Majestic Otay

NOISE IMPACT ANALYSIS

COUNTY OF SAN DIEGO

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LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
ANSI	American National Standards Institute
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
County	County of San Diego
County Guidelines	County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements - Noise
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
NSLU	Noise Sensitive Land Use
OPR	Office of Planning and Research
PPV	Peak particle velocity
Project	Majestic Otay
REMEL	Reference Energy Mean Emission Level
RMS	Root-mean-square
VdB	Vibration Decibels

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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 Majestic Otay development (Project). The Project site is approximately 250 gross acres located in the East Otay Mesa area of unincorporated San Diego County.

The results of this Majestic Otay Noise Impact Analysis are summarized below based on the significance criteria in this report consistent with the *County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements* (County Guidelines) for Noise and Appendix G of the California Environmental Quality Act (CEQA) Guidelines (1). Table ES-1 shows the findings of significance for each potential noise and/or vibration impact under CEQA.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
On-Site Traffic	2	*No Impact*	*N/A*
Off-Site Traffic Noise		*Less Than Significant*	*N/A*
Operational Noise	3	*Less Than Significant*	*N/A*
Construction Noise		*Less Than Significant*	*N/A*
Construction Vibration	4	*Less Than Significant*	*N/A*

The Project proposes a Specific Plan Amendment (SPA) to the East Otay Mesa Business Park Specific Plan, Tentative Parcel Map, and a Site Plan to establish a new Light Industrial Master Planned Business Park. The SPA proposes 2,402,405 square feet of development spread out over 5 phases with 250 acres.

NOISE SENSITIVE LAND USES AFFECTED BY AIRBORNE NOISE

ON-SITE TRAFFIC NOISE

The Project is an industrial development, the Project does not include any noise sensitive land uses (NSLU). There would be **no impact** on NSLU.

OFF-SITE TRAFFIC NOISE

Off-site traffic would result in noise level increase of less than two decibels (dB) along all affected roadways. Therefore, off-site traffic noise level increases would be **less than significant**.

PROJECT-GENERATED AIRBORNE NOISE

OPERATION

Stationary sources of concern include roof-top heating, ventilation, and air conditioning units, parking lot activity, trash enclosure activity, loading dock activities, and on-site truck and gate

movements. Based on predicted noise levels airborne noise levels would comply with the County of San Diego property line limits and impacts would be **less than significant**.

CONSTRUCTION

The construction noise analysis shows that the nearest receiver locations will range from 42.5 to 56.3 dBA L_{eq} at the nearest NSLU. Thus, construction activity would not exceed the 75 dBA L_{eq} significance threshold during Project construction activities. Therefore, typical construction noise would be **less than significant**.

GROUNDBORNE VIBRATION AND NOISE IMPACTS

There are no substantial vibration sources associated with Project operation. No pile driving or blasting is anticipated during building construction. Based on the distance to surrounding vibration sensitive land uses, vibration impacts associated with Project construction would not exceed County of San Diego vibration level limits, therefore, vibration impacts would be **less than significant**.

1 INTRODUCTION

The purpose of this analysis is to characterize the existing noise conditions, identify applicable regulations (i.e., County of San Diego General Plan Noise Element (2)and the County Noise Ordinance (3)), assess noise impacts from construction and operation of the Project, and identify mitigation measures and/or design considerations to reduce potential noise impacts. This report was prepared in accordance with the County's Guidelines for Determining Significance and Report Format and Content Requirements, Noise (County Guidelines) (4) (5). The results of this noise report will be used to inform the final environmental documentation pursuant to CEQA.

1.1 PROJECT DESCRIPTION

The Project proposes a Specific Plan Amendment (SPA) to the East Otay Mesa Business Park Specific Plan, Tentative Parcel Map, and a Site Plan to establish a new Light Industrial Master Planned Business Park.

The Project site is approximately 250 gross acres in the East Otay Mesa area of the County of San Diego and is currently undeveloped. The SPA would designate the site for Light Industrial and Conservation land uses. The Project would allow for development on approximately 183.5 acres and include approximately 51.3 acres of permanent biological open space in the northeastern portion of the Project site. Additionally, the Project includes approximately 15.83 acres for conservation of vernal pools on-site. Grading would occur on approximately 183.5 acres of the Project site and would require an off-site sewer connection within the existing right-of-way in Zinser Road extending west of the Project site.

The SPA would allow for up to 2,850,000 square feet of Class A industrial buildings. However, it should be noted that the Site Plan proposes 2,402,405 square feet of development spread out over 5 proposed phases. The site plan is presented in Exhibit 1-B. Development would be phased as follows:

Although the Site plan proposes 2,402,405 square feet of development, for purposes of analysis, the maximum square footage allowed by the SPA (2,850,000 square feet) is evaluated herein.

Access to the Project site would be provided via Otay Mesa Road, Zinser Road, and Lone Star Road. The Project would include the construction of Harvest Road and Sunroad Boulevard on-site as well as construction of several private roadways for internal circulation.

The on-site Project-related noise sources are expected to include roof-top heating, ventilation, and air conditioning units, parking lot activity, trash enclosure activity, loading dock activities, and on-site truck and gate movements.

1.1.1 SITE LOCATION

The Project site is approximately 250 gross acres in the East Otay Mesa area of the County of San Diego and is currently undeveloped. The site is bordered on the south by Otay Mesa Rd., open space to the east, and industrial development to the west. The Project site is located northeast of Interstate 905 (I-905) and State Route 125 (SR-125) The Project area is presented in Exhibit 1-A.

EXHIBIT 1-A: LOCATION MAP

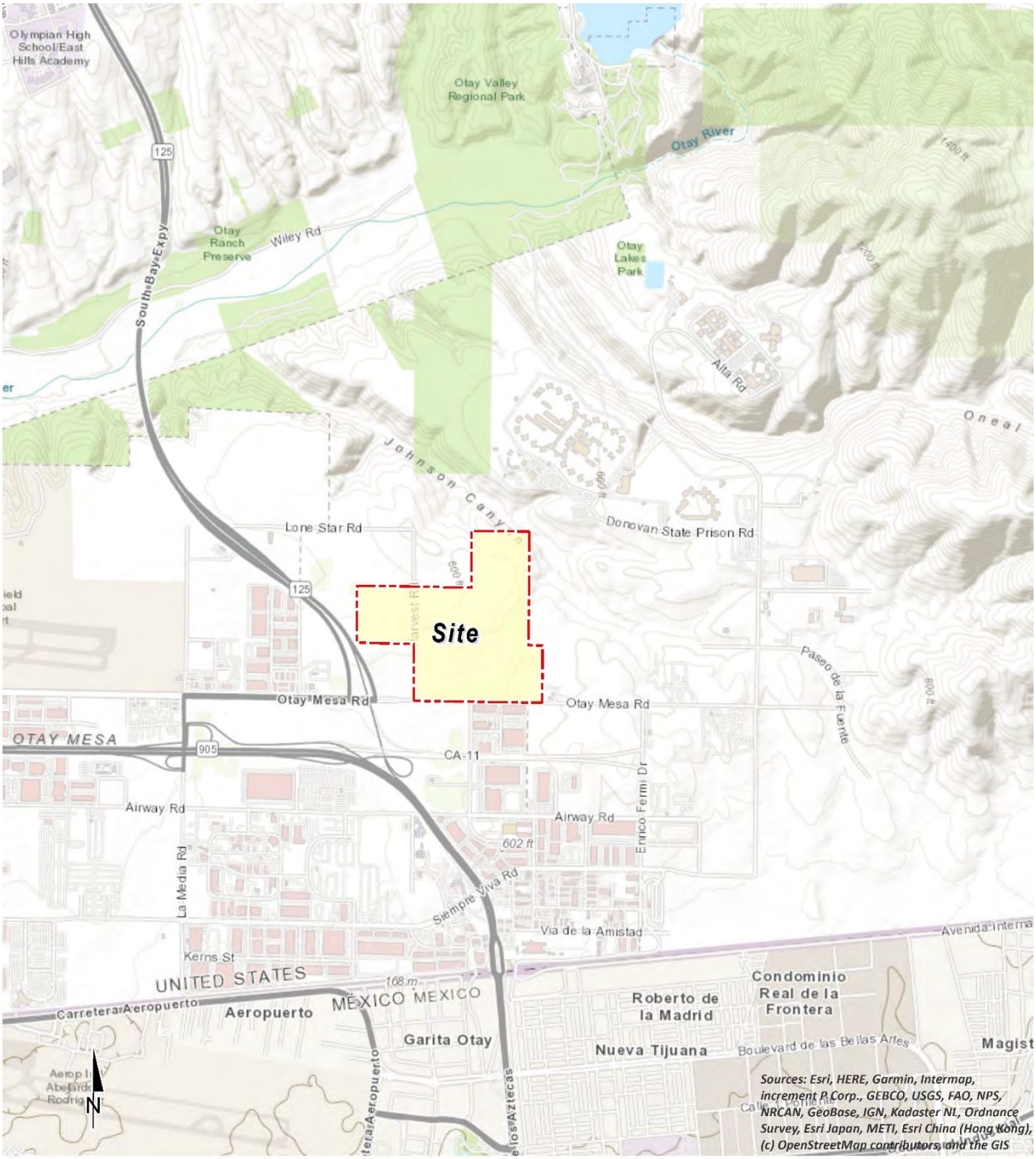


EXHIBIT 1-B: SITE PLAN

1.2 ENVIRONMENTAL SETTINGS AND EXISTING CONDITIONS

1.2.1 SETTINGS AND LOCATION

The Project site is located within the East Otay Mesa Business Park Specific Plan (EOMBPSP). Land uses north and east of the site are designated for Technology Business Park. West of the Project site is SR-125 and land designated for Technology Business Park. Land uses southwest of the Project are designated for Commercial Overlay uses. South of the Project site is land within the City of San Diego designated for light industrial and office uses. Under existing conditions land immediately north of the Project site is undeveloped, beyond which id the Richard J. Donovan Correctional Facility. The area west of the Project site includes undeveloped land, existing businesses, and light industrial uses. South of the Project site are light industrial uses. East of the Project site is undeveloped land. The nearest noise sensitive land use (NSLU) is located approximately 1,066 feet to the north.

1.2.2 NOISE TERMINOLOGY

Noise is simply defined as "unwanted sound." Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm or when it has adverse effects on health. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies which are audible to the human ear. Exhibit 1-C presents a summary of the typical noise levels and their subjective loudness and effects that are described in more detail below.

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 (6). 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 (7). Another important aspect of noise is the duration of the sound and the way it is described and distributed in time.

NOISE DESCRIPTORS

Environmental noise descriptors are generally based on averages, rather than instantaneous, noise levels. The most 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 (typically one hour) and is commonly used to describe the “average” noise levels within the environment.

EXHIBIT 1-C: TYPICAL NOISE LEVELS

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

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

Peak hour or average noise levels, while useful, do not completely describe a given noise environment, however. 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 County of San Diego relies on the 24-hour CNEL level to assess land use compatibility with transportation related noise sources.

SOUND PROPAGATION

When sound propagates over a distance, it changes in level and frequency content. Based on guidance from the U.S. Department of Transportation, Federal Highway Administration (FHWA), Office of Environment and Planning, Noise and Air Quality Branch, the way noise reduces with distance depends on the following factors.

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 (6).

GROUND ABSORPTION

The propagation path of noise from a highway to a receiver is usually very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually sufficiently accurate for distances of less than 200 feet. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 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 (8).

ATMOSPHERIC EFFECTS

Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects (6).

SHIELDING

A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Shielding by trees and other such vegetation typically only has an “out of sight, out of mind” effect. That is, the perception of noise impact tends to decrease when vegetation blocks the line-of-sight to nearest residents. However, for vegetation to provide a substantial, or even noticeable, noise reduction, the vegetation area must be at least 15 feet in height, 100 feet wide and dense enough to completely obstruct the line-of sight between the source and the receiver. This size of vegetation may provide up to 5 dBA of noise reduction. The Federal Highway Administration (FHWA) does not consider the planting of vegetation to be a noise abatement measure (8).

REFLECTION

Field studies conducted by the FHWA have shown that the reflection from barriers and buildings does not substantially increase noise levels (8). If all the noise striking a structure was reflected back to a given receiving point, the increase would be theoretically limited to 3 dBA. Further, not all the acoustical energy is reflected back to same point. Some of the energy would go over the structure, some is reflected to points other than the given receiving point, some is scattered by ground coverings (e.g., grass and other plants), and some is blocked by intervening structures and/or obstacles (e.g., the noise source itself). Additionally, some of the reflected energy is lost due to the longer path that the noise must travel. FHWA measurements made to quantify reflective increases in traffic noise have not shown an increase of greater than 1-2 dBA; an increase that is not perceptible to the average human ear.

NOISE CONTROL

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

NOISE BARRIER ATTENUATION

Effective noise barriers can reduce noise levels by up to 10 to 15 dBA, cutting the loudness of traffic noise in half. A noise barrier is most effective when placed close to the noise source or receiver. Noise barriers, however, do have limitations. For a noise barrier to work, it must be high enough and long enough to block the path of the noise source (8).

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. 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, recreation areas or buildings where people normally sleep. 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 (9).

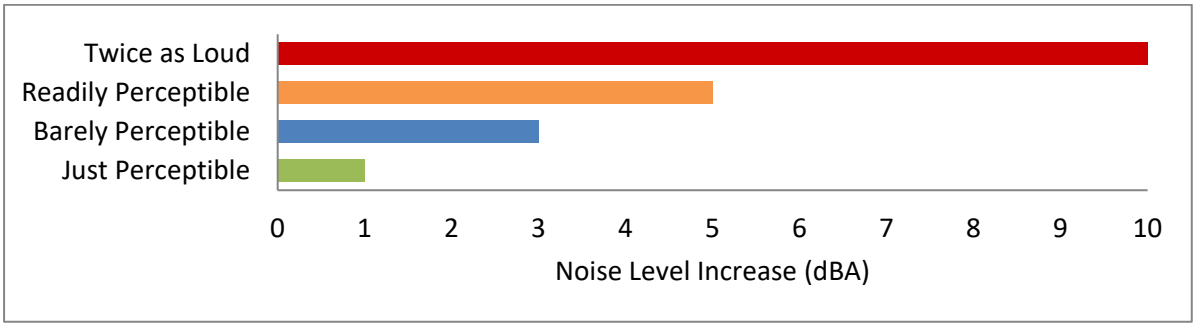
COMMUNITY RESPONSE TO NOISE

Community responses to noise varies 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. 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 (10). 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 (10). 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 1-D. A change of 3 dBA is considered *barely perceptible*, and changes of 5 dBA are considered *readily perceptible*. (8)

EXHIBIT 1-D: NOISE LEVEL INCREASE PERCEPTION



VIBRATION

As defined in the Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual* (11) and the California Department of Transportation (Caltrans) *Transportation and Construction Vibration Guidance Manual* (12), 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. Typical outdoor sources of vibration waves that can propagate through the ground and may create perceptible ground-borne vibration in nearby buildings include construction equipment, steel-wheeled trains, and traffic on rough roads. If the roadway is fairly smooth, the vibration from rubber-tired traffic is rarely perceptible (11).

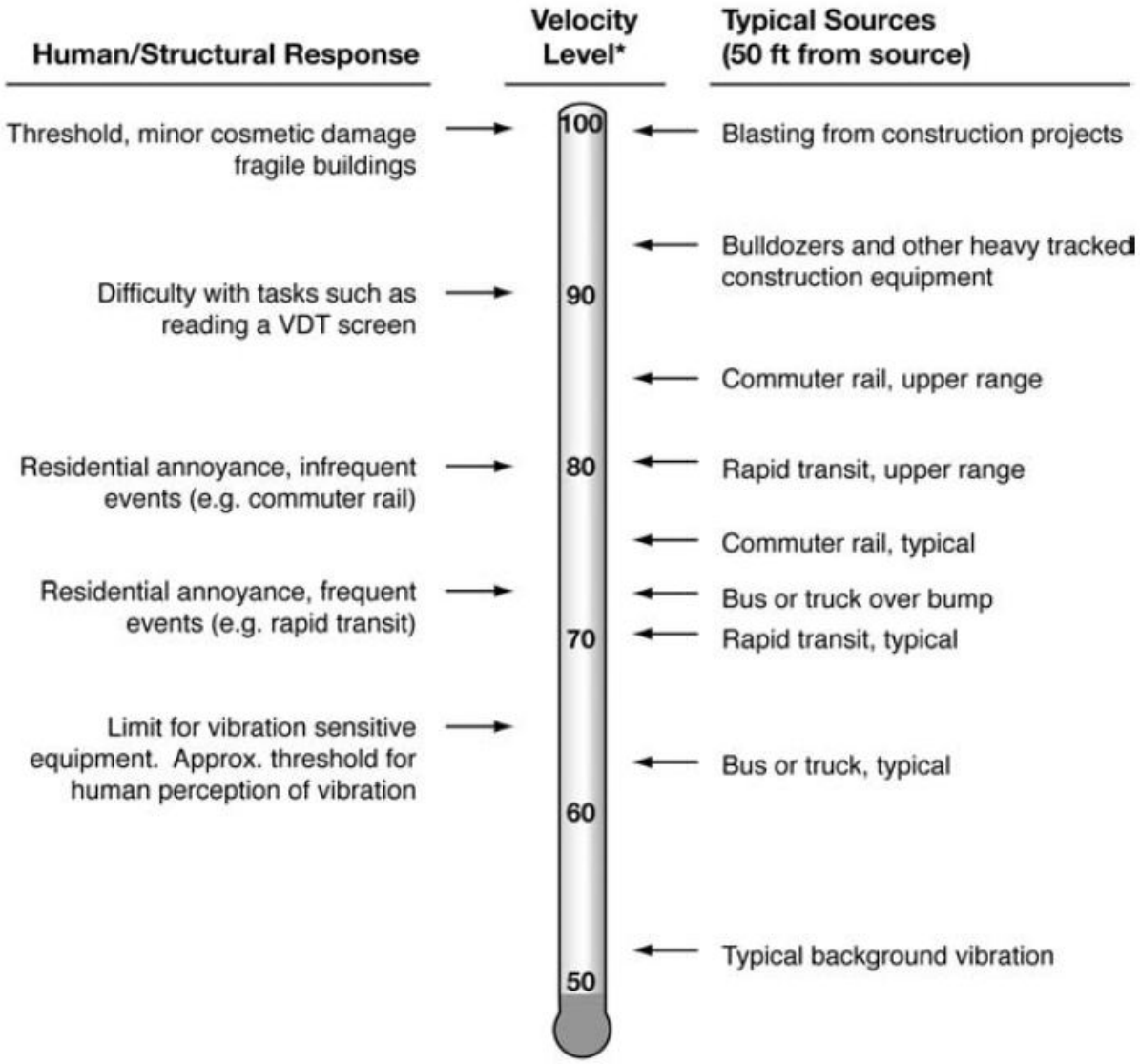
Additionally, in contrast to airborne noise, ground-borne vibration outdoors is not a common environmental problem and annoyance from ground-borne vibration is almost exclusively an indoor phenomenon (11). Therefore, the effects of vibrations should only be evaluated at a structure and the effects of the building structure on the vibration should be considered. Wood-frame buildings, such as typical residential structures, are more easily excited by ground vibration than heavier buildings. In contrast, large masonry buildings with spread footings have a low response to ground vibration (11). In general, the heavier a building is, the lower the response will be to the incident vibration energy. However, all structurers reduce vibration levels due to the coupling of the building to the soil.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal (11). 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 (11). However, the RMS amplitude and PPV are related mathematically, and the RMS amplitude of equipment is typically calculated from the PPV reference level. The RMS amplitude is approximately 70% of the PPV (12). Thus, either can be used in the description of vibration impacts.

While not universally accepted, vibration decibel notation (VdB) is another vibration notation developed and used by the FTA in their guidance manual to describe vibration levels and provide a background of common vibration levels and set vibration limits (13). Decibel notation (VdB) serves to reduce the range of numbers used to describe vibration levels and is used in this report to describe vibration levels.

As stated in the FTA guidance manual, the background vibration-velocity level in residential areas is generally 50 VdB. Ground-borne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground-borne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Exhibit 1-E illustrates common vibration sources and the human and structural response to ground-borne vibration.

EXHIBIT 1-E: TYPICAL LEVELS OF GROUND-BORNE VIBRATION



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

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

1.2.3 EXISTING NOISE CONDITIONS

To assess the existing noise level environment, three 24-hour noise level measurements were taken in the Project area. The receiver locations were selected to describe and document the existing noise environment within the Project study area. Exhibit 1-F provides the boundaries of the Project study area and the noise level measurement location. To fully describe the existing noise conditions, noise level measurement was conducted by Urban Crossroads, Inc. on Thursday, July 27, 2023.

1.2.3.1 NOISE MEASUREMENT LOCATIONS

The long-term noise level measurements were used to assess the existing ambient hourly noise levels in the Project area. 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*. (6) Further, FTA guidance states, t*hat it is not necessary nor recommended that existing noise exposure be determined by measuring at every noise-sensitive location in the project area. Rather, the recommended approach is to characterize the noise environment for clusters of sites based on measurements or estimates at representative locations in the community*. (14)

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. (14) 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.

1.2.3.4 NOISE MEASUREMENT RESULTS

The noise measurement presented below focuses 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 1-1 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 1.1 provides a summary of the existing hourly ambient noise levels.

