

APPENDIX G

Noise Impact Report

Prepared by

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Desert Wave

NOISE IMPACT ANALYSIS

CITY OF PALM DESERT

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LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
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
Hz	Hertz
INCE	Institute of Noise Control Engineering
L_{eq}	Equivalent continuous (average) sound level
L_{max}	Maximum level measured over the time interval
L_{min}	Minimum level measured over the time interval
mph	Miles per hour
OPR	Office of Planning and Research
PPV	Peak particle velocity
Project	Desert Wave
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 potential noise impacts and the necessary noise mitigation measures, if any, for the proposed Desert Wave development ("Project"). The Project site is located west of Desert Willow Drive, in the City of Palm Desert. It is our understanding that the Project is to consist of a 6.0-acre surf lagoon with restaurant, café, bar, and two hotels with a maximum of 350 rooms and a maximum of 88 villas. This study has been prepared to satisfy applicable City of Palm Desert standards and thresholds of significance based on guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1)

OFF-SITE TRAFFIC NOISE ANALYSIS

Traffic generated by the operation of the Project will influence the traffic noise levels in surrounding off-site areas. To quantify the off-site traffic noise increases on the surrounding off-site areas, the changes in traffic noise levels on 22 study-area roadway segments were calculated based on the change in the average daily traffic (ADT) volumes. The traffic noise levels provided in this analysis are based on the traffic forecasts found in the *Desert Wave Traffic Impact Analysis* prepared by Urban Crossroads, Inc. (2) To assess the off-site noise level impacts associated with the proposed Project, noise contour boundaries were developed for Existing (2019), Existing plus Ambient Growth (EA) 2022, and EA plus Cumulative (EAC) 2022 conditions.

The analysis shows that the unmitigated Project-related traffic noise level increases under all with Project traffic scenarios are considered *less than significant* impacts at land uses adjacent to the study area roadway segments.

As a part of the Environmental Impact Report for the Project, three land use alternatives were compared in terms of trip generation for the Project site, including: retail and multi-family housing, single-family detached housing, and hotel use. Based on the *Alternatives Trip Generation Summary* prepared by Urban Crossroads, Inc., all Project land use alternatives would generate fewer daily trips than those of the Project. Therefore, off-site traffic noise level increases related to the three land use alternatives are anticipated to be lower than those presented in this report for the proposed Project land use. Moreover, since Project off-site traffic noise level increases are shown in this report to result in *less than significant* noise impacts, the three land use alternatives, which would generate fewer daily trips, would therefore, also result in equivalent or lower off-site traffic noise level impacts.

OPERATIONAL NOISE ANALYSIS

Using reference noise levels to represent the expected noise sources from the Desert Wave site, this analysis estimates the Project-related stationary-source noise levels at nearby sensitive receiver locations under typical and special event conditions.

TYPICAL OPERATIONAL NOISE LEVELS

The typical activities associated with the proposed Desert Wave are anticipated to include surf lagoon/wave machine activities, outdoor pool/spa activities, parking lot vehicle movements, outdoor game activities, and roof-top air conditioning units. The typical condition operational noise analysis shows that the unmitigated Project-related stationary-source noise levels at all receiver locations will satisfy the City of Palm Desert base exterior noise level standards.

Moreover, the results of the analysis indicate that the unmitigated Project operational noise levels will not contribute a long-term operational noise level impact to the existing ambient noise environment. Therefore, the operational noise level impacts associated with the proposed 24-hour seven days per week Project activities, such as the surf lagoon/wave machine activities, outdoor pool/spa activities, parking lot vehicle movements, outdoor game activities, and roof-top air conditioning units, are considered *less than significant* under typical conditions.

SPECIAL EVENT OPERATIONAL NOISE LEVELS

Project special event operational noise levels are analyzed for compliance with City of Palm Desert Municipal Code base exterior noise level limits. Special event activities within the Project site are anticipated to include live and/or amplified music, and as such, the special event condition analysis includes all previously analyzed typical operational noise sources, with the addition of live and/or amplified music operating simultaneously. The special event condition operational noise analysis shows that the unmitigated Project-related stationary-source noise levels at all receiver locations will satisfy the City of Palm Desert base exterior noise level standards.

CONSTRUCTION NOISE ANALYSIS

Construction-related noise impacts are expected to create temporary and intermittent high-level noise conditions at receivers surrounding the Project site. Using sample reference noise levels to represent the planned construction activities of the Desert Wave site, this analysis estimates the Project-related construction noise levels at nearby sensitive receiver locations. Since the City of Palm Desert General Plan and Municipal Code do not identify specific construction noise level thresholds, a threshold is identified based on the National Institute for Occupational Safety and Health (NIOSH) limits for construction noise. The Project-related short-term construction noise levels are expected to range from 28.5 to 68.4 dBA L_{eq} and will satisfy the 85 dBA L_{eq} threshold identified by the National Institute for Occupational Safety and Health (NIOSH) at all receiver locations. Therefore, based on the results of this analysis, all nearby sensitive receiver locations will experience *less than significant* impacts due to Project construction noise levels.

CONSTRUCTION VIBRATION ANALYSIS

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. It is expected that ground-borne vibration from Project construction activities would cause only intermittent, localized intrusion. This analysis shows the highest construction vibration levels are expected to approach 0.009 in/sec RMS, which is below the County of Riverside vibration standard of 0.01 in/sec RMS at all receiver locations. Therefore, the Project-related vibration impacts are considered *less than significant* during the construction activities at the Project site.

Further, the Project-related construction vibration levels do not represent levels capable of causing building damage to nearby residential homes. The FTA identifies construction vibration levels capable of building damage ranging from 0.12 to 0.5 in/sec PPV. (3) The peak Project-construction vibration levels approaching 0.013 in/sec PPV will remain below the FTA vibration levels for building damage at the residential homes near the Project site. Moreover, the impacts at the site of the closest sensitive receivers are unlikely to be sustained during the entire construction period, but will occur rather only during the times that heavy construction equipment is operating adjacent to the Project site perimeter.

SUMMARY OF SIGNIFICANCE FINDINGS

The results of this Desert Wave Noise Impact Analysis are summarized below based on the significance criteria in Section 4 of this report. Table ES-1 shows the findings of significance for each potential noise and/or vibration impact before and after any required mitigation measures.

TABLE ES-1: SUMMARY OF SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
Off-Site Traffic Noise	7	<i>Less Than Significant</i>	-
Operational Noise	9	<i>Less Than Significant</i>	-
Construction Noise	10	<i>Less Than Significant</i>	-
Construction Vibration		<i>Less Than Significant</i>	-

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1 INTRODUCTION

This noise analysis has been completed to determine the noise impacts associated with the development of the proposed Desert Wave ("Project"). This noise study briefly describes the proposed Project, provides information regarding noise fundamentals, describes the local regulatory setting, provides the study methods and procedures for traffic noise analysis, and evaluates the future exterior noise environment. In addition, this study includes an analysis of the potential Project-related long-term operational and short-term construction noise and vibration impacts.

1.1 SITE LOCATION

The proposed Desert Wave site is located west of Desert Willow Drive, in the City of Palm Desert, as shown on Exhibit 1-A.

The Project site is mostly vacant with an existing parking lot located in the northwestern corner. Existing land uses near the site include a golf course to the north, south, and east, and an existing hotel use located west of the Project site.

1.2 PROJECT DESCRIPTION

It is our understanding that the Project is to consist of a 6.0-acre surf lagoon with restaurant, café, bar, and two hotels with a maximum of 350 rooms and a maximum of 88 villas, as shown on Exhibit 1-B.

The typical on-site Project-related noise sources are expected to include: surf lagoon/wave machine activities, outdoor pool/spa activities, parking lot vehicle movements, outdoor game activities, and roof-top air conditioning units. This noise analysis is intended to describe noise level impacts associated with the expected typical and special event operational conditions at the Project site. Special event activities within the Project site are anticipated to include live and/or amplified music, and as such, the special event condition analysis includes all previously identified typical operational noise sources with the addition of live and/or amplified music operating simultaneously.

EXHIBIT 1-A: LOCATION MAP

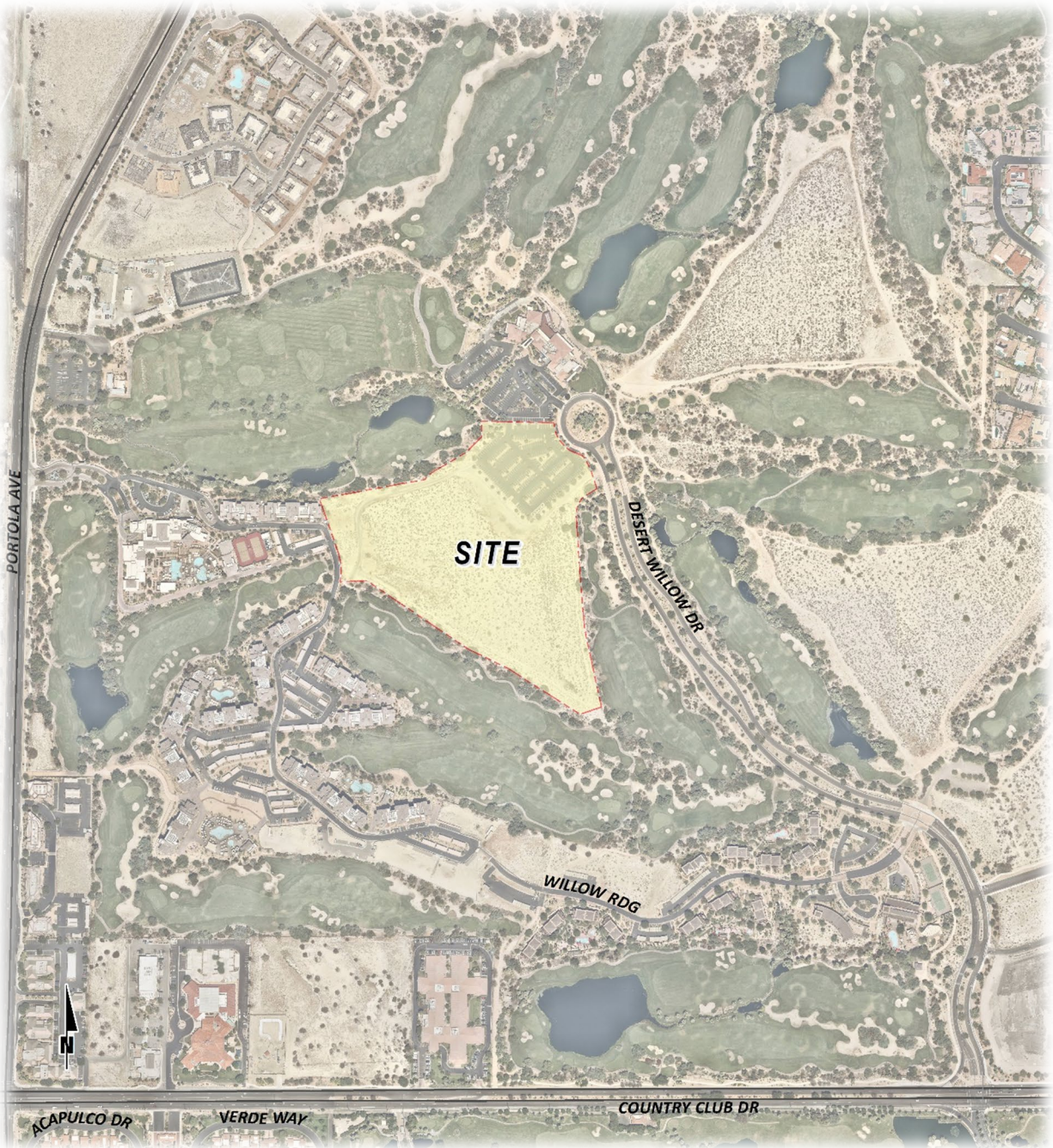
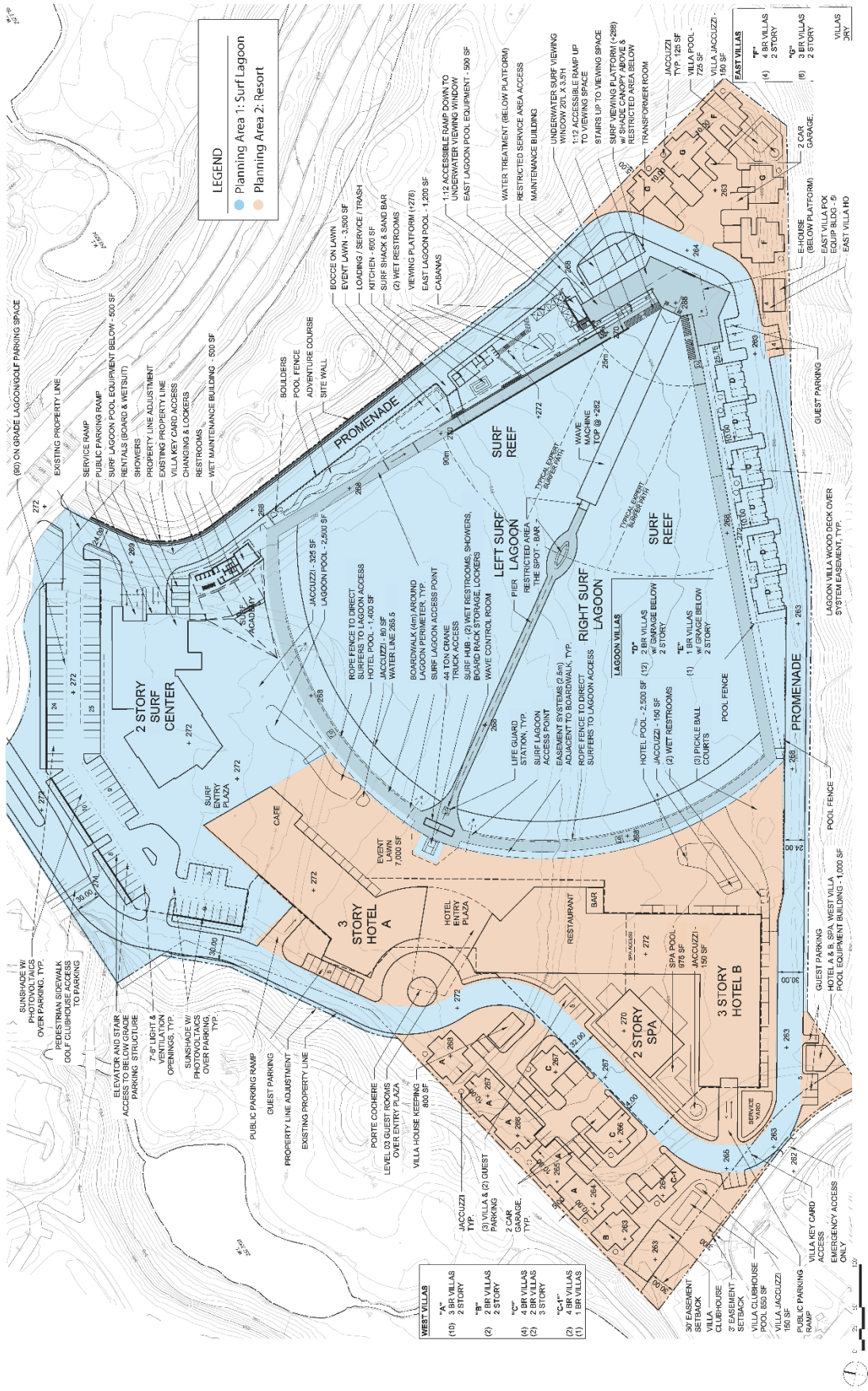


EXHIBIT 1-B: SITE PLAN



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2 FUNDAMENTALS

Noise has been 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		
NOISY URBAN AREA, DAYTIME	VACUUM CLEANER AT 3m (10 ft)	70	LOUD	SPEECH INTERFERENCE
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. (4) 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 100 feet, which can cause serious discomfort. (5) 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 commonly used figure 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 sound appears louder. CNEL does not represent the actual sound level heard at any time, but rather represents the total sound exposure. The City of Palm Desert 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. (4)

2.3.2 GROUND ABSORPTION

The propagation path of noise from a highway to a receptor 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 receptor, 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 receptor 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. (6)

2.3.3 ATMOSPHERIC EFFECTS

Receptors located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) 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. (4)

2.3.4 SHIELDING

A large object or barrier in the path between a noise source and a receptor can substantially attenuate noise levels at the receptor. 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 FHWA does not consider the planting of vegetation to be a noise abatement measure. (6)

2.4 NOISE CONTROL

Noise control is the process of obtaining an acceptable noise environment for an observation point or receptor by controlling the noise source, transmission path, receptor, or all three. This concept is known as the source-path-receptor 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 receptor. Noise barriers, however, do have limitations. For a noise barrier to work, it must be high enough and long enough to block the path of the noise source. (6)

2.6 LAND USE COMPATIBILITY WITH NOISE

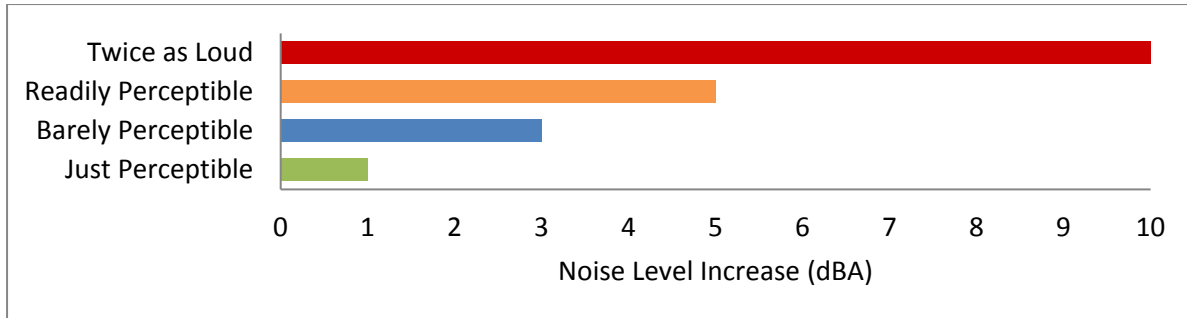
Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches, and residences are more sensitive to noise intrusion than are commercial or industrial developments and related activities. As ambient noise levels affect the perceived amenity or livability of a development, 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. (7)

2.7 COMMUNITY RESPONSE TO NOISE

Community responses to noise may range from registering a complaint by telephone or letter, to initiating court action, depending upon everyone's susceptibility to noise and personal attitudes about noise. Several factors are related to the level of community annoyance including:

- Fear associated with noise producing activities;
- Socio-economic status and educational level;
- Perception that those affected are being unfairly treated;
- Attitudes regarding the usefulness of the noise-producing activity;
- Belief that the noise source can be controlled.

Approximately ten 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 will occur. Another twenty-five percent of the population will not complain even in very severe noise environments. Thus, a variety of reactions can be expected from people exposed to any given noise environment. (8) Surveys have shown that about ten percent of the people exposed to traffic noise of 60 dBA will report being highly annoyed with the noise, and each increase of one dBA is associated with approximately two percent more people being highly annoyed. When traffic noise exceeds 60 dBA or aircraft noise exceeds 55 dBA, people may begin to complain. (8) 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. An increase or decrease of 1 dBA cannot be perceived except in carefully controlled laboratory experiments, a change of 3 dBA are considered *barely perceptible*, and changes of 5 dBA are considered *readily perceptible*. (6)

EXHIBIT 2-B: NOISE LEVEL INCREASE PERCEPTION

2.8 EXPOSURE TO HIGH NOISE LEVELS

The Occupational Safety and Health Administration (OSHA) sets legal limits on noise exposure in the workplace. The permissible exposure limit (PEL) for a worker over an eight-hour day is 90 dBA. The OSHA standard uses a 5 dBA exchange rate. This means that when the noise level is increased by 5 dBA, the amount of time a person can be exposed to a certain noise level to receive the same dose is cut in half. The National Institute for Occupational Safety and Health (NIOSH) has recommended that all worker exposures to noise should be controlled below a level equivalent to 85 dBA for eight hours to minimize occupational noise induced hearing loss. NIOSH also recommends a 3 dBA exchange rate so that every increase by 3 dBA doubles the amount of the noise and halves the recommended amount of exposure time. (9)

OSHA has implemented requirements to protect all workers in general industry (e.g. the manufacturing and the service sectors) for employers to implement a Hearing Conservation Program where workers are exposed to a time weighted average noise level of 85 dBA or higher over an eight-hour work shift. Hearing Conservation Programs require employers to measure noise levels, provide free annual hearing exams and free hearing protection, provide training, and conduct evaluations of the adequacy of the hearing protectors in use unless changes to tools, equipment and schedules are made so that they are less noisy and worker exposure to noise is less than the 85 dBA. This noise study does not evaluate the noise exposure of workers within a project or construction site based on CEQA requirements, and instead, evaluates Project-related operational and construction noise levels at the nearby sensitive receiver locations in the Project study area. Further, periodic exposure to high noise levels in short duration, such as Project construction, is typically considered an annoyance and not impactful to human health. It would take several years of exposure to high noise levels to result in hearing impairment. (10)

2.9 VIBRATION

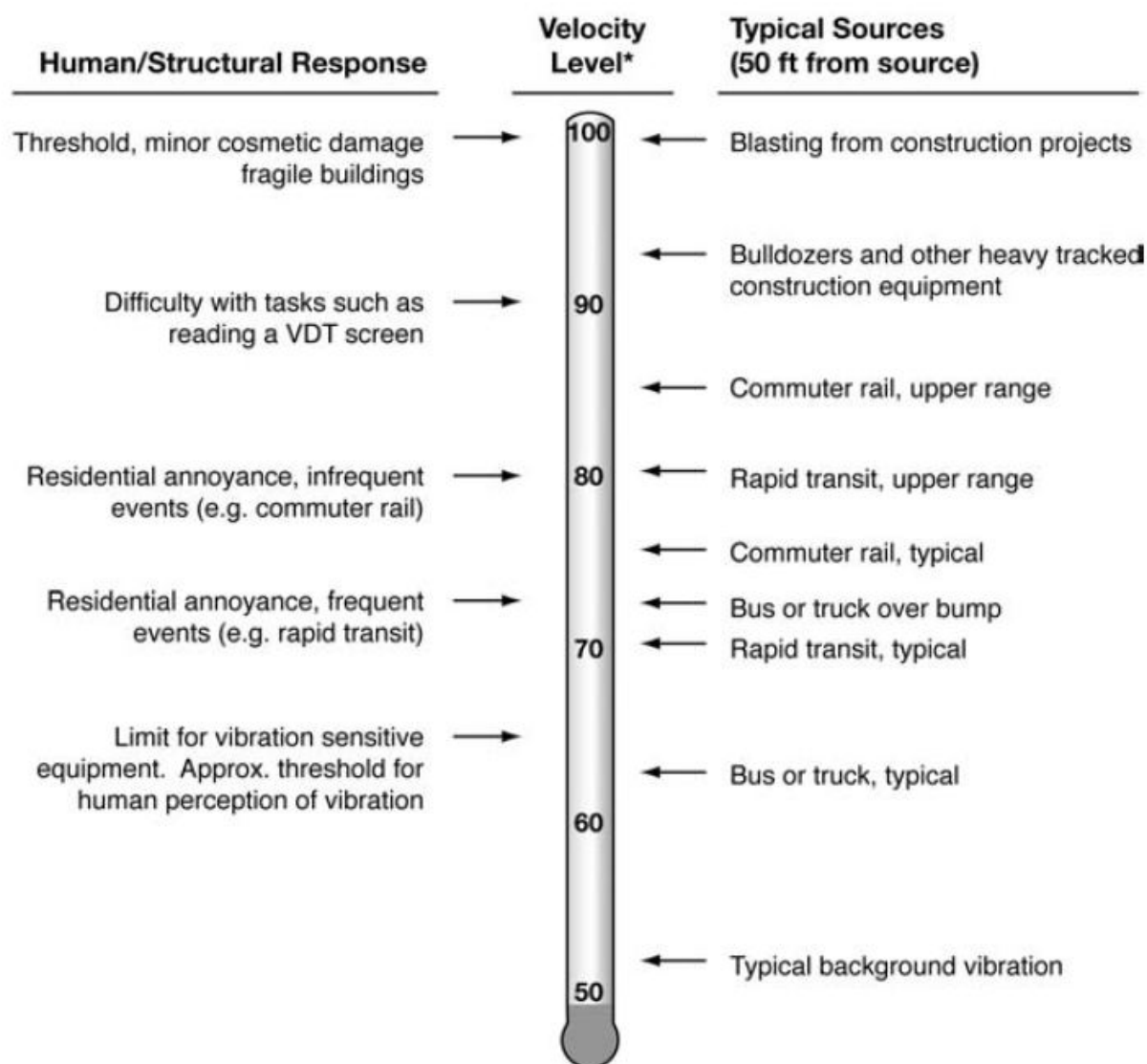
Per the Federal Transit Administration (FTA) *Transit Noise Impact and Vibration Assessment* (3), vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure-borne noise. Sources of ground-borne vibrations include natural 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.

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. 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. Decibel notation (VdB) is commonly used to measure RMS. Decibel notation (VdB) serves to reduce the range of numbers used to describe human response to vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receivers for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration-sensitive equipment.

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 Impact and Vibration Assessment.

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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). (11) The purpose of the Noise Element is to *limit the exposure of the community to excessive noise levels*.

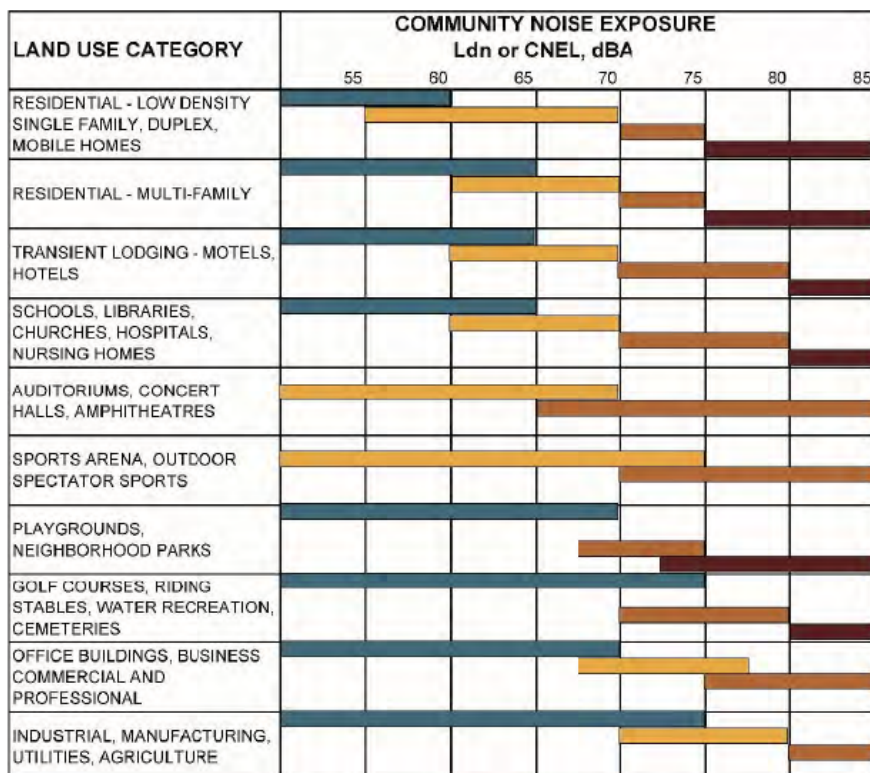
3.2 CITY OF PALM DESERT GENERAL PLAN NOISE ELEMENT

The City of Palm Desert has adopted a Noise Element of the General Plan *to include noise control in the planning process*. (12) The Noise Element specifies the allowable exterior noise levels for new developments impacted by transportation noise sources such as arterial roads, freeways, airports and railroads. In addition, the Noise Element identifies several policies to minimize the impacts of excessive noise levels throughout the community, and establishes noise level requirements for all land uses

3.2.1 LAND USE COMPATIBILITY

The noise criteria identified in the City of Palm Desert Noise Element (Table 7.1) are guidelines to evaluate the land use compatibility of transportation related noise. The compatibility criteria, shown on Exhibit 3-A, provides the City of Palm Desert with a planning tool to gauge the compatibility of land uses relative to existing and future exterior noise levels.

The *Noise Compatibility Matrix* describes categories of compatibility and not specific noise standards. Commercial land uses are considered *normally acceptable* with unmitigated exterior noise levels of less than 70 dBA CNEL, and residential uses with unmitigated exterior noise levels of less than 60 dBA CNEL. For *conditionally acceptable* exterior noise levels, approaching 70 dBA CNEL for residential and 75 dBA CNEL commercial uses, *new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and the needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice*. (12)

EXHIBIT 3-A: NOISE COMPATIBILITY MATRIX**NORMALLY ACCEPTABLE**

Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

CONDITIONALLY ACCEPTABLE

New construction or development should be undertaken only after a detailed analysis of the noise reduction 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.

NORMALLY UNACCEPTABLE

New construction or development should generally be discouraged. If new construction or development 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.

Guidelines for the Preparation and Content of Noise Elements of the General Plan, California Office of Planning and Research, 2003.

Source: City of Palm Desert General Plan Noise Element, Table 7.1.

3.3 OPERATIONAL NOISE STANDARDS

The City of Palm Desert Municipal Code, Section 9.24.030, establishes the base exterior noise levels for receiving land uses. Exterior noise levels at residential land uses shall not exceed 55 dBA L_{eq} during the daytime hours (7:00 a.m. to 10:00 p.m.) and 45 dBA L_{eq} during the nighttime hours (10:00 p.m. to 7:00 a.m.). (13) For commercial uses, exterior noise levels shall not exceed 65 dBA L_{eq} during the daytime hours (7:00 a.m. to 10:00 p.m.) and 55 dBA L_{eq} during the nighttime hours (10:00 p.m. to 7:00 a.m.). The City of Palm Desert Municipal Code base exterior noise level standards are shown on Table 3-1 and are included in Appendix 3.1.

The City of Palm Desert Municipal Code identifies base exterior noise level standards which do not account for the existing ambient noise level. Existing ambient noise levels in the Project study area are shown to exceed the base exterior standards at some measurement locations (described in Table 5-1), and as such, the ambient level would become the adjusted exterior noise level standards per Section 9.24.030(C) of the City of Palm Desert Municipal Code. However, this analysis relies on the more restrictive base exterior noise level standards of the City of Palm Desert Municipal Code rather than adjusted exterior noise levels which may reflect higher existing ambient conditions.

TABLE 3-1: BASE EXTERIOR NOISE LEVEL STANDARDS

Jurisdiction	Land Use	Time Period	Base Exterior Noise Level Standard (dBA) ²
City of Palm Desert ¹	Residential (All Zones)	Daytime (7:00 a.m. - 10:00 p.m.)	55
		Nighttime (10:00 p.m. - 7:00 a.m.)	45
	Commercial	Daytime (7:00 a.m. - 10:00 p.m.)	65
		Nighttime (10:00 p.m. - 7:00 a.m.)	55

¹ Source: City of Palm Desert Municipal Code, Section 9.24.030 (Appendix 3.1).

² L_{eq} represents a steady state sound level containing the same total energy as a time varying signal over a given sample period.

3.4 CONSTRUCTION NOISE STANDARDS

To control noise impacts associated with the construction of the proposed Project, the City of Palm Desert has established limits to the hours of operation. However, neither the City of Palm Desert 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*.

To evaluate whether the Project will generate potentially significant construction noise levels at off-site sensitive receiver locations, a construction-related noise level threshold is adopted from the *Criteria for Recommended Standard: Occupational Noise Exposure* prepared by the National Institute for Occupational Safety and Health (NIOSH). (14) A division of the U.S. Department of Health and Human Services, NIOSH identifies a noise level threshold based on the duration of

exposure to the source. The construction related noise level threshold starts at 85 dBA for more than eight hours per day, and for every 3 dBA increase, the exposure time is cut in half. This results in noise level thresholds of 88 dBA for more than four hours per day, 92 dBA for more than one hour per day, 96 dBA for more than 30 minutes per day, and up to 100 dBA for more than 15 minutes per day. (14) For the purposes of this analysis, the lowest, more conservative construction noise level threshold of 85 dBA L_{eq} is used as an acceptable threshold for construction noise at the nearby sensitive receiver locations. Since this construction-related noise level threshold represents the energy average of the noise source over a given time, they are expressed as L_{eq} noise levels. Therefore, the noise level threshold of 85 dBA L_{eq} over a period of eight hours or more is used to evaluate the potential Project-related construction noise level impacts at the nearby sensitive receiver locations.

The Occupational Safety and Health Administration (OSHA) requires hearing protection be provided by employers in workplaces where the noise levels may, over long periods of exposure to high noise levels, endanger the hearing of their employees. Standard 29 CFR, Part 1910 indicates the noise levels under which a hearing conservation program is required to be provided to workers exposed to high noise levels. (9) This analysis does not evaluate the noise exposure of construction workers within the Project site based on CEQA requirements, and instead, evaluates the Project-related construction noise levels at the nearby sensitive receiver locations in the Project study area. Further, periodic exposure to high noise levels in short duration, such as Project construction, is typically considered an annoyance and not impactful to human health. It would take several years of exposure to high noise levels to result in hearing impairment. (10)

3.5 VIBRATION STANDARDS

The City of Palm Desert does not have vibration standards for temporary construction, but the County of Riverside's General Plan Noise Element does contain the human reaction to typical vibration levels. Vibration levels with peak particle velocity of 0.787 inches per second are considered readily perceptible and above 0.1968 in/sec are considered annoying to people in buildings. Further, County of Riverside General Plan Policy N 16.3 identifies a motion velocity perception threshold for vibration due to passing trains of 0.01 inches per second (in/sec) over the range of one to 100 Hz, which is used in this noise study to assess potential impacts due to Project construction vibration levels. (12)

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?

While the City of Palm Desert General Plan Guidelines provide direction on noise compatibility and establish noise standards by land use type that are sufficient to assess the significance of noise impacts, they do not define the levels at which increases are considered substantial for use under Guideline A. CEQA Appendix G Guideline C applies to nearby public and private airports, if any, and the Project's land use compatibility.

CEQA GUIDELINES NOT FURTHER ANALYZED

The Project site is located approximately 8.3 miles southeast of Palm Springs International Airport, and roughly 14.7 miles northwest of Jacqueline Cochran Airport, and as such, would not be exposed to excessive aircraft noise levels. Therefore, impacts are considered *less than significant* and no further noise analysis is conducted in relation to Guideline C.

4.1 NOISE-SENSITIVE RECEIVERS

Noise level increases resulting from the Project are evaluated based on the Appendix G CEQA Guidelines described above at the closest sensitive receiver locations. Under CEQA, consideration must be given to the magnitude of the increase, the existing ambient noise levels, and the location of noise-sensitive 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 the noise impact significant*. (15)

Unfortunately, there is no completely satisfactory way to measure the subjective effects of noise or of the corresponding human reactions of annoyance and dissatisfaction. 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.

In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will typically be judged. The Federal Interagency Committee on Noise (FICON) (16) 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 the noise impact significant*, based on a 2008 California Court of Appeal ruling on Gray v. County of Madera. (15) 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, FICON identifies a *readily perceptible* 5 dBA or greater project-related noise level increase is considered a significant impact when the noise criteria for a given land use is exceeded. 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. Table 4-1 below provides a summary of the potential noise impact significance criteria, based on guidance from FICON.

TABLE 4-1: SIGNIFICANCE OF NOISE IMPACTS AT NOISE-SENSITIVE RECEIVERS

Without Project Noise Level	Potential Significant Impact
< 60 dBA	5 dBA or more
60 - 65 dBA	3 dBA or more
> 65 dBA	1.5 dBA or more

Federal Interagency Committee on Noise (FICON), 1992.

4.2 NON-NOISE-SENSITIVE RECEIVERS

The City of Palm Desert General Plan Noise Element, Table 7.1 was used to establish the satisfactory noise levels of significance for non-noise-sensitive land uses in the Project study area. As previously shown on Exhibit 3-A, the *normally acceptable* exterior noise levels for non-noise-sensitive land uses is 70 dBA CNEL. Noise levels greater than 70 dBA CNEL are considered *conditionally acceptable*. (12)

To determine if Project-related traffic noise level increases are significant at off-site non-noise-sensitive land uses, a *readily perceptible* 5 dBA and *barely perceptible* 3 dBA criteria were used. When the without Project noise levels at the non-noise-sensitive land uses are below the *normally acceptable* 70 dBA CNEL compatibility criteria, a *readily perceptible* 5 dBA or greater noise level increase is considered a significant impact. When the without Project noise levels are greater than the *normally acceptable* 70 dBA CNEL land use compatibility criteria, a *barely perceptible* 3 dBA or greater noise level increase is considered a significant impact since the noise level criteria is already exceeded. The noise level increases used to determine significant impacts

for non-noise-sensitive land uses is generally consistent with the FICON noise level increase thresholds for noise-sensitive land uses but instead rely on the City of Palm Desert General Plan Noise Element, Table 7.1, *normally acceptable* 70 dBA CNEL exterior noise level criteria.

4.3 SIGNIFICANCE CRITERIA SUMMARY

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development. Table 4-2 shows the significance criteria summary matrix.

OFF-SITE TRAFFIC NOISE

- When the noise levels at existing and future noise-sensitive land uses (e.g. residential, etc.):
 - are less than 60 dBA CNEL and the Project creates a *readily perceptible* 5 dBA CNEL or greater Project-related noise level increase; or
 - range from 60 to 65 dBA CNEL and the Project creates a *barely perceptible* 3 dBA CNEL or greater Project-related noise level increase; or
 - already exceed 65 dBA CNEL, and the Project creates a community noise level impact of greater than 1.5 dBA CNEL (FICON, 1992).
- When the noise levels at existing and future non-noise-sensitive land uses (e.g., office, commercial, industrial):
 - are less than the City of Palm Desert General Plan Noise Element, Table 7.1, *normally acceptable* 70 dBA CNEL and the Project creates a *readily perceptible* 5 dBA CNEL or greater Project related noise level increase; or
 - are greater than the City of Palm Desert General Plan Noise Element, Table 7.1, *normally acceptable* 70 dBA CNEL and the Project creates a *barely perceptible* 3 dBA CNEL or greater Project noise level increase.

OPERATIONAL NOISE & VIBRATION

- If Project-related operational (stationary-source) noise levels exceed:
 - the exterior 55 dBA L_{eq} daytime or 45 dBA L_{eq} nighttime noise level standards at nearby sensitive residential receiver locations; or
 - the exterior 65 dBA L_{eq} daytime or 55 dBA L_{eq} nighttime noise level standards at nearby commercial receiver locations (City of Palm Desert Municipal Code, Section 9.24.030).
- If the existing ambient noise levels at the nearby noise-sensitive receivers near the Project site:
 - are less than 60 dBA L_{eq} and the Project creates a *readily perceptible* 5 dBA L_{eq} or greater Project-related noise level increase; or
 - range from 60 to 65 dBA L_{eq} and the Project creates a *barely perceptible* 3 dBA L_{eq} or greater Project-related noise level increase; or
 - already exceed 65 dBA L_{eq} and the Project creates a community noise level impact of greater than 1.5 dBA L_{eq} (FICON, 1992).

