	58	126

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP (With Forster)
Road Name: Old Mission Rd.
Road Segment: e/o Camino Capistrano
Project Name: El Camino SPA
Job Number: 15534

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,737 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	674 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	32.388
Medium Trucks:	32.114
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	58.73	-1.11	2.73	-1.20	-4.59	0.000	0.000
Medium Trucks:	70.80	-18.35	2.78	-1.20	-4.87	0.000	0.000
Heavy Trucks:	77.97	-22.31	2.78	-1.20	-5.56	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.1	57.2	55.5	49.4	58.0	58.7
Medium Trucks:	54.0	52.5	46.2	44.6	53.1	53.3
Heavy Trucks:	57.2	55.8	46.8	48.0	56.4	56.5
Vehicle Noise:	62.1	60.4	56.5	52.6	61.1	61.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	10	22	47	101
CNEL:	11	23	50	108

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EC (With Forster)
Road Name: Old Mission Rd.
Road Segment: e/o Camino Capistrano
Project Name: El Camino SPA
Job Number: 15534

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,745 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	775 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	32.388
Medium Trucks:	32.114
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	58.73	-0.51	2.73	-1.20	-4.59	0.000	0.000
Medium Trucks:	70.80	-17.75	2.78	-1.20	-4.87	0.000	0.000
Heavy Trucks:	77.97	-21.70	2.78	-1.20	-5.56	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.8	57.9	56.1	50.0	58.7	59.3
Medium Trucks:	54.6	53.1	46.8	45.2	53.7	53.9
Heavy Trucks:	57.8	56.4	47.4	48.6	57.0	57.1
Vehicle Noise:	62.7	61.0	57.1	53.2	61.7	62.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	11	24	52	111
CNEL:	12	25	55	118

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: ECP (With Forster) | Project Name: El Camino SPA
Road Name: Old Mission Rd. | Job Number: 15534
Road Segment: e/o Camino Capistrano

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,299 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	830 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	32.388
Medium Trucks:	32.114
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	58.73	-0.21	2.73	-1.20	-4.59	0.000	0.000
Medium Trucks:	70.80	-17.45	2.78	-1.20	-4.87	0.000	0.000
Heavy Trucks:	77.97	-21.40	2.78	-1.20	-5.56	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.1	58.2	56.4	50.3	59.0	59.6
Medium Trucks:	54.9	53.4	47.1	45.5	54.0	54.2
Heavy Trucks:	58.1	56.7	47.7	48.9	57.3	57.4
Vehicle Noise:	63.0	61.3	57.4	53.5	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	12	25	54	117
CNEL:	12	27	57	124

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: BO (With Forster) | Project Name: El Camino SPA
Road Name: Old Mission Rd. | Job Number: 15534
Road Segment: e/o Camino Capistrano

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,745 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	775 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	32.388
Medium Trucks:	32.114
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	58.73	-0.51	2.73	-1.20	-4.59	0.000	0.000
Medium Trucks:	70.80	-17.75	2.78	-1.20	-4.87	0.000	0.000
Heavy Trucks:	77.97	-21.70	2.78	-1.20	-5.56	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.8	57.9	56.1	50.0	58.7	59.3
Medium Trucks:	54.6	53.1	46.8	45.2	53.7	53.9
Heavy Trucks:	57.8	56.4	47.4	48.6	57.0	57.1
Vehicle Noise:	62.7	61.0	57.1	53.2	61.7	62.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	11	24	52	111
CNEL:	12	25	55	118

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: BOP (With Forster) | Project Name: El Camino SPA
Road Name: Old Mission Rd. | Job Number: 15534
Road Segment: e/o Camino Capistrano

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,299 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	830 vehicles
Vehicle Speed:	25 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	40.0 feet
Centerline Dist. to Observer:	40.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	32.388
Medium Trucks:	32.114
Heavy Trucks:	32.141

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	58.73	-0.21	2.73	-1.20	-4.59	0.000	0.000
Medium Trucks:	70.80	-17.45	2.78	-1.20	-4.87	0.000	0.000
Heavy Trucks:	77.97	-21.40	2.78	-1.20	-5.56	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.1	58.2	56.4	50.3	59.0	59.6
Medium Trucks:	54.9	53.4	47.1	45.5	54.0	54.2
Heavy Trucks:	58.1	56.7	47.7	48.9	57.3	57.4
Vehicle Noise:	63.0	61.3	57.4	53.5	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	12	25	54	117
CNEL:	12	27	57	124

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E | Project Name: El Camino SPA
Road Name: Ortega Hwy. | Job Number: 15534
Road Segment: w/o I-5 SB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,749 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,675 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	3.70	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	79.45	-13.54	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-17.49	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.8	69.9	68.1	62.0	70.7	71.3
Medium Trucks:	65.5	64.0	57.7	56.1	64.6	64.8
Heavy Trucks:	66.4	65.0	55.9	57.2	65.5	65.7
Vehicle Noise:	73.6	71.9	68.7	64.0	72.6	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	74	160	344	742
CNEL:	80	171	369	796

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP | Project Name: El Camino SPA
Road Name: Ortega Hwy. | Job Number: 15534
Road Segment: w/o I-5 SB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,506 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,751 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	3.79	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	79.45	-13.45	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-17.40	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.8	69.9	68.2	62.1	70.7	71.3
Medium Trucks:	65.6	64.1	57.8	56.2	64.7	64.9
Heavy Trucks:	66.5	65.0	56.0	57.3	65.6	65.7
Vehicle Noise:	73.7	71.9	68.8	64.1	72.7	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	75	162	349	752
CNEL:	81	174	374	806

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EC | Project Name: El Camino SPA
Road Name: Ortega Hwy. | Job Number: 15534
Road Segment: w/o I-5 SB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,774 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	4,177 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	4.26	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	79.45	-12.98	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-16.94	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	72.3	70.4	68.6	62.6	71.2	71.8
Medium Trucks:	66.1	64.6	58.2	56.7	65.1	65.4
Heavy Trucks:	66.9	65.5	56.5	57.7	66.1	66.2
Vehicle Noise:	74.2	72.4	69.3	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	81	174	375	808
CNEL:	87	187	402	867

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: ECP | Project Name: El Camino SPA
Road Name: Ortega Hwy. | Job Number: 15534
Road Segment: w/o I-5 SB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,531 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	4,253 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	4.34	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	79.45	-12.90	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-16.86	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	72.4	70.5	68.7	62.7	71.3	71.9
Medium Trucks:	66.2	64.7	58.3	56.8	65.2	65.4
Heavy Trucks:	67.0	65.6	56.6	57.8	66.2	66.3
Vehicle Noise:	74.2	72.5	69.3	64.7	73.2	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	82	176	379	818
CNEL:	88	189	407	877

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: BO | Project Name: El Camino SPA
Road Name: Ortega Hwy. | Job Number: 15534
Road Segment: w/o I-5 SB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,774 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	4,177 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	4.26	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	79.45	-12.98	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-16.94	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	72.3	70.4	68.6	62.6	71.2	71.8
Medium Trucks:	66.1	64.6	58.2	56.7	65.1	65.4
Heavy Trucks:	66.9	65.5	56.5	57.7	66.1	66.2
Vehicle Noise:	74.2	72.4	69.3	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	81	174	375	808
CNEL:	87	187	402	867

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: BOP
Road Name: Ortega Hwy.
Road Segment: w/o I-5 SB Ramps
Project Name: El Camino SPA
Job Number: 15534

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,531 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	4,253 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	4.34	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	79.45	-12.90	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-16.86	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	72.4	70.5	68.7	62.7	71.3	71.9
Medium Trucks:	66.2	64.7	58.3	56.8	65.2	65.4
Heavy Trucks:	67.0	65.6	56.6	57.8	66.2	66.3
Vehicle Noise:	74.2	72.5	69.3	64.7	73.2	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	82	176	379	818
CNEL:	88	189	407	877

Monday, December 4, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP (With Forster)
Road Name: Ortega Hwy.
Road Segment: w/o I-5 SB Ramps
Project Name: El Camino SPA
Job Number: 15534

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,506 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,751 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	3.79	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	79.45	-13.45	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-17.40	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.8	69.9	68.2	62.1	70.7	71.3
Medium Trucks:	65.6	64.1	57.8	56.2	64.7	64.9
Heavy Trucks:	66.5	65.0	56.0	57.3	65.6	65.7
Vehicle Noise:	73.7	71.9	68.8	64.1	72.7	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	75	162	349	752
CNEL:	81	174	374	806

Monday, December 4, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EC (With Forster)
Road Name: Ortega Hwy.
Road Segment: w/o I-5 SB Ramps
Project Name: El Camino SPA
Job Number: 15534

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,774 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	4,177 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	4.26	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	79.45	-12.98	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-16.94	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	72.3	70.4	68.6	62.6	71.2	71.8
Medium Trucks:	66.1	64.6	58.2	56.7	65.1	65.4
Heavy Trucks:	66.9	65.5	56.5	57.7	66.1	66.2
Vehicle Noise:	74.2	72.4	69.3	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	81	174	375	808
CNEL:	87	187	402	867

Monday, December 4, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: ECP (With Forster)
Road Name: Ortega Hwy.
Road Segment: w/o I-5 SB Ramps
Project Name: El Camino SPA
Job Number: 15534

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,531 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	4,253 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	4.34	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	79.45	-12.90	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-16.86	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	72.4	70.5	68.7	62.7	71.3	71.9
Medium Trucks:	66.2	64.7	58.3	56.8	65.2	65.4
Heavy Trucks:	67.0	65.6	56.6	57.8	66.2	66.3
Vehicle Noise:	74.2	72.5	69.3	64.7	73.2	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	82	176	379	818
CNEL:	88	189	407	877

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: BO (With Forster) | Project Name: El Camino SPA
Road Name: Ortega Hwy. | Job Number: 15534
Road Segment: w/o I-5 SB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,774 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	4,177 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	4.26	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	79.45	-12.98	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-16.94	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	72.3	70.4	68.6	62.6	71.2	71.8
Medium Trucks:	66.1	64.6	58.2	56.7	65.1	65.4
Heavy Trucks:	66.9	65.5	56.5	57.7	66.1	66.2
Vehicle Noise:	74.2	72.4	69.3	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	81	174	375	808
CNEL:	87	187	402	867

Monday, December 4, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: BOP (With Forster) | Project Name: El Camino SPA
Road Name: Ortega Hwy. | Job Number: 15534
Road Segment: w/o I-5 SB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,531 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	4,253 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	4.34	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	79.45	-12.90	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-16.86	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	72.4	70.5	68.7	62.7	71.3	71.9
Medium Trucks:	66.2	64.7	58.3	56.8	65.2	65.4
Heavy Trucks:	67.0	65.6	56.6	57.8	66.2	66.3
Vehicle Noise:	74.2	72.5	69.3	64.7	73.2	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	82	176	379	818
CNEL:	88	189	407	877

Monday, December 4, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E | Project Name: El Camino SPA
Road Name: Ortega Hwy. | Job Number: 15534
Road Segment: at I-5 Fwy. Overpass

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,479 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,948 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	72 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	35.057
Medium Trucks:	34.804
Heavy Trucks:	34.828

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	4.01	2.21	-1.20	-4.65	0.000	0.000
Medium Trucks:	79.45	-13.23	2.26	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-17.18	2.25	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	73.5	71.6	69.8	63.8	72.4	73.0
Medium Trucks:	67.3	65.8	59.4	57.9	66.3	66.6
Heavy Trucks:	68.1	66.7	57.7	58.9	67.3	67.4
Vehicle Noise:	75.3	73.6	70.4	65.8	74.3	74.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	97	209	449	968
CNEL:	104	224	482	1,038

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP | Project Name: El Camino SPA
Road Name: Ortega Hwy. | Job Number: 15534
Road Segment: at I-5 Fwy. Overpass

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,972 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,997 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	72 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	35.057
Medium Trucks:	34.804
Heavy Trucks:	34.828

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	4.07	2.21	-1.20	-4.65	0.000	0.000
Medium Trucks:	79.45	-13.17	2.26	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-17.13	2.25	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	73.5	71.6	69.9	63.8	72.4	73.0
Medium Trucks:	67.3	65.8	59.5	57.9	66.4	66.6
Heavy Trucks:	68.2	66.8	57.7	59.0	67.3	67.5
Vehicle Noise:	75.4	73.6	70.5	65.8	74.4	74.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	98	210	453	976
CNEL:	105	226	486	1,047

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EC
Road Name: Ortega Hwy.
Road Segment: at I-5 Fwy. Overpass

Project Name: El Camino SPA
Job Number: 15534

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,617 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	4,362 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	72 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	35.057
Medium Trucks:	34.804
Heavy Trucks:	34.828

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.45	2.21	-1.20	*-4.65*	0.000	0.000
Medium Trucks:	79.45	-12.79	2.26	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-16.75	2.25	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.9	72.0	70.3	64.2	72.8	73.4
Medium Trucks:	67.7	66.2	59.8	58.3	66.8	67.0
Heavy Trucks:	68.6	67.1	58.1	59.3	67.7	67.8
Vehicle Noise:	75.8	74.0	70.9	66.2	74.7	75.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	103	223	480	1,035
CNEL:	111	239	515	1,110

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: ECP
Road Name: Ortega Hwy.
Road Segment: at I-5 Fwy. Overpass

Project Name: El Camino SPA
Job Number: 15534

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,110 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	4,411 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	72 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	35.057
Medium Trucks:	34.804
Heavy Trucks:	34.828

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.49	2.21	-1.20	*-4.65*	0.000	0.000
Medium Trucks:	79.45	-12.74	2.26	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-16.70	2.25	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.0	72.1	70.3	64.2	72.9	73.5
Medium Trucks:	67.8	66.3	59.9	58.3	66.8	67.0
Heavy Trucks:	68.6	67.2	58.1	59.4	67.8	67.9
Vehicle Noise:	75.8	74.1	70.9	66.2	74.8	75.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	104	225	484	1,042
CNEL:	112	241	519	1,118

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: BO
Road Name: Ortega Hwy.
Road Segment: at I-5 Fwy. Overpass

Project Name: El Camino SPA
Job Number: 15534

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,274 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	4,527 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	72 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	35.057
Medium Trucks:	34.804
Heavy Trucks:	34.828

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.61	2.21	-1.20	*-4.65*	0.000	0.000
Medium Trucks:	79.45	-12.63	2.26	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-16.59	2.25	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.1	72.2	70.4	64.4	73.0	73.6
Medium Trucks:	67.9	66.4	60.0	58.5	66.9	67.2
Heavy Trucks:	68.7	67.3	58.3	59.5	67.9	68.0
Vehicle Noise:	75.9	74.2	71.0	66.4	74.9	75.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	106	229	492	1,061
CNEL:	114	245	528	1,138

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: BOP
Road Name: Ortega Hwy.
Road Segment: at I-5 Fwy. Overpass

Project Name: El Camino SPA
Job Number: 15534

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,767 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	4,577 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	72 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	35.057
Medium Trucks:	34.804
Heavy Trucks:	34.828

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.65	2.21	-1.20	*-4.65*	0.000	0.000
Medium Trucks:	79.45	-12.58	2.26	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-16.54	2.25	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.1	72.2	70.5	64.4	73.0	73.6
Medium Trucks:	67.9	66.4	60.1	58.5	67.0	67.2
Heavy Trucks:	68.8	67.3	58.3	59.6	67.9	68.0
Vehicle Noise:	76.0	74.2	71.1	66.4	74.9	75.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	107	230	496	1,068
CNEL:	115	247	532	1,146

Monday, December 4, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP (With Forster) | *Project Name:* El Camino SPA
Road Name: Ortega Hwy. | *Job Number:* 15534
Road Segment: at I-5 Fwy. Overpass

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,972 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,997 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	72 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	35.057
Medium Trucks:	34.804
Heavy Trucks:	34.828

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	4.07	2.21	-1.20	*-4.65*	0.000	0.000
Medium Trucks:	79.45	-13.17	2.26	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-17.13	2.25	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	73.5	71.6	69.9	63.8	72.4	73.0
Medium Trucks:	67.3	65.8	59.5	57.9	66.4	66.6
Heavy Trucks:	68.2	66.8	57.7	59.0	67.3	67.5
Vehicle Noise:	75.4	73.6	70.5	65.8	74.4	74.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	98	210	453	976
CNEL:	105	226	486	1,047

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EC (With Forster) | *Project Name:* El Camino SPA
Road Name: Ortega Hwy. | *Job Number:* 15534
Road Segment: at I-5 Fwy. Overpass

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,617 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	4,362 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	72 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	35.057
Medium Trucks:	34.804
Heavy Trucks:	34.828

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	4.45	2.21	-1.20	*-4.65*	0.000	0.000
Medium Trucks:	79.45	-12.79	2.26	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-16.75	2.25	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	73.9	72.0	70.3	64.2	72.8	73.4
Medium Trucks:	67.7	66.2	59.8	58.3	66.8	67.0
Heavy Trucks:	68.6	67.1	58.1	59.3	67.7	67.8
Vehicle Noise:	75.8	74.0	70.9	66.2	74.7	75.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	103	223	480	1,035
CNEL:	111	239	515	1,110

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: ECP (With Forster) | *Project Name:* El Camino SPA
Road Name: Ortega Hwy. | *Job Number:* 15534
Road Segment: at I-5 Fwy. Overpass

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,110 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	4,411 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	72 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	35.057
Medium Trucks:	34.804
Heavy Trucks:	34.828

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	4.49	2.21	-1.20	*-4.65*	0.000	0.000
Medium Trucks:	79.45	-12.74	2.26	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-16.70	2.25	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	74.0	72.1	70.3	64.2	72.9	73.5
Medium Trucks:	67.8	66.3	59.9	58.3	66.8	67.0
Heavy Trucks:	68.6	67.2	58.1	59.4	67.8	67.9
Vehicle Noise:	75.8	74.1	70.9	66.2	74.8	75.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	104	225	484	1,042
CNEL:	112	241	519	1,118

Monday, December 4, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: BO (With Forster) | *Project Name:* El Camino SPA
Road Name: Ortega Hwy. | *Job Number:* 15534
Road Segment: at I-5 Fwy. Overpass

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,274 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	4,527 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	72 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	35.057
Medium Trucks:	34.804
Heavy Trucks:	34.828

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	4.61	2.21	-1.20	*-4.65*	0.000	0.000
Medium Trucks:	79.45	-12.63	2.26	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-16.59	2.25	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	74.1	72.2	70.4	64.4	73.0	73.6
Medium Trucks:	67.9	66.4	60.0	58.5	66.9	67.2
Heavy Trucks:	68.7	67.3	58.3	59.5	67.9	68.0
Vehicle Noise:	75.9	74.2	71.0	66.4	74.9	75.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	106	229	492	1,061
CNEL:	114	245	528	1,138