EXHIBIT 1-F: PROJECT SITE AND NOISE LEVEL MEASUREMENT LOCATION

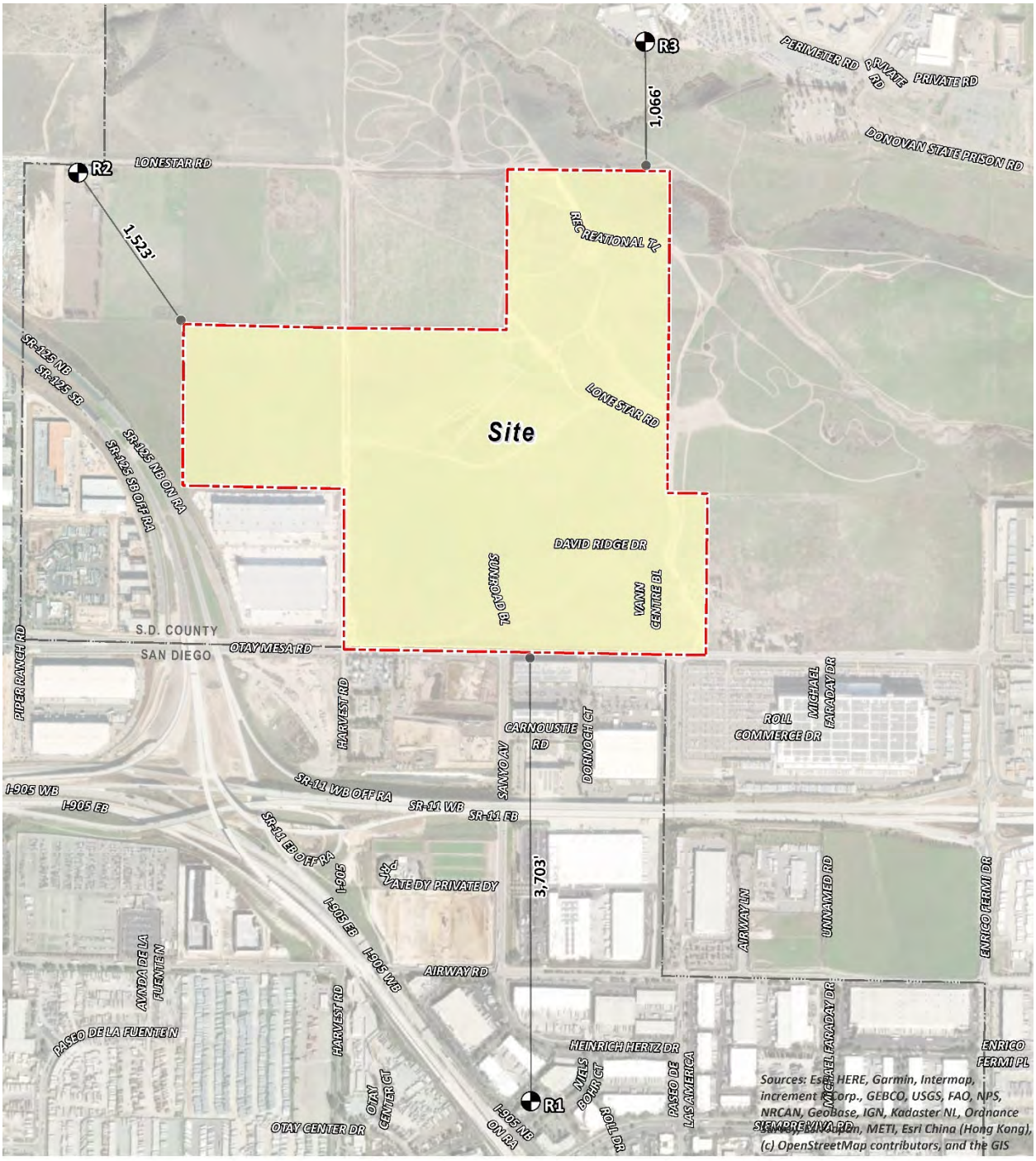


TABLE 1-1: 24-HOUR AMBIENT NOISE LEVEL MEASUREMENTS

Location[1]	Description	Energy Average Noise Level (dBA L_{eq})[2]	
		Daytime	Nighttime
L1	Near Holiday Inn Express & Suites San Diego Otay Mesa, 2296 Niels Bohr Court	63.3	56.9
L2	Near Residence at 8691 Loanstar Road	65.2	52.3
L3	South of Richard J. Donovan Correctional Facility	67.4	47

[1] See Exhibit 1-F 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.

Table 1-1 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 1.1 provides summary worksheets of the noise levels for each hour as well as the minimum, maximum, L_1, L_2, L_5, L_8, L_{25}, L_{50}, L_{90}, L_{95}, and L_{99} percentile noise levels observed during the daytime and nighttime periods. The background ambient noise levels in the Project study area are dominated by the transportation-related noise associated with surface streets in addition to background residential land use activities. This includes the auto and heavy truck activities on study area roadway segments near the noise level measurement locations.

1.3 METHODOLOGY AND EQUIPMENT

1.3.1 NOISE MEASURING METHODOLOGY AND PROCEDURES

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 a Piccolo Type 2 integrating sound level meter and datalogger. 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. (15) During the measurement period, the weather was dry and slightly breezy (>3.5 miles per hour), and the temperature ranged between 72 degrees Fahrenheit (°F) and 76°F.

1.3.2 NOISE MODELING SOFTWARE

To fully describe the exterior operational noise levels from the Project, Urban Crossroads, Inc. developed a noise prediction model using the CadnaA (Computer Aided Noise Abatement) computer program. CadnaA can analyze multiple types of noise sources using the spatially accurate Project site plan, georeferenced Nearmap aerial imagery, topography, buildings, and barriers in its calculations to predict outdoor noise levels.

Using the ISO 9613 protocol, CadnaA calculates the distance from each noise source to the noise receiver locations, using the ground absorption, distance, and barrier/building attenuation inputs to provide a summary of noise level at each receiver and the partial noise level contributions by noise source. Consistent with the ISO 9613 protocol, the CadnaA noise prediction model relies on the reference sound power level (L_w) to describe individual noise sources. Sound power is the acoustical energy emitted by the sound source and is an absolute value that is not affected by the environment. Sound pressure levels (i.e., dBA L_{eq}) vary substantially with distance from the source and diminish because of intervening obstacles and barriers, atmospheric absorption, wind, and other factors.

The operational noise level calculations provided in this noise study account for the distance attenuation provided due to geometric spreading, when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. A default ground attenuation factor of 0.5 was used in the noise analysis to account for mixed ground representing a combination of hard and soft surfaces.

Vehicle traffic noise levels near the Project area were modeled using the FHWA Highway Traffic Noise Model (TNM) algorithms and traffic data provided by the Project traffic report. Existing traffic noise modeling is intended to establish a baseline for existing noise conditions generated from traffic operations adjacent to the project area. The FHWA model is based on reference noise emission factors for automobiles, medium trucks, heavy trucks, motorcycles, and buses with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and ground type. Truck usage and vehicle speeds on study area roadways were estimated from field observations.

1.3.3 NOISE FORMULAS AND CALCULATIONS

TYPICAL CONSTRUCTION REFERENCE NOISE LEVELS

To describe construction noise activities, this construction noise analysis was prepared using reference construction equipment noise levels from the Federal Highway Administration (FHWA) published the Roadway Construction Noise Model (RCNM), which includes a national database of construction equipment reference noise emission levels. (16) The reference construction noise levels used in this analysis are provided in Table 1-2. The RCNM equipment database, provides a comprehensive list of the noise generating characteristics for specific types of construction equipment. In addition, the database provides an acoustical usage factor to estimate the fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation.

TABLE 1-2: TYPICAL CONSTRUCTION REFERENCE NOISE LEVELS

Construction Stage	Reference Construction Activity[1]	Reference Noise Level @ 50 Feet (dBA L_{eq})	Combined Reference Noise Level (dBA L_{eq})
Site Preparation	Crawler Tractors	77	79
	Hauling Trucks	71	
	Rubber Tired Dozers	71	
Grading	Graders	79	79
	Excavators	64	
	Compactors	67	
Building Construction	Cranes	67	74
	Tractors	72	
	Welders	65	
Paving	Pavers	70	74
	Paving Equipment	69	
	Rollers	69	
Architectural Coating	Cranes	67	72
	Air Compressors	67	
	Generator Sets	67	

[1] Update of noise database for prediction of noise on construction and open site expressed in hourly average L_{eq} based on estimated usage factor.

TRAFFIC REFERENCE NOISE LEVELS

Off-site traffic noise level increases were calculated using accepted mathematical correlations between traffic volume changes and noise levels. Stationary source noise levels were calculated and attenuated based on standard equipment reference data and hard site propagation characteristics. Table 1-3 identifies the seventeen off-site study area roadway segments, the distance from the centerline to adjacent land use based on the functional roadway classifications per the County of San Diego General Plan, and the posted vehicle speeds. Consistent with the *Transportation Study for the Majestic Otay Project* prepared by Linscott, Law, and Greenspan, Inc. (17) the off-site traffic noise analysis includes the following traffic scenarios.

- Existing (E)
- Existing Plus Project (EP)
- Existing Plus Cumulative (EC)
- Existing Plus Cumulative with Project Conditions (ECP)

The average daily traffic (ADT) volumes used for this study are presented on Table 1-4. Table 1-5 provides the time of day (daytime, evening, and nighttime) vehicle splits and the vehicle classification mix.

TABLE 1-3: OFF-SITE ROADWAY PARAMETERS

ID	Roadway	Segment	Receiving Land Use[1]	Classification[2]	Centerline Distance to Receiving Land Use (Feet)[3]	Vehicle Speed (mph)
1	La Media Rd	n/o Otay Mesa Rd	Commercial	Prime Arterial	61'	45
2	La Media Rd	s/o Otay Mesa Rd	Commercial	Prime Arterial	61'	45
3	Piper Ranch Rd	n/o Otay Mesa Rd	Commercial	Collector	30'	40
4	Harvest Rd	s/o Otay Mesa Rd	Commercial	Collector	30'	40
5	Sanyo Ave	s/o Otay Mesa Rd	Commercial	Collector	30'	45
6	Vann Cantre Rd	s/o Otay Mesa Rd	Commercial	Collector	30'	40
7	Enrico Fermi Dr	n/o Otay Mesa Rd	Commercial	Major	49'	40
8	Enrico Fermi Dr	s/o Otay Mesa Rd	Commercial	Major	49'	40
9	Otay Mesa Rd	w/o La Media Rd	Commercial	Prime Arterial	61'	40
10	Otay Mesa Rd	w/o Piper Ranch Rd	Commercial	Prime Arterial	61'	40
11	Otay Mesa Rd	w/o SR-125 SB Off Ramp	Commercial	Prime Arterial	61'	40
12	Otay Mesa Rd	w/o SR-125 NB Off Ramp	Commercial	Prime Arterial	61'	40
13	Otay Mesa Rd	w/o Harvest Rd	Commercial	Prime Arterial	61'	40
14	Otay Mesa Rd	w/o Sanyo Ave	Commercial	Prime Arterial	61'	40
15	Otay Mesa Rd	e/o Sanyo Ave	Commercial	Prime Arterial	61'	40
16	Otay Mesa Rd	e/o Vann Cantre Rd	Commercial	Prime Arterial	61'	40
17	Otay Mesa Rd	e/o Enrico Fermi Dr	Commercial	Major	49'	40

[1] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.
[2] City of Fresno General Plan Circulation Element.
[3] Based upon the right-of-way distances for each roadway classification provided in the General Plan Circulation Element.

TABLE 1-4: AVERAGE DAILY TRAFFIC VOLUMES

ID	Roadway	Segment	Average Daily Traffic Volumes[1]			
			Existing		Cumulative	
			Without Project	With Project	With Project	Without Project
1	La Media Rd	n/o Otay Mesa Rd	1,510	1,530	1,600	1,620
2	La Media Rd	s/o Otay Mesa Rd	1,920	2,480	2,030	2,590
3	Piper Ranch Rd	n/o Otay Mesa Rd	3,030	3,070	3,210	3,250
4	Harvest Rd	s/o Otay Mesa Rd	20	20	20	20
5	Sanyo Ave	s/o Otay Mesa Rd	2,290	2,400	2,430	2,540
6	Vann Cantre Rd	s/o Otay Mesa Rd	440	440	460	460
7	Enrico Fermi Dr	n/o Otay Mesa Rd	2,540	2,540	2,690	2,690
8	Enrico Fermi Dr	s/o Otay Mesa Rd	1,600	1,890	1,690	1,980
9	Otay Mesa Rd	w/o La Media Rd	3,380	3,620	3,580	3,820
10	Otay Mesa Rd	w/o Piper Ranch Rd	3,480	4,300	3,690	4,510
11	Otay Mesa Rd	w/o SR-125 SB Off Ramp	3,290	4,150	3,490	4,350
12	Otay Mesa Rd	w/o SR-125 NB Off Ramp	3,750	4,890	3,970	5,110
13	Otay Mesa Rd	w/o Harvest Rd	2,170	3,310	2,300	3,440
14	Otay Mesa Rd	w/o Sanyo Ave	2,300	2,890	2,430	3,020
15	Otay Mesa Rd	e/o Sanyo Ave	2,270	2,780	2,410	2,920
16	Otay Mesa Rd	e/o Vann Cantre Rd	1,580	1,890	1,670	1,980
17	Otay Mesa Rd	e/o Enrico Fermi Dr	4,120	4,140	4,360	4,380

[1] LLG, Inc.

TABLE 1-5: TIME OF DAY VEHICLE DISTRIBUTION AND VEHICLE MIX

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] 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.

Modeling conservatively assumes a ground elevation of 0.0 feet for all sources and 5 feet for all receivers. All receivers were modeled with a clear line-of-sight to all roadways and the model did not account for attenuation from structures.

2 NOISE SENSITIVE LAND USES AFFECTED BY AIRBORNE NOISE

2.1 GUIDELINES FOR THE DETERMINATION OF SIGNIFICANCE

Guidelines for the determination of significance of environmental noise impacts for this and other impact sections were promulgated by the County in January 2009 in the County's Noise Guidelines (4).

A proposed project would result in a significant impact if the implementation would result in the exposure of any on-site or off-site existing or reasonably foreseeable future NSLUs to exterior or interior noise (including noise generated from a project, together with noise from roads, railroads, airports, heliports, and all other noise sources) in excess of any of the following:

A. Exterior Locations:

i. 60 dB (CNEL); or

ii. An increase of 10 dB CNEL over preexisting noise.

In the case of single-family residential detached NSLUs, exterior noise shall be measured at an outdoor living area that adjoins and is on the same lot as the dwelling, and that contains at least the following minimum area:

(1) Net lot area up to 4,000 square feet: 400 square feet

(2) Net lot area 4,000 square feet to 10 acres: 10% of net lot area

(3) Net lot area over 10 acres: 1 acre

For all projects, exterior noise shall be measured at all exterior areas provided for group or private usable open space.

B. Interior Locations:

45 dB (CNEL) except for the following cases:

i. Rooms which are usually occupied only a part of the day (schools, libraries, or similar facilities), the interior 1 hour average sound level due to noise outside should not exceed 50 decibels (A).

ii. Corridors, hallways, stairwells, closets, bathrooms, or any room with a volume less than 490 cubic feet.

COUNTY GENERAL PLAN

The General Plan Update (GPU) was adopted by the County on August 3, 2011. Revisions to the General Plan Noise Element have not been updated in the Guidelines at this time; however, the new GPU noise compatibility guidelines and standards as contained in the GPU are applicable to the Project. Table 2-1 provides County's current noise compatibility guidelines and Table 2-2 provides the County's noise standards.

TABLE 2-1: NOISE COMPATIBILITY GUIDELINES

	Land Use Category	Exterior Noise Levels					
		55	60	65	70	75	80
A	Residential—single family residences, mobile homes, senior housing, convalescent homes						
B	Residential—multi-family residences, mixed-use (commercial/residential)						
C	Transient lodging—motels, hotels, resorts						
D	Schools, churches, hospitals, nursing homes, childcare facilities						
E	Passive recreational parks, nature preserves, contemplative spaces, cemeteries						
F	Active parks, golf courses, athletic fields, outdoor spectator sports, water recreation						
G	Office\professional, government, medical\dental, commercial, retail, laboratories						
H	Industrial, manufacturing, utilities, agriculture, mining, stables, ranching, warehouse, maintenance/repair						
	ACCEPTABLE—Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal construction, without any special noise insulation requirements.						
	CONDITIONALLY ACCEPTABLE—New construction or development should be undertaken only after a detailed noise analysis is conducted to determine if noise reduction measures are necessary to achieve acceptable levels for land use. Criteria for determining exterior and interior noise levels are listed in Table 8, Noise Standards. If a project cannot mitigate noise to a level deemed Acceptable, the appropriate county decision-maker must determine that mitigation has been provided to the greatest extent practicable or that extraordinary circumstances exist.						
	UNACCEPTABLE—New construction or development shall not be undertaken.						

* Denotes facilities used for part of the day; therefore, an hourly standard would be used rather than CNEL, refer to Table 8.

TABLE 2-2: NOISE STANDARDS

1	The exterior noise level (as defined in Item 3) standard for Category A shall be 60 CNEL, and the interior noise level standard for indoor habitable rooms shall be 45 CNEL.
2	The exterior noise level standard for Categories B and C shall be 65 CNEL, and the interior noise level standard for indoor habitable rooms shall be 45 CNEL.
3	The exterior noise level standard for Categories D and G shall be 65 CNEL and the interior noise level standard shall be 50 dBA Leq (one hour average).
4	For single-family detached dwelling units, "exterior noise level" is defined as the noise level measured at an outdoor living area which adjoins and is on the same lot as the dwelling, and which contains at least the following minimum net lot area: (i) for lots less than 4,000 square feet in area, the exterior area shall include 400 (ii) square feet, (iii) for lots between 4,000 square feet to 10 acres in area, the exterior area shall include 10 percent of the lot area; for lots over 10 acres in area, the exterior area shall include 1 acre.
5	For all other residential land uses, "exterior noise level" is defined as noise measured at exterior areas which are provided for private or group usable open space purposes. "Private Usable Open Space" is defined as usable open space intended for use of occupants of one dwelling unit, normally including yards, decks, and balconies. When the noise limit for Private Usable Open Space cannot be met, then a Group Usable Open Space that meets the exterior noise level standard shall be provided. "Group Usable Open Space" is defined as usable open space intended for common use by occupants of a development, either privately owned and maintained or dedicated to a public agency, normally including swimming pools, recreation courts, patios, open landscaped areas, and greenbelts with pedestrian walkways and equestrian and bicycle trails, but not including off-street parking and loading areas or driveways.
6	For non-residential noise sensitive land uses, exterior noise level is defined as noise measured at the exterior area provided for public use.
7	For noise sensitive land uses where people normally do not sleep at night, the exterior and interior noise standard may be measured using either CNEL or the one-hour average noise level determined at the loudest hour during the period when the facility is normally occupied.
8	The exterior noise standard does not apply for land uses where no exterior use area is proposed or necessary, such as a library.
9	For Categories E and F the exterior noise level standard shall not exceed the limit defined as "Acceptable" in Table N-1 or an equivalent one-hour noise standard.

NOTE: Exterior Noise Level compatibility guidelines for Land Use Categories A-H are identified in Table 2-1, Noise Compatibility Guidelines.

2.2 POTENTIAL NOISE IMPACTS

The closest airport is a public airport, the Brown Field Municipal Airport, located approximately 0.75 miles west of the Project site. The western portion of the Project site is located within the 60 dBA CNEL noise level contour. However, the Project is an industrial development, which according to the Brown Field Municipal Airport, Airport Land Use Compatibility Plan indicates the Project would be considered compatible the noise levels up to 70 dBA CNEL. Additionally, the Project does not include any on-site NSLU. Therefore, the Project site is would not expose NSLU to airport noise and the Project is considered compatible with airport noise levels, thus the issue is not further addressed.

2.3 OFF-SITE DIRECT AND CUMULATIVE NOISE IMPACTS

The Project would increase traffic volumes on local roadways. Noise level increases would be greatest nearest the Project site, which would represent the greatest concentration of Project-related traffic. Traffic noise is primarily a function of volume, vehicle mix, speed, and proximity. For purposes of this evaluation, the vehicle mix, speed, and proximity are assumed to remain constant in the future. Thus, the primary factor affecting noise levels would be increased traffic volumes.

Impacts were determined by comparing existing average daily traffic volumes with the existing condition plus the Project at full build-out and the Cumulative Condition with and without the Project.

2.3.1 DIRECT NOISE IMPACTS

Noise level contours were used to assess the Project's incremental traffic-related noise impacts at land uses adjacent to roadways conveying Project traffic. The noise level 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 level contours do not consider the effect of any existing noise barriers or topography that may attenuate ambient noise levels. In addition, because the noise level 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 2-3 to 2-6 present a summary of the exterior traffic noise levels and noise level contour distances for each traffic condition. Appendix 2.1 includes the traffic noise level contours worksheets for each traffic condition.

TABLE 2-3: EXISTING NOISE LEVEL CONTOURS

ID	Road	Segment	CNEL at Nearest Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	La Media Rd	n/o Otay Mesa Rd	57.5	RW	RW	RW
2	La Media Rd	s/o Otay Mesa Rd	58.6	RW	RW	RW
3	Piper Ranch Rd	n/o Otay Mesa Rd	63.4	RW	RW	51
4	Harvest Rd	s/o Otay Mesa Rd	41.6	RW	RW	RW
5	Sanyo Ave	s/o Otay Mesa Rd	63.5	RW	RW	51
6	Vann Cantre Rd	s/o Otay Mesa Rd	55.0	RW	RW	RW
7	Enrico Fermi Dr	n/o Otay Mesa Rd	59.9	RW	RW	RW
8	Enrico Fermi Dr	s/o Otay Mesa Rd	57.9	RW	RW	RW
9	Otay Mesa Rd	w/o La Media Rd	59.8	RW	RW	RW
10	Otay Mesa Rd	w/o Piper Ranch Rd	59.9	RW	RW	RW
11	Otay Mesa Rd	w/o SR-125 SB Off Ramp	59.7	RW	RW	RW
12	Otay Mesa Rd	w/o SR-125 NB Off Ramp	60.2	RW	RW	63
13	Otay Mesa Rd	w/o Harvest Rd	57.8	RW	RW	RW
14	Otay Mesa Rd	w/o Sanyo Ave	58.1	RW	RW	RW
15	Otay Mesa Rd	e/o Sanyo Ave	58	RW	RW	RW
16	Otay Mesa Rd	e/o Vann Cantre Rd	56.5	RW	RW	RW
17	Otay Mesa Rd	e/o Enrico Fermi Dr	62	RW	RW	66

[1] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.
"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 2-4: EXISTING PLUS PROJECT NOISE LEVEL CONTOURS

ID	Road	Segment	CNEL at Nearest Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	La Media Rd	n/o Otay Mesa Rd	57.8	RW	RW	RW
2	La Media Rd	s/o Otay Mesa Rd	58.8	RW	RW	RW
3	Piper Ranch Rd	n/o Otay Mesa Rd	63.7	RW	RW	53
4	Harvest Rd	s/o Otay Mesa Rd	41.6	RW	RW	RW
5	Sanyo Ave	s/o Otay Mesa Rd	63.7	RW	RW	53
6	Vann Cantre Rd	s/o Otay Mesa Rd	55.2	RW	RW	RW
7	Enrico Fermi Dr	n/o Otay Mesa Rd	60.1	RW	RW	50
8	Enrico Fermi Dr	s/o Otay Mesa Rd	58.1	RW	RW	RW
9	Otay Mesa Rd	w/o La Media Rd	60.0	RW	RW	61
10	Otay Mesa Rd	w/o Piper Ranch Rd	60.2	RW	RW	62
11	Otay Mesa Rd	w/o SR-125 SB Off Ramp	59.9	RW	RW	RW
12	Otay Mesa Rd	w/o SR-125 NB Off Ramp	60.5	RW	RW	66
13	Otay Mesa Rd	w/o Harvest Rd	58.1	RW	RW	RW
14	Otay Mesa Rd	w/o Sanyo Ave	58.3	RW	RW	RW
15	Otay Mesa Rd	e/o Sanyo Ave	58.3	RW	RW	RW
16	Otay Mesa Rd	e/o Vann Cantre Rd	56.7	RW	RW	RW
17	Otay Mesa Rd	e/o Enrico Fermi Dr	62.2	RW	RW	69

[1] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.
"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 2-5: EXISTING PLUS CUMULATIVE NOISE LEVEL CONTOURS

ID	Road	Segment	CNEL at Nearest Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	La Media Rd	n/o Otay Mesa Rd	57.6	RW	RW	RW
2	La Media Rd	s/o Otay Mesa Rd	59.7	RW	RW	RW
3	Piper Ranch Rd	n/o Otay Mesa Rd	63.5	RW	RW	51
4	Harvest Rd	s/o Otay Mesa Rd	41.6	RW	RW	RW
5	Sanyo Ave	s/o Otay Mesa Rd	63.7	RW	RW	53
6	Vann Cantre Rd	s/o Otay Mesa Rd	55.0	RW	RW	RW
7	Enrico Fermi Dr	n/o Otay Mesa Rd	59.9	RW	RW	RW
8	Enrico Fermi Dr	s/o Otay Mesa Rd	58.6	RW	RW	RW
9	Otay Mesa Rd	w/o La Media Rd	60.1	RW	RW	62
10	Otay Mesa Rd	w/o Piper Ranch Rd	60.8	RW	RW	69
11	Otay Mesa Rd	w/o SR-125 SB Off Ramp	60.7	RW	RW	68
12	Otay Mesa Rd	w/o SR-125 NB Off Ramp	61.4	RW	RW	75
13	Otay Mesa Rd	w/o Harvest Rd	59.7	RW	RW	RW
14	Otay Mesa Rd	w/o Sanyo Ave	59.1	RW	RW	RW
15	Otay Mesa Rd	e/o Sanyo Ave	58.9	RW	RW	RW
16	Otay Mesa Rd	e/o Vann Cantre Rd	57.2	RW	RW	RW
17	Otay Mesa Rd	e/o Enrico Fermi Dr	62.0	RW	RW	67

[1] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.
"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 2-6: EXISTING PLUS CUMULATIVE PLUS PROJECT NOISE LEVEL CONTOURS

ID	Road	Segment	CNEL at Nearest Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	La Media Rd	n/o Otay Mesa Rd	57.8	RW	RW	RW
2	La Media Rd	s/o Otay Mesa Rd	59.9	RW	RW	RW
3	Piper Ranch Rd	n/o Otay Mesa Rd	63.7	RW	RW	53
4	Harvest Rd	s/o Otay Mesa Rd	41.6	RW	RW	RW
5	Sanyo Ave	s/o Otay Mesa Rd	63.9	RW	RW	55
6	Vann Cantre Rd	s/o Otay Mesa Rd	55.2	RW	RW	RW
7	Enrico Fermi Dr	n/o Otay Mesa Rd	60.1	RW	RW	50
8	Enrico Fermi Dr	s/o Otay Mesa Rd	58.8	RW	RW	RW
9	Otay Mesa Rd	w/o La Media Rd	60.3	RW	RW	64
10	Otay Mesa Rd	w/o Piper Ranch Rd	61.0	RW	RW	71
11	Otay Mesa Rd	w/o SR-125 SB Off Ramp	60.9	RW	RW	70
12	Otay Mesa Rd	w/o SR-125 NB Off Ramp	61.6	RW	RW	78
13	Otay Mesa Rd	w/o Harvest Rd	59.8	RW	RW	RW
14	Otay Mesa Rd	w/o Sanyo Ave	59.3	RW	RW	RW
15	Otay Mesa Rd	e/o Sanyo Ave	59.1	RW	RW	RW
16	Otay Mesa Rd	e/o Vann Cantre Rd	57.4	RW	RW	RW
17	Otay Mesa Rd	e/o Enrico Fermi Dr	62.2	RW	RW	69

[1] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.
"RW" = Location of the respective noise contour falls within the right-of-way of the road.