CONSTRUCTION NOISE & VIBRATION

- If Project-related construction activities create noise levels which exceed the 85 dBA L_{eq} acceptable noise level threshold at the nearby sensitive receiver locations (NIOSH, Criteria for Recommended Standard: Occupational Noise Exposure).
- If short-term Project-generated construction vibration levels exceed the County of Riverside vibration standard of 0.01 in/sec RMS at sensitive receiver locations (County of Riverside General Plan Noise Element, Policy N 16.3).

TABLE 4-2: SIGNIFICANCE CRITERIA SUMMARY

Analysis	Land Use	Condition(s)	Significance Criteria	
			Daytime	Nighttime
Off-Site Traffic Noise	Noise-Sensitive 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	
	Non-Noise-Sensitive ²	if ambient is < 70 dBA CNEL	≥ 5 dBA CNEL Project increase	
		if ambient is > 70 dBA CNEL	≥ 3 dBA CNEL Project increase	
Operational Noise	Noise-Sensitive	Exterior Noise Level Standards ³	See Table 3-1.	
		if ambient is < 60 dBA L_{eq} ¹	≥ 5 dBA L_{eq} Project increase	
		if ambient is 60 - 65 dBA L_{eq} ¹	≥ 3 dBA L_{eq} Project increase	
		if ambient is > 65 dBA L_{eq} ¹	≥ 1.5 dBA L_{eq} Project increase	
Construction Noise & Vibration	Noise-Sensitive	Noise Level Threshold ⁵	85 dBA L_{eq}	
		Vibration Level Threshold ⁴	0.01 in/sec RMS	

¹ Source: FICON, 1992.² Source: City of Palm Desert General Plan, Table 7.1.³ Source: City of Palm Desert Municipal Code, Section 9.24.030 (Appendix 3.1).⁴ Source: County of Riverside General Plan Noise Element, Policy N 16.3.⁵ Acceptable threshold for construction noise based on the Criteria for Recommended Standard: Occupational Noise Exposure prepared by the National Institute for Occupational Safety and Health.

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

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, noise level measurements were collected by Urban Crossroads, Inc. on Tuesday, January 22nd, 2019. 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 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 sensitive receiver locations as possible to assess the existing ambient 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.* (4) Further, FTA guidance states, *that 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.* (3)

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. (3) 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 reference ambient noise level measurements at the nearby sensitive receiver locations allows for a comparison of the before and after Project noise levels

and is necessary to assess potential noise impacts due to the Project's contribution to the ambient noise levels.

5.3 NOISE MEASUREMENT RESULTS

The noise measurements presented below focus on the average or equivalent sound levels (L_{eq}). 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 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) noise levels at each noise level measurement location. Appendix 5.2 provides a summary of the existing hourly ambient noise levels described below:

- Location L1 represents the noise levels on Portola Avenue west of the Project site, near existing single-family residential homes. The noise level measurements collected show an overall 24-hour exterior noise level of 71.7 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 69.4 dBA L_{eq} with an average nighttime noise level of 63.4 dBA L_{eq} .
- Location L2 represents the noise levels within The Westin Desert Willow Villas, near the northeastern corner of the Project site boundaries. The noise level measurements collected show an overall 24-hour exterior noise level of 53.4 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 49.3 dBA L_{eq} with an average nighttime noise level of 46.1 dBA L_{eq} .
- Location L3 represents the noise levels on Desert Willow Drive, near the eastern boundary of the Project site and existing golf courses. The 24-hour CNEL indicates that the overall exterior noise level is 59.1 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 55.7 dBA L_{eq} with an average nighttime noise level of 51.8 dBA L_{eq} .
- Location L4 represents the noise levels on Desert Willow Drive, southeast of the Project site, near Embarc Palm Desert Resort. The noise level measurements collected show an overall 24-hour exterior noise level of 55.0 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 49.7 dBA L_{eq} with an average nighttime noise level of 48.2 dBA L_{eq} .
- Location L5 represents the noise levels on Willow Ridge within Embarc Palm Desert Resort, south of the Project site boundaries. The 24-hour CNEL indicates that the overall exterior noise level is 55.0 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 49.0 dBA L_{eq} with an average nighttime noise level of 48.3 dBA L_{eq} .
- Location L6 represents the noise levels on Willow Ridge, within The Westin Desert Willow Villas Resort, near the southwestern boundary of the Project site. The noise level measurements collected show an overall 24-hour exterior noise level of 55.2 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 52.3 dBA L_{eq} with an average nighttime noise level of 47.3 dBA L_{eq} .

Table 5-1 provides the (energy average) 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, L₁, L₂, L₅, L₈, L₂₅, L₅₀, L₉₀, L₉₅, and L₉₉ percentile noise levels observed during the daytime and nighttime periods.

The background ambient noise levels in the Project study area are dominated by the transportation-related noise associated with study area roadways in addition to background stationary noise sources such as existing hotel and golf course activities. This includes the auto and heavy truck activities on study area roadway segments near the noise level measurement locations. The 24-hour existing noise level measurement results are shown on Table 5-1.

TABLE 5-1: 24-HOUR AMBIENT NOISE LEVEL MEASUREMENTS

Location ¹	Description	Energy Average Noise Level (dBA L _{eq}) ²		CNEL
		Daytime	Nighttime	
L1	Located on Portola Avenue west of the Project site, near existing single-family residential homes.	69.4	63.4	71.7
L2	Located within The Westin Desert Willow Villas, near the northeastern corner of the Project site boundaries.	49.3	46.1	53.4
L3	Located on Desert Willow Drive, near the eastern boundary of the Project site and existing golf courses.	55.7	51.8	59.1
L4	Located on Desert Willow Drive, southeast of the Project site, near Embarc Palm Desert Resort.	49.7	48.2	55.0
L5	Located on Willow Ridge within Embarc Palm Desert Resort, south of the Project site boundaries.	49.0	48.3	55.0
L6	Located on Willow Ridge, within The Westin Desert Willow Villas Resort, near the southwestern boundary of the Project site.	52.3	47.3	55.2

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

EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS



6 METHODS AND PROCEDURES

The following section outlines the methods and procedures used to model and analyze the future traffic noise environment.

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)

6.2 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 22 study area roadway segments, the distance from the centerline to adjacent land use based on the functional roadway classifications per the City of Palm Desert General Plan Circulation Element, and the posted vehicle speeds. Where posted vehicle speeds are unavailable, the 40 mph speed identified in the County of Riverside Office of Industrial Hygiene Noise Study Guidelines is used. The ADT volumes used in this study are presented on Table 6-2 and were obtained from the *Desert Wave Traffic Impact Analysis*, for the following traffic scenarios: Existing (2019), Existing plus Ambient Growth (EA) 2022, and EA plus Cumulative (EAC) 2022 conditions. (2)

TABLE 6-1: OFF-SITE ROADWAY PARAMETERS

ID	Roadway	Segment	Adjacent Planned (Existing) Land Use ¹	Distance From Centerline To Nearest Adjacent Land Use (Feet) ²	Vehicle Speed (mph) ³
1	Monterey Av.	s/o Country Club Dr.	SRC	76'	55
2	Portola Av.	n/o Country Club Dr.	GC & RN / Employment	64'	55
3	Portola Av.	s/o Country Club Dr.	GC & RN / Nbrhd (Public)	64'	50
4	Cook St.	n/o I-10 WB Ramps	Employment (Vacant)	76'	50
5	Cook St.	s/o I-10 EB Ramps	Nbrhd / Employment	76'	50
6	Cook St.	s/o Gerald Ford Dr.	NC / Institutional	76'	50
7	Cook St.	s/o Frank Sinatra Dr.	GC & RN / R&E	76'	50
8	Cook St.	n/o Country Club Dr.	SRC / GC & RN (Commercial)	76'	50
9	Cook St.	s/o Country Club Dr.	GC & RN / R&E	76'	50
10	Cook St.	s/o Hovley Ln.	Employment	64'	50
11	El Dorado Dr.	n/o Country Club Dr.	GC & RN	64'	50
12	El Dorado Dr.	s/o Country Club Dr.	GC & RN	64'	50
13	Tamarisk Row Dr.	n/o Country Club Dr.	GC & RN	30'	55
14	Oasis Club Dr.	s/o Country Club Dr.	GC & RN	64'	55
15	Country Club Dr.	w/o Monterey Av.	NC / SRC	55'	50
16	Country Club Dr.	e/o Monterey Av.	NC / SRC	76'	50
17	Country Club Dr.	e/o Portola Av.	Employment / GC & RN	64'	50
18	Country Club Dr.	e/o Desert Willow Dr.	SRC	64'	50
19	Country Club Dr.	e/o Cook St.	GC & RN	76'	50
20	Country Club Dr.	e/o El Dorado Dr.	GC & RN	64'	50
21	Country Club Dr.	e/o Oasis Club Dr.	GC & RN (Residential)	64'	50
22	Hovley Ln.	e/o Cook St.	Employment	64'	45

¹ Source: City of Palm Desert General Plan Land Use Element (Figure 3.1).

² Distance to adjacent land use is based upon the right-of-way distances for each functional roadway classification provided in the General Plan Circulation Element.

³ Source: Desert Wave Traffic Impact Analysis, Urban Crossroads, Inc.

"GC" = Golf Course; "NC" = Neighborhood Center; "RN" = Resort Neighborhood; "R&E" = Resort & Entertainment; "SRC" = Suburban Retail Center

TABLE 6-2: AVERAGE DAILY TRAFFIC VOLUMES

ID	Roadway	Segment	Average Daily Traffic (1,000's) ¹					
			Existing 2019		EA 2022		EAC 2022	
			Without Project	With Project	Without Project	With Project	Without Project	With Project
1	Monterey Av.	s/o Country Club Dr.	35.1	35.4	37.9	38.2	0.0	0.0
2	Portola Av.	n/o Country Club Dr.	15.1	15.4	16.8	17.1	0.0	0.0
3	Portola Av.	s/o Country Club Dr.	20.7	21.0	22.4	22.7	0.0	0.0
4	Cook St.	n/o I-10 WB Ramps	7.6	7.9	13.6	13.9	0.0	0.0
5	Cook St.	s/o I-10 EB Ramps	32.0	33.7	35.1	36.8	0.0	0.0
6	Cook St.	s/o Gerald Ford Dr.	23.9	25.6	26.7	28.4	0.0	0.0
7	Cook St.	s/o Frank Sinatra Dr.	24.5	26.4	25.6	27.5	0.0	0.0
8	Cook St.	n/o Country Club Dr.	27.2	28.3	29.2	30.3	0.0	0.0
9	Cook St.	s/o Country Club Dr.	28.5	29.3	30.8	31.6	0.0	0.0
10	Cook St.	s/o Hovley Ln.	28.5	29.1	30.6	31.2	0.0	0.0
11	El Dorado Dr.	n/o Country Club Dr.	4.6	4.9	4.5	4.8	0.0	0.0
12	El Dorado Dr.	s/o Country Club Dr.	5.5	5.8	5.6	5.9	0.0	0.0
13	Tamarisk Row Dr.	n/o Country Club Dr.	8.1	8.4	9.5	9.8	0.0	0.0
14	Oasis Club Dr.	s/o Country Club Dr.	6.6	6.9	6.7	7.0	0.0	0.0
15	Country Club Dr.	w/o Monterey Av.	20.9	21.2	22.4	22.7	0.0	0.0
16	Country Club Dr.	e/o Monterey Av.	22.5	23.1	23.5	24.1	0.0	0.0
17	Country Club Dr.	e/o Portola Av.	22.3	23.5	22.6	23.8	0.0	0.0
18	Country Club Dr.	e/o Desert Willow Dr.	22.5	24.4	22.4	24.3	0.0	0.0
19	Country Club Dr.	e/o Cook St.	21.3	23.0	21.4	23.1	0.0	0.0
20	Country Club Dr.	e/o El Dorado Dr.	20.6	21.7	21.3	22.4	0.0	0.0
21	Country Club Dr.	e/o Oasis Club Dr.	23.1	23.7	24.5	25.1	0.0	0.0
22	Hovley Ln.	e/o Cook St.	17.4	17.7	30.9	31.2	0.0	0.0

¹ Source: Desert Wave Traffic Impact Analysis, Urban Crossroads, Inc.

"EA" = Existing plus Ambient Growth; "EAC" = EA plus Cumulative

Table 6-3 provides the time of day (daytime, evening, and nighttime) vehicle splits, and Table 6-4 shows the traffic flow by vehicle type (vehicle mix).

TABLE 6-3: TIME OF DAY VEHICLE SPLITS

Vehicle Type	Time of Day Splits ¹			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%

¹ Source: Typical Southern California vehicle mix.

"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 6-4: DAILY VEHICLE MIX

Classification	Total % Traffic Flow			Total
	Autos	Medium Trucks	Heavy Trucks	
All Roadways ¹	97.42%	1.84%	0.74%	100.00%

¹ Source: Typical Southern California vehicle mix & the County of Riverside Office of Industrial Hygiene.

6.3 VIBRATION ASSESSMENT

This analysis focuses on the potential ground-borne vibration associated with vehicular traffic and construction activities. Ground-borne vibration levels from automobile traffic are generally overshadowed by vibration generated by heavy trucks that roll over the same uneven roadway surfaces. However, due to the rapid drop-off rate of ground-borne vibration and the short duration of the associated events, vehicular traffic-induced ground-borne vibration is rarely perceptible beyond the roadway right-of-way, and rarely results in vibration levels that cause damage to buildings in the vicinity.

However, while vehicular traffic is rarely perceptible, construction has the potential to result in varying degrees of temporary ground vibration, depending on the specific construction activities and equipment used. Ground vibration levels associated with various types of construction equipment are summarized on Table 6-5. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the human response (annoyance) using the following vibration assessment methods defined by the FTA. To describe the human response (annoyance) associated with vibration impacts the FTA provides the following equation: $PPV_{\text{equip}} = PPV_{\text{ref}} \times (25/D)^{1.5}$

TABLE 6-5: 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

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, September 2018.

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7 OFF-SITE TRANSPORTATION NOISE IMPACTS

To assess the off-site transportation CNEL noise level impacts associated with the proposed Project, noise contours were developed based on the *Desert Wave Traffic Impact Analysis*. (2) Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway. Noise contours were developed for the following traffic scenarios:

- Existing (2019) Without / With Project:
 - This scenario refers to the Existing present-day noise conditions, without and with the proposed Project.
- Existing plus Ambient Growth (EA) 2022 Without / With Project:
 - This scenario below refers to the background noise conditions at future Year 2022 without and with the proposed Project plus ambient growth.
- EA plus Cumulative (EAC) 2022 Without / With Project:
 - This scenario below refers to the background noise conditions at future Year 2022 without and with the proposed Project plus ambient growth, and includes all cumulative projects identified in the *Traffic Impact Analysis*.

7.1 TRAFFIC NOISE CONTOURS

Noise contours were used to assess the Project's incremental traffic-related noise impacts at 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 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 through 7-6 present a summary of the exterior traffic noise levels, without barrier attenuation, for the study area roadway segments analyzed from the without Project to the with Project conditions in each of the following timeframes: Existing (2019), Existing plus Ambient Growth (EA) 2022, and EA plus Cumulative (EAC) 2022. Appendix 7.1 includes a summary of the traffic noise level contours for each of the traffic scenarios.

TABLE 7-1: EXISTING WITHOUT PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	Adjacent Planned (Existing) Land Use ¹	CNEL at Nearest Adjacent Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Monterey Av.	s/o Country Club Dr.	SRC	74.2	200	631	1996
2	Portola Av.	n/o Country Club Dr.	GC & RN / Employment	71.1	83	261	826
3	Portola Av.	s/o Country Club Dr.	GC & RN / Nbrhd (Public)	71.4	89	281	889
4	Cook St.	n/o I-10 WB Ramps	Employment (Vacant)	66.5	RW	107	339
5	Cook St.	s/o I-10 EB Ramps	Nbrhd / Employment	72.7	143	452	1429
6	Cook St.	s/o Gerald Ford Dr.	NC / Institutional	71.5	107	337	1067
7	Cook St.	s/o Frank Sinatra Dr.	GC & RN / R&E	71.6	109	346	1094
8	Cook St.	n/o Country Club Dr.	SRC / GC & RN (Commercial)	72.0	121	384	1214
9	Cook St.	s/o Country Club Dr.	GC & RN / R&E	72.2	127	402	1272
10	Cook St.	s/o Hovley Ln.	Employment	72.8	122	387	1224
11	El Dorado Dr.	n/o Country Club Dr.	GC & RN	64.9	RW	RW	198
12	El Dorado Dr.	s/o Country Club Dr.	GC & RN	65.7	RW	75	236
13	Tamarisk Row Dr.	n/o Country Club Dr.	GC & RN	71.2	40	126	400
14	Oasis Club Dr.	s/o Country Club Dr.	GC & RN	67.5	RW	114	361
15	Country Club Dr.	w/o Monterey Av.	NC / SRC	72.6	100	316	998
16	Country Club Dr.	e/o Monterey Av.	NC / SRC	71.2	100	318	1005
17	Country Club Dr.	e/o Portola Av.	Employment / GC & RN	71.8	96	303	958
18	Country Club Dr.	e/o Desert Willow Dr.	SRC	71.8	97	306	967
19	Country Club Dr.	e/o Cook St.	GC & RN	71.0	95	301	951
20	Country Club Dr.	e/o El Dorado Dr.	GC & RN	71.4	88	280	885
21	Country Club Dr.	e/o Oasis Club Dr.	GC & RN (Residential)	71.9	99	314	992
22	Hovley Ln.	e/o Cook St.	Employment	69.5	RW	181	574

¹ Source: City of Palm Desert General Plan Land Use Element (Figure 3.1).

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-2: EXISTING WITH PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	Adjacent Planned (Existing) Land Use ¹	CNEL at Nearest Adjacent Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Monterey Av.	s/o Country Club Dr.	SRC	74.2	201	637	2013
2	Portola Av.	n/o Country Club Dr.	GC & RN / Employment	71.2	84	266	843
3	Portola Av.	s/o Country Club Dr.	GC & RN / Nbrhd (Public)	71.5	90	285	902
4	Cook St.	n/o I-10 WB Ramps	Employment (Vacant)	66.7	RW	112	353
5	Cook St.	s/o I-10 EB Ramps	Nbrhd / Employment	73.0	150	476	1505
6	Cook St.	s/o Gerald Ford Dr.	NC / Institutional	71.8	114	361	1143
7	Cook St.	s/o Frank Sinatra Dr.	GC & RN / R&E	71.9	118	373	1179
8	Cook St.	n/o Country Club Dr.	SRC / GC & RN (Commercial)	72.2	126	400	1264
9	Cook St.	s/o Country Club Dr.	GC & RN / R&E	72.4	131	414	1308
10	Cook St.	s/o Hovley Ln.	Employment	72.9	125	395	1250
11	El Dorado Dr.	n/o Country Club Dr.	GC & RN	65.2	RW	67	210
12	El Dorado Dr.	s/o Country Club Dr.	GC & RN	65.9	RW	79	249
13	Tamarisk Row Dr.	n/o Country Club Dr.	GC & RN	71.4	41	131	415
14	Oasis Club Dr.	s/o Country Club Dr.	GC & RN	67.7	RW	119	378
15	Country Club Dr.	w/o Monterey Av.	NC / SRC	72.7	101	320	1013
16	Country Club Dr.	e/o Monterey Av.	NC / SRC	71.3	103	326	1031
17	Country Club Dr.	e/o Portola Av.	Employment / GC & RN	72.0	101	319	1009
18	Country Club Dr.	e/o Desert Willow Dr.	SRC	72.1	105	331	1048
19	Country Club Dr.	e/o Cook St.	GC & RN	71.3	103	325	1027
20	Country Club Dr.	e/o El Dorado Dr.	GC & RN	71.6	93	295	932
21	Country Club Dr.	e/o Oasis Club Dr.	GC & RN (Residential)	72.0	102	322	1018
22	Hovley Ln.	e/o Cook St.	Employment	69.6	RW	184	583

¹ Source: City of Palm Desert General Plan Land Use Element (Figure 3.1).

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-3: EA 2022 WITHOUT PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	Adjacent Planned (Existing) Land Use ¹	CNEL at Nearest Adjacent Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Monterey Av.	s/o Country Club Dr.	SRC	74.4	210	665	2104
2	Portola Av.	n/o Country Club Dr.	GC & RN / Employment	71.3	86	273	864
3	Portola Av.	s/o Country Club Dr.	GC & RN / Nbrhd (Public)	71.6	93	295	932
4	Cook St.	n/o I-10 WB Ramps	Employment (Vacant)	66.6	RW	110	348
5	Cook St.	s/o I-10 EB Ramps	Nbrhd / Employment	72.8	144	456	1442
6	Cook St.	s/o Gerald Ford Dr.	NC / Institutional	71.4	106	335	1058
7	Cook St.	s/o Frank Sinatra Dr.	GC & RN / R&E	71.5	108	340	1076
8	Cook St.	n/o Country Club Dr.	SRC / GC & RN (Commercial)	72.1	124	392	1241
9	Cook St.	s/o Country Club Dr.	GC & RN / R&E	72.4	133	422	1335
10	Cook St.	s/o Hovley Ln.	Employment	73.0	127	402	1271
11	El Dorado Dr.	n/o Country Club Dr.	GC & RN	64.8	RW	RW	193
12	El Dorado Dr.	s/o Country Club Dr.	GC & RN	65.8	RW	76	241
13	Tamarisk Row Dr.	n/o Country Club Dr.	GC & RN	71.4	41	130	410
14	Oasis Club Dr.	s/o Country Club Dr.	GC & RN	67.6	RW	116	367
15	Country Club Dr.	w/o Monterey Av.	NC / SRC	72.8	105	331	1046
16	Country Club Dr.	e/o Monterey Av.	NC / SRC	71.4	104	329	1040
17	Country Club Dr.	e/o Portola Av.	Employment / GC & RN	71.8	97	306	967
18	Country Club Dr.	e/o Desert Willow Dr.	SRC	71.8	96	303	958
19	Country Club Dr.	e/o Cook St.	GC & RN	70.9	93	295	933
20	Country Club Dr.	e/o El Dorado Dr.	GC & RN	71.4	89	281	889
21	Country Club Dr.	e/o Oasis Club Dr.	GC & RN (Residential)	72.1	103	325	1027
22	Hovley Ln.	e/o Cook St.	Employment	69.7	RW	190	600

¹ Source: City of Palm Desert General Plan Land Use Element (Figure 3.1).

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-4: EA 2022 WITH PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	Adjacent Planned (Existing) Land Use ¹	CNEL at Nearest Adjacent Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Monterey Av.	s/o Country Club Dr.	SRC	74.5	212	671	2121
2	Portola Av.	n/o Country Club Dr.	GC & RN / Employment	71.4	88	279	881
3	Portola Av.	s/o Country Club Dr.	GC & RN / Nbrhd (Public)	71.7	95	299	945
4	Cook St.	n/o I-10 WB Ramps	Employment (Vacant)	66.8	RW	114	362
5	Cook St.	s/o I-10 EB Ramps	Nbrhd / Employment	73.0	152	480	1518
6	Cook St.	s/o Gerald Ford Dr.	NC / Institutional	71.7	113	359	1134
7	Cook St.	s/o Frank Sinatra Dr.	GC & RN / R&E	71.8	116	367	1161
8	Cook St.	n/o Country Club Dr.	SRC / GC & RN (Commercial)	72.3	129	408	1290
9	Cook St.	s/o Country Club Dr.	GC & RN / R&E	72.6	137	433	1371
10	Cook St.	s/o Hovley Ln.	Employment	73.1	130	410	1297
11	El Dorado Dr.	n/o Country Club Dr.	GC & RN	65.1	RW	65	206
12	El Dorado Dr.	s/o Country Club Dr.	GC & RN	66.0	RW	80	253
13	Tamarisk Row Dr.	n/o Country Club Dr.	GC & RN	71.5	42	134	425
14	Oasis Club Dr.	s/o Country Club Dr.	GC & RN	67.8	RW	121	383
15	Country Club Dr.	w/o Monterey Av.	NC / SRC	72.9	106	335	1060
16	Country Club Dr.	e/o Monterey Av.	NC / SRC	71.5	107	337	1067
17	Country Club Dr.	e/o Portola Av.	Employment / GC & RN	72.0	102	322	1018
18	Country Club Dr.	e/o Desert Willow Dr.	SRC	72.1	104	329	1040
19	Country Club Dr.	e/o Cook St.	GC & RN	71.2	101	319	1009
20	Country Club Dr.	e/o El Dorado Dr.	GC & RN	71.7	94	296	936
21	Country Club Dr.	e/o Oasis Club Dr.	GC & RN (Residential)	72.2	105	333	1052
22	Hovley Ln.	e/o Cook St.	Employment	69.8	RW	193	610

¹ Source: City of Palm Desert General Plan Land Use Element (Figure 3.1).

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-5: EAC 2022 WITHOUT PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	Adjacent Planned (Existing) Land Use ¹	CNEL at Nearest Adjacent Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Monterey Av.	s/o Country Club Dr.	SRC	74.5	216	682	2155
2	Portola Av.	n/o Country Club Dr.	GC & RN / Employment	71.6	92	291	919
3	Portola Av.	s/o Country Club Dr.	GC & RN / Nbrhd (Public)	71.8	96	304	962
4	Cook St.	n/o I-10 WB Ramps	Employment (Vacant)	69.0	RW	192	607
5	Cook St.	s/o I-10 EB Ramps	Nbrhd / Employment	73.1	157	496	1567
6	Cook St.	s/o Gerald Ford Dr.	NC / Institutional	71.9	119	377	1191
7	Cook St.	s/o Frank Sinatra Dr.	GC & RN / R&E	71.8	114	361	1143
8	Cook St.	n/o Country Club Dr.	SRC / GC & RN (Commercial)	72.3	130	412	1304
9	Cook St.	s/o Country Club Dr.	GC & RN / R&E	72.6	138	435	1375
10	Cook St.	s/o Hovley Ln.	Employment	73.1	131	416	1314
11	El Dorado Dr.	n/o Country Club Dr.	GC & RN	64.8	RW	RW	193
12	El Dorado Dr.	s/o Country Club Dr.	GC & RN	65.8	RW	76	241
13	Tamarisk Row Dr.	n/o Country Club Dr.	GC & RN	71.9	47	148	469
14	Oasis Club Dr.	s/o Country Club Dr.	GC & RN	67.6	RW	116	367
15	Country Club Dr.	w/o Monterey Av.	NC / SRC	72.9	107	338	1070
16	Country Club Dr.	e/o Monterey Av.	NC / SRC	71.4	105	332	1049
17	Country Club Dr.	e/o Portola Av.	Employment / GC & RN	71.8	97	307	971
18	Country Club Dr.	e/o Desert Willow Dr.	SRC	71.8	96	304	962
19	Country Club Dr.	e/o Cook St.	GC & RN	71.0	96	302	955
20	Country Club Dr.	e/o El Dorado Dr.	GC & RN	71.6	91	289	915
21	Country Club Dr.	e/o Oasis Club Dr.	GC & RN (Residential)	72.2	105	333	1052
22	Hovley Ln.	e/o Cook St.	Employment	72.0	102	322	1018

¹ Source: City of Palm Desert General Plan Land Use Element (Figure 3.1).

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-6: EAC 2022 WITH PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	Adjacent Planned (Existing) Land Use ¹	CNEL at Nearest Adjacent Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Monterey Av.	s/o Country Club Dr.	SRC	74.6	217	687	2172
2	Portola Av.	n/o Country Club Dr.	GC & RN / Employment	71.6	94	296	936
3	Portola Av.	s/o Country Club Dr.	GC & RN / Nbrhd (Public)	71.8	98	308	975
4	Cook St.	n/o I-10 WB Ramps	Employment (Vacant)	69.1	RW	196	621
5	Cook St.	s/o I-10 EB Ramps	Nbrhd / Employment	73.3	164	520	1643
6	Cook St.	s/o Gerald Ford Dr.	NC / Institutional	72.2	127	401	1267
7	Cook St.	s/o Frank Sinatra Dr.	GC & RN / R&E	72.1	123	388	1228
8	Cook St.	n/o Country Club Dr.	SRC / GC & RN (Commercial)	72.5	135	428	1353
9	Cook St.	s/o Country Club Dr.	GC & RN / R&E	72.7	141	446	1411
10	Cook St.	s/o Hovley Ln.	Employment	73.2	134	424	1340
11	El Dorado Dr.	n/o Country Club Dr.	GC & RN	65.1	RW	65	206
12	El Dorado Dr.	s/o Country Club Dr.	GC & RN	66.0	RW	80	253
13	Tamarisk Row Dr.	n/o Country Club Dr.	GC & RN	72.1	48	153	484
14	Oasis Club Dr.	s/o Country Club Dr.	GC & RN	67.8	RW	121	383
15	Country Club Dr.	w/o Monterey Av.	NC / SRC	72.9	108	343	1084
16	Country Club Dr.	e/o Monterey Av.	NC / SRC	71.5	108	340	1076
17	Country Club Dr.	e/o Portola Av.	Employment / GC & RN	72.0	102	323	1022
18	Country Club Dr.	e/o Desert Willow Dr.	SRC	72.1	104	330	1044
19	Country Club Dr.	e/o Cook St.	GC & RN	71.3	103	326	1031
20	Country Club Dr.	e/o El Dorado Dr.	GC & RN	71.8	96	304	962
21	Country Club Dr.	e/o Oasis Club Dr.	GC & RN (Residential)	72.3	108	341	1078
22	Hovley Ln.	e/o Cook St.	Employment	72.1	103	325	1028

¹ Source: City of Palm Desert General Plan Land Use Element (Figure 3.1).

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

7.2 EXISTING CONDITIONS PROJECT TRAFFIC NOISE LEVEL CONTRIBUTIONS

An analysis of existing traffic noise levels plus traffic noise generated by the proposed Project has been included in this report. However, the analysis of existing traffic noise levels plus traffic noise generated by the proposed Project scenario will not actually occur since the Project would not be fully constructed and operational until Year 2022 cumulative conditions.

Table 7-1 shows the Existing without Project conditions CNEL noise levels. The Existing without Project exterior noise levels are expected to range from 64.9 to 74.2 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-2 shows the Existing with Project conditions will range from 65.2 to 74.2 dBA CNEL. Table 7-7 shows that the Project off-site traffic noise level increases will range from 0.0 to 0.4 dBA CNEL.

TABLE 7-7: UNMITIGATED EXISTING WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	Adjacent Planned (Existing) Land Use ¹	CNEL at Adjacent Land Use (dBA) ²			Noise- Sensitive Land Use?
				No Project	With Project	Project Addition	
1	Monterey Av.	s/o Country Club Dr.	SRC	74.2	74.2	0.0	No
2	Portola Av.	n/o Country Club Dr.	GC & RN / Employment	71.1	71.2	0.1	Yes
3	Portola Av.	s/o Country Club Dr.	GC & RN / Nbrhd (Public)	71.4	71.5	0.1	Yes
4	Cook St.	n/o I-10 WB Ramps	Employment (Vacant)	66.5	66.7	0.2	No
5	Cook St.	s/o I-10 EB Ramps	Nbrhd / Employment	72.7	73.0	0.2	No
6	Cook St.	s/o Gerald Ford Dr.	NC / Institutional	71.5	71.8	0.3	No
7	Cook St.	s/o Frank Sinatra Dr.	GC & RN / R&E	71.6	71.9	0.3	Yes
8	Cook St.	n/o Country Club Dr.	SRC / GC & RN (Commercial)	72.0	72.2	0.2	Yes
9	Cook St.	s/o Country Club Dr.	GC & RN / R&E	72.2	72.4	0.1	Yes
10	Cook St.	s/o Hovley Ln.	Employment	72.8	72.9	0.1	No
11	El Dorado Dr.	n/o Country Club Dr.	GC & RN	64.9	65.2	0.3	Yes
12	El Dorado Dr.	s/o Country Club Dr.	GC & RN	65.7	65.9	0.2	Yes
13	Tamarisk Row Dr.	n/o Country Club Dr.	GC & RN	71.2	71.4	0.2	Yes
14	Oasis Club Dr.	s/o Country Club Dr.	GC & RN	67.5	67.7	0.2	Yes
15	Country Club Dr.	w/o Monterey Av.	NC / SRC	72.6	72.7	0.1	Yes
16	Country Club Dr.	e/o Monterey Av.	NC / SRC	71.2	71.3	0.1	Yes
17	Country Club Dr.	e/o Portola Av.	Employment / GC & RN	71.8	72.0	0.2	Yes
18	Country Club Dr.	e/o Desert Willow Dr.	SRC	71.8	72.1	0.4	No
19	Country Club Dr.	e/o Cook St.	GC & RN	71.0	71.3	0.3	Yes
20	Country Club Dr.	e/o El Dorado Dr.	GC & RN	71.4	71.6	0.2	Yes
21	Country Club Dr.	e/o Oasis Club Dr.	GC & RN (Residential)	71.9	72.0	0.1	Yes
22	Hovley Ln.	e/o Cook St.	Employment	69.5	69.6	0.1	Yes

¹ Source: City of Palm Desert General Plan Land Use Element (Figure 3.1).

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use.

7.3 EA 2022 PROJECT TRAFFIC NOISE LEVEL CONTRIBUTIONS

Table 7-3 presents the Existing plus Ambient Growth (EA) without Project conditions CNEL noise levels. The EA without Project exterior noise levels are expected to range from 64.8 to 74.4 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-4 shows the EA with Project conditions will range from 65.1 to 75.1 dBA CNEL. Table 7-8 shows that the Project off-site traffic noise level increases will range from 0.0 to 0.4 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-2, land uses adjacent to the study area roadway segments would experience *less than significant* noise level impacts due to unmitigated Project-related traffic noise levels.

TABLE 7-8: UNMITIGATED EA WITH PROJECT TRAFFIC NOISE IMPACTS

ID	Road	Segment	CNEL at Adjacent Land Use (dBA) ¹			Noise-Sensitive Land Use?	Threshold Exceeded? ²
			No Project	With Project	Project Addition		
1	Monterey Av.	s/o Country Club Dr.	74.4	74.5	0.0	No	No
2	Portola Av.	n/o Country Club Dr.	71.3	71.4	0.1	Yes	No
3	Portola Av.	s/o Country Club Dr.	71.6	71.7	0.1	Yes	No
4	Cook St.	n/o I-10 WB Ramps	66.6	66.8	0.2	No	No
5	Cook St.	s/o I-10 EB Ramps	72.8	73.0	0.2	No	No
6	Cook St.	s/o Gerald Ford Dr.	71.4	71.7	0.3	No	No
7	Cook St.	s/o Frank Sinatra Dr.	71.5	71.8	0.3	Yes	No
8	Cook St.	n/o Country Club Dr.	72.1	72.3	0.2	Yes	No
9	Cook St.	s/o Country Club Dr.	72.4	72.6	0.1	Yes	No
10	Cook St.	s/o Hovley Ln.	73.0	73.1	0.1	No	No
11	El Dorado Dr.	n/o Country Club Dr.	64.8	65.1	0.3	Yes	No
12	El Dorado Dr.	s/o Country Club Dr.	65.8	66.0	0.2	Yes	No
13	Tamarisk Row Dr.	n/o Country Club Dr.	71.4	71.5	0.2	Yes	No
14	Oasis Club Dr.	s/o Country Club Dr.	67.6	67.8	0.2	Yes	No
15	Country Club Dr.	w/o Monterey Av.	72.8	72.9	0.1	Yes	No
16	Country Club Dr.	e/o Monterey Av.	71.4	71.5	0.1	Yes	No
17	Country Club Dr.	e/o Portola Av.	71.8	72.0	0.2	Yes	No
18	Country Club Dr.	e/o Desert Willow Dr.	71.8	72.1	0.4	No	No
19	Country Club Dr.	e/o Cook St.	70.9	71.2	0.3	Yes	No
20	Country Club Dr.	e/o El Dorado Dr.	71.4	71.7	0.2	Yes	No
21	Country Club Dr.	e/o Oasis Club Dr.	72.1	72.2	0.1	Yes	No
22	Hovley Ln.	e/o Cook St.	69.7	69.8	0.1	Yes	No

¹ The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use.

² Significance Criteria (Section 4).

7.4 EAC 2022 PROJECT TRAFFIC NOISE LEVEL CONTRIBUTIONS

Table 7-5 presents the Existing plus Ambient Growth plus Cumulative (EAC) without Project conditions CNEL noise levels. The EAC without Project exterior noise levels are expected to range from 64.8 to 74.5 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-6 shows the EAC with Project conditions will range from 65.1 to 74.6 dBA CNEL. Table 7-9 shows that the Project off-site traffic noise level increases will range from 0.0 to 0.4 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-2, land uses adjacent to the study area roadway segments would experience *less than significant* noise level impacts due to unmitigated Project-related traffic noise levels.

TABLE 7-9: UNMITIGATED EAC WITH PROJECT TRAFFIC NOISE IMPACTS

ID	Road	Segment	CNEL at Adjacent Land Use (dBA) ¹			Noise-Sensitive Land Use?	Threshold Exceeded? ²
			No Project	With Project	Project Addition		
1	Monterey Av.	s/o Country Club Dr.	74.5	74.6	0.0	No	No
2	Portola Av.	n/o Country Club Dr.	71.6	71.6	0.1	Yes	No
3	Portola Av.	s/o Country Club Dr.	71.8	71.8	0.1	Yes	No
4	Cook St.	n/o I-10 WB Ramps	69.0	69.1	0.1	No	No
5	Cook St.	s/o I-10 EB Ramps	73.1	73.3	0.2	No	No
6	Cook St.	s/o Gerald Ford Dr.	71.9	72.2	0.3	No	No
7	Cook St.	s/o Frank Sinatra Dr.	71.8	72.1	0.3	Yes	No
8	Cook St.	n/o Country Club Dr.	72.3	72.5	0.2	Yes	No
9	Cook St.	s/o Country Club Dr.	72.6	72.7	0.1	Yes	No
10	Cook St.	s/o Hovley Ln.	73.1	73.2	0.1	No	No
11	El Dorado Dr.	n/o Country Club Dr.	64.8	65.1	0.3	Yes	No
12	El Dorado Dr.	s/o Country Club Dr.	65.8	66.0	0.2	Yes	No
13	Tamarisk Row Dr.	n/o Country Club Dr.	71.9	72.1	0.1	Yes	No
14	Oasis Club Dr.	s/o Country Club Dr.	67.6	67.8	0.2	Yes	No
15	Country Club Dr.	w/o Monterey Av.	72.9	72.9	0.1	Yes	No
16	Country Club Dr.	e/o Monterey Av.	71.4	71.5	0.1	Yes	No
17	Country Club Dr.	e/o Portola Av.	71.8	72.0	0.2	Yes	No
18	Country Club Dr.	e/o Desert Willow Dr.	71.8	72.1	0.4	No	No
19	Country Club Dr.	e/o Cook St.	71.0	71.3	0.3	Yes	No
20	Country Club Dr.	e/o El Dorado Dr.	71.6	71.8	0.2	Yes	No
21	Country Club Dr.	e/o Oasis Club Dr.	72.2	72.3	0.1	Yes	No
22	Hovley Ln.	e/o Cook St.	72.0	72.1	0.0	Yes	No

¹ The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use.