Monday, December 4, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: BOP (With Forster) | Project Name: El Camino SPA
Road Name: Ortega Hwy. | Job Number: 15534
Road Segment: at I-5 Fwy. Overpass

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,767 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	4,577 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	72 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	35.057
Medium Trucks:	34.804
Heavy Trucks:	34.828

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	4.65	2.21	-1.20	-4.65	0.000	0.000
Medium Trucks:	79.45	-12.58	2.26	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-16.54	2.25	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	74.1	72.2	70.5	64.4	73.0	73.6
Medium Trucks:	67.9	66.4	60.1	58.5	67.0	67.2
Heavy Trucks:	68.8	67.3	58.3	59.6	67.9	68.0
Vehicle Noise:	76.0	74.2	71.1	66.4	74.9	75.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	107	230	496	1,068
CNEL:	115	247	532	1,146

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E | Project Name: El Camino SPA
Road Name: Camino Capistrano | Job Number: 15534
Road Segment: n/o Del Obispo St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,722 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,372 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.07	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	77.72	-17.30	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	82.99	-21.26	3.32	-1.20	-5.77	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.5	66.6	64.8	58.8	67.4	68.0
Medium Trucks:	62.5	61.0	54.7	53.1	61.6	61.8
Heavy Trucks:	63.9	62.4	53.4	54.7	63.0	63.1
Vehicle Noise:	70.5	68.8	65.5	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	28	60	129	279
CNEL:	30	64	138	298

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP | Project Name: El Camino SPA
Road Name: Camino Capistrano | Job Number: 15534
Road Segment: n/o Del Obispo St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,197 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,420 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.08	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	77.72	-17.16	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	82.99	-21.11	3.32	-1.20	-5.77	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.7	66.8	65.0	58.9	67.6	68.2
Medium Trucks:	62.7	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	64.0	62.6	53.5	54.8	63.2	63.3
Vehicle Noise:	70.7	69.0	65.7	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	29	61	132	285
CNEL:	31	66	142	305

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EC | Project Name: El Camino SPA
Road Name: Camino Capistrano | Job Number: 15534
Road Segment: n/o Del Obispo St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,584 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,658 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.76	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	77.72	-16.48	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	82.99	-20.44	3.32	-1.20	-5.77	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.3	67.4	65.7	59.6	68.2	68.8
Medium Trucks:	63.4	61.9	55.5	54.0	62.4	62.6
Heavy Trucks:	64.7	63.3	54.2	55.5	63.8	64.0
Vehicle Noise:	71.4	69.6	66.3	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	32	68	147	316
CNEL:	34	73	157	338

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: ECP | Project Name: El Camino SPA
Road Name: Camino Capistrano | Job Number: 15534
Road Segment: n/o Del Obispo St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,059 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,706 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.88	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	77.72	-16.36	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	82.99	-20.31	3.32	-1.20	-5.77	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.5	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	63.5	62.0	55.6	54.1	62.5	62.8
Heavy Trucks:	64.8	63.4	54.3	55.6	64.0	64.1
Vehicle Noise:	71.5	69.8	66.5	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	32	69	150	322
CNEL:	34	74	160	345

Monday, December 4, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: BO | Project Name: El Camino SPA
Road Name: Camino Capistrano | Job Number: 15534
Road Segment: n/o Del Obispo St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,584 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,658 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.76	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	77.72	-16.48	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	82.99	-20.44	3.32	-1.20	-5.77	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.3	67.4	65.7	59.6	68.2	68.8
Medium Trucks:	63.4	61.9	55.5	54.0	62.4	62.6
Heavy Trucks:	64.7	63.3	54.2	55.5	63.8	64.0
Vehicle Noise:	71.4	69.6	66.3	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	32	68	147	316
CNEL:	34	73	157	338

Monday, December 4, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: BOP | Project Name: El Camino SPA
Road Name: Camino Capistrano | Job Number: 15534
Road Segment: n/o Del Obispo St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,059 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,706 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.88	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	77.72	-16.36	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	82.99	-20.31	3.32	-1.20	-5.77	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.5	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	63.5	62.0	55.6	54.1	62.5	62.8
Heavy Trucks:	64.8	63.4	54.3	55.6	64.0	64.1
Vehicle Noise:	71.5	69.8	66.5	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	32	69	150	322
CNEL:	34	74	160	345

Monday, December 4, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP (With Forster) | Project Name: El Camino SPA
Road Name: Camino Capistrano | Job Number: 15534
Road Segment: n/o Del Obispo St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,009 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,401 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.02	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	77.72	-17.21	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	82.99	-21.17	3.32	-1.20	-5.77	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.6	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	62.6	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	63.9	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	70.6	68.9	65.6	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	28	61	131	283
CNEL:	30	65	140	302

Monday, December 4, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EC (With Forster) | Project Name: El Camino SPA
Road Name: Camino Capistrano | Job Number: 15534
Road Segment: n/o Del Obispo St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,584 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,658 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.76	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	77.72	-16.48	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	82.99	-20.44	3.32	-1.20	-5.77	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.3	67.4	65.7	59.6	68.2	68.8
Medium Trucks:	63.4	61.9	55.5	54.0	62.4	62.6
Heavy Trucks:	64.7	63.3	54.2	55.5	63.8	64.0
Vehicle Noise:	71.4	69.6	66.3	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	32	68	147	316
CNEL:	34	73	157	338

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: ECP (With Forster) | Project Name: El Camino SPA
Road Name: Camino Capistrano | Job Number: 15534
Road Segment: n/o Del Obispo St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,871 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,687 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.83	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	77.72	-16.41	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	82.99	-20.36	3.32	-1.20	-5.77	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.4	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	63.4	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	64.8	63.3	54.3	55.5	63.9	64.0
Vehicle Noise:	71.4	69.7	66.4	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	32	69	148	320
CNEL:	34	74	159	342

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: BO (With Forster) | Project Name: El Camino SPA
Road Name: Camino Capistrano | Job Number: 15534
Road Segment: n/o Del Obispo St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,584 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,658 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.76	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	77.72	-16.48	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	82.99	-20.44	3.32	-1.20	-5.77	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.3	67.4	65.7	59.6	68.2	68.8
Medium Trucks:	63.4	61.9	55.5	54.0	62.4	62.6
Heavy Trucks:	64.7	63.3	54.2	55.5	63.8	64.0
Vehicle Noise:	71.4	69.6	66.3	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	32	68	147	316
CNEL:	34	73	157	338

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: BOP (With Forster) | Project Name: El Camino SPA
Road Name: Camino Capistrano | Job Number: 15534
Road Segment: n/o Del Obispo St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,871 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,687 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	30.0 feet
Centerline Dist. to Observer:	30.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.83	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	77.72	-16.41	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	82.99	-20.36	3.32	-1.20	-5.77	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.4	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	63.4	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	64.8	63.3	54.3	55.5	63.9	64.0
Vehicle Noise:	71.4	69.7	66.4	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	32	69	148	320
CNEL:	34	74	159	342

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Del Obispo St.
Road Segment: e/o Camino Capistrano
Project Name: El Camino SPA
Job Number: 15534

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,538 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,354 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.28	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	77.72	-14.96	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-18.92	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.4	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	62.4	60.9	54.5	53.0	61.4	61.7
Heavy Trucks:	63.7	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	70.4	68.7	65.4	60.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	45	98	211	454
CNEL:	49	105	226	486

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP
Road Name: Del Obispo St.
Road Segment: e/o Camino Capistrano
Project Name: El Camino SPA
Job Number: 15534

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,538 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,354 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.28	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	77.72	-14.96	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-18.92	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.4	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	62.4	60.9	54.5	53.0	61.4	61.7
Heavy Trucks:	63.7	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	70.4	68.7	65.4	60.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	45	98	211	454
CNEL:	49	105	226	486

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EC
Road Name: Del Obispo St.
Road Segment: e/o Camino Capistrano
Project Name: El Camino SPA
Job Number: 15534

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,198 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,720 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.91	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	77.72	-14.33	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-18.29	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.0	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	63.0	61.5	55.1	53.6	62.1	62.3
Heavy Trucks:	64.3	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	71.0	69.3	66.0	61.5	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	108	232	500
CNEL:	54	115	249	536

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: ECP
Road Name: Del Obispo St.
Road Segment: e/o Camino Capistrano
Project Name: El Camino SPA
Job Number: 15534

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,198 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,720 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.91	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	77.72	-14.33	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-18.29	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.0	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	63.0	61.5	55.1	53.6	62.1	62.3
Heavy Trucks:	64.3	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	71.0	69.3	66.0	61.5	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	108	232	500
CNEL:	54	115	249	536

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: BO
Road Name: Del Obispo St.
Road Segment: e/o Camino Capistrano
Project Name: El Camino SPA
Job Number: 15534

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,198 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,720 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.91	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	77.72	-14.33	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-18.29	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.0	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	63.0	61.5	55.1	53.6	62.1	62.3
Heavy Trucks:	64.3	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	71.0	69.3	66.0	61.5	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	108	232	500
CNEL:	54	115	249	536

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: BOP
Road Name: Del Obispo St.
Road Segment: e/o Camino Capistrano
Project Name: El Camino SPA
Job Number: 15534

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,198 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,720 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.91	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	77.72	-14.33	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-18.29	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.0	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	63.0	61.5	55.1	53.6	62.1	62.3
Heavy Trucks:	64.3	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	71.0	69.3	66.0	61.5	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	108	232	500
CNEL:	54	115	249	536

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP (With Forster)
Road Name: Del Obispo St.
Road Segment: e/o Camino Capistrano
Project Name: El Camino SPA
Job Number: 15534

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,726 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,373 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.31	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	77.72	-14.93	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-18.88	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.4	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	62.4	60.9	54.5	53.0	61.5	61.7
Heavy Trucks:	63.7	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	70.4	68.7	65.4	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	46	98	212	457
CNEL:	49	105	227	489

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EC (With Forster)
Road Name: Del Obispo St.
Road Segment: e/o Camino Capistrano
Project Name: El Camino SPA
Job Number: 15534

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,198 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,720 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.91	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	77.72	-14.33	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-18.29	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.0	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	63.0	61.5	55.1	53.6	62.1	62.3
Heavy Trucks:	64.3	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	71.0	69.3	66.0	61.5	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	108	232	500
CNEL:	54	115	249	536

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: ECP (With Forster) | Project Name: El Camino SPA
Road Name: Del Obispo St. | Job Number: 15534
Road Segment: e/o Camino Capistrano

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,386 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,739 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.94	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	77.72	-14.30	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-18.26	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.0	67.1	65.4	59.3	67.9	68.5
Medium Trucks:	63.0	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	64.4	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	71.1	69.3	66.0	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	108	233	503
CNEL:	54	116	250	538

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: BO (With Forster) | Project Name: El Camino SPA
Road Name: Del Obispo St. | Job Number: 15534
Road Segment: e/o Camino Capistrano

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,198 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,720 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.91	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	77.72	-14.33	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-18.29	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.0	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	63.0	61.5	55.1	53.6	62.1	62.3
Heavy Trucks:	64.3	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	71.0	69.3	66.0	61.5	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	108	232	500
CNEL:	54	115	249	536

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: BOP (With Forster) | Project Name: El Camino SPA
Road Name: Del Obispo St. | Job Number: 15534
Road Segment: e/o Camino Capistrano

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,386 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,739 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.94	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	77.72	-14.30	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-18.26	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.0	67.1	65.4	59.3	67.9	68.5
Medium Trucks:	63.0	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	64.4	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	71.1	69.3	66.0	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	108	233	503
CNEL:	54	116	250	538

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E | Project Name: El Camino SPA
Road Name: Del Obispo St. | Job Number: 15534
Road Segment: e/o Alipaz St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,588 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,059 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	3.42	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	77.72	-13.82	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-17.78	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.5	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	63.5	62.0	55.6	54.1	62.6	62.8
Heavy Trucks:	64.8	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	71.5	69.8	66.5	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	54	117	251	541
CNEL:	58	125	269	579

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP
Road Name: Del Obispo St.
Road Segment: e/o Alipaz St.
Project Name: El Camino SPA
Job Number: 15534

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,736 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,074 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	3.44	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	77.72	-13.80	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-17.76	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.5	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	63.5	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	64.9	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	71.6	69.8	66.5	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	54	117	252	543
CNEL:	58	125	270	581

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EC
Road Name: Del Obispo St.
Road Segment: e/o Alipaz St.
Project Name: El Camino SPA
Job Number: 15534

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,799 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,480 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	3.98	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	77.72	-13.26	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-17.22	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.1	68.2	66.4	60.4	69.0	69.6
Medium Trucks:	64.1	62.6	56.2	54.7	63.1	63.4
Heavy Trucks:	65.4	64.0	54.9	56.2	64.5	64.7
Vehicle Noise:	72.1	70.4	67.1	62.5	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	59	127	274	590
CNEL:	63	136	293	631

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: ECP
Road Name: Del Obispo St.
Road Segment: e/o Alipaz St.
Project Name: El Camino SPA
Job Number: 15534

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,947 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,495 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	3.99	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	77.72	-13.24	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-17.20	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.1	68.2	66.4	60.4	69.0	69.6
Medium Trucks:	64.1	62.6	56.2	54.7	63.1	63.4
Heavy Trucks:	65.4	64.0	55.0	56.2	64.6	64.7
Vehicle Noise:	72.1	70.4	67.1	62.6	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	59	127	274	591
CNEL:	63	136	294	633

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: BO
Road Name: Del Obispo St.
Road Segment: e/o Alipaz St.
Project Name: El Camino SPA
Job Number: 15534

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,799 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,480 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	3.98	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	77.72	-13.26	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-17.22	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.1	68.2	66.4	60.4	69.0	69.6
Medium Trucks:	64.1	62.6	56.2	54.7	63.1	63.4
Heavy Trucks:	65.4	64.0	54.9	56.2	64.5	64.7
Vehicle Noise:	72.1	70.4	67.1	62.5	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	59	127	274	590
CNEL:	63	136	293	631

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: BOP
Road Name: Del Obispo St.
Road Segment: e/o Alipaz St.
Project Name: El Camino SPA
Job Number: 15534

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,947 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,495 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	3.99	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	77.72	-13.24	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-17.20	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.1	68.2	66.4	60.4	69.0	69.6
Medium Trucks:	64.1	62.6	56.2	54.7	63.1	63.4
Heavy Trucks:	65.4	64.0	55.0	56.2	64.6	64.7
Vehicle Noise:	72.1	70.4	67.1	62.6	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	59	127	274	591
CNEL:	63	136	294	633

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP (With Forster)
Road Name: Del Obispo St.
Road Segment: e/o Alipaz St.
Project Name: El Camino SPA
Job Number: 15534

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,736 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,074 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	3.44	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	77.72	-13.80	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-17.76	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.5	67.6	65.9	59.8	68.4	69.0
Medium Trucks:	63.5	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	64.9	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	71.6	69.8	66.5	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	54	117	252	543
CNEL:	58	125	270	581

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EC (With Forster)
Road Name: Del Obispo St.
Road Segment: e/o Alipaz St.
Project Name: El Camino SPA
Job Number: 15534

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,799 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,480 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	3.98	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	77.72	-13.26	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-17.22	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.1	68.2	66.4	60.4	69.0	69.6
Medium Trucks:	64.1	62.6	56.2	54.7	63.1	63.4
Heavy Trucks:	65.4	64.0	54.9	56.2	64.5	64.7
Vehicle Noise:	72.1	70.4	67.1	62.5	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	59	127	274	590
CNEL:	63	136	293	631

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: ECP (With Forster)
Road Name: Del Obispo St.
Road Segment: e/o Alipaz St.
Project Name: El Camino SPA
Job Number: 15534

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,947 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,495 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	3.99	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	77.72	-13.24	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-17.20	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.1	68.2	66.4	60.4	69.0	69.6
Medium Trucks:	64.1	62.6	56.2	54.7	63.1	63.4
Heavy Trucks:	65.4	64.0	55.0	56.2	64.6	64.7
Vehicle Noise:	72.1	70.4	67.1	62.6	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	59	127	274	591
CNEL:	63	136	294	633

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: BO (With Forster) | Project Name: El Camino SPA
Road Name: Del Obispo St. | Job Number: 15534
Road Segment: e/o Alipaz St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,799 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,480 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	3.98	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	77.72	-13.26	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-17.22	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.1	68.2	66.4	60.4	69.0	69.6
Medium Trucks:	64.1	62.6	56.2	54.7	63.1	63.4
Heavy Trucks:	65.4	64.0	54.9	56.2	64.5	64.7
Vehicle Noise:	72.1	70.4	67.1	62.5	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	59	127	274	590
CNEL:	63	136	293	631

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: BOP (With Forster) | Project Name: El Camino SPA
Road Name: Del Obispo St. | Job Number: 15534
Road Segment: e/o Alipaz St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,947 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,495 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	3.99	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	77.72	-13.24	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-17.20	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.1	68.2	66.4	60.4	69.0	69.6
Medium Trucks:	64.1	62.6	56.2	54.7	63.1	63.4
Heavy Trucks:	65.4	64.0	55.0	56.2	64.6	64.7
Vehicle Noise:	72.1	70.4	67.1	62.6	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	59	127	274	591
CNEL:	63	136	294	633

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E | Project Name: El Camino SPA
Road Name: Del Obispo St. | Job Number: 15534
Road Segment: w/o Camino Capistrano

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,448 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,345 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	3.80	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	77.72	-13.43	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-17.39	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.9	68.0	66.2	60.2	68.8	69.4
Medium Trucks:	63.9	62.4	56.0	54.5	62.9	63.2
Heavy Trucks:	65.2	63.8	54.8	56.0	64.4	64.5
Vehicle Noise:	71.9	70.2	66.9	62.4	70.9	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	57	124	267	574
CNEL:	61	132	285	615

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP | Project Name: El Camino SPA
Road Name: Del Obispo St. | Job Number: 15534
Road Segment: w/o Camino Capistrano

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,596 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,360 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	3.82	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	77.72	-13.41	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-17.37	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.9	68.0	66.3	60.2	68.8	69.4
Medium Trucks:	63.9	62.4	56.1	54.5	63.0	63.2
Heavy Trucks:	65.2	63.8	54.8	56.0	64.4	64.5
Vehicle Noise:	71.9	70.2	66.9	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	58	124	267	576
CNEL:	62	133	286	617