2.3.2 EXISTING PLUS PROJECT TRAFFIC NOISE LEVEL INCREASES

An analysis of existing traffic noise levels plus traffic noise generated by the proposed Project has been included in this report to fully analyze all the existing traffic scenarios identified in the *Transportation Study for the Majestic Otay Project* (17). This condition is provided solely for informational purposes and will not occur, since the Project will not be fully developed and occupied under existing conditions. Table 2-4 shows the Existing conditions CNEL noise levels. The Existing exterior noise levels are expected to range from 41.6 to 63.5 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 2-5 shows the Existing Plus Project conditions will range from 41.6 to 73.7 dBA CNEL. Table 2-7 shows that the Project off-site traffic noise level impacts will range from less than 0.1 to 1.9 CNEL. Based on the significance criteria for off-site traffic noise, land uses adjacent to the study area roadway segments would experience *less than significant* noise level increases on receiving land uses due to the Project-related traffic.

2.3.3 EXISTING PLUS CUMULATIVE PLUS PROJECT TRAFFIC NOISE LEVEL INCREASES

Table 2-4 presents the Existing Plus Cumulative condition CNEL noise levels. The EC exterior noise levels are expected to range from 41.6 to 63.7 CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 2-6 shows the ECP conditions will range from 43.6 to 63.9 CNEL. Table 2-8 shows that the Project off-site traffic noise level increases will range from less than 0.1 to 1.7 CNEL. Based on the significance criteria for off-site traffic noise, land uses adjacent to the study area roadway segments would experience *less than significant* noise level increases on receiving land uses due to the Project-related traffic.

2.3.4 DESIGN CONSIDERATIONS AND TEMPORARY MITIGATION MEASURES

As identified in the preceding analysis, traffic-related noise level increases would not exceed County standards or result in a substantial increase in ambient noise levels without mitigation. Therefore, no traffic noise impacts are anticipated, and no mitigation measures are required.

TABLE 2-7: EXISTING PLUS PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[1]			Incremental Noise Level Increase Threshold	
			E	E+P	Increase	Limit (dBA)	Exceeded?
1	La Media Rd	n/o Otay Mesa Rd	57.5	57.6	0.1	10	No
2	La Media Rd	s/o Otay Mesa Rd	58.6	59.7	1.1	10	No
3	Piper Ranch Rd	n/o Otay Mesa Rd	63.4	63.5	0.1	3	No
4	Harvest Rd	s/o Otay Mesa Rd	41.6	41.6	0.0	10	No
5	Sanyo Ave	s/o Otay Mesa Rd	63.5	63.7	0.2	3	No
6	Vann Cantre Rd	s/o Otay Mesa Rd	55.0	55.0	0.0	10	No
7	Enrico Fermi Dr	n/o Otay Mesa Rd	59.9	59.9	0.0	10	No
8	Enrico Fermi Dr	s/o Otay Mesa Rd	57.9	58.6	0.7	10	No
9	Otay Mesa Rd	w/o La Media Rd	59.8	60.1	0.3	3	No
10	Otay Mesa Rd	w/o Piper Ranch Rd	59.9	60.8	0.9	3	No
11	Otay Mesa Rd	w/o SR-125 SB Off Ramp	59.7	60.7	1.0	3	No
12	Otay Mesa Rd	w/o SR-125 NB Off Ramp	60.2	61.4	1.2	3	No
13	Otay Mesa Rd	w/o Harvest Rd	57.8	59.7	1.9	10	No
14	Otay Mesa Rd	w/o Sanyo Ave	58.1	59.1	1.0	10	No
15	Otay Mesa Rd	e/o Sanyo Ave	58.0	58.9	0.9	10	No
16	Otay Mesa Rd	e/o Vann Cantre Rd	56.5	57.2	0.7	10	No
17	Otay Mesa Rd	e/o Enrico Fermi Dr	62.0	62.0	0.0	3	No

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.
[2] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

TABLE 2-8: CUMULATIVE WITH PROJECT TRAFFIC NOISE INCREASES

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[1]			Incremental Noise Level Increase Threshold	
			OY	OY+P	Increase	Limit (dBA)	Exceeded?
1	La Media Rd	n/o Otay Mesa Rd	57.8	57.8	0.0	10	No
2	La Media Rd	s/o Otay Mesa Rd	58.8	59.9	1.1	10	No
3	Piper Ranch Rd	n/o Otay Mesa Rd	63.7	63.7	0.0	3	No
4	Harvest Rd	s/o Otay Mesa Rd	41.6	41.6	0.0	10	No
5	Sanyo Ave	s/o Otay Mesa Rd	63.7	63.9	0.2	3	No
6	Vann Cantre Rd	s/o Otay Mesa Rd	55.2	55.2	0.0	10	No
7	Enrico Fermi Dr	n/o Otay Mesa Rd	60.1	60.1	0.0	3	No
8	Enrico Fermi Dr	s/o Otay Mesa Rd	58.1	58.8	0.7	10	No
9	Otay Mesa Rd	w/o La Media Rd	60.0	60.3	0.3	3	No
10	Otay Mesa Rd	w/o Piper Ranch Rd	60.2	61.0	0.8	3	No
11	Otay Mesa Rd	w/o SR-125 SB Off Ramp	59.9	60.9	1.0	3	No
12	Otay Mesa Rd	w/o SR-125 NB Off Ramp	60.5	61.6	1.1	3	No
13	Otay Mesa Rd	w/o Harvest Rd	58.1	59.8	1.7	10	No
14	Otay Mesa Rd	w/o Sanyo Ave	58.3	59.3	1.0	10	No
15	Otay Mesa Rd	e/o Sanyo Ave	58.3	59.1	0.8	10	No
16	Otay Mesa Rd	e/o Vann Cantre Rd	56.7	57.4	0.7	10	No
17	Otay Mesa Rd	e/o Enrico Fermi Dr	62.2	62.2	0.0	3	No

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.
[2] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

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3.0 PROJECT-GENERATED AIRBORNE NOISE

3.1 GUIDELINES FOR THE DETERMINATION OF SIGNIFICANCE

The County Noise Ordinance, Section 36.404, sets limits on the noise levels generated from one property to another, such as from mechanical equipment. Unless a variance has been applied for by an applicant and granted by the County, it is unlawful for a person to cause or allow noise generated on a particular property to exceed the 1-hour average sound level, at any point on or beyond the boundaries of the property, as shown in Table 3-1.

Section 36.409 states:

Except for emergency work, it shall be unlawful for any person to operate construction equipment or cause the construction equipment to be operated, exceeding an average sound level of 75 dBA for an 8-hour period, between 7 a.m. and 7 p.m., when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is being received.

Section 36.410 states:

In addition to the general limitations on sound levels in Section 36.404 and the limitations on construction equipment in Section 36.409, the following additional sound level limitations shall apply:

(a) Except for emergency work or work on a public road project, no person shall produce or cause to be produced an impulsive noise that exceeds the maximum sound level shown in Table 15, when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is received, for 25 percent of the minutes in the measurement period, as described in subsection (c) below. The maximum sound level depends on the use being made of the occupied property. The uses in Table 3-2 are as described in the County Zoning Ordinance.

(b) Except for emergency work, no person working on a public road project shall produce or cause to be produced an impulsive noise that exceeds the maximum sound level shown in Table 16, when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is received, for 25 percent of the minutes in the measurement period, as described in subsection (c) below. The maximum sound level depends on the use being made of the occupied property. The uses in Table 3-3 are as described in the County Zoning Ordinance.

TABLE 3-1: COUNTY OF SAN DIEGO NOISE ORDINANCE SOUND LEVEL LIMITS

Zone	Applicable Hours	Sound Level Limit dBA L_{eq} (1 hour)
(1) RS, RD, RR, RMH, A70, A72, S80, S81, S90, S92, RV, and RU with a General Plan Land Use Designation density of less than 10.9 dwelling units per acre.	7 a.m. to 10 p.m.	50
	10 p.m. to 7 a.m.	45
(2) RRO, RC, RM, S86, V5, RV and RU with a General Plan Land Use Designation density of 10.9 or more dwelling units per acre.	7 a.m. to 10 p.m.	55
	10 p.m. to 7 a.m.	50
(3) S-94, V4 and all other commercial zones.	7 a.m. to 10 p.m.	60
	10 p.m. to 7 a.m.	55
(4) V1, V2	7 a.m. to 10 p.m.	55
V1	10 p.m. to 7 a.m.	55
V2	10 p.m. to 7 a.m.	50
V3	7 a.m. to 10 p.m.	70
	10 p.m. to 7 a.m.	65
(5) M-50, M-52, and M-54	Anytime	70
(6) S82, M56 and M58	Anytime	75
(7) S88 (see subsection (c) below)		

Source: County of San Diego Noise Ordinance, Section 36.404

Notes:

(a) Except as provided in section 36.409 of this chapter, it shall be unlawful for any person to cause or allow the creation of any noise, which exceeds the one-hour average sound level limits in Table 36.404, when the one-hour average sound level is measured at the property line of the property on which the noise is produced or at any location on a property that is receiving the noise.

(b) Where a noise study has been conducted and the noise mitigation measures recommended by that study have been made conditions of approval of a Major Use Permit, which authorizes the noise-generating use or activity and the decision making body approving the Major Use Permit determined that those mitigation measures reduce potential noise impacts to a level below significance, implementation and compliance with those noise mitigation measures shall constitute compliance with subsection (a) above.

(c) S88 zones are Specific Planning Areas which allow for different uses. The sound level limits in Table 14 above that apply in an S88 zone depend on the use being made of the property. The limits in Table 14, subsection (1) apply to property with a residential, agricultural, or civic use. The limits in subsection (3) apply to property with a commercial use. The limits in subsection (5) apply to property with an industrial use that would only be allowed in an M50, M52 or M54 zone. The limits in subsection (6) apply to all property with an extractive use or a use that would only be allowed in an M56 or M58 zone.

(d) If the measured ambient noise level exceeds the applicable limit in Table 36.404, the allowable one-hour average sound level shall be the one-hour average ambient noise level, plus three decibels. The ambient noise level shall be measured when the alleged noise violation source is not operating.

(e) The sound level limit at a location on a boundary between two zones is the arithmetic mean of the respective limits for the two zones. The one-hour average sound level limit applicable to extractive industries, however, including but not limited to borrow pits and mines, shall be 75 decibels at the property line regardless of the zone in which the extractive industry is located.

(f)A fixed-location public utility distribution or transmission facility located on or adjacent to a property line shall be subject to the sound level limits of this section, measured at or beyond 6 feet from the boundary of the easement upon which the facility is located.

TABLE 3-2: COUNTY OF SAN DIEGO CODE SECTION 36.410, MAXIMUM SOUND LEVEL (IMPULSIVE) MEASURED AT OCCUPIED PROPERTY IN DECIBELS

Occupied Property Use	Decibels (dBA)
Residential, village zoning or civic use	82
Agricultural, commercial, or industrial use	85

TABLE 3-3: COUNTY OF SAN DIEGO CODE SECTION 36.410, MAXIMUM SOUND LEVEL (IMPULSIVE) MEASURED AT OCCUPIED PROPERTY IN DECIBELS FOR PUBLIC ROAD PROJECTS

Occupied Property Use	Decibels (dBA)
Residential, village zoning or civic use	85
Agricultural, commercial, or industrial use	90

(c) The minimum measurement period for any measurements conducted under this section shall be 1 hour. During the measurement period a measurement shall be conducted every minute from a fixed location on an occupied property. The measurements shall measure the maximum sound level during each minute of the measurement period. If the sound level caused by construction equipment or the producer of the impulsive noise exceeds the maximum sound level for any portion of any minute, it will be deemed that the maximum sound level was exceeded during that minute.

The Project would also result in a significant impact if it would result in a substantial permanent increase in ambient noise levels in the vicinity. A substantial noise increase is defined as an increase of 10 CNEL above existing conditions as stated in the County of San Diego Noise Report Guidelines Section 4.1-A (ii).

3.2 POTENTIAL OPERATIONAL NOISE IMPACTS (NON-CONSTRUCTION NOISE)

3.2.1 POTENTIAL BUILD-OUT NOISE CONDITIONS WITHOUT MITIGATION

This section analyzes the potential stationary-source operational noise impacts at the nearest receiver locations resulting from the operation of the proposed Project.

This operational noise analysis is intended to describe noise level impacts associated with the expected typical of daytime, and nighttime activities at the Project site. To present the potential worst-case noise conditions, this analysis assumes the Project would be operational 24 hours per day, seven days per week. The on-site Project-related noise sources are expected to include roof-top heating, ventilation, and air conditioning units, parking lot activity, trash enclosure activity, loading dock activities, and on-site truck and gate movements.

ROOF-TOP AIR CONDITIONING UNITS

To assess the noise levels created by the roof-top air conditioning units, reference noise levels were taken from equipment specifications for a commercial 10-ton roof-top packaged air conditioning unit (Trane YHD180G3RLD), which generates a sound power level of 92.0 dBA L_w.

Fourteen points representing 140 tons of cooling were modeled for the on-site land uses. For this noise analysis, the air conditioning units are expected to be located on the roof of the proposed buildings. The roof-top air conditioning units are anticipated to be located 3 feet above the roof. At a uniform reference distance of 50 feet, the air conditioning units would generate a reference noise level of 60.4 dBA L_{eq}.

While operating at full power air conditioners would operate approximately 15-30 minutes out of an hour in multiple cycles during the nighttime as compared to the daytime where the units would typically operate 20-45 minutes in multiple cycles. To be conservative, it was assumed the air conditioners would operate 45 minutes during the daytime and 30 minutes at night. This is equivalent to the air conditioning units operating at full capacity. However, for this analysis, the roof-top air conditioning units were conservatively modeled as operating 60 minutes per hour during the daytime and nighttime.

PARKING LOT ACTIVITY

To determine the noise levels associated with parking lots and fueling stations, Urban Crossroads collected reference noise level measurements over a 24-hour period on May 17th, 2017, at the parking lot for the Panasonic Avionics Corporation in the City of Lake Forest. The peak hour of activity measured over the 24-hour noise level measurement period occurred between 12:00 p.m. to 1:00 p.m., or the typical lunch hour for employees working in the area. The measured reference noise level at 68 feet from the center of the parking lot vehicle movements was measured at 44.7 dBA L_{eq}. The parking lot noise levels are mainly due to cars pulling in and out of spaces during peak lunch hour activity and employees talking. Noise associated with parking lot vehicle movements is expected to operate for the entire hour (60 minutes).

TRASH ENCLOSURE ACTIVITY

To describe the noise levels associated with a trash enclosure activity, Urban Crossroads, Inc. collected a reference noise level measurement at an existing trash enclosure containing two dumpster bins. The trash enclosure noise levels describe metal gates opening and closing, metal scraping against concrete floor sounds, dumpster movement on metal wheels, and trash dropping into the metal dumpster. The reference noise levels describe trash enclosure noise activities when trash is dropped into an empty metal dumpster, as would occur at the Project site. The measured reference noise level at the uniform 50-foot reference distance is 57.4 dBA L_{eq} for the trash enclosure activity. The reference noise level describes the expected noise source activities associated with the trash enclosures for the Project's proposed building.

LOADING DOCK ACTIVITIES

The reference loading dock activities are intended to describe the typical outdoor operational noise activities associated with the Project. This includes truck idling, reefer activity (refrigerator truck/cold storage), deliveries, backup alarms, trailer docking including a combination of tractor trailer semi-trucks, two-axle delivery trucks, and background operation activities. Since the noise levels generated by cold storage loading dock activity can be slightly higher due to the use of refrigerated trucks or reefers this analysis conservatively assumes that all loading dock activity is

associated with cold storage facilities. The reference noise level measurement was taken in the center of the loading dock activity area and represents multiple concurrent noise sources resulting in a combined noise level of 79.9 dBA L_{eq} at a uniform distance of 50 feet. Specifically, the reference noise level measurement represents one truck located approximately 30 feet from the noise level meter with another truck passing by to park roughly 20 feet away, both with their engines idling. Throughout the reference noise level measurement, a separate docked and running reefer truck was located approximately 50 feet east of the measurement location. Additional background noise sources included truck pass-by noise, truck drivers talking to each other next to docked trucks, and air brake release noise when trucks parked.

TRUCK AND GATE MOVEMENTS

The truck movements reference noise level measurement was collected over a period of 1 hour and 28 minutes and represents multiple heavy trucks entering and exiting at the gate of an outdoor loading dock area producing a reference noise level of 59.8 dBA L_{eq} at 50 feet. The noise sources included at this measurement location account for trucks entering and existing the Project driveways and maneuvering in and out of the outdoor loading dock activity area.

3.2.2 REFERENCE NOISE LEVELS

To estimate the 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. While sound pressure levels (e.g., L_{eq}) quantify in decibels the intensity of given sound sources at a reference distance, sound power levels (L_w) are connected to the sound source and are independent of distance. Sound pressure levels vary substantially with distance from the source and diminish because of intervening obstacles and barriers, air absorption, wind, and other factors. Sound power is the acoustical energy emitted by the sound source and is an absolute value that is not affected by the environment. The reference project operational noise levels are based on the Project related noise sources shown on Exhibit 3-A. The reference Project operational sound power levels are summarized in Table 3-4.

TABLE 3-4: OPERATIONAL REFERENCE NOISE LEVELS

Noise Source[1]	Noise Source Height (Feet)	Min./Hour[2]		Reference Noise Level (dBA L_{eq}) @ 50 Feet	Sound Power Level (dBA)[3]
		Day	Night		
Roof-Top Air Conditioning Units	5'	38	29	57.3	88.9
Parking Lot Vehicle Movements	5'	60	60	42.7	74.3
Trash Enclosure Activity	8'	10	10	57.4	89.0
Loading Dock Activity	5'	60	60	72.1	103.7

[1] As measured by Urban Crossroads, Inc.
[2] Anticipated duration (minutes within the hour) of noise activity during typical hourly conditions expected at the Project site.
[3] Sound power level represents the total amount of acoustical energy (noise level) produced by a sound source independent of distance or surroundings. Sound power levels calculated using the CadnaA noise model at the reference distance to the noise source. Numbers may vary due to size differences between point and area noise sources.
"Daytime" = 7:00 a.m. - 10:00 p.m.; "Nighttime" = 10:00 p.m. - 7:00 a.m.

3.2.3 CADNAA NOISE PREDICTION MODEL

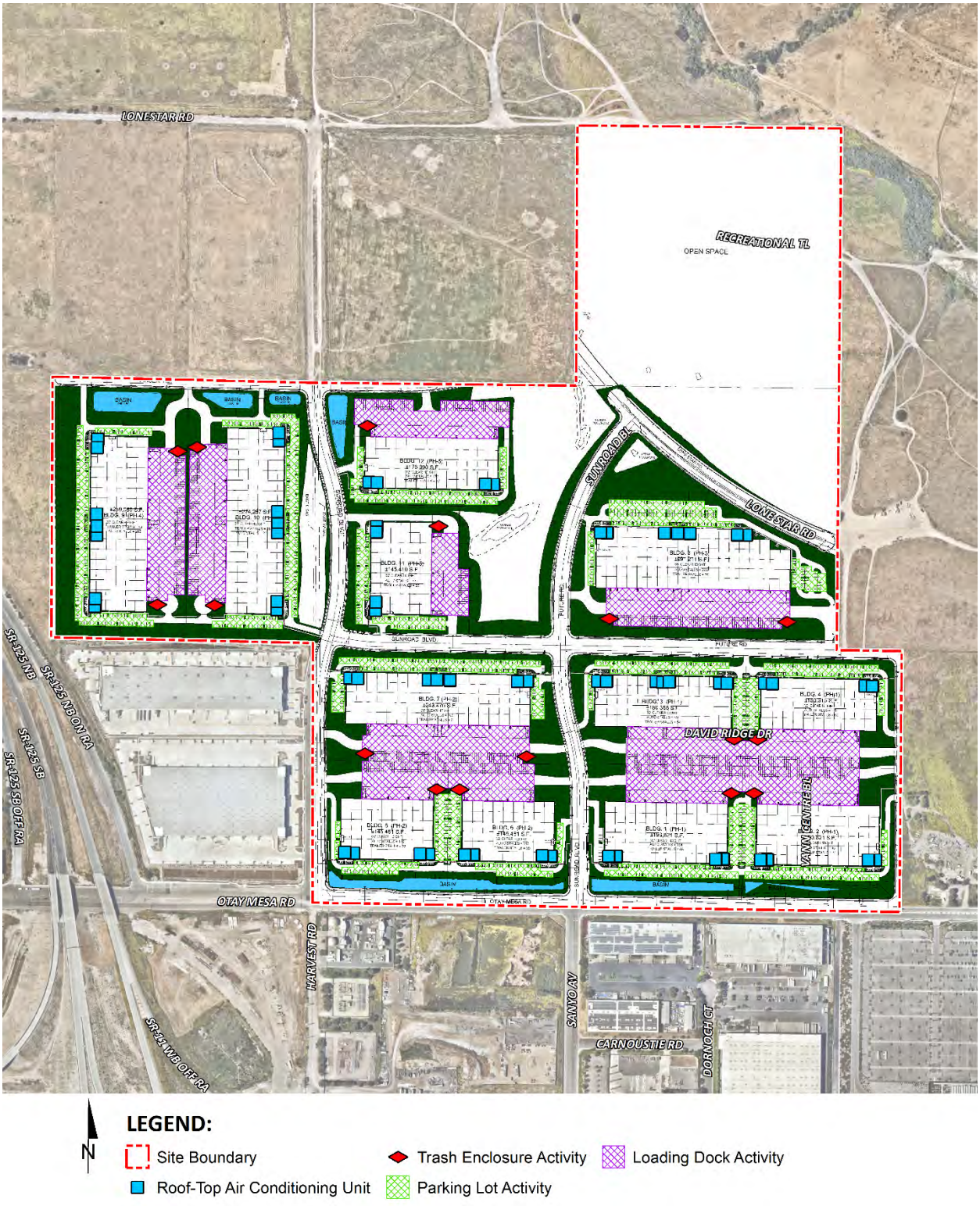
To fully describe the exterior operational noise levels from the Project, Urban Crossroads, Inc. developed a noise prediction model using the CadnaA (Computer Aided Noise Abatement) computer program. CadnaA can analyze multiple types of noise sources using the spatially accurate Project site plan, georeferenced Nearmap aerial imagery, topography, buildings, and barriers in its calculations to predict outdoor noise levels.