² Significance Criteria (Section 4).

7.5 EIR ALTERNATIVE OFF-SITE TRAFFIC NOISE LEVELS

As a part of the Environmental Impact Report for the Project, three land use alternatives were compared in terms of trip generation for the Project site, including: retail and multi-family housing, single-family detached housing, and hotel use. Based on the *Alternatives Trip Generation Summary* prepared by Urban Crossroads, Inc., all Project land use alternatives would generate fewer daily trips than those of the Project. Therefore, off-site traffic noise level increases related to the three land use alternatives are anticipated to be lower than those presented in this report for the proposed Project land use. Moreover, since Project off-site traffic noise level increases are shown in this report to result in *less than significant* noise impacts, the three land use alternatives, which would generate fewer daily trips, would therefore, also result in equivalent or lower off-site traffic noise level impacts.

8 SENSITIVE RECEIVER LOCATIONS

To assess the potential for long-term operational and short-term construction noise impacts, the following sensitive 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.

Sensitive receiver locations in the Project study area include residential uses and non-noise-sensitive receiver locations include hotel and commercial uses, as described below. Other sensitive 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.

- R1: Located approximately 1,306 feet west of the Project site, R1 represents existing residential homes west of Portola Avenue. A 24-hour noise measurement was taken near this location, L1, to describe the existing ambient noise environment.
- R2: Location R2 represents the existing hotel and resort use located west of the Project site at roughly 10 feet. A 24-hour noise measurement was taken near this location, L2, to describe the existing ambient noise environment.
- R3: Location R3 represents the existing hotel and resort use south of the Project site at approximately 364 feet. A 24-hour noise measurement near this location, L6, is used to describe the existing ambient noise environment.
- R4: Location R4 represents the existing hotel and resort use located roughly 720 feet south of the Project site. A 24-hour noise measurement near this location, L7, is used to describe the existing ambient noise environment.
- R5: Located approximately 1,652 feet east of the Project site, R5 represents existing residential homes west of Cook Street. A 24-hour noise measurement was taken near this location, L4, to describe the existing ambient noise environment.
- R6: Location R6 represents the existing residential homes located north of the Project site at roughly 1,136 feet, east of Portola Avenue. A 24-hour noise measurement was taken near this location, L2, to describe the existing ambient noise environment.

EXHIBIT 8-A: SENSITIVE RECEIVER LOCATIONS



9 OPERATIONAL NOISE IMPACTS

This section analyzes the potential stationary-source operational noise impacts at the nearby receiver locations, identified in Section 8, resulting from operation of the proposed Desert Wave Project. Exhibit 9-A identifies the representative receiver locations and noise source locations used to assess the operational noise levels.

9.1 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 worst-case noise environment with the surf lagoon/wave machine activities, outdoor pool/spa activities, parking lot vehicle movements, outdoor game activities, and roof-top air conditioning units all operating simultaneously. These noise level impacts will likely vary throughout the day.

9.1.1 SURF LAGOON/WAVE MACHINE ACTIVITY

Reference noise level measurements were provided by Wave Garden based on measurements collected at the Wave Garden Demo Facility in Aizarnazabal, Spain in August 2017. The noise level measurements represent the typical noise levels generated by the wave machine including two waves at eight seconds each. The reference noise level used in this analysis is 83.6 dBA L_{eq} at a uniform reference distance of 50 feet. To present a conservative analysis, this noise study assumes the surf lagoon and wave machine would operate continuously and at a constant rate throughout both the daytime and nighttime hours, when in reality, activity is anticipated to vary based on demand within the operational hours of 6:00 a.m. to 12:00 a.m.

9.2.2 OUTDOOR POOL/SPA ACTIVITY

To determine the noise levels associated with outdoor hotel pool and spa activity, Urban Crossroads collected a reference noise level measurement on March 16th, 2005 at the Westin Hotel in the City of Rancho Mirage. The measured reference noise level at 50 feet is 57.8 dBA L_{eq} . The outdoor pool/spa activity noise levels include a waterfall, people talking, and children and adults swimming and playing in a pool.

9.2.3 PARKING LOT VEHICLE MOVEMENTS (AUTOS)

To determine the noise levels associated with parking lot vehicle movements, Urban Crossroads collected a reference noise level measurement over a 24-hour period on May 17th, 2017 at the parking lot for the Staybridge Suites in the City of Lake Forest. The peak hour of activity over the 24-hour noise level measurement period is used as the reference noise level for parking lot vehicle movements for the purpose of this analysis. The measured reference noise level at 50 feet from parking lot vehicle movements was measured at 50.0 dBA L_{eq} . The parking lot noise levels are mainly due to cars pulling in and out of spaces and people talking.

9.1.4 OUTDOOR GAME ACTIVITIES

To represent the potential noise level impacts associated with the Project's outdoor game field activities, a reference noise level measurement was collected on Wednesday, October 8th, 2014 at the Founders Park in the unincorporated community of Ladera Ranch in the County of Orange. The reference noise levels collected at the Founders Park are expected to overestimate the noise level activities within the outdoor fields and game areas at the Project site, since the reference noise level measurement includes parents speaking on cell phones, kids playing, and background youth soccer games, with coaches shouting instructions and people cheering and clapping. Using the uniform reference distance of 50 feet, the reference playground activity noise level is 43.4 dBA L_{eq} .

9.1.5 ROOF-TOP AIR CONDITIONING UNITS

To assess the impacts created by the roof-top air conditioning units at the Project buildings, reference noise levels measurements were taken over a four-day total duration at the Santee Walmart on July 27th, 2015. Located at 170 Town Center Parkway in the City of Santee, the noise level measurements describe mechanical roof-top air conditioning units on the roof of an existing Walmart store, in addition to background noise levels from additional roof-top units. The reference noise level represents Lennox SCA120 series 10-ton model packaged air conditioning units. At 5 feet from the closest roof-top air conditioning unit, the highest exterior noise level from all four days of the measurement period was measured at 77.2 dBA L_{eq} . Using the uniform reference distance of 50 feet, the noise level is 57.2 dBA L_{eq} . The operating conditions of the reference noise level measurement reflect peak summer cooling requirements with measured temperatures approaching 96 degrees Fahrenheit (°F) with average daytime temperatures of 82°F.

9.1.6 SPECIAL EVENTS: OUTDOOR EVENT ACTIVITY

To assess the noise impacts during outdoor special event activities, such as live or amplified music, reference noise levels measurements were taken at a live, amplified music concert and community event on September 19th, 2013. Located at the entrance of Clubhouse 2 of the Gate 12 Outdoor Event Space in the City of Laguna Woods, the noise level measurements describe a community concert including a stage, sound amplifying equipment (e.g. speakers), and unamplified crowd noise. At approximately 5 feet from the stage, the exterior noise levels were measured at 86.8 dBA L_{eq} . This equates to a reference noise level of 66.8 dBA L_{eq} at 50 feet from the noise source.

TABLE 9-1: REFERENCE NOISE LEVEL MEASUREMENTS

Noise Source	Duration (hh:mm:ss)	Ref. Distance (Feet)	Noise Source Height (Feet)	Hourly Activity (Mins.) ⁷		Reference Noise Level (dBA L _{eq})		Sound Power Level (dBA) ⁸
				Daytime	Nighttime	@ Ref. Dist.	@ 50 Feet	
Typical Operational Activities								
Surf Lagoon/Wave Machine ¹	00:00:16	160'	6'	60	60	73.5	83.6	115.3
Outdoor Pool/Spa Activity ²	00:10:00	5'	4'	60	60	77.8	57.8	89.5
Parking Lot Vehicle Movements ³	01:00:00	20'	5'	60	60	58.0	50.0	84.6
Outdoor Game Activities ⁴	00:15:00	5'	5'	60	60	63.4	43.4	78.0
Roof-Top Air Conditioning Units ⁵	96:00:00	5'	5'	39	28	77.2	57.2	88.9
Additional Special Event Activities								
Outdoor Event Activity ⁶	00:01:20	5'	8'	60	60	86.8	66.8	101.4

¹ Source: Wave Garden Cove Noise Measurements, 8/11/2017.

² As measured by Urban Crossroads, Inc. on 3/16/2005 at the Westin Hotel in the City of Rancho Mirage.

³ As measured by Urban Crossroads, Inc. on 5/17/2017 at the Staybridge Suites in the City of Lake Forest.

⁴ As measured by Urban Crossroads, Inc. on 10/8/2014 by Urban Crossroads, Inc. at the Founder's Park in the unincorporated community of Ladera Ranch in the County of Orange.

⁵ As measured by Urban Crossroads, Inc. on 7/27/2015 at the Santee Walmart located at 170 Town Center Parkway.

⁶ As measured by Urban Crossroads, Inc. on 9/19/2013 at an outdoor live amplified music event at the Gate 12 Outdoor Event Space in the City of Laguna Woods.

⁷ Anticipated minutes of activity within a given hour based on the reference noise source activity.

⁸ Calculated using the CadnaA noise model at the reference distance to the noise source.

9.2 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 the noise level of multiple types of noise sources and calculates the noise levels at any location using the spatially accurate Project site plan and includes the effects of topography, buildings, and multiple barriers in its calculations using the latest standards to predict outdoor noise impacts.

Using the spatially accurate Project site plan and flown aerial imagery from Nearmap, a CadnaA noise prediction model of the Project study area was developed. The noise model provides a three-dimensional representation of the Project study area using the following key data inputs:

- Ground absorption;
- Multiple reflections at buildings and barriers;
- Reference noise level sources by type (area, point, etc.) and noise source height;
- Multiple noise receiver locations and heights;
- Topography and earthen berms;
- Barrier and building heights.

Based on these data inputs, the CadnaA noise prediction model 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 calculations at each receiver location and the partial noise level contributions by noise source. The reference sound power level (PWL) for the highest noise source expected at the Project site was input into the CadnaA noise prediction model. While sound pressure levels (e.g. L_{eq}) quantify in decibels the intensity of given sound sources at a reference distance, sound power levels (PWL) are connected to the sound source and are independent of distance. Sound pressure levels vary substantially with distance from the source, and also diminish as a result 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. Soft site conditions are used in the operational noise analysis which result in noise levels that attenuate (or decrease) at a rate of 7.5 dBA for each doubling of distance from a point source, based on existing conditions in the Project study area. Appendix 9.1 includes the CadnaA noise model inputs and calculation data.

9.3 TYPICAL PROJECT OPERATIONAL NOISE LEVELS

As indicated on Table 9-2, the typical Project-only operational noise levels will range from 30.1 to 49.2 dBA L_{eq} at the receiver locations. Table 9-2 also shows the operational noise levels associated with Desert Wave Project will satisfy the City of Palm Desert base exterior noise level standards at all nearby receiver locations.

TABLE 9-2: UNMITIGATED TYPICAL PROJECT-ONLY OPERATIONAL NOISE LEVELS

Receiver Location ¹	Land Use	Noise Level at Receiver Locations (dBA L_{eq}) ²	Threshold Exceeded? ³			
			Residential		Commercial	
			Daytime (55 dBA L_{eq})	Nighttime (45 dBA L_{eq})	Daytime (65 dBA L_{eq})	Nighttime (55 dBA L_{eq})
R1	Residential	30.1	No	No	-	-
R2	Commercial	49.2	-	-	No	No
R3	Commercial	46.3	-	-	No	No
R4	Commercial	42.9	-	-	No	No
R5	Residential	38.5	No	No	-	-
R6	Residential	36.8	No	No	-	-

¹ See Exhibit 9-A for the receiver and noise source locations.

² Estimated Project operational noise levels with typical activities (Appendix 9.1).

³ Do the estimated Project operational noise levels meet the operational noise level standards?

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

EXHIBIT 9-A: OPERATIONAL NOISE SOURCE LOCATIONS**LEGEND:**

Receiver Locations

Planned Perimeter Wall (6 Feet High)

Typical Operations

Air Conditioning Units

Outdoor Game Activity

Outdoor Pool/Spa Activity

Parking Lot

Surf Lagoon/Wave Machine

Special Events

Live/Amplified Music

9.4 TYPICAL PROJECT OPERATIONAL NOISE LEVEL CONTRIBUTIONS

To describe the Project operational noise level contributions, the Project operational noise levels are combined with the existing ambient noise levels measurements for the nearby receiver locations 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. (4) Instead, they must be logarithmically added using the following base equation:

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

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 describe the Project noise level contributions 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 9-3 and 9-4, respectively.

As indicated on Tables 9-3 and 9-4, the Project will generate unmitigated daytime operational noise level increase of up to 3.0 dBA L_{eq} and a nighttime operational noise level increases of up to 4.8 dBA L_{eq} at the nearby receiver locations, which will satisfy the significance criteria presented in Table 4-2. Since the Project-related operational noise level contributions will satisfy the operational noise level increase significance criteria presented in Table 4-2 under long-range typical operational conditions, the increases at the receiver locations will be *less than significant*.

TABLE 9-3: UNMITIGATED TYPICAL PROJECT DAYTIME NOISE LEVEL CONTRIBUTIONS

Receiver Location ¹	Land Use	Total Project Operational Noise Level ²	Meas. Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Project Increase ⁶	Threshold ⁷	Threshold Exceeded? ⁷
R1	Residential	30.1	L1	69.4	69.4	0.0	1.5	No
R2	Commercial	49.2	L2	49.3	52.3	3.0	5.0	No
R3	Commercial	46.3	L6	52.3	53.3	1.0	5.0	No
R4	Commercial	42.9	L5	49.0	50.0	1.0	5.0	No
R5	Residential	38.5	L4	49.7	50.0	0.3	5.0	No
R6	Residential	36.8	L2	49.3	49.5	0.2	5.0	No

¹ See Exhibit 9-A for the sensitive receiver locations.² Total Project operational noise levels as shown on Table 9-3.³ 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 activities.⁶ The noise level increase expected with the addition of the proposed Project activities.⁷ Significance Criteria as defined in Section 4.**TABLE 9-4: UNMITIGATED TYPICAL PROJECT NIGHTTIME NOISE LEVEL CONTRIBUTIONS**

Receiver Location ¹	Land Use	Total Project Operational Noise Level ²	Meas. Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Project Increase ⁶	Threshold ⁷	Threshold Exceeded? ⁷
R1	Residential	30.1	L1	63.4	63.4	0.0	3.0	No
R2	Commercial	49.2	L2	46.1	50.9	4.8	5.0	No
R3	Commercial	46.3	L6	47.3	49.8	2.5	5.0	No
R4	Commercial	42.9	L5	48.3	49.4	1.1	5.0	No
R5	Residential	38.5	L4	48.2	48.6	0.4	5.0	No
R6	Residential	36.8	L2	46.1	46.6	0.5	5.0	No

¹ See Exhibit 9-A for the sensitive receiver locations.² Total Project operational noise levels as shown on Table 9-3.³ 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 Criteria as defined in Section 4.

EXHIBIT 9-B: UNMITIGATED TYPICAL PROJECT OPERATIONAL NOISE LEVEL CONTOURS

9.5 SPECIAL EVENT PROJECT OPERATIONAL NOISE COMPLIANCE

Project short-term special event operational noise levels are analyzed for compliance with City of Palm Desert Municipal Code base exterior noise level limits. Special event activities within the Project site are anticipated to include live and/or amplified music, and as such, this special event condition analysis includes all previously analyzed typical operational noise sources, with the addition of live and/or amplified music operating simultaneously. The special event condition operational noise analysis shows that the unmitigated Project-related stationary-source noise levels at all receiver locations will range from 30.1 to 49.2 dBA L_{eq} , as shown on Table 9-5, and will satisfy the City of Palm Desert base exterior noise level standards.

TABLE 9-5: UNMITIGATED SPECIAL EVENT PROJECT-ONLY OPERATIONAL NOISE LEVELS

Receiver Location ¹	Land Use	Noise Level at Receiver Locations (dBA L_{eq}) ²	Threshold Exceeded? ³			
			Residential		Commercial	
			Daytime (55 dBA L_{eq})	Nighttime (45 dBA L_{eq})	Daytime (65 dBA L_{eq})	Nighttime (55 dBA L_{eq})
R1	Residential	30.1	No	No	-	-
R2	Commercial	49.2	-	-	No	No
R3	Commercial	46.5	-	-	No	No
R4	Commercial	43.2	-	-	No	No
R5	Residential	38.7	No	No	-	-
R6	Residential	36.9	No	No	-	-

¹ See Exhibit 9-A for the receiver and noise source locations.

² Estimated Project operational noise levels with special event activities (Appendix 9.1).

³ Do the estimated Project operational noise levels meet the operational noise level standards?

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

Off-site parking is also proposed as part of Project special event activities, however, this analysis focuses on the worst-case, short-term on-site Project operational activities since the live and/or amplified music represents a new noise source in the Project study area. It is our understanding that off-site parking would be provided in an existing parking lot area on the northwest corner of Cook Street and Country Club Drive where an existing commercial shopping center parking lot and vacant land exist today, and as such, off-site parking lot vehicle movements are not anticipated to produce noise levels greater than those associated with existing ambient traffic volumes and commercial parking and stationary-source activities under existing conditions.

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10 CONSTRUCTION IMPACTS

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 nearby sensitive receiver locations previously described in Section 8.

10.1 CONSTRUCTION NOISE LEVELS

Noise generated by the Project construction equipment will include a combination of trucks, power tools, concrete mixers, and portable generators that when combined can reach high levels. The number and mix of construction equipment is expected to occur in the following stages, based on similar projects in the City of Palm Desert:

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

This construction noise analysis was prepared using reference noise level measurements taken by Urban Crossroads, Inc. to describe the typical construction activity noise levels for each stage of Project construction. The construction reference noise level measurements represent a list of typical construction activity noise levels. Noise levels generated by heavy construction equipment can range from approximately 68 dBA to more than 80 dBA when measured at 50 feet. However, these noise levels diminish with distance from the construction site at a rate of 6 dBA per doubling of distance. For example, a noise level of 80 dBA measured at 50 feet from the noise source to the receiver would be reduced to 74 dBA at 100 feet from the source to the receiver, and would be further reduced to 68 dBA at 200 feet from the source to the receiver. The construction stages and equipment are based on CalEEMod input data provided by Terran Nova Planning & Research, Inc. (21)

10.2 CONSTRUCTION REFERENCE NOISE LEVELS

To describe the Project construction noise levels, measurements were collected for similar activities at several construction sites. Table 10-1 provides a summary of the construction reference noise level measurements. Since the reference noise levels were collected at varying distances of 30 feet and 50 feet, all construction noise level measurements presented on Table 10-1 have been adjusted for consistency to describe a uniform reference distance of 50 feet.

EXHIBIT 10-A: CONSTRUCTION NOISE SOURCE LOCATIONS

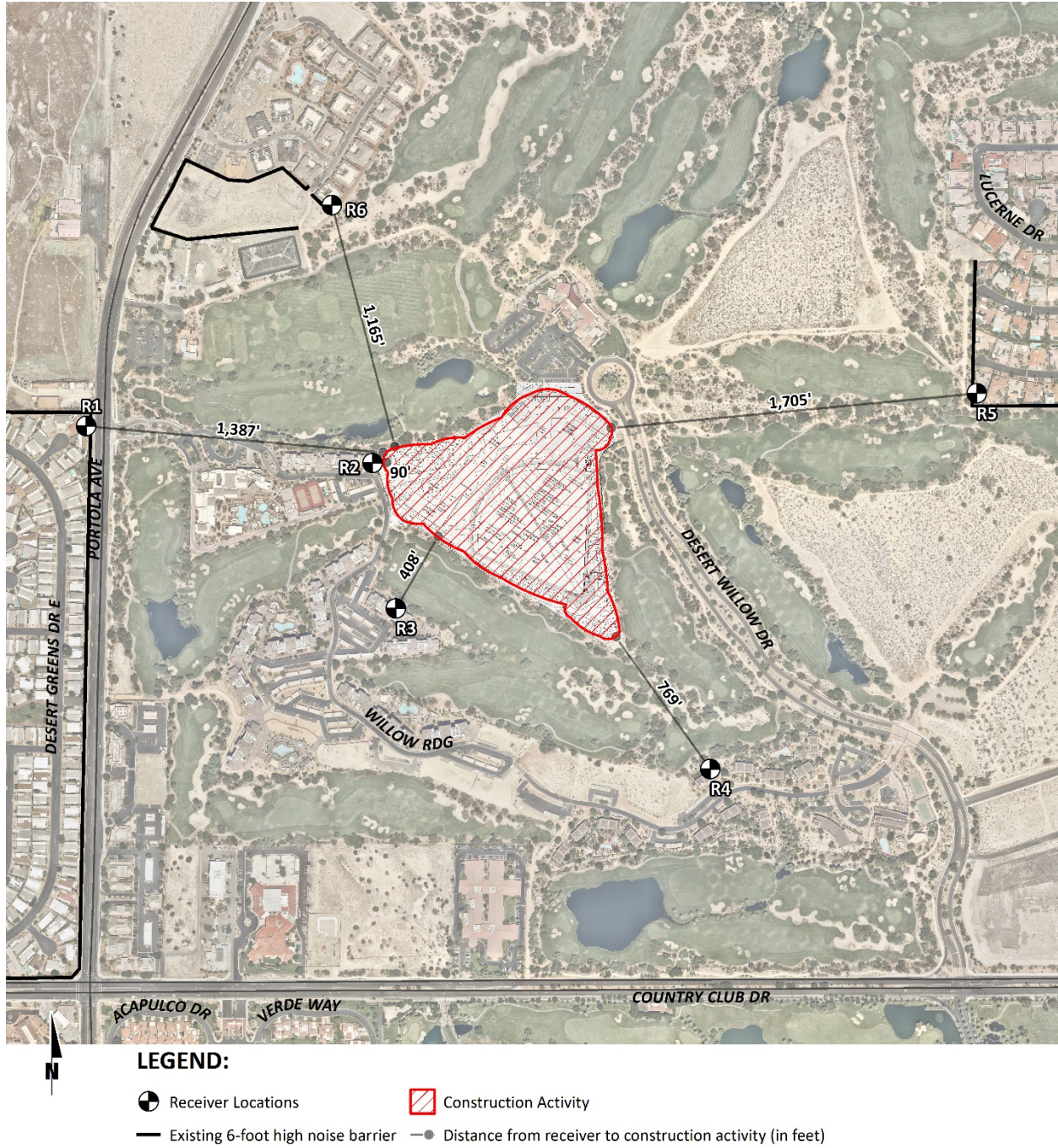


TABLE 10-1: CONSTRUCTION REFERENCE NOISE LEVELS

ID	Noise Source	Duration (h:mm:ss)	Reference Distance From Source (Feet)	Reference Noise Levels @ Reference Distance (dBA L _{eq})	Reference Noise Levels @ 50 Feet (dBA L _{eq}) ⁵
1	Truck Pass-Bys & Dozer Activity ¹	0:01:15	30'	63.6	59.2
2	Dozer Activity ¹	0:01:00	30'	68.6	64.2
3	Construction Vehicle Maintenance Activities ²	0:01:00	30'	71.9	67.5
4	Foundation Trenching ²	0:01:01	30'	72.6	68.2
5	Rough Grading Activities ²	0:05:00	30'	77.9	73.5
6	Framing ³	0:02:00	30'	66.7	62.3
7	Concrete Mixer Truck Movements ⁴	0:01:00	50'	71.2	71.2
8	Concrete Paver Activities ⁴	0:01:00	30'	70.0	65.6
9	Concrete Mixer Pour & Paving Activities ⁴	0:01:00	30'	70.3	65.9
10	Concrete Mixer Backup Alarms & Air Brakes ⁴	0:00:20	50'	71.6	71.6
11	Concrete Mixer Pour Activities ⁴	1:00:00	50'	67.7	67.7

¹ As measured by Urban Crossroads, Inc. on 10/14/15 at a business park construction site located at the northwest corner of Barranca Parkway and Alton Parkway in the City of Irvine.

² As measured by Urban Crossroads, Inc. on 10/20/15 at a construction site located in Rancho Mission Viejo.

³ As measured by Urban Crossroads, Inc. on 10/20/15 at a residential construction site located in Rancho Mission Viejo.

⁴ Reference noise level measurements were collected from a nighttime concrete pour at an industrial construction site, located at 27334 San Bernardino Avenue in the City of Redlands, between 1:00 a.m. to 2:00 a.m. on 7/1/15.

⁵ Reference noise levels are calculated at 50 feet using a drop off rate of 6 dBA per doubling of distance (point source).

10.3 CONSTRUCTION NOISE ANALYSIS

Using the reference construction equipment noise levels, calculations of the Project construction noise level impacts at the nearby sensitive receiver locations were completed. Tables 10-2 to 10-6 present the short-term construction noise levels for each stage of construction. Table 10-7 provides a summary of the construction noise levels by stage at the nearby noise-sensitive receiver locations. Based on the stages of construction, the noise impacts associated with the proposed Project are expected to create temporarily high noise levels at the nearby receiver locations. To assess the worst-case construction noise levels, this analysis shows the highest noise impacts when the equipment with the highest reference noise level is operating at the closest point from the edge of primary construction activity to each receiver location.

TABLE 10-2: SITE PREPARATION EQUIPMENT NOISE LEVELS

Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA L _{eq})
Truck Pass-Bys & Dozer Activity	59.2
Dozer Activity	64.2
Highest Reference Noise Level at 50 Feet (dBA L _{eq}):	64.2

Receiver Location	Distance to Construction Activity (Feet) ²	Distance Attenuation (dBA L _{eq}) ³	Estimated Noise Barrier Attenuation (dBA L _{eq}) ⁴	Construction Noise Level (dBA L _{eq})
R1	1,387'	-28.9	-5.0	30.3
R2	90'	-5.1	0.0	59.1
R3	408'	-18.2	0.0	45.9
R4	769'	-23.7	0.0	40.4
R5	1,705'	-30.7	-5.0	28.5
R6	1,165'	-27.3	0.0	36.8

¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.

² Distance from the nearest point of construction activity to the nearest receiver.

³ Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

⁴ Estimated barrier attenuation from existing barriers/berms in the Project study area.

TABLE 10-3: GRADING EQUIPMENT NOISE LEVELS

Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA L _{eq})
Truck Pass-Bys & Dozer Activity	59.2
Dozer Activity	64.2
Rough Grading Activities	73.5
Highest Reference Noise Level at 50 Feet (dBA L _{eq}):	73.5

Receiver Location	Distance to Construction Activity (Feet) ²	Distance Attenuation (dBA L _{eq}) ³	Estimated Noise Barrier Attenuation (dBA L _{eq}) ⁴	Construction Noise Level (dBA L _{eq})
R1	1,387'	-28.9	-5.0	39.6
R2	90'	-5.1	0.0	68.4
R3	408'	-18.2	0.0	55.2
R4	769'	-23.7	0.0	49.7
R5	1,705'	-30.7	-5.0	37.8
R6	1,165'	-27.3	0.0	46.1

¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.

² Distance from the nearest point of construction activity to the nearest receiver.

³ Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

⁴ Estimated barrier attenuation from existing barriers/berms in the Project study area.

TABLE 10-4: BUILDING CONSTRUCTION EQUIPMENT NOISE LEVELS

Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA L _{eq})
Construction Vehicle Maintenance Activities	67.5
Foundation Trenching	68.2
Framing	62.3
Highest Reference Noise Level at 50 Feet (dBA L _{eq}):	68.2

Receiver Location	Distance to Construction Activity (Feet) ²	Distance Attenuation (dBA L _{eq}) ³	Estimated Noise Barrier Attenuation (dBA L _{eq}) ⁴	Construction Noise Level (dBA L _{eq})
R1	1,387'	-28.9	-5.0	34.3
R2	90'	-5.1	0.0	63.1
R3	408'	-18.2	0.0	49.9
R4	769'	-23.7	0.0	44.4
R5	1,705'	-30.7	-5.0	32.5
R6	1,165'	-27.3	0.0	40.8

¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.

² Distance from the nearest point of construction activity to the nearest receiver.

³ Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

⁴ Estimated barrier attenuation from existing barriers/berms in the Project study area.

TABLE 10-5: ARCHITECTURAL COATING EQUIPMENT NOISE LEVELS

Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA L _{eq})
Construction Vehicle Maintenance Activities	67.5
Framing	62.3
Highest Reference Noise Level at 50 Feet (dBA L _{eq}):	67.5

Receiver Location	Distance to Construction Activity (Feet) ²	Distance Attenuation (dBA L _{eq}) ³	Estimated Noise Barrier Attenuation (dBA L _{eq}) ⁴	Construction Noise Level (dBA L _{eq})
R1	1,387'	-28.9	-5.0	33.6
R2	90'	-5.1	0.0	62.4
R3	408'	-18.2	0.0	49.2
R4	769'	-23.7	0.0	43.7
R5	1,705'	-30.7	-5.0	31.8
R6	1,165'	-27.3	0.0	40.1

¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.

² Distance from the nearest point of construction activity to the nearest receiver.

³ Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

⁴ Estimated barrier attenuation from existing barriers/berms in the Project study area.

TABLE 10-6: PAVING EQUIPMENT NOISE LEVELS

Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA L _{eq})
Concrete Mixer Truck Movements	71.2
Concrete Paver Activities	65.6
Concrete Mixer Pour & Paving Activities	65.9
Concrete Mixer Backup Alarms & Air Brakes	71.6
Concrete Mixer Pour Activities	67.7
Highest Reference Noise Level at 50 Feet (dBA L _{eq}):	71.6

Receiver Location	Distance to Construction Activity (Feet) ²	Distance Attenuation (dBA L _{eq}) ³	Estimated Noise Barrier Attenuation (dBA L _{eq}) ⁴	Construction Noise Level (dBA L _{eq})
R1	1,387'	-28.9	-5.0	37.7
R2	90'	-5.1	0.0	66.5
R3	408'	-18.2	0.0	53.4
R4	769'	-23.7	0.0	47.9
R5	1,705'	-30.7	-5.0	35.9
R6	1,165'	-27.3	0.0	44.3

¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.

² Distance from the nearest point of construction activity to the nearest receiver.

³ Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

⁴ Estimated barrier attenuation from existing barriers/berms in the Project study area.

10.4 CONSTRUCTION NOISE THRESHOLDS OF SIGNIFICANCE

The construction noise analysis shows that the highest construction noise levels will occur when construction activities take place at the closest point from primary Project construction activity to each of the nearby receiver locations. As shown on Table 10-7, the unmitigated construction noise levels are expected to range from 28.5 to 68.4 dBA L_{eq} at the nearby receiver locations.

TABLE 10-7: UNMITIGATED CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY (dBA L_{eq})

Receiver Location ¹	Construction Noise Level (dBA L _{eq})					
	Site Preparation	Grading	Building Construction	Architectural Coating	Paving	Highest Activity Noise Levels ²
R1	30.3	39.6	34.3	33.6	37.7	39.6
R2	59.1	68.4	63.1	62.4	66.5	68.4
R3	45.9	55.2	49.9	49.2	53.4	55.2
R4	40.4	49.7	44.4	43.7	47.9	49.7
R5	28.5	37.8	32.5	31.8	35.9	37.8
R6	36.8	46.1	40.8	40.1	44.3	46.1

¹ Noise receiver locations are shown on Exhibit 10-A.² Estimated construction noise levels during peak operating conditions.

To evaluate whether the Project will generate potentially significant short-term noise levels at off-site sensitive receiver locations a construction-related the NIOSH noise level threshold of 85 dBA L_{eq} is used as acceptable thresholds for construction noise at the nearby sensitive receiver locations. Table 10-8 shows the highest construction noise levels at the potentially impacted receiver locations are expected to approach 68.4 dBA L_{eq} and will satisfy the NIOSH 85 dBA L_{eq} significance threshold during temporary Project construction activities. The noise impact due to unmitigated Project construction noise levels is, therefore, considered a *less than significant* impact at all nearby receiver locations.

TABLE 10-8: CONSTRUCTION EQUIPMENT NOISE LEVEL COMPLIANCE (dBA L_{eq})

Receiver Location ¹	Construction Noise Levels (dBA L _{eq})		
	Highest Construction Noise Levels ²	Threshold ³	Threshold Exceeded? ⁴
R1	39.6	85	No
R2	68.4	85	No
R3	55.2	85	No
R4	49.7	85	No
R5	37.8	85	No
R6	46.1	85	No

¹ Noise receiver locations are shown on Exhibit 10-A.² Estimated construction noise levels during peak operating conditions, as shown on Table 10-7.³ Construction noise thresholds as shown on Table 4-2.⁴ Do the estimated Project construction noise levels satisfy the construction noise level threshold?

10.5 CONSTRUCTION VIBRATION IMPACTS

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. It is expected that ground-borne vibration from Project construction activities would cause only intermittent, localized intrusion. The proposed Project's construction activities most likely to cause vibration impacts are:

- Heavy Construction Equipment: Although all heavy mobile construction equipment has the potential of causing at least some perceptible vibration while operating close to buildings, the vibration is usually short-term and is not of sufficient magnitude to cause building damage.
- Trucks: Trucks hauling building materials to construction sites can be sources of vibration intrusion if the haul routes pass through residential neighborhoods on streets with bumps or potholes. Repairing the bumps and potholes generally eliminates the problem.

Ground-borne vibration levels resulting from construction activities occurring within the Project site were estimated by data published by the Federal Transit Administration. Construction activities that would have the potential to generate low levels of ground-borne vibration within the Project site include grading. Using the vibration source level of construction equipment provided on Table 6-5 and the construction vibration assessment methodology published by the FTA, it is possible to estimate the Project vibration impacts. Table 10-9 presents the expected Project related vibration levels at the nearby receiver locations.

At distances ranging from 90 to 1,705 feet from Project construction activities, construction vibration velocity levels are expected to approach 0.009 in/sec RMS and will remain below the County of Riverside threshold of 0.01 in/sec RMS at all receiver locations, as shown on Table 10-9. Therefore, the Project-related vibration impacts are considered *less than significant* during the construction activities at the Project site.

Further, the Project-related construction vibration levels do not represent levels capable of causing building damage to nearby residential homes. The FTA identifies construction vibration levels capable of building damage ranging from 0.12 to 0.5 in/sec PPV. (3) The peak Project-construction vibration levels shown on Table 10-9, approaching 0.013 in/sec PPV, are below the FTA vibration levels for building damage at the residential homes near the Project site. Moreover, the impacts at the site of the closest sensitive receivers are unlikely to be sustained during the entire construction period, but will occur rather only during the times that heavy construction equipment is operating adjacent to the Project site perimeter.

TABLE 10-9: PROJECT CONSTRUCTION VIBRATION LEVELS

Receiver ¹	Distance to Const. Activity (Feet)	Receiver PPV Levels (in/sec) ²					RMS Velocity Levels (in/sec) ³	Threshold	Threshold Exceeded? ⁴
		Small Bulldozer	Jack-hammer	Loaded Trucks	Large Bulldozer	Peak Vibration			
R1	1,387'	0.000	0.000	0.000	0.000	0.000	0.000	0.01	No
R2	90'	0.000	0.005	0.011	0.013	0.013	0.009	0.01	No
R3	408'	0.000	0.001	0.001	0.001	0.001	0.001	0.01	No
R4	769'	0.000	0.000	0.000	0.001	0.001	0.000	0.01	No
R5	1,705'	0.000	0.000	0.000	0.000	0.000	0.000	0.01	No
R6	1,165'	0.000	0.000	0.000	0.000	0.000	0.000	0.01	No

¹ Receiver locations are shown on Exhibit 10-A.

² Based on the Vibration Source Levels of Construction Equipment included on Table 6-5.

³ Vibration levels in PPV are converted to RMS velocity using a 0.71 conversion factor identified in the Caltrans Transportation and Construction Vibration Guidance Manual, September 2013.

⁴ Does the vibration level exceed the maximum acceptable vibration threshold?

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11 REFERENCES

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4. **California Department of Transportation Environmental Program.** *Technical Noise Supplement - A Technical Supplement to the Traffic Noise Analysis Protocol.* Sacramento, CA : s.n., September 2013.
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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. **Terra Nova Planning & Research, Inc.** *Desert Wave CalEEMod Construction Data.* January 2019.

12 CERTIFICATION

The contents of this noise study report represent an accurate depiction of the noise environment and impacts associated with the proposed Desert Wave 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) 336-5979.

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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 Orange • February, 2011
FHWA-NHI-142051 Highway Traffic Noise Certificate of Training • February, 2013

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APPENDIX 3.1:

CITY OF PALM DESERT MUNICIPAL CODE

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Chapter 9.24 NOISE CONTROL

9.24.010 Purpose.

The city council finds and declares that:

A. Inadequately controlled noise presents a growing danger to the health and welfare of the residents of the city of Palm Desert; and

B. The making and creation of excessive, unnecessary or unusually loud noises within the limits of the city of Palm Desert is a condition that has existed for some time, however, the extent and volume of such noises is increasing; and

C. The making, creation or maintenance of such excessive, unnecessary, unnatural or unusually loud noises that are prolonged, unusual and unnatural in their time, place and use affect and are a detriment to public health, comfort, convenience, safety, welfare and prosperity of the residents of the city of Palm Desert; and

D. Every person is entitled to an environment in which the noise is not detrimental to his or her life, health, or enjoyment of property; and

E. The necessity in the public interest for the provisions and prohibitions hereinafter contained and enacted, is declared as a matter of legislative determination and public policy, and it is further declared that the provisions and prohibitions hereinafter contained and enacted are in pursuance of and for the purpose of securing and promoting the public health, comfort, convenience, safety, welfare and prosperity and the peace and quiet of the residents of the city of Palm Desert. (Ord. 1170 § 1, 2008; Ord. 1169 § 1, 2008; Ord. 420, 1985)

9.24.020 Definitions

“Ambient noise level” means the all encompassing noise level associated with a given environment, being a composite of sounds from all sources, excluding the alleged offensive noise, at the location and approximate time at which a comparison with the alleged offensive noise is to be made.

“Amplified music” means instrumental and/or vocal music amplified through electronic means.

“Average sound level” means a sound level typical of the sound levels at a certain place during a given period of time; also, means an equivalent continuous sound level.

“A-weighted sound level” means the sound pressure level in decibels as measured on a sound level meter using the A-weighting network. The level to read is designated db(A) or dBA.

“Commercial establishments” includes, but is not limited to, any nightclub, restaurant, sports bar, industrial, retail or business establishment or combination thereof.

“Construction equipment” means any tools, machinery or equipment used in connection with construction operations, including all types of “special construction” equipment as defined in the pertinent sections of the California Vehicle Code when used in the construction process on any construction site, home improvement site or property maintenance site, regardless of whether such site be located on-highway or off-highway.

“Cumulative period” means an additive period of time composed of individual time segments which may be continuous or interrupted.