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EC | Project Name: El Camino SPA
Road Name: Del Obispo St. | Job Number: 15534
Road Segment: w/o Camino Capistrano

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,498 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,850 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	4.41	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	77.72	-12.82	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-16.78	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.5	68.6	66.9	60.8	69.4	70.0
Medium Trucks:	64.5	63.0	56.6	55.1	63.6	63.8
Heavy Trucks:	65.8	64.4	55.4	56.6	65.0	65.1
Vehicle Noise:	72.5	70.8	67.5	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	63	136	293	631
CNEL:	68	145	313	675

Monday, December 4, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: ECP | Project Name: El Camino SPA
Road Name: Del Obispo St. | Job Number: 15534
Road Segment: w/o Camino Capistrano

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,646 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,865 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	4.43	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	77.72	-12.81	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-16.76	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.5	68.6	66.9	60.8	69.4	70.0
Medium Trucks:	64.5	63.0	56.7	55.1	63.6	63.8
Heavy Trucks:	65.8	64.4	55.4	56.6	65.0	65.1
Vehicle Noise:	72.6	70.8	67.5	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	63	136	293	632
CNEL:	68	146	314	677

Monday, December 4, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: BO | Project Name: El Camino SPA
Road Name: Del Obispo St. | Job Number: 15534
Road Segment: w/o Camino Capistrano

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,498 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,850 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	4.41	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	77.72	-12.82	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-16.78	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.5	68.6	66.9	60.8	69.4	70.0
Medium Trucks:	64.5	63.0	56.6	55.1	63.6	63.8
Heavy Trucks:	65.8	64.4	55.4	56.6	65.0	65.1
Vehicle Noise:	72.5	70.8	67.5	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	63	136	293	631
CNEL:	68	145	313	675

Monday, December 4, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: BOP | Project Name: El Camino SPA
Road Name: Del Obispo St. | Job Number: 15534
Road Segment: w/o Camino Capistrano

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,646 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,865 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	4.43	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	77.72	-12.81	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-16.76	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.5	68.6	66.9	60.8	69.4	70.0
Medium Trucks:	64.5	63.0	56.7	55.1	63.6	63.8
Heavy Trucks:	65.8	64.4	55.4	56.6	65.0	65.1
Vehicle Noise:	72.6	70.8	67.5	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	63	136	293	632
CNEL:	68	146	314	677

Monday, December 4, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP (With Forster) | Project Name: El Camino SPA
Road Name: Del Obispo St. | Job Number: 15534
Road Segment: w/o Camino Capistrano

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,596 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,360 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	3.82	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	77.72	-13.41	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-17.37	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.9	68.0	66.3	60.2	68.8	69.4
Medium Trucks:	63.9	62.4	56.1	54.5	63.0	63.2
Heavy Trucks:	65.2	63.8	54.8	56.0	64.4	64.5
Vehicle Noise:	71.9	70.2	66.9	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	58	124	267	576
CNEL:	62	133	286	617

Monday, December 4, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EC (With Forster) | Project Name: El Camino SPA
Road Name: Del Obispo St. | Job Number: 15534
Road Segment: w/o Camino Capistrano

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,498 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,850 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	4.41	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	77.72	-12.82	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-16.78	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.5	68.6	66.9	60.8	69.4	70.0
Medium Trucks:	64.5	63.0	56.6	55.1	63.6	63.8
Heavy Trucks:	65.8	64.4	55.4	56.6	65.0	65.1
Vehicle Noise:	72.5	70.8	67.5	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	63	136	293	631
CNEL:	68	145	313	675

Monday, December 4, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: ECP (With Forster) | Project Name: El Camino SPA
Road Name: Del Obispo St. | Job Number: 15534
Road Segment: w/o Camino Capistrano

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,646 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,865 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	4.43	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	77.72	-12.81	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-16.76	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.5	68.6	66.9	60.8	69.4	70.0
Medium Trucks:	64.5	63.0	56.7	55.1	63.6	63.8
Heavy Trucks:	65.8	64.4	55.4	56.6	65.0	65.1
Vehicle Noise:	72.6	70.8	67.5	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	63	136	293	632
CNEL:	68	146	314	677

Monday, December 4, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: BO (With Forster) | Project Name: El Camino SPA
Road Name: Del Obispo St. | Job Number: 15534
Road Segment: w/o Camino Capistrano

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,498 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,850 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	4.41	0.79	-1.20	-4.65	0.000	0.000
Medium Trucks:	77.72	-12.82	0.82	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-16.78	0.82	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.5	68.6	66.9	60.8	69.4	70.0
Medium Trucks:	64.5	63.0	56.6	55.1	63.6	63.8
Heavy Trucks:	65.8	64.4	55.4	56.6	65.0	65.1
Vehicle Noise:	72.5	70.8	67.5	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	63	136	293	631
CNEL:	68	145	313	675

Monday, December 4, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: BOP (With Forster)
Road Name: Del Obispo St.
Road Segment: w/o Camino Capistrano

Project Name: El Camino SPA
Job Number: 15534

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		***Site Conditions (Hard = 10, Soft = 15)***	
Average Daily Traffic (Adt):	38,646 vehicles	*Autos:*	15
Peak Hour Percentage:	10.00%	*Medium Trucks (2 Axles):*	15
Peak Hour Volume:	3,865 vehicles	*Heavy Trucks (3+ Axles):*	15
Vehicle Speed:	40 mph		
Near/Far Lane Distance:	50 feet		

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Site Data	
Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	43.589
Medium Trucks:	43.386
Heavy Trucks:	43.405

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	4.43	0.79	-1.20	*-4.65*	0.000	0.000
Medium Trucks:	77.72	-12.81	0.82	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-16.76	0.82	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.5	68.6	66.9	60.8	69.4	70.0
Medium Trucks:	64.5	63.0	56.7	55.1	63.6	63.8
Heavy Trucks:	65.8	64.4	55.4	56.6	65.0	65.1
Vehicle Noise:	72.6	70.8	67.5	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	63	136	293	632
CNEL:	68	146	314	677

Monday, December 4, 2023

APPENDIX 9.1:

OPERATIONAL NOISE CALCULATIONS

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15534 - El Camino SPA

CadnaA Noise Prediction Model: 15534-02.cna
Date: 05.12.23
Analyst: B. Lawson

Calculation Configuration

Configuration	
Parameter	**Value**
General	
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	999.99
Min. Length of Section (#(Unit,LEN))	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr				Limit. Value				Land Use			Height		Coordinates		
			Day	Eve	Night	CNEL	Day	Eve	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	45.9	45.9	43.8	50.9	65.0	65.0	65.0	0.0				5.00	a	6131557.21	2128842.37	5.00
RECEIVERS		R2	49.8	49.8	47.4	54.6	65.0	65.0	65.0	0.0				5.00	a	6131607.10	2128159.46	5.00
RECEIVERS		R3	46.7	46.7	44.6	51.7	65.0	65.0	65.0	0.0				5.00	a	6131437.92	2127998.86	5.00
RECEIVERS		R4	51.3	51.3	48.6	55.9	65.0	65.0	65.0	0.0				5.00	a	6131283.09	2128117.24	5.00
RECEIVERS		R5	58.5	58.5	55.9	63.2	65.0	65.0	65.0	0.0				5.00	a	6131166.33	2128312.89	5.00
RECEIVERS		R6	53.9	53.9	51.3	58.6	65.0	65.0	65.0	0.0				5.00	a	6131017.39	2128290.85	5.00
RECEIVERS		R7	55.6	55.6	53.0	60.3	65.0	65.0	65.0	0.0				5.00	a	6131169.97	2128462.06	5.00
RECEIVERS		R8	47.3	47.3	45.0	52.2	65.0	65.0	65.0	0.0				5.00	a	6131163.07	2128714.35	5.00
RECEIVERS		R9	48.6	48.6	46.3	53.5	65.0	65.0	65.0	0.0				5.00	a	6131427.54	2128787.72	5.00

Point Source(s)

Name	M.	ID	Result. PWL			Lw / Li				Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value		norm.	Day	Special	Night			X	Y	Z
			(dBA)	(dBA)	(dBA)				dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		AC01	88.9	88.9	88.9	Lw	88.9	500		468.00	117.00	252.00	5.00	g	6131555.99	2128510.78	40.00
POINTSOURCE		AC02	88.9	88.9	88.9	Lw	88.9	500		468.00	117.00	252.00	5.00	g	6131548.22	2128555.28	40.00
POINTSOURCE		AC03	88.9	88.9	88.9	Lw	88.9	500		468.00	117.00	252.00	5.00	g	6131539.43	2128604.95	40.00
POINTSOURCE		AC04	88.9	88.9	88.9	Lw	88.9	500		468.00	117.00	252.00	5.00	g	6131607.21	2128595.12	40.00
POINTSOURCE		AC05	88.9	88.9	88.9	Lw	88.9	500		468.00	117.00	252.00	5.00	g	6131603.07	2128543.90	40.00
POINTSOURCE		AC06	88.9	88.9	88.9	Lw	88.9	500		468.00	117.00	252.00	5.00	g	6131593.76	2128482.32	40.00
POINTSOURCE		AC07	88.9	88.9	88.9	Lw	88.9	500		468.00	117.00	252.00	5.00	g	6131530.11	2128465.25	40.00
POINTSOURCE		AC08	88.9	88.9	88.9	Lw	88.9	500		468.00	117.00	252.00	5.00	g	6131491.82	2128501.99	40.00
POINTSOURCE		AC09	88.9	88.9	88.9	Lw	88.9	500		468.00	117.00	252.00	5.00	g	6131483.55	2128568.22	40.00
POINTSOURCE		AC10	88.9	88.9	88.9	Lw	88.9	500		468.00	117.00	252.00	5.00	g	6131321.07	2128280.53	30.00
POINTSOURCE		AC11	88.9	88.9	88.9	Lw	88.9	500		468.00	117.00	252.00	5.00	g	6131303.48	2128307.43	30.00

Name	M.	ID	Result. PWL			Lw / Li				Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value		norm.	Day	Special	Night			X	Y	Z
			(dBA)	(dBA)	(dBA)				dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		AC12	88.9	88.9	88.9	Lw	88.9	500		468.00	117.00	252.00	5.00	g	6131198.96	2128380.91	30.00
POINTSOURCE		AC13	88.9	88.9	88.9	Lw	88.9	500		468.00	117.00	252.00	5.00	g	6131169.47	2128345.21	30.00
POINTSOURCE		AC14	88.9	88.9	88.9	Lw	88.9	500		468.00	117.00	252.00	5.00	g	6131202.06	2128347.79	30.00
POINTSOURCE		AC15	88.9	88.9	88.9	Lw	88.9	500		468.00	117.00	252.00	5.00	g	6131165.33	2128378.84	30.00
POINTSOURCE		AC16	88.9	88.9	88.9	Lw	88.9	500		468.00	117.00	252.00	5.00	g	6131291.58	2128366.94	40.00
POINTSOURCE		AC17	88.9	88.9	88.9	Lw	88.9	500		468.00	117.00	252.00	5.00	g	6131325.73	2128361.76	40.00
POINTSOURCE		AC18	88.9	88.9	88.9	Lw	88.9	500		468.00	117.00	252.00	5.00	g	6131365.57	2128353.48	40.00
POINTSOURCE		AC19	88.9	88.9	88.9	Lw	88.9	500		468.00	117.00	252.00	5.00	g	6131403.86	2128345.21	40.00
POINTSOURCE		AC20	88.9	88.9	88.9	Lw	88.9	500		468.00	117.00	252.00	5.00	g	6131441.12	2128339.00	40.00
POINTSOURCE		AC21	88.9	88.9	88.9	Lw	88.9	500		468.00	117.00	252.00	5.00	g	6131277.61	2128215.85	40.00
POINTSOURCE		AC22	88.9	88.9	88.9	Lw	88.9	500		468.00	117.00	252.00	5.00	g	6131318.49	2128207.57	40.00
POINTSOURCE		AC23	88.9	88.9	88.9	Lw	88.9	500		468.00	117.00	252.00	5.00	g	6131356.77	2128200.33	40.00
POINTSOURCE		AC24	88.9	88.9	88.9	Lw	88.9	500		468.00	117.00	252.00	5.00	g	6131396.10	2128191.01	40.00
POINTSOURCE		AC25	88.9	88.9	88.9	Lw	88.9	500		468.00	117.00	252.00	5.00	g	6131430.25	2128195.15	40.00
POINTSOURCE		AC26	88.9	88.9	88.9	Lw	88.9	500		468.00	117.00	252.00	5.00	g	6131450.43	2128221.54	40.00
POINTSOURCE		AC27	88.9	88.9	88.9	Lw	88.9	500		468.00	117.00	252.00	5.00	g	6131469.06	2128246.38	40.00
POINTSOURCE		AC28	88.9	88.9	88.9	Lw	88.9	500		468.00	117.00	252.00	5.00	g	6131490.27	2128274.32	40.00
POINTSOURCE		AC29	88.9	88.9	88.9	Lw	88.9	500		468.00	117.00	252.00	5.00	g	6131509.42	2128300.19	40.00
POINTSOURCE		C01	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131226.38	2128328.13	5.00
POINTSOURCE		C02	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131227.94	2128356.59	5.00
POINTSOURCE		C03	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131450.95	2128385.05	5.00
POINTSOURCE		C04	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131414.21	2128395.91	5.00
POINTSOURCE		C05	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131380.58	2128403.16	5.00
POINTSOURCE		C06	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131344.36	2128410.40	5.00
POINTSOURCE		C07	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131265.19	2128330.72	5.00
POINTSOURCE		C08	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131263.12	2128299.15	5.00
POINTSOURCE		C09	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131262.09	2128268.63	5.00
POINTSOURCE		C10	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131221.73	2128267.07	5.00
POINTSOURCE		C11	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131220.69	2128241.20	5.00
POINTSOURCE		C12	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131264.67	2128169.28	5.00
POINTSOURCE		C13	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131296.75	2128160.48	5.00
POINTSOURCE		C14	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131332.46	2128152.72	5.00
POINTSOURCE		C15	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131379.54	2128143.41	5.00
POINTSOURCE		C16	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131416.80	2128136.68	5.00
POINTSOURCE		C17	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131463.37	2128162.55	5.00
POINTSOURCE		C18	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131486.13	2128193.08	5.00
POINTSOURCE		C19	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131509.93	2128222.06	5.00
POINTSOURCE		C20	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131530.63	2128251.03	5.00
POINTSOURCE		C21	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131553.40	2128279.49	5.00
POINTSOURCE		C22	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131617.56	2128328.65	5.00
POINTSOURCE		C23	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131631.53	2128347.79	5.00
POINTSOURCE		C24	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131648.61	2128370.04	5.00
POINTSOURCE		C25	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131666.20	2128391.77	5.00
POINTSOURCE		C26	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131657.92	2128424.37	5.00
POINTSOURCE		C27	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131635.67	2128435.76	5.00
POINTSOURCE		C28	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131614.45	2128388.67	5.00
POINTSOURCE		C29	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131596.34	2128364.87	5.00
POINTSOURCE		C30	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131592.21	2128392.29	5.00
POINTSOURCE		C31	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131574.10	2128370.04	5.00
POINTSOURCE		C32	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131552.88	2128411.44	5.00
POINTSOURCE		C33	81.1	81.1	81.1	Lw	81.1	500		720.00	180.00	270.00	5.00	a	6131568.92	2128434.72	5.00
POINTSOURCE		O01	91.5	91.5	91.5	Lw	91.5	500		720.00	180.00	270.00	5.00	a	6131467.50	2128475.08	5.00
POINTSOURCE		O02	91.5	91.5	91.5	Lw	91.5	500		720.00	180.00	270.00	5.00	a	6131447.33	2128503.54	5.00
POINTSOURCE		O03	91.5	91.5	91.5	Lw	91.5	500		720.00	180.00	270.00	5.00	a	6131447.84	2128545.45	5.00
POINTSOURCE		O04	91.5	91.5	91.5	Lw	91.5	500		720.00	180.00	270.00	5.00	a	6131448.88	2128577.01	5.00
POINTSOURCE		O05	91.5	91.5	91.5	Lw	91.5	500		720.00	180.00	270.00	5.00	a	6131145.15	2128357.62	5.00
POINTSOURCE		O06	91.5	91.5	91.5	Lw	91.5	500		720.00	180.00	270.00	5.00	a	6131141.52	2128338.48	5.00
POINTSOURCE		O07	91.5	91.5	91.5	Lw	91.5	500		720.00	180.00	270.00	5.00	a	6131129.11	2128357.62	5.00
POINTSOURCE		O08	91.5	91.5	91.5	Lw	91.5	500		720.00	180.00	270.00	5.00	a	6131136.35	2128377.80	5.00
POINTSOURCE		O09	91.5	91.5	91.5	Lw	91.5	500		720.00	180.00	270.00	5.00	a	6131472.16	2128318.30	5.00
POINTSOURCE		O10	91.5	91.5	91.5	Lw	91.5	500		720.00	180.00	270.00	5.00	a	6131476.82	2128332.27	5.00
POINTSOURCE		O11	91.5	91.5	91.5	Lw	91.5	500		720.00	180.00	270.00	5.00	a	6131344.87	2128290.88	5.00
POINTSOURCE		O12	91.5	91.5	91.5	Lw	91.5	500		720.00	180.00	270.00	5.00	a	6131347.98	2128308.99	5.00
POINTSOURCE		P01	86.4	86.4	86.4	Lw	86.4	500		720.00	180.00	0.00	5.00	a	6131370.75	2128308.47	5.00
POINTSOURCE		P02	86.4	86.4	86.4	Lw	86.4	500		720.00	180.00	0.00	5.00	a	6131402.31	2128301.74	5.00
POINTSOURCE		P03	86.4	86.4	86.4	Lw	86.4	500		720.00	180.00	0.00	5.00	a	6131414.73	2128274.32	5.00
POINTSOURCE		P04	86.4	86.4	86.4	Lw	86.4	500		720.00	180.00	0.00	5.00	a	6131362.98	2128260.86	5.00
POINTSOURCE		P05	86.4	86.4	86.4	Lw	86.4	500		720.00	180.00	0.00	5.00	a	6131385.23	2128255.69	5.00
POINTSOURCE		T01	89.0	89.0	89.0	Lw	89	500		720.00	180.00	270.00	5.00	a	6131223.28	2128288.29	5.00
POINTSOURCE		T02	89.0	89.0	89.0	Lw	89	500		720.00	180.00	270.00	5.00	a	6131223.80	2128301.22	5.00
POINTSOURCE		T03	89.0	89.0	89.0	Lw	89	500		720.00	180.00	270.00	5.00	a	6131496.48	2128355.04	5.00
POINTSOURCE		T04	89.0	89.0	89.0	Lw	89	500		720.00	180.00	270.00	5.00	a	6131485.61	2128363.32	5.00