Using the ISO 9613 protocol, CadnaA will calculate the distance from each noise source to the noise receiver locations, using the ground absorption, distance, and barrier/building attenuation inputs to provide a summary of noise level at each receiver and the partial noise level contributions by noise source. Consistent with the ISO 9613 protocol, the CadnaA noise prediction model relies on the reference sound power level (L_w) to describe individual noise sources. While sound pressure levels (e.g., L_{eq}) quantify in decibels the intensity of given sound sources at a reference distance, sound power levels (L_w) are connected to the sound source and are independent of distance. Sound pressure levels vary substantially with distance from the source and diminish because of intervening obstacles and barriers, air absorption, wind, and other factors. Sound power is the acoustical energy emitted by the sound source and is an absolute value that is not affected by the environment.

The operational noise level calculations provided in this noise study account for the distance attenuation provided due to geometric spreading, when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. A default ground attenuation factor of 0.5 was used in the noise analysis to account for mixed ground representing a combination of hard and soft surfaces. Appendix 3.1 includes the detailed noise model inputs used to estimate the Project operational noise levels presented in this section.

Project operational noise impacts were evaluated by review of the most recent Project plans, proposed operations, and noise data. Traffic noise impacts were evaluated by review of data in the Project traffic report, *Transportation Study Majestic Otay Project* (17).

EXHIBIT 3-A: OPERATIONAL NOISE SOURCE LOCATIONS



3.2.4 PROJECT OPERATIONAL NOISE LEVELS

Using the reference noise levels to represent the proposed Project operations that include roof-top heating, ventilation, and air conditioning units, parking lot activity, trash enclosure activity, loading dock activities, and on-site truck and gate movements, Urban Crossroads, Inc. calculated the unmitigated operational source noise levels that are expected to be generated at the Project site and the Project-related noise level increases that would be experienced at each of the sensitive receiver locations. Table 3-5 shows the Project operational daytime noise levels. The hourly noise levels at the off-site receiver locations are expected to range from 38.0 to 42.1 dBA L_{eq}. Appendix 3.1 includes the detailed noise model inputs used to estimate the Project operational noise levels presented in this section.

TABLE 3-5: PROJECT DAYTIME OPERATIONAL NOISE LEVELS

Noise Source[1]	Operational Noise Levels by Receiver Location (dBA L_{eq})		
	R1	R2	R3
Roof-Top Air Conditioning Units	30.0	32.9	32.0
Parking Lot Vehicle Movements	15.3	16.3	16.2
Trash Enclosure Activity	19.6	24.0	21.0
Loading Dock Activity	37.1	41.5	41.3
Total (All Noise Sources)	**38.0**	**42.1**	**41.8**

[1] See Exhibit 3-A for the noise source locations. CadnaA noise model calculations are included in Appendix 3.1.

Table 3-6 shows the Project operational noise levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. The nighttime hourly noise levels at the off-site receiver locations are expected to range from 37.7 to 41.9 dBA L_{eq}. The differences between the daytime and nighttime noise levels are largely related to the duration of noise activity (Table 3-4). Appendix 3.1 includes the detailed noise model inputs including the existing perimeter walls used to estimate the Project operational noise levels presented in this section.

TABLE 3-6: PROJECT NIGHTTIME OPERATIONAL NOISE LEVELS

Noise Source[1]	Operational Noise Levels by Receiver Location (dBA CNEL)		
	R1	R2	R3
Roof-Top Air Conditioning Units	27.9	30.7	29.8
Parking Lot Vehicle Movements	15.3	16.3	16.2
Trash Enclosure Activity	18.7	23.0	20.1
Loading Dock Activity	37.1	41.5	41.3
Total (All Noise Sources)	**37.7**	**41.9**	**41.6**

[1] See Exhibit 3-A for the noise source locations. CadnaA noise model calculations are included in Appendix 3.1.

3.2.5 PROJECT OPERATIONAL NOISE LEVEL COMPLIANCE

Table 3-7 shows the Project operational noise levels during the daytime and nighttime hours. The daytime hourly noise levels at the off-site receiver locations are expected to range from 38.0

to 42.1 dBA $L_{eq.}$ The nighttime hourly noise levels at the off-site receiver locations are expected to range from 37.7 to 41.9 dBA L_{eq}. The differences between the daytime and nighttime noise levels are largely related to the duration of noise activity. Appendix 3.1 includes the detailed noise model inputs used to estimate the Project operational noise levels.

TABLE 3-7: OPERATIONAL NOISE LEVEL COMPLIANCE

Receiver Location[1]	Project Operational Noise Levels[2]		Noise Level Standards		Noise Level Standards Exceeded?[3]	
	Daytime (dBA L_{eq})	Nighttime (dBA L_{eq})	Daytime (dBA L_{eq})	Nighttime (dBA L_{eq})	Daytime (dBA L_{eq})	Nighttime (dBA L_{eq})
R1	38.0	37.7	50.0	45.0	No	No
R2	42.1	41.9	60.0	55.0	No	No
R3	41.8	41.6	60.0	55.0	No	No

[1] See Exhibit 1-f for the receiver locations.
[2] Proposed Project operational noise levels as shown on Tables 3-5 and 3-6.
[3] Do the estimated Project operational noise source activities exceed the noise level standards? "Daytime" = 7:00 a.m. - 10:00 p.m.; "Nighttime" = 10:00 p.m. - 7:00 a.m.

3.2.6 PROJECT OPERATIONAL NOISE LEVEL INCREASES

To describe the Project operational noise level increases, the Project operational noise levels are combined with the existing ambient noise levels measurements for the nearest 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. (6) Instead, they must be logarithmically added using the following base equation:

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

Where "SPL1," "SPL2," etc. are equal to the sound pressure levels being combined, or in this case, the Project-operational and existing ambient noise levels. The difference between the combined Project and ambient noise levels describes the Project noise level increases to the existing ambient noise environment.

As indicated on Tables 3-8 and 3-9, the Project will generate an unmitigated daytime and nighttime operational noise level increases less than 0.1 dBA L_{eq} at the nearest receiver locations. Based on the significance criteria presented in Section 4.2, the Project-related operational noise level increases will satisfy the operational noise level increase criteria at the nearest sensitive receiver locations and the impact will be *less than significant.*

TABLE 3-8: DAYTIME PROJECT OPERATIONAL NOISE LEVEL INCREASES

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Increase[6]	Increase Criteria[7]	Increase Criteria Exceeded?
R1	38.0	L1	63.3	63.3	0.0	3.0	No
R2	42.1	L2	65.2	65.2	0.0	1.5	No
R3	41.8	L3	67.4	67.4	0.0	1.5	No

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

TABLE 3-9: NIGHTTIME OPERATIONAL NOISE LEVEL INCREASES

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Increase[6]	Increase Criteria[7]	Increase Criteria Exceeded?
R1	37.7	L1	63.3	63.3	0.0	3.0	No
R2	41.9	L2	65.2	65.2	0.0	1.5	No
R3	41.6	L3	67.4	67.4	0.0	1.5	No

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

3.2.7 DESIGN CONSIDERATIONS AND TEMPORARY MITIGATION MEASURES

As identified in the preceding analysis, operational-related noise levels would not exceed County standards or result in a substantial increase in ambient noise levels without mitigation. Therefore, no operational noise impacts are anticipated, and no mitigation measures are required.

3.3 POTENTIAL GENERAL CONSTRUCTION NOISE IMPACTS

3.3.1 POTENTIAL TEMPORARY CONSTRUCTION NOISE IMPACTS WITHOUT MITIGATION

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 are expected to occur in the following stages:

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

3.3.2 TYPICAL CONSTRUCTION NOISE ANALYSIS

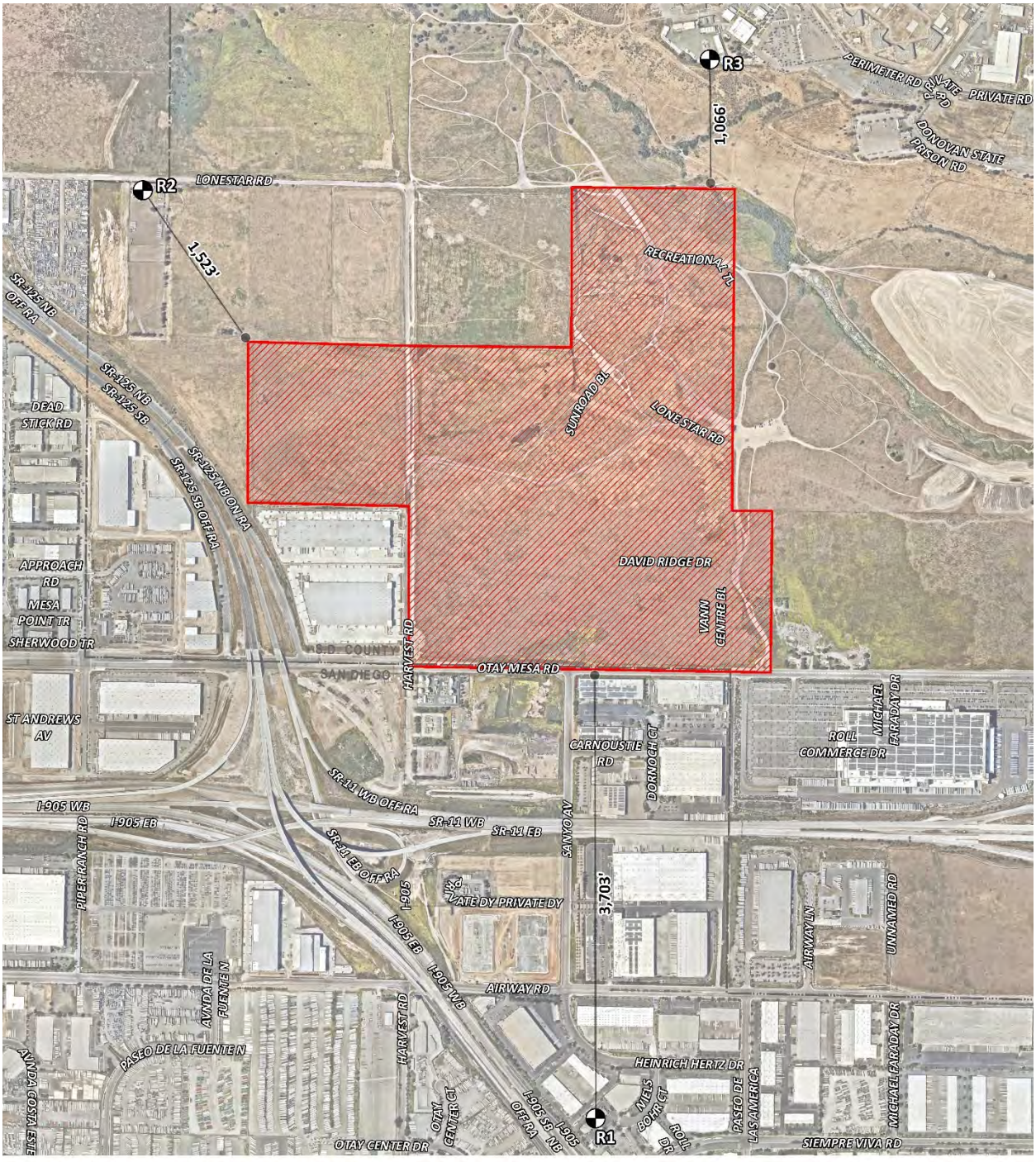
Using the reference construction equipment noise levels and the CadnaA noise prediction model, calculations of the Project construction noise level impacts at the nearest NSLU locations were completed. To assess the worst-case construction noise levels, the Project construction noise analysis relies on using the loudest phase of construction (i.e., the loudest three pieces of equipment) to determine noise level impacts with the equipment operating as a moving point source throughout the construction area (Project site boundary). As shown on Table 3-10, the construction noise levels are expected to range from 42.5 to 56.3 dBA L_{eq}, and the highest construction levels are expected to range from 50.1 to 56.3 dBA L_{eq} at the nearest property line with an occupied structure. Appendix 3.2 includes the detailed CadnaA unmitigated construction noise model inputs.

TABLE 3-10: CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY

Receiver Location[1]	Construction Noise Levels (dBA L_{eq})					
	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Highest Levels[2]
R1	49.5	50.1	44.5	44.8	42.5	50.1
R2	53.5	54.1	48.5	48.8	46.5	54.1
R3	55.7	56.3	50.7	51.0	48.7	56.3

[1] Construction noise source and receiver locations are shown on Exhibit 3-B.
[2] Construction noise level calculations based on distance from the project site boundaries (construction activity area) to nearby receiver locations. CadnaA construction noise model inputs are included in Appendix 3.2.

EXHIBIT 3-B: CONSTRUCTION NOISE SOURCE AND NOISE RECEIVER LOCATIONS



3.3.3 CONSTRUCTION NOISE LEVEL COMPLIANCE

To evaluate whether the Project will generate potentially significant short-term noise levels at nearest property lines, a construction-related noise level threshold of 75 dBA L_{eq} is used as the threshold to assess the construction noise level impacts. The construction noise analysis shows that the nearest receiver locations will not exceed the 75 dBA L_{eq} significance threshold during Project construction activities as shown on Table 3-11. Therefore, typical construction noise would be **less than significant**.

TABLE 3-11: TYPICAL CONSTRUCTION NOISE LEVEL COMPLIANCE

Receiver Location[1]	Construction Noise Levels (dBA L_{eq})		
	Highest Construction Noise Levels[2]	Threshold[3]	Threshold Exceeded?[4]
R1	50.1	75	No
R2	54.1	75	No
R3	56.3	75	No

[1] Noise receiver locations are shown on Exhibit 3-B.
[2] Highest construction noise level operating at the Project site boundary to nearby receiver locations (Table 3-10).
[3] Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual.
[4] Do the estimated Project construction noise levels exceed the construction noise level threshold?

3.3.4 DESIGN CONSIDERATIONS AND TEMPORARY MITIGATION MEASURES

As identified in the preceding analysis, construction-related noise level would not exceed County standards or result in a substantial increase in ambient noise levels without mitigation. Therefore, no construction noise impacts are anticipated, and no mitigation measures are required.

3.4 POTENTIAL IMPULSIVE NOISE IMPACTS

3.4.1 POTENTIAL IMPULSIVE NOISE IMPACTS WITHOUT MITIGATION

There are no significant known sources of impulsive noise sources associated with Project operation. No on-site rock crushing or blasting is anticipated during the grading or site preparation activities. No pile driving is anticipated during building construction. Thus, impulsive noise levels are anticipated to be below the County's impulsive noise level threshold. No impulsive noise impacts are anticipated, and no mitigation measures are required.

3.5 CUMULATIVE OR COMBINED NOISE IMPACTS

3.5.1 POTENTIAL COMBINED NOISE IMPACTS

Noise is a localized occurrence and attenuates rapidly with distance. Therefore, only future development projects in the direct vicinity (1,000 feet) of the Project site could add to construction noise generated by the Project and result in a cumulative noise impact. No projects are known within 1,000 feet of Project construction. Beyond this distance construction noise levels would conform to the most restrictive daytime noise level limits. Therefore, even if

multiple projects at this distance were perceivable, they would not combine to exceed the County of San Diego noise level standards.

3.5.2 DESIGN CONSIDERATIONS AND MITIGATION MEASURES

No cumulative noise impacts are anticipated, and no mitigation measures are required.

4.0 GROUNDBORNE VIBRATION AND NOISE IMPACTS

4.1 GUIDELINES FOR THE DETERMINATION OF SIGNIFICANCE

Project implementation could expose the uses listed in Tables 4-1 and 4-2 to groundborne vibration and noise levels equal to or in excess of the levels shown.

TABLE 4-1: GUIDELINES FOR DETERMINING THE SIGNIFICANCE OF GROUNDBORNE VIBRATION AND NOISE IMPACTS

Land Use Category	Groundborne Vibration Impact Levels (inches/sec RMS)		Groundborne Noise Impact Levels (dB re 20 micro Pascals)	
	Frequent Events[1]	Occasional or Infrequent Events[2]	Frequent Events[1]	Occasional or Infrequent Events[2]
Category 1: Buildings where low ambient vibration is essential for interior operations (research & manufacturing facilities with special vibration constraints)[6]	0.0018[3]	0.0018[3]	Not applicable [4,5]	Not applicable[4,5]
Category 2: Residences and buildings where people normally sleep (hotels, hospitals, residences, & other sleeping facilities)[6]	0.0040	0.010	35 dBA	43 dBA
Category 3: Institutional land uses with primarily daytime use (schools, churches, libraries, other institutions, & quiet offices)[6]	0.0056	0.014	40 dBA	48 dBA

RMS = root mean square; re = relative

[1] "Frequent Events" is defined as more than 70 vibration events per day. Most rapid transit projects fall into this category.

[2] "Infrequent Events" is defined as fewer than 70 vibration events per day. This category includes most commuter rail systems.

[3] This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration-sensitive manufacturing or research will require detailed evaluation to define acceptable vibration levels. Ensuring lower vibration levels in a building often requires special design of the HVAC systems and stiffened floors.

[4] Vibration-sensitive equipment is not sensitive to groundborne noise.

[5] There are some buildings, such as concert halls, TV and recording studios, and theaters that can be very sensitive to vibration and noise but do not fit into any of the three categories. Table 14 gives criteria for acceptable levels of groundborne vibration and noise for these various types of special uses.

[6] For Categories 2 and 3 with occupied facilities, isolated events such as blasting are significant when the peak particle velocity (PPV) exceeds 1 inch per second. Non transportation vibration sources such as impact pile drivers or hydraulic breakers are significant when their PPV exceeds 0.1 inch per second. More specific criteria for structures and potential annoyance were developed by Caltrans (2004) and will be used to evaluate these continuous or transient sources in the County of San Diego.

SOURCE: FTA 2006.

TABLE 4-2: GUIDELINES FOR DETERMINING THE SIGNIFICANCE OF GROUNDBORNE VIBRATION AND NOISE IMPACTS FOR SPECIAL BUILDINGS

Type of Building or Room	Groundborne Vibration Impact Levels (inches/sec rms)		Groundborne Noise Impact Levels (dB re 20 micro Pascals)	
	Frequent Events[1]	Occasional or Infrequent Events[2]	Frequent Events[1]	Occasional or Infrequent Events[2]
Concert Halls, TV Studios, and Recording Studios	0.0018	0.0018	25 dBA	25 dBA
Auditoriums	0.0040	0.010	30 dBA	38 dBA
Theaters	0.0040	0.010	35 dBA	43 dBA

RMS = root mean square; re = relative

[1] "Frequent Events" is defined as more than 70 vibration events per day. Most rapid transit projects fall into this category.

[2] "Infrequent Events" is defined as fewer than 70 vibration events per day. This category includes most commuter rail systems.

SOURCE: FTA 2006.

Impacts from general construction would occur if vibration levels exceed 0.0056 in/sec rms at any institutional structures with primarily daytime use (12). There are no residential or special buildings near the Project site that could be affected by Project related vibrations. The nearest institutional land use is the Richard J. Donovan Correctional Facility approximately 1,066 feet north of the Project site.

4.2 POTENTIAL GROUNDBORNE VIBRATION AND NOISE IMPACTS

4.2.1 POTENTIAL GROUNDBORNE VIBRATION AND NOISE IMPACTS WITHOUT MITIGATION

4.2.1.1 OPERATIONS

No operational components of the Project include significant groundborne noise or vibration sources and no significant vibrations sources currently exist, or are planned, in the Project area. Thus, no significant groundborne noise or vibration impacts would occur with the operation of the proposed Project.

4.2.1.1 CONSTRUCTION

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. Ground-borne vibration levels resulting from typical construction activities occurring within the Project site were estimated by data published by the Federal Transit Administration (FTA) (14). 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 4-3. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the potential Project construction vibration levels using the following vibration assessment methods defined by Caltrans. Caltrans provides the following equation: $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$

TABLE 4-3: 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 Manual

The expected Project related typical construction activity vibration levels at the nearest vibration receiver location would be 0.0003 RMS (in/sec). Vibration receiver locations are conservatively assessed at locations closer than actual structures. This is considered conservative since outdoor vibrations from construction activities are not typically an environmental impacts issue. At a distance of 1,066 feet from the Project construction activity are estimated to range up to 0.0002 RMS in/sec. Based on maximum acceptable continuous vibration threshold of 0.0056 RMS (in/sec) the typical Project construction vibration levels will satisfy the thresholds at all the nearest receiver locations. Therefore, the vibration impacts due to the typical Project construction activities are considered *less than significant*.

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5.0 SUMMARY OF PROJECT IMPACTS, DESIGN CONSIDERATIONS, MITIGATION, AND CONCLUSION

The proceeding analysis provides an evaluation of compatibility of the proposed land uses with the existing and future noise environment of the Project site, potential noise and vibration impacts due to construction of the Project, and the direct and indirect noise generated by operation of the Project.

5.1 NOISE SENSITIVE LAND USES AFFECTED BY AIRBORNE NOISE

ON-SITE

The Project is an industrial development, the Project does not include any noise sensitive land uses (NSLU). There would be **no impact**.

OFF-SITE

Off-site traffic would result in noise level increase of less than two dBA CNEL along all affected roadways. Therefore, off-site traffic noise level increases would be **less than significant**.

5.2 PROJECT-GENERATED AIRBORNE NOISE

OPERATIONS

Stationary sources of concern include mechanical equipment, such as roof-top heating, ventilation, and air conditioning units, parking lot activity, trash enclosure activity, loading dock activities, and on-site truck and gate movements . Based on predicted noise levels airborne noise levels would comply with the County of San Diego noise level limits and would not result in substantial noise level increases over the existing condition, thus impacts would be **less than significant**.