“Decibel” means a unit measure of sound level noise.

“Disturbance” means any disturbance of the peace as defined by Penal Code Section 415 or as otherwise defined herein.

“Disturbing, excessive or offensive noise” means any sound or noise from any source in excess of the sound level or noise level set forth in Section 9.24.030.

“Emergency machinery,” “vehicle” or “work” means any machinery, vehicle or work used, employed or performed in an effort to protect, provide or restore safe conditions in the community or for the citizenry, or work by private or public utilities when restoring utility service.

“Fixed noise source” means a stationary device which creates sounds which are fixed or motionless including but not limited to industrial and commercial machinery and equipment, pumps, fans, compressors, generators, air conditions and refrigeration equipment.

“Gathering” means any convergence of five or more persons.

“Impact noise” means the noise produced by the collision of one mass in motion with a second mass which may be either in motion or in rest.

“Noise level” means the same as “sound level.” The terms may be used interchangeably herein.

“Peace officer” means a duly appointed officer of the City, as defined in California Penal Code, Chapter 4.5, Sections 830 et seq.

“Person” means a person, firm, association, copartnership, joint venture, corporation or any entity, public or private in nature.

“Portable powered blower” means any mechanically powered device, regardless of the source of power, which is not stationary, and used for the purpose of blowing leaves, dirt or other debris off sidewalks, lawns or other surfaces.

“Premises” means any real property or location at which a gathering may be held.

“Sound level” (noise level) in decibels is the quantity measured using the frequency weighting of A of a sound level meter as defined herein.

“Sound level meter” means an instrument meeting American National Standard Institute’s Standard SL. 4-1974 for type 1 or type 2 sound level meters or an instrument and the associated recording and analyzing equipment which will provide equivalent data. (Ord. 1170 § 1, 2008; Ord. 1169 § 1, 2008; Ord. 842 § 1, 1997; Ord. 691 § 1, 1992; Ord. 420, 1985)

9.24.030 Sound level limits.

A. The following ten-minute average sound level limits, unless otherwise specifically indicated, shall apply as indicated in the following table as it relates to a fixed noise source or pool equipment pursuant to Section 25.16.110 or leaf blowers pursuant to Section 9.24.075.

Zone	Time	Applicable Ten-Minute Average Decibel Limit (A-Weighted)
Residential—All Zones	7 a.m. to 10 p.m.	55
	10 p.m. to 7 a.m.	45
Public Institutional	7 a.m. to 10 p.m.	65
	10 p.m. to 7 a.m.	55
Commercial	7 a.m. to 10 p.m.	65
	10 p.m. to 7 a.m.	55

Manufacturing	7 a.m. to 10 p.m.	70
Agricultural	10 p.m. to 7 a.m.	55

- B. If the measured ambient noise level exceeds the applicable limit as noted in the table in subsection A of this section, the allowable average sound level shall be the ambient noise level.
- C. The sound level limit between two zoning districts shall be measured at the higher allowable district. (Ord. 1246 § 1, 2012; Ord. 1170 § 1, 2008; Ord. 1169 § 1, 2008; Ord. 1126A § 1, 2006; Ord. 1125 § 1, 2006; Ord. 691 § 2, 1992; Ord. 647 § 1, 1991; Ord. 420, 1985)

9.24.040 Prohibited noise generally.

- A. It is unlawful for any person or property owner within the city of Palm Desert to make, cause, or continue to make or cause loud, excessive, impulsive or intrusive sound or noise that annoys or disturbs persons of ordinary sensibilities of a distance of greater than fifty feet from property line.
- B. The factors, standards, and conditions that may be considered in determining whether a violation of the provisions of this section has been committed, include, but are not limited to, the following:
1. The level of the noise;
 2. The level and intensity of the background (ambient) noise, if any;
 3. The proximity of the noise to residential or commercial sleeping areas;
 4. The nature, density and zoning of the area within which the noise emanates;
 5. The density of inhabitation of the area within which the noise emanates;
 6. The time of day and night the noise occurs;
 7. The duration of the noise;
 8. Whether the nature of the noise is natural or unnatural;
 9. Whether the noise is constant, recurrent or intermittent;
 10. Whether the noise is produced by a commercial or noncommercial activity. (Ord. 1246 § 2, 2012; Ord. 1170 § 1, 2008; Ord. 1169 § 1, 2008; Ord. 691 § 3, 1992; Ord. 420, 1985)

9.24.050 Disturbing, excessive, offensive noises—Declaration of certain acts constituting.

- The following activities, are declared to be deemed disturbing, excessive or offensive noises and any of the following shall constitute prima facie evidence of a violation.
- A. Horns, Signaling Devices, Muffler Systems, Car Alarms, etc. Unnecessary use or operation of horns, signaling devices, uncontrolled muffler noises, car alarms on vehicles of all types, including motorcycles, and other equipment.
1. The operation of any such sound production or reproduction device, radio receiving set, musical instrument, drum, phonograph, television set, machine, loud speaker and sound amplifier or similar machine or device in such a manner as to be plainly audible at a distance of fifty feet or more from the building, structure or vehicle in which located, or from the source point.
 2. The operation of any sound amplifier, which is part of, or connected to, any radio, stereo receiver, compact disc player, cassette tape player, or other similar device when operated in such a manner as to be plainly audible at a distance of fifty feet from the source point or when operated in such a manner as to cause a person to be aware of vibration at a distance of fifty feet or more from the source point.
- B. Uses Restricted. The use, operation, or permitting to be played, used or operated, any sound production or reproduction device, radio receiving set, musical instrument, drums, phonograph, television set, loudspeakers and sound amplifiers or other machine or device for the producing or reproducing of sound in such a manner as to disturb the peace, quiet, and comfort of any reasonable person of normal sensitiveness.
- C. Prima Facie Violations. Any of the following shall constitute evidence of a prima facie violation of this section:
1. The operation of any such sound production or reproduction device, radio receiving set, musical instrument, drum, phonograph, television set, machine, loud speaker and sound amplifier or similar machine or device in such a manner as to be plainly audible at a distance of fifty feet from the building, structure or vehicle in which located, or from the source point.
 2. The operation of any sound amplifier, which is part of, or connected to, any radio, stereo receiver, compact disc player, cassette tape player, or other similar device when operated in such a manner as to be plainly audible at a distance of fifty feet from the source point or when operated in such a manner as to cause a person to be aware of vibration at a distance of fifty feet from the source point.
- D. Enforcement of Prima Facie Violations. Any peace officer, as defined in California Penal Code, Chapter 4.5 Sections 830 et seq., and/or the city manager or designees who are authorized to enforce the provisions of this chapter and who encounters evidence of a prima facie violation of this section whereby the component(s) amplifying or transmitting the sound in such a manner as to disturb the peace, quiet, or comfort of any reasonable person of normal sensitivity in any area of the city shall be empowered to issue a citation and/or to confiscate and impound as evidence, any or all of the components amplifying or transmitting the sound. (Ord. 1170 § 1, 2008; Ord. 1169 § 1, 2008; Ord. 420, 1985)

9.24.060 Special provisions—Exemptions.

- The following activities shall be exempted from the provisions of this chapter:
- A. School bands, school athletic and school entertainment events;
 - B. Outdoor gatherings, public dances, shows and sporting and entertainment events; provided, the events are authorized by the city;
 - C. Activities conducted in public parks and public playgrounds;
 - D. Any mechanical device, apparatus or equipment used, related to or connected with emergency machinery, vehicle or work;
 - E. All mechanical devices, apparatus or equipment which are utilized for the protection or salvage of agricultural crops during periods of potential or actual frost damage or other adverse weather conditions;
 - F. Mobile noise sounds associated with agricultural operations provided such operations do not take place between the hours of eight p.m. and seven a.m. on weekdays, including Saturday, or at any time on Sunday or a federal holiday;
 - G. Mobile noise sources associated with agricultural pest control through pesticide application;
 - H. Noise sources associated with property maintenance. Refer to Section 9.24.075, Property maintenance activities;
 - I. The provisions of this regulation shall not preclude the construction, operation, maintenance and repairs of equipment, apparatus or facilities of park and recreation departments, public work projects or essential public services and facilities, including those of public utilities subject to the regulatory jurisdiction of the California Public Utilities Commission;
 - J. Carillon chimes between the hours of eight a.m. to seven p.m.

9.24.065 Parking lot sweepers.

No person shall operate, or permit to be operated, a parking lot sweeper between the hours of ten p.m. to seven a.m. in or adjacent to any residential zone. Emergency work and/or unusual conditions may cause parking lot cleaning to be permitted with the consent of the city manager. (Ord. 1179 § 1, 2009; Ord. 1178 § 2, 2008; Ord. 691 § 6, 1992)

9.24.070 Construction activities.

No person shall perform, nor shall any person be employed nor shall any person cause any other person to be employed to work for which a building permit is required by the city in any work of construction, erection, demolition, alteration, repair, addition to or improvement of any building, structure, road or improvement to realty except between the hours as set forth as follows:

October 1st through April 30th

Monday through Friday:	Seven a.m. to five-thirty p.m.
Saturday:	Eight a.m. to five p.m.
Sunday:	None
Government code holidays:	None

May 1st through September 30th

Monday through Friday:	Five-thirty a.m. to seven p.m.
Saturday:	Eight a.m. to five p.m.
Sunday:	None
Government code holidays:	None

Emergency work and/or unusual conditions may cause work to be permitted with the consent of the city manager upon recommendation of the building director or the city engineer. (Ord. 1330 § 1, 2017; Ord. 1170 § 1, 2008; Ord. 1169 § 1, 2008; Ord. 752 § 1, 1994; Ord. 420, 1985)

9.24.075 Property maintenance activities.

A. Noise sources associated with property maintenance activity and all portable blowers, lawnmowers, edgers or similar devices shall be prohibited except during the following hours:

October 1st through April 30th

Monday through Sunday:	Nine a.m. to five-thirty p.m.
Government code holidays:	Not allowed

May 1st through September 30th

Monday through Friday:	Eight a.m. to five-thirty p.m.
Saturday and Sunday:	Nine a.m. to five-thirty p.m.
Government code holidays:	Not allowed

Notwithstanding the hours of permitted operations, such equipment that constitutes a public nuisance may be abated as otherwise provided in this code.

With the exception of blowers, all maintenance activities associated with golf courses and/or tennis courts can operate from five-thirty a.m. to seven p.m., seven days a week.

B. All municipal maintenance activities are not subject to subsection A.

C. No person shall willfully make or continue, or willfully cause to be made or continued, any noise from any portable powered blower at a level which exceeds seventy decibels (dBA) measured at the midpoint of a wall area twenty feet long and ten feet high and at the horizontal distance fifty feet away from the midpoint of the wall, or not more than seventy-six decibels (dBA) at a horizontal distance of twenty-four feet using a sound level meter.

D. No portable powered blower shall be operated in a manner which will permit dirt, dust, debris, leaves, grass clippings, cuttings, or trimmings from trees or shrubs to be blown or deposited onto neighboring property or public right-of-way. All waste shall be removed and disposed of in a sanitary manner by the use of property occupant. (Ord. 1243 § 3, 2012; Ord. 1170 § 1, 2008; Ord. 1169 § 1, 2008; Ord. 1076 § 1, 2005; Ord. 842 § 3, 1997)

9.24.080 Refuse and waste collection hours.

The city contractor for collection of refuse and waste shall be authorized to provide service as indicated in the following table:

- A. Commercial.

1. Collection during winter months shall be between six a.m. and six p.m.

2. Collection during summer months shall be between five-thirty a.m. and six p.m.
- B. Residential.

1. Collection during winter months shall be between six-thirty a.m. and six p.m.

2. Collection during summer months shall be between five-thirty a.m. and six p.m. (Ord. 1170 § 1, 2008; Ord. 1169 § 1, 2008; Ord. 420, 1985)

9.24.090 Schools, hospitals and churches—Special provisions.

Chapter 9.24 NOISE CONTROL
It is unlawful for any person to create any noise which causes the noise level at any Chapter 9.24 NOISE CONTROL the same is in use, to exceed the noise limits, as specified in subsection A of Section 9.24.030, prescribed for the assigned noise zone in which the school, hospital or church is located, or which noise level unreasonably disturbs or annoys patients in the hospital. (Ord. 1170 § 1, 2008; Ord. 1169 § 1, 2008; Ord. 420, 1985)

9.24.100 Air conditioning and refrigeration equipment.

The noise standards enumerated in Section 9.24.030 shall be increased by eight dBA when the alleged offensive noise source is an air conditioning or refrigeration system or associated equipment which was installed prior to the effective date of December 1, 1985. Installation of new equipment must be certified to be within the provisions of this chapter for night and day operation noise level. (Ord. 1246 § 3, 2012; Ord. 1170 § 1, 2008; Ord. 1169 § 1, 2008; Ord. 420, 1985)

9.24.110 Noise level measurement.

A. The location selected for measuring exterior noise levels between residential properties shall be at the property line of the affected residential property. Affected residential property shall be the address from which the complaint was received. Interior noise measurement shall be made within the affected residential unit. The measurement shall be made at a point at least four feet from the wall, ceiling or floor nearest the noise source.

The location selected for measuring exterior noise levels between nonresidential properties shall be at the property line of the affected property.

B. The location selected for measuring exterior noise levels between two zoning districts shall be at the boundary of the two districts. (Ord. 1170 § 1, 2008; Ord. 1169 § 1, 2008; Ord. 1126A § 2, 2006; Ord. 1125 § 2, 2006; Ord. 420, 1985)

9.24.120 Interference with authorized personnel is prohibited.

No person shall interfere with, oppose or resist any authorized person charged with enforcement of this chapter while such person is engaged in the performance of his or her duty. (Ord. 1170 § 1, 2008; Ord. 1169 § 1, 2008; Ord. 420, 1985)

9.24.140 Pre-existing noise source—Time extension.

Those commercial and/or industrial noise sources in existence prior to the date of adoption of the ordinance codified in this chapter, which noise sources are an integral part of a building, structure or similar fixed and permanent installation if in compliance with local zoning structures, shall be granted a three-year period from the date of adoption with which to comply with the provisions of the chapter. If, at the end of the three-year period, it can be shown that compliance with the provisions herein constitutes a hardship in terms of technical and economic feasibility, the time to comply may be extended on an annual basis until such time as compliance may be affected. (Ord. 1170 § 1, 2008; Ord. 1169 § 1, 2008; Ord. 420, 1985)

9.24.150 Violation—Infractions.

Any person violating any of the provisions of this chapter shall be deemed guilty of an infraction. (Ord. 1170 § 1, 2008; Ord. 1169 § 1, 2008; Ord. 420, 1985)

9.24.160 Continuing or subsequent violations—Misdemeanor.

Any person having been convicted of a violation of any provisions of this chapter who thereafter commits a violation of the same provisions of this chapter shall be guilty of a misdemeanor. (Ord. 1170 § 1, 2008; Ord. 1169 § 1, 2008; Ord. 420, 1985)

9.24.170 Severability.

If any provision of this chapter is held to be unconstitutional or otherwise invalid by any court of competent jurisdiction, the remaining provisions of this chapter shall not be invalidated. (Ord. 1170 § 1, 2008; Ord. 1169 § 1, 2008; Ord. 420, 1985)

View the [mobile version](#).

APPENDIX 5.1:

STUDY AREA PHOTOS

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L1 East



L1 North



L1 South



L1 West



L2 East



L2 North



L2 South



L2 West



L3 East



L3 North



L3 South



L3 West



L4 East



L4 North



L4 South



L4 West



L5 Northeast



L5 Southeast



L5 Southwest



L5 West



L6 East



L6 North



L6 South



L6 West

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APPENDIX 5.2:

NOISE LEVEL MEASUREMENT WORKSHEETS

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24-Hour Noise Level Measurement Summary

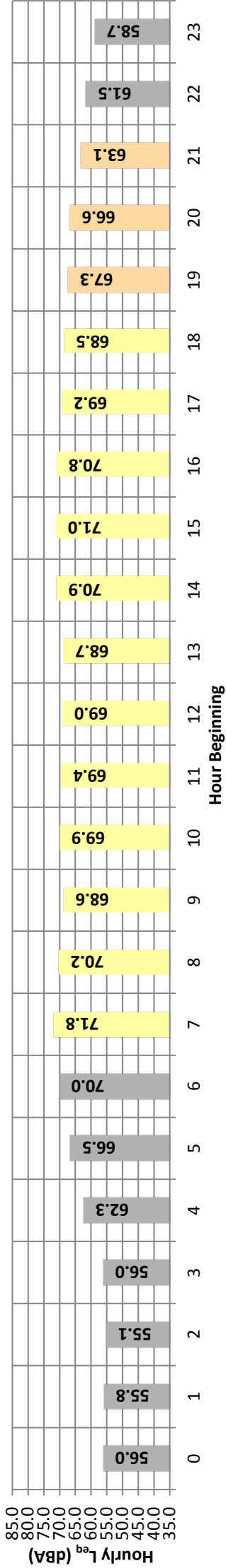
Date: Tuesday, January 22, 2019
Project: Desert Wave Ventures

Location: L1 - Located on Portola Avenue west of the Project site, near existing single-family residential homes.

Meter: Piccolo I

JN: 11826
Analyst: R. Saber

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	56.0	77.8	37.6	69.0	67.0	61.0	55.0	44.0	40.0	39.0	39.0	38.0	56.0	10.0	66.0
	1	55.8	78.5	39.3	69.0	66.0	61.0	56.0	46.0	43.0	41.0	40.0	39.0	55.8	10.0	65.8
	2	55.1	75.8	40.4	69.0	65.0	58.0	56.0	47.0	45.0	41.0	41.0	40.0	55.1	10.0	65.1
	3	56.0	75.7	37.6	70.0	67.0	61.0	55.0	44.0	41.0	39.0	39.0	39.0	56.0	10.0	66.0
	4	62.3	88.8	39.2	74.0	72.0	68.0	65.0	52.0	46.0	41.0	40.0	39.0	62.3	10.0	72.3
	5	66.5	88.4	43.8	77.0	75.0	72.0	70.0	63.0	53.0	47.0	46.0	45.0	66.5	10.0	76.5
Day	6	70.0	88.7	46.0	79.0	77.0	75.0	74.0	70.0	64.0	50.0	49.0	47.0	70.0	10.0	80.0
	7	71.8	92.1	47.3	80.0	78.0	77.0	76.0	72.0	68.0	55.0	52.0	49.0	71.8	0.0	71.8
	8	70.2	88.6	48.0	79.0	77.0	76.0	74.0	70.0	65.0	54.0	52.0	49.0	70.2	0.0	70.2
	9	68.6	82.7	46.4	77.0	76.0	74.0	73.0	69.0	64.0	53.0	50.0	48.0	68.6	0.0	68.6
	10	69.9	87.0	48.0	79.0	77.0	75.0	74.0	70.0	65.0	54.0	52.0	49.0	69.9	0.0	69.9
	11	69.4	88.6	49.7	77.0	76.0	74.0	73.0	70.0	65.0	56.0	54.0	52.0	69.4	0.0	69.4
	12	69.0	83.8	45.0	78.0	76.0	74.0	73.0	69.0	65.0	52.0	49.0	46.0	69.0	0.0	69.0
	13	68.7	82.7	46.7	77.0	76.0	74.0	73.0	69.0	65.0	53.0	51.0	48.0	68.7	0.0	68.7
	14	70.9	88.6	47.0	79.0	78.0	76.0	75.0	71.0	67.0	55.0	52.0	48.0	70.9	0.0	70.9
	15	71.0	87.2	48.1	79.0	78.0	76.0	75.0	71.0	67.0	55.0	53.0	50.0	71.0	0.0	71.0
	16	70.8	89.0	46.3	79.0	77.0	76.0	75.0	71.0	67.0	55.0	52.0	48.0	70.8	0.0	70.8
	17	69.2	88.3	46.2	78.0	77.0	75.0	74.0	69.0	64.0	51.0	49.0	47.0	69.2	0.0	69.2
	18	68.5	93.6	45.3	77.0	76.0	74.0	72.1	67.0	61.0	50.0	48.0	46.0	68.5	0.0	68.5
	19	67.3	90.3	44.6	76.0	75.0	73.0	71.0	66.0	59.0	47.0	46.0	45.0	67.3	5.0	72.3
	20	66.6	93.8	43.9	75.0	74.0	71.0	70.0	63.0	55.0	46.0	45.0	44.0	66.6	5.0	71.6
	21	63.1	80.3	43.9	74.0	73.0	70.0	68.0	59.0	52.0	46.0	44.0	44.0	63.1	5.0	68.1
	22	61.5	81.4	42.1	73.0	72.0	68.0	66.0	57.0	49.0	44.0	44.0	43.0	61.5	10.0	71.5
	23	58.7	83.5	37.5	71.0	68.0	64.0	60.0	48.0	42.0	37.0	37.0	37.0	58.7	10.0	68.7
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq} (dBA)		
Day	Min	68.5	82.7	45.0	77.0	76.0	74.0	72.1	67.0	61.0	50.0	48.0	46.0	24-Hour		
	Max	71.8	93.6	49.7	80.0	78.0	77.0	76.0	72.0	68.0	56.0	54.0	52.0	Daytime		
Energy Average		70.0	Average:		78.3	76.8	75.1	73.9	69.8	65.3	53.6	51.2	48.3	68.0	69.4	63.4
Evening	Min	63.1	80.3	43.9	74.0	73.0	70.0	68.0	59.0	52.0	46.0	44.0	44.0	24-Hour CNEL (dBA)		
	Max	67.3	93.8	44.6	76.0	75.0	73.0	71.0	66.0	59.0	47.0	46.0	45.0			
Energy Average		66.0	Average:		75.0	74.0	71.3	69.7	62.7	55.3	46.3	45.0	44.3			
Night	Min	55.1	75.7	37.5	69.0	65.0	58.0	55.0	44.0	40.0	37.0	37.0	37.0			
	Max	70.0	88.8	46.0	79.0	77.0	75.0	74.0	70.0	64.0	50.0	49.0	47.0			
Energy Average		63.4	Average:		72.3	69.9	65.3	61.9	52.3	47.0	42.1	41.7	40.8	71.7		

24-Hour Noise Level Measurement Summary

Date: Tuesday, January 22, 2019
Project: Desert Wave Ventures

Location: L2 - Located within The Westin Desert Willow Villas, near the northeastern corner of the Project site boundaries.

Meter: Piccolo I

JN: 11826
Analyst: R. Saber

Hourly L_{eq} dBA Readings (unadjusted)

Hourly L _{eq} (dBA)	Hour Beginning																							
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
85.0																								
80.0																								
75.0																								
70.0																								
65.0																								
60.0																								
55.0																								
50.0																								
45.0																								
40.0																								
35.0																								

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	41.0	53.3	38.1	47.0	46.0	44.0	42.0	41.0	41.0	38.0	38.0	38.0	41.0	10.0	51.0
	1	48.3	69.3	40.5	62.0	55.0	49.0	46.0	43.0	42.0	41.0	41.0	41.0	48.3	10.0	58.3
	2	46.9	58.5	41.0	57.0	56.0	52.0	50.0	45.0	44.0	41.0	41.0	41.0	46.9	10.0	56.9
	3	42.5	56.4	38.1	51.0	49.0	44.0	43.0	42.0	41.0	38.0	38.0	38.0	42.5	10.0	52.5
	4	43.0	51.2	39.6	48.0	48.0	46.0	45.0	43.0	41.0	41.0	41.0	40.0	43.0	10.0	53.0
	5	48.1	60.5	41.8	56.0	55.0	53.0	51.0	47.0	46.0	44.0	43.0	42.0	48.1	10.0	58.1
	6	49.1	64.3	42.8	56.0	55.0	52.0	51.0	49.0	47.0	45.0	45.0	44.0	49.1	10.0	59.1
Day	7	51.2	65.3	43.6	57.0	56.0	54.0	54.0	52.0	49.0	45.0	45.0	44.0	51.2	0.0	51.2
	8	50.8	74.8	42.7	58.0	55.0	52.0	51.0	48.0	46.0	44.0	44.0	43.0	50.8	0.0	50.8
	9	51.2	66.3	42.7	61.0	59.0	56.0	54.0	50.0	48.0	44.0	44.0	43.0	51.2	0.0	51.2
	10	50.2	62.9	44.0	58.0	57.0	54.0	53.0	50.0	48.0	46.0	45.0	45.0	50.2	0.0	50.2
	11	49.8	63.4	43.9	57.0	55.0	53.0	52.0	50.0	48.0	45.0	45.0	44.0	49.8	0.0	49.8
	12	50.0	69.8	41.1	59.0	56.0	53.0	52.0	49.0	47.0	44.0	43.0	42.0	50.0	0.0	50.0
	13	50.4	69.5	41.6	61.0	56.0	53.0	51.0	49.0	47.0	44.0	44.0	42.0	50.4	0.0	50.4
	14	48.5	68.6	41.1	58.0	55.0	52.0	51.0	48.0	45.0	43.0	42.0	42.0	48.5	0.0	48.5
	15	48.4	65.0	41.3	58.0	56.0	52.0	50.0	48.0	46.0	44.0	43.0	42.0	48.4	0.0	48.4
	16	47.9	60.2	42.7	54.0	52.0	51.0	50.0	48.0	46.0	44.0	44.0	43.0	47.9	0.0	47.9
	17	49.0	64.2	42.5	59.0	57.0	52.0	51.0	48.0	46.0	44.0	43.0	42.0	49.0	0.0	49.0
	18	47.1	63.2	38.1	56.0	54.0	51.0	50.0	47.0	44.0	40.0	38.0	38.0	47.1	0.0	47.1
Evening	19	47.8	65.8	41.0	60.0	55.0	51.0	49.0	46.0	44.0	41.0	41.0	41.0	47.8	5.0	52.8
	20	46.9	65.3	38.1	58.0	56.0	49.0	48.0	45.0	42.0	41.0	41.0	39.0	46.9	5.0	51.9
	21	46.4	61.9	38.1	57.0	55.0	51.0	49.0	45.0	42.0	40.0	38.0	38.0	46.4	5.0	51.4
Night	22	45.8	65.2	38.1	53.0	52.0	50.0	49.0	45.0	41.0	38.0	38.0	38.0	45.8	10.0	55.8
	23	42.8	56.8	38.1	50.0	48.0	46.0	45.0	43.0	41.0	38.0	38.0	38.0	42.8	10.0	52.8
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq} (dBA)		
Day	Min	47.1	60.2	38.1	54.0	52.0	51.0	50.0	47.0	44.0	40.0	38.0	38.0	24-Hour		
	Max	51.2	74.8	44.0	61.0	59.0	56.0	54.0	52.0	49.0	46.0	45.0	45.0	Daytime		
Energy Average		49.7	Average:		58.0	55.7	52.8	51.6	48.9	46.7	43.9	43.3	42.5	48.4	49.3	46.1
Evening	Min	46.4	61.9	38.1	57.0	55.0	49.0	48.0	45.0	42.0	40.0	38.0	38.0	24-Hour CNEL (dBA)		
	Max	47.8	65.8	41.0	60.0	56.0	51.0	49.0	46.0	44.0	41.0	41.0	41.0			
Energy Average		47.1	Average:		58.3	55.3	50.3	48.7	45.3	42.7	40.7	40.0	39.3			
Night	Min	41.0	51.2	38.1	47.0	46.0	44.0	42.0	41.0	41.0	38.0	38.0	38.0			
	Max	49.1	69.3	42.8	62.0	56.0	53.0	51.0	49.0	47.0	45.0	45.0	44.0			
Energy Average		46.1	Average:		53.3	51.6	48.4	46.9	44.2	42.7	40.4	40.3	40.0	53.4		

24-Hour Noise Level Measurement Summary

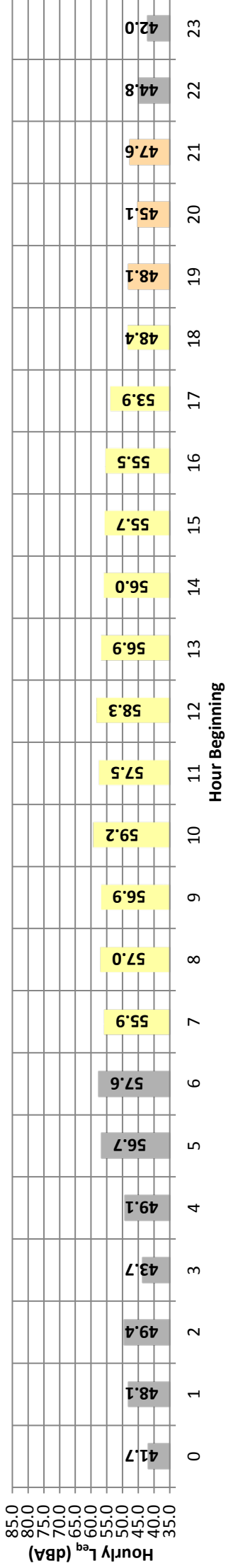
Date: Tuesday, January 22, 2019
Project: Desert Wave Ventures

Location: L3 - Located on Desert Willow Drive, near the eastern boundary of the Project site and existing golf courses.

Meter: Piccolo I

JN: 11826
Analyst: R. Saber

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	41.7	53.5	38.9	48.0	46.0	44.0	43.0	42.0	40.0	39.0	39.0	39.0	41.7	10.0	51.7
	1	48.1	68.0	40.7	60.0	56.0	49.0	47.0	45.0	44.0	42.0	41.0	40.0	48.1	10.0	58.1
	2	49.4	69.7	40.8	58.0	57.0	54.0	52.0	48.0	46.0	43.0	42.0	42.0	49.4	10.0	59.4
	3	43.7	59.3	39.0	52.0	49.0	46.0	45.0	43.0	42.0	40.0	39.0	39.0	43.7	10.0	53.7
	4	49.1	73.9	40.1	59.0	50.0	47.0	46.0	44.0	43.0	41.0	40.0	40.0	49.1	10.0	59.1
	5	56.7	82.8	42.0	67.0	64.0	58.0	56.0	50.0	47.0	45.0	44.0	43.0	56.7	10.0	66.7
	6	57.6	78.5	45.4	70.0	67.0	63.0	60.0	53.0	50.0	47.0	46.0	46.0	57.6	10.0	67.6
Day	7	55.9	78.2	43.7	68.0	65.0	62.0	59.0	51.0	47.0	45.0	44.0	44.0	55.9	0.0	55.9
	8	57.0	78.9	43.0	69.0	67.0	63.0	61.0	52.0	47.0	45.0	44.0	44.0	57.0	0.0	57.0
	9	56.9	78.6	42.5	68.0	66.0	63.0	61.0	52.0	48.0	45.0	44.0	43.0	56.9	0.0	56.9
	10	59.2	87.2	41.8	69.0	67.0	63.0	61.0	52.0	48.0	45.0	45.0	43.0	59.2	0.0	59.2
	11	57.5	75.7	44.5	68.0	67.0	64.0	62.0	54.0	50.0	47.0	46.0	45.0	57.5	0.0	57.5
	12	58.3	81.5	40.7	70.0	67.0	63.0	61.0	53.0	47.0	43.0	42.0	41.0	58.3	0.0	58.3
	13	56.9	79.7	41.8	68.0	66.0	63.0	61.0	52.0	48.0	44.0	43.0	42.0	56.9	0.0	56.9
	14	56.0	78.3	41.7	68.0	66.0	62.0	59.0	49.0	46.0	43.0	42.0	42.0	56.0	0.0	56.0
	15	55.7	73.7	41.8	67.0	66.0	62.0	60.0	50.0	46.0	43.0	43.0	42.0	55.7	0.0	55.7
	16	55.5	75.4	42.0	68.0	65.0	62.0	59.0	49.0	45.0	43.0	43.0	42.0	55.5	0.0	55.5
	17	53.9	74.9	40.3	67.0	64.0	59.0	55.0	48.0	45.0	42.0	42.0	40.0	53.9	0.0	53.9
	18	48.4	75.0	38.7	54.0	51.0	49.0	49.0	45.0	42.0	39.0	39.0	39.0	48.4	0.0	48.4
Evening	19	48.1	75.2	39.0	57.0	55.0	49.0	47.0	43.0	42.0	40.0	40.0	39.0	48.1	5.0	53.1
	20	45.1	64.7	39.0	57.0	53.0	48.0	47.0	42.0	40.0	39.0	39.0	39.0	45.1	5.0	50.1
	21	47.6	72.5	36.7	58.0	56.0	51.0	49.0	44.0	42.0	39.0	39.0	38.0	47.6	5.0	52.6
Night	22	44.8	56.4	36.0	54.0	53.0	50.0	49.0	43.0	40.0	39.0	38.0	36.0	44.8	10.0	54.8
	23	42.0	54.7	36.0	48.0	47.0	46.0	45.0	43.0	40.0	38.0	36.0	36.0	42.0	10.0	52.0
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq} (dBA)		
Day	Min	48.4	73.7	38.7	54.0	51.0	49.0	49.0	45.0	42.0	39.0	39.0	39.0	24-Hour		
	Max	59.2	87.2	44.5	70.0	67.0	64.0	62.0	54.0	50.0	47.0	46.0	45.0	Daytime		
Energy Average		56.5	Average:		67.0	64.8	61.3	59.0	50.6	46.6	43.7	43.1	42.3	54.6	55.7	51.8
Evening	Min	45.1	64.7	36.7	57.0	53.0	48.0	47.0	42.0	40.0	39.0	39.0	38.0	24-Hour CNEL (dBA)		
	Max	48.1	75.2	39.0	58.0	56.0	51.0	49.0	44.0	42.0	40.0	40.0	39.0			
Energy Average		47.1	Average:		57.3	54.7	49.3	47.7	43.0	41.3	39.3	39.3	38.7			
Night	Min	41.7	53.5	36.0	48.0	46.0	44.0	43.0	42.0	40.0	38.0	36.0	36.0	59.1		
	Max	57.6	82.8	45.4	70.0	67.0	63.0	60.0	53.0	50.0	47.0	46.0	46.0			
Energy Average		51.8	Average:		57.3	54.3	50.8	49.2	45.7	43.6	41.6	40.6	40.1			

24-Hour Noise Level Measurement Summary

Date: Tuesday, January 22, 2019
Project: Desert Wave Ventures

Location: L4 - Located on Desert Willow Drive, southeast of the Project site, near Embarc Palm Desert Resort.

Meter: Piccolo I

JN: 11826
Analyst: R. Saber

Hourly L_{eq} dBA Readings (unadjusted)

Hourly L _{eq} (dBA)	Hour Beginning																							
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
85.0																								
80.0																								
75.0																								
70.0																								
65.0																								
60.0																								
55.0																								
50.0																								
45.0																								
40.0																								
35.0																								

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	41.3	50.9	38.6	46.0	45.0	44.0	43.0	41.0	40.0	39.0	39.0	39.0	41.3	10.0	51.3
	1	48.5	66.2	40.5	58.0	56.0	52.0	50.0	47.0	45.0	42.0	41.0	40.0	48.5	10.0	58.5
	2	48.2	62.2	41.0	57.0	55.0	52.0	51.0	47.0	46.0	43.0	42.0	41.0	48.2	10.0	58.2
	3	44.5	59.5	39.2	51.0	50.0	48.0	47.0	44.0	43.0	40.0	40.0	39.0	44.5	10.0	54.5
	4	47.1	60.8	40.4	55.0	53.0	51.0	50.0	47.0	45.0	42.0	41.0	40.0	47.1	10.0	57.1
	5	51.8	70.0	42.2	63.0	59.0	56.0	54.0	50.0	47.0	44.0	44.0	43.0	51.8	10.0	61.8
	6	52.1	69.8	44.8	62.0	59.0	54.0	54.0	50.0	48.0	46.0	46.0	45.0	52.1	10.0	62.1
Day	7	48.7	63.7	42.7	57.0	55.0	52.0	51.0	48.0	46.0	44.0	44.0	43.0	48.7	0.0	48.7
	8	48.1	64.9	40.6	56.0	54.0	52.0	51.0	48.0	46.0	43.0	43.0	41.0	48.1	0.0	48.1
	9	52.1	67.6	41.5	62.0	60.0	57.0	55.0	51.0	48.0	44.0	44.0	42.0	52.1	0.0	52.1
	10	53.3	70.5	43.1	62.0	60.0	58.0	57.0	53.0	50.0	46.0	45.0	44.0	53.3	0.0	53.3
	11	54.6	70.0	42.3	62.0	61.0	59.0	58.0	55.0	52.0	47.0	46.0	43.0	54.6	0.0	54.6
	12	47.5	63.0	38.6	57.0	55.0	52.0	50.0	47.0	45.0	41.0	40.0	39.0	47.5	0.0	47.5
	13	49.9	67.7	41.3	58.0	56.0	54.0	53.0	49.0	47.0	44.0	43.0	42.0	49.9	0.0	49.9
	14	48.9	66.4	40.5	57.0	55.0	53.0	52.0	48.0	46.0	43.0	42.0	41.0	48.9	0.0	48.9
	15	49.4	62.8	41.5	58.0	56.0	54.0	52.0	49.0	47.0	44.0	44.0	43.0	49.4	0.0	49.4
	16	47.6	62.0	42.2	55.0	52.0	50.0	49.0	47.0	46.0	44.0	43.0	42.0	47.6	0.0	47.6
	17	48.5	65.0	40.5	58.0	56.0	52.0	50.0	47.0	45.0	43.0	43.0	41.0	48.5	0.0	48.5
	18	45.2	57.3	39.2	52.0	51.0	50.0	49.0	45.0	43.0	40.0	40.0	39.0	45.2	0.0	45.2
Evening	19	44.8	62.6	39.2	54.0	51.0	47.0	45.0	43.0	42.0	41.0	40.0	40.0	44.8	5.0	49.8
	20	45.8	64.4	37.6	56.0	53.0	48.0	47.0	44.0	42.0	40.0	39.0	39.0	45.8	5.0	50.8
	21	47.9	62.2	38.9	58.0	56.0	53.0	51.0	47.0	44.0	40.0	40.0	39.0	47.9	5.0	52.9
Night	22	44.4	52.6	37.5	51.0	51.0	50.0	49.0	44.0	41.0	39.0	39.0	37.0	44.4	10.0	54.4
	23	42.9	55.4	37.5	48.0	47.0	46.0	45.0	43.0	42.0	39.0	37.0	37.0	42.9	10.0	52.9
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq} (dBA)		
Day	Min	45.2	57.3	38.6	52.0	51.0	50.0	49.0	45.0	43.0	40.0	40.0	39.0	24-Hour	Daytime	Nighttime
	Max	54.6	70.5	43.1	62.0	61.0	59.0	58.0	55.0	52.0	47.0	46.0	44.0			
Energy Average		50.3	Average:		57.8	55.9	53.6	52.3	48.9	46.8	43.6	43.1	41.7	49.2	49.7	48.2
Evening	Min	44.8	62.2	37.6	54.0	51.0	47.0	45.0	43.0	42.0	40.0	39.0	39.0	24-Hour CNEL (dBA)		
	Max	47.9	64.4	39.2	58.0	56.0	53.0	51.0	47.0	44.0	41.0	40.0	40.0			
Energy Average		46.4	Average:		56.0	53.3	49.3	47.7	44.7	42.7	40.3	39.7	39.3			
Night	Min	41.3	50.9	37.5	46.0	45.0	44.0	43.0	41.0	40.0	39.0	37.0	37.0	55.0		
	Max	52.1	70.0	44.8	63.0	59.0	56.0	54.0	50.0	48.0	46.0	46.0	45.0			
Energy Average		48.2	Average:		54.6	52.8	50.3	49.2	45.9	44.1	41.6	41.0	40.3			



24-Hour Noise Level Measurement Summary

Date: Tuesday, January 22, 2019
Project: Desert Wave Ventures

Location: L6 - Located on Willow Ridge, within The Westin Desert Willow Villas Resort, near the southwestern boundary of the Project site.