Building(s)

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(ft)		(ft)	(ft)	(ft)	(ft)
Verdugo Street 26762, 92675 San Juan Capistrano, (Regency Theatres)			building_00014	x	0		20.00	r	6130810.63	2128797.52	20.00	0.00
									6130902.15	2128806.29	20.00	0.00
									6130893.56	2128923.91	20.00	0.00
									6130892.85	2128932.58	20.00	0.00
									6130883.84	2128935.43	20.00	0.00
									6130865.19	2128933.86	20.00	0.00
									6130865.37	2128931.57	20.00	0.00
									6130860.18	2128931.13	20.00	0.00
									6130860.37	2128929.02	20.00	0.00
									6130855.48	2128928.57	20.00	0.00
									6130855.67	2128926.53	20.00	0.00
									6130820.72	2128923.55	20.00	0.00
									6130820.56	2128925.26	20.00	0.00
									6130814.79	2128924.76	20.00	0.00
									6130814.58	2128927.13	20.00	0.00
									6130810.31	2128926.75	20.00	0.00
									6130810.12	2128928.71	20.00	0.00
									6130761.03	2128924.18	20.00	0.00
									6130753.45	2128902.08	20.00	0.00
Camino Capistrano 31786, 92675 San Juan Capistrano, (Swallow's Inn)			building_00024	x	0		20.00	r	6131082.06	2128950.54	20.00	0.00
									6131133.26	2128944.82	20.00	0.00
									6131137.47	2128884.03	20.00	0.00
									6131092.35	2128881.80	20.00	0.00
									6131089.10	2128880.57	20.00	0.00
			building_00026	x	0		20.00	r	6131092.63	2128812.51	20.00	0.00
									6131095.83	2128812.69	20.00	0.00
									6131169.10	2128817.33	20.00	0.00
									6131170.41	2128797.05	20.00	0.00
									6131161.53	2128796.48	20.00	0.00
									6131166.51	2128718.46	20.00	0.00
									6131099.77	2128714.23	20.00	0.00
									6131095.42	2128782.56	20.00	0.00
									6131110.28	2128783.49	20.00	0.00
									6131109.88	2128789.79	20.00	0.00
									6131094.17	2128788.80	20.00	0.00
Camino Capistrano 31781, 92675 San Juan Capistrano			building_00027	x	0		20.00	r	6130893.56	2128923.91	20.00	0.00
									6130908.21	2128925.17	20.00	0.00
									6130907.47	2128937.80	20.00	0.00
									6130980.54	2128944.02	20.00	0.00
									6131002.55	2128925.67	20.00	0.00
									6131005.78	2128882.98	20.00	0.00
									6130990.43	2128883.91	20.00	0.00
									6130987.48	2128884.75	20.00	0.00
									6130985.48	2128885.65	20.00	0.00
									6130983.88	2128886.84	20.00	0.00
									6130982.59	2128888.28	20.00	0.00
									6130981.70	2128890.00	20.00	0.00
									6130981.44	2128891.64	20.00	0.00
									6130977.99	2128891.29	20.00	0.00
									6130977.94	2128889.58	20.00	0.00
									6130977.50	2128888.35	20.00	0.00
									6130976.39	2128887.49	20.00	0.00
									6130974.49	2128886.93	20.00	0.00
									6130971.74	2128886.57	20.00	0.00
									6130971.70	2128883.58	20.00	0.00
									6130972.30	2128878.52	20.00	0.00
									6130915.68	2128873.43	20.00	0.00
									6130918.77	2128840.23	20.00	0.00
									6130968.70	2128843.99	20.00	0.00
									6130969.34	2128837.58	20.00	0.00
									6130994.73	2128839.53	20.00	0.00
									6130993.63	2128854.76	20.00	0.00
									6131011.66	2128856.15	20.00	0.00
									6131014.92	2128815.35	20.00	0.00
									6130916.74	2128807.58	20.00	0.00
									6130902.15	2128806.29	20.00	0.00
			building_00048	x	0		20.00	r	6130920.96	2128756.58	20.00	0.00
									6130916.74	2128807.58	20.00	0.00
									6131014.92	2128815.35	20.00	0.00
									6131018.71	2128764.39	20.00	0.00
			building_00051	x	0		20.00	r	6131031.62	2128627.49	20.00	0.00
									6131036.41	2128627.79	20.00	0.00
									6131042.29	2128544.34	20.00	0.00
									6131002.71	2128541.60	20.00	0.00
									6131000.58	2128571.47	20.00	0.00
									6130996.80	2128571.19	20.00	0.00
									6130993.01	2128624.78	20.00	0.00

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(ft)		(ft)	(ft)	(ft)	(ft)
			building_00052	x	0		20.00	r	6130991.68	2128643.53	20.00	0.00
									6131030.31	2128646.21	20.00	0.00
									6131031.62	2128627.49	20.00	0.00
									6130993.01	2128624.78	20.00	0.00
			building_00053	x	0		20.00	r	6130971.10	2128670.78	20.00	0.00
									6130987.77	2128672.04	20.00	0.00
									6130986.03	2128694.49	20.00	0.00
									6131026.47	2128697.58	20.00	0.00
									6131030.23	2128648.87	20.00	0.00
									6131007.40	2128647.11	20.00	0.00
									6131006.99	2128652.57	20.00	0.00
									6130972.71	2128649.98	20.00	0.00
			building_00054	x	0		20.00	r	6130877.40	2128694.32	20.00	0.00
									6130950.16	2128699.88	20.00	0.00
									6130950.65	2128693.58	20.00	0.00
									6130969.24	2128695.00	20.00	0.00
									6130971.10	2128670.78	20.00	0.00
									6130972.71	2128649.98	20.00	0.00
									6130973.00	2128646.44	20.00	0.00
									6130881.63	2128639.49	20.00	0.00
									6130880.72	2128651.33	20.00	0.00
									6130879.89	2128661.93	20.00	0.00
			building_00055	x	0		20.00	r	6130849.93	2128669.91	20.00	0.00
									6130855.21	2128670.31	20.00	0.00
									6130855.99	2128660.11	20.00	0.00
									6130879.89	2128661.93	20.00	0.00
									6130880.72	2128651.33	20.00	0.00
									6130864.09	2128650.07	20.00	0.00
									6130863.93	2128652.22	20.00	0.00
									6130851.36	2128651.26	20.00	0.00
									6130851.13	2128654.32	20.00	0.00
			building_00056	x	0		20.00	r	6130820.50	2128648.91	20.00	0.00
									6130851.36	2128651.26	20.00	0.00
									6130863.93	2128652.22	20.00	0.00
									6130864.09	2128650.07	20.00	0.00
									6130865.31	2128634.29	20.00	0.00
									6130821.88	2128630.99	20.00	0.00
			building_00057	x	0		20.00	r	6130817.12	2128692.01	20.00	0.00
									6130831.83	2128693.12	20.00	0.00
									6130848.04	2128694.35	20.00	0.00
									6130849.93	2128669.91	20.00	0.00
									6130851.13	2128654.32	20.00	0.00
									6130820.21	2128651.97	20.00	0.00
Camino Capistrano 31792, 92675 San Juan Capistrano			building_00025	x	0		13.42	r	6131092.35	2128881.80	13.42	0.00
									6131137.47	2128884.03	13.42	0.00
									6131157.18	2128885.04	13.42	0.00
									6131159.19	2128844.83	13.42	0.00
									6131166.73	2128845.21	13.42	0.00
									6131169.10	2128817.33	13.42	0.00
									6131095.83	2128812.69	13.42	0.00
Camino Capistrano 31931, 92675 San Juan Capistrano			building_00040	x	0		13.68	r	6130850.48	2128060.32	13.68	0.00
									6131016.05	2128059.06	13.68	0.00
									6131015.77	2128020.82	13.68	0.00
									6130850.18	2128022.08	13.68	0.00
El Camino Real 31806, 92675 San Juan Capistrano, (Blas Aguilar Adobe)			building_00032	x	0		13.88	r	6131358.93	2128838.71	13.88	0.00
									6131364.77	2128837.94	13.88	0.00
									6131365.31	2128842.08	13.88	0.00
									6131440.09	2128832.41	13.88	0.00
									6131435.02	2128793.68	13.88	0.00
									6131360.52	2128803.35	13.88	0.00
									6131361.00	2128807.17	13.88	0.00
									6131351.81	2128808.38	13.88	0.00
									6131353.99	2128825.13	13.88	0.00
									6131357.12	2128824.72	13.88	0.00
Camino Capistrano 31761, 92675 San Juan Capistrano			building_00019	x	0		14.27	r	6130850.16	2129061.94	14.27	0.00
									6130856.43	2128985.15	14.27	0.00
									6130998.97	2128996.68	14.27	0.00
									6131002.69	2128996.99	14.27	0.00
									6130994.48	2129097.47	14.27	0.00
									6130987.27	2129096.88	14.27	0.00
									6130981.87	2129096.44	14.27	0.00
									6130980.33	2129115.38	14.27	0.00
									6130918.43	2129110.40	14.27	0.00
									6130918.80	2129105.96	14.27	0.00
									6130906.20	2129104.96	14.27	0.00
									6130910.43	2129053.09	14.27	0.00
									6130868.19	2129049.69	14.27	0.00

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(ft)		(ft)	(ft)	(ft)	(ft)
									6130867.10	2129063.32	14.27	0.00
Ortega Highway 26850, 92675 San Juan Capistrano, (Mission Promenade)			building_00007	x	0		15.03	r	6131328.11	2129057.73	15.03	0.00
									6131323.85	2129058.29	15.03	0.00
									6131303.19	2129061.12	15.03	0.00
									6131301.51	2129043.24	15.03	0.00
									6131265.99	2129047.58	15.03	0.00
									6131267.66	2129080.92	15.03	0.00
									6131254.04	2129101.67	15.03	0.00
									6131230.33	2129101.99	15.03	0.00
									6131230.57	2129104.43	15.03	0.00
									6131195.13	2129107.78	15.03	0.00
									6131077.27	2129118.91	15.03	0.00
									6131069.85	2129115.96	15.03	0.00
									6131067.70	2129108.05	15.03	0.00
									6131076.48	2129018.19	15.03	0.00
									6131085.68	2129017.27	15.03	0.00
									6131085.62	2129015.23	15.03	0.00
									6131085.28	2129005.74	15.03	0.00
									6131169.44	2128995.57	15.03	0.00
									6131170.84	2129008.98	15.03	0.00
									6131295.36	2128996.52	15.03	0.00
									6131295.67	2129001.58	15.03	0.00
									6131296.14	2129008.92	15.03	0.00
									6131319.40	2129006.31	15.03	0.00
									6131323.11	2129005.90	15.03	0.00
Del Obispo Street 31771, 92675 San Juan Capistrano, (Taco Bell)			building_00031	x	0		16.31	r	6131665.99	2128867.23	16.31	0.00
									6131691.37	2128868.20	16.31	0.00
									6131691.48	2128865.39	16.31	0.00
									6131714.69	2128866.32	16.31	0.00
									6131714.58	2128869.38	16.31	0.00
									6131732.58	2128870.08	16.31	0.00
									6131732.66	2128867.31	16.31	0.00
									6131741.97	2128867.70	16.31	0.00
									6131742.56	2128852.62	16.31	0.00
									6131744.63	2128852.70	16.31	0.00
									6131745.32	2128835.99	16.31	0.00
									6131667.35	2128832.93	16.31	0.00
Camino Capistrano 31971, 92675 San Juan Capistrano, (Union Bank)			building_00041	x	0		16.37	r	6130945.75	2127938.03	16.37	0.00
									6131022.37	2127936.19	16.37	0.00
									6131020.07	2127840.59	16.37	0.00
									6130943.41	2127842.43	16.37	0.00
Del Obispo Street 31791, 92675 San Juan Capistrano, (Marie Callender's)			building_00030	x	0		16.67	r	6131673.90	2128570.76	16.67	0.00
									6131705.03	2128573.76	16.67	0.00
									6131702.92	2128595.58	16.67	0.00
									6131795.14	2128604.49	16.67	0.00
									6131797.88	2128576.58	16.67	0.00
									6131803.40	2128577.09	16.67	0.00
									6131809.86	2128510.95	16.67	0.00
									6131779.51	2128508.01	16.67	0.00
									6131781.76	2128484.87	16.67	0.00
									6131720.25	2128478.94	16.67	0.00
									6131716.87	2128513.48	16.67	0.00
									6131678.86	2128509.81	16.67	0.00
									6131678.41	2128514.73	16.67	0.00
									6131661.19	2128513.07	16.67	0.00
									6131656.70	2128559.13	16.67	0.00
									6131674.86	2128560.88	16.67	0.00
Camino Capistrano 31866, 92675 San Juan Capistrano			building_00070	x	0		16.93	r	6131173.58	2128554.53	16.93	0.00
									6131176.99	2128495.53	16.93	0.00
									6131202.44	2128497.01	16.93	0.00
									6131203.97	2128470.75	16.93	0.00
									6131180.02	2128469.36	16.93	0.00
									6131180.22	2128466.05	16.93	0.00
									6131141.65	2128463.84	16.93	0.00
									6131138.05	2128526.34	16.93	0.00
									6131133.17	2128526.04	16.93	0.00
									6131131.66	2128552.12	16.93	0.00
Del Obispo Street 31863, 92675 San Juan Capistrano			building_00065	x	0		17.65	r	6131670.16	2128258.39	17.65	0.00
									6131724.39	2128328.08	17.65	0.00
									6131767.87	2128294.56	17.65	0.00
									6131774.92	2128303.59	17.65	0.00
									6131807.96	2128278.11	17.65	0.00
									6131785.71	2128249.48	17.65	0.00
									6131782.21	2128252.15	17.65	0.00
									6131743.24	2128202.06	17.65	0.00
Camino Capistrano 31901, 92675 San Juan Capistrano			building_00039	x	0		17.72	r	6130841.94	2128248.50	17.72	0.00
									6131020.49	2128247.80	17.72	0.00

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(ft)		(ft)	(ft)	(ft)	(ft)
									6131020.26	2128187.94	17.72	0.00
									6130979.01	2128188.09	17.72	0.00
									6130978.96	2128172.67	17.72	0.00
									6130841.65	2128173.22	17.72	0.00
Del Obispo Street 31865, 92675 San Juan Capistrano			building_00008	x	0		20.08	r	6131671.77	2128116.30	20.08	0.00
									6131644.15	2128078.21	20.08	0.00
									6131649.88	2128073.70	20.08	0.00
									6131638.63	2128060.27	20.08	0.00
									6131631.14	2128051.28	20.08	0.00
									6131619.61	2128060.02	20.08	0.00
									6131617.68	2128057.54	20.08	0.00
									6131561.57	2128099.53	20.08	0.00
									6131575.00	2128115.87	20.08	0.00
									6131580.39	2128122.45	20.08	0.00
									6131583.32	2128120.59	20.08	0.00
									6131614.81	2128160.93	20.08	0.00
Verdugo Street 26701, 92675 San Juan Capistrano			building_00001	x	0		22.11	r	6130689.49	2128902.26	22.11	0.00
									6130689.17	2128912.45	22.11	0.00
									6130674.19	2128911.74	22.11	0.00
									6130695.52	2128621.13	22.11	0.00
									6130821.88	2128630.99	22.11	0.00
									6130820.50	2128648.91	22.11	0.00
									6130820.21	2128651.97	22.11	0.00
									6130811.39	2128757.22	22.11	0.00
									6130730.88	2128903.70	22.11	0.00
									6130723.78	2128904.12	22.11	0.00
									6130715.81	2128903.32	22.11	0.00
									6130707.97	2128902.52	22.11	0.00
Ortega Highway 26801, 92675 San Juan Capistrano			building_00017	x	0		22.34	r	6131000.70	2129212.13	22.34	0.00
									6131002.25	2129229.76	22.34	0.00
									6131018.39	2129228.34	22.34	0.00
									6131019.86	2129244.91	22.34	0.00
									6131032.31	2129243.83	22.34	0.00
									6131032.06	2129241.00	22.34	0.00
									6131041.59	2129240.18	22.34	0.00
									6131052.68	2129239.19	22.34	0.00
									6131053.03	2129242.93	22.34	0.00
									6131095.91	2129239.15	22.34	0.00
									6131095.69	2129236.50	22.34	0.00
									6131118.50	2129234.51	22.34	0.00
									6131115.22	2129197.44	22.34	0.00
									6131091.65	2129199.50	22.34	0.00
									6131092.16	2129205.36	22.34	0.00
									6131050.84	2129208.97	22.34	0.00
									6131051.09	2129211.77	22.34	0.00
									6131038.42	2129212.89	22.34	0.00
									6131020.15	2129214.52	22.34	0.00
									6131019.79	2129210.45	22.34	0.00
Del Obispo Street 31877, 92675 San Juan Capistrano			building_00068	x	0		23.72	r	6131380.85	2127915.80	23.72	0.00
									6131447.26	2128001.65	23.72	0.00
									6131507.89	2127953.23	23.72	0.00
									6131479.60	2127918.14	23.72	0.00
									6131455.18	2127938.19	23.72	0.00
									6131436.97	2127915.18	23.72	0.00
									6131451.24	2127894.72	23.72	0.00
									6131517.59	2127940.08	23.72	0.00
									6131543.99	2127901.80	23.72	0.00
									6131440.63	2127832.13	23.72	0.00
Camino Capistrano 31892, 92675 San Juan Capistrano, (Ellies Table)			building_00059	x	0		24.31	r	6131119.19	2128325.06	24.31	0.00
									6131137.71	2128323.79	24.31	0.00
									6131137.60	2128322.34	24.31	0.00
									6131148.96	2128321.53	24.31	0.00
									6131149.04	2128322.55	24.31	0.00
									6131165.88	2128321.37	24.31	0.00
									6131163.23	2128282.94	24.31	0.00
									6131152.60	2128283.71	24.31	0.00
									6131152.22	2128278.36	24.31	0.00
									6131111.59	2128281.17	24.31	0.00
									6131114.39	2128321.60	24.31	0.00
									6131118.93	2128321.28	24.31	0.00
Camino Capistrano 31972, 92675 San Juan Capistrano, (Chase)			building_00011	x	0		24.61	r	6131131.29	2127953.28	24.61	0.00
									6131128.20	2127835.12	24.61	0.00
									6131201.53	2127833.22	24.61	0.00
									6131204.59	2127951.37	24.61	0.00
BUILDING			BUILDING00004	x	0		25.00	a	6131291.58	2128323.47	25.00	0.00
									6131339.70	2128314.68	25.00	0.00
									6131335.56	2128283.63	25.00	0.00