CONSTRUCTION

The construction noise analysis shows that construction noise at the nearest receiver locations will range from 42.5 to 56.3 dBA L_{eq}. Thus, construction activity would not exceed the 75 dBA L_{eq} significance threshold during Project construction activities. Therefore, typical construction noise would be **less than significant**.

5.3 GROUNDBORNE VIBRATION AND NOISE

There are no substantial vibration sources associated with Project operation. No pile driving or blasting is anticipated during building construction. Based on the distance to surrounding vibration sensitive land uses, vibration impacts associated with Project construction would not exceed County of San Diego vibration level limits, therefore, vibration impacts would be **less than significant**.

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6.0 CERTIFICATION

The following is a list of preparers, persons, and organizations involved with the noise assessment.

Urban Crossroads, Inc.

- William Maddux, Senior Associate, County-approved Noise Consultant

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7.0 REFERENCES

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13. **U.S. Department of Transportation, Federal Transit Administration.** *Transit Noise and Vibration Impact Assessment Manual, FTA-VA-90-1003-06.* May 2006.
14. —. *Transit Noise and Vibration Impact Assessment Manual.* September 2018.
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16. **U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning.** *FHWA Roadway Construction Noise Model.* January, 2006.
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APPENDIX 1.1:

NOISE LEVEL MEASUREMENT WORKSHEETS

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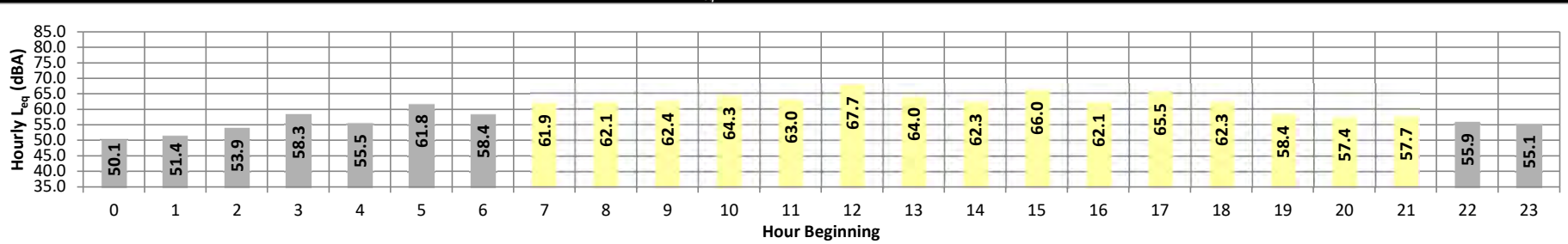
24-Hour Noise Level Measurement Summary

Date: Thursday, July 27, 2023 | *Location:* L1 - Near Holiday Inn Express & Suites San Diego Otay Mesa | *Meter:* Piccolo II | *JN:* 15250

Project: East Otay Majestic | *Source:* | *Analyst:* B. Maddux

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	50.1	58.8	46.3	58.4	57.7	56.0	54.2	49.2	47.7	46.7	46.5	46.3	50.1	10.0	60.1
	1	51.4	59.2	47.1	58.9	58.5	57.1	55.6	51.1	49.1	47.5	47.3	47.2	51.4	10.0	61.4
	2	53.9	65.2	47.6	64.7	63.8	60.9	58.2	51.3	49.4	48.0	47.8	47.7	53.9	10.0	63.9
	3	58.3	68.6	49.7	68.0	67.6	65.8	62.9	57.5	53.0	50.2	50.0	49.7	58.3	10.0	68.3
	4	55.5	64.9	50.4	64.6	64.0	61.9	59.9	54.5	52.1	50.8	50.7	50.5	55.5	10.0	65.5
	5	61.8	74.0	51.4	73.1	72.5	69.5	66.2	58.9	54.5	51.9	51.8	51.5	61.8	10.0	71.8
	6	58.4	67.3	53.2	67.0	66.4	64.3	62.5	58.0	55.7	53.7	53.5	53.3	58.4	10.0	68.4
Day	7	61.9	73.6	53.5	73.1	72.3	69.0	66.3	59.8	56.5	54.0	53.8	53.6	61.9	0.0	61.9
	8	62.1	71.7	55.4	71.2	70.4	68.1	66.3	62.0	58.7	56.1	55.8	55.5	62.1	0.0	62.1
	9	62.4	70.1	57.0	69.7	69.1	67.6	66.4	62.9	60.3	57.7	57.4	57.1	62.4	0.0	62.4
	10	64.3	74.7	56.8	74.1	73.3	70.6	68.7	63.5	60.4	57.5	57.2	56.9	64.3	0.0	64.3
	11	63.0	72.7	56.0	72.2	71.4	69.3	67.3	62.8	59.6	56.8	56.4	56.1	63.0	0.0	63.0
	12	67.7	79.7	59.2	79.2	78.6	74.9	71.3	64.9	61.9	59.8	59.6	59.3	67.7	0.0	67.7
	13	64.0	72.7	58.7	72.2	71.6	69.5	67.7	63.9	61.6	59.5	59.2	58.8	64.0	0.0	64.0
	14	62.3	72.2	55.4	71.6	70.8	68.1	66.2	62.0	59.3	56.3	55.9	55.5	62.3	0.0	62.3
	15	66.0	75.5	60.5	74.7	73.7	71.2	69.5	66.1	63.7	61.0	60.8	60.6	66.0	0.0	66.0
	16	62.1	71.4	55.9	70.9	70.2	67.9	66.2	61.9	59.2	56.7	56.3	56.0	62.1	0.0	62.1
	17	65.5	74.6	59.6	74.1	73.3	71.2	69.7	65.3	62.8	60.2	60.0	59.7	65.5	0.0	65.5
	18	62.3	73.6	54.6	73.0	72.0	68.8	66.0	60.8	58.3	55.3	55.0	54.7	62.3	0.0	62.3
	19	58.4	67.9	53.1	67.5	66.8	64.5	62.0	57.8	55.4	53.7	53.4	53.1	58.4	5.0	63.4
	20	57.4	66.2	52.7	65.9	65.3	63.3	61.5	56.6	54.7	53.1	52.9	52.7	57.4	5.0	62.4
	21	57.7	69.2	52.4	68.5	67.4	63.8	61.4	55.3	53.9	53.0	52.7	52.5	57.7	5.0	62.7
Night	22	55.9	65.1	49.6	64.8	64.2	62.3	60.7	55.1	51.8	49.9	49.8	49.7	55.9	10.0	65.9
	23	55.1	64.1	48.5	63.8	63.5	62.0	60.2	54.1	51.2	49.0	48.8	48.6	55.1	10.0	65.1

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	57.4	66.2	52.4	65.9	65.3	63.3	61.4	55.3	53.9	53.0	52.7	52.5
	Max	67.7	79.7	60.5	79.2	78.6	74.9	71.3	66.1	63.7	61.0	60.8	60.6
Energy Average		63.3	Average:		71.9	71.1	68.5	66.4	61.7	59.1	56.7	56.4	56.1
Night	Min	50.1	58.8	46.3	58.4	57.7	56.0	54.2	49.2	47.7	46.7	46.5	46.3
	Max	61.8	74.0	53.2	73.1	72.5	69.5	66.2	58.9	55.7	53.7	53.5	53.3
Energy Average		56.9	Average:		64.8	64.2	62.2	60.0	54.4	51.6	49.8	49.6	49.4

24-Hour CNEL	Leq (dBA) Daytime (7am-10pm)	Leq (dBA) Nighttime (10pm-7am)
65.3	**63.3**	**56.9**

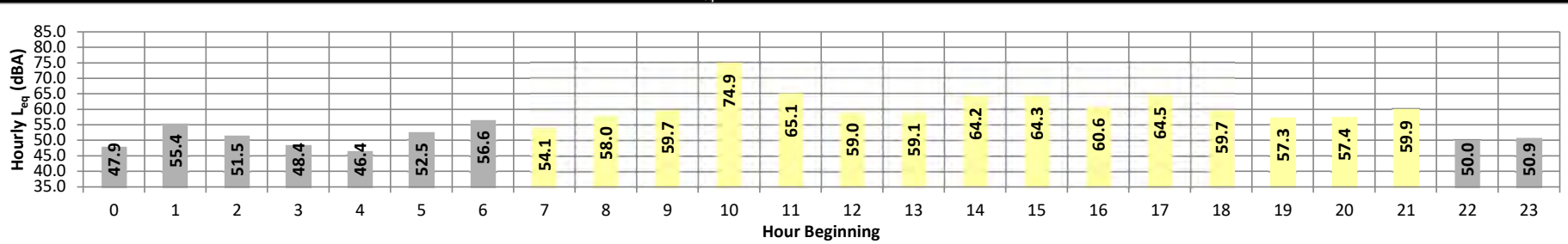
URBAN CROSSROADS

24-Hour Noise Level Measurement Summary

Date: Thursday, July 27, 2023 *Location:* L2 - Near Residence at 8691 Loanstar Road *Meter:* Piccolo II *JN:* 15250

Project: East Otay Majestic *Source:* *Analyst:* B. Maddux

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	47.9	57.3	44.3	57.2	56.3	53.2	50.6	47.2	45.6	44.6	44.5	44.3	47.9	10.0	57.9
	1	55.4	65.4	43.7	65.2	65.1	64.0	62.2	51.8	46.5	44.1	43.9	43.7	55.4	10.0	65.4
	2	51.5	62.7	43.9	62.4	61.8	59.4	56.8	47.3	45.0	44.1	44.0	43.8	51.5	10.0	61.5
	3	48.4	55.1	45.4	54.7	54.4	53.1	51.7	48.1	47.0	45.8	45.7	45.5	48.4	10.0	58.4
	4	46.4	49.4	44.7	49.1	48.9	48.3	48.0	47.0	46.0	44.9	44.8	44.7	46.4	10.0	56.4
	5	52.5	66.0	48.7	64.2	61.1	55.9	53.6	50.6	50.0	49.1	49.0	48.8	52.5	10.0	62.5
	6	56.6	69.5	46.2	69.0	67.8	64.1	61.2	51.4	47.4	46.5	46.4	46.2	56.6	10.0	66.6
Day	7	54.1	65.6	45.8	65.3	64.8	62.4	59.7	48.7	47.2	46.2	46.0	45.9	54.1	0.0	54.1
	8	58.0	69.6	44.6	69.3	68.7	66.2	64.0	53.5	47.4	44.9	44.8	44.6	58.0	0.0	58.0
	9	59.7	71.9	44.6	71.6	71.0	68.2	64.7	55.2	49.5	46.6	44.8	44.6	59.7	0.0	59.7
	10	74.9	87.4	44.9	86.8	86.1	82.7	81.0	68.6	63.1	47.1	45.8	44.9	74.9	0.0	74.9
	11	65.1	77.9	44.6	77.6	76.8	73.6	70.3	58.7	50.8	45.7	44.9	44.6	65.1	0.0	65.1
	12	59.0	70.4	45.4	70.0	69.3	66.6	64.3	57.5	51.0	46.7	46.0	45.5	59.0	0.0	59.0
	13	59.1	70.9	44.4	70.4	69.9	67.8	65.0	53.7	47.3	44.8	44.6	44.4	59.1	0.0	59.1
	14	64.2	75.4	45.3	74.9	74.0	71.7	69.8	63.2	53.4	46.0	45.6	45.4	64.2	0.0	64.2
	15	64.3	76.4	44.6	75.8	75.0	72.1	70.4	61.2	50.1	45.4	44.9	44.6	64.3	0.0	64.3
	16	60.6	72.6	45.5	72.2	71.5	68.8	66.1	56.9	50.0	46.0	45.8	45.5	60.6	0.0	60.6
	17	64.5	73.7	47.4	73.1	72.7	71.1	69.8	65.1	60.1	49.5	48.2	47.5	64.5	0.0	64.5
	18	59.7	70.3	44.8	69.6	68.7	65.8	64.1	60.2	56.2	45.4	45.1	44.8	59.7	0.0	59.7
	19	57.3	69.3	44.9	68.9	68.3	65.6	62.5	53.1	49.2	45.7	45.4	44.9	57.3	5.0	62.3
	20	57.4	70.2	45.3	69.8	69.0	65.5	62.1	51.8	47.9	45.7	45.5	45.4	57.4	5.0	62.4
	21	59.9	71.2	45.8	70.7	70.2	68.4	66.5	55.3	48.2	46.2	46.0	45.8	59.9	5.0	64.9
Night	22	50.0	57.7	44.9	57.5	57.1	56.0	55.1	50.2	46.4	45.1	45.0	44.9	50.0	10.0	60.0
	23	50.9	62.8	43.7	62.5	61.9	58.4	55.1	46.8	45.0	43.9	43.8	43.7	50.9	10.0	60.9

Timeframe	*Hour*	*L_{eq}*	*L_{max}*	*L_{min}*	*L1%*	*L2%*	*L5%*	*L8%*	*L25%*	*L50%*	*L90%*	*L95%*	*L99%*
Day	Min	54.1	65.6	44.4	65.3	64.8	62.4	59.7	48.7	47.2	44.8	44.6	44.4
	Max	74.9	87.4	47.4	86.8	86.1	82.7	81.0	68.6	63.1	49.5	48.2	47.5
Energy Average		65.2	Average:		72.4	71.7	69.1	66.7	57.5	51.4	46.1	45.6	45.2
Night	Min	46.4	49.4	43.7	49.1	48.9	48.3	48.0	46.8	45.0	43.9	43.8	43.7
	Max	56.6	69.5	48.7	69.0	67.8	64.1	62.2	51.8	50.0	49.1	49.0	48.8
Energy Average		52.3	Average:		60.2	59.4	56.9	54.9	48.9	46.5	45.3	45.2	45.1

24-Hour CNEL	*Leq (dBA) Daytime (7am-10pm)*	*Leq (dBA) Nighttime (10pm-7am)*
64.6	**65.2**	**52.3**

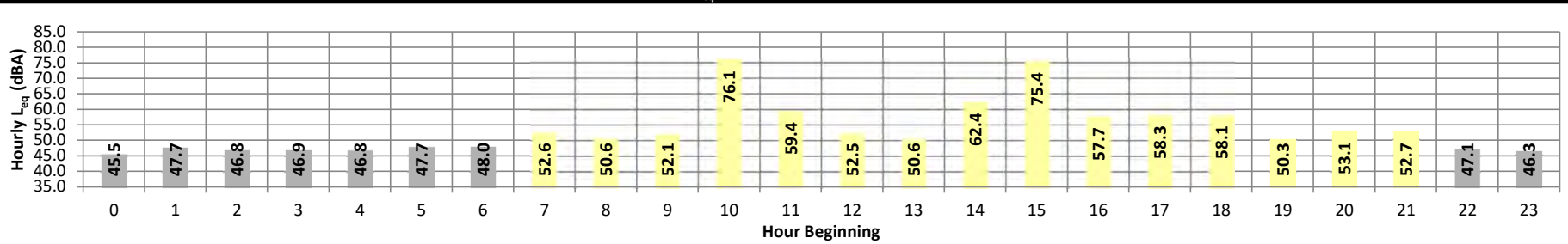
URBAN CROSSROADS

24-Hour Noise Level Measurement Summary

Date: Thursday, July 27, 2023 *Location:* L3 - Richard J. Donovan Correctional Facility *Meter:* Piccolo II *JN:* 15250

Project: East Otay Majestic *Source:* *Analyst:* B. Maddux

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	45.5	50.1	42.4	49.9	49.7	49.0	48.4	45.9	44.6	43.1	42.9	42.6	45.5	10.0	55.5
	1	47.7	52.7	42.3	52.5	52.3	51.8	51.5	48.9	45.9	43.2	42.9	42.6	47.7	10.0	57.7
	2	46.8	51.8	43.0	51.5	51.3	50.8	50.2	47.6	45.5	44.0	43.7	43.3	46.8	10.0	56.8
	3	46.9	49.8	44.7	49.5	49.2	48.6	48.3	47.3	46.6	45.6	45.4	44.9	46.9	10.0	56.9
	4	46.8	49.2	44.6	49.0	48.8	48.5	48.2	47.4	46.6	45.3	45.1	44.8	46.8	10.0	56.8
	5	47.7	54.9	45.3	54.6	54.2	52.7	50.8	47.0	46.4	45.7	45.5	45.4	47.7	10.0	57.7
	6	48.0	56.0	43.7	55.7	55.2	54.6	52.8	46.9	45.0	44.1	44.0	43.8	48.0	10.0	58.0
Day	7	52.6	64.2	43.1	63.5	62.6	59.7	58.4	49.4	45.8	43.6	43.4	43.2	52.6	0.0	52.6
	8	50.6	59.5	42.1	59.0	58.6	57.3	56.0	50.5	45.5	42.8	42.5	42.2	50.6	0.0	50.6
	9	52.1	64.9	40.0	63.9	62.8	59.7	57.8	47.8	43.2	40.7	40.5	40.1	52.1	0.0	52.1
	10	76.1	88.7	42.6	88.1	87.5	85.2	82.5	69.8	58.6	44.9	43.6	42.8	76.1	0.0	76.1
	11	59.4	69.8	41.3	69.4	68.7	67.8	66.1	57.5	47.5	42.7	42.0	41.4	59.4	0.0	59.4
	12	52.5	62.2	42.2	61.7	61.0	59.2	57.9	51.6	48.4	43.9	43.3	42.4	52.5	0.0	52.5
	13	50.6	60.2	40.3	59.7	58.8	57.8	56.1	50.2	45.4	41.4	40.9	40.5	50.6	0.0	50.6
	14	62.4	72.9	42.2	72.7	72.5	71.3	69.4	57.6	48.7	43.4	42.9	42.3	62.4	0.0	62.4
	15	75.4	87.3	40.8	87.1	87.0	85.4	82.0	61.4	45.9	41.7	41.4	41.0	75.4	0.0	75.4
	16	57.7	68.2	42.6	67.8	67.4	66.2	64.5	54.1	46.5	43.6	43.2	42.8	57.7	0.0	57.7
	17	58.3	65.9	44.0	65.6	65.4	64.4	63.0	59.9	54.5	46.3	45.4	44.4	58.3	0.0	58.3
	18	58.1	67.3	42.0	66.3	65.9	64.4	62.8	59.4	55.5	42.8	42.5	42.2	58.1	0.0	58.1
	19	50.3	58.6	41.7	58.2	57.8	56.9	55.9	50.7	45.9	42.6	42.2	41.8	50.3	5.0	55.3
	20	53.1	63.7	42.3	63.2	62.4	61.0	59.2	50.7	45.5	42.9	42.7	42.4	53.1	5.0	58.1
	21	52.7	62.9	43.4	62.5	62.3	60.7	58.3	50.5	46.8	44.0	43.8	43.5	52.7	5.0	57.7
Night	22	47.1	52.4	42.0	52.0	51.8	51.0	50.5	48.6	45.8	42.8	42.4	42.1	47.1	10.0	57.1
	23	46.3	55.0	40.5	54.5	54.0	52.2	51.0	45.8	42.5	41.1	40.9	40.6	46.3	10.0	56.3

Timeframe	*Hour*	*L_{eq}*	*L_{max}*	*L_{min}*	*L1%*	*L2%*	*L5%*	*L8%*	*L25%*	*L50%*	*L90%*	*L95%*	*L99%*
Day	Min	50.3	58.6	40.0	58.2	57.8	56.9	55.9	47.8	43.2	40.7	40.5	40.1
	Max	76.1	88.7	44.0	88.1	87.5	85.4	82.5	69.8	58.6	46.3	45.4	44.4
Energy Average		67.4	Average:		67.2	66.7	65.1	63.3	54.7	48.3	43.2	42.7	42.2
Night	Min	45.5	49.2	40.5	49.0	48.8	48.5	48.2	45.8	42.5	41.1	40.9	40.6
	Max	48.0	56.0	45.3	55.7	55.2	54.6	52.8	48.9	46.6	45.7	45.5	45.4
Energy Average		47.0	Average:		52.1	51.8	51.0	50.2	47.3	45.4	43.9	43.6	43.4

24-Hour CNEL	*Leq (dBA) Daytime (7am-10pm)*	*Leq (dBA) Nighttime (10pm-7am)*
65.6	**67.4**	**47.0**

URBAN CROSSROADS

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APPENDIX 2.1:

OFF-SITE TRAFFIC NOISE LEVEL CONTOURS

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: La Media Rd
Road Segment: n/o Otay Mesa Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,510 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	151 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-10.16	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	79.45	-27.40	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-31.36	-0.81	-1.20	*-5.33*	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:	56.3	54.4	52.6	46.6	55.2	55.8
Medium Trucks:	50.0	48.5	42.2	40.6	49.1	49.3
Heavy Trucks:	50.9	49.5	40.4	41.7	50.0	50.2
Vehicle Noise:	58.1	56.4	53.2	48.5	57.1	57.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	39	84
CNEL:	9	19	42	90

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: La Media Rd
Road Segment: s/o Otay Mesa Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,920 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	192 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-9.12	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	79.45	-26.36	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-30.31	-0.81	-1.20	*-5.33*	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:	57.3	55.4	53.7	47.6	56.2	56.8
Medium Trucks:	51.1	49.6	43.2	41.7	50.1	50.4
Heavy Trucks:	51.9	50.5	41.5	42.7	51.1	51.2
Vehicle Noise:	59.2	57.4	54.3	49.6	58.1	58.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	21	46	99
CNEL:	11	23	49	106

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Piper Ranch Rd
Road Segment: n/o Otay Mesa Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,030 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	303 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-6.63	3.26	-1.20	*-4.49*	0.000	0.000
Medium Trucks:	77.72	-23.86	3.33	-1.20	*-4.86*	0.000	0.000
Heavy Trucks:	82.99	-27.82	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	60.1	58.3	52.2	60.9	61.5
Medium Trucks:	56.0	54.5	48.1	46.6	55.0	55.3
Heavy Trucks:	57.3	55.9	46.8	48.1	56.4	56.6
Vehicle Noise:	64.0	62.3	59.0	54.4	63.0	63.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	22	47	102
CNEL:	11	23	51	109

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harvest Rd
Road Segment: s/o Otay Mesa Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-28.43	3.26	-1.20	*-4.49*	0.000	0.000
Medium Trucks:	77.72	-45.67	3.33	-1.20	*-4.86*	0.000	0.000
Heavy Trucks:	82.99	-49.62	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	40.1	38.2	36.5	30.4	39.0	39.7
Medium Trucks:	34.2	32.7	26.3	24.8	33.2	33.5
Heavy Trucks:	35.5	34.1	25.0	26.3	34.6	34.8
Vehicle Noise:	42.2	40.4	37.2	32.6	41.2	41.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	1	2	4
CNEL:	0	1	2	4

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sanyo Ave
Road Segment: s/o Otay Mesa Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,290 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	229 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-8.35	3.26	-1.20	*-4.49*	0.000	0.000
Medium Trucks:	79.45	-25.59	3.33	-1.20	*-4.86*	0.000	0.000
Heavy Trucks:	84.25	-29.55	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.2	60.3	58.5	52.5	61.1	61.7
Medium Trucks:	56.0	54.5	48.1	46.6	55.0	55.3
Heavy Trucks:	56.8	55.4	46.4	47.6	56.0	56.1
Vehicle Noise:	64.0	62.3	59.1	54.5	63.0	63.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	22	48	102
CNEL:	11	24	51	110