Meter: Piccolo I

JN: 11826
Analyst: R. Saber

Hourly L_{eq} dBA Readings (unadjusted)

Hourly L _{eq} (dBA)	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
85.0																								
80.0																								
75.0																								
70.0																								
65.0																								
60.0																								
55.0																								
50.0																								
45.0																								
40.0																								
35.0																								
Hourly L _{eq} (dBA)	40.2	48.3	46.0	41.8	42.3	48.0	52.7	51.9	52.8	54.1	55.9	52.2	56.0	51.6	51.1	51.6	52.1	50.7	49.6	49.3	48.8	48.1	47.5	44.0

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															
	1															
	2															
	3															
	4															
	5															
	6															
Day	7															
	8															
	9															
	10															
	11															
	12															
	13															
	14															
	15															
	16															
	17															
	18															
Evening	19															
	20															
	21															
Night	22															
	23															
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq} (dBA)		
Day	Min													24-Hour		
	Max													Nighttime		
Energy Average			Average:											51.0	52.3	47.3
Evening	Min													24-Hour CNEL (dBA)		
	Max															
Energy Average			Average:													
Night	Min															
	Max															
Energy Average			Average:											55.2		

APPENDIX 7.1:

OFF-SITE TRAFFIC NOISE CONTOURS

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: Existing Without Project Road Name: Monterey Av. Road Segment: s/o Country Club Dr.			Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 35,100 vehicles			Autos: 10				
Peak Hour Percentage: 10%			Medium Trucks (2 Axles): 10				
Peak Hour Volume: 3,510 vehicles			Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 55 mph							
Near/Far Lane Distance: 78 feet			Vehicle Mix				
			Vehicle Type	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			Noise Source Elevations (in feet)				
Barrier Height: 0.0 feet			Autos: 0.000				
Barrier Type (0-Wall, 1-Berm): 0.0			Medium Trucks: 2.297				
Centerline Dist. to Barrier: 76.0 feet			Heavy Trucks: 8.006				
Centerline Dist. to Observer: 76.0 feet			Grade Adjustment: 0.0				
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							
FHWA Noise Model Calculations							
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.63	-1.24	0.00	-4.73	0.000	0.000
Medium Trucks:	82.40	-14.61	-1.23	0.00	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.56	-1.23	0.00	-5.25	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	73.2	71.3	69.5	63.5	72.1	72.7	
Medium Trucks:	66.6	65.1	58.7	57.2	65.6	65.8	
Heavy Trucks:	66.6	65.2	56.1	57.4	65.8	65.9	
Vehicle Noise:	74.8	73.0	70.0	65.2	73.7	74.2	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			179	566	1,789	5,657	
CNEL:			200	631	1,996	6,312	

Monday, February 25, 2019

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: Existing Without Project Road Name: Portola Av. Road Segment: n/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 15,100 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 1,510 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 58 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10					
Site Data Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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					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:		8.006 Grade Adjustment: 0.0			
					Lane Equivalent Distance (in feet)					
					Autos:		57.271			
					Medium Trucks:		57.117			
					Heavy Trucks:		57.132			
FHWA Noise Model Calculations										
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	71.78	-1.03	-0.66	0.00	-4.70	0.000	0.000			
Medium Trucks:	82.40	-18.27	-0.65	0.00	-4.88	0.000	0.000			
Heavy Trucks:	86.40	-22.23	-0.65	0.00	-5.31	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:	63.5	62.0	55.6	54.1	62.5	62.8				
Heavy Trucks:	63.5	62.1	53.1	54.3	62.7	62.8				
Vehicle Noise:	71.7	69.9	67.0	62.1	70.6	71.1				
Centerline Distance to Noise Contour (in feet)										
				70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:				74	234	740	2,341			
CNEL:				83	261	826	2,613			

Monday, February 25, 2019

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing Without Project Road Name: Portola Av. Road Segment: s/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 20,700 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 2,070 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph					Vehicle Mix				
Near/Far Lane Distance: 58 feet					VehicleType				
Site Data					Day				
Barrier Height: 0.0 feet					Evening				
Barrier Type (0-Wall, 1-Berm): 0.0					Night				
Centerline Dist. to Barrier: 64.0 feet					Daily				
Centerline Dist. to Observer: 64.0 feet					Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Pad Elevation: 0.0 feet					Noise Source Elevations (in feet)				
Road Elevation: 0.0 feet					Autos: 0.000				
Road Grade: 0.0%					Medium Trucks: 2.297				
Left View: -90.0 degrees					Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Right View: 90.0 degrees					Lane Equivalent Distance (in feet)				
					Autos: 57.271				
					Medium Trucks: 57.117				
					Heavy Trucks: 57.132				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	0.75	-0.66	0.00	-4.70	0.000	0.000		
Medium Trucks:	81.00	-16.49	-0.65	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-20.44	-0.65	0.00	-5.31	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:	70.3	68.4	66.6	60.6	69.2		69.8		
Medium Trucks:	63.9	62.4	56.0	54.5	62.9		63.1		
Heavy Trucks:	64.3	62.9	53.8	55.1	63.4		63.6		
Vehicle Noise:	72.0	70.2	67.2	62.4	71.0		71.4		
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				80	253	798	2,525		
CNEL:				89	281	889	2,812		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing Without Project Road Name: Cook St. Road Segment: n/o I-10 WB Ramps					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 7,600 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 760 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 78 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 65.422 Medium Trucks: 65.286 Heavy Trucks: 65.300				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	-3.60	-1.24	0.00	-4.73	0.000	0.000		
Medium Trucks:	81.00	-20.84	-1.23	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-24.79	-1.23	0.00	-5.25	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:	65.4	63.5	61.7	55.6	64.3	64.9			
Medium Trucks:	58.9	57.4	51.1	49.5	58.0	58.2			
Heavy Trucks:	59.4	57.9	48.9	50.1	58.5	58.6			
Vehicle Noise:	67.1	65.3	62.3	57.5	66.0	66.5			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				30	96	305	964		
CNEL:				34	107	339	1,073		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing Without Project Road Name: Cook St. Road Segment: s/o I-10 EB Ramps					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 32,000 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 3,200 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 78 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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					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:	8.006	Grade Adjustment: 0.0		
					Lane Equivalent Distance (in feet)				
					Autos:	65.422			
					Medium Trucks:	65.286			
					Heavy Trucks:	65.300			
FHWA Noise Model Calculations									
VehicleType	REMEM	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	2.64	-1.24	0.00	-4.73	0.000	0.000		
Medium Trucks:	81.00	-14.60	-1.23	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-18.55	-1.23	0.00	-5.25	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:	71.6	69.7	67.9	61.9	70.5	71.1			
Medium Trucks:	65.2	63.7	57.3	55.8	64.2	64.5			
Heavy Trucks:	65.6	64.2	55.1	56.4	64.7	64.9			
Vehicle Noise:	73.3	71.6	68.5	63.7	72.3	72.7			
Centerline Distance to Noise Contour (in feet)									
	70 dBA		65 dBA		60 dBA		55 dBA		
Ldn:	128		406		1,283		4,057		
CNEL:	143		452		1,429		4,518		

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing Without Project Road Name: Cook St. Road Segment: s/o Gerald Ford Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 23,900 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,390 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 78 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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					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%				
FHWA Noise Model Calculations					Noise Source Elevations (in feet)				
					Autos: 0.000				
					Medium Trucks: 2.297				
					Heavy Trucks: 8.006 Grade Adjustment: 0.0				
FHWA Noise Model Calculations					Lane Equivalent Distance (in feet)				
					Autos: 65.422				
					Medium Trucks: 65.286				
					Heavy Trucks: 65.300				
Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	1.38	-1.24	0.00	-4.73	0.000	0.000		
Medium Trucks:	81.00	-15.86	-1.23	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-19.82	-1.23	0.00	-5.25	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:	70.3	68.4	66.7	60.6	69.2	69.9			
Medium Trucks:	63.9	62.4	56.0	54.5	63.0	63.2			
Heavy Trucks:	64.3	62.9	53.9	55.1	63.5	63.6			
Vehicle Noise:	72.0	70.3	67.2	62.5	71.0	71.5			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				96	303	958	3,030		
CNEL:				107	337	1,067	3,374		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing Without Project Road Name: Cook St. Road Segment: s/o Frank Sinatra Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 24,500 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,450 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 78 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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					Vehicle Type	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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 65.422				
					Medium Trucks: 65.286				
					Heavy Trucks: 65.300				
FHWA Noise Model Calculations									
Vehicle Type	REMEEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos: 70.20 1.48 -1.24 0.00 -4.73 0.000 0.000									
Medium Trucks: 81.00 -15.76 -1.23 0.00 -4.88 0.000 0.000									
Heavy Trucks: 85.38 -19.71 -1.23 0.00 -5.25 0.000 0.000									
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos: 70.5 68.6 66.8 60.7 69.4 70.0									
Medium Trucks: 64.0 62.5 56.1 54.6 63.1 63.3									
Heavy Trucks: 64.4 63.0 54.0 55.2 63.6 63.7									
Vehicle Noise: 72.1 70.4 67.3 62.6 71.1 71.6									
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				98	311	982	3,106		
CNEL:				109	346	1,094	3,459		

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing Without Project Road Name: Cook St. Road Segment: n/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 27,200 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,720 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 78 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 65.422				
					Medium Trucks: 65.286				
					Heavy Trucks: 65.300				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos: 70.20 1.94 -1.24 0.00 -4.73 0.000 0.000									
Medium Trucks: 81.00 -15.30 -1.23 0.00 -4.88 0.000 0.000									
Heavy Trucks: 85.38 -19.26 -1.23 0.00 -5.25 0.000 0.000									
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos: 70.9 69.0 67.2 61.2 69.8 70.4									
Medium Trucks: 64.5 63.0 56.6 55.1 63.5 63.8									
Heavy Trucks: 64.9 63.5 54.4 55.7 64.0 64.2									
Vehicle Noise: 72.6 70.8 67.8 63.0 71.6 72.0									
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				109	345	1,091	3,448		
CNEL:				121	384	1,214	3,840		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing Without Project Road Name: Cook St. Road Segment: s/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 28,500 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,850 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 78 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 65.422				
					Medium Trucks: 65.286				
					Heavy Trucks: 65.300				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos: 70.20 2.14 -1.24 0.00 -4.73 0.000 0.000									
Medium Trucks: 81.00 -15.10 -1.23 0.00 -4.88 0.000 0.000									
Heavy Trucks: 85.38 -19.05 -1.23 0.00 -5.25 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: 71.1 69.2 67.4 61.4 70.0 70.6									
Medium Trucks: 64.7 63.2 56.8 55.3 63.7 64.0									
Heavy Trucks: 65.1 63.7 54.6 55.9 64.2 64.4									
Vehicle Noise: 72.8 71.1 68.0 63.2 71.8 72.2									
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				114	361	1,143	3,613		
CNEL:				127	402	1,272	4,024		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing Without Project Road Name: Cook St. Road Segment: s/o Hovley Ln.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 28,500 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,850 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 58 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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					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:	8.006	Grade Adjustment: 0.0		
					Lane Equivalent Distance (in feet)				
					Autos:	57.271			
					Medium Trucks:	57.117			
					Heavy Trucks:	57.132			
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	2.14	-0.66	0.00	-4.70	0.000	0.000		
Medium Trucks:	81.00	-15.10	-0.65	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-19.05	-0.65	0.00	-5.31	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:	71.7	69.8	68.0	62.0	70.6	71.2			
Medium Trucks:	65.3	63.7	57.4	55.8	64.3	64.5			
Heavy Trucks:	65.7	64.3	55.2	56.5	64.8	64.9			
Vehicle Noise:	73.4	71.6	68.6	63.8	72.3	72.8			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				110	348	1,099	3,476		
CNEL:				122	387	1,224	3,871		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing Without Project Road Name: El Dorado Dr. Road Segment: n/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 4,600 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 460 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 58 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 57.271 Medium Trucks: 57.117 Heavy Trucks: 57.132				
FHWA Noise Model Calculations									
VehicleType	REMED	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	-5.78	-0.66	0.00	-4.70	0.000	0.000	0.000	
Medium Trucks:	81.00	-23.02	-0.65	0.00	-4.88	0.000	0.000	0.000	
Heavy Trucks:	85.38	-26.98	-0.65	0.00	-5.31	0.000	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:	63.8	61.9	60.1	54.0	62.7	63.3	63.3		
Medium Trucks:	57.3	55.8	49.5	47.9	56.4	56.6	56.6		
Heavy Trucks:	57.8	56.3	47.3	48.5	56.9	57.0	57.0		
Vehicle Noise:	65.5	63.7	60.7	55.9	64.4	64.9	64.9		
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				18	56	177	561		
CNEL:				20	62	198	625		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing Without Project Road Name: El Dorado Dr. Road Segment: s/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 5,500 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 550 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 58 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 57.271 Medium Trucks: 57.117 Heavy Trucks: 57.132				
FHWA Noise Model Calculations									
VehicleType	REML	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos: 70.20 -5.00 -0.66 0.00 -4.70 0.000 0.000									
Medium Trucks: 81.00 -22.24 -0.65 0.00 -4.88 0.000 0.000									
Heavy Trucks: 85.38 -26.20 -0.65 0.00 -5.31 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: 64.5 62.6 60.9 54.8 63.4 64.0									
Medium Trucks: 58.1 56.6 50.2 48.7 57.2 57.4									
Heavy Trucks: 58.5 57.1 48.1 49.3 57.7 57.8									
Vehicle Noise: 66.2 64.5 61.4 56.7 65.2 65.7									
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			21	67	212	671			
CNEL:			24	75	236	747			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing Without Project Road Name: Tamarisk Row Dr. Road Segment: n/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 8,100 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 810 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 55 mph					Vehicle Mix				
Near/Far Lane Distance: 12 feet					VehicleType	Day	Evening	Night	Daily
Site Data					Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 0.0 feet					Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 30.0 feet					Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 30.0 feet					Autos: 0.000				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet					Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet					Autos: 29.816				
Road Grade: 0.0%					Medium Trucks: 29.518				
Left View: -90.0 degrees					Heavy Trucks: 29.547				
Right View: 90.0 degrees									
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	-3.74	2.18	0.00	-4.49	0.000	0.000		0.000
Medium Trucks:	82.40	-20.98	2.22	0.00	-4.86	0.000	0.000		0.000
Heavy Trucks:	86.40	-24.93	2.22	0.00	-5.77	0.000	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:	70.2	68.3	66.6	60.5	69.1	69.7			
Medium Trucks:	63.6	62.1	55.8	54.2	62.7	62.9			
Heavy Trucks:	63.7	62.3	53.2	54.5	62.8	63.0			
Vehicle Noise:	71.8	70.0	67.1	62.2	70.8	71.2			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				36	113	358	1,133		
CNEL:				40	126	400	1,264		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing Without Project Road Name: Oasis Club Dr. Road Segment: s/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 6,600 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 660 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 58 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
					VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 57.271 Medium Trucks: 57.117 Heavy Trucks: 57.132				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	-4.63	-0.66	0.00	-4.70	0.000	0.000		
Medium Trucks:	82.40	-21.87	-0.65	0.00	-4.88	0.000	0.000		
Heavy Trucks:	86.40	-25.82	-0.65	0.00	-5.31	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:	66.5	64.6	62.8	56.8	65.4	66.0			
Medium Trucks:	59.9	58.4	52.0	50.5	58.9	59.2			
Heavy Trucks:	59.9	58.5	49.5	50.7	59.1	59.2			
Vehicle Noise:	68.1	66.3	63.4	58.5	67.0	67.5			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				32	102	324	1,023		
CNEL:				36	114	361	1,142		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing Without Project Road Name: Country Club Dr. Road Segment: w/o Monterey Av.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 20,900 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,090 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 66 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
					VehicleType		Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 55.0 feet Centerline Dist. to Observer: 55.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 44.283 Medium Trucks: 44.083 Heavy Trucks: 44.103				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	0.79	0.46	0.00	-4.67	0.000	0.000		
Medium Trucks:	81.00	-16.45	0.48	0.00	-4.87	0.000	0.000		
Heavy Trucks:	85.38	-20.40	0.48	0.00	-5.38	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:	71.5	69.6	67.8	61.7	70.4	71.0			
Medium Trucks:	65.0	63.5	57.2	55.6	64.1	64.3			
Heavy Trucks:	65.5	64.0	55.0	56.2	64.6	64.7			
Vehicle Noise:	73.2	71.4	68.4	63.6	72.1	72.6			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				90	284	897	2,835		
CNEL:				100	316	998	3,157		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing Without Project Road Name: Country Club Dr. Road Segment: e/o Monterey Av.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 22,500 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,250 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 78 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
					VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 65.422 Medium Trucks: 65.286 Heavy Trucks: 65.300				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	1.11	-1.24	0.00	-4.73	0.000	0.000	0.000	
Medium Trucks:	81.00	-16.13	-1.23	0.00	-4.88	0.000	0.000	0.000	
Heavy Trucks:	85.38	-20.08	-1.23	0.00	-5.25	0.000	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		69.6	
Medium Trucks:	63.6	62.1	55.8	54.2	62.7	62.9		62.9	
Heavy Trucks:	64.1	62.6	53.6	54.9	63.2	63.3		63.3	
Vehicle Noise:	71.8	70.0	67.0	62.2	70.7	71.2		71.2	
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			90	285	902	2,853			
CNEL:			100	318	1,005	3,177			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: Existing Without Project Road Name: Country Club Dr. Road Segment: e/o Portola Av.				Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 22,300 vehicles				Autos: 10				
Peak Hour Percentage: 10%				Medium Trucks (2 Axles): 10				
Peak Hour Volume: 2,230 vehicles				Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph								
Near/Far Lane Distance: 58 feet				Vehicle Mix				
				Vehicle Type	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				Noise Source Elevations (in feet)				
Barrier Height: 0.0 feet				Autos: 0.000				
Barrier Type (0-Wall, 1-Berm): 0.0				Medium Trucks: 2.297				
Centerline Dist. to Barrier: 64.0 feet				Heavy Trucks: 8.006				
Centerline Dist. to Observer: 64.0 feet				Grade Adjustment: 0.0				
Barrier Distance to Observer: 0.0 feet								
Observer Height (Above Pad): 5.0 feet								
Pad Elevation: 0.0 feet								
Road Elevation: 0.0 feet				Lane Equivalent Distance (in feet)				
Road Grade: 0.0%				Autos: 57.271				
Left View: -90.0 degrees				Medium Trucks: 57.117				
Right View: 90.0 degrees				Heavy Trucks: 57.132				
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	70.20	1.07	-0.66	0.00	-4.70	0.000	0.000	
Medium Trucks:	81.00	-16.16	-0.65	0.00	-4.88	0.000	0.000	
Heavy Trucks:	85.38	-20.12	-0.65	0.00	-5.31	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	70.6	68.7	67.0	60.9	69.5	70.1		
Medium Trucks:	64.2	62.7	56.3	54.8	63.2	63.5		
Heavy Trucks:	64.6	63.2	54.2	55.4	63.8	63.9		
Vehicle Noise:	72.3	70.6	67.5	62.7	71.3	71.8		
Centerline Distance to Noise Contour (in feet)								
			70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:			86	272	860	2,720		
CNEL:			96	303	958	3,029		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing Without Project Road Name: Country Club Dr. Road Segment: e/o Desert Willow Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 22,500 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 2,250 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph					Vehicle Mix				
Near/Far Lane Distance: 58 feet					VehicleType	Day	Evening	Night	Daily
Site Data					Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 0.0 feet					Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 64.0 feet					Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 64.0 feet					Autos: 0.000				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet					Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet					Autos: 57.271				
Road Grade: 0.0%					Medium Trucks: 57.117				
Left View: -90.0 degrees					Heavy Trucks: 57.132				
Right View: 90.0 degrees									
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	1.11	-0.66	0.00	-4.70	0.000	0.000		
Medium Trucks:	81.00	-16.13	-0.65	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-20.08	-0.65	0.00	-5.31	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:	70.7	68.8	67.0	60.9	69.6	70.2			
Medium Trucks:	64.2	62.7	56.4	54.8	63.3	63.5			
Heavy Trucks:	64.6	63.2	54.2	55.4	63.8	63.9			
Vehicle Noise:	72.4	70.6	67.6	62.8	71.3	71.8			
Centerline Distance to Noise Contour (in feet)									
	70 dBA		65 dBA		60 dBA		55 dBA		
Ldn:	87		274		868		2,745		
CNEL:	97		306		967		3,056		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing Without Project Road Name: Country Club Dr. Road Segment: e/o Cook St.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 21,300 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 2,130 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph					Vehicle Mix				
Near/Far Lane Distance: 78 feet					VehicleType				
Site Data					Day				
Barrier Height: 0.0 feet					Evening				
Barrier Type (0-Wall, 1-Berm): 0.0					Night				
Centerline Dist. to Barrier: 76.0 feet					Daily				
Centerline Dist. to Observer: 76.0 feet					Autos: 77.5%				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 84.8%				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 86.5%				
Pad Elevation: 0.0 feet					Grade Adjustment: 0.0				
Road Elevation: 0.0 feet					Noise Source Elevations (in feet)				
Road Grade: 0.0%					Autos: 0.000				
Left View: -90.0 degrees					Medium Trucks: 2.297				
Right View: 90.0 degrees					Heavy Trucks: 8.006				
					Lane Equivalent Distance (in feet)				
					Autos: 65.422				
					Medium Trucks: 65.286				
					Heavy Trucks: 65.300				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	0.88	-1.24	0.00	-4.73	0.000			0.000
Medium Trucks:	81.00	-16.36	-1.23	0.00	-4.88	0.000			0.000
Heavy Trucks:	85.38	-20.32	-1.23	0.00	-5.25	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:	69.8	67.9	66.2	60.1	68.7		69.4		
Medium Trucks:	63.4	61.9	55.5	54.0	62.5		62.7		
Heavy Trucks:	63.8	62.4	53.4	54.6	63.0		63.1		
Vehicle Noise:	71.5	69.8	66.7	62.0	70.5		71.0		
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			85	270	854	2,700			
CNEL:			95	301	951	3,007			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: Existing Without Project Road Name: Country Club Dr. Road Segment: e/o El Dorado Dr.				Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 20,600 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,060 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 58 feet				Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data				Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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				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: 8.006 Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)				
				Autos: 57.271 Medium Trucks: 57.117 Heavy Trucks: 57.132				
FHWA Noise Model Calculations								
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos: 70.20 0.73 -0.66 0.00 -4.70 0.000 0.000								
Medium Trucks: 81.00 -16.51 -0.65 0.00 -4.88 0.000 0.000								
Heavy Trucks: 85.38 -20.46 -0.65 0.00 -5.31 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: 70.3 68.4 66.6 60.6 69.2 69.8								
Medium Trucks: 63.8 62.3 56.0 54.4 62.9 63.1								
Heavy Trucks: 64.3 62.8 53.8 55.1 63.4 63.5								
Vehicle Noise: 72.0 70.2 67.2 62.4 70.9 71.4								
Centerline Distance to Noise Contour (in feet)								
				70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:				79	251	795	2,513	
CNEL:				88	280	885	2,798	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing Without Project Road Name: Country Club Dr. Road Segment: e/o Oasis Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 23,100 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 2,310 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph					Vehicle Mix				
Near/Far Lane Distance: 58 feet					VehicleType	Day	Evening	Night	Daily
Site Data					Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 0.0 feet					Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 64.0 feet					Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 64.0 feet					Autos: 0.000				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet					Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet					Autos: 57.271				
Road Grade: 0.0%					Medium Trucks: 57.117				
Left View: -90.0 degrees					Heavy Trucks: 57.132				
Right View: 90.0 degrees									
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos: 70.20 1.23 -0.66 0.00 -4.70 0.000 0.000									
Medium Trucks: 81.00 -16.01 -0.65 0.00 -4.88 0.000 0.000									
Heavy Trucks: 85.38 -19.97 -0.65 0.00 -5.31 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: 70.8 68.9 67.1 61.1 69.7 70.3									
Medium Trucks: 64.3 62.8 56.5 54.9 63.4 63.6									
Heavy Trucks: 64.8 63.3 54.3 55.6 63.9 64.0									
Vehicle Noise: 72.5 70.7 67.7 62.9 71.4 71.9									
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				89	282	891	2,818		
CNEL:				99	314	992	3,138		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: Existing Without Project Road Name: Hovley Ln. Road Segment: e/o Cook St.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 17,400 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 1,740 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 58 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 57.271 Medium Trucks: 57.117 Heavy Trucks: 57.132				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos: 68.46 0.45 -0.66 0.00 -4.70 0.000 0.000									
Medium Trucks: 79.45 -16.78 -0.65 0.00 -4.88 0.000 0.000									
Heavy Trucks: 84.25 -20.74 -0.65 0.00 -5.31 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: 68.3 66.4 64.6 58.5 67.2 67.8									
Medium Trucks: 62.0 60.5 54.1 52.6 61.1 61.3									
Heavy Trucks: 62.9 61.4 52.4 53.7 62.0 62.1									
Vehicle Noise: 70.1 68.4 65.2 60.5 69.1 69.5									
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				52	163	516	1,632		
CNEL:				57	181	574	1,814		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P Road Name: Monterey Av. Road Segment: s/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 35,400 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 3,540 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 78 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 65.422 Medium Trucks: 65.286 Heavy Trucks: 65.300				
FHWA Noise Model Calculations									
VehicleType	REMED	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	2.67	-1.24	0.00	-4.73	0.000	0.000	0.000	
Medium Trucks:	82.40	-14.57	-1.23	0.00	-4.88	0.000	0.000	0.000	
Heavy Trucks:	86.40	-18.53	-1.23	0.00	-5.25	0.000	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:	73.2	71.3	69.5	63.5	72.1	72.7			
Medium Trucks:	66.6	65.1	58.7	57.2	65.7	65.9			
Heavy Trucks:	66.6	65.2	56.2	57.4	65.8	65.9			
Vehicle Noise:	74.8	73.0	70.1	65.2	73.8	74.2			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			180	571	1,804	5,705			
CNEL:			201	637	2,013	6,366			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: E+P Road Name: Portola Av. Road Segment: n/o Country Club Dr.				Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 15,400 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 1,540 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 58 feet				Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data				Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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				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: 8.006 Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)				
				Autos: 57.271 Medium Trucks: 57.117 Heavy Trucks: 57.132				
FHWA Noise Model Calculations								
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos: 71.78 -0.95 -0.66 0.00 -4.70 0.000 0.000								
Medium Trucks: 82.40 -18.19 -0.65 0.00 -4.88 0.000 0.000								
Heavy Trucks: 86.40 -22.14 -0.65 0.00 -5.31 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: 70.2 68.3 66.5 60.5 69.1 69.7								
Medium Trucks: 63.6 62.1 55.7 54.2 62.6 62.9								
Heavy Trucks: 63.6 62.2 53.1 54.4 62.8 62.9								
Vehicle Noise: 71.8 70.0 67.0 62.2 70.7 71.2								
Centerline Distance to Noise Contour (in feet)								
			70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:			76	239	755	2,388		
CNEL:			84	266	843	2,664		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P Road Name: Portola Av. Road Segment: s/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 21,000 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,100 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 58 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
Autos: 57.271									
Medium Trucks: 57.117									
Heavy Trucks: 57.132									
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	0.81	-0.66	0.00	-4.70	0.000	0.000		
Medium Trucks:	81.00	-16.42	-0.65	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-20.38	-0.65	0.00	-5.31	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:	70.4	68.5	66.7	60.6	69.3		69.9		
Medium Trucks:	63.9	62.4	56.1	54.5	63.0		63.2		
Heavy Trucks:	64.3	62.9	53.9	55.1	63.5		63.6		
Vehicle Noise:	72.1	70.3	67.3	62.5	71.0		71.5		
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				81	256	810	2,562		
CNEL:				90	285	902	2,853		
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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: E+P Road Name: Cook St. Road Segment: n/o I-10 WB Ramps					Project Name: Desert Wave Job Number: 11826					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):		7,900 vehicles			Autos:		10			
Peak Hour Percentage:		10%			Medium Trucks (2 Axles):		10			
Peak Hour Volume:		790 vehicles			Heavy Trucks (3+ Axles):		10			
Vehicle Speed:		50 mph			Vehicle Mix					
Near/Far Lane Distance:		78 feet			VehicleType		Day	Evening	Night	Daily
Site Data					Autos:		77.5%	12.9%	9.6%	97.42%
Barrier Height:		0.0 feet			Medium Trucks:		84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):		0.0			Heavy Trucks:		86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:		76.0 feet			Noise Source Elevations (in feet)					
Centerline Dist. to Observer:		76.0 feet			Autos:		0.000			
Barrier Distance to Observer:		0.0 feet			Medium Trucks:		2.297			
Observer Height (Above Pad):		5.0 feet			Heavy Trucks:		8.006		Grade Adjustment: 0.0	
Pad Elevation:		0.0 feet			Lane Equivalent Distance (in feet)					
Road Elevation:		0.0 feet			Autos:		65.422			
Road Grade:		0.0%			Medium Trucks:		65.286			
Left View:		-90.0 degrees			Heavy Trucks:		65.300			
Right View:		90.0 degrees								
FHWA Noise Model Calculations										
VehicleType	REMEF	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	70.20	-3.43	-1.24	0.00	-4.73	0.000	0.000			
Medium Trucks:	81.00	-20.67	-1.23	0.00	-4.88	0.000	0.000			
Heavy Trucks:	85.38	-24.63	-1.23	0.00	-5.25	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:	65.5	63.6	61.9	55.8	64.4		65.0			
Medium Trucks:	59.1	57.6	51.2	49.7	58.1		58.4			
Heavy Trucks:	59.5	58.1	49.1	50.3	58.7		58.8			
Vehicle Noise:	67.2	65.5	62.4	57.7	66.2		66.7			
Centerline Distance to Noise Contour (in feet)										
	70 dBA		65 dBA		60 dBA		55 dBA			
Ldn:	32		100		317		1,002			
CNEL:	35		112		353		1,115			
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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P Road Name: Cook St. Road Segment: s/o I-10 EB Ramps					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 33,700 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 3,370 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph					Vehicle Mix				
Near/Far Lane Distance: 78 feet					VehicleType				
Site Data					Day				
Barrier Height: 0.0 feet					Evening				
Barrier Type (0-Wall, 1-Berm): 0.0					Night				
Centerline Dist. to Barrier: 76.0 feet					Daily				
Centerline Dist. to Observer: 76.0 feet					Autos: 77.5%				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 84.8%				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 86.5%				
Pad Elevation: 0.0 feet					Grade Adjustment: 0.0				
Road Elevation: 0.0 feet					Noise Source Elevations (in feet)				
Road Grade: 0.0%					Autos: 0.000				
Left View: -90.0 degrees					Medium Trucks: 2.297				
Right View: 90.0 degrees					Heavy Trucks: 8.006				
FHWA Noise Model Calculations									
VehicleType	REMEI	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	2.87	-1.24	0.00	-4.73	0.000		0.000	
Medium Trucks:	81.00	-14.37	-1.23	0.00	-4.88	0.000		0.000	
Heavy Trucks:	85.38	-18.33	-1.23	0.00	-5.25	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:	65.4	63.9	57.5	56.0	64.4	64.7			
Heavy Trucks:	65.8	64.4	55.4	56.6	65.0	65.1			
Vehicle Noise:	73.5	71.8	68.7	64.0	72.5	73.0			
Centerline Distance to Noise Contour (in feet)									
	70 dBA	65 dBA	60 dBA	55 dBA					
Ldn:	135	427	1,351	4,273					
CNEL:	150	476	1,505	4,758					
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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P Road Name: Cook St. Road Segment: s/o Gerald Ford Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 25,600 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 2,560 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph					Vehicle Mix				
Near/Far Lane Distance: 78 feet					VehicleType	Day	Evening	Night	Daily
Site Data					Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 0.0 feet					Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 76.0 feet					Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 76.0 feet					Autos: 0.000				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet					Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet					Autos: 65.422				
Road Grade: 0.0%					Medium Trucks: 65.286				
Left View: -90.0 degrees					Heavy Trucks: 65.300				
Right View: 90.0 degrees									
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	1.67	-1.24	0.00	-4.73	0.000	0.000		
Medium Trucks:	81.00	-15.56	-1.23	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-19.52	-1.23	0.00	-5.25	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:	70.6	68.7	67.0	60.9	69.5	70.1			
Medium Trucks:	64.2	62.7	56.3	54.8	63.3	63.5			
Heavy Trucks:	64.6	63.2	54.2	55.4	63.8	63.9			
Vehicle Noise:	72.3	70.6	67.5	62.8	71.3	71.8			
Centerline Distance to Noise Contour (in feet)									
	70 dBA	65 dBA	60 dBA	55 dBA					
Ldn:	103	325	1,026	3,246					
CNEL:	114	361	1,143	3,614					
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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: E+P Road Name: Cook St. Road Segment: s/o Frank Sinatra Dr.			Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 26,400 vehicles			Autos: 10				
Peak Hour Percentage: 10%			Medium Trucks (2 Axles): 10				
Peak Hour Volume: 2,640 vehicles			Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph							
Near/Far Lane Distance: 78 feet			Vehicle Mix				
			Vehicle Type	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			Noise Source Elevations (in feet)				
Barrier Height: 0.0 feet			Autos: 0.000				
Barrier Type (0-Wall, 1-Berm): 0.0			Medium Trucks: 2.297				
Centerline Dist. to Barrier: 76.0 feet			Heavy Trucks: 8.006				
Centerline Dist. to Observer: 76.0 feet			Grade Adjustment: 0.0				
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							
			Lane Equivalent Distance (in feet)				
			Autos: 65.422				
			Medium Trucks: 65.286				
			Heavy Trucks: 65.300				
FHWA Noise Model Calculations							
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	1.81	-1.24	0.00	-4.73	0.000	0.000
Medium Trucks:	81.00	-15.43	-1.23	0.00	-4.88	0.000	0.000
Heavy Trucks:	85.38	-19.39	-1.23	0.00	-5.25	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	70.8	68.9	67.1	61.1	69.7	70.3	
Medium Trucks:	64.3	62.8	56.5	54.9	63.4	63.6	
Heavy Trucks:	64.8	63.3	54.3	55.6	63.9	64.0	
Vehicle Noise:	72.5	70.7	67.7	62.9	71.4	71.9	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			106	335	1,058	3,347	
CNEL:			118	373	1,179	3,727	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: E+P Road Name: Cook St. Road Segment: n/o Country Club Dr.				Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 28,300 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,830 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 78 feet				Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data				Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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				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:	8.006	Grade Adjustment: 0.0		
				Lane Equivalent Distance (in feet)				
				Autos:	65.422			
				Medium Trucks:	65.286			
				Heavy Trucks:	65.300			
FHWA Noise Model Calculations								
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	70.20	2.11	-1.24	0.00	-4.73	0.000	0.000	
Medium Trucks:	81.00	-15.13	-1.23	0.00	-4.88	0.000	0.000	
Heavy Trucks:	85.38	-19.08	-1.23	0.00	-5.25	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:	71.1	69.2	67.4	61.4	70.0	70.6		
Medium Trucks:	64.6	63.1	56.8	55.2	63.7	63.9		
Heavy Trucks:	65.1	63.6	54.6	55.9	64.2	64.3		
Vehicle Noise:	72.8	71.0	68.0	63.2	71.7	72.2		
Centerline Distance to Noise Contour (in feet)								
				70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:				113	359	1,135	3,588	
CNEL:				126	400	1,264	3,996	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P Road Name: Cook St. Road Segment: s/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 29,300 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 2,930 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph					Vehicle Mix				
Near/Far Lane Distance: 78 feet					VehicleType				
Site Data					Day				
Barrier Height: 0.0 feet					Evening				
Barrier Type (0-Wall, 1-Berm): 0.0					Night				
Centerline Dist. to Barrier: 76.0 feet					Daily				
Centerline Dist. to Observer: 76.0 feet					Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Pad Elevation: 0.0 feet					Noise Source Elevations (in feet)				
Road Elevation: 0.0 feet					Autos: 0.000				
Road Grade: 0.0%					Medium Trucks: 2.297				
Left View: -90.0 degrees					Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Right View: 90.0 degrees					Lane Equivalent Distance (in feet)				
					Autos: 65.422				
					Medium Trucks: 65.286				
					Heavy Trucks: 65.300				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	2.26	-1.24	0.00	-4.73	0.000		0.000	
Medium Trucks:	81.00	-14.98	-1.23	0.00	-4.88	0.000		0.000	
Heavy Trucks:	85.38	-18.93	-1.23	0.00	-5.25	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:	71.2	69.3	67.6	61.5	70.1	70.7			
Medium Trucks:	64.8	63.3	56.9	55.4	63.8	64.1			
Heavy Trucks:	65.2	63.8	54.8	56.0	64.4	64.5			
Vehicle Noise:	72.9	71.2	68.1	63.3	71.9	72.4			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			117	371	1,175	3,715			
CNEL:			131	414	1,308	4,137			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: E+P Road Name: Cook St. Road Segment: s/o Hovley Ln.				Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 29,100 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,910 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 58 feet				Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data				Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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				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: 8.006 Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)				
				Autos: 57.271 Medium Trucks: 57.117 Heavy Trucks: 57.132				
FHWA Noise Model Calculations								
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos: 70.20 2.23 -0.66 0.00 -4.70 0.000 0.000								
Medium Trucks: 81.00 -15.01 -0.65 0.00 -4.88 0.000 0.000								
Heavy Trucks: 85.38 -18.96 -0.65 0.00 -5.31 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 62.1 70.7 71.3								
Medium Trucks: 65.3 63.8 57.5 55.9 64.4 64.6								
Heavy Trucks: 65.8 64.3 55.3 56.6 64.9 65.0								
Vehicle Noise: 73.5 71.7 68.7 63.9 72.4 72.9								
Centerline Distance to Noise Contour (in feet)								
			70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:			112	355	1,123	3,550		
CNEL:			125	395	1,250	3,953		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: E+P Road Name: El Dorado Dr. Road Segment: n/o Country Club Dr.				Project Name: Desert Wave Job Number: 11826						
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS						
Highway Data				Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt): 4,900 vehicles				Autos: 10						
Peak Hour Percentage: 10%				Medium Trucks (2 Axles): 10						
Peak Hour Volume: 490 vehicles				Heavy Trucks (3+ Axles): 10						
Vehicle Speed: 50 mph										
Near/Far Lane Distance: 58 feet				Vehicle Mix						
Site Data				Vehicle Type		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:	8.006			
						Grade Adjustment: 0.0				
						Lane Equivalent Distance (in feet)				
		Autos:	57.271							
		Medium Trucks:	57.117							
		Heavy Trucks:	57.132							
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	70.20	-5.51	-0.66	0.00	-4.70	0.000	0.000			
Medium Trucks:	81.00	-22.74	-0.65	0.00	-4.88	0.000	0.000			
Heavy Trucks:	85.38	-26.70	-0.65	0.00	-5.31	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	64.0	62.1	60.4	54.3	62.9	63.5				
Medium Trucks:	57.6	56.1	49.7	48.2	56.7	56.9				
Heavy Trucks:	58.0	56.6	47.6	48.8	57.2	57.3				
Vehicle Noise:	65.7	64.0	60.9	56.2	64.7	65.2				
Centerline Distance to Noise Contour (in feet)										
			70 dBA	65 dBA	60 dBA	55 dBA				
Ldn:			19	60	189	598				
CNEL:			21	67	210	666				