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(ft)		(ft)	(ft)	(ft)	(ft)
									6131347.98	2128281.04	25.00	0.00
									6131344.36	2128259.83	25.00	0.00
									6131281.23	2128272.77	25.00	0.00
BUILDING			BUILDING00005	x	0		25.00	a	6131149.29	2128392.81	25.00	0.00
									6131209.31	2128397.98	25.00	0.00
									6131216.55	2128403.16	25.00	0.00
									6131230.52	2128388.15	25.00	0.00
									6131210.34	2128370.56	25.00	0.00
									6131212.93	2128336.93	25.00	0.00
									6131156.53	2128332.79	25.00	0.00
Del Obispo Street 31873, 92675 San Juan Capistrano			building_00071	x	0		25.95	r	6131563.67	2127922.97	25.95	0.00
									6131493.23	2127976.83	25.95	0.00
									6131535.16	2128031.11	25.95	0.00
									6131605.59	2127977.24	25.95	0.00
Camino Capistrano 31871, 92675 San Juan Capistrano			building_00069	x	0		26.12	r	6131052.45	2128446.38	26.12	0.00
									6131059.35	2128331.77	26.12	0.00
									6131005.64	2128328.60	26.12	0.00
									6131004.25	2128351.91	26.12	0.00
									6130914.73	2128346.57	26.12	0.00
									6130911.32	2128403.28	26.12	0.00
									6130919.19	2128403.72	26.12	0.00
									6130918.30	2128418.98	26.12	0.00
									6130864.02	2128415.75	26.12	0.00
									6130863.15	2128430.06	26.12	0.00
									6130900.04	2128432.25	26.12	0.00
									6130899.71	2128437.32	26.12	0.00
Camino Capistrano , 92675 San Juan Capistrano			building_00072	x	0		26.12	r	6130968.42	2128483.95	26.12	0.00
									6130994.63	2128485.56	26.12	0.00
									6130992.70	2128516.48	26.12	0.00
									6131010.46	2128517.55	26.12	0.00
									6131010.76	2128512.63	26.12	0.00
									6131047.10	2128514.87	26.12	0.00
									6131050.68	2128457.21	26.12	0.00
									6131026.39	2128455.72	26.12	0.00
									6131026.82	2128449.20	26.12	0.00
									6131023.71	2128449.03	26.12	0.00
									6131023.81	2128447.43	26.12	0.00
									6131003.00	2128446.14	26.12	0.00
									6131002.85	2128448.77	26.12	0.00
									6130996.69	2128448.38	26.12	0.00
									6130995.66	2128464.87	26.12	0.00
									6130969.72	2128463.26	26.12	0.00
El Camino Real 31776, 92675 San Juan Capistrano, (Camino Real Playhouse)			building_00033	x	0		27.79	r	6131392.01	2128940.34	27.79	0.00
									6131583.02	2128909.59	27.79	0.00
									6131577.47	2128875.42	27.79	0.00
									6131569.04	2128876.77	27.79	0.00
									6131564.12	2128846.41	27.79	0.00
									6131420.29	2128869.57	27.79	0.00
									6131421.52	2128877.09	27.79	0.00
									6131382.76	2128883.33	27.79	0.00
									6131384.92	2128896.58	27.79	0.00
BUILDING			BUILDING00001	x	0		35.00	a	6131586.51	2128641.17	35.00	0.00
									6131632.56	2128626.69	35.00	0.00
									6131614.97	2128448.69	35.00	0.00
									6131553.40	2128464.21	35.00	0.00
									6131546.15	2128434.20	35.00	0.00
									6131484.06	2128451.28	35.00	0.00
									6131488.72	2128462.66	35.00	0.00
									6131452.50	2128517.51	35.00	0.00
									6131460.26	2128523.20	35.00	0.00
									6131465.95	2128593.57	35.00	0.00
									6131498.55	2128591.50	35.00	0.00
									6131505.79	2128624.10	35.00	0.00
									6131519.77	2128631.86	35.00	0.00
									6131579.27	2128611.68	35.00	0.00
BUILDING			BUILDING00002	x	0		35.00	a	6131495.96	2128335.89	35.00	0.00
									6131538.39	2128303.81	35.00	0.00
									6131532.70	2128297.60	35.00	0.00
									6131543.05	2128289.84	35.00	0.00
									6131433.87	2128149.10	35.00	0.00
									6131254.32	2128186.87	35.00	0.00
									6131266.22	2128251.03	35.00	0.00
									6131408.52	2128222.57	35.00	0.00
BUILDING			BUILDING00003	x	0		35.00	a	6131273.47	2128356.07	35.00	0.00
									6131279.68	2128385.56	35.00	0.00
									6131288.99	2128389.70	35.00	0.00
									6131294.17	2128385.05	35.00	0.00

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(ft)		(ft)	(ft)	(ft)	(ft)
									6131304.51	2128380.39	35.00	0.00
									6131306.58	2128392.81	35.00	0.00
									6131439.05	2128365.39	35.00	0.00
									6131437.49	2128360.73	35.00	0.00
									6131459.74	2128356.07	35.00	0.00
									6131449.91	2128313.12	35.00	0.00
									6131297.79	2128345.21	35.00	0.00
									6131299.34	2128351.41	35.00	0.00
Camino Capistrano 31952, 92675 San Juan Capistrano			building_00073	x	0		73.82	r	6131196.23	2128223.51	73.82	0.00
									6131194.83	2128137.50	73.82	0.00
									6131175.74	2128137.83	73.82	0.00
									6131175.54	2128125.24	73.82	0.00
									6131181.21	2128125.16	73.82	0.00
									6131180.74	2128096.82	73.82	0.00
									6131205.00	2128096.42	73.82	0.00
									6131204.79	2128085.18	73.82	0.00
									6131216.01	2128084.99	73.82	0.00
									6131216.18	2128095.43	73.82	0.00
									6131242.54	2128094.97	73.82	0.00
									6131243.06	2128126.26	73.82	0.00
									6131282.11	2128125.62	73.82	0.00
									6131280.84	2128050.16	73.82	0.00
									6131198.94	2128051.52	73.82	0.00
									6131198.70	2128036.24	73.82	0.00
									6131158.40	2128036.93	73.82	0.00
									6131158.44	2128039.95	73.82	0.00
									6131113.64	2128040.71	73.82	0.00
									6131114.97	2128119.11	73.82	0.00
									6131135.91	2128118.79	73.82	0.00
									6131137.68	2128224.48	73.82	0.00

APPENDIX 10.1:

CONSTRUCTION NOISE CALCULATIONS

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15534 - El Camino SPA

CadnaA Noise Prediction Model: 15534-02_Construction.cna
Date: 05.12.23
Analyst: B. Lawson

Calculation Configuration

Configuration	
Parameter	**Value**
General	
Max. Error (dB)	**0.00**
Max. Search Radius (#(Unit,LEN))	**2000.01**
Min. Dist Src to Rcvr	**0.00**
Partition	
Raster Factor	**0.50**
Max. Length of Section (#(Unit,LEN))	**999.99**
Min. Length of Section (#(Unit,LEN))	**1.01**
Min. Length of Section (%)	**0.00**
Proj. Line Sources	**On**
Proj. Area Sources	**On**
Ref. Time	
Daytime Penalty (dB)	**0.00**
Recr. Time Penalty (dB)	**5.00**
Night-time Penalty (dB)	**10.00**
DTM	
Standard Height (m)	**0.00**
Model of Terrain	**Triangulation**
Reflection	
max. Order of Reflection	**2**
Search Radius Src	**100.00**
Search Radius Rcvr	**100.00**
Max. Distance Source - Rcvr	**1000.00 1000.00**
Min. Distance Rvcr - Reflector	**1.00 1.00**
Min. Distance Source - Reflector	**0.10**
Industrial (ISO 9613)	
Lateral Diffraction	**some Obj**
Obst. within Area Src do not shield	**On**
Screening	**Incl. Ground Att. over Barrier**
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	**3.0 20.0 0.0**
Temperature (#(Unit,TEMP))	**10**
rel. Humidity (%)	**70**
Ground Absorption G	**0.50**
Wind Speed for Dir. (#(Unit,SPEED))	**3.0**
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr				Limit. Value				Land Use			Height		Coordinates		
			Day	Eve	Night	CNEL	Day	Eve	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	69.0	-38.0	-38.0	66.0	80.0	65.0	65.0	0.0				5.00	a	6131557.21	2128842.37	5.00
RECEIVERS		R2	74.1	-32.8	-32.8	71.1	80.0	65.0	65.0	0.0				5.00	a	6131607.10	2128159.46	5.00
RECEIVERS		R3	70.6	-36.4	-36.4	67.6	80.0	65.0	65.0	0.0				5.00	a	6131437.92	2127998.86	5.00
RECEIVERS		R4	76.2	-30.7	-30.7	73.2	80.0	65.0	65.0	0.0				5.00	a	6131283.09	2128117.24	5.00
RECEIVERS		R5	79.0	-28.0	-28.0	76.0	80.0	65.0	65.0	0.0				5.00	a	6131166.33	2128312.89	5.00
RECEIVERS		R6	69.8	-37.2	-37.2	66.8	80.0	65.0	65.0	0.0				5.00	a	6131017.39	2128290.85	5.00
RECEIVERS		R7	77.7	-29.3	-29.3	74.7	80.0	65.0	65.0	0.0				5.00	a	6131169.97	2128462.06	5.00
RECEIVERS		R8	69.6	-37.4	-37.4	66.6	80.0	65.0	65.0	0.0				5.00	a	6131163.07	2128714.35	5.00
RECEIVERS		R9	72.1	-34.9	-34.9	69.0	80.0	65.0	65.0	0.0				5.00	a	6131427.54	2128787.72	5.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Operating Time			Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
SITEBOUNDARY		CONSTRUCTION	122.6	15.6	15.6	78.9	-28.1	-28.1	PWL-Pt	115.6					8	a

Name	ID	Height				Coordinates			
		Begin		End		x	y	z	Ground
		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
SITEBOUNDARY	CONSTRUCTION	8.00	a			6131287.72	2128728.28	8.00	0.00
						6131314.90	2128724.97	8.00	0.00
						6131330.23	2128723.58	8.00	0.00
						6131462.94	2128703.56	8.00	0.00
						6131470.68	2128711.47	8.00	0.00
						6131474.57	2128714.22	8.00	0.00

Name	ID	Height		Coordinates			
		Begin	End	x	y	z	Ground
		(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
				6131478.86	2128716.27	8.00	0.00
				6131483.44	2128717.57	8.00	0.00
				6131488.18	2128718.09	8.00	0.00
				6131492.93	2128717.80	8.00	0.00
				6131516.06	2128709.18	8.00	0.00
				6131511.03	2128696.31	8.00	0.00
				6131516.70	2128676.20	8.00	0.00
				6131646.80	2128631.11	8.00	0.00
				6131625.32	2128460.79	8.00	0.00
				6131709.48	2128416.87	8.00	0.00
				6131627.10	2128310.46	8.00	0.00
				6131627.20	2128310.44	8.00	0.00
				6131636.19	2128301.83	8.00	0.00
				6131666.84	2128259.31	8.00	0.00
				6131657.52	2128245.93	8.00	0.00
				6131733.99	2128176.38	8.00	0.00
				6131765.60	2128185.48	8.00	0.00
				6131775.29	2128179.40	8.00	0.00
				6131734.35	2128122.10	8.00	0.00
				6131721.14	2128134.21	8.00	0.00
				6131710.27	2128142.64	8.00	0.00
				6131610.99	2128218.20	8.00	0.00
				6131578.18	2128247.16	8.00	0.00
				6131578.13	2128247.20	8.00	0.00
				6131455.98	2128089.42	8.00	0.00
				6131223.07	2128140.07	8.00	0.00
				6131222.72	2128175.82	8.00	0.00
				6131199.96	2128183.96	8.00	0.00
				6131207.51	2128315.60	8.00	0.00
				6131106.25	2128326.05	8.00	0.00
				6131106.40	2128325.83	8.00	0.00
				6131093.75	2128326.06	8.00	0.00
				6131095.38	2128371.13	8.00	0.00
				6131095.68	2128379.24	8.00	0.00
				6131092.97	2128462.17	8.00	0.00
				6131111.10	2128463.25	8.00	0.00
				6131127.16	2128448.63	8.00	0.00
				6131196.13	2128454.71	8.00	0.00
				6131194.09	2128475.81	8.00	0.00
				6131220.30	2128477.46	8.00	0.00
				6131242.30	2128487.50	8.00	0.00
				6131245.48	2128487.12	8.00	0.00
				6131259.16	2128486.57	8.00	0.00
				6131262.55	2128491.69	8.00	0.00
				6131271.17	2128569.89	8.00	0.00
				6131276.61	2128614.53	8.00	0.00
				6131279.14	2128645.17	8.00	0.00
				6131284.55	2128703.56	8.00	0.00

Building(s)

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(ft)		(ft)	(ft)	(ft)	(ft)
Verdugo Street 26762, 92675 San Juan Capistrano, (Regency Theatres)			building_00014	x	0		20.00	r	6130810.63	2128797.52	20.00	0.00
									6130902.15	2128806.29	20.00	0.00
									6130893.56	2128923.91	20.00	0.00
									6130892.85	2128932.58	20.00	0.00
									6130883.84	2128935.43	20.00	0.00
									6130865.19	2128933.86	20.00	0.00
									6130865.37	2128931.57	20.00	0.00
									6130860.18	2128931.13	20.00	0.00
									6130860.37	2128929.02	20.00	0.00
									6130855.48	2128928.57	20.00	0.00
									6130855.67	2128926.53	20.00	0.00
									6130820.72	2128923.55	20.00	0.00
									6130820.56	2128925.26	20.00	0.00
									6130814.79	2128924.76	20.00	0.00
									6130814.58	2128927.13	20.00	0.00
									6130810.31	2128926.75	20.00	0.00
									6130810.12	2128928.71	20.00	0.00
									6130761.03	2128924.18	20.00	0.00
									6130753.45	2128902.08	20.00	0.00
Camino Capistrano 31786, 92675 San Juan Capistrano, (Swallow's Inn)			building_00024	x	0		20.00	r	6131082.06	2128950.54	20.00	0.00
									6131133.26	2128944.82	20.00	0.00
									6131137.47	2128884.03	20.00	0.00
									6131092.35	2128881.80	20.00	0.00

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(ft)		(ft)	(ft)	(ft)	(ft)
									6131089.10	2128880.57	20.00	0.00
			building_00026	x	0		20.00	r	6131092.63	2128812.51	20.00	0.00
									6131095.83	2128812.69	20.00	0.00
									6131169.10	2128817.33	20.00	0.00
									6131170.41	2128797.05	20.00	0.00
									6131161.53	2128796.48	20.00	0.00
									6131166.51	2128718.46	20.00	0.00
									6131099.77	2128714.23	20.00	0.00
									6131095.42	2128782.56	20.00	0.00
									6131110.28	2128783.49	20.00	0.00
									6131109.88	2128789.79	20.00	0.00
									6131094.17	2128788.80	20.00	0.00
Camino Capistrano 31781, 92675 San Juan Capistrano			building_00027	x	0		20.00	r	6130893.56	2128923.91	20.00	0.00
									6130908.21	2128925.17	20.00	0.00
									6130907.47	2128937.80	20.00	0.00
									6130980.54	2128944.02	20.00	0.00
									6131002.55	2128925.67	20.00	0.00
									6131005.78	2128882.98	20.00	0.00
									6130990.43	2128883.91	20.00	0.00
									6130987.48	2128884.75	20.00	0.00
									6130985.48	2128885.65	20.00	0.00
									6130983.88	2128886.84	20.00	0.00
									6130982.59	2128888.28	20.00	0.00
									6130981.70	2128890.00	20.00	0.00
									6130981.44	2128891.64	20.00	0.00
									6130977.99	2128891.29	20.00	0.00
									6130977.94	2128889.58	20.00	0.00
									6130977.50	2128888.35	20.00	0.00
									6130976.39	2128887.49	20.00	0.00
									6130974.49	2128886.93	20.00	0.00
									6130971.74	2128886.57	20.00	0.00
									6130971.70	2128883.58	20.00	0.00
									6130972.30	2128878.52	20.00	0.00
									6130915.68	2128873.43	20.00	0.00
									6130918.77	2128840.23	20.00	0.00
									6130968.70	2128843.99	20.00	0.00
									6130969.34	2128837.58	20.00	0.00
									6130994.73	2128839.53	20.00	0.00
									6130993.63	2128854.76	20.00	0.00
									6131011.66	2128856.15	20.00	0.00
									6131014.92	2128815.35	20.00	0.00
									6130916.74	2128807.58	20.00	0.00
									6130902.15	2128806.29	20.00	0.00
			building_00048	x	0		20.00	r	6130920.96	2128756.58	20.00	0.00
									6130916.74	2128807.58	20.00	0.00
									6131014.92	2128815.35	20.00	0.00
									6131018.71	2128764.39	20.00	0.00
			building_00051	x	0		20.00	r	6131031.62	2128627.49	20.00	0.00
									6131036.41	2128627.79	20.00	0.00
									6131042.29	2128544.34	20.00	0.00
									6131002.71	2128541.60	20.00	0.00
									6131000.58	2128571.47	20.00	0.00
									6130996.80	2128571.19	20.00	0.00
									6130993.01	2128624.78	20.00	0.00
			building_00052	x	0		20.00	r	6130991.68	2128643.53	20.00	0.00
									6131030.31	2128646.21	20.00	0.00
									6131031.62	2128627.49	20.00	0.00
									6130993.01	2128624.78	20.00	0.00
			building_00053	x	0		20.00	r	6130971.10	2128670.78	20.00	0.00
									6130987.77	2128672.04	20.00	0.00
									6130986.03	2128694.49	20.00	0.00
									6131026.47	2128697.58	20.00	0.00
									6131030.23	2128648.87	20.00	0.00
									6131007.40	2128647.11	20.00	0.00
									6131006.99	2128652.57	20.00	0.00
									6130972.71	2128649.98	20.00	0.00
			building_00054	x	0		20.00	r	6130877.40	2128694.32	20.00	0.00
									6130950.16	2128699.88	20.00	0.00
									6130950.65	2128693.58	20.00	0.00
									6130969.24	2128695.00	20.00	0.00
									6130971.10	2128670.78	20.00	0.00
									6130972.71	2128649.98	20.00	0.00
									6130973.00	2128646.44	20.00	0.00
									6130881.63	2128639.49	20.00	0.00
									6130880.72	2128651.33	20.00	0.00
									6130879.89	2128661.93	20.00	0.00
			building_00055	x	0		20.00	r	6130849.93	2128669.91	20.00	0.00