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Vann Cantre Rd
Road Segment: s/o Otay Mesa Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	440 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	44 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-15.00	3.26	-1.20	*-4.49*	0.000	0.000
Medium Trucks:	77.72	-32.24	3.33	-1.20	*-4.86*	0.000	0.000
Heavy Trucks:	82.99	-36.20	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.6	51.7	49.9	43.9	52.5	53.1
Medium Trucks:	47.6	46.1	39.7	38.2	46.6	46.9
Heavy Trucks:	48.9	47.5	38.5	39.7	48.1	48.2
Vehicle Noise:	55.6	53.9	50.6	46.0	54.6	55.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	3	6	13	28
CNEL:	3	6	14	30

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Enrico Fermi Dr
Road Segment: n/o Otay Mesa Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,540 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	254 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	38 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	49.0 feet
Centerline Dist. to Observer:	49.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	45.442
Medium Trucks:	45.247
Heavy Trucks:	45.266

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-7.39	0.52	-1.20	*-4.64*	0.000	0.000
Medium Trucks:	77.72	-24.63	0.55	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-28.59	0.54	-1.20	*-5.44*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.4	56.5	54.8	48.7	57.3	57.9
Medium Trucks:	52.4	50.9	44.6	43.0	51.5	51.7
Heavy Trucks:	53.8	52.3	43.3	44.5	52.9	53.0
Vehicle Noise:	60.5	58.7	55.4	50.9	59.4	59.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	21	45	97
CNEL:	10	22	48	104

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Enrico Fermi Dr
Road Segment: s/o Otay Mesa Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,600 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	160 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	38 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	49.0 feet
Centerline Dist. to Observer:	49.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	45.442
Medium Trucks:	45.247
Heavy Trucks:	45.266

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-9.40	0.52	-1.20	*-4.64*	0.000	0.000
Medium Trucks:	77.72	-26.64	0.55	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-30.59	0.54	-1.20	*-5.44*	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:	56.4	54.5	52.8	46.7	55.3	55.9
Medium Trucks:	50.4	48.9	42.6	41.0	49.5	49.7
Heavy Trucks:	51.7	50.3	41.3	42.5	50.9	51.0
Vehicle Noise:	58.4	56.7	53.4	48.9	57.4	57.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	33	71
CNEL:	8	16	35	76

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Otay Mesa Rd
Road Segment: w/o La Media Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,380 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	338 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-6.15	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	77.72	-23.39	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-27.34	-0.81	-1.20	*-5.33*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.3	56.4	54.7	48.6	57.2	57.8
Medium Trucks:	52.3	50.8	44.4	42.9	51.4	51.6
Heavy Trucks:	53.6	52.2	43.2	44.4	52.8	52.9
Vehicle Noise:	60.3	58.6	55.3	50.8	59.3	59.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	55	119
CNEL:	13	27	59	127

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Otay Mesa Rd
Road Segment: w/o Piper Ranch Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,480 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	348 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-6.02	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	77.72	-23.26	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-27.22	-0.81	-1.20	*-5.33*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.5	56.6	54.8	48.7	57.4	58.0
Medium Trucks:	52.4	50.9	44.6	43.0	51.5	51.7
Heavy Trucks:	53.8	52.3	43.3	44.6	52.9	53.0
Vehicle Noise:	60.5	58.7	55.5	50.9	59.5	59.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	56	121
CNEL:	13	28	60	129

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Otay Mesa Rd
Road Segment: w/o SR-125 SB Off Ramp

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,290 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	329 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-6.27	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	77.72	-23.51	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-27.46	-0.81	-1.20	*-5.33*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.2	56.3	54.6	48.5	57.1	57.7
Medium Trucks:	52.2	50.7	44.3	42.8	51.2	51.5
Heavy Trucks:	53.5	52.1	43.1	44.3	52.7	52.8
Vehicle Noise:	60.2	58.5	55.2	50.7	59.2	59.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	25	54	116
CNEL:	12	27	58	125

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Otay Mesa Rd
Road Segment: w/o SR-125 NB Off Ramp

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,750 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	375 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.70	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	77.72	-22.94	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-26.89	-0.81	-1.20	*-5.33*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.8	56.9	55.1	49.1	57.7	58.3
Medium Trucks:	52.8	51.3	44.9	43.4	51.8	52.0
Heavy Trucks:	54.1	52.7	43.6	44.9	53.2	53.4
Vehicle Noise:	60.8	59.1	55.8	51.2	59.8	60.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	27	59	127
CNEL:	14	29	63	136

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Otay Mesa Rd
Road Segment: w/o Harvest Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,170 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	217 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-8.07	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	77.72	-25.31	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-29.27	-0.81	-1.20	*-5.33*	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:	56.4	54.5	52.7	46.7	55.3	55.9
Medium Trucks:	50.4	48.9	42.5	41.0	49.4	49.7
Heavy Trucks:	51.7	50.3	41.3	42.5	50.9	51.0
Vehicle Noise:	58.4	56.7	53.4	48.9	57.4	57.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	41	88
CNEL:	9	20	44	94

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Otay Mesa Rd
Road Segment: w/o Sanyo Ave

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,300 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	230 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-7.82	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	77.72	-25.06	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-29.02	-0.81	-1.20	*-5.33*	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:	56.7	54.8	53.0	46.9	55.6	56.2
Medium Trucks:	50.6	49.1	42.8	41.2	49.7	49.9
Heavy Trucks:	52.0	50.5	41.5	42.8	51.1	51.2
Vehicle Noise:	58.7	56.9	53.7	49.1	57.7	58.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	20	43	92
CNEL:	10	21	46	98

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Otay Mesa Rd
Road Segment: e/o Sanyo Ave

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,270 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	227 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-7.88	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	77.72	-25.12	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-29.07	-0.81	-1.20	*-5.33*	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:	56.6	54.7	52.9	46.9	55.5	56.1
Medium Trucks:	50.6	49.1	42.7	41.2	49.6	49.9
Heavy Trucks:	51.9	50.5	41.5	42.7	51.1	51.2
Vehicle Noise:	58.6	56.9	53.6	49.1	57.6	58.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	20	42	91
CNEL:	10	21	45	97

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Otay Mesa Rd
Road Segment: e/o Vann Cantre Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,580 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	158 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-9.45	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	77.72	-26.69	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-30.65	-0.81	-1.20	*-5.33*	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:	55.0	53.1	51.4	45.3	53.9	54.5
Medium Trucks:	49.0	47.5	41.1	39.6	48.1	48.3
Heavy Trucks:	50.3	48.9	39.9	41.1	49.5	49.6
Vehicle Noise:	57.0	55.3	52.0	47.5	56.0	56.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	33	71
CNEL:	8	16	35	76

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Otay Mesa Rd
Road Segment: e/o Enrico Fermi Dr

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,120 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	412 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	38 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	49.0 feet
Centerline Dist. to Observer:	49.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	45.442
Medium Trucks:	45.247
Heavy Trucks:	45.266

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.29	0.52	-1.20	*-4.64*	0.000	0.000
Medium Trucks:	77.72	-22.53	0.55	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-26.48	0.54	-1.20	*-5.44*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.5	58.6	56.9	50.8	59.4	60.0
Medium Trucks:	54.5	53.0	46.7	45.1	53.6	53.8
Heavy Trucks:	55.9	54.4	45.4	46.6	55.0	55.1
Vehicle Noise:	62.6	60.8	57.5	53.0	61.5	62.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	29	62	134
CNEL:	14	31	66	143

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E + P
Road Name: La Media Rd
Road Segment: n/o Otay Mesa Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,530 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	153 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-10.10	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	79.45	-27.34	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-31.30	-0.81	-1.20	*-5.33*	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:	56.3	54.4	52.7	46.6	55.2	55.8
Medium Trucks:	50.1	48.6	42.2	40.7	49.1	49.4
Heavy Trucks:	50.9	49.5	40.5	41.7	50.1	50.2
Vehicle Noise:	58.2	56.4	53.3	48.6	57.1	57.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	39	85
CNEL:	9	20	42	91

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E + P
Road Name: La Media Rd
Road Segment: s/o Otay Mesa Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,480 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	248 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-8.01	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	79.45	-25.24	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-29.20	-0.81	-1.20	*-5.33*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.4	56.5	54.8	48.7	57.3	57.9
Medium Trucks:	52.2	50.7	44.3	42.8	51.2	51.5
Heavy Trucks:	53.0	51.6	42.6	43.8	52.2	52.3
Vehicle Noise:	60.3	58.5	55.4	50.7	59.2	59.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	25	54	117
CNEL:	13	27	58	125

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E + P
Road Name: Piper Ranch Rd
Road Segment: n/o Otay Mesa Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,070 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	307 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-6.57	3.26	-1.20	*-4.49*	0.000	0.000
Medium Trucks:	77.72	-23.81	3.33	-1.20	*-4.86*	0.000	0.000
Heavy Trucks:	82.99	-27.76	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	60.1	58.3	52.3	60.9	61.5
Medium Trucks:	56.0	54.5	48.2	46.6	55.1	55.3
Heavy Trucks:	57.4	55.9	46.9	48.1	56.5	56.6
Vehicle Noise:	64.0	62.3	59.0	54.5	63.0	63.5

Centerline Distance to Noise Contour (in feet)

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

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E + P
Road Name: Harvest Rd
Road Segment: s/o Otay Mesa Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-28.43	3.26	-1.20	*-4.49*	0.000	0.000
Medium Trucks:	77.72	-45.67	3.33	-1.20	*-4.86*	0.000	0.000
Heavy Trucks:	82.99	-49.62	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	40.1	38.2	36.5	30.4	39.0	39.7
Medium Trucks:	34.2	32.7	26.3	24.8	33.2	33.5
Heavy Trucks:	35.5	34.1	25.0	26.3	34.6	34.8
Vehicle Noise:	42.2	40.4	37.2	32.6	41.2	41.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	1	2	4
CNEL:	0	1	2	4

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E + P
Road Name: Sanyo Ave
Road Segment: s/o Otay Mesa Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,400 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	240 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-8.15	3.26	-1.20	*-4.49*	0.000	0.000
Medium Trucks:	79.45	-25.39	3.33	-1.20	*-4.86*	0.000	0.000
Heavy Trucks:	84.25	-29.34	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.4	60.5	58.7	52.7	61.3	61.9
Medium Trucks:	56.2	54.7	48.3	46.8	55.2	55.5
Heavy Trucks:	57.0	55.6	46.6	47.8	56.2	56.3
Vehicle Noise:	64.2	62.5	59.3	54.7	63.2	63.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	23	49	106
CNEL:	11	24	53	113

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E + P
Road Name: Vann Cantre Rd
Road Segment: s/o Otay Mesa Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	440 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	44 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-15.00	3.26	-1.20	*-4.49*	0.000	0.000
Medium Trucks:	77.72	-32.24	3.33	-1.20	*-4.86*	0.000	0.000
Heavy Trucks:	82.99	-36.20	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.6	51.7	49.9	43.9	52.5	53.1
Medium Trucks:	47.6	46.1	39.7	38.2	46.6	46.9
Heavy Trucks:	48.9	47.5	38.5	39.7	48.1	48.2
Vehicle Noise:	55.6	53.9	50.6	46.0	54.6	55.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	3	6	13	28
CNEL:	3	6	14	30

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E + P
Road Name: Enrico Fermi Dr
Road Segment: n/o Otay Mesa Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,540 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	254 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	38 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	49.0 feet
Centerline Dist. to Observer:	49.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	45.442
Medium Trucks:	45.247
Heavy Trucks:	45.266

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-7.39	0.52	-1.20	*-4.64*	0.000	0.000
Medium Trucks:	77.72	-24.63	0.55	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-28.59	0.54	-1.20	*-5.44*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.4	56.5	54.8	48.7	57.3	57.9
Medium Trucks:	52.4	50.9	44.6	43.0	51.5	51.7
Heavy Trucks:	53.8	52.3	43.3	44.5	52.9	53.0
Vehicle Noise:	60.5	58.7	55.4	50.9	59.4	59.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	21	45	97
CNEL:	10	22	48	104

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E + P
Road Name: Enrico Fermi Dr
Road Segment: s/o Otay Mesa Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,890 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	189 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	38 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	49.0 feet
Centerline Dist. to Observer:	49.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	45.442
Medium Trucks:	45.247
Heavy Trucks:	45.266

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-8.67	0.52	-1.20	*-4.64*	0.000	0.000
Medium Trucks:	77.72	-25.91	0.55	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-29.87	0.54	-1.20	*-5.44*	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:	57.2	55.3	53.5	47.4	56.1	56.7
Medium Trucks:	51.1	49.6	43.3	41.7	50.2	50.4
Heavy Trucks:	52.5	51.0	42.0	43.3	51.6	51.7
Vehicle Noise:	59.2	57.4	54.2	49.6	58.2	58.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	79
CNEL:	9	18	39	85

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E + P
Road Name: Otay Mesa Rd
Road Segment: w/o La Media Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,620 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	362 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.85	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	77.72	-23.09	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-27.05	-0.81	-1.20	*-5.33*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.6	56.7	55.0	48.9	57.5	58.1
Medium Trucks:	52.6	51.1	44.7	43.2	51.7	51.9
Heavy Trucks:	53.9	52.5	43.5	44.7	53.1	53.2
Vehicle Noise:	60.6	58.9	55.6	51.1	59.6	60.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	27	58	124
CNEL:	13	29	62	133

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E + P
Road Name: Otay Mesa Rd
Road Segment: w/o Piper Ranch Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,300 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	430 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.10	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	77.72	-22.34	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-26.30	-0.81	-1.20	*-5.33*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.4	57.5	55.7	49.7	58.3	58.9
Medium Trucks:	53.4	51.9	45.5	44.0	52.4	52.6
Heavy Trucks:	54.7	53.3	44.2	45.5	53.8	54.0
Vehicle Noise:	61.4	59.7	56.4	51.8	60.4	60.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	30	65	139
CNEL:	15	32	69	149

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E + P
Road Name: Otay Mesa Rd
Road Segment: w/o SR-125 SB Off Ramp

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,150 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	415 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.26	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	77.72	-22.50	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-26.45	-0.81	-1.20	*-5.33*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.2	57.3	55.6	49.5	58.1	58.7
Medium Trucks:	53.2	51.7	45.3	43.8	52.3	52.5
Heavy Trucks:	54.5	53.1	44.1	45.3	53.7	53.8
Vehicle Noise:	61.2	59.5	56.2	51.7	60.2	60.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	29	63	136
CNEL:	15	31	68	145

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E + P
Road Name: Otay Mesa Rd
Road Segment: w/o SR-125 NB Off Ramp

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,890 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	489 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.55	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	77.72	-21.78	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-25.74	-0.81	-1.20	*-5.33*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.9	58.0	56.3	50.2	58.8	59.4
Medium Trucks:	53.9	52.4	46.1	44.5	53.0	53.2
Heavy Trucks:	55.2	53.8	44.8	46.0	54.4	54.5
Vehicle Noise:	62.0	60.2	56.9	52.4	60.9	61.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	15	33	70	152
CNEL:	16	35	75	162

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E + P
Road Name: Otay Mesa Rd
Road Segment: w/o Harvest Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,310 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	331 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-6.24	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	77.72	-23.48	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-27.44	-0.81	-1.20	*-5.33*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.2	56.3	54.6	48.5	57.1	57.8
Medium Trucks:	52.2	50.7	44.4	42.8	51.3	51.5
Heavy Trucks:	53.5	52.1	43.1	44.3	52.7	52.8
Vehicle Noise:	60.3	58.5	55.2	50.7	59.2	59.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	25	54	117
CNEL:	13	27	58	125

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E + P
Road Name: Otay Mesa Rd
Road Segment: w/o Sanyo Ave

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,890 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	289 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-6.83	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	77.72	-24.07	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-28.02	-0.81	-1.20	*-5.33*	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:	57.7	55.8	54.0	47.9	56.6	57.2
Medium Trucks:	51.6	50.1	43.8	42.2	50.7	50.9
Heavy Trucks:	53.0	51.5	42.5	43.8	52.1	52.2
Vehicle Noise:	59.7	57.9	54.7	50.1	58.6	59.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	23	50	107
CNEL:	11	25	53	114

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E + P
Road Name: Otay Mesa Rd
Road Segment: e/o Sanyo Ave

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,780 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	278 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-7.00	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	77.72	-24.24	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-28.19	-0.81	-1.20	*-5.33*	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:	57.5	55.6	53.8	47.8	56.4	57.0
Medium Trucks:	51.5	50.0	43.6	42.1	50.5	50.7
Heavy Trucks:	52.8	51.4	42.3	43.6	51.9	52.1
Vehicle Noise:	59.5	57.8	54.5	49.9	58.5	58.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	22	48	104
CNEL:	11	24	52	111

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E + P
Road Name: Otay Mesa Rd
Road Segment: e/o Vann Cantre Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,890 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	189 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-8.67	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	77.72	-25.91	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-29.87	-0.81	-1.20	*-5.33*	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:	55.8	53.9	52.1	46.1	54.7	55.3
Medium Trucks:	49.8	48.3	41.9	40.4	48.8	49.1
Heavy Trucks:	51.1	49.7	40.7	41.9	50.3	50.4
Vehicle Noise:	57.8	56.1	52.8	48.3	56.8	57.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	80
CNEL:	9	19	40	86

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E + P
Road Name: Otay Mesa Rd
Road Segment: e/o Enrico Fermi Dr

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,140 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	414 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	38 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	49.0 feet
Centerline Dist. to Observer:	49.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	45.442
Medium Trucks:	45.247
Heavy Trucks:	45.266

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.27	0.52	-1.20	*-4.64*	0.000	0.000
Medium Trucks:	77.72	-22.51	0.55	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-26.46	0.54	-1.20	*-5.44*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.6	58.7	56.9	50.8	59.5	60.1
Medium Trucks:	54.6	53.0	46.7	45.1	53.6	53.8
Heavy Trucks:	55.9	54.5	45.4	46.7	55.0	55.1
Vehicle Noise:	62.6	60.8	57.6	53.0	61.6	62.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	29	62	134
CNEL:	14	31	67	144

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: La Media Rd
Road Segment: n/o Otay Mesa Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,600 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	160 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-9.91	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	79.45	-27.15	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-31.10	-0.81	-1.20	*-5.33*	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:	56.5	54.6	52.9	46.8	55.4	56.0
Medium Trucks:	50.3	48.8	42.4	40.9	49.3	49.6
Heavy Trucks:	51.1	49.7	40.7	41.9	50.3	50.4
Vehicle Noise:	58.4	56.6	53.5	48.8	57.3	57.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	41	87
CNEL:	9	20	43	94

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: La Media Rd
Road Segment: s/o Otay Mesa Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,030 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	203 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-8.88	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	79.45	-26.11	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-30.07	-0.81	-1.20	*-5.33*	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:	57.6	55.7	53.9	47.8	56.5	57.1
Medium Trucks:	51.3	49.8	43.5	41.9	50.4	50.6
Heavy Trucks:	52.2	50.8	41.7	43.0	51.3	51.4
Vehicle Noise:	59.4	57.7	54.5	49.8	58.4	58.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	22	48	102
CNEL:	11	24	51	110

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Piper Ranch Rd
Road Segment: n/o Otay Mesa Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,210 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	321 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-6.37	3.26	-1.20	*-4.49*	0.000	0.000
Medium Trucks:	77.72	-23.61	3.33	-1.20	*-4.86*	0.000	0.000
Heavy Trucks:	82.99	-27.57	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.2	60.3	58.5	52.5	61.1	61.7
Medium Trucks:	56.2	54.7	48.4	46.8	55.3	55.5
Heavy Trucks:	57.5	56.1	47.1	48.3	56.7	56.8
Vehicle Noise:	64.2	62.5	59.2	54.7	63.2	63.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	23	49	106
CNEL:	11	24	53	113

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Harvest Rd
Road Segment: s/o Otay Mesa Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-28.43	3.26	-1.20	*-4.49*	0.000	0.000
Medium Trucks:	77.72	-45.67	3.33	-1.20	*-4.86*	0.000	0.000
Heavy Trucks:	82.99	-49.62	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	40.1	38.2	36.5	30.4	39.0	39.7
Medium Trucks:	34.2	32.7	26.3	24.8	33.2	33.5
Heavy Trucks:	35.5	34.1	25.0	26.3	34.6	34.8
Vehicle Noise:	42.2	40.4	37.2	32.6	41.2	41.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	1	2	4
CNEL:	0	1	2	4

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Sanyo Ave
Road Segment: s/o Otay Mesa Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,430 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	243 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-8.09	3.26	-1.20	*-4.49*	0.000	0.000
Medium Trucks:	79.45	-25.33	3.33	-1.20	*-4.86*	0.000	0.000
Heavy Trucks:	84.25	-29.29	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.4	60.5	58.8	52.7	61.3	61.9
Medium Trucks:	56.2	54.7	48.4	46.8	55.3	55.5
Heavy Trucks:	57.1	55.7	46.6	47.9	56.2	56.4
Vehicle Noise:	64.3	62.5	59.4	54.7	63.3	63.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	23	49	107
CNEL:	11	25	53	114

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Vann Cantre Rd
Road Segment: s/o Otay Mesa Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	460 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	46 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-14.81	3.26	-1.20	*-4.49*	0.000	0.000
Medium Trucks:	77.72	-32.05	3.33	-1.20	*-4.86*	0.000	0.000
Heavy Trucks:	82.99	-36.01	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.8	51.9	50.1	44.0	52.7	53.3
Medium Trucks:	47.8	46.3	39.9	38.4	46.8	47.1
Heavy Trucks:	49.1	47.7	38.7	39.9	48.3	48.4
Vehicle Noise:	55.8	54.1	50.8	46.2	54.8	55.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	3	6	13	29
CNEL:	3	7	14	31

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Enrico Fermi Dr
Road Segment: n/o Otay Mesa Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,690 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	269 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	38 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	49.0 feet
Centerline Dist. to Observer:	49.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	45.442
Medium Trucks:	45.247
Heavy Trucks:	45.266

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-7.14	0.52	-1.20	*-4.64*	0.000	0.000
Medium Trucks:	77.72	-24.38	0.55	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-28.34	0.54	-1.20	*-5.44*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.7	56.8	55.0	49.0	57.6	58.2
Medium Trucks:	52.7	51.2	44.8	43.3	51.7	52.0
Heavy Trucks:	54.0	52.6	43.5	44.8	53.1	53.3
Vehicle Noise:	60.7	59.0	55.7	51.1	59.7	60.1

Centerline Distance to Noise Contour (in feet)

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

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Enrico Fermi Dr
Road Segment: s/o Otay Mesa Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,690 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	169 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	38 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	49.0 feet
Centerline Dist. to Observer:	49.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	45.442
Medium Trucks:	45.247
Heavy Trucks:	45.266

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-9.16	0.52	-1.20	*-4.64*	0.000	0.000
Medium Trucks:	77.72	-26.40	0.55	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-30.35	0.54	-1.20	*-5.44*	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:	56.7	54.8	53.0	47.0	55.6	56.2
Medium Trucks:	50.7	49.2	42.8	41.2	49.7	49.9
Heavy Trucks:	52.0	50.6	41.5	42.8	51.1	51.3
Vehicle Noise:	58.7	57.0	53.7	49.1	57.7	58.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	16	34	74
CNEL:	8	17	37	79