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: E+P Road Name: El Dorado Dr. Road Segment: s/o Country Club Dr.				Project Name: Desert Wave Job Number: 11826			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 5,800 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 580 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 58 feet				Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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				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: 8.006 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 57.271 Medium Trucks: 57.117 Heavy Trucks: 57.132			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-4.77	-0.66	0.00	-4.70	0.000	0.000
Medium Trucks:	81.00	-22.01	-0.65	0.00	-4.88	0.000	0.000
Heavy Trucks:	85.38	-25.97	-0.65	0.00	-5.31	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:	64.8	62.9	61.1	55.1	63.7	64.3	
Medium Trucks:	58.3	56.8	50.5	48.9	57.4	57.6	
Heavy Trucks:	58.8	57.3	48.3	49.6	57.9	58.0	
Vehicle Noise:	66.5	64.7	61.7	56.9	65.4	65.9	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			22	71	224	707	
CNEL:			25	79	249	788	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P Road Name: Tamarisk Row Dr. Road Segment: n/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 8,400 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 840 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 55 mph					Vehicle Mix				
Near/Far Lane Distance: 12 feet					VehicleType				
Site Data					Day				
					Evening				
					Night				
					Daily				
					Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 0.0 feet					Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 30.0 feet					Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 30.0 feet					Autos: 0.000				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet					Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet					Autos: 29.816				
Road Grade: 0.0%					Medium Trucks: 29.518				
Left View: -90.0 degrees					Heavy Trucks: 29.547				
Right View: 90.0 degrees									
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	-3.58	2.18	0.00	-4.49	0.000	0.000		
Medium Trucks:	82.40	-20.82	2.22	0.00	-4.86	0.000	0.000		
Heavy Trucks:	86.40	-24.77	2.22	0.00	-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:	70.4	68.5	66.7	60.7	69.3		69.9		
Medium Trucks:	63.8	62.3	55.9	54.4	62.9		63.1		
Heavy Trucks:	63.8	62.4	53.4	54.6	63.0		63.1		
Vehicle Noise:	72.0	70.2	67.2	62.4	70.9		71.4		
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				37	118	372	1,175		
CNEL:				41	131	415	1,311		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: E+P Road Name: Oasis Club Dr. Road Segment: s/o Country Club Dr.				Project Name: Desert Wave Job Number: 11826			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 6,900 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 690 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 58 feet				Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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				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: 8.006 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 57.271 Medium Trucks: 57.117 Heavy Trucks: 57.132			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-4.43	-0.66	0.00	-4.70	0.000	0.000
Medium Trucks:	82.40	-21.67	-0.65	0.00	-4.88	0.000	0.000
Heavy Trucks:	86.40	-25.63	-0.65	0.00	-5.31	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:	66.7	64.8	63.0	57.0	65.6	66.2	
Medium Trucks:	60.1	58.6	52.2	50.7	59.1	59.4	
Heavy Trucks:	60.1	58.7	49.7	50.9	59.3	59.4	
Vehicle Noise:	68.3	66.5	63.6	58.7	67.2	67.7	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			34	107	338	1,070	
CNEL:			38	119	378	1,194	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P Road Name: Country Club Dr. Road Segment: w/o Monterey Av.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 21,200 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,120 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 66 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 55.0 feet Centerline Dist. to Observer: 55.0 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					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:	8.006	Grade Adjustment: 0.0		
					Lane Equivalent Distance (in feet)				
					Autos:	44.283			
					Medium Trucks:	44.083			
					Heavy Trucks:	44.103			
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	0.85	0.46	0.00	-4.67	0.000	0.000		
Medium Trucks:	81.00	-16.38	0.48	0.00	-4.87	0.000	0.000		
Heavy Trucks:	85.38	-20.34	0.48	0.00	-5.38	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:	71.5	69.6	67.9	61.8	70.4	71.0			
Medium Trucks:	65.1	63.6	57.2	55.7	64.1	64.4			
Heavy Trucks:	65.5	64.1	55.1	56.3	64.7	64.8			
Vehicle Noise:	73.2	71.5	68.4	63.6	72.2	72.7			
Centerline Distance to Noise Contour (in feet)									
	70 dBA		65 dBA		60 dBA		55 dBA		
Ldn:	91		288		909		2,876		
CNEL:	101		320		1,013		3,202		
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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P Road Name: Country Club Dr. Road Segment: e/o Monterey Av.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 23,100 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,310 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 78 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
					VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 65.422 Medium Trucks: 65.286 Heavy Trucks: 65.300				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	1.23	-1.24	0.00	-4.73	0.000	0.000		
Medium Trucks:	81.00	-16.01	-1.23	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-19.97	-1.23	0.00	-5.25	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:	70.2	68.3	66.5	60.5	69.1	69.7			
Medium Trucks:	63.8	62.3	55.9	54.3	62.8	63.0			
Heavy Trucks:	64.2	62.8	53.7	55.0	63.3	63.5			
Vehicle Noise:	71.9	70.1	67.1	62.3	70.9	71.3			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			93	293	926	2,929			
CNEL:			103	326	1,031	3,261			
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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P Road Name: Country Club Dr. Road Segment: e/o Portola Av.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 23,500 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 2,350 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph					Vehicle Mix				
Near/Far Lane Distance: 58 feet					Vehicle Type	Day	Evening	Night	Daily
Site Data					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 57.271				
					Medium Trucks: 57.117				
					Heavy Trucks: 57.132				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	1.30	-0.66	0.00	-4.70	0.000	0.000		
Medium Trucks:	81.00	-15.94	-0.65	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-19.89	-0.65	0.00	-5.31	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	70.8	68.9	67.2	61.1	69.7	70.4			
Medium Trucks:	64.4	62.9	56.5	55.0	63.5	63.7			
Heavy Trucks:	64.8	63.4	54.4	55.6	64.0	64.1			
Vehicle Noise:	72.5	70.8	67.7	63.0	71.5	72.0			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				91	287	906	2,867		
CNEL:				101	319	1,009	3,192		
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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: E+P Road Name: Country Club Dr. Road Segment: e/o Desert Willow Dr.				Project Name: Desert Wave Job Number: 11826					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 24,400 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,440 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 58 feet				Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10					
Site Data				Vehicle Mix					
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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				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:		8.006 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)					
				Autos:		57.271			
				Medium Trucks:		57.117			
				Heavy Trucks:		57.132			
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	1.47	-0.66	0.00	-4.70	0.000	0.000		
Medium Trucks:	81.00	-15.77	-0.65	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-19.73	-0.65	0.00	-5.31	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:	71.0	69.1	67.3	61.3	69.9	70.5			
Medium Trucks:	64.6	63.1	56.7	55.2	63.6	63.9			
Heavy Trucks:	65.0	63.6	54.5	55.8	64.1	64.3			
Vehicle Noise:	72.7	71.0	67.9	63.1	71.7	72.1			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			94	298	941	2,976			
CNEL:			105	331	1,048	3,314			
Monday, February 25, 2019									

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: E+P Road Name: Country Club Dr. Road Segment: e/o Cook St.			Project Name: Desert Wave Job Number: 11826							
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS							
Highway Data			Site Conditions (Hard = 10, Soft = 15)							
Average Daily Traffic (Adt): 23,000 vehicles			Autos: 10							
Peak Hour Percentage: 10%			Medium Trucks (2 Axles): 10							
Peak Hour Volume: 2,300 vehicles			Heavy Trucks (3+ Axles): 10							
Vehicle Speed: 50 mph										
Near/Far Lane Distance: 78 feet			Vehicle Mix							
			Vehicle Type	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			Noise Source Elevations (in feet)							
			Autos: 0.000							
			Medium Trucks: 2.297							
			Heavy Trucks: 8.006 Grade Adjustment: 0.0							
			Lane Equivalent Distance (in feet)							
			Autos: 65.422							
			Medium Trucks: 65.286							
			Heavy Trucks: 65.300							
			FHWA Noise Model Calculations							
			Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
			Autos:	70.20	1.21	-1.24	0.00	-4.73	0.000	0.000
			Medium Trucks:	81.00	-16.03	-1.23	0.00	-4.88	0.000	0.000
			Heavy Trucks:	85.38	-19.99	-1.23	0.00	-5.25	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	70.2	68.3	66.5	60.5	69.1	69.7				
Medium Trucks:	63.7	62.2	55.9	54.3	62.8	63.0				
Heavy Trucks:	64.2	62.7	53.7	55.0	63.3	63.4				
Vehicle Noise:	71.9	70.1	67.1	62.3	70.8	71.3				
Centerline Distance to Noise Contour (in feet)										
			70 dBA	65 dBA	60 dBA	55 dBA				
Ldn:			92	292	922	2,916				
CNEL:			103	325	1,027	3,247				

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: E+P Road Name: Country Club Dr. Road Segment: e/o El Dorado Dr.				Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 21,700 vehicles				Autos: 10				
Peak Hour Percentage: 10%				Medium Trucks (2 Axles): 10				
Peak Hour Volume: 2,170 vehicles				Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph								
Near/Far Lane Distance: 58 feet				Vehicle Mix				
				VehicleType	Day	Evening	Night	Daily
Site Data				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: 8.006				
				Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)				
				Autos: 57.271				
				Medium Trucks: 57.117				
				Heavy Trucks: 57.132				
				FHWA Noise Model Calculations				
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	70.20	0.96	-0.66	0.00	-4.70	0.000	0.000	
Medium Trucks:	81.00	-16.28	-0.65	0.00	-4.88	0.000	0.000	
Heavy Trucks:	85.38	-20.24	-0.65	0.00	-5.31	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	66.8	60.8	69.4	70.0		
Medium Trucks:	64.1	62.6	56.2	54.7	63.1	63.4		
Heavy Trucks:	64.5	63.1	54.0	55.3	63.6	63.8		
Vehicle Noise:	72.2	70.4	67.4	62.6	71.2	71.6		
Centerline Distance to Noise Contour (in feet)								
			70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:			84	265	837	2,647		
CNEL:			93	295	932	2,948		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL											
Scenario: E+P Road Name: Country Club Dr. Road Segment: e/o Oasis Club Dr.				Project Name: Desert Wave Job Number: 11826							
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS							
Highway Data				Site Conditions (Hard = 10, Soft = 15)							
Average Daily Traffic (Adt): 23,700 vehicles				Autos: 10							
Peak Hour Percentage: 10%				Medium Trucks (2 Axles): 10							
Peak Hour Volume: 2,370 vehicles				Heavy Trucks (3+ Axles): 10							
Vehicle Speed: 50 mph											
Near/Far Lane Distance: 58 feet				Vehicle Mix							
				VehicleType	Day	Evening	Night	Daily			
Site Data				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: 8.006 Grade Adjustment: 0.0							
				Lane Equivalent Distance (in feet)							
				Autos: 57.271							
				Medium Trucks: 57.117							
				Heavy Trucks: 57.132							
				FHWA Noise Model Calculations							
				VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos: 70.20 1.34 -0.66 0.00 -4.70 0.000 0.000											
Medium Trucks: 81.00 -15.90 -0.65 0.00 -4.88 0.000 0.000											
Heavy Trucks: 85.38 -19.86 -0.65 0.00 -5.31 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: 70.9 69.0 67.2 61.2 69.8 70.4											
Medium Trucks: 64.5 62.9 56.6 55.0 63.5 63.7											
Heavy Trucks: 64.9 63.5 54.4 55.7 64.0 64.1											
Vehicle Noise: 72.6 70.8 67.8 63.0 71.5 72.0											
Centerline Distance to Noise Contour (in feet)											
			70 dBA	65 dBA	60 dBA	55 dBA					
Ldn:			91	289	914	2,891					
CNEL:			102	322	1,018	3,219					

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL											
Scenario: E+P Road Name: Hovley Ln. Road Segment: e/o Cook St.				Project Name: Desert Wave Job Number: 11826							
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS							
Highway Data				Site Conditions (Hard = 10, Soft = 15)							
Average Daily Traffic (Adt): 17,700 vehicles				Autos: 10							
Peak Hour Percentage: 10%				Medium Trucks (2 Axles): 10							
Peak Hour Volume: 1,770 vehicles				Heavy Trucks (3+ Axles): 10							
Vehicle Speed: 45 mph											
Near/Far Lane Distance: 58 feet				Vehicle Mix							
				VehicleType	Day	Evening	Night	Daily			
Site Data				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: 8.006 Grade Adjustment: 0.0							
				Lane Equivalent Distance (in feet)							
				Autos: 57.271							
				Medium Trucks: 57.117							
				Heavy Trucks: 57.132							
				FHWA Noise Model Calculations							
				VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.53	-0.66	0.00	-4.70	0.000	0.000				
Medium Trucks:	79.45	-16.71	-0.65	0.00	-4.88	0.000	0.000				
Heavy Trucks:	84.25	-20.67	-0.65	0.00	-5.31	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:	68.3	66.4	64.7	58.6	67.2	67.8					
Medium Trucks:	62.1	60.6	54.2	52.7	61.1	61.4					
Heavy Trucks:	62.9	61.5	52.5	53.7	62.1	62.2					
Vehicle Noise:	70.2	68.4	65.3	60.6	69.1	69.6					
Centerline Distance to Noise Contour (in feet)											
				70 dBA	65 dBA	60 dBA	55 dBA				
Ldn:				53	166	525	1,661				
CNEL:				58	184	583	1,845				

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL											
Scenario: EA Road Name: Monterey Av. Road Segment: s/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826						
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS						
Highway Data					Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt): 37,000 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 3,700 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 78 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10						
Site Data					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:	8.006	Grade Adjustment: 0.0		
					Lane Equivalent Distance (in feet)						
							Autos:	65.422			
							Medium Trucks:	65.286			
							Heavy Trucks:	65.300			
FHWA Noise Model Calculations											
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten				
Autos:	71.78	2.86	-1.24	0.00	-4.73	0.000	0.000				
Medium Trucks:	82.40	-14.38	-1.23	0.00	-4.88	0.000	0.000				
Heavy Trucks:	86.40	-18.33	-1.23	0.00	-5.25	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:	73.4	71.5	69.7	63.7	72.3	72.9					
Medium Trucks:	66.8	65.3	58.9	57.4	65.8	66.1					
Heavy Trucks:	66.8	65.4	56.4	57.6	66.0	66.1					
Vehicle Noise:	75.0	73.2	70.3	65.4	73.9	74.4					
Centerline Distance to Noise Contour (in feet)											
				70 dBA	65 dBA	60 dBA	55 dBA				
Ldn:				189	596	1,886	5,963				
CNEL:				210	665	2,104	6,654				
Monday, February 25, 2019											

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: EA Road Name: Portola Av. Road Segment: n/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 15,800 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 1,580 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 58 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10					
Site Data Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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					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:		8.006		Grade Adjustment: 0.0	
					Lane Equivalent Distance (in feet)					
					Autos:		57.271			
					Medium Trucks:		57.117			
					Heavy Trucks:		57.132			
FHWA Noise Model Calculations										
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	71.78	-0.84	-0.66	0.00	-4.70	0.000	0.000			
Medium Trucks:	82.40	-18.07	-0.65	0.00	-4.88	0.000	0.000			
Heavy Trucks:	86.40	-22.03	-0.65	0.00	-5.31	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:	70.3	68.4	66.6	60.6	69.2	69.8				
Medium Trucks:	63.7	62.2	55.8	54.3	62.7	63.0				
Heavy Trucks:	63.7	62.3	53.3	54.5	62.9	63.0				
Vehicle Noise:	71.9	70.1	67.1	62.3	70.8	71.3				
Centerline Distance to Noise Contour (in feet)										
			70 dBA	65 dBA	60 dBA	55 dBA				
Ldn:			77	245	775	2,450				
CNEL:			86	273	864	2,734				
Monday, February 25, 2019										

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL														
Scenario: EA Road Name: Portola Av. Road Segment: s/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826									
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS									
Highway Data					Site Conditions (Hard = 10, Soft = 15)									
Average Daily Traffic (Adt): 21,700 vehicles					Autos: 10									
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10									
Peak Hour Volume: 2,170 vehicles					Heavy Trucks (3+ Axles): 10									
Vehicle Speed: 50 mph					Vehicle Mix									
Near/Far Lane Distance: 58 feet					Vehicle Type	Day	Evening	Night	Daily					
Site Data					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: 8.006 Grade Adjustment: 0.0									
					Lane Equivalent Distance (in feet)									
					Autos: 57.271									
					Medium Trucks: 57.117									
					Heavy Trucks: 57.132									
					FHWA Noise Model Calculations									
					Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	0.96	-0.66	0.00	-4.70	0.000	0.000							
Medium Trucks:	81.00	-16.28	-0.65	0.00	-4.88	0.000	0.000							
Heavy Trucks:	85.38	-20.24	-0.65	0.00	-5.31	0.000	0.000							
Unmitigated Noise Levels (without Topo and barrier attenuation)														
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL								
Autos:	70.5	68.6	66.8	60.8	69.4	70.0								
Medium Trucks:	64.1	62.6	56.2	54.7	63.1	63.4								
Heavy Trucks:	64.5	63.1	54.0	55.3	63.6	63.8								
Vehicle Noise:	72.2	70.4	67.4	62.6	71.2	71.6								
Centerline Distance to Noise Contour (in feet)														
		70 dBA	65 dBA	60 dBA	55 dBA									
Ldn:	84	265	837	2,647										
CNEL:	93	295	932	2,948										
Monday, February 25, 2019														

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: EA Road Name: Cook St. Road Segment: n/o I-10 WB Ramps					Project Name: Desert Wave Job Number: 11826					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 7,800 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 780 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 78 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10					
Site Data Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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					Vehicle Mix					
					Vehicle Type		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:		8.006		Grade Adjustment: 0.0	
					Lane Equivalent Distance (in feet)					
					Autos:		65.422			
					Medium Trucks:		65.286			
					Heavy Trucks:		65.300			
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	70.20	-3.49	-1.24	0.00	-4.73	0.000	0.000			
Medium Trucks:	81.00	-20.73	-1.23	0.00	-4.88	0.000	0.000			
Heavy Trucks:	85.38	-24.68	-1.23	0.00	-5.25	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	65.5	63.6	61.8	55.8	64.4	65.0				
Medium Trucks:	59.0	57.5	51.2	49.6	58.1	58.3				
Heavy Trucks:	59.5	58.0	49.0	50.3	58.6	58.7				
Vehicle Noise:	67.2	65.4	62.4	57.6	66.1	66.6				
Centerline Distance to Noise Contour (in feet)										
			70 dBA	65 dBA	60 dBA	55 dBA				
Ldn:			31	99	313	989				
CNEL:			35	110	348	1,101				
Monday, February 25, 2019										

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EA Road Name: Cook St. Road Segment: s/o I-10 EB Ramps					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 32,300 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 3,230 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph									
Near/Far Lane Distance: 78 feet									
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet					Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Type (0-Wall, 1-Berm): 0.0					Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Centerline Dist. to Barrier: 76.0 feet					Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Observer: 76.0 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									
FHWA Noise Model Calculations					Noise Source Elevations (in feet)				
VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atten					Autos: 0.000				
Autos: 70.20 2.68 -1.24 0.00 -4.73 0.000 0.000					Medium Trucks: 2.297				
Medium Trucks: 81.00 -14.55 -1.23 0.00 -4.88 0.000 0.000					Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Heavy Trucks: 85.38 -18.51 -1.23 0.00 -5.25 0.000 0.000									
					Lane Equivalent Distance (in feet)				
					Autos: 65.422				
					Medium Trucks: 65.286				
					Heavy Trucks: 65.300				
Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL									
Autos: 71.7 69.8 68.0 61.9 70.6 71.2									
Medium Trucks: 65.2 63.7 57.3 55.8 64.3 64.5									
Heavy Trucks: 65.6 64.2 55.2 56.4 64.8 64.9									
Vehicle Noise: 73.3 71.6 68.6 63.8 72.3 72.8									
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				129	410	1,295	4,095		
CNEL:				144	456	1,442	4,560		
Monday, February 25, 2019									

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EA Road Name: Cook St. Road Segment: s/o Gerald Ford Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 23,700 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,370 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 78 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
					VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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					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: 8.006 Grade Adjustment: 0.0				
Lane Equivalent Distance (in feet)									
					Autos: 65.422				
					Medium Trucks: 65.286				
					Heavy Trucks: 65.300				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	1.34	-1.24	0.00	-4.73	0.000	0.000		
Medium Trucks:	81.00	-15.90	-1.23	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-19.86	-1.23	0.00	-5.25	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:	70.3	68.4	66.6	60.6	69.2	69.8			
Medium Trucks:	63.9	62.4	56.0	54.5	62.9	63.2			
Heavy Trucks:	64.3	62.9	53.8	55.1	63.4	63.6			
Vehicle Noise:	72.0	70.2	67.2	62.4	71.0	71.4			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			95	300	950	3,005			
CNEL:			106	335	1,058	3,346			
Monday, February 25, 2019									

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EA Road Name: Cook St. Road Segment: s/o Frank Sinatra Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 24,100 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,410 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 78 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 65.422 Medium Trucks: 65.286 Heavy Trucks: 65.300				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	1.41	-1.24	0.00	-4.73	0.000	0.000		
Medium Trucks:	81.00	-15.83	-1.23	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-19.78	-1.23	0.00	-5.25	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	70.4	68.5	66.7	60.7	69.3	69.9			
Medium Trucks:	63.9	62.4	56.1	54.5	63.0	63.2			
Heavy Trucks:	64.4	62.9	53.9	55.2	63.5	63.6			
Vehicle Noise:	72.1	70.3	67.3	62.5	71.0	71.5			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				97	306	966	3,055		
CNEL:				108	340	1,076	3,403		
Monday, February 25, 2019									

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EA Road Name: Cook St. Road Segment: n/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 27,800 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,780 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 78 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
					VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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					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: 8.006 Grade Adjustment: 0.0				
Lane Equivalent Distance (in feet)									
					Autos: 65.422				
					Medium Trucks: 65.286				
					Heavy Trucks: 65.300				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	2.03	-1.24	0.00	-4.73	0.000	0.000	0.000	
Medium Trucks:	81.00	-15.21	-1.23	0.00	-4.88	0.000	0.000	0.000	
Heavy Trucks:	85.38	-19.16	-1.23	0.00	-5.25	0.000	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	71.0	69.1	67.3	61.3	69.9	70.5			
Medium Trucks:	64.6	63.1	56.7	55.2	63.6	63.8			
Heavy Trucks:	65.0	63.6	54.5	55.8	64.1	64.3			
Vehicle Noise:	72.7	70.9	67.9	63.1	71.7	72.1			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			111	352	1,115	3,525			
CNEL:			124	392	1,241	3,925			
Monday, February 25, 2019									

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EA Road Name: Cook St. Road Segment: s/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 29,900 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,990 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 78 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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					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:	8.006	Grade Adjustment: 0.0		
					Lane Equivalent Distance (in feet)				
					Autos:	65.422			
					Medium Trucks:	65.286			
					Heavy Trucks:	65.300			
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	2.35	-1.24	0.00	-4.73	0.000	0.000		
Medium Trucks:	81.00	-14.89	-1.23	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-18.85	-1.23	0.00	-5.25	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:	71.3	69.4	67.7	61.6	70.2	70.8			
Medium Trucks:	64.9	63.4	57.0	55.5	63.9	64.2			
Heavy Trucks:	65.3	63.9	54.8	56.1	64.5	64.6			
Vehicle Noise:	73.0	71.3	68.2	63.4	72.0	72.4			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				120	379	1,199	3,791		
CNEL:				133	422	1,335	4,221		
Monday, February 25, 2019									

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EA Road Name: Cook St. Road Segment: s/o Hovley Ln.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 29,600 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,960 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 58 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 57.271 Medium Trucks: 57.117 Heavy Trucks: 57.132				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	2.30	-0.66	0.00	-4.70	0.000	0.000		
Medium Trucks:	81.00	-14.93	-0.65	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-18.89	-0.65	0.00	-5.31	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	70.0	68.2	62.1	70.8	71.4			
Medium Trucks:	65.4	63.9	57.6	56.0	64.5	64.7			
Heavy Trucks:	65.8	64.4	55.4	56.6	65.0	65.1			
Vehicle Noise:	73.5	71.8	68.7	64.0	72.5	73.0			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				114	361	1,142	3,611		
CNEL:				127	402	1,271	4,021		
Monday, February 25, 2019									

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EA Road Name: El Dorado Dr. Road Segment: n/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 4,500 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 450 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph					Vehicle Mix				
Near/Far Lane Distance: 58 feet					Vehicle Type	Day	Evening	Night	Daily
Site Data					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 57.271				
					Medium Trucks: 57.117				
					Heavy Trucks: 57.132				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	-5.88	-0.66	0.00	-4.70	0.000	0.000		0.000
Medium Trucks:	81.00	-23.11	-0.65	0.00	-4.88	0.000	0.000		0.000
Heavy Trucks:	85.38	-27.07	-0.65	0.00	-5.31	0.000	0.000		0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	63.7	61.8	60.0	53.9	62.6	63.2			63.2
Medium Trucks:	57.2	55.7	49.4	47.8	56.3	56.5			56.5
Heavy Trucks:	57.7	56.2	47.2	48.5	56.8	56.9			56.9
Vehicle Noise:	65.4	63.6	60.6	55.8	64.3	64.8			64.8
Centerline Distance to Noise Contour (in feet)									
		70 dBA	65 dBA	60 dBA	55 dBA				
	Ldn:	17	55	174	549				
	CNEL:	19	61	193	611				
Monday, February 25, 2019									

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EA Road Name: El Dorado Dr. Road Segment: s/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 5,600 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 560 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph					Vehicle Mix				
Near/Far Lane Distance: 58 feet					VehicleType	Day	Evening	Night	Daily
Site Data Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 57.271				
					Medium Trucks: 57.117				
Heavy Trucks: 57.132									
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	-4.93	-0.66	0.00	-4.70	0.000	0.000		
Medium Trucks:	81.00	-22.17	-0.65	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-26.12	-0.65	0.00	-5.31	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:	64.6	62.7	61.0	54.9	63.5	64.1			
Medium Trucks:	58.2	56.7	50.3	48.8	57.2	57.5			
Heavy Trucks:	58.6	57.2	48.2	49.4	57.8	57.9			
Vehicle Noise:	66.3	64.6	61.5	56.7	65.3	65.8			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				22	68	216	683		
CNEL:				24	76	241	761		
Monday, February 25, 2019									

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: EA Road Name: Tamarisk Row Dr. Road Segment: n/o Country Club Dr.				Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 8,300 vehicles				Autos: 10				
Peak Hour Percentage: 10%				Medium Trucks (2 Axles): 10				
Peak Hour Volume: 830 vehicles				Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 55 mph								
Near/Far Lane Distance: 12 feet				Vehicle Mix				
				Vehicle Type	Day	Evening	Night	Daily
Site Data				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				
Barrier Height: 0.0 feet				Medium Trucks: 2.297				
Barrier Type (0-Wall, 1-Berm): 0.0				Heavy Trucks: 8.006				
Centerline Dist. to Barrier: 30.0 feet				Grade Adjustment: 0.0				
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								
				Lane Equivalent Distance (in feet)				
				Autos: 29.816				
				Medium Trucks: 29.518				
				Heavy Trucks: 29.547				
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	71.78	-3.63	2.18	0.00	-4.49	0.000	0.000	
Medium Trucks:	82.40	-20.87	2.22	0.00	-4.86	0.000	0.000	
Heavy Trucks:	86.40	-24.83	2.22	0.00	-5.77	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	70.3	68.4	66.7	60.6	69.2	69.8		
Medium Trucks:	63.8	62.2	55.9	54.3	62.8	63.0		
Heavy Trucks:	63.8	62.4	53.3	54.6	62.9	63.1		
Vehicle Noise:	71.9	70.2	67.2	62.3	70.9	71.4		
Centerline Distance to Noise Contour (in feet)								
			70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:			37	116	367	1,161		
CNEL:			41	130	410	1,296		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EA Road Name: Oasis Club Dr. Road Segment: s/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 6,700 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 670 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 55 mph					Vehicle Mix				
Near/Far Lane Distance: 58 feet					VehicleType	Day	Evening	Night	Daily
Site Data					Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 0.0 feet					Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 64.0 feet					Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 64.0 feet					Autos: 0.000				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet					Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet					Autos: 57.271				
Road Grade: 0.0%					Medium Trucks: 57.117				
Left View: -90.0 degrees					Heavy Trucks: 57.132				
Right View: 90.0 degrees									
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	-4.56	-0.66	0.00	-4.70	0.000	0.000		
Medium Trucks:	82.40	-21.80	-0.65	0.00	-4.88	0.000	0.000		
Heavy Trucks:	86.40	-25.76	-0.65	0.00	-5.31	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:	66.6	64.7	62.9	56.8	65.5	66.1			
Medium Trucks:	60.0	58.4	52.1	50.5	59.0	59.2			
Heavy Trucks:	60.0	58.6	49.5	50.8	59.1	59.3			
Vehicle Noise:	68.1	66.4	63.4	58.6	67.1	67.6			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				33	104	329	1,039		
CNEL:				37	116	367	1,159		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: EA Road Name: Country Club Dr. Road Segment: w/o Monterey Av.				Project Name: Desert Wave Job Number: 11826			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 21,900 vehicles				Autos: 10			
Peak Hour Percentage: 10%				Medium Trucks (2 Axles): 10			
Peak Hour Volume: 2,190 vehicles				Heavy Trucks (3+ Axles): 10			
Vehicle Speed: 50 mph				Vehicle Mix			
Near/Far Lane Distance: 66 feet				VehicleType			
Site Data				Day			
				Evening			
				Night			
				Daily			
				Autos: 77.5% 12.9% 9.6% 97.42%			
Barrier Height: 0.0 feet				Medium Trucks: 84.8% 4.9% 10.3% 1.84%			
Barrier Type (0-Wall, 1-Berm): 0.0				Heavy Trucks: 86.5% 2.7% 10.8% 0.74%			
Centerline Dist. to Barrier: 55.0 feet				Noise Source Elevations (in feet)			
Centerline Dist. to Observer: 55.0 feet				Autos: 0.000			
Barrier Distance to Observer: 0.0 feet				Medium Trucks: 2.297			
Observer Height (Above Pad): 5.0 feet				Heavy Trucks: 8.006 Grade Adjustment: 0.0			
Pad Elevation: 0.0 feet				Lane Equivalent Distance (in feet)			
Road Elevation: 0.0 feet				Autos: 44.283			
Road Grade: 0.0%				Medium Trucks: 44.083			
Left View: -90.0 degrees				Heavy Trucks: 44.103			
Right View: 90.0 degrees							
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	1.00	0.46	0.00	-4.67	0.000	0.000
Medium Trucks:	81.00	-16.24	0.48	0.00	-4.87	0.000	0.000
Heavy Trucks:	85.38	-20.20	0.48	0.00	-5.38	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:	71.7	69.8	68.0	61.9	70.6	71.2	
Medium Trucks:	65.2	63.7	57.4	55.8	64.3	64.5	
Heavy Trucks:	65.7	64.2	55.2	56.4	64.8	64.9	
Vehicle Noise:	73.4	71.6	68.6	63.8	72.3	72.8	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			94	297	939	2,971	
CNEL:			105	331	1,046	3,308	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: EA Road Name: Country Club Dr. Road Segment: e/o Monterey Av.				Project Name: Desert Wave Job Number: 11826			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 23,300 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,330 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 78 feet				Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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				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: 8.006 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 65.422 Medium Trucks: 65.286 Heavy Trucks: 65.300			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	1.26	-1.24	0.00	-4.73	0.000	0.000
Medium Trucks:	81.00	-15.97	-1.23	0.00	-4.88	0.000	0.000
Heavy Trucks:	85.38	-19.93	-1.23	0.00	-5.25	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:	70.2	68.3	66.6	60.5	69.1	69.7	
Medium Trucks:	63.8	62.3	55.9	54.4	62.8	63.1	
Heavy Trucks:	64.2	62.8	53.8	55.0	63.4	63.5	
Vehicle Noise:	71.9	70.2	67.1	62.3	70.9	71.4	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			93	295	934	2,954	
CNEL:			104	329	1,040	3,290	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EA Road Name: Country Club Dr. Road Segment: e/o Portola Av.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 22,500 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,250 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 58 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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					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: 8.006 Grade Adjustment: 0.0									
					Lane Equivalent Distance (in feet)				
					Autos: 57.271				
					Medium Trucks: 57.117				
					Heavy Trucks: 57.132				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	1.11	-0.66	0.00	-4.70	0.000	0.000	0.000	
Medium Trucks:	81.00	-16.13	-0.65	0.00	-4.88	0.000	0.000	0.000	
Heavy Trucks:	85.38	-20.08	-0.65	0.00	-5.31	0.000	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	70.7	68.8	67.0	60.9	69.6	70.2			
Medium Trucks:	64.2	62.7	56.4	54.8	63.3	63.5			
Heavy Trucks:	64.6	63.2	54.2	55.4	63.8	63.9			
Vehicle Noise:	72.4	70.6	67.6	62.8	71.3	71.8			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				87	274	868	2,745		
CNEL:				97	306	967	3,056		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EA Road Name: Country Club Dr. Road Segment: e/o Desert Willow Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 22,300 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,230 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 58 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 57.271 Medium Trucks: 57.117 Heavy Trucks: 57.132				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	1.07	-0.66	0.00	-4.70	0.000	0.000		
Medium Trucks:	81.00	-16.16	-0.65	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-20.12	-0.65	0.00	-5.31	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:	70.6	68.7	67.0	60.9	69.5	70.1			
Medium Trucks:	64.2	62.7	56.3	54.8	63.2	63.5			
Heavy Trucks:	64.6	63.2	54.2	55.4	63.8	63.9			
Vehicle Noise:	72.3	70.6	67.5	62.7	71.3	71.8			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				86	272	860	2,720		
CNEL:				96	303	958	3,029		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EA Road Name: Country Club Dr. Road Segment: e/o Cook St.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 20,900 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,090 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 78 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 65.422 Medium Trucks: 65.286 Heavy Trucks: 65.300				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	0.79	-1.24	0.00	-4.73	0.000	0.000	0.000	
Medium Trucks:	81.00	-16.45	-1.23	0.00	-4.88	0.000	0.000	0.000	
Heavy Trucks:	85.38	-20.40	-1.23	0.00	-5.25	0.000	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:	69.8	67.9	66.1	60.0	68.7	69.3			
Medium Trucks:	63.3	61.8	55.5	53.9	62.4	62.6			
Heavy Trucks:	63.7	62.3	53.3	54.5	62.9	63.0			
Vehicle Noise:	71.5	69.7	66.7	61.9	70.4	70.9			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				84	265	838	2,650		
CNEL:				93	295	933	2,951		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EA Road Name: Country Club Dr. Road Segment: e/o El Dorado Dr.				Project Name: Desert Wave Job Number: 11826					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 20,700 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,070 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 58 feet				Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10					
Site Data				Vehicle Mix					
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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				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:		8.006 Grade Adjustment: 0.0			
Lane Equivalent Distance (in feet)									
				Autos:		57.271			
				Medium Trucks:		57.117			
				Heavy Trucks:		57.132			
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	0.75	-0.66	0.00	-4.70	0.000	0.000		
Medium Trucks:	81.00	-16.49	-0.65	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-20.44	-0.65	0.00	-5.31	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:	70.3	68.4	66.6	60.6	69.2	69.8			
Medium Trucks:	63.9	62.4	56.0	54.5	62.9	63.1			
Heavy Trucks:	64.3	62.9	53.8	55.1	63.4	63.6			
Vehicle Noise:	72.0	70.2	67.2	62.4	71.0	71.4			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			80	253	798	2,525			
CNEL:			89	281	889	2,812			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EA Road Name: Country Club Dr. Road Segment: e/o Oasis Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 23,900 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,390 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 58 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 57.271				
					Medium Trucks: 57.117				
					Heavy Trucks: 57.132				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos: 70.20 1.38 -0.66 0.00 -4.70 0.000 0.000									
Medium Trucks: 81.00 -15.86 -0.65 0.00 -4.88 0.000 0.000									
Heavy Trucks: 85.38 -19.82 -0.65 0.00 -5.31 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: 70.9 69.0 67.3 61.2 69.8 70.4									
Medium Trucks: 64.5 63.0 56.6 55.1 63.5 63.8									
Heavy Trucks: 64.9 63.5 54.5 55.7 64.1 64.2									
Vehicle Noise: 72.6 70.9 67.8 63.0 71.6 72.1									
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				92	292	922	2,915		
CNEL:				103	325	1,027	3,247		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EA Road Name: Hovley Ln. Road Segment: e/o Cook St.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 18,200 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 1,820 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 58 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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					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:	8.006	Grade Adjustment: 0.0		
					Lane Equivalent Distance (in feet)				
					Autos:	57.271			
					Medium Trucks:	57.117			
					Heavy Trucks:	57.132			
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	0.65	-0.66	0.00	-4.70	0.000	0.000		
Medium Trucks:	79.45	-16.59	-0.65	0.00	-4.88	0.000	0.000		
Heavy Trucks:	84.25	-20.54	-0.65	0.00	-5.31	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	58.7	67.4	68.0			
Medium Trucks:	62.2	60.7	54.3	52.8	61.3	61.5			
Heavy Trucks:	63.1	61.6	52.6	53.9	62.2	62.3			
Vehicle Noise:	70.3	68.5	65.4	60.7	69.3	69.7			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				54	171	540	1,707		
CNEL:				60	190	600	1,897		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAP Road Name: Monterey Av. Road Segment: s/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 37,300 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 3,730 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 78 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 65.422				
					Medium Trucks: 65.286				
					Heavy Trucks: 65.300				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	2.89	-1.24	0.00	-4.73	0.000	0.000	0.000	
Medium Trucks:	82.40	-14.34	-1.23	0.00	-4.88	0.000	0.000	0.000	
Heavy Trucks:	86.40	-18.30	-1.23	0.00	-5.25	0.000	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:	73.4	71.5	69.8	63.7	72.3	72.9			
Medium Trucks:	66.8	65.3	59.0	57.4	65.9	66.1			
Heavy Trucks:	66.9	65.4	56.4	57.7	66.0	66.1			
Vehicle Noise:	75.0	73.3	70.3	65.4	74.0	74.5			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				190	601	1,901	6,011		
CNEL:				212	671	2,121	6,708		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAP Road Name: Portola Av. Road Segment: n/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 16,100 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 1,610 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 58 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 57.271 Medium Trucks: 57.117 Heavy Trucks: 57.132				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	-0.75	-0.66	0.00	-4.70	0.000	0.000		0.000
Medium Trucks:	82.40	-17.99	-0.65	0.00	-4.88	0.000	0.000		0.000
Heavy Trucks:	86.40	-21.95	-0.65	0.00	-5.31	0.000	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:	70.4	68.5	66.7	60.6	69.3	69.9			
Medium Trucks:	63.8	62.3	55.9	54.4	62.8	63.0			
Heavy Trucks:	63.8	62.4	53.3	54.6	62.9	63.1			
Vehicle Noise:	71.9	70.2	67.2	62.4	70.9	71.4			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				79	250	789	2,496		
CNEL:				88	279	881	2,786		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAP Road Name: Portola Av. Road Segment: s/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 22,000 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,200 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 58 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 57.271				
					Medium Trucks: 57.117				
					Heavy Trucks: 57.132				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos: 70.20 1.02 -0.66 0.00 -4.70 0.000 0.000									
Medium Trucks: 81.00 -16.22 -0.65 0.00 -4.88 0.000 0.000									
Heavy Trucks: 85.38 -20.18 -0.65 0.00 -5.31 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: 70.6 68.7 66.9 60.8 69.5 70.1									
Medium Trucks: 64.1 62.6 56.3 54.7 63.2 63.4									
Heavy Trucks: 64.6 63.1 54.1 55.3 63.7 63.8									
Vehicle Noise: 72.3 70.5 67.5 62.7 71.2 71.7									
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				85	268	849	2,684		
CNEL:				95	299	945	2,988		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAP Road Name: Cook St. Road Segment: n/o I-10 WB Ramps					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 8,100 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 810 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 78 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 65.422 Medium Trucks: 65.286 Heavy Trucks: 65.300				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	-3.32	-1.24	0.00	-4.73	0.000	0.000		
Medium Trucks:	81.00	-20.56	-1.23	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-24.52	-1.23	0.00	-5.25	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:	65.6	63.7	62.0	55.9	64.5	65.2			
Medium Trucks:	59.2	57.7	51.3	49.8	58.3	58.5			
Heavy Trucks:	59.6	58.2	49.2	50.4	58.8	58.9			
Vehicle Noise:	67.3	65.6	62.5	57.8	66.3	66.8			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				32	103	325	1,027		
CNEL:				36	114	362	1,144		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAP Road Name: Cook St. Road Segment: s/o I-10 EB Ramps					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 34,000 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 3,400 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 78 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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					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: 8.006 Grade Adjustment: 0.0				
FHWA Noise Model Calculations					Lane Equivalent Distance (in feet)				
					Autos: 65.422 Medium Trucks: 65.286 Heavy Trucks: 65.300				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	2.91	-1.24	0.00	-4.73	0.000	0.000		0.000
Medium Trucks:	81.00	-14.33	-1.23	0.00	-4.88	0.000	0.000		0.000
Heavy Trucks:	85.38	-18.29	-1.23	0.00	-5.25	0.000	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:	71.9	70.0	68.2	62.2		70.8		71.4	
Medium Trucks:	65.4	63.9	57.6	56.0		64.5		64.7	
Heavy Trucks:	65.9	64.4	55.4	56.7		65.0		65.1	
Vehicle Noise:	73.6	71.8	68.8	64.0		72.5		73.0	
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			136	431	1,363	4,311			
CNEL:			152	480	1,518	4,800			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: EAP Road Name: Cook St. Road Segment: s/o Gerald Ford Dr.				Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 25,400 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,540 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 78 feet				Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data				Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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				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: 8.006 Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)				
				Autos: 65.422 Medium Trucks: 65.286 Heavy Trucks: 65.300				
FHWA Noise Model Calculations								
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	70.20	1.64	-1.24	0.00	-4.73	0.000	0.000	
Medium Trucks:	81.00	-15.60	-1.23	0.00	-4.88	0.000	0.000	
Heavy Trucks:	85.38	-19.55	-1.23	0.00	-5.25	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:	70.6	68.7	66.9	60.9	69.5	70.1		
Medium Trucks:	64.2	62.7	56.3	54.8	63.2	63.5		
Heavy Trucks:	64.6	63.2	54.1	55.4	63.7	63.9		
Vehicle Noise:	72.3	70.6	67.5	62.7	71.3	71.7		
Centerline Distance to Noise Contour (in feet)								
			70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:			102	322	1,018	3,220		
CNEL:			113	359	1,134	3,586		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAP Road Name: Cook St. Road Segment: s/o Frank Sinatra Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 26,000 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 2,600 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph					Vehicle Mix				
Near/Far Lane Distance: 78 feet					VehicleType	Day	Evening	Night	Daily
Site Data					Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 0.0 feet					Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 76.0 feet					Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 76.0 feet					Autos: 0.000				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet					Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet					Autos: 65.422				
Road Grade: 0.0%					Medium Trucks: 65.286				
Left View: -90.0 degrees					Heavy Trucks: 65.300				
Right View: 90.0 degrees									
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos: 70.20 1.74 -1.24 0.00 -4.73 0.000 0.000									
Medium Trucks: 81.00 -15.50 -1.23 0.00 -4.88 0.000 0.000									
Heavy Trucks: 85.38 -19.45 -1.23 0.00 -5.25 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: 70.7 68.8 67.0 61.0 69.6 70.2									
Medium Trucks: 64.3 62.8 56.4 54.9 63.3 63.6									
Heavy Trucks: 64.7 63.3 54.2 55.5 63.8 64.0									
Vehicle Noise: 72.4 70.7 67.6 62.8 71.4 71.8									
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				104	330	1,042	3,296		
CNEL:				116	367	1,161	3,671		
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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAP Road Name: Cook St. Road Segment: n/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 28,900 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,890 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 78 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 65.422				
					Medium Trucks: 65.286				
					Heavy Trucks: 65.300				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	2.20	-1.24	0.00	-4.73	0.000	0.000		
Medium Trucks:	81.00	-15.04	-1.23	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-18.99	-1.23	0.00	-5.25	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:	71.2	69.3	67.5	61.4	70.1	70.7			
Medium Trucks:	64.7	63.2	56.9	55.3	63.8	64.0			
Heavy Trucks:	65.2	63.7	54.7	55.9	64.3	64.4			
Vehicle Noise:	72.9	71.1	68.1	63.3	71.8	72.3			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			116	366	1,159	3,664			
CNEL:			129	408	1,290	4,080			
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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAP Road Name: Cook St. Road Segment: s/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 30,700 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 3,070 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph					Vehicle Mix				
Near/Far Lane Distance: 78 feet					Vehicle Type	Day	Evening	Night	Daily
Site Data					Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 0.0 feet					Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 76.0 feet					Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 76.0 feet					Autos: 0.000				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet					Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet					Autos: 65.422				
Road Grade: 0.0%					Medium Trucks: 65.286				
Left View: -90.0 degrees					Heavy Trucks: 65.300				
Right View: 90.0 degrees									
FHWA Noise Model Calculations									
Vehicle Type	REMEI	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos: 70.20 2.46 -1.24 0.00 -4.73 0.000 0.000									
Medium Trucks: 81.00 -14.78 -1.23 0.00 -4.88 0.000 0.000									
Heavy Trucks: 85.38 -18.73 -1.23 0.00 -5.25 0.000 0.000									
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos: 71.4 69.5 67.8 61.7 70.3 70.9									
Medium Trucks: 65.0 63.5 57.1 55.6 64.0 64.3									
Heavy Trucks: 65.4 64.0 55.0 56.2 64.6 64.7									
Vehicle Noise: 73.1 71.4 68.3 63.5 72.1 72.6									
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				123	389	1,231	3,892		
CNEL:				137	433	1,371	4,334		
Monday, February 25, 2019									