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(ft)		(ft)	(ft)	(ft)	(ft)
									6130855.21	2128670.31	20.00	0.00
									6130855.99	2128660.11	20.00	0.00
									6130879.89	2128661.93	20.00	0.00
									6130880.72	2128651.33	20.00	0.00
									6130864.09	2128650.07	20.00	0.00
									6130863.93	2128652.22	20.00	0.00
									6130851.36	2128651.26	20.00	0.00
									6130851.13	2128654.32	20.00	0.00
			building_00056	x	0		20.00	r	6130820.50	2128648.91	20.00	0.00
									6130851.36	2128651.26	20.00	0.00
									6130863.93	2128652.22	20.00	0.00
									6130864.09	2128650.07	20.00	0.00
									6130865.31	2128634.29	20.00	0.00
									6130821.88	2128630.99	20.00	0.00
			building_00057	x	0		20.00	r	6130817.12	2128692.01	20.00	0.00
									6130831.83	2128693.12	20.00	0.00
									6130848.04	2128694.35	20.00	0.00
									6130849.93	2128669.91	20.00	0.00
									6130851.13	2128654.32	20.00	0.00
									6130820.21	2128651.97	20.00	0.00
Camino Capistrano 31792, 92675 San Juan Capistrano			building_00025	x	0		13.42	r	6131092.35	2128881.80	13.42	0.00
									6131137.47	2128884.03	13.42	0.00
									6131157.18	2128885.04	13.42	0.00
									6131159.19	2128844.83	13.42	0.00
									6131166.73	2128845.21	13.42	0.00
									6131169.10	2128817.33	13.42	0.00
									6131095.83	2128812.69	13.42	0.00
Camino Capistrano 31931, 92675 San Juan Capistrano			building_00040	x	0		13.68	r	6130850.48	2128060.32	13.68	0.00
									6131016.05	2128059.06	13.68	0.00
									6131015.77	2128020.82	13.68	0.00
									6130850.18	2128022.08	13.68	0.00
El Camino Real 31806, 92675 San Juan Capistrano, (Blas Aguilar Adobe)			building_00032	x	0		13.88	r	6131358.93	2128838.71	13.88	0.00
									6131364.77	2128837.94	13.88	0.00
									6131365.31	2128842.08	13.88	0.00
									6131440.09	2128832.41	13.88	0.00
									6131435.02	2128793.68	13.88	0.00
									6131360.52	2128803.35	13.88	0.00
									6131361.00	2128807.17	13.88	0.00
									6131351.81	2128808.38	13.88	0.00
									6131353.99	2128825.13	13.88	0.00
									6131357.12	2128824.72	13.88	0.00
Camino Capistrano 31761, 92675 San Juan Capistrano			building_00019	x	0		14.27	r	6130850.16	2129061.94	14.27	0.00
									6130856.43	2128985.15	14.27	0.00
									6130998.97	2128996.68	14.27	0.00
									6131002.69	2128996.99	14.27	0.00
									6130994.48	2129097.47	14.27	0.00
									6130987.27	2129096.88	14.27	0.00
									6130981.87	2129096.44	14.27	0.00
									6130980.33	2129115.38	14.27	0.00
									6130918.43	2129110.40	14.27	0.00
									6130918.80	2129105.96	14.27	0.00
									6130906.20	2129104.96	14.27	0.00
									6130910.43	2129053.09	14.27	0.00
									6130868.19	2129049.69	14.27	0.00
									6130867.10	2129063.32	14.27	0.00
Ortega Highway 26850, 92675 San Juan Capistrano, (Mission Promenade)			building_00007	x	0		15.03	r	6131328.11	2129057.73	15.03	0.00
									6131323.85	2129058.29	15.03	0.00
									6131303.19	2129061.12	15.03	0.00
									6131301.51	2129043.24	15.03	0.00
									6131265.99	2129047.58	15.03	0.00
									6131267.66	2129080.92	15.03	0.00
									6131254.04	2129101.67	15.03	0.00
									6131230.33	2129101.99	15.03	0.00
									6131230.57	2129104.43	15.03	0.00
									6131195.13	2129107.78	15.03	0.00
									6131077.27	2129118.91	15.03	0.00
									6131069.85	2129115.96	15.03	0.00
									6131067.70	2129108.05	15.03	0.00
									6131076.48	2129018.19	15.03	0.00
									6131085.68	2129017.27	15.03	0.00
									6131085.62	2129015.23	15.03	0.00
									6131085.28	2129005.74	15.03	0.00
									6131169.44	2128995.57	15.03	0.00
									6131170.84	2129008.98	15.03	0.00
									6131295.36	2128996.52	15.03	0.00
									6131295.67	2129001.58	15.03	0.00
									6131296.14	2129008.92	15.03	0.00

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(ft)		(ft)	(ft)	(ft)	(ft)
									6131319.40	2129006.31	15.03	0.00
									6131323.11	2129005.90	15.03	0.00
Del Obispo Street 31771, 92675 San Juan Capistrano, (Taco Bell)			building_00031	x	0		16.31	r	6131665.99	2128867.23	16.31	0.00
									6131691.37	2128868.20	16.31	0.00
									6131691.48	2128865.39	16.31	0.00
									6131714.69	2128866.32	16.31	0.00
									6131714.58	2128869.38	16.31	0.00
									6131732.58	2128870.08	16.31	0.00
									6131732.66	2128867.31	16.31	0.00
									6131741.97	2128867.70	16.31	0.00
									6131742.56	2128852.62	16.31	0.00
									6131744.63	2128852.70	16.31	0.00
									6131745.32	2128835.99	16.31	0.00
									6131667.35	2128832.93	16.31	0.00
Camino Capistrano 31971, 92675 San Juan Capistrano, (Union Bank)			building_00041	x	0		16.37	r	6130945.75	2127938.03	16.37	0.00
									6131022.37	2127936.19	16.37	0.00
									6131020.07	2127840.59	16.37	0.00
									6130943.41	2127842.43	16.37	0.00
Del Obispo Street 31791, 92675 San Juan Capistrano, (Marie Callender's)			building_00030	x	0		16.67	r	6131673.90	2128570.76	16.67	0.00
									6131705.03	2128573.76	16.67	0.00
									6131702.92	2128595.58	16.67	0.00
									6131795.14	2128604.49	16.67	0.00
									6131797.88	2128576.58	16.67	0.00
									6131803.40	2128577.09	16.67	0.00
									6131809.86	2128510.95	16.67	0.00
									6131779.51	2128508.01	16.67	0.00
									6131781.76	2128484.87	16.67	0.00
									6131720.25	2128478.94	16.67	0.00
									6131716.87	2128513.48	16.67	0.00
									6131678.86	2128509.81	16.67	0.00
									6131678.41	2128514.73	16.67	0.00
									6131661.19	2128513.07	16.67	0.00
									6131656.70	2128559.13	16.67	0.00
									6131674.86	2128560.88	16.67	0.00
Camino Capistrano 31866, 92675 San Juan Capistrano			building_00070	x	0		16.93	r	6131173.58	2128554.53	16.93	0.00
									6131176.99	2128495.53	16.93	0.00
									6131202.44	2128497.01	16.93	0.00
									6131203.97	2128470.75	16.93	0.00
									6131180.02	2128469.36	16.93	0.00
									6131180.22	2128466.05	16.93	0.00
									6131141.65	2128463.84	16.93	0.00
									6131138.05	2128526.34	16.93	0.00
									6131133.17	2128526.04	16.93	0.00
									6131131.66	2128552.12	16.93	0.00
Del Obispo Street 31863, 92675 San Juan Capistrano			building_00065	x	0		17.65	r	6131670.16	2128258.39	17.65	0.00
									6131724.39	2128328.08	17.65	0.00
									6131767.87	2128294.56	17.65	0.00
									6131774.92	2128303.59	17.65	0.00
									6131807.96	2128278.11	17.65	0.00
									6131785.71	2128249.48	17.65	0.00
									6131782.21	2128252.15	17.65	0.00
									6131743.24	2128202.06	17.65	0.00
Camino Capistrano 31901, 92675 San Juan Capistrano			building_00039	x	0		17.72	r	6130841.94	2128248.50	17.72	0.00
									6131020.49	2128247.80	17.72	0.00
									6131020.26	2128187.94	17.72	0.00
									6130979.01	2128188.09	17.72	0.00
									6130978.96	2128172.67	17.72	0.00
									6130841.65	2128173.22	17.72	0.00
Del Obispo Street 31865, 92675 San Juan Capistrano			building_00008	x	0		20.08	r	6131671.77	2128116.30	20.08	0.00
									6131644.15	2128078.21	20.08	0.00
									6131649.88	2128073.70	20.08	0.00
									6131638.63	2128060.27	20.08	0.00
									6131631.14	2128051.28	20.08	0.00
									6131619.61	2128060.02	20.08	0.00
									6131617.68	2128057.54	20.08	0.00
									6131561.57	2128099.53	20.08	0.00
									6131575.00	2128115.87	20.08	0.00
									6131580.39	2128122.45	20.08	0.00
									6131583.32	2128120.59	20.08	0.00
									6131614.81	2128160.93	20.08	0.00
Verdugo Street 26701, 92675 San Juan Capistrano			building_00001	x	0		22.11	r	6130689.49	2128902.26	22.11	0.00
									6130689.17	2128912.45	22.11	0.00
									6130674.19	2128911.74	22.11	0.00
									6130695.52	2128621.13	22.11	0.00
									6130821.88	2128630.99	22.11	0.00
									6130820.50	2128648.91	22.11	0.00
									6130820.21	2128651.97	22.11	0.00

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(ft)		(ft)	(ft)	(ft)	(ft)
									6130811.39	2128757.22	22.11	0.00
									6130730.88	2128903.70	22.11	0.00
									6130723.78	2128904.12	22.11	0.00
									6130715.81	2128903.32	22.11	0.00
									6130707.97	2128902.52	22.11	0.00
Ortega Highway 26801, 92675 San Juan Capistrano			building_00017	x	0		22.34	r	6131000.70	2129212.13	22.34	0.00
									6131002.25	2129229.76	22.34	0.00
									6131018.39	2129228.34	22.34	0.00
									6131019.86	2129244.91	22.34	0.00
									6131032.31	2129243.83	22.34	0.00
									6131032.06	2129241.00	22.34	0.00
									6131041.59	2129240.18	22.34	0.00
									6131052.68	2129239.19	22.34	0.00
									6131053.03	2129242.93	22.34	0.00
									6131095.91	2129239.15	22.34	0.00
									6131095.69	2129236.50	22.34	0.00
									6131118.50	2129234.51	22.34	0.00
									6131115.22	2129197.44	22.34	0.00
									6131091.65	2129199.50	22.34	0.00
									6131092.16	2129205.36	22.34	0.00
									6131050.84	2129208.97	22.34	0.00
									6131051.09	2129211.77	22.34	0.00
									6131038.42	2129212.89	22.34	0.00
									6131020.15	2129214.52	22.34	0.00
									6131019.79	2129210.45	22.34	0.00
Del Obispo Street 31877, 92675 San Juan Capistrano			building_00068	x	0		23.72	r	6131380.85	2127915.80	23.72	0.00
									6131447.26	2128001.65	23.72	0.00
									6131507.89	2127953.23	23.72	0.00
									6131479.60	2127918.14	23.72	0.00
									6131455.18	2127938.19	23.72	0.00
									6131436.97	2127915.18	23.72	0.00
									6131451.24	2127894.72	23.72	0.00
									6131517.59	2127940.08	23.72	0.00
									6131543.99	2127901.80	23.72	0.00
									6131440.63	2127832.13	23.72	0.00
Camino Capistrano 31892, 92675 San Juan Capistrano, (Ellies Table)			building_00059	x	0		24.31	r	6131119.19	2128325.06	24.31	0.00
									6131137.71	2128323.79	24.31	0.00
									6131137.60	2128322.34	24.31	0.00
									6131148.96	2128321.53	24.31	0.00
									6131149.04	2128322.55	24.31	0.00
									6131165.88	2128321.37	24.31	0.00
									6131163.23	2128282.94	24.31	0.00
									6131152.60	2128283.71	24.31	0.00
									6131152.22	2128278.36	24.31	0.00
									6131111.59	2128281.17	24.31	0.00
									6131114.39	2128321.60	24.31	0.00
									6131118.93	2128321.28	24.31	0.00
Camino Capistrano 31972, 92675 San Juan Capistrano, (Chase)			building_00011	x	0		24.61	r	6131131.29	2127953.28	24.61	0.00
									6131128.20	2127835.12	24.61	0.00
									6131201.53	2127833.22	24.61	0.00
									6131204.59	2127951.37	24.61	0.00
Del Obispo Street 31873, 92675 San Juan Capistrano			building_00071	x	0		25.95	r	6131563.67	2127922.97	25.95	0.00
									6131493.23	2127976.83	25.95	0.00
									6131535.16	2128031.11	25.95	0.00
									6131605.59	2127977.24	25.95	0.00
Camino Capistrano 31871, 92675 San Juan Capistrano			building_00069	x	0		26.12	r	6131052.45	2128446.38	26.12	0.00
									6131059.35	2128331.77	26.12	0.00
									6131005.64	2128328.60	26.12	0.00
									6131004.25	2128351.91	26.12	0.00
									6130914.73	2128346.57	26.12	0.00
									6130911.32	2128403.28	26.12	0.00
									6130919.19	2128403.72	26.12	0.00
									6130918.30	2128418.98	26.12	0.00
									6130864.02	2128415.75	26.12	0.00
									6130863.15	2128430.06	26.12	0.00
									6130900.04	2128432.25	26.12	0.00
									6130899.71	2128437.32	26.12	0.00
Camino Capistrano , 92675 San Juan Capistrano			building_00072	x	0		26.12	r	6130968.42	2128483.95	26.12	0.00
									6130994.63	2128485.56	26.12	0.00
									6130992.70	2128516.48	26.12	0.00
									6131010.46	2128517.55	26.12	0.00
									6131010.76	2128512.63	26.12	0.00
									6131047.10	2128514.87	26.12	0.00
									6131050.68	2128457.21	26.12	0.00
									6131026.39	2128455.72	26.12	0.00
									6131026.82	2128449.20	26.12	0.00
									6131023.71	2128449.03	26.12	0.00

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(ft)		(ft)	(ft)	(ft)	(ft)
									6131023.81	2128447.43	26.12	0.00
									6131003.00	2128446.14	26.12	0.00
									6131002.85	2128448.77	26.12	0.00
									6130996.69	2128448.38	26.12	0.00
									6130995.66	2128464.87	26.12	0.00
									6130969.72	2128463.26	26.12	0.00
El Camino Real 31776, 92675 San Juan Capistrano, (Camino Real Playhouse)			building_00033	x	0		27.79	r	6131392.01	2128940.34	27.79	0.00
									6131583.02	2128909.59	27.79	0.00
									6131577.47	2128875.42	27.79	0.00
									6131569.04	2128876.77	27.79	0.00
									6131564.12	2128846.41	27.79	0.00
									6131420.29	2128869.57	27.79	0.00
									6131421.52	2128877.09	27.79	0.00
									6131382.76	2128883.33	27.79	0.00
									6131384.92	2128896.58	27.79	0.00
Camino Capistrano 31952, 92675 San Juan Capistrano			building_00073	x	0		73.82	r	6131196.23	2128223.51	73.82	0.00
									6131194.83	2128137.50	73.82	0.00
									6131175.74	2128137.83	73.82	0.00
									6131175.54	2128125.24	73.82	0.00
									6131181.21	2128125.16	73.82	0.00
									6131180.74	2128096.82	73.82	0.00
									6131205.00	2128096.42	73.82	0.00
									6131204.79	2128085.18	73.82	0.00
									6131216.01	2128084.99	73.82	0.00
									6131216.18	2128095.43	73.82	0.00
									6131242.54	2128094.97	73.82	0.00
									6131243.06	2128126.26	73.82	0.00
									6131282.11	2128125.62	73.82	0.00
									6131280.84	2128050.16	73.82	0.00
									6131198.94	2128051.52	73.82	0.00
									6131198.70	2128036.24	73.82	0.00
									6131158.40	2128036.93	73.82	0.00
									6131158.44	2128039.95	73.82	0.00
									6131113.64	2128040.71	73.82	0.00
									6131114.97	2128119.11	73.82	0.00
									6131135.91	2128118.79	73.82	0.00
									6131137.68	2128224.48	73.82	0.00

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APPENDIX 10.2:

MITIGATED CONSTRUCTION NOISE CALCULATIONS

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15534 - El Camino SPA

CadnaA Noise Prediction Model: 15534-02_ConstructionMitigated.cna
Date: 02.10.24
Analyst: B. Lawson

Calculation Configuration

Configuration	
Parameter	**Value**
General	
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	999.99
Min. Length of Section (#(Unit,LEN))	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr				Limit. Value				Land Use			Height		Coordinates		
			Day	Eve	Night	CNEL	Day	Eve	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	64.2	-42.8	-42.8	61.2	80.0	65.0	65.0	0.0				5.00	a	6131557.21	2128842.37	5.00
RECEIVERS		R2	69.1	-37.9	-37.9	66.1	80.0	65.0	65.0	0.0				5.00	a	6131607.10	2128159.46	5.00
RECEIVERS		R3	65.7	-41.2	-41.2	62.7	80.0	65.0	65.0	0.0				5.00	a	6131437.92	2127998.86	5.00
RECEIVERS		R4	68.6	-38.4	-38.4	65.5	80.0	65.0	65.0	0.0				5.00	a	6131283.09	2128117.24	5.00
RECEIVERS		R5	71.7	-35.3	-35.3	68.7	80.0	65.0	65.0	0.0				5.00	a	6131166.33	2128312.89	5.00
RECEIVERS		R6	64.9	-42.1	-42.1	61.9	80.0	65.0	65.0	0.0				5.00	a	6131017.39	2128290.85	5.00
RECEIVERS		R7	70.8	-36.2	-36.2	67.8	80.0	65.0	65.0	0.0				5.00	a	6131169.97	2128462.06	5.00
RECEIVERS		R8	64.8	-42.2	-42.2	61.8	80.0	65.0	65.0	0.0				5.00	a	6131163.07	2128714.35	5.00
RECEIVERS		R9	67.2	-39.8	-39.8	64.1	80.0	65.0	65.0	0.0				5.00	a	6131427.54	2128787.72	5.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Operating Time			Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
SITEBOUNDARY		CONSTRUCTION	122.6	15.6	15.6	78.9	-28.1	-28.1	PWL-Pt	115.6					8	a