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Otay Mesa Rd
Road Segment: w/o La Media Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,580 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	358 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.90	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	77.72	-23.14	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-27.09	-0.81	-1.20	*-5.33*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.6	56.7	54.9	48.9	57.5	58.1
Medium Trucks:	52.6	51.1	44.7	43.2	51.6	51.8
Heavy Trucks:	53.9	52.5	43.4	44.7	53.0	53.2
Vehicle Noise:	60.6	58.9	55.6	51.0	59.6	60.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	27	57	123
CNEL:	13	28	61	132

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Otay Mesa Rd
Road Segment: w/o Piper Ranch Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,690 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	369 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.77	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	77.72	-23.01	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-26.96	-0.81	-1.20	*-5.33*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.7	56.8	55.1	49.0	57.6	58.2
Medium Trucks:	52.7	51.2	44.8	43.3	51.7	52.0
Heavy Trucks:	54.0	52.6	43.6	44.8	53.2	53.3
Vehicle Noise:	60.7	59.0	55.7	51.2	59.7	60.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	27	58	126
CNEL:	13	29	62	135

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Otay Mesa Rd
Road Segment: w/o SR-125 SB Off Ramp

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,490 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	349 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-6.01	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	77.72	-23.25	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-27.21	-0.81	-1.20	*-5.33*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.5	56.6	54.8	48.8	57.4	58.0
Medium Trucks:	52.5	51.0	44.6	43.0	51.5	51.7
Heavy Trucks:	53.8	52.4	43.3	44.6	52.9	53.1
Vehicle Noise:	60.5	58.8	55.5	50.9	59.5	59.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	56	121
CNEL:	13	28	60	130

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Otay Mesa Rd
Road Segment: w/o SR-125 NB Off Ramp

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,970 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	397 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.45	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	77.72	-22.69	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-26.65	-0.81	-1.20	*-5.33*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.0	57.1	55.4	49.3	57.9	58.5
Medium Trucks:	53.0	51.5	45.1	43.6	52.1	52.3
Heavy Trucks:	54.3	52.9	43.9	45.1	53.5	53.6
Vehicle Noise:	61.0	59.3	56.0	51.5	60.0	60.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	61	132
CNEL:	14	30	66	141

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Otay Mesa Rd
Road Segment: w/o Harvest Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,300 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	230 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-7.82	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	77.72	-25.06	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-29.02	-0.81	-1.20	*-5.33*	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:	56.7	54.8	53.0	46.9	55.6	56.2
Medium Trucks:	50.6	49.1	42.8	41.2	49.7	49.9
Heavy Trucks:	52.0	50.5	41.5	42.8	51.1	51.2
Vehicle Noise:	58.7	56.9	53.7	49.1	57.7	58.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	20	43	92
CNEL:	10	21	46	98

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Otay Mesa Rd
Road Segment: w/o Sanyo Ave

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,430 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	243 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-7.58	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	77.72	-24.82	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-28.78	-0.81	-1.20	*-5.33*	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:	56.9	55.0	53.2	47.2	55.8	56.4
Medium Trucks:	50.9	49.4	43.0	41.5	49.9	50.2
Heavy Trucks:	52.2	50.8	41.7	43.0	51.4	51.5
Vehicle Noise:	58.9	57.2	53.9	49.4	57.9	58.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	20	44	95
CNEL:	10	22	47	102

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Otay Mesa Rd
Road Segment: e/o Sanyo Ave

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,410 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	241 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-7.62	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	77.72	-24.86	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-28.81	-0.81	-1.20	*-5.33*	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:	56.9	55.0	53.2	47.1	55.8	56.4
Medium Trucks:	50.9	49.3	43.0	41.4	49.9	50.1
Heavy Trucks:	52.2	50.7	41.7	43.0	51.3	51.4
Vehicle Noise:	58.9	57.1	53.9	49.3	57.9	58.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	20	44	95
CNEL:	10	22	47	101

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Otay Mesa Rd
Road Segment: e/o Vann Cantre Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,670 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	167 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-9.21	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	77.72	-26.45	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-30.41	-0.81	-1.20	*-5.33*	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:	55.3	53.4	51.6	45.6	54.2	54.8
Medium Trucks:	49.3	47.7	41.4	39.8	48.3	48.5
Heavy Trucks:	50.6	49.2	40.1	41.4	49.7	49.9
Vehicle Noise:	57.3	55.6	52.3	47.7	56.3	56.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	16	34	74
CNEL:	8	17	37	79

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Otay Mesa Rd
Road Segment: e/o Enrico Fermi Dr

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,360 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	436 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	38 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	49.0 feet
Centerline Dist. to Observer:	49.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	45.442
Medium Trucks:	45.247
Heavy Trucks:	45.266

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.04	0.52	-1.20	*-4.64*	0.000	0.000
Medium Trucks:	77.72	-22.28	0.55	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-26.24	0.54	-1.20	*-5.44*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.8	58.9	57.1	51.1	59.7	60.3
Medium Trucks:	54.8	53.3	46.9	45.4	53.8	54.1
Heavy Trucks:	56.1	54.7	45.6	46.9	55.2	55.4
Vehicle Noise:	62.8	61.1	57.8	53.2	61.8	62.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	30	64	139
CNEL:	15	32	69	149

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC
Road Name: La Media Rd
Road Segment: n/o Otay Mesa Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,620 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	162 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-9.86	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	79.45	-27.09	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-31.05	-0.81	-1.20	*-5.33*	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:	56.6	54.7	52.9	46.9	55.5	56.1
Medium Trucks:	50.3	48.8	42.5	40.9	49.4	49.6
Heavy Trucks:	51.2	49.8	40.7	42.0	50.3	50.5
Vehicle Noise:	58.4	56.7	53.5	48.8	57.4	57.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	19	41	88
CNEL:	9	20	44	94

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC
Road Name: La Media Rd
Road Segment: s/o Otay Mesa Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,590 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	259 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-7.82	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	79.45	-25.06	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-29.01	-0.81	-1.20	*-5.33*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.6	56.7	55.0	48.9	57.5	58.1
Medium Trucks:	52.4	50.9	44.5	43.0	51.4	51.7
Heavy Trucks:	53.2	51.8	42.8	44.0	52.4	52.5
Vehicle Noise:	60.5	58.7	55.6	50.9	59.4	59.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	56	120
CNEL:	13	28	60	129

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC
Road Name: Piper Ranch Rd
Road Segment: n/o Otay Mesa Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,250 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	325 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-6.32	3.26	-1.20	*-4.49*	0.000	0.000
Medium Trucks:	77.72	-23.56	3.33	-1.20	*-4.86*	0.000	0.000
Heavy Trucks:	82.99	-27.51	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.3	60.4	58.6	52.5	61.2	61.8
Medium Trucks:	56.3	54.8	48.4	46.9	55.3	55.6
Heavy Trucks:	57.6	56.2	47.1	48.4	56.7	56.9
Vehicle Noise:	64.3	62.6	59.3	54.7	63.3	63.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	23	50	107
CNEL:	11	25	53	114

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC
Road Name: Harvest Rd
Road Segment: s/o Otay Mesa Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-28.43	3.26	-1.20	*-4.49*	0.000	0.000
Medium Trucks:	77.72	-45.67	3.33	-1.20	*-4.86*	0.000	0.000
Heavy Trucks:	82.99	-49.62	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	40.1	38.2	36.5	30.4	39.0	39.7
Medium Trucks:	34.2	32.7	26.3	24.8	33.2	33.5
Heavy Trucks:	35.5	34.1	25.0	26.3	34.6	34.8
Vehicle Noise:	42.2	40.4	37.2	32.6	41.2	41.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	1	2	4
CNEL:	0	1	2	4

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC
Road Name: Sanyo Ave
Road Segment: s/o Otay Mesa Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,540 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	254 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-7.90	3.26	-1.20	*-4.49*	0.000	0.000
Medium Trucks:	79.45	-25.14	3.33	-1.20	*-4.86*	0.000	0.000
Heavy Trucks:	84.25	-29.10	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.6	60.7	59.0	52.9	61.5	62.1
Medium Trucks:	56.4	54.9	48.6	47.0	55.5	55.7
Heavy Trucks:	57.3	55.9	46.8	48.1	56.4	56.6
Vehicle Noise:	64.5	62.7	59.6	54.9	63.5	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	51	110
CNEL:	12	25	55	118

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC
Road Name: Vann Cantre Rd
Road Segment: s/o Otay Mesa Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	460 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	46 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	29.816
Medium Trucks:	29.518
Heavy Trucks:	29.547

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-14.81	3.26	-1.20	*-4.49*	0.000	0.000
Medium Trucks:	77.72	-32.05	3.33	-1.20	*-4.86*	0.000	0.000
Heavy Trucks:	82.99	-36.01	3.32	-1.20	*-5.77*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.8	51.9	50.1	44.0	52.7	53.3
Medium Trucks:	47.8	46.3	39.9	38.4	46.8	47.1
Heavy Trucks:	49.1	47.7	38.7	39.9	48.3	48.4
Vehicle Noise:	55.8	54.1	50.8	46.2	54.8	55.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	3	6	13	29
CNEL:	3	7	14	31

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC
Road Name: Enrico Fermi Dr
Road Segment: n/o Otay Mesa Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,690 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	269 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	38 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	49.0 feet
Centerline Dist. to Observer:	49.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	45.442
Medium Trucks:	45.247
Heavy Trucks:	45.266

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-7.14	0.52	-1.20	*-4.64*	0.000	0.000
Medium Trucks:	77.72	-24.38	0.55	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-28.34	0.54	-1.20	*-5.44*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.7	56.8	55.0	49.0	57.6	58.2
Medium Trucks:	52.7	51.2	44.8	43.3	51.7	52.0
Heavy Trucks:	54.0	52.6	43.5	44.8	53.1	53.3
Vehicle Noise:	60.7	59.0	55.7	51.1	59.7	60.1

Centerline Distance to Noise Contour (in feet)

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

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC
Road Name: Enrico Fermi Dr
Road Segment: s/o Otay Mesa Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,980 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	198 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	38 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	49.0 feet
Centerline Dist. to Observer:	49.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	45.442
Medium Trucks:	45.247
Heavy Trucks:	45.266

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-8.47	0.52	-1.20	*-4.64*	0.000	0.000
Medium Trucks:	77.72	-25.71	0.55	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-29.67	0.54	-1.20	*-5.44*	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:	57.4	55.5	53.7	47.6	56.3	56.9
Medium Trucks:	51.4	49.8	43.5	41.9	50.4	50.6
Heavy Trucks:	52.7	51.3	42.2	43.5	51.8	51.9
Vehicle Noise:	59.4	57.6	54.4	49.8	58.4	58.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	38	82
CNEL:	9	19	41	88

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC
Road Name: Otay Mesa Rd
Road Segment: w/o La Media Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,820 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	382 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.62	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	77.72	-22.86	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-26.81	-0.81	-1.20	*-5.33*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.9	57.0	55.2	49.1	57.8	58.4
Medium Trucks:	52.9	51.3	45.0	43.4	51.9	52.1
Heavy Trucks:	54.2	52.8	43.7	45.0	53.3	53.4
Vehicle Noise:	60.9	59.1	55.9	51.3	59.9	60.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	60	129
CNEL:	14	30	64	138

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC
Road Name: Otay Mesa Rd
Road Segment: w/o Piper Ranch Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,510 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	451 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.90	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	77.72	-22.14	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-26.09	-0.81	-1.20	*-5.33*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.6	57.7	55.9	49.9	58.5	59.1
Medium Trucks:	53.6	52.1	45.7	44.2	52.6	52.9
Heavy Trucks:	54.9	53.5	44.4	45.7	54.0	54.2
Vehicle Noise:	61.6	59.9	56.6	52.0	60.6	61.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	31	67	144
CNEL:	15	33	71	154

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC
Road Name: Otay Mesa Rd
Road Segment: w/o SR-125 SB Off Ramp

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,350 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	435 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.05	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	77.72	-22.29	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-26.25	-0.81	-1.20	*-5.33*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.4	57.5	55.8	49.7	58.3	58.9
Medium Trucks:	53.4	51.9	45.5	44.0	52.5	52.7
Heavy Trucks:	54.7	53.3	44.3	45.5	53.9	54.0
Vehicle Noise:	61.4	59.7	56.4	51.9	60.4	60.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	30	65	140
CNEL:	15	32	70	150

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC
Road Name: Otay Mesa Rd
Road Segment: w/o SR-125 NB Off Ramp

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,110 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	511 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.36	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	77.72	-21.59	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-25.55	-0.81	-1.20	*-5.33*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	58.2	56.5	50.4	59.0	59.6
Medium Trucks:	54.1	52.6	46.2	44.7	53.2	53.4
Heavy Trucks:	55.4	54.0	45.0	46.2	54.6	54.7
Vehicle Noise:	62.1	60.4	57.1	52.6	61.1	61.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	16	34	72	156
CNEL:	17	36	78	167

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC
Road Name: Otay Mesa Rd
Road Segment: w/o Harvest Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,440 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	344 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-6.07	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	77.72	-23.31	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-27.27	-0.81	-1.20	*-5.33*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.4	56.5	54.7	48.7	57.3	57.9
Medium Trucks:	52.4	50.9	44.5	43.0	51.4	51.7
Heavy Trucks:	53.7	52.3	43.3	44.5	52.9	53.0
Vehicle Noise:	60.4	58.7	55.4	50.9	59.4	59.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	56	120
CNEL:	13	28	60	128

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC
Road Name: Otay Mesa Rd
Road Segment: w/o Sanyo Ave

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,020 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	302 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-6.64	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	77.72	-23.88	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-27.83	-0.81	-1.20	*-5.33*	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:	57.8	55.9	54.2	48.1	56.7	57.4
Medium Trucks:	51.8	50.3	44.0	42.4	50.9	51.1
Heavy Trucks:	53.2	51.7	42.7	43.9	52.3	52.4
Vehicle Noise:	59.9	58.1	54.8	50.3	58.8	59.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	51	110
CNEL:	12	25	55	118

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC
Road Name: Otay Mesa Rd
Road Segment: e/o Sanyo Ave

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,920 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	292 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-6.79	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	77.72	-24.02	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-27.98	-0.81	-1.20	*-5.33*	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:	57.7	55.8	54.0	48.0	56.6	57.2
Medium Trucks:	51.7	50.2	43.8	42.3	50.7	51.0
Heavy Trucks:	53.0	51.6	42.5	43.8	52.2	52.3
Vehicle Noise:	59.7	58.0	54.7	50.2	58.7	59.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	23	50	107
CNEL:	12	25	53	115

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC
Road Name: Otay Mesa Rd
Road Segment: e/o Vann Cantre Rd

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,980 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	198 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	50 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	61.0 feet
Centerline Dist. to Observer:	61.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	55.866
Medium Trucks:	55.707
Heavy Trucks:	55.723

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-8.47	-0.83	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	77.72	-25.71	-0.81	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-29.67	-0.81	-1.20	*-5.33*	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:	56.0	54.1	52.3	46.3	54.9	55.5
Medium Trucks:	50.0	48.5	42.1	40.6	49.0	49.3
Heavy Trucks:	51.3	49.9	40.9	42.1	50.5	50.6
Vehicle Noise:	58.0	56.3	53.0	48.5	57.0	57.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	39	83
CNEL:	9	19	41	89

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC
Road Name: Otay Mesa Rd
Road Segment: e/o Enrico Fermi Dr

Project Name: Majestic Otay 200
Job Number: 15250

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,380 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	438 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	38 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	49.0 feet
Centerline Dist. to Observer:	49.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	45.442
Medium Trucks:	45.247
Heavy Trucks:	45.266

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.02	0.52	-1.20	*-4.64*	0.000	0.000
Medium Trucks:	77.72	-22.26	0.55	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-26.22	0.54	-1.20	*-5.44*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.8	58.9	57.1	51.1	59.7	60.3
Medium Trucks:	54.8	53.3	46.9	45.4	53.8	54.1
Heavy Trucks:	56.1	54.7	45.7	46.9	55.3	55.4
Vehicle Noise:	62.8	61.1	57.8	53.3	61.8	62.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	30	65	139
CNEL:	15	32	69	149

APPENDIX 3.1:

CADNAA: OPERATIONAL NOISE MODEL INPUTS

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15250 - Majestic Otay

CadnaA Noise Prediction Model: 15250-02_Operation.cna
Date: 08.08.23
Analyst: B. Maddux

Calculation Configuration

Configuration	
Parameter	**Value**
General	
Max. Error (dB)	**0.00**
Max. Search Radius (#(Unit,LEN))	**2000.01**
Min. Dist Src to Rcvr	**0.00**
Partition	
Raster Factor	**0.50**
Max. Length of Section (#(Unit,LEN))	**999.99**
Min. Length of Section (#(Unit,LEN))	**1.01**
Min. Length of Section (%)	**0.00**
Proj. Line Sources	**On**
Proj. Area Sources	**On**
Ref. Time	
Daytime Penalty (dB)	**0.00**
Recr. Time Penalty (dB)	**5.00**
Night-time Penalty (dB)	**10.00**
DTM	
Standard Height (m)	**0.00**
Model of Terrain	**Triangulation**
Reflection	
max. Order of Reflection	**2**
Search Radius Src	**100.00**
Search Radius Rcvr	**100.00**
Max. Distance Source - Rcvr	**1000.00 1000.00**
Min. Distance Rvcr - Reflector	**1.00 1.00**
Min. Distance Source - Reflector	**0.10**
Industrial (ISO 9613)	
Lateral Diffraction	**some Obj**
Obst. within Area Src do not shield	**On**
Screening	**Incl. Ground Att. over Barrier**
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	**3.0 20.0 0.0**
Temperature (#(Unit,TEMP))	**10**
rel. Humidity (%)	**70**
Ground Absorption G	**0.00**
Wind Speed for Dir. (#(Unit,SPEED))	**3.0**
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height		Coordinates			
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type			X	Y	Z	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)	
R1		R1	38.0	37.7	44.3	0.0	0.0	0.0		x	Total	5.00	r	6349065.95	1783270.46	5.00	
R2		R2	42.1	41.9	48.6	0.0	0.0	0.0		x	Total	5.00	r	6345334.29	1790924.45	5.00	
R3		R3	41.9	41.7	48.3	0.0	0.0	0.0		x	Total	5.00	r	6350007.54	1792002.50	5.00	

Point Source(s)

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night			X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
AC001		AC001	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6350386.60	1787214.36	33.00
AC002		AC002	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6350350.14	1787213.84	33.00
AC003		AC003	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6349837.81	1787215.51	33.00
AC004		AC004	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6349802.22	1787214.65	33.00
AC005		AC005	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6349612.12	1787218.99	33.00
AC006		AC006	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6349573.92	1787218.12	33.00
AC007		AC007	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6349068.19	1787232.35	33.00
AC008		AC008	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6349030.69	1787232.35	33.00
AC009		AC009	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6348737.64	1787234.44	33.00
AC010		AC010	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6348692.50	1787236.52	33.00
AC011		AC011	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6348342.67	1787241.38	33.00
AC012		AC012	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6348298.23	1787241.38	33.00
AC013		AC013	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6348116.28	1787244.85	33.00
AC014		AC014	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6348071.15	1787245.55	33.00
AC015		AC015	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6347733.65	1787249.02	33.00
AC016		AC016	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6347688.51	1787252.49	33.00
AC017		AC017	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6347714.46	1788141.52	33.00

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night			X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
AC018		AC018	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6347754.73	1788140.83	33.00
AC019		AC019	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6348113.76	1788133.88	33.00
AC020		AC020	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6348157.51	1788133.88	33.00
AC021		AC021	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6348223.48	1788131.10	33.00
AC022		AC022	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6348616.97	1788126.38	33.00
AC023		AC023	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6348567.49	1788125.08	33.00
AC024		AC024	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6348975.05	1788126.38	33.00
AC025		AC025	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6349019.32	1788125.08	33.00
AC026		AC026	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6349271.92	1788125.08	33.00
AC027		AC027	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6349305.78	1788121.17	33.00
AC028		AC028	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6349338.33	1788122.48	33.00
AC029		AC029	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6349594.84	1788117.27	33.00
AC030		AC030	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6349632.60	1788115.97	33.00
AC031		AC031	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6349822.70	1788115.97	33.00
AC032		AC032	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6349863.07	1788113.36	33.00
AC033		AC033	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6350334.42	1788101.64	33.00
AC034		AC034	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6350370.88	1788100.34	33.00
AC035		AC035	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6349730.25	1788868.57	33.00
AC036		AC036	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6349684.68	1788869.87	33.00
AC037		AC037	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6349443.80	1788876.38	33.00
AC038		AC038	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6349381.30	1788877.68	33.00
AC039		AC039	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6349314.89	1788878.99	33.00
AC040		AC040	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6349021.92	1788880.29	33.00
AC041		AC041	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6347844.92	1788487.37	33.00
AC042		AC042	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6347846.65	1788529.04	33.00
AC043		AC043	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6347850.93	1788913.07	33.00
AC044		AC044	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6347849.62	1788883.12	33.00
AC045		AC045	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6347810.54	1789136.92	33.00
AC046		AC046	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6347852.47	1789135.88	33.00
AC047		AC047	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6348445.96	1789125.46	33.00
AC048		AC048	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6348403.25	1789127.54	33.00
AC049		AC049	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6347344.51	1788489.41	33.00
AC050		AC050	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6347344.51	1788531.07	33.00
AC051		AC051	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6347347.11	1788880.94	33.00
AC052		AC052	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6347348.42	1788934.76	33.00
AC053		AC053	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6347347.11	1788987.28	33.00
AC054		AC054	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6347353.13	1789347.90	33.00
AC055		AC055	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6347353.13	1789388.79	33.00
AC056		AC056	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6346418.11	1788505.71	33.00
AC057		AC057	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6346419.84	1788544.94	33.00
AC058		AC058	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6346428.28	1788868.51	33.00
AC059		AC059	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6346428.02	1788914.08	33.00
AC060		AC060	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6346427.76	1788976.06	33.00
AC061		AC061	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6346433.15	1789356.50	33.00
AC062		AC062	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6346431.06	1789313.27	33.00
AC063		AC063	88.9	88.9	88.9	Lw	88.9		570.00	0.00	261.00	3.00	g	6348988.83	1788880.90	33.00
TRASH01		TRASH01	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	8.00	r	6348270.44	1787576.04	8.00
TRASH02		TRASH02	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	8.00	r	6348154.82	1787577.08	8.00
TRASH03		TRASH03	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	8.00	r	6349653.71	1787557.48	8.00
TRASH04		TRASH04	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	8.00	r	6349768.21	1787556.70	8.00
TRASH05		TRASH05	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	8.00	r	6349786.01	1787829.56	8.00
TRASH06		TRASH06	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	8.00	r	6349667.73	1787831.08	8.00
TRASH07		TRASH07	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	8.00	r	6348611.74	1787744.16	8.00
TRASH08		TRASH08	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	8.00	r	6347790.13	1787758.49	8.00
TRASH09		TRASH09	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	8.00	r	6349937.26	1788427.76	8.00
TRASH10		TRASH10	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	8.00	r	6349032.32	1788443.38	8.00
TRASH11		TRASH11	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	8.00	r	6348164.88	1788913.97	8.00
TRASH12		TRASH12	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	8.00	r	6347802.98	1789423.79	8.00
TRASH13		TRASH13	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	8.00	r	6346937.33	1789315.59	8.00
TRASH14		TRASH14	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	8.00	r	6346839.67	1789293.89	8.00
TRASH15		TRASH15	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	8.00	r	6346734.42	1788514.81	8.00
TRASH16		TRASH16	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	8.00	r	6347026.30	1788511.56	8.00