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAP Road Name: Cook St. Road Segment: s/o Hovley Ln.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 30,200 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 3,020 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 58 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 57.271				
					Medium Trucks: 57.117				
					Heavy Trucks: 57.132				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos: 70.20 2.39 -0.66 0.00 -4.70 0.000 0.000									
Medium Trucks: 81.00 -14.85 -0.65 0.00 -4.88 0.000 0.000									
Heavy Trucks: 85.38 -18.80 -0.65 0.00 -5.31 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: 71.9 70.0 68.3 62.2 70.8 71.4									
Medium Trucks: 65.5 64.0 57.6 56.1 64.6 64.8									
Heavy Trucks: 65.9 64.5 55.5 56.7 65.1 65.2									
Vehicle Noise: 73.6 71.9 68.8 64.1 72.6 73.1									
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			116	368	1,165	3,684			
CNEL:			130	410	1,297	4,102			
Monday, February 25, 2019									

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAP Road Name: El Dorado Dr. Road Segment: n/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 4,800 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 480 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph					Vehicle Mix				
Near/Far Lane Distance: 58 feet					VehicleType	Day	Evening	Night	Daily
Site Data					Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 0.0 feet					Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 64.0 feet					Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 64.0 feet					Autos: 0.000				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet					Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet					Autos: 57.271				
Road Grade: 0.0%					Medium Trucks: 57.117				
Left View: -90.0 degrees					Heavy Trucks: 57.132				
Right View: 90.0 degrees									
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	-5.60	-0.66	0.00	-4.70	0.000	0.000		
Medium Trucks:	81.00	-22.83	-0.65	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-26.79	-0.65	0.00	-5.31	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:	63.9	62.1	60.3	54.2	62.9	63.5			
Medium Trucks:	57.5	56.0	49.6	48.1	56.6	56.8			
Heavy Trucks:	57.9	56.5	47.5	48.7	57.1	57.2			
Vehicle Noise:	65.6	63.9	60.8	56.1	64.6	65.1			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:	19	59	185	586					
CNEL:	21	65	206	652					
Monday, February 25, 2019									

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAP Road Name: El Dorado Dr. Road Segment: s/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 5,900 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 590 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 58 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
					VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 57.271 Medium Trucks: 57.117 Heavy Trucks: 57.132				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	-4.70	-0.66	0.00	-4.70	0.000	0.000		
Medium Trucks:	81.00	-21.94	-0.65	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-25.89	-0.65	0.00	-5.31	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:	64.8	62.9	61.2	55.1	63.7		64.4		
Medium Trucks:	58.4	56.9	50.5	49.0	57.5		57.7		
Heavy Trucks:	58.8	57.4	48.4	49.6	58.0		58.1		
Vehicle Noise:	66.5	64.8	61.7	57.0	65.5		66.0		
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA		55 dBA		
Ldn:			23	72	228		720		
CNEL:			25	80	253		801		
Monday, February 25, 2019									

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAP Road Name: Tamarisk Row Dr. Road Segment: n/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 8,600 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 860 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 55 mph					Vehicle Mix				
Near/Far Lane Distance: 12 feet					Vehicle Type	Day	Evening	Night	Daily
Site Data					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				
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					Medium Trucks: 2.297				
					Heavy Trucks: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 29.816				
					Medium Trucks: 29.518				
					Heavy Trucks: 29.547				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	-3.48	2.18	0.00	-4.49	0.000	0.000		
Medium Trucks:	82.40	-20.72	2.22	0.00	-4.86	0.000	0.000		
Heavy Trucks:	86.40	-24.67	2.22	0.00	-5.77	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	70.5	68.6	66.8	60.8	69.4	70.0			
Medium Trucks:	63.9	62.4	56.0	54.5	63.0	63.2			
Heavy Trucks:	63.9	62.5	53.5	54.7	63.1	63.2			
Vehicle Noise:	72.1	70.3	67.3	62.5	71.0	71.5			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				38	120	381	1,203		
CNEL:				42	134	425	1,342		
Monday, February 25, 2019									

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAP Road Name: Oasis Club Dr. Road Segment: s/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 7,000 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 700 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 58 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
					VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 57.271 Medium Trucks: 57.117 Heavy Trucks: 57.132				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	-4.37	-0.66	0.00	-4.70	0.000	0.000	0.000	
Medium Trucks:	82.40	-21.61	-0.65	0.00	-4.88	0.000	0.000	0.000	
Heavy Trucks:	86.40	-25.57	-0.65	0.00	-5.31	0.000	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	66.8	64.9	63.1	57.0	65.7	66.3		66.3	
Medium Trucks:	60.1	58.6	52.3	50.7	59.2	59.4		59.4	
Heavy Trucks:	60.2	58.8	49.7	51.0	59.3	59.5		59.5	
Vehicle Noise:	68.3	66.6	63.6	58.7	67.3	67.8		67.8	
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				34	109	343	1,085		
CNEL:				38	121	383	1,211		
Monday, February 25, 2019									

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: EAP Road Name: Country Club Dr. Road Segment: w/o Monterey Av.				Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 22,200 vehicles				Autos: 10				
Peak Hour Percentage: 10%				Medium Trucks (2 Axles): 10				
Peak Hour Volume: 2,220 vehicles				Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph								
Near/Far Lane Distance: 66 feet				Vehicle Mix				
				Vehicle Type	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				Noise Source Elevations (in feet)				
Barrier Height: 0.0 feet				Autos: 0.000				
Barrier Type (0-Wall, 1-Berm): 0.0				Medium Trucks: 2.297				
Centerline Dist. to Barrier: 55.0 feet				Heavy Trucks: 8.006				
Centerline Dist. to Observer: 55.0 feet				Grade Adjustment: 0.0				
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								
FHWA Noise Model Calculations								
Vehicle Type	REMED	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	70.20	1.05	0.46	0.00	-4.67	0.000	0.000	
Medium Trucks:	81.00	-16.18	0.48	0.00	-4.87	0.000	0.000	
Heavy Trucks:	85.38	-20.14	0.48	0.00	-5.38	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	71.7	69.8	68.1	62.0	70.6	71.2		
Medium Trucks:	65.3	63.8	57.4	55.9	64.3	64.6		
Heavy Trucks:	65.7	64.3	55.3	56.5	64.9	65.0		
Vehicle Noise:	73.4	71.7	68.6	63.8	72.4	72.9		
Centerline Distance to Noise Contour (in feet)								
				70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:				95	301	952	3,011	
CNEL:				106	335	1,060	3,353	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAP Road Name: Country Club Dr. Road Segment: e/o Monterey Av.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 23,900 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 2,390 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph									
Near/Far Lane Distance: 78 feet					Vehicle Mix				
					VehicleType	Day	Evening	Night	Daily
Site Data					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 65.422				
					Medium Trucks: 65.286				
Heavy Trucks: 65.300									
FHWA Noise Model Calculations									
VehicleType	REMED	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Barrier Atten		
Autos:	70.20	1.38	-1.24	0.00	-4.73	0.000	0.000		
Medium Trucks:	81.00	-15.86	-1.23	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-19.82	-1.23	0.00	-5.25	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:	70.3	68.4	66.7	60.6	69.2	69.9			
Medium Trucks:	63.9	62.4	56.0	54.5	63.0	63.2			
Heavy Trucks:	64.3	62.9	53.9	55.1	63.5	63.6			
Vehicle Noise:	72.0	70.3	67.2	62.5	71.0	71.5			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				96	303	958	3,030		
CNEL:				107	337	1,067	3,374		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAP Road Name: Country Club Dr. Road Segment: e/o Portola Av.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 23,700 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 2,370 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph					Vehicle Mix				
Near/Far Lane Distance: 58 feet									
Site Data					VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet					Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Type (0-Wall, 1-Berm): 0.0					Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Centerline Dist. to Barrier: 64.0 feet					Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Observer: 64.0 feet					Noise Source Elevations (in feet)				
Barrier Distance to Observer: 0.0 feet					Autos: 0.000				
Observer Height (Above Pad): 5.0 feet					Medium Trucks: 2.297				
Pad Elevation: 0.0 feet					Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Road Elevation: 0.0 feet					Lane Equivalent Distance (in feet)				
Road Grade: 0.0%					Autos: 57.271				
Left View: -90.0 degrees					Medium Trucks: 57.117				
Right View: 90.0 degrees					Heavy Trucks: 57.132				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos: 70.20 1.34 -0.66 0.00 -4.70 0.000 0.000									
Medium Trucks: 81.00 -15.90 -0.65 0.00 -4.88 0.000 0.000									
Heavy Trucks: 85.38 -19.86 -0.65 0.00 -5.31 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: 70.9 69.0 67.2 61.2 69.8 70.4									
Medium Trucks: 64.5 62.9 56.6 55.0 63.5 63.7									
Heavy Trucks: 64.9 63.5 54.4 55.7 64.0 64.1									
Vehicle Noise: 72.6 70.8 67.8 63.0 71.5 72.0									
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			91	289	914	2,891			
CNEL:			102	322	1,018	3,219			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAP Road Name: Country Club Dr. Road Segment: e/o Desert Willow Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 24,200 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 2,420 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph									
Near/Far Lane Distance: 58 feet					Vehicle Mix				
					VehicleType	Day	Evening	Night	Daily
Site Data					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				
Barrier Height: 0.0 feet					Medium Trucks: 2.297				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Centerline Dist. to Barrier: 64.0 feet									
Centerline Dist. to Observer: 64.0 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									
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos: 70.20 1.43 -0.66 0.00 -4.70 0.000 0.000									
Medium Trucks: 81.00 -15.81 -0.65 0.00 -4.88 0.000 0.000									
Heavy Trucks: 85.38 -19.76 -0.65 0.00 -5.31 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: 71.0 69.1 67.3 61.3 69.9 70.5									
Medium Trucks: 64.5 63.0 56.7 55.1 63.6 63.8									
Heavy Trucks: 65.0 63.5 54.5 55.8 64.1 64.2									
Vehicle Noise: 72.7 70.9 67.9 63.1 71.6 72.1									
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				93	295	933	2,952		
CNEL:				104	329	1,040	3,287		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAP Road Name: Country Club Dr. Road Segment: e/o Cook St.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 22,600 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,260 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 78 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 65.422 Medium Trucks: 65.286 Heavy Trucks: 65.300				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos: 70.20 1.13 -1.24 0.00 -4.73 0.000 0.000									
Medium Trucks: 81.00 -16.11 -1.23 0.00 -4.88 0.000 0.000									
Heavy Trucks: 85.38 -20.06 -1.23 0.00 -5.25 0.000 0.000									
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	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: 63.7 62.2 55.8 54.3 62.7 62.9									
Heavy Trucks: 64.1 62.7 53.6 54.9 63.2 63.4									
Vehicle Noise: 71.8 70.0 67.0 62.2 70.8 71.2									
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				91	287	906	2,865		
CNEL:				101	319	1,009	3,191		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAP Road Name: Country Club Dr. Road Segment: e/o El Dorado Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 21,800 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,180 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 58 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 57.271 Medium Trucks: 57.117 Heavy Trucks: 57.132				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos: 70.20 0.98 -0.66 0.00 -4.70 0.000 0.000									
Medium Trucks: 81.00 -16.26 -0.65 0.00 -4.88 0.000 0.000									
Heavy Trucks: 85.38 -20.22 -0.65 0.00 -5.31 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: 64.1 62.6 56.2 54.7 63.1 63.4									
Heavy Trucks: 64.5 63.1 54.1 55.3 63.7 63.8									
Vehicle Noise: 72.2 70.5 67.4 62.6 71.2 71.7									
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				84	266	841	2,659		
CNEL:				94	296	936	2,961		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAP Road Name: Country Club Dr. Road Segment: e/o Oasis Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 24,500 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,450 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 58 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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					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: 8.006 Grade Adjustment: 0.0				
FHWA Noise Model Calculations					Lane Equivalent Distance (in feet)				
					Autos: 57.271 Medium Trucks: 57.117 Heavy Trucks: 57.132				
VehicleType	REMED	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	1.48	-0.66	0.00	-4.70	0.000	0.000	0.000	
Medium Trucks:	81.00	-15.76	-0.65	0.00	-4.88	0.000	0.000	0.000	
Heavy Trucks:	85.38	-19.71	-0.65	0.00	-5.31	0.000	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:	71.0	69.1	67.4	61.3	69.9	70.5			
Medium Trucks:	64.6	63.1	56.7	55.2	63.6	63.9			
Heavy Trucks:	65.0	63.6	54.6	55.8	64.2	64.3			
Vehicle Noise:	72.7	71.0	67.9	63.1	71.7	72.2			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				95	299	945	2,989		
CNEL:				105	333	1,052	3,328		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAP Road Name: Hovley Ln. Road Segment: e/o Cook St.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 18,500 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 1,850 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 58 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 57.271 Medium Trucks: 57.117 Heavy Trucks: 57.132				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos: 68.46 0.72 -0.66 0.00 -4.70 0.000 0.000									
Medium Trucks: 79.45 -16.52 -0.65 0.00 -4.88 0.000 0.000									
Heavy Trucks: 84.25 -20.47 -0.65 0.00 -5.31 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 64.9 58.8 67.4 68.0									
Medium Trucks: 62.3 60.8 54.4 52.9 61.3 61.6									
Heavy Trucks: 63.1 61.7 52.7 53.9 62.3 62.4									
Vehicle Noise: 70.4 68.6 65.5 60.8 69.3 69.8									
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			55	174	549	1,736			
CNEL:			61	193	610	1,928			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAC Road Name: Monterey Av. Road Segment: s/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 37,900 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 3,790 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 78 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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					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:	8.006	Grade Adjustment: 0.0		
					Lane Equivalent Distance (in feet)				
					Autos:	65.422			
					Medium Trucks:	65.286			
					Heavy Trucks:	65.300			
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	2.96	-1.24	0.00	-4.73	0.000	0.000		
Medium Trucks:	82.40	-14.27	-1.23	0.00	-4.88	0.000	0.000		
Heavy Trucks:	86.40	-18.23	-1.23	0.00	-5.25	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:	66.9	65.4	59.0	57.5	65.9	66.2			
Heavy Trucks:	66.9	65.5	56.5	57.7	66.1	66.2			
Vehicle Noise:	75.1	73.3	70.4	65.5	74.1	74.5			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			193	611	1,932	6,108			
CNEL:			216	682	2,155	6,816			
Monday, February 25, 2019									

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAC Road Name: Portola Av. Road Segment: n/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 16,800 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 1,680 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 58 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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					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%				
FHWA Noise Model Calculations					Noise Source Elevations (in feet)				
					Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 57.271 Medium Trucks: 57.117 Heavy Trucks: 57.132				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	-0.57	-0.66	0.00	-4.70	0.000	0.000		0.000
Medium Trucks:	82.40	-17.81	-0.65	0.00	-4.88	0.000	0.000		0.000
Heavy Trucks:	86.40	-21.76	-0.65	0.00	-5.31	0.000	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:	70.6	68.7	66.9	60.8	69.5	70.1			
Medium Trucks:	63.9	62.4	56.1	54.5	63.0	63.2			
Heavy Trucks:	64.0	62.6	53.5	54.8	63.1	63.3			
Vehicle Noise:	72.1	70.4	67.4	62.5	71.1	71.6			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			82	261	824	2,605			
CNEL:			92	291	919	2,907			
Monday, February 25, 2019									

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAC Road Name: Portola Av. Road Segment: s/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 22,400 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 2,240 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph					Vehicle Mix				
Near/Far Lane Distance: 58 feet					Vehicle Type	Day	Evening	Night	Daily
Site Data					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 57.271				
					Medium Trucks: 57.117				
					Heavy Trucks: 57.132				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	1.09	-0.66	0.00	-4.70	0.000	0.000		
Medium Trucks:	81.00	-16.14	-0.65	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-20.10	-0.65	0.00	-5.31	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	70.6	68.7	67.0	60.9	69.5	70.1			
Medium Trucks:	64.2	62.7	56.3	54.8	63.3	63.5			
Heavy Trucks:	64.6	63.2	54.2	55.4	63.8	63.9			
Vehicle Noise:	72.3	70.6	67.5	62.8	71.3	71.8			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				86	273	864	2,732		
CNEL:				96	304	962	3,043		
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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAC Road Name: Cook St. Road Segment: n/o I-10 WB Ramps					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 13,600 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 1,360 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 78 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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					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%				
FHWA Noise Model Calculations					Noise Source Elevations (in feet)				
					Autos: 0.000				
					Medium Trucks: 2.297				
					Heavy Trucks: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 65.422				
					Medium Trucks: 65.286				
					Heavy Trucks: 65.300				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	-1.07	-1.24	0.00	-4.73	0.000	0.000		
Medium Trucks:	81.00	-18.31	-1.23	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-22.27	-1.23	0.00	-5.25	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	67.9	66.0	64.2	58.2	66.8	67.4			
Medium Trucks:	61.5	60.0	53.6	52.0	60.5	60.7			
Heavy Trucks:	61.9	60.5	51.4	52.7	61.0	61.2			
Vehicle Noise:	69.6	67.8	64.8	60.0	68.6	69.0			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				55	172	545	1,724		
CNEL:				61	192	607	1,920		
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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL						
Scenario: EAC Road Name: Cook St. Road Segment: s/o I-10 EB Ramps			Project Name: Desert Wave Job Number: 11826			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS			
Highway Data			Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 35,100 vehicles			Autos: 10			
Peak Hour Percentage: 10%			Medium Trucks (2 Axles): 10			
Peak Hour Volume: 3,510 vehicles			Heavy Trucks (3+ Axles): 10			
Vehicle Speed: 50 mph			Vehicle Mix			
Near/Far Lane Distance: 78 feet			Vehicle Type			
Site Data			Day			
Barrier Height: 0.0 feet			Evening			
Barrier Type (0-Wall, 1-Berm): 0.0			Night			
Centerline Dist. to Barrier: 76.0 feet			Daily			
Centerline Dist. to Observer: 76.0 feet			Autos: 77.5%			
Barrier Distance to Observer: 0.0 feet			Medium Trucks: 84.8%			
Observer Height (Above Pad): 5.0 feet			Heavy Trucks: 86.5%			
Pad Elevation: 0.0 feet			Grade Adjustment: 0.0			
Road Elevation: 0.0 feet			Noise Source Elevations (in feet)			
Road Grade: 0.0%			Autos: 0.000			
Left View: -90.0 degrees			Medium Trucks: 2.297			
Right View: 90.0 degrees			Heavy Trucks: 8.006			
FHWA Noise Model Calculations			Lane Equivalent Distance (in feet)			
Vehicle Type			Autos: 65.422			
REMEDIAL			Medium Trucks: 65.286			
Traffic Flow			Heavy Trucks: 65.300			
Distance			Finite Road			
Distance			Fresnel			
Finite Road			Barrier Atten			
Fresnel			Berm Atten			
Barrier Atten			Autos: 70.20			
Berm Atten			Medium Trucks: 81.00			
Autos: 70.20			Heavy Trucks: 85.38			
Medium Trucks: 81.00			Unmitigated Noise Levels (without Topo and barrier attenuation)			
Heavy Trucks: 85.38			Vehicle Type			
Unmitigated Noise Levels (without Topo and barrier attenuation)			Leq Peak Hour			
Vehicle Type			Leq Day			
Leq Peak Hour			Leq Evening			
Leq Day			Leq Night			
Leq Evening			Ldn			
Leq Night			CNEL			
Ldn			Autos: 72.0			
CNEL			Medium Trucks: 65.6			
Autos: 72.0			Heavy Trucks: 66.0			
Medium Trucks: 65.6			Vehicle Noise: 73.7			
Heavy Trucks: 66.0			Centerline Distance to Noise Contour (in feet)			
Vehicle Noise: 73.7			70 dBA			
Centerline Distance to Noise Contour (in feet)			65 dBA			
70 dBA			60 dBA			
65 dBA			55 dBA			
60 dBA			Ldn: 141			
55 dBA			CNEL: 157			
Ldn: 141			445			
CNEL: 157			1,407			
445			4,450			
1,407			4,956			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAC Road Name: Cook St. Road Segment: s/o Gerald Ford Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 26,670 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 2,667 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph					Vehicle Mix				
Near/Far Lane Distance: 78 feet					VehicleType	Day	Evening	Night	Daily
Site Data					Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 0.0 feet					Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 76.0 feet					Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 76.0 feet					Autos: 0.000				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet					Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet					Autos: 65.422				
Road Grade: 0.0%					Medium Trucks: 65.286				
Left View: -90.0 degrees					Heavy Trucks: 65.300				
Right View: 90.0 degrees									
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos: 70.20 1.85 -1.24 0.00 -4.73 0.000 0.000									
Medium Trucks: 81.00 -15.39 -1.23 0.00 -4.88 0.000 0.000									
Heavy Trucks: 85.38 -19.34 -1.23 0.00 -5.25 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: 70.8 68.9 67.2 61.1 69.7 70.3									
Medium Trucks: 64.4 62.9 56.5 55.0 63.4 63.7									
Heavy Trucks: 64.8 63.4 54.3 55.6 64.0 64.1									
Vehicle Noise: 72.5 70.8 67.7 62.9 71.5 71.9									
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				107	338	1,069	3,381		
CNEL:				119	377	1,191	3,765		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAC Road Name: Cook St. Road Segment: s/o Frank Sinatra Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 25,600 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 2,560 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph					Vehicle Mix				
Near/Far Lane Distance: 78 feet					VehicleType				
Site Data					Day				
Barrier Height: 0.0 feet					Evening				
Barrier Type (0-Wall, 1-Berm): 0.0					Night				
Centerline Dist. to Barrier: 76.0 feet					Daily				
Centerline Dist. to Observer: 76.0 feet					Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Pad Elevation: 0.0 feet					Noise Source Elevations (in feet)				
Road Elevation: 0.0 feet					Autos: 0.000				
Road Grade: 0.0%					Medium Trucks: 2.297				
Left View: -90.0 degrees					Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Right View: 90.0 degrees					Lane Equivalent Distance (in feet)				
					Autos: 65.422				
					Medium Trucks: 65.286				
					Heavy Trucks: 65.300				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	1.67	-1.24	0.00	-4.73	0.000		0.000	
Medium Trucks:	81.00	-15.56	-1.23	0.00	-4.88	0.000		0.000	
Heavy Trucks:	85.38	-19.52	-1.23	0.00	-5.25	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:	70.6	68.7	67.0	60.9	69.5			70.1	
Medium Trucks:	64.2	62.7	56.3	54.8	63.3			63.5	
Heavy Trucks:	64.6	63.2	54.2	55.4	63.8			63.9	
Vehicle Noise:	72.3	70.6	67.5	62.8	71.3			71.8	
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA		55 dBA		
Ldn:			103	325	1,026		3,246		
CNEL:			114	361	1,143		3,614		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAC Road Name: Cook St. Road Segment: n/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 29,200 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,920 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 78 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 65.422 Medium Trucks: 65.286 Heavy Trucks: 65.300				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos: 70.20 2.25 -1.24 0.00 -4.73 0.000 0.000									
Medium Trucks: 81.00 -14.99 -1.23 0.00 -4.88 0.000 0.000									
Heavy Trucks: 85.38 -18.95 -1.23 0.00 -5.25 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: 71.2 69.3 67.5 61.5 70.1 70.7									
Medium Trucks: 64.8 63.3 56.9 55.4 63.8 64.1									
Heavy Trucks: 65.2 63.8 54.7 56.0 64.3 64.5									
Vehicle Noise: 72.9 71.2 68.1 63.3 71.9 72.3									
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				117	370	1,171	3,702		
CNEL:				130	412	1,304	4,123		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAC Road Name: Cook St. Road Segment: s/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 30,800 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 3,080 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 78 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
					VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 65.422 Medium Trucks: 65.286 Heavy Trucks: 65.300				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	2.48	-1.24	0.00	-4.73	0.000	0.000		0.000
Medium Trucks:	81.00	-14.76	-1.23	0.00	-4.88	0.000	0.000		0.000
Heavy Trucks:	85.38	-18.72	-1.23	0.00	-5.25	0.000	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:	71.4	69.5	67.8	61.7	70.3	71.0			71.0
Medium Trucks:	65.0	63.5	57.1	55.6	64.1	64.3			64.3
Heavy Trucks:	65.4	64.0	55.0	56.2	64.6	64.7			64.7
Vehicle Noise:	73.1	71.4	68.3	63.6	72.1	72.6			72.6
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				123	390	1,235	3,905		
CNEL:				138	435	1,375	4,349		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAC Road Name: Cook St. Road Segment: s/o Hovley Ln.				Project Name: Desert Wave Job Number: 11826					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 30,600 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 3,060 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 58 feet				Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10					
Site Data				Vehicle Mix					
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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				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:	8.006		Grade Adjustment: 0.0		
				Lane Equivalent Distance (in feet)					
				Autos:	57.271				
				Medium Trucks:	57.117				
				Heavy Trucks:	57.132				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	2.45	-0.66	0.00	-4.70	0.000	0.000		
Medium Trucks:	81.00	-14.79	-0.65	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-18.75	-0.65	0.00	-5.31	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:	72.0	70.1	68.3	62.3	70.9	71.5			
Medium Trucks:	65.6	64.1	57.7	56.1	64.6	64.8			
Heavy Trucks:	66.0	64.6	55.5	56.8	65.1	65.3			
Vehicle Noise:	73.7	71.9	68.9	64.1	72.7	73.1			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				118	373	1,180	3,733		
CNEL:				131	416	1,314	4,157		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAC Road Name: El Dorado Dr. Road Segment: n/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 4,500 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 450 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 58 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 57.271 Medium Trucks: 57.117 Heavy Trucks: 57.132				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	-5.88	-0.66	0.00	-4.70	0.000	0.000	0.000	
Medium Trucks:	81.00	-23.11	-0.65	0.00	-4.88	0.000	0.000	0.000	
Heavy Trucks:	85.38	-27.07	-0.65	0.00	-5.31	0.000	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:	63.7	61.8	60.0	53.9	62.6	63.2			
Medium Trucks:	57.2	55.7	49.4	47.8	56.3	56.5			
Heavy Trucks:	57.7	56.2	47.2	48.5	56.8	56.9			
Vehicle Noise:	65.4	63.6	60.6	55.8	64.3	64.8			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				17	55	174	549		
CNEL:				19	61	193	611		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAC Road Name: El Dorado Dr. Road Segment: s/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 5,600 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 560 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 58 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 57.271 Medium Trucks: 57.117 Heavy Trucks: 57.132				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	-4.93	-0.66	0.00	-4.70	0.000	0.000	0.000	
Medium Trucks:	81.00	-22.17	-0.65	0.00	-4.88	0.000	0.000	0.000	
Heavy Trucks:	85.38	-26.12	-0.65	0.00	-5.31	0.000	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:	64.6	62.7	61.0	54.9	63.5	64.1			
Medium Trucks:	58.2	56.7	50.3	48.8	57.2	57.5			
Heavy Trucks:	58.6	57.2	48.2	49.4	57.8	57.9			
Vehicle Noise:	66.3	64.6	61.5	56.7	65.3	65.8			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				22	68	216	683		
CNEL:				24	76	241	761		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL										
Scenario: EAC Road Name: Tamarisk Row Dr. Road Segment: n/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826					
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS					
Highway Data					Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 9,500 vehicles					Autos: 10					
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10					
Peak Hour Volume: 950 vehicles					Heavy Trucks (3+ Axles): 10					
Vehicle Speed: 55 mph										
Near/Far Lane Distance: 12 feet					Vehicle Mix					
					Vehicle Type		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					Noise Source Elevations (in feet)					
Barrier Height: 0.0 feet					Autos: 0.000					
Barrier Type (0-Wall, 1-Berm): 0.0					Medium Trucks: 2.297					
Centerline Dist. to Barrier: 30.0 feet					Heavy Trucks: 8.006					
Centerline Dist. to Observer: 30.0 feet					Grade Adjustment: 0.0					
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										
					Lane Equivalent Distance (in feet)					
					Autos: 29.816					
					Medium Trucks: 29.518					
					Heavy Trucks: 29.547					
FHWA Noise Model Calculations										
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten			
Autos:	71.78	-3.05	2.18	0.00	-4.49	0.000	0.000			
Medium Trucks:	82.40	-20.28	2.22	0.00	-4.86	0.000	0.000			
Heavy Trucks:	86.40	-24.24	2.22	0.00	-5.77	0.000	0.000			
Unmitigated Noise Levels (without Topo and barrier attenuation)										
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	70.9	69.0	67.2	61.2	69.8				70.4	
Medium Trucks:	64.3	62.8	56.5	54.9	63.4				63.6	
Heavy Trucks:	64.4	63.0	53.9	55.2	63.5				63.6	
Vehicle Noise:	72.5	70.7	67.8	62.9	71.5				71.9	
Centerline Distance to Noise Contour (in feet)										
				70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:				42	133	420	1,329			
CNEL:				47	148	469	1,483			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAC Road Name: Oasis Club Dr. Road Segment: s/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 6,700 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 670 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 58 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
					VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 57.271 Medium Trucks: 57.117 Heavy Trucks: 57.132				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	-4.56	-0.66	0.00	-4.70	0.000	0.000		
Medium Trucks:	82.40	-21.80	-0.65	0.00	-4.88	0.000	0.000		
Heavy Trucks:	86.40	-25.76	-0.65	0.00	-5.31	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:	66.6	64.7	62.9	56.8	65.5	66.1			
Medium Trucks:	60.0	58.4	52.1	50.5	59.0	59.2			
Heavy Trucks:	60.0	58.6	49.5	50.8	59.1	59.3			
Vehicle Noise:	68.1	66.4	63.4	58.6	67.1	67.6			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				33	104	329	1,039		
CNEL:				37	116	367	1,159		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAC Road Name: Country Club Dr. Road Segment: w/o Monterey Av.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 22,400 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 2,240 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph					Vehicle Mix				
Near/Far Lane Distance: 66 feet					VehicleType				
Site Data					Day				
					Evening				
					Night				
					Daily				
					Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 0.0 feet					Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 55.0 feet					Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 55.0 feet					Autos: 0.000				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet					Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet					Autos: 44.283				
Road Grade: 0.0%					Medium Trucks: 44.083				
Left View: -90.0 degrees					Heavy Trucks: 44.103				
Right View: 90.0 degrees									
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	1.09	0.46	0.00	-4.67	0.000	0.000		0.000
Medium Trucks:	81.00	-16.14	0.48	0.00	-4.87	0.000	0.000		0.000
Heavy Trucks:	85.38	-20.10	0.48	0.00	-5.38	0.000	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:	65.3	63.8	57.5	55.9	64.4		64.6		
Heavy Trucks:	65.8	64.3	55.3	56.5	64.9		65.0		
Vehicle Noise:	73.5	71.7	68.7	63.9	72.4		72.9		
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				96	304	961	3,039		
CNEL:				107	338	1,070	3,384		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAC Road Name: Country Club Dr. Road Segment: e/o Monterey Av.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 23,500 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,350 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 78 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
					VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 65.422 Medium Trucks: 65.286 Heavy Trucks: 65.300				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	1.30	-1.24	0.00	-4.73	0.000	0.000	0.000	
Medium Trucks:	81.00	-15.94	-1.23	0.00	-4.88	0.000	0.000	0.000	
Heavy Trucks:	85.38	-19.89	-1.23	0.00	-5.25	0.000	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:	70.3	68.4	66.6	60.5	69.2	69.8		69.8	
Medium Trucks:	63.8	62.3	56.0	54.4	62.9	63.1		63.1	
Heavy Trucks:	64.3	62.8	53.8	55.0	63.4	63.5		63.5	
Vehicle Noise:	72.0	70.2	67.2	62.4	70.9	71.4		71.4	
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			94	298	942	2,979			
CNEL:			105	332	1,049	3,318			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAC Road Name: Country Club Dr. Road Segment: e/o Portola Av.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 22,600 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 2,260 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph					Vehicle Mix				
Near/Far Lane Distance: 58 feet					VehicleType				
Site Data					Day				
					Evening				
					Night				
					Daily				
					Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 0.0 feet					Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 64.0 feet					Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 64.0 feet					Autos: 0.000				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet					Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet					Autos: 57.271				
Road Grade: 0.0%					Medium Trucks: 57.117				
Left View: -90.0 degrees					Heavy Trucks: 57.132				
Right View: 90.0 degrees									
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	1.13	-0.66	0.00	-4.70	0.000	0.000		
Medium Trucks:	81.00	-16.11	-0.65	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-20.06	-0.65	0.00	-5.31	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:	70.7	68.8	67.0	61.0	69.6	70.2			
Medium Trucks:	64.2	62.7	56.4	54.8	63.3	63.5			
Heavy Trucks:	64.7	63.2	54.2	55.5	63.8	63.9			
Vehicle Noise:	72.4	70.6	67.6	62.8	71.3	71.8			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				87	276	872	2,757		
CNEL:				97	307	971	3,070		
Monday, February 25, 2019									