Name	ID	Height				Coordinates			
		Begin		End		x	y	z	Ground
		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
SITEBOUNDARY	CONSTRUCTION	8.00	a			6131287.72	2128728.28	8.00	0.00
						6131314.90	2128724.97	8.00	0.00
						6131330.23	2128723.58	8.00	0.00
						6131462.94	2128703.56	8.00	0.00
						6131470.68	2128711.47	8.00	0.00
						6131474.57	2128714.22	8.00	0.00

Name	ID	Height		Coordinates			
		Begin	End	x	y	z	Ground
		(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
				6131478.86	2128716.27	8.00	0.00
				6131483.44	2128717.57	8.00	0.00
				6131488.18	2128718.09	8.00	0.00
				6131492.93	2128717.80	8.00	0.00
				6131516.06	2128709.18	8.00	0.00
				6131511.03	2128696.31	8.00	0.00
				6131516.70	2128676.20	8.00	0.00
				6131646.80	2128631.11	8.00	0.00
				6131625.32	2128460.79	8.00	0.00
				6131709.48	2128416.87	8.00	0.00
				6131627.10	2128310.46	8.00	0.00
				6131627.20	2128310.44	8.00	0.00
				6131636.19	2128301.83	8.00	0.00
				6131666.84	2128259.31	8.00	0.00
				6131657.52	2128245.93	8.00	0.00
				6131733.99	2128176.38	8.00	0.00
				6131765.60	2128185.48	8.00	0.00
				6131775.29	2128179.40	8.00	0.00
				6131734.35	2128122.10	8.00	0.00
				6131721.14	2128134.21	8.00	0.00
				6131710.27	2128142.64	8.00	0.00
				6131610.99	2128218.20	8.00	0.00
				6131578.18	2128247.16	8.00	0.00
				6131578.13	2128247.20	8.00	0.00
				6131455.98	2128089.42	8.00	0.00
				6131223.07	2128140.07	8.00	0.00
				6131222.72	2128175.82	8.00	0.00
				6131199.96	2128183.96	8.00	0.00
				6131207.51	2128315.60	8.00	0.00
				6131106.25	2128326.05	8.00	0.00
				6131106.40	2128325.83	8.00	0.00
				6131093.75	2128326.06	8.00	0.00
				6131095.38	2128371.13	8.00	0.00
				6131095.68	2128379.24	8.00	0.00
				6131092.97	2128462.17	8.00	0.00
				6131111.10	2128463.25	8.00	0.00
				6131127.16	2128448.63	8.00	0.00
				6131196.13	2128454.71	8.00	0.00
				6131194.09	2128475.81	8.00	0.00
				6131220.30	2128477.46	8.00	0.00
				6131242.30	2128487.50	8.00	0.00
				6131245.48	2128487.12	8.00	0.00
				6131259.16	2128486.57	8.00	0.00
				6131262.55	2128491.69	8.00	0.00
				6131271.17	2128569.89	8.00	0.00
				6131276.61	2128614.53	8.00	0.00
				6131279.14	2128645.17	8.00	0.00
				6131284.55	2128703.56	8.00	0.00

Barrier(s)

Name	Sel.	M.	ID	Absorption		Z-Ext.	Cantilever		Height			Coordinates			
				left	right		horz.	vert.	Begin		End	x	y	z	Ground
						(ft)	(ft)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
BARRIERLINE			BARRIERLINE00001						8.00	a		6131330.38	2128724.57	8.00	0.00
												6131462.58	2128704.63	8.00	0.00
												6131469.96	2128712.17	8.00	0.00
												6131470.10	2128712.29	8.00	0.00
												6131473.99	2128715.03	8.00	0.00
												6131474.14	2128715.12	8.00	0.00
												6131478.43	2128717.17	8.00	0.00
												6131478.59	2128717.23	8.00	0.00
												6131483.17	2128718.53	8.00	0.00
												6131483.33	2128718.56	8.00	0.00
												6131488.07	2128719.08	8.00	0.00
												6131488.24	2128719.08	8.00	0.00
												6131492.99	2128718.80	8.00	0.00
												6131493.14	2128718.78	8.00	0.00
												6131493.28	2128718.74	8.00	0.00
												6131516.41	2128710.11	8.00	0.00
												6131516.55	2128710.05	8.00	0.00
												6131516.68	2128709.96	8.00	0.00
												6131516.80	2128709.85	8.00	0.00
												6131516.89	2128709.72	8.00	0.00
												6131516.97	2128709.59	8.00	0.00
												6131517.02	2128709.44	8.00	0.00
												6131517.05	2128709.28	8.00	0.00

Name	Sel.	M.	ID	Absorption		Z-Ext.	Cantilever		Height		Coordinates			
				left	right		horz.	vert.	Begin	End	x	y	z	Ground
						(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
											6131517.05	2128709.12	8.00	0.00
											6131517.03	2128708.97	8.00	0.00
											6131516.99	2128708.81	8.00	0.00
											6131512.08	2128696.26	8.00	0.00
											6131517.52	2128676.98	8.00	0.00
											6131647.13	2128632.05	8.00	0.00
											6131647.28	2128631.98	8.00	0.00
											6131647.42	2128631.89	8.00	0.00
											6131647.55	2128631.77	8.00	0.00
											6131647.65	2128631.63	8.00	0.00
											6131647.73	2128631.48	8.00	0.00
											6131647.78	2128631.32	8.00	0.00
											6131647.80	2128631.15	8.00	0.00
											6131647.79	2128630.98	8.00	0.00
											6131626.40	2128461.36	8.00	0.00
											6131709.94	2128417.76	8.00	0.00
											6131710.08	2128417.67	8.00	0.00
											6131710.20	2128417.57	8.00	0.00
											6131710.30	2128417.44	8.00	0.00
											6131710.38	2128417.31	8.00	0.00
											6131710.44	2128417.16	8.00	0.00
											6131710.47	2128417.00	8.00	0.00
											6131710.48	2128416.85	8.00	0.00
											6131710.47	2128416.69	8.00	0.00
											6131710.42	2128416.53	8.00	0.00
											6131710.36	2128416.39	8.00	0.00
											6131710.27	2128416.26	8.00	0.00
											6131628.48	2128310.60	8.00	0.00
											6131636.88	2128302.55	8.00	0.00
											6131636.95	2128302.48	8.00	0.00
											6131637.00	2128302.41	8.00	0.00
											6131667.65	2128259.90	8.00	0.00
											6131667.73	2128259.77	8.00	0.00
											6131667.79	2128259.62	8.00	0.00
											6131667.83	2128259.47	8.00	0.00
											6131667.84	2128259.32	8.00	0.00
											6131667.83	2128259.17	8.00	0.00
											6131667.80	2128259.02	8.00	0.00
											6131667.74	2128258.87	8.00	0.00
											6131667.66	2128258.74	8.00	0.00
											6131658.84	2128246.08	8.00	0.00
											6131734.25	2128177.50	8.00	0.00
											6131765.32	2128186.44	8.00	0.00
											6131765.49	2128186.47	8.00	0.00
											6131765.66	2128186.48	8.00	0.00
											6131765.82	2128186.45	8.00	0.00
											6131765.98	2128186.40	8.00	0.00
											6131766.13	2128186.33	8.00	0.00
											6131775.82	2128180.25	8.00	0.00
											6131775.95	2128180.15	8.00	0.00
											6131776.06	2128180.03	8.00	0.00
											6131776.15	2128179.90	8.00	0.00
											6131776.22	2128179.75	8.00	0.00
											6131776.27	2128179.59	8.00	0.00
											6131776.29	2128179.43	8.00	0.00
											6131776.28	2128179.27	8.00	0.00
											6131776.24	2128179.11	8.00	0.00
											6131776.18	2128178.96	8.00	0.00
											6131776.10	2128178.82	8.00	0.00
											6131735.16	2128121.51	8.00	0.00
											6131735.05	2128121.39	8.00	0.00
											6131734.92	2128121.28	8.00	0.00
											6131734.77	2128121.19	8.00	0.00
											6131734.62	2128121.13	8.00	0.00
											6131734.45	2128121.10	8.00	0.00
											6131734.28	2128121.10	8.00	0.00
											6131734.11	2128121.13	8.00	0.00
											6131733.95	2128121.18	8.00	0.00
											6131733.81	2128121.26	8.00	0.00
											6131733.67	2128121.36	8.00	0.00
											6131720.49	2128133.45	8.00	0.00
											6131709.66	2128141.85	8.00	0.00
											6131610.38	2128217.41	8.00	0.00
											6131610.36	2128217.42	8.00	0.00
											6131610.32	2128217.45	8.00	0.00
											6131578.27	2128245.75	8.00	0.00
											6131456.77	2128088.81	8.00	0.00

Name	Sel.	M.	ID	Absorption		Z-Ext.	Cantilever		Height			Coordinates			
				left	right		horz.	vert.	Begin		End	x	y	z	Ground
						(ft)	(ft)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
												6131456.66	2128088.69	8.00	0.00
												6131456.53	2128088.59	8.00	0.00
												6131456.39	2128088.51	8.00	0.00
												6131456.24	2128088.46	8.00	0.00
												6131456.09	2128088.43	8.00	0.00
												6131455.92	2128088.42	8.00	0.00
												6131455.77	2128088.44	8.00	0.00
												6131222.85	2128139.09	8.00	0.00
												6131222.69	2128139.14	8.00	0.00
												6131222.54	2128139.22	8.00	0.00
												6131222.41	2128139.32	8.00	0.00
												6131222.29	2128139.44	8.00	0.00
												6131222.20	2128139.58	8.00	0.00
												6131222.13	2128139.73	8.00	0.00
												6131222.08	2128139.89	8.00	0.00
												6131222.07	2128140.06	8.00	0.00
												6131221.73	2128175.11	8.00	0.00
												6131199.62	2128183.01	8.00	0.00
												6131199.47	2128183.08	8.00	0.00
												6131199.34	2128183.17	8.00	0.00
												6131199.22	2128183.28	8.00	0.00
												6131199.12	2128183.40	8.00	0.00
												6131199.04	2128183.54	8.00	0.00
												6131198.99	2128183.69	8.00	0.00
												6131198.96	2128183.85	8.00	0.00
												6131198.96	2128184.01	8.00	0.00
												6131206.46	2128314.70	8.00	0.00
												6131106.92	2128324.98	8.00	0.00
												6131106.79	2128324.91	8.00	0.00
												6131106.66	2128324.87	8.00	0.00
												6131106.52	2128324.84	8.00	0.00
												6131106.39	2128324.83	8.00	0.00
												6131093.73	2128325.06	8.00	0.00
												6131093.57	2128325.07	8.00	0.00
												6131093.42	2128325.11	8.00	0.00
												6131093.27	2128325.18	8.00	0.00
												6131093.14	2128325.26	8.00	0.00
												6131093.02	2128325.37	8.00	0.00
												6131092.92	2128325.49	8.00	0.00
												6131092.84	2128325.63	8.00	0.00
												6131092.79	2128325.78	8.00	0.00
												6131092.76	2128325.93	8.00	0.00
												6131092.75	2128326.09	8.00	0.00
												6131094.38	2128371.16	8.00	0.00
												6131094.68	2128379.25	8.00	0.00
												6131091.98	2128462.14	8.00	0.00
												6131091.98	2128462.31	8.00	0.00
												6131092.02	2128462.47	8.00	0.00
												6131092.09	2128462.63	8.00	0.00
												6131092.18	2128462.78	8.00	0.00
												6131092.30	2128462.90	8.00	0.00
												6131092.43	2128463.01	8.00	0.00
												6131092.58	2128463.09	8.00	0.00
												6131092.75	2128463.14	8.00	0.00
												6131092.92	2128463.17	8.00	0.00
												6131111.04	2128464.24	8.00	0.00
												6131111.20	2128464.24	8.00	0.00
												6131111.36	2128464.21	8.00	0.00
												6131111.51	2128464.16	8.00	0.00
												6131111.65	2128464.08	8.00	0.00
												6131111.77	2128463.98	8.00	0.00
												6131127.51	2128449.66	8.00	0.00
												6131195.04	2128455.62	8.00	0.00
												6131193.10	2128475.72	8.00	0.00
												6131193.10	2128475.88	8.00	0.00
												6131193.12	2128476.03	8.00	0.00
												6131193.17	2128476.19	8.00	0.00
												6131193.24	2128476.33	8.00	0.00
												6131193.33	2128476.46	8.00	0.00
												6131193.45	2128476.57	8.00	0.00
												6131193.58	2128476.67	8.00	0.00
												6131193.72	2128476.74	8.00	0.00
												6131193.87	2128476.78	8.00	0.00
												6131194.03	2128476.81	8.00	0.00
												6131220.05	2128478.45	8.00	0.00
												6131241.88	2128488.41	8.00	0.00
												6131242.01	2128488.46	8.00	0.00

Name	Sel.	M.	ID	Absorption		Z-Ext.	Cantilever		Height		Coordinates			
				left	right		horz.	vert.	Begin	End	x	y	z	Ground
						(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
											6131242.15	2128488.49	8.00	0.00
											6131242.28	2128488.50	8.00	0.00
											6131242.42	2128488.50	8.00	0.00
											6131245.56	2128488.12	8.00	0.00
											6131258.63	2128487.59	8.00	0.00
											6131261.58	2128492.04	8.00	0.00
											6131270.17	2128570.00	8.00	0.00
											6131270.18	2128570.01	8.00	0.00
											6131275.62	2128614.64	8.00	0.00
											6131278.14	2128645.26	8.00	0.00
											6131283.55	2128703.66	8.00	0.00
											6131283.56	2128703.69	8.00	0.00
											6131286.72	2128728.37	8.00	0.00
											6131286.73	2128728.41	8.00	0.00
											6131286.76	2128728.58	8.00	0.00
											6131286.83	2128728.74	8.00	0.00
											6131286.92	2128728.88	8.00	0.00
											6131287.04	2128729.01	8.00	0.00
											6131287.18	2128729.12	8.00	0.00
											6131287.33	2128729.20	8.00	0.00
											6131287.49	2128729.25	8.00	0.00
											6131287.67	2128729.28	8.00	0.00
											6131287.84	2128729.27	8.00	0.00
											6131287.85	2128729.27	8.00	0.00
											6131315.00	2128725.97	8.00	0.00
											6131330.32	2128724.58	8.00	0.00
											6131330.36	2128724.57	8.00	0.00
											6131330.38	2128724.57	8.00	0.00

Building(s)

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(ft)		(ft)	(ft)	(ft)	(ft)
Verdugo Street 26762, 92675 San Juan Capistrano, (Regency Theatres)			building_00014	x	0		20.00	r	6130810.63	2128797.52	20.00	0.00
									6130902.15	2128806.29	20.00	0.00
									6130893.56	2128923.91	20.00	0.00
									6130892.85	2128932.58	20.00	0.00
									6130883.84	2128935.43	20.00	0.00
									6130865.19	2128933.86	20.00	0.00
									6130865.37	2128931.57	20.00	0.00
									6130860.18	2128931.13	20.00	0.00
									6130860.37	2128929.02	20.00	0.00
									6130855.48	2128928.57	20.00	0.00
									6130855.67	2128926.53	20.00	0.00
									6130820.72	2128923.55	20.00	0.00
									6130820.56	2128925.26	20.00	0.00
									6130814.79	2128924.76	20.00	0.00
									6130814.58	2128927.13	20.00	0.00
									6130810.31	2128926.75	20.00	0.00
									6130810.12	2128928.71	20.00	0.00
									6130761.03	2128924.18	20.00	0.00
									6130753.45	2128902.08	20.00	0.00
Camino Capistrano 31786, 92675 San Juan Capistrano, (Swallow's Inn)			building_00024	x	0		20.00	r	6131082.06	2128950.54	20.00	0.00
									6131133.26	2128944.82	20.00	0.00
									6131137.47	2128884.03	20.00	0.00
									6131092.35	2128881.80	20.00	0.00
									6131089.10	2128880.57	20.00	0.00
			building_00026	x	0		20.00	r	6131092.63	2128812.51	20.00	0.00
									6131095.83	2128812.69	20.00	0.00
									6131169.10	2128817.33	20.00	0.00
									6131170.41	2128797.05	20.00	0.00
									6131161.53	2128796.48	20.00	0.00
									6131166.51	2128718.46	20.00	0.00
									6131099.77	2128714.23	20.00	0.00
									6131095.42	2128782.56	20.00	0.00
									6131110.28	2128783.49	20.00	0.00
									6131109.88	2128789.79	20.00	0.00
									6131094.17	2128788.80	20.00	0.00
Camino Capistrano 31781, 92675 San Juan Capistrano			building_00027	x	0		20.00	r	6130893.56	2128923.91	20.00	0.00
									6130908.21	2128925.17	20.00	0.00
									6130907.47	2128937.80	20.00	0.00
									6130980.54	2128944.02	20.00	0.00
									6131002.55	2128925.67	20.00	0.00
									6131005.78	2128882.98	20.00	0.00
									6130990.43	2128883.91	20.00	0.00
									6130987.48	2128884.75	20.00	0.00