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAC Road Name: Country Club Dr. Road Segment: e/o Desert Willow Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 22,400 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,240 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 58 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
					VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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					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: 8.006 Grade Adjustment: 0.0				
Lane Equivalent Distance (in feet)					Autos: 57.271				
					Medium Trucks: 57.117 Heavy Trucks: 57.132				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	1.09	-0.66	0.00	-4.70	0.000	0.000		
Medium Trucks:	81.00	-16.14	-0.65	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-20.10	-0.65	0.00	-5.31	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:	70.6	68.7	67.0	60.9	69.5	70.1			
Medium Trucks:	64.2	62.7	56.3	54.8	63.3	63.5			
Heavy Trucks:	64.6	63.2	54.2	55.4	63.8	63.9			
Vehicle Noise:	72.3	70.6	67.5	62.8	71.3	71.8			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			86	273	864	2,732			
CNEL:			96	304	962	3,043			
Monday, February 25, 2019									

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAC Road Name: Country Club Dr. Road Segment: e/o Cook St.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 21,400 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,140 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 78 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 65.422 Medium Trucks: 65.286 Heavy Trucks: 65.300				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	0.90	-1.24	0.00	-4.73	0.000	0.000		
Medium Trucks:	81.00	-16.34	-1.23	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-20.30	-1.23	0.00	-5.25	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	69.9	68.0	66.2	60.1	68.8	69.4			
Medium Trucks:	63.4	61.9	55.6	54.0	62.5	62.7			
Heavy Trucks:	63.9	62.4	53.4	54.6	63.0	63.1			
Vehicle Noise:	71.6	69.8	66.8	62.0	70.5	71.0			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			86	271	858	2,713			
CNEL:			96	302	955	3,021			
Monday, February 25, 2019									

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAC Road Name: Country Club Dr. Road Segment: e/o El Dorado Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 21,300 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,130 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 58 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
					VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 57.271				
					Medium Trucks: 57.117				
					Heavy Trucks: 57.132				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	0.88	-0.66	0.00	-4.70	0.000	0.000	0.000	
Medium Trucks:	81.00	-16.36	-0.65	0.00	-4.88	0.000	0.000	0.000	
Heavy Trucks:	85.38	-20.32	-0.65	0.00	-5.31	0.000	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	70.4	68.5	66.8	60.7	69.3	69.9		69.9	
Medium Trucks:	64.0	62.5	56.1	54.6	63.0	63.3		63.3	
Heavy Trucks:	64.4	63.0	54.0	55.2	63.6	63.7		63.7	
Vehicle Noise:	72.1	70.4	67.3	62.5	71.1	71.6		71.6	
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			82	260	822	2,598			
CNEL:			91	289	915	2,893			
Monday, February 25, 2019									

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAC Road Name: Country Club Dr. Road Segment: e/o Oasis Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 24,500 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,450 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 58 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
					Vehicle Type	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 57.271 Medium Trucks: 57.117 Heavy Trucks: 57.132				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	1.48	-0.66	0.00	-4.70	0.000	0.000	0.000	
Medium Trucks:	81.00	-15.76	-0.65	0.00	-4.88	0.000	0.000	0.000	
Heavy Trucks:	85.38	-19.71	-0.65	0.00	-5.31	0.000	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	71.0	69.1	67.4	61.3	69.9	70.5			
Medium Trucks:	64.6	63.1	56.7	55.2	63.6	63.9			
Heavy Trucks:	65.0	63.6	54.6	55.8	64.2	64.3			
Vehicle Noise:	72.7	71.0	67.9	63.1	71.7	72.2			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				95	299	945	2,989		
CNEL:				105	333	1,052	3,328		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAC Road Name: Hovley Ln. Road Segment: e/o Cook St.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 30,900 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 3,090 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 58 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
					VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 57.271 Medium Trucks: 57.117 Heavy Trucks: 57.132				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	68.46	2.95	-0.66	0.00	-4.70	0.000	0.000		
Medium Trucks:	79.45	-14.29	-0.65	0.00	-4.88	0.000	0.000		
Heavy Trucks:	84.25	-18.25	-0.65	0.00	-5.31	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:	70.8	68.9	67.1	61.0	69.7	70.3			
Medium Trucks:	64.5	63.0	56.6	55.1	63.6	63.8			
Heavy Trucks:	65.4	63.9	54.9	56.2	64.5	64.6			
Vehicle Noise:	72.6	70.8	67.7	63.0	71.6	72.0			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				92	290	917	2,899		
CNEL:				102	322	1,018	3,221		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAPC Road Name: Monterey Av. Road Segment: s/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 38,200 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 3,820 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 78 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
					VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 65.422 Medium Trucks: 65.286 Heavy Trucks: 65.300				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	3.00	-1.24	0.00	-4.73	0.000	0.000	0.000	
Medium Trucks:	82.40	-14.24	-1.23	0.00	-4.88	0.000	0.000	0.000	
Heavy Trucks:	86.40	-18.20	-1.23	0.00	-5.25	0.000	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	73.1			
Medium Trucks:	66.9	65.4	59.1	57.5	66.0	66.2			
Heavy Trucks:	67.0	65.6	56.5	57.8	66.1	66.2			
Vehicle Noise:	75.1	73.4	70.4	65.5	74.1	74.6			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			195	616	1,947	6,157			
CNEL:			217	687	2,172	6,870			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: EAPC Road Name: Portola Av. Road Segment: n/o Country Club Dr.				Project Name: Desert Wave Job Number: 11826			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 17,100 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 1,710 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 58 feet				Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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				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: 8.006 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 57.271 Medium Trucks: 57.117 Heavy Trucks: 57.132			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.49	-0.66	0.00	-4.70	0.000	0.000
Medium Trucks:	82.40	-17.73	-0.65	0.00	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.69	-0.65	0.00	-5.31	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:	70.6	68.7	67.0	60.9	69.5	70.1	
Medium Trucks:	64.0	62.5	56.2	54.6	63.1	63.3	
Heavy Trucks:	64.1	62.6	53.6	54.9	63.2	63.3	
Vehicle Noise:	72.2	70.4	67.5	62.6	71.2	71.6	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			84	265	838	2,652	
CNEL:			94	296	936	2,959	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAPC Road Name: Portola Av. Road Segment: s/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 22,700 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 2,270 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph					Vehicle Mix				
Near/Far Lane Distance: 58 feet					VehicleType	Day	Evening	Night	Daily
Site Data					Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 0.0 feet					Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 64.0 feet					Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 64.0 feet					Autos: 0.000				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet					Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet					Autos: 57.271				
Road Grade: 0.0%					Medium Trucks: 57.117				
Left View: -90.0 degrees					Heavy Trucks: 57.132				
Right View: 90.0 degrees									
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	1.15	-0.66	0.00	-4.70	0.000	0.000		
Medium Trucks:	81.00	-16.09	-0.65	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-20.04	-0.65	0.00	-5.31	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:	70.7	68.8	67.0	61.0	69.6	70.2			
Medium Trucks:	64.3	62.8	56.4	54.9	63.3	63.5			
Heavy Trucks:	64.7	63.3	54.2	55.5	63.8	64.0			
Vehicle Noise:	72.4	70.6	67.6	62.8	71.4	71.8			
Centerline Distance to Noise Contour (in feet)									
	70 dBA	65 dBA	60 dBA	55 dBA					
Ldn:	88	277	876	2,769					
CNEL:	98	308	975	3,084					
Monday, February 25, 2019									

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAPC Road Name: Cook St. Road Segment: n/o I-10 WB Ramps					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 13,900 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 1,390 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 78 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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					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%				
FHWA Noise Model Calculations					Noise Source Elevations (in feet)				
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	-0.98	-1.24	0.00	-4.73	0.000	0.000		
Medium Trucks:	81.00	-18.22	-1.23	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-22.17	-1.23	0.00	-5.25	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)					Lane Equivalent Distance (in feet)				
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	68.0	66.1	64.3	58.3	66.9	67.5			
Medium Trucks:	61.6	60.0	53.7	52.1	60.6	60.8			
Heavy Trucks:	62.0	60.6	51.5	52.8	61.1	61.3			
Vehicle Noise:	69.7	67.9	64.9	60.1	68.7	69.1			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				56	176	557	1,762		
CNEL:				62	196	621	1,962		
Monday, February 25, 2019									

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAPC Road Name: Cook St. Road Segment: s/o I-10 EB Ramps					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 36,800 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 3,680 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph					Vehicle Mix				
Near/Far Lane Distance: 78 feet					Vehicle Type	Day	Evening	Night	Daily
Site Data					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)				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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					Autos: 0.000				
					Medium Trucks: 2.297				
					Heavy Trucks: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 65.422				
					Medium Trucks: 65.286				
					Heavy Trucks: 65.300				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	3.25	-1.24	0.00	-4.73	0.000	0.000		
Medium Trucks:	81.00	-13.99	-1.23	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-17.94	-1.23	0.00	-5.25	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	72.2	70.3	68.6	62.5	71.1	71.7			
Medium Trucks:	65.8	64.3	57.9	56.4	64.8	65.1			
Heavy Trucks:	66.2	64.8	55.7	57.0	65.4	65.5			
Vehicle Noise:	73.9	72.2	69.1	64.3	72.9	73.3			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				148	467	1,475	4,666		
CNEL:				164	520	1,643	5,196		
Monday, February 25, 2019									

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAPC Road Name: Cook St. Road Segment: s/o Gerald Ford Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 28,370 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,837 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 78 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 65.422				
					Medium Trucks: 65.286				
					Heavy Trucks: 65.300				
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	2.12	-1.24	0.00	-4.73	0.000	0.000		0.000
Medium Trucks:	81.00	-15.12	-1.23	0.00	-4.88	0.000	0.000		0.000
Heavy Trucks:	85.38	-19.07	-1.23	0.00	-5.25	0.000	0.000		0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn		CNEL		
Autos:	71.1	69.2	67.4	61.4	70.0		70.6		
Medium Trucks:	64.7	63.1	56.8	55.2	63.7		63.9		
Heavy Trucks:	65.1	63.7	54.6	55.9	64.2		64.3		
Vehicle Noise:	72.8	71.0	68.0	63.2	71.8		72.2		
Centerline Distance to Noise Contour (in feet)									
	70 dBA		65 dBA		60 dBA		55 dBA		
Ldn:	114		360		1,137		3,597		
CNEL:	127		401		1,267		4,005		
Monday, February 25, 2019									

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAPC Road Name: Cook St. Road Segment: s/o Frank Sinatra Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 27,500 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 2,750 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph									
Near/Far Lane Distance: 78 feet					Vehicle Mix				
					VehicleType	Day	Evening	Night	Daily
Site Data					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				
Barrier Height: 0.0 feet					Medium Trucks: 2.297				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Centerline Dist. to Barrier: 76.0 feet									
Centerline Dist. to Observer: 76.0 feet					Lane Equivalent Distance (in feet)				
Barrier Distance to Observer: 0.0 feet					Autos: 65.422				
Observer Height (Above Pad): 5.0 feet					Medium Trucks: 65.286				
Pad Elevation: 0.0 feet					Heavy Trucks: 65.300				
Road Elevation: 0.0 feet									
Road Grade: 0.0%									
Left View: -90.0 degrees									
Right View: 90.0 degrees									
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos: 70.20 1.98 -1.24 0.00 -4.73 0.000 0.000									
Medium Trucks: 81.00 -15.25 -1.23 0.00 -4.88 0.000 0.000									
Heavy Trucks: 85.38 -19.21 -1.23 0.00 -5.25 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: 71.0 69.1 67.3 61.2 69.9 70.5									
Medium Trucks: 64.5 63.0 56.7 55.1 63.6 63.8									
Heavy Trucks: 64.9 63.5 54.5 55.7 64.1 64.2									
Vehicle Noise: 72.6 70.9 67.9 63.1 71.6 72.1									
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			110	349	1,103	3,487			
CNEL:			123	388	1,228	3,883			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: EAPC Road Name: Cook St. Road Segment: n/o Country Club Dr.				Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 30,300 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 3,030 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 78 feet				Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data				Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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				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:	8.006	Grade Adjustment:	0.0	
				Lane Equivalent Distance (in feet)				
				Autos:	65.422			
				Medium Trucks:	65.286			
				Heavy Trucks:	65.300			
FHWA Noise Model Calculations								
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	70.20	2.41	-1.24	0.00	-4.73	0.000	0.000	
Medium Trucks:	81.00	-14.83	-1.23	0.00	-4.88	0.000	0.000	
Heavy Trucks:	85.38	-18.79	-1.23	0.00	-5.25	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:	71.4	69.5	67.7	61.7	70.3	70.9		
Medium Trucks:	64.9	63.4	57.1	55.5	64.0	64.2		
Heavy Trucks:	65.4	63.9	54.9	56.2	64.5	64.6		
Vehicle Noise:	73.1	71.3	68.3	63.5	72.0	72.5		
Centerline Distance to Noise Contour (in feet)								
				70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:				121	384	1,215	3,842	
CNEL:				135	428	1,353	4,278	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAPC Road Name: Cook St. Road Segment: s/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 31,600 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 3,160 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 78 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 65.422				
					Medium Trucks: 65.286				
					Heavy Trucks: 65.300				
FHWA Noise Model Calculations									
VehicleType	REMED	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Attenu	Berm Attenu		
Autos: 70.20 2.59 -1.24 0.00 -4.73 0.000 0.000									
Medium Trucks: 81.00 -14.65 -1.23 0.00 -4.88 0.000 0.000									
Heavy Trucks: 85.38 -18.61 -1.23 0.00 -5.25 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: 71.6 69.7 67.9 61.8 70.5 71.1									
Medium Trucks: 65.1 63.6 57.3 55.7 64.2 64.4									
Heavy Trucks: 65.5 64.1 55.1 56.3 64.7 64.8									
Vehicle Noise: 73.3 71.5 68.5 63.7 72.2 72.7									
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				127	401	1,267	4,006		
CNEL:				141	446	1,411	4,461		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: EAPC Road Name: Cook St. Road Segment: s/o Hovley Ln.				Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 31,200 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 3,120 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 58 feet				Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data				Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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				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: 8.006 Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)				
				Autos: 57.271 Medium Trucks: 57.117 Heavy Trucks: 57.132				
FHWA Noise Model Calculations								
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos: 70.20 2.53 -0.66 0.00 -4.70 0.000 0.000								
Medium Trucks: 81.00 -14.71 -0.65 0.00 -4.88 0.000 0.000								
Heavy Trucks: 85.38 -18.66 -0.65 0.00 -5.31 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: 72.1 70.2 68.4 62.4 71.0 71.6								
Medium Trucks: 65.6 64.1 57.8 56.2 64.7 64.9								
Heavy Trucks: 66.1 64.6 55.6 56.9 65.2 65.3								
Vehicle Noise: 73.8 72.0 69.0 64.2 72.7 73.2								
Centerline Distance to Noise Contour (in feet)								
			70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:			120	381	1,204	3,806		
CNEL:			134	424	1,340	4,238		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAPC Road Name: El Dorado Dr. Road Segment: n/o Country Club Dr.				Project Name: Desert Wave Job Number: 11826					
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):		4,800 vehicles		Autos:		10			
Peak Hour Percentage:		10%		Medium Trucks (2 Axles):		10			
Peak Hour Volume:		480 vehicles		Heavy Trucks (3+ Axles):		10			
Vehicle Speed:		50 mph		Vehicle Mix					
Near/Far Lane Distance:		58 feet		Vehicle Type					
Site Data				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)					
Barrier Height:		0.0 feet		Autos:		0.000			
Barrier Type (0-Wall, 1-Berm):		0.0		Medium Trucks:		2.297			
Centerline Dist. to Barrier:		64.0 feet		Heavy Trucks:		8.006			
Centerline Dist. to Observer:		64.0 feet		Grade Adjustment: 0.0					
Barrier Distance to Observer:		0.0 feet		Lane Equivalent Distance (in feet)					
Observer Height (Above Pad):		5.0 feet		Autos:		57.271			
Pad Elevation:		0.0 feet		Medium Trucks:		57.117			
Road Elevation:		0.0 feet		Heavy Trucks:		57.132			
Road Grade:		0.0%							
Left View:		-90.0 degrees							
Right View:		90.0 degrees							
FHWA Noise Model Calculations									
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	-5.60	-0.66	0.00	-4.70	0.000	0.000		
Medium Trucks:	81.00	-22.83	-0.65	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-26.79	-0.65	0.00	-5.31	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	63.9	62.1	60.3	54.2	62.9	63.5			
Medium Trucks:	57.5	56.0	49.6	48.1	56.6	56.8			
Heavy Trucks:	57.9	56.5	47.5	48.7	57.1	57.2			
Vehicle Noise:	65.6	63.9	60.8	56.1	64.6	65.1			
Centerline Distance to Noise Contour (in feet)									
			70 dBA	65 dBA	60 dBA	55 dBA			
Ldn:			19	59	185	586			
CNEL:			21	65	206	652			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAPC Road Name: El Dorado Dr. Road Segment: s/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 5,900 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 590 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph					Vehicle Mix				
Near/Far Lane Distance: 58 feet					VehicleType	Day	Evening	Night	Daily
Site Data					Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 0.0 feet					Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0					Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 64.0 feet					Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 64.0 feet					Autos: 0.000				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet					Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet					Autos: 57.271				
Road Grade: 0.0%					Medium Trucks: 57.117				
Left View: -90.0 degrees					Heavy Trucks: 57.132				
Right View: 90.0 degrees									
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	-4.70	-0.66	0.00	-4.70	0.000	0.000		
Medium Trucks:	81.00	-21.94	-0.65	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-25.89	-0.65	0.00	-5.31	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:	64.8	62.9	61.2	55.1	63.7	64.4			
Medium Trucks:	58.4	56.9	50.5	49.0	57.5	57.7			
Heavy Trucks:	58.8	57.4	48.4	49.6	58.0	58.1			
Vehicle Noise:	66.5	64.8	61.7	57.0	65.5	66.0			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				23	72	228	720		
CNEL:				25	80	253	801		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAPC Road Name: Tamarisk Row Dr. Road Segment: n/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 9,800 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 980 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 55 mph					Vehicle Mix				
Near/Far Lane Distance: 12 feet									
Site Data					VehicleType				
Barrier Height: 0.0 feet					Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Type (0-Wall, 1-Berm): 0.0					Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Centerline Dist. to Barrier: 30.0 feet					Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Observer: 30.0 feet					Noise Source Elevations (in feet)				
Barrier Distance to Observer: 0.0 feet					Autos: 0.000				
Observer Height (Above Pad): 5.0 feet					Medium Trucks: 2.297				
Pad Elevation: 0.0 feet					Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Road Elevation: 0.0 feet					Lane Equivalent Distance (in feet)				
Road Grade: 0.0%					Autos: 29.816				
Left View: -90.0 degrees					Medium Trucks: 29.518				
Right View: 90.0 degrees					Heavy Trucks: 29.547				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	-2.91	2.18	0.00	-4.49	0.000	0.000		
Medium Trucks:	82.40	-20.15	2.22	0.00	-4.86	0.000	0.000		
Heavy Trucks:	86.40	-24.10	2.22	0.00	-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:	71.0	69.1	67.4	61.3	69.9			70.6	
Medium Trucks:	64.5	63.0	56.6	55.1	63.5			63.8	
Heavy Trucks:	64.5	63.1	54.1	55.3	63.7			63.8	
Vehicle Noise:	72.6	70.9	67.9	63.0	71.6			72.1	
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				43	137	434	1,371		
CNEL:				48	153	484	1,530		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAPC Road Name: Oasis Club Dr. Road Segment: s/o Country Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 7,000 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 700 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 58 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
					VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 57.271 Medium Trucks: 57.117 Heavy Trucks: 57.132				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	71.78	-4.37	-0.66	0.00	-4.70	0.000	0.000		
Medium Trucks:	82.40	-21.61	-0.65	0.00	-4.88	0.000	0.000		
Heavy Trucks:	86.40	-25.57	-0.65	0.00	-5.31	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:	66.8	64.9	63.1	57.0	65.7	66.3			
Medium Trucks:	60.1	58.6	52.3	50.7	59.2	59.4			
Heavy Trucks:	60.2	58.8	49.7	51.0	59.3	59.5			
Vehicle Noise:	68.3	66.6	63.6	58.7	67.3	67.8			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				34	109	343	1,085		
CNEL:				38	121	383	1,211		

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: EAPC Road Name: Country Club Dr. Road Segment: w/o Monterey Av.				Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 22,700 vehicles				Autos: 10				
Peak Hour Percentage: 10%				Medium Trucks (2 Axles): 10				
Peak Hour Volume: 2,270 vehicles				Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph								
Near/Far Lane Distance: 66 feet				Vehicle Mix				
				Vehicle Type	Day	Evening	Night	Daily
Site Data				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: 8.006				
				Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)				
				Autos: 44.283				
Medium Trucks: 44.083								
Heavy Trucks: 44.103								
FHWA Noise Model Calculations								
Vehicle Type	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	70.20	1.15	0.46	0.00	-4.67	0.000	0.000	
Medium Trucks:	81.00	-16.09	0.48	0.00	-4.87	0.000	0.000	
Heavy Trucks:	85.38	-20.04	0.48	0.00	-5.38	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	71.8	69.9	68.1	62.1	70.7	71.3		
Medium Trucks:	65.4	63.9	57.5	56.0	64.4	64.7		
Heavy Trucks:	65.8	64.4	55.4	56.6	65.0	65.1		
Vehicle Noise:	73.5	71.8	68.7	63.9	72.5	72.9		
Centerline Distance to Noise Contour (in feet)								
				70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:				97	308	974	3,079	
CNEL:				108	343	1,084	3,429	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL								
Scenario: EAPC Road Name: Country Club Dr. Road Segment: e/o Monterey Av.				Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 24,100 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,410 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 78 feet				Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data				Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 76.0 feet Centerline Dist. to Observer: 76.0 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				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: 8.006 Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)				
				Autos: 65.422				
				Medium Trucks: 65.286				
				Heavy Trucks: 65.300				
FHWA Noise Model Calculations								
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	70.20	1.41	-1.24	0.00	-4.73	0.000	0.000	
Medium Trucks:	81.00	-15.83	-1.23	0.00	-4.88	0.000	0.000	
Heavy Trucks:	85.38	-19.78	-1.23	0.00	-5.25	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:	70.4	68.5	66.7	60.7	69.3	69.9		
Medium Trucks:	63.9	62.4	56.1	54.5	63.0	63.2		
Heavy Trucks:	64.4	62.9	53.9	55.2	63.5	63.6		
Vehicle Noise:	72.1	70.3	67.3	62.5	71.0	71.5		
Centerline Distance to Noise Contour (in feet)								
				70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:				97	306	966	3,055	
CNEL:				108	340	1,076	3,403	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAPC Road Name: Country Club Dr. Road Segment: e/o Portola Av.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 23,800 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 2,380 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph					Vehicle Mix				
Near/Far Lane Distance: 58 feet					VehicleType				
Site Data					Day				
Barrier Height: 0.0 feet					Evening				
Barrier Type (0-Wall, 1-Berm): 0.0					Night				
Centerline Dist. to Barrier: 64.0 feet					Daily				
Centerline Dist. to Observer: 64.0 feet					Autos: 77.5%				
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 84.8%				
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 86.5%				
Pad Elevation: 0.0 feet					Grade Adjustment: 0.0				
Road Elevation: 0.0 feet					Noise Source Elevations (in feet)				
Road Grade: 0.0%					Autos: 0.000				
Left View: -90.0 degrees					Medium Trucks: 2.297				
Right View: 90.0 degrees					Heavy Trucks: 8.006				
FHWA Noise Model Calculations					Lane Equivalent Distance (in feet)				
VehicleType					Autos: 57.271				
REMEL					Medium Trucks: 57.117				
Traffic Flow					Heavy Trucks: 57.132				
Distance					FHWA Noise Model Calculations				
Finite Road					VehicleType				
Fresnel					REMEL				
Barrier Atten					Traffic Flow				
Berm Atten					Distance				
Autos: 70.20					Finite Road				
Medium Trucks: 81.00					Fresnel				
Heavy Trucks: 85.38					Barrier Atten				
Unmitigated Noise Levels (without Topo and barrier attenuation)					Berm Atten				
VehicleType					Autos: 70.9				
Leq Peak Hour					Medium Trucks: 64.5				
Leq Day					Heavy Trucks: 64.9				
Leq Evening					Vehicle Noise: 72.6				
Leq Night					Centerline Distance to Noise Contour (in feet)				
Ldn					70 dBA				
CNEL					65 dBA				
Autos: 70.9					60 dBA				
Medium Trucks: 64.5					55 dBA				
Heavy Trucks: 64.9					Ldn: 92				
Vehicle Noise: 72.6					290				
Centerline Distance to Noise Contour (in feet)					918				
70 dBA					2,903				
65 dBA					3,233				
60 dBA									
55 dBA									

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL							
Scenario: EAPC Road Name: Country Club Dr. Road Segment: e/o Desert Willow Dr.				Project Name: Desert Wave Job Number: 11826			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 24,300 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,430 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 58 feet				Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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				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: 8.006			
				Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 57.271 Medium Trucks: 57.117 Heavy Trucks: 57.132			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	1.45	-0.66	0.00	-4.70	0.000	0.000
Medium Trucks:	81.00	-15.79	-0.65	0.00	-4.88	0.000	0.000
Heavy Trucks:	85.38	-19.75	-0.65	0.00	-5.31	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:	71.0	69.1	67.3	61.3	69.9	70.5	
Medium Trucks:	64.6	63.1	56.7	55.1	63.6	63.8	
Heavy Trucks:	65.0	63.6	54.5	55.8	64.1	64.3	
Vehicle Noise:	72.7	70.9	67.9	63.1	71.7	72.1	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			94	296	937	2,964	
CNEL:			104	330	1,044	3,301	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAPC Road Name: Country Club Dr. Road Segment: e/o Cook St.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 23,100 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 2,310 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph									
Near/Far Lane Distance: 78 feet									
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet					Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Type (0-Wall, 1-Berm): 0.0					Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Centerline Dist. to Barrier: 76.0 feet					Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Observer: 76.0 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									
FHWA Noise Model Calculations					Noise Source Elevations (in feet)				
Vehicle Type REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atten					Autos: 0.000				
Medium Trucks: 81.00 -16.01 -1.23 0.00 -4.73 0.000 0.000					Medium Trucks: 2.297				
Heavy Trucks: 85.38 -19.97 -1.23 0.00 -5.25 0.000 0.000					Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Unmitigated Noise Levels (without Topo and barrier attenuation)					Lane Equivalent Distance (in feet)				
Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL					Autos: 70.2 68.3 66.5 60.5 69.1 69.7				
Medium Trucks: 63.8 62.3 55.9 54.3 62.8 63.0					Medium Trucks: 65.286				
Heavy Trucks: 64.2 62.8 53.7 55.0 63.3 63.5					Heavy Trucks: 65.300				
Vehicle Noise: 71.9 70.1 67.1 62.3 70.9 71.3									
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				93	293	926	2,929		
CNEL:				103	326	1,031	3,261		
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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAPC Road Name: Country Club Dr. Road Segment: e/o El Dorado Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 22,400 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,240 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 58 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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					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%				
FHWA Noise Model Calculations					Noise Source Elevations (in feet)				
					Autos: 0.000				
					Medium Trucks: 2.297				
					Heavy Trucks: 8.006 Grade Adjustment: 0.0				
FHWA Noise Model Calculations					Lane Equivalent Distance (in feet)				
					Autos: 57.271				
					Medium Trucks: 57.117				
					Heavy Trucks: 57.132				
Unmitigated Noise Levels (without Topo and barrier attenuation)									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	1.09	-0.66	0.00	-4.70	0.000	0.000		
Medium Trucks:	81.00	-16.14	-0.65	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-20.10	-0.65	0.00	-5.31	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:	70.6	68.7	67.0	60.9	69.5	70.1			
Medium Trucks:	64.2	62.7	56.3	54.8	63.3	63.5			
Heavy Trucks:	64.6	63.2	54.2	55.4	63.8	63.9			
Vehicle Noise:	72.3	70.6	67.5	62.8	71.3	71.8			
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				86	273	864	2,732		
CNEL:				96	304	962	3,043		
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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAPC Road Name: Country Club Dr. Road Segment: e/o Oasis Club Dr.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 25,100 vehicles					Autos: 10				
Peak Hour Percentage: 10%					Medium Trucks (2 Axles): 10				
Peak Hour Volume: 2,510 vehicles					Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 50 mph									
Near/Far Lane Distance: 58 feet									
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet					Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Type (0-Wall, 1-Berm): 0.0					Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Centerline Dist. to Barrier: 64.0 feet					Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Observer: 64.0 feet									
Barrier Distance to Observer: 0.0 feet					Noise Source Elevations (in feet)				
Observer Height (Above Pad): 5.0 feet					Autos: 0.000				
Pad Elevation: 0.0 feet					Medium Trucks: 2.297				
Road Elevation: 0.0 feet					Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Road Grade: 0.0%					Lane Equivalent Distance (in feet)				
Left View: -90.0 degrees					Autos: 57.271				
Right View: 90.0 degrees					Medium Trucks: 57.117				
					Heavy Trucks: 57.132				
FHWA Noise Model Calculations									
Vehicle Type	REMODEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	70.20	1.59	-0.66	0.00	-4.70	0.000	0.000		
Medium Trucks:	81.00	-15.65	-0.65	0.00	-4.88	0.000	0.000		
Heavy Trucks:	85.38	-19.61	-0.65	0.00	-5.31	0.000	0.000		
Unmitigated Noise Levels (without Topo and barrier attenuation)									
Vehicle Type	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	71.1	69.2	67.5	61.4	70.0	70.6			
Medium Trucks:	64.7	63.2	56.8	55.3	63.8	64.0			
Heavy Trucks:	65.1	63.7	54.7	55.9	64.3	64.4			
Vehicle Noise:	72.8	71.1	68.0	63.2	71.8	72.3			
Centerline Distance to Noise Contour (in feet)									
	70 dBA		65 dBA		60 dBA		55 dBA		
Ldn:	97		306		968		3,062		
CNEL:	108		341		1,078		3,410		
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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL									
Scenario: EAPC Road Name: Hovley Ln. Road Segment: e/o Cook St.					Project Name: Desert Wave Job Number: 11826				
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS				
Highway Data					Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 31,200 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 3,120 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 58 feet					Autos: 10 Medium Trucks (2 Axles): 10 Heavy Trucks (3+ Axles): 10				
Site Data					Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 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					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: 8.006 Grade Adjustment: 0.0				
					Lane Equivalent Distance (in feet)				
					Autos: 57.271				
					Medium Trucks: 57.117				
					Heavy Trucks: 57.132				
FHWA Noise Model Calculations									
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten		
Autos: 68.46 2.99 -0.66 0.00 -4.70 0.000 0.000									
Medium Trucks: 79.45 -14.25 -0.65 0.00 -4.88 0.000 0.000									
Heavy Trucks: 84.25 -18.20 -0.65 0.00 -5.31 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: 70.8 68.9 67.1 61.1 69.7 70.3									
Medium Trucks: 64.6 63.0 56.7 55.1 63.6 63.8									
Heavy Trucks: 65.4 64.0 54.9 56.2 64.5 64.7									
Vehicle Noise: 72.6 70.9 67.7 63.1 71.6 72.1									
Centerline Distance to Noise Contour (in feet)									
				70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:				93	293	2,926		2,927	
CNEL:				103	325	1,028		3,252	
Monday, February 25, 2019									

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APPENDIX 9.1:

CADNAA MODEL INPUTS AND RESULTS

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11826

CadnaA Noise Prediction Model

11826-07 typical.cna

Date:

04.03.19

Analyst:

A.Wolfe

Receiver Noise Levels

Name	Level Lr		Height		Coordinates		
	Day	Night			X	Y	Z
	(dBA)	(dBA)	(m)		(m)	(m)	(m)
1	30.1	30.1	1.52	r	1988528.87	677268.18	3.75
2	49.2	49.2	1.52	r	1988925.54	677217.10	7.98
3	46.3	46.3	1.52	r	1988961.14	677015.47	6.63
4	42.9	42.9	1.52	r	1989398.47	676790.88	6.09
5	38.5	38.5	1.52	r	1989769.61	677313.76	4.60
6	36.8	36.8	1.52	r	1988872.46	677570.41	4.85

Point Source(s)

Name	Lw / Li		Height		Coordinates			
	Type	Value	norm.		X	Y	Z	
			dB(A)	(m)	(m)	(m)	(m)	
ACUNITS	Lw	88.9		1.52	g	1988982.53	677165.74	17.24
ACUNITS	Lw	88.9		1.52	g	1989018.80	677140.46	17.24
ACUNITS	Lw	88.9		1.52	g	1989049.21	677182.23	17.24
ACUNITS	Lw	88.9		1.52	g	1989062.04	677208.61	17.24
ACUNITS	Lw	88.9		1.52	g	1989002.68	677183.70	14.30
ACUNITS	Lw	88.9		1.52	g	1989018.80	677185.90	14.30
ACUNITS	Lw	88.9		1.52	g	1989093.55	677232.06	17.37
ACUNITS	Lw	88.9		1.52	g	1989093.91	677245.62	17.37
ACUNITS	Lw	88.9		1.52	g	1989125.06	677253.68	17.37
ACUNITS	Lw	88.9		1.52	g	1989153.27	677261.01	17.37
ACUNITS	Lw	88.9		1.52	g	1989187.34	677268.70	14.33
ACUNITS	Lw	88.9		1.52	g	1989203.83	677261.37	14.33
ACUNITS	Lw	88.9		1.52	g	1989222.52	677254.78	14.33
ACUNITS	Lw	88.9		1.52	g	1988957.61	677230.23	11.16
ACUNITS	Lw	88.9		1.52	g	1988980.33	677235.36	11.21
ACUNITS	Lw	88.9		1.52	g	1989015.50	677241.59	11.28
ACUNITS	Lw	88.9		1.52	g	1989041.15	677246.35	11.28
ACUNITS	Lw	88.9		1.52	g	1989019.17	677217.77	11.28
ACUNITS	Lw	88.9		1.52	g	1988986.56	677212.28	11.24
ACUNITS	Lw	88.9		1.52	g	1989038.59	677224.00	11.28
ACUNITS	Lw	88.9		1.52	g	1989122.12	677058.39	10.90
ACUNITS	Lw	88.9		1.52	g	1989150.70	677045.93	10.84
ACUNITS	Lw	88.9		1.52	g	1989178.55	677034.57	10.47
ACUNITS	Lw	88.9		1.52	g	1989203.10	677001.60	10.16
ACUNITS	Lw	88.9		1.52	g	1989221.79	676995.37	10.45
ACUNITS	Lw	88.9		1.52	g	1989238.27	676983.28	10.41
ACUNITS	Lw	88.9		1.52	g	1989264.65	676982.91	10.59
ACUNITS	Lw	88.9		1.52	g	1989262.82	677001.60	11.19
ACUNITS	Lw	88.9		1.52	g	1989259.52	677018.09	11.28
ACUNITS	Lw	88.9		1.52	g	1989245.97	677044.47	11.28

Area Source(s)

Name	Lw / Li		
	Type	Value	norm.
			dB(A)
Pool/Spa	Lw	89.5	
Surf Lagoon	Lw	115.3	
Pool/Spa	Lw	89.5	
Pool/Spa	Lw	89.5	
Pool/Spa	Lw	89.5	
Parking Lot	Lw	84.6	
Parking Lot	Lw	84.6	
Parking Lot	Lw	84.6	
Parking Lot	Lw	84.6	
Parking Lot	Lw	84.6	
Parking Lot	Lw	84.6	
Parking Lot	Lw	84.6	
Outdoor Activities	Lw	78	
Outdoor Activities	Lw	78	

Barrier(s)

Name	Absorption	Height	
		Begin	
		(m)	
BUILDINGS	0.21	6.10	r
BUILDINGS	0.21	6.10	r
BUILDINGS	0.21	6.10	r

11826

CadnaA Noise Prediction Model

11826-07 special event.cna

Date:

04.03.19

Analyst:

A.Wolfe

Receiver Noise Levels

Name	Level Lr		Height	Coordinates		
	Day	Night		X	Y	Z
	(dBA)	(dBA)	(m)	(m)	(m)	(m)
1	30.1	30.1	1.52	r 1988528.87	677268.18	3.75
2	49.2	49.2	1.52	r 1988925.54	677217.10	7.98
3	46.5	46.5	1.52	r 1988961.14	677015.47	6.63
4	43.2	43.2	1.52	r 1989398.47	676790.88	6.09
5	38.7	38.7	1.52	r 1989769.61	677313.76	4.60
6	36.9	36.9	1.52	r 1988872.46	677570.41	4.85

Area Source(s)

Name	Lw / Li	
	Type	Value norm.
		dB(A)
Pool/Spa	Lw	89.5
Surf Lagoon	Lw	115.3
Pool/Spa	Lw	89.5
Pool/Spa	Lw	89.5
Pool/Spa	Lw	89.5
Parking Lot	Lw	84.6
Parking Lot	Lw	84.6
Parking Lot	Lw	84.6
Parking Lot	Lw	84.6
Parking Lot	Lw	84.6
Parking Lot	Lw	84.6
Parking Lot	Lw	84.6
Outdoor Activities	Lw	78
Outdoor Activities	Lw	78
Special Event Field	Lw	101.4