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(ft)		(ft)	(ft)	(ft)	(ft)
									6130985.48	2128885.65	20.00	0.00
									6130983.88	2128886.84	20.00	0.00
									6130982.59	2128888.28	20.00	0.00
									6130981.70	2128890.00	20.00	0.00
									6130981.44	2128891.64	20.00	0.00
									6130977.99	2128891.29	20.00	0.00
									6130977.94	2128889.58	20.00	0.00
									6130977.50	2128888.35	20.00	0.00
									6130976.39	2128887.49	20.00	0.00
									6130974.49	2128886.93	20.00	0.00
									6130971.74	2128886.57	20.00	0.00
									6130971.70	2128883.58	20.00	0.00
									6130972.30	2128878.52	20.00	0.00
									6130915.68	2128873.43	20.00	0.00
									6130918.77	2128840.23	20.00	0.00
									6130968.70	2128843.99	20.00	0.00
									6130969.34	2128837.58	20.00	0.00
									6130994.73	2128839.53	20.00	0.00
									6130993.63	2128854.76	20.00	0.00
									6131011.66	2128856.15	20.00	0.00
									6131014.92	2128815.35	20.00	0.00
									6130916.74	2128807.58	20.00	0.00
									6130902.15	2128806.29	20.00	0.00
			building_00048	x	0		20.00	r	6130920.96	2128756.58	20.00	0.00
									6130916.74	2128807.58	20.00	0.00
									6131014.92	2128815.35	20.00	0.00
									6131018.71	2128764.39	20.00	0.00
			building_00051	x	0		20.00	r	6131031.62	2128627.49	20.00	0.00
									6131036.41	2128627.79	20.00	0.00
									6131042.29	2128544.34	20.00	0.00
									6131002.71	2128541.60	20.00	0.00
									6131000.58	2128571.47	20.00	0.00
									6130996.80	2128571.19	20.00	0.00
									6130993.01	2128624.78	20.00	0.00
			building_00052	x	0		20.00	r	6130991.68	2128643.53	20.00	0.00
									6131030.31	2128646.21	20.00	0.00
									6131031.62	2128627.49	20.00	0.00
									6130993.01	2128624.78	20.00	0.00
			building_00053	x	0		20.00	r	6130971.10	2128670.78	20.00	0.00
									6130987.77	2128672.04	20.00	0.00
									6130986.03	2128694.49	20.00	0.00
									6131026.47	2128697.58	20.00	0.00
									6131030.23	2128648.87	20.00	0.00
									6131007.40	2128647.11	20.00	0.00
									6131006.99	2128652.57	20.00	0.00
									6130972.71	2128649.98	20.00	0.00
			building_00054	x	0		20.00	r	6130877.40	2128694.32	20.00	0.00
									6130950.16	2128699.88	20.00	0.00
									6130950.65	2128693.58	20.00	0.00
									6130969.24	2128695.00	20.00	0.00
									6130971.10	2128670.78	20.00	0.00
									6130972.71	2128649.98	20.00	0.00
									6130973.00	2128646.44	20.00	0.00
									6130881.63	2128639.49	20.00	0.00
									6130880.72	2128651.33	20.00	0.00
									6130879.89	2128661.93	20.00	0.00
			building_00055	x	0		20.00	r	6130849.93	2128669.91	20.00	0.00
									6130855.21	2128670.31	20.00	0.00
									6130855.99	2128660.11	20.00	0.00
									6130879.89	2128661.93	20.00	0.00
									6130880.72	2128651.33	20.00	0.00
									6130864.09	2128650.07	20.00	0.00
									6130863.93	2128652.22	20.00	0.00
									6130851.36	2128651.26	20.00	0.00
									6130851.13	2128654.32	20.00	0.00
			building_00056	x	0		20.00	r	6130820.50	2128648.91	20.00	0.00
									6130851.36	2128651.26	20.00	0.00
									6130863.93	2128652.22	20.00	0.00
									6130864.09	2128650.07	20.00	0.00
									6130865.31	2128634.29	20.00	0.00
									6130821.88	2128630.99	20.00	0.00
			building_00057	x	0		20.00	r	6130817.12	2128692.01	20.00	0.00
									6130831.83	2128693.12	20.00	0.00
									6130848.04	2128694.35	20.00	0.00
									6130849.93	2128669.91	20.00	0.00
									6130851.13	2128654.32	20.00	0.00
									6130820.21	2128651.97	20.00	0.00

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(ft)		(ft)	(ft)	(ft)	(ft)
Camino Capistrano 31792, 92675 San Juan Capistrano			building_00025	x	0		13.42	r	6131092.35	2128881.80	13.42	0.00
									6131137.47	2128884.03	13.42	0.00
									6131157.18	2128885.04	13.42	0.00
									6131159.19	2128844.83	13.42	0.00
									6131166.73	2128845.21	13.42	0.00
									6131169.10	2128817.33	13.42	0.00
									6131095.83	2128812.69	13.42	0.00
Camino Capistrano 31931, 92675 San Juan Capistrano			building_00040	x	0		13.68	r	6130850.48	2128060.32	13.68	0.00
									6131016.05	2128059.06	13.68	0.00
									6131015.77	2128020.82	13.68	0.00
									6130850.18	2128022.08	13.68	0.00
El Camino Real 31806, 92675 San Juan Capistrano, (Blas Aguilar Adobe)			building_00032	x	0		13.88	r	6131358.93	2128838.71	13.88	0.00
									6131364.77	2128837.94	13.88	0.00
									6131365.31	2128842.08	13.88	0.00
									6131440.09	2128832.41	13.88	0.00
									6131435.02	2128793.68	13.88	0.00
									6131360.52	2128803.35	13.88	0.00
									6131361.00	2128807.17	13.88	0.00
									6131351.81	2128808.38	13.88	0.00
									6131353.99	2128825.13	13.88	0.00
									6131357.12	2128824.72	13.88	0.00
Camino Capistrano 31761, 92675 San Juan Capistrano			building_00019	x	0		14.27	r	6130850.16	2129061.94	14.27	0.00
									6130856.43	2128985.15	14.27	0.00
									6130998.97	2128996.68	14.27	0.00
									6131002.69	2128996.99	14.27	0.00
									6130994.48	2129097.47	14.27	0.00
									6130987.27	2129096.88	14.27	0.00
									6130981.87	2129096.44	14.27	0.00
									6130980.33	2129115.38	14.27	0.00
									6130918.43	2129110.40	14.27	0.00
									6130918.80	2129105.96	14.27	0.00
									6130906.20	2129104.96	14.27	0.00
									6130910.43	2129053.09	14.27	0.00
									6130868.19	2129049.69	14.27	0.00
									6130867.10	2129063.32	14.27	0.00
Ortega Highway 26850, 92675 San Juan Capistrano, (Mission Promenade)			building_00007	x	0		15.03	r	6131328.11	2129057.73	15.03	0.00
									6131323.85	2129058.29	15.03	0.00
									6131303.19	2129061.12	15.03	0.00
									6131301.51	2129043.24	15.03	0.00
									6131265.99	2129047.58	15.03	0.00
									6131267.66	2129080.92	15.03	0.00
									6131254.04	2129101.67	15.03	0.00
									6131230.33	2129101.99	15.03	0.00
									6131230.57	2129104.43	15.03	0.00
									6131195.13	2129107.78	15.03	0.00
									6131077.27	2129118.91	15.03	0.00
									6131069.85	2129115.96	15.03	0.00
									6131067.70	2129108.05	15.03	0.00
									6131076.48	2129018.19	15.03	0.00
									6131085.68	2129017.27	15.03	0.00
									6131085.62	2129015.23	15.03	0.00
									6131085.28	2129005.74	15.03	0.00
									6131169.44	2128995.57	15.03	0.00
									6131170.84	2129008.98	15.03	0.00
									6131295.36	2128996.52	15.03	0.00
									6131295.67	2129001.58	15.03	0.00
									6131296.14	2129008.92	15.03	0.00
									6131319.40	2129006.31	15.03	0.00
									6131323.11	2129005.90	15.03	0.00
Del Obispo Street 31771, 92675 San Juan Capistrano, (Taco Bell)			building_00031	x	0		16.31	r	6131665.99	2128867.23	16.31	0.00
									6131691.37	2128868.20	16.31	0.00
									6131691.48	2128865.39	16.31	0.00
									6131714.69	2128866.32	16.31	0.00
									6131714.58	2128869.38	16.31	0.00
									6131732.58	2128870.08	16.31	0.00
									6131732.66	2128867.31	16.31	0.00
									6131741.97	2128867.70	16.31	0.00
									6131742.56	2128852.62	16.31	0.00
									6131744.63	2128852.70	16.31	0.00
									6131745.32	2128835.99	16.31	0.00
									6131667.35	2128832.93	16.31	0.00
Camino Capistrano 31971, 92675 San Juan Capistrano, (Union Bank)			building_00041	x	0		16.37	r	6130945.75	2127938.03	16.37	0.00
									6131022.37	2127936.19	16.37	0.00
									6131020.07	2127840.59	16.37	0.00
									6130943.41	2127842.43	16.37	0.00
Del Obispo Street 31791, 92675 San Juan Capistrano, (Marie Callender's)			building_00030	x	0		16.67	r	6131673.90	2128570.76	16.67	0.00
									6131705.03	2128573.76	16.67	0.00

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(ft)		(ft)	(ft)	(ft)	(ft)
									6131702.92	2128595.58	16.67	0.00
									6131795.14	2128604.49	16.67	0.00
									6131797.88	2128576.58	16.67	0.00
									6131803.40	2128577.09	16.67	0.00
									6131809.86	2128510.95	16.67	0.00
									6131779.51	2128508.01	16.67	0.00
									6131781.76	2128484.87	16.67	0.00
									6131720.25	2128478.94	16.67	0.00
									6131716.87	2128513.48	16.67	0.00
									6131678.86	2128509.81	16.67	0.00
									6131678.41	2128514.73	16.67	0.00
									6131661.19	2128513.07	16.67	0.00
									6131656.70	2128559.13	16.67	0.00
									6131674.86	2128560.88	16.67	0.00
Camino Capistrano 31866, 92675 San Juan Capistrano			building_00070	x	0		16.93	r	6131173.58	2128554.53	16.93	0.00
									6131176.99	2128495.53	16.93	0.00
									6131202.44	2128497.01	16.93	0.00
									6131203.97	2128470.75	16.93	0.00
									6131180.02	2128469.36	16.93	0.00
									6131180.22	2128466.05	16.93	0.00
									6131141.65	2128463.84	16.93	0.00
									6131138.05	2128526.34	16.93	0.00
									6131133.17	2128526.04	16.93	0.00
									6131131.66	2128552.12	16.93	0.00
Del Obispo Street 31863, 92675 San Juan Capistrano			building_00065	x	0		17.65	r	6131670.16	2128258.39	17.65	0.00
									6131724.39	2128328.08	17.65	0.00
									6131767.87	2128294.56	17.65	0.00
									6131774.92	2128303.59	17.65	0.00
									6131807.96	2128278.11	17.65	0.00
									6131785.71	2128249.48	17.65	0.00
									6131782.21	2128252.15	17.65	0.00
									6131743.24	2128202.06	17.65	0.00
Camino Capistrano 31901, 92675 San Juan Capistrano			building_00039	x	0		17.72	r	6130841.94	2128248.50	17.72	0.00
									6131020.49	2128247.80	17.72	0.00
									6131020.26	2128187.94	17.72	0.00
									6130979.01	2128188.09	17.72	0.00
									6130978.96	2128172.67	17.72	0.00
									6130841.65	2128173.22	17.72	0.00
Del Obispo Street 31865, 92675 San Juan Capistrano			building_00008	x	0		20.08	r	6131671.77	2128116.30	20.08	0.00
									6131644.15	2128078.21	20.08	0.00
									6131649.88	2128073.70	20.08	0.00
									6131638.63	2128060.27	20.08	0.00
									6131631.14	2128051.28	20.08	0.00
									6131619.61	2128060.02	20.08	0.00
									6131617.68	2128057.54	20.08	0.00
									6131561.57	2128099.53	20.08	0.00
									6131575.00	2128115.87	20.08	0.00
									6131580.39	2128122.45	20.08	0.00
									6131583.32	2128120.59	20.08	0.00
									6131614.81	2128160.93	20.08	0.00
Verdugo Street 26701, 92675 San Juan Capistrano			building_00001	x	0		22.11	r	6130689.49	2128902.26	22.11	0.00
									6130689.17	2128912.45	22.11	0.00
									6130674.19	2128911.74	22.11	0.00
									6130695.52	2128621.13	22.11	0.00
									6130821.88	2128630.99	22.11	0.00
									6130820.50	2128648.91	22.11	0.00
									6130820.21	2128651.97	22.11	0.00
									6130811.39	2128757.22	22.11	0.00
									6130730.88	2128903.70	22.11	0.00
									6130723.78	2128904.12	22.11	0.00
									6130715.81	2128903.32	22.11	0.00
									6130707.97	2128902.52	22.11	0.00
Ortega Highway 26801, 92675 San Juan Capistrano			building_00017	x	0		22.34	r	6131000.70	2129212.13	22.34	0.00
									6131002.25	2129229.76	22.34	0.00
									6131018.39	2129228.34	22.34	0.00
									6131019.86	2129244.91	22.34	0.00
									6131032.31	2129243.83	22.34	0.00
									6131032.06	2129241.00	22.34	0.00
									6131041.59	2129240.18	22.34	0.00
									6131052.68	2129239.19	22.34	0.00
									6131053.03	2129242.93	22.34	0.00
									6131095.91	2129239.15	22.34	0.00
									6131095.69	2129236.50	22.34	0.00
									6131118.50	2129234.51	22.34	0.00
									6131115.22	2129197.44	22.34	0.00
									6131091.65	2129199.50	22.34	0.00
									6131092.16	2129205.36	22.34	0.00

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(ft)		(ft)	(ft)	(ft)	(ft)
									6131050.84	2129208.97	22.34	0.00
									6131051.09	2129211.77	22.34	0.00
									6131038.42	2129212.89	22.34	0.00
									6131020.15	2129214.52	22.34	0.00
									6131019.79	2129210.45	22.34	0.00
Del Obispo Street 31877, 92675 San Juan Capistrano			building_00068	x	0		23.72	r	6131380.85	2127915.80	23.72	0.00
									6131447.26	2128001.65	23.72	0.00
									6131507.89	2127953.23	23.72	0.00
									6131479.60	2127918.14	23.72	0.00
									6131455.18	2127938.19	23.72	0.00
									6131436.97	2127915.18	23.72	0.00
									6131451.24	2127894.72	23.72	0.00
									6131517.59	2127940.08	23.72	0.00
									6131543.99	2127901.80	23.72	0.00
									6131440.63	2127832.13	23.72	0.00
Camino Capistrano 31892, 92675 San Juan Capistrano, (Ellies Table)			building_00059	x	0		24.31	r	6131119.19	2128325.06	24.31	0.00
									6131137.71	2128323.79	24.31	0.00
									6131137.60	2128322.34	24.31	0.00
									6131148.96	2128321.53	24.31	0.00
									6131149.04	2128322.55	24.31	0.00
									6131165.88	2128321.37	24.31	0.00
									6131163.23	2128282.94	24.31	0.00
									6131152.60	2128283.71	24.31	0.00
									6131152.22	2128278.36	24.31	0.00
									6131111.59	2128281.17	24.31	0.00
									6131114.39	2128321.60	24.31	0.00
									6131118.93	2128321.28	24.31	0.00
Camino Capistrano 31972, 92675 San Juan Capistrano, (Chase)			building_00011	x	0		24.61	r	6131131.29	2127953.28	24.61	0.00
									6131128.20	2127835.12	24.61	0.00
									6131201.53	2127833.22	24.61	0.00
									6131204.59	2127951.37	24.61	0.00
Del Obispo Street 31873, 92675 San Juan Capistrano			building_00071	x	0		25.95	r	6131563.67	2127922.97	25.95	0.00
									6131493.23	2127976.83	25.95	0.00
									6131535.16	2128031.11	25.95	0.00
									6131605.59	2127977.24	25.95	0.00
Camino Capistrano 31871, 92675 San Juan Capistrano			building_00069	x	0		26.12	r	6131052.45	2128446.38	26.12	0.00
									6131059.35	2128331.77	26.12	0.00
									6131005.64	2128328.60	26.12	0.00
									6131004.25	2128351.91	26.12	0.00
									6130914.73	2128346.57	26.12	0.00
									6130911.32	2128403.28	26.12	0.00
									6130919.19	2128403.72	26.12	0.00
									6130918.30	2128418.98	26.12	0.00
									6130864.02	2128415.75	26.12	0.00
									6130863.15	2128430.06	26.12	0.00
									6130900.04	2128432.25	26.12	0.00
									6130899.71	2128437.32	26.12	0.00
Camino Capistrano , 92675 San Juan Capistrano			building_00072	x	0		26.12	r	6130968.42	2128483.95	26.12	0.00
									6130994.63	2128485.56	26.12	0.00
									6130992.70	2128516.48	26.12	0.00
									6131010.46	2128517.55	26.12	0.00
									6131010.76	2128512.63	26.12	0.00
									6131047.10	2128514.87	26.12	0.00
									6131050.68	2128457.21	26.12	0.00
									6131026.39	2128455.72	26.12	0.00
									6131026.82	2128449.20	26.12	0.00
									6131023.71	2128449.03	26.12	0.00
									6131023.81	2128447.43	26.12	0.00
									6131003.00	2128446.14	26.12	0.00
									6131002.85	2128448.77	26.12	0.00
									6130996.69	2128448.38	26.12	0.00
									6130995.66	2128464.87	26.12	0.00
									6130969.72	2128463.26	26.12	0.00
El Camino Real 31776, 92675 San Juan Capistrano, (Camino Real Playhouse)			building_00033	x	0		27.79	r	6131392.01	2128940.34	27.79	0.00
									6131583.02	2128909.59	27.79	0.00
									6131577.47	2128875.42	27.79	0.00
									6131569.04	2128876.77	27.79	0.00
									6131564.12	2128846.41	27.79	0.00
									6131420.29	2128869.57	27.79	0.00
									6131421.52	2128877.09	27.79	0.00
									6131382.76	2128883.33	27.79	0.00
									6131384.92	2128896.58	27.79	0.00
Camino Capistrano 31952, 92675 San Juan Capistrano			building_00073	x	0		73.82	r	6131196.23	2128223.51	73.82	0.00
									6131194.83	2128137.50	73.82	0.00
									6131175.74	2128137.83	73.82	0.00
									6131175.54	2128125.24	73.82	0.00
									6131181.21	2128125.16	73.82	0.00

Name	Sel.	M.	ID	RB	Residents	Absorption	Height	Coordinates			
							Begin	x	y	z	Ground
							(ft)	(ft)	(ft)	(ft)	(ft)
								6131180.74	2128096.82	73.82	0.00
								6131205.00	2128096.42	73.82	0.00
								6131204.79	2128085.18	73.82	0.00
								6131216.01	2128084.99	73.82	0.00
								6131216.18	2128095.43	73.82	0.00
								6131242.54	2128094.97	73.82	0.00
								6131243.06	2128126.26	73.82	0.00
								6131282.11	2128125.62	73.82	0.00
								6131280.84	2128050.16	73.82	0.00
								6131198.94	2128051.52	73.82	0.00
								6131198.70	2128036.24	73.82	0.00
								6131158.40	2128036.93	73.82	0.00
								6131158.44	2128039.95	73.82	0.00
								6131113.64	2128040.71	73.82	0.00
								6131114.97	2128119.11	73.82	0.00
								6131135.91	2128118.79	73.82	0.00
								6131137.68	2128224.48	73.82	0.00