Line Source(s)

Name	M.	ID	Result. PWL			Result. PWL'			Lw / Li			Operating Time			Moving Pt. Src				Height
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	Number			Speed	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	Day	Evening	Night	(mph)	(ft)

Name	ID	Height		Coordinates			
		Begin	End	x	y	z	Ground
		(ft)	(ft)	(ft)	(ft)	(ft)	(ft)

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Operating Time			Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
LOAD1		LOAD1	103.7	103.7	103.7	62.4	62.4	62.4	Lw	103.7					8	r
LOAD2		LOAD2	103.7	103.7	103.7	62.3	62.3	62.3	Lw	103.7					8	r
LOAD3		LOAD3	103.7	103.7	103.7	62.8	62.8	62.8	Lw	103.7					8	r
LOAD4		LOAD4	103.7	103.7	103.7	65.6	65.6	65.6	Lw	103.7					8	r
LOAD5		LOAD5	103.7	103.7	103.7	61.6	61.6	61.6	Lw	103.7					8	r
LOAD6		LOAD6	103.7	103.7	103.7	57.7	57.7	57.7	Lw	103.7					8	r
LOAD7		LOAD7	103.7	103.7	103.7	59.0	59.0	59.0	Lw	103.7					8	r
PARK01		PARK01	74.3	74.3	74.3	41.6	41.6	41.6	Lw	74.3					5	r
PARK02		PARK02	74.3	74.3	74.3	41.7	41.7	41.7	Lw	74.3					5	r
PARK03		PARK03	74.3	74.3	74.3	38.9	38.9	38.9	Lw	74.3					5	r
PARK04		PARK04	74.3	74.3	74.3	39.0	39.0	39.0	Lw	74.3					5	r
PARK05		PARK05	74.3	74.3	74.3	47.1	47.1	47.1	Lw	74.3					5	r
PARK06		PARK06	74.3	74.3	74.3	44.2	44.2	44.2	Lw	74.3					5	r
PARK07		PARK07	74.3	74.3	74.3	37.0	37.0	37.0	Lw	74.3					5	r
PARK08		PARK08	74.3	74.3	74.3	44.1	44.1	44.1	Lw	74.3					5	r
PARK09		PARK09	74.3	74.3	74.3	48.0	48.0	48.0	Lw	74.3					5	r
PARK10		PARK10	74.3	74.3	74.3	38.8	38.8	38.8	Lw	74.3					5	r
PARK11		PARK11	74.3	74.3	74.3	39.4	39.4	39.4	Lw	74.3					5	r
PARK12		PARK12	74.3	74.3	74.3	39.6	39.6	39.6	Lw	74.3					5	r
PARK13		PARK13	74.3	74.3	74.3	47.5	47.5	47.5	Lw	74.3					5	r
PARK14		PARK14	74.3	74.3	74.3	41.3	41.3	41.3	Lw	74.3					5	r
PARK15		PARK15	74.3	74.3	74.3	40.5	40.5	40.5	Lw	74.3					5	r
PARK16		PARK16	74.3	74.3	74.3	45.3	45.3	45.3	Lw	74.3					5	r
PARK17		PARK17	74.3	74.3	74.3	36.2	36.2	36.2	Lw	74.3					5	r
PARK18		PARK18	74.3	74.3	74.3	41.7	41.7	41.7	Lw	74.3					5	r
PARK19		PARK19	74.3	74.3	74.3	46.0	46.0	46.0	Lw	74.3					5	r
PARK20		PARK20	74.3	74.3	74.3	37.5	37.5	37.5	Lw	74.3					5	r
PARK21		PARK21	74.3	74.3	74.3	36.1	36.1	36.1	Lw	74.3					5	r
PARK22		PARK22	74.3	74.3	74.3	45.2	45.2	45.2	Lw	74.3					5	r
PARK23		PARK23	74.3	74.3	74.3	35.8	35.8	35.8	Lw	74.3					5	r
PARK24		PARK24	74.3	74.3	74.3	41.6	41.6	41.6	Lw	74.3					5	r
PARK25		PARK25	74.3	74.3	74.3	38.7	38.7	38.7	Lw	74.3					5	r
PARK26		PARK26	74.3	74.3	74.3	38.2	38.2	38.2	Lw	74.3					5	r
PARK27		PARK27	74.3	74.3	74.3	46.8	46.8	46.8	Lw	74.3					5	r
PARK28		PARK28	74.3	74.3	74.3	52.0	52.0	52.0	Lw	74.3					5	r
PARK29		PARK29	74.3	74.3	74.3	51.2	51.2	51.2	Lw	74.3					5	r

Name	ID	Height				Coordinates			
		Begin		End		x	y	z	Ground
		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
LOAD1	LOAD1	8.00	r			6346688.66	1789312.86	8.00	0.00
						6346828.33	1789308.00	8.00	0.00
						6346827.81	1789275.18	8.00	0.00
						6346879.28	1789274.32	8.00	0.00
						6346872.51	1788565.46	8.00	0.00
						6346787.10	1788567.02	8.00	0.00
						6346787.10	1788533.17	8.00	0.00
						6346680.32	1788535.77	8.00	0.00
LOAD2	LOAD2	8.00	r			6347083.45	1788525.88	8.00	0.00
						6346978.76	1788526.40	8.00	0.00
						6346978.76	1788563.90	8.00	0.00
						6346891.78	1788564.42	8.00	0.00
						6346901.16	1789297.23	8.00	0.00
						6346945.52	1789294.72	8.00	0.00
						6346946.04	1789329.61	8.00	0.00
						6347090.74	1789331.09	8.00	0.00
LOAD3	LOAD3	8.00	r			6347738.39	1789560.75	8.00	0.00
						6348035.78	1789555.02	8.00	0.00
						6348036.30	1789499.29	8.00	0.00
						6348173.28	1789496.68	8.00	0.00
						6348174.84	1789551.89	8.00	0.00
						6348524.32	1789546.68	8.00	0.00
						6348523.80	1789417.00	8.00	0.00
						6348467.03	1789417.52	8.00	0.00
						6348467.55	1789357.10	8.00	0.00
						6347822.24	1789368.56	8.00	0.00
						6347822.24	1789428.97	8.00	0.00
						6347735.26	1789430.54	8.00	0.00
LOAD4	LOAD4	8.00	r			6348131.40	1788877.54	8.00	0.00
						6348265.77	1788877.20	8.00	0.00
						6348263.34	1788695.60	8.00	0.00
						6348318.90	1788694.56	8.00	0.00
						6348317.16	1788459.14	8.00	0.00
						6348126.88	1788463.31	8.00	0.00
LOAD5	LOAD5	8.00	r			6349018.07	1788601.41	8.00	0.00
						6349951.40	1788585.43	8.00	0.00
						6349951.40	1788445.85	8.00	0.00

Name	ID	Height				Coordinates			
		Begin		End		x	y	z	Ground
		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
						6349911.82	1788446.55	8.00	0.00
						6349910.43	1788391.68	8.00	0.00
						6349054.88	1788409.05	8.00	0.00
						6349055.60	1788463.78	8.00	0.00
						6349017.52	1788463.78	8.00	0.00
LOAD6	LOAD6	8.00	r			6349125.27	1787895.74	8.00	0.00
						6349649.58	1787886.37	8.00	0.00
						6349646.98	1787824.73	8.00	0.00
						6349803.23	1787821.26	8.00	0.00
						6349804.09	1787882.89	8.00	0.00
						6350304.09	1787875.08	8.00	0.00
						6350301.84	1787493.14	8.00	0.00
						6349786.73	1787500.95	8.00	0.00
						6349786.21	1787563.97	8.00	0.00
						6349635.17	1787567.10	8.00	0.00
						6349634.65	1787504.07	8.00	0.00
						6349117.98	1787511.37	8.00	0.00
LOAD7	LOAD7	8.00	r			6348625.23	1787898.63	8.00	0.00
						6348627.55	1787760.11	8.00	0.00
						6348593.69	1787760.11	8.00	0.00
						6348591.96	1787706.29	8.00	0.00
						6348652.72	1787703.68	8.00	0.00
						6348650.12	1787512.71	8.00	0.00
						6348287.27	1787518.79	8.00	0.00
						6348288.14	1787583.02	8.00	0.00
						6348137.09	1787585.63	8.00	0.00
						6348137.09	1787523.13	8.00	0.00
						6347773.38	1787528.34	8.00	0.00
						6347777.57	1787719.38	8.00	0.00
						6347810.13	1787718.95	8.00	0.00
						6347810.13	1787773.63	8.00	0.00
						6347777.14	1787773.63	8.00	0.00
						6347778.01	1787850.46	8.00	0.00
						6347799.28	1787850.46	8.00	0.00
						6347801.01	1787909.05	8.00	0.00
PARK01	PARK01	5.00	r			6347672.03	1787144.58	5.00	0.00
						6347673.07	1787177.91	5.00	0.00
						6347735.57	1787177.91	5.00	0.00
						6347736.09	1787208.64	5.00	0.00
						6348066.82	1787202.39	5.00	0.00
						6348064.22	1787172.70	5.00	0.00
						6347961.09	1787173.23	5.00	0.00
						6347960.57	1787139.89	5.00	0.00
PARK02	PARK02	5.00	r			6348352.25	1787199.12	5.00	0.00
						6348682.17	1787193.08	5.00	0.00
						6348681.39	1787158.18	5.00	0.00
						6348747.02	1787158.18	5.00	0.00
						6348746.76	1787128.24	5.00	0.00
						6348461.19	1787132.28	5.00	0.00
						6348461.19	1787165.70	5.00	0.00
						6348352.25	1787166.56	5.00	0.00
PARK03	PARK03	5.00	r			6349081.40	1787194.07	5.00	0.00
						6349559.87	1787185.91	5.00	0.00
						6349559.87	1787152.84	5.00	0.00
						6349689.39	1787153.10	5.00	0.00
						6349689.39	1787119.77	5.00	0.00
						6349006.75	1787131.92	5.00	0.00
						6349007.09	1787163.17	5.00	0.00
						6349081.40	1787163.17	5.00	0.00
PARK04	PARK04	5.00	r			6349721.17	1787119.45	5.00	0.00
						6349720.65	1787153.82	5.00	0.00
						6349855.55	1787152.78	5.00	0.00
						6349854.51	1787180.39	5.00	0.00
						6350327.42	1787170.49	5.00	0.00
						6350328.47	1787141.85	5.00	0.00
						6350402.94	1787141.85	5.00	0.00
						6350402.94	1787107.99	5.00	0.00
PARK05	PARK05	5.00	r			6350417.24	1787366.30	5.00	0.00
						6350447.97	1787365.78	5.00	0.00
						6350447.45	1787185.57	5.00	0.00
						6350415.16	1787185.57	5.00	0.00
PARK06	PARK06	5.00	r			6347683.80	1787968.59	5.00	0.00
						6347620.78	1787969.63	5.00	0.00
						6347621.82	1788123.28	5.00	0.00
						6347653.07	1788123.28	5.00	0.00
						6347653.07	1788159.74	5.00	0.00
						6347685.89	1788158.70	5.00	0.00

Name	ID	Height				Coordinates			
		Begin		End		x	y	z	Ground
		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
PARK07	PARK07	5.00	r			6347659.85	1788247.76	5.00	0.00
						6348684.32	1788230.05	5.00	0.00
						6348684.32	1788199.84	5.00	0.00
						6348560.89	1788200.36	5.00	0.00
						6348560.89	1788168.59	5.00	0.00
						6347767.14	1788182.66	5.00	0.00
						6347765.57	1788215.99	5.00	0.00
						6347659.32	1788216.51	5.00	0.00
PARK08	PARK08	5.00	r			6348703.60	1787933.70	5.00	0.00
						6348639.01	1787934.22	5.00	0.00
						6348641.10	1788142.03	5.00	0.00
						6348673.91	1788142.03	5.00	0.00
						6348672.87	1788083.70	5.00	0.00
						6348702.03	1788083.18	5.00	0.00
PARK09	PARK09	5.00	r			6348949.69	1788157.92	5.00	0.00
						6348948.65	1787977.71	5.00	0.00
						6348922.61	1787978.23	5.00	0.00
						6348924.17	1788157.39	5.00	0.00
PARK10	PARK10	5.00	r			6348961.15	1788231.87	5.00	0.00
						6349642.40	1788220.94	5.00	0.00
						6349641.88	1788192.29	5.00	0.00
						6349578.86	1788192.29	5.00	0.00
						6349579.38	1788158.44	5.00	0.00
						6349037.19	1788167.29	5.00	0.00
						6349036.67	1788203.75	5.00	0.00
						6348959.59	1788203.75	5.00	0.00
PARK11	PARK11	5.00	r			6349791.88	1788138.12	5.00	0.00
						6349790.84	1787877.71	5.00	0.00
						6349663.23	1787879.79	5.00	0.00
						6349665.31	1788140.21	5.00	0.00
PARK12	PARK12	5.00	r			6349818.44	1788217.29	5.00	0.00
						6350401.25	1788207.92	5.00	0.00
						6350401.25	1788177.71	5.00	0.00
						6350317.92	1788178.23	5.00	0.00
						6350317.40	1788145.42	5.00	0.00
						6349879.38	1788154.27	5.00	0.00
						6349879.90	1788186.04	5.00	0.00
						6349818.44	1788186.04	5.00	0.00
PARK13	PARK13	5.00	r			6350406.07	1788131.80	5.00	0.00
						6350434.19	1788131.28	5.00	0.00
						6350433.67	1787951.60	5.00	0.00
						6350403.99	1787951.60	5.00	0.00
PARK14	PARK14	5.00	r			6348200.80	1788450.64	5.00	0.00
						6348200.37	1788386.41	5.00	0.00
						6347922.16	1788391.18	5.00	0.00
						6347921.72	1788421.56	5.00	0.00
						6347828.41	1788421.56	5.00	0.00
						6347828.41	1788457.59	5.00	0.00
PARK15	PARK15	5.00	r			6347744.42	1788418.33	5.00	0.00
						6347748.33	1788896.20	5.00	0.00
						6347781.32	1788897.50	5.00	0.00
						6347781.32	1788871.89	5.00	0.00
						6347811.26	1788871.46	5.00	0.00
						6347808.23	1788539.43	5.00	0.00
						6347776.54	1788539.86	5.00	0.00
						6347776.11	1788418.33	5.00	0.00
PARK16	PARK16	5.00	r			6348952.98	1788612.54	5.00	0.00
						6348923.46	1788612.54	5.00	0.00
						6348923.46	1788883.37	5.00	0.00
						6348956.45	1788883.81	5.00	0.00
PARK17	PARK17	5.00	r			6349032.84	1789047.87	5.00	0.00
						6349518.08	1789040.06	5.00	0.00
						6349518.08	1789004.90	5.00	0.00
						6349580.58	1789004.90	5.00	0.00
						6349579.71	1788937.63	5.00	0.00
						6349664.35	1788937.63	5.00	0.00
						6349664.35	1788909.41	5.00	0.00
						6349044.12	1788919.83	5.00	0.00
						6349044.56	1788950.65	5.00	0.00
						6349031.53	1788950.65	5.00	0.00
PARK18	PARK18	5.00	r			6350135.74	1788582.77	5.00	0.00
						6350028.10	1788584.15	5.00	0.00
						6350028.45	1788594.22	5.00	0.00
						6349995.12	1788593.88	5.00	0.00
						6349995.12	1788605.33	5.00	0.00
						6349962.83	1788603.25	5.00	0.00
						6349963.87	1788745.27	5.00	0.00

Name	ID	Height				Coordinates			
		Begin		End		x	y	z	Ground
		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
						6349999.28	1788745.27	5.00	0.00
						6349998.24	1788710.20	5.00	0.00
						6350061.09	1788709.85	5.00	0.00
						6350060.74	1788683.11	5.00	0.00
						6350092.69	1788683.11	5.00	0.00
						6350093.03	1788673.39	5.00	0.00
						6350135.40	1788673.04	5.00	0.00
PARK19	PARK19	5.00	r			6348478.77	1789314.77	5.00	0.00
						6348512.45	1789314.77	5.00	0.00
						6348512.45	1789107.13	5.00	0.00
						6348476.69	1789107.13	5.00	0.00
PARK20	PARK20	5.00	r			6348464.19	1789022.06	5.00	0.00
						6347737.10	1789035.25	5.00	0.00
						6347738.14	1789056.09	5.00	0.00
						6347715.92	1789056.09	5.00	0.00
						6347717.66	1789156.43	5.00	0.00
						6347750.30	1789156.43	5.00	0.00
						6347751.34	1789316.85	5.00	0.00
						6347781.55	1789316.50	5.00	0.00
						6347780.16	1789118.59	5.00	0.00
						6347762.10	1789118.93	5.00	0.00
						6347753.42	1789119.28	5.00	0.00
						6347753.42	1789074.49	5.00	0.00
						6347862.80	1789074.14	5.00	0.00
						6347863.84	1789097.75	5.00	0.00
						6348392.31	1789087.68	5.00	0.00
						6348392.66	1789058.17	5.00	0.00
						6348464.19	1789058.17	5.00	0.00
PARK21	PARK21	5.00	r			6347063.84	1789424.63	5.00	0.00
						6347064.27	1789452.85	5.00	0.00
						6347310.80	1789448.51	5.00	0.00
						6347310.80	1789484.53	5.00	0.00
						6347373.73	1789484.10	5.00	0.00
						6347437.97	1789482.79	5.00	0.00
						6347438.40	1789458.92	5.00	0.00
						6347457.50	1789459.79	5.00	0.00
						6347447.09	1788451.98	5.00	0.00
						6347418.01	1788451.54	5.00	0.00
						6347417.57	1788541.82	5.00	0.00
						6347384.59	1788542.69	5.00	0.00
						6347392.83	1789332.62	5.00	0.00
						6347411.93	1789333.49	5.00	0.00
						6347413.23	1789437.66	5.00	0.00
						6347361.58	1789438.52	5.00	0.00
						6347359.85	1789418.99	5.00	0.00
PARK22	PARK22	5.00	r			6346708.46	1789378.91	5.00	0.00
						6346421.22	1789383.60	5.00	0.00
						6346421.22	1789413.02	5.00	0.00
						6346708.98	1789410.68	5.00	0.00
PARK23	PARK23	5.00	r			6346325.64	1789426.83	5.00	0.00
						6346357.78	1789426.41	5.00	0.00
						6346357.09	1789299.68	5.00	0.00
						6346387.99	1789299.68	5.00	0.00
						6346381.05	1788557.66	5.00	0.00
						6346352.23	1788556.97	5.00	0.00
						6346350.75	1788451.50	5.00	0.00
						6346399.71	1788449.16	5.00	0.00
						6346399.45	1788472.86	5.00	0.00
						6346679.14	1788468.17	5.00	0.00
						6346679.14	1788436.40	5.00	0.00
						6346716.90	1788436.66	5.00	0.00
						6346716.64	1788403.32	5.00	0.00
						6346338.25	1788411.14	5.00	0.00
						6346338.51	1788434.31	5.00	0.00
						6346316.64	1788434.31	5.00	0.00
PARK24	PARK24	5.00	r			6347085.55	1788461.66	5.00	0.00
						6347345.53	1788457.32	5.00	0.00
						6347345.53	1788427.38	5.00	0.00
						6347370.71	1788427.38	5.00	0.00
						6347371.57	1788392.22	5.00	0.00
						6347013.07	1788400.03	5.00	0.00
						6347013.94	1788432.15	5.00	0.00
						6347084.68	1788432.15	5.00	0.00
PARK25	PARK25	5.00	r			6349771.18	1787187.65	5.00	0.00
						6349641.32	1787189.04	5.00	0.00
						6349645.14	1787482.79	5.00	0.00
						6349679.86	1787482.45	5.00	0.00

Name	ID	Height				Coordinates			
		Begin		End		x	y	z	Ground
		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
						6349679.86	1787500.85	5.00	0.00
						6349740.28	1787499.81	5.00	0.00
						6349740.28	1787483.14	5.00	0.00
						6349772.57	1787482.10	5.00	0.00
PARK26	PARK26	5.00	r			6348149.25	1787553.51	5.00	0.00
						6348278.26	1787553.12	5.00	0.00
						6348272.61	1787211.45	5.00	0.00
						6348145.53	1787213.54	5.00	0.00
PARK27	PARK27	5.00	r			6348767.47	1787402.61	5.00	0.00
						6348798.72	1787402.09	5.00	0.00
						6348797.16	1787290.63	5.00	0.00
						6348790.39	1787262.51	5.00	0.00
						6348789.35	1787203.13	5.00	0.00
						6348759.14	1787203.65	5.00	0.00
						6348761.22	1787266.15	5.00	0.00
						6348765.91	1787295.32	5.00	0.00
						6348766.43	1787314.07	5.00	0.00
PARK28	PARK28	5.00	r			6347664.74	1787410.73	5.00	0.00
						6347663.18	1787330.00	5.00	0.00
						6347640.26	1787328.95	5.00	0.00
						6347642.34	1787410.73	5.00	0.00
PARK29	PARK29	5.00	r			6347663.18	1787312.29	5.00	0.00
						6347661.61	1787221.14	5.00	0.00
						6347638.70	1787222.18	5.00	0.00
						6347637.65	1787312.81	5.00	0.00

Barrier(s)

Name	Sel.	M.	ID	Absorption		Z-Ext.	Cantilever		Height		Coordinates			
				left	right		horz.	vert.	Begin	End	x	y	z	Ground
						(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)

Building(s)

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(ft)		(ft)	(ft)	(ft)	(ft)
B01			B01	x	0		30.00	r	6348287.27	1787518.79	30.00	0.00
									6348650.12	1787512.71	30.00	0.00
									6348753.33	1787513.92	30.00	0.00
									6348750.92	1787202.64	30.00	0.00
									6348283.91	1787210.45	30.00	0.00
B02			B02	x	0		30.00	r	6347672.96	1787532.31	30.00	0.00
									6347773.38	1787528.34	30.00	0.00
									6348137.09	1787523.13	30.00	0.00
									6348134.84	1787213.14	30.00	0.00
									6347669.22	1787220.95	30.00	0.00
B03			B03	x	0		30.00	r	6349631.63	1787194.53	30.00	0.00
									6349008.72	1787205.16	30.00	0.00
									6349012.24	1787516.09	30.00	0.00
									6349117.98	1787511.37	30.00	0.00
									6349634.65	1787504.07	30.00	0.00
B04			B04	x	0		30.00	r	6349786.73	1787500.95	30.00	0.00
									6350301.84	1787493.14	30.00	0.00
									6350406.77	1787490.92	30.00	0.00
									6350404.35	1787181.84	30.00	0.00
									6349781.09	1787191.82	30.00	0.00
B05			B05	x	0		30.00	r	6349805.32	1788143.56	30.00	0.00
									6350392.56	1788133.57	30.00	0.00
									6350390.39	1787872.72	30.00	0.00
									6350304.09	1787875.08	30.00	0.00
									6349804.09	1787882.89	30.00	0.00
B06			B06	x	0		30.00	r	6349649.58	1787886.37	30.00	0.00
									6349125.27	1787895.74	30.00	0.00
									6348960.29	1787896.94	30.00	0.00
									6348962.38	1788157.35	30.00	0.00
									6349652.65	1788146.94	30.00	0.00
B07			B07	x	0		30.00	r	6349951.40	1788585.43	30.00	0.00
									6349018.07	1788601.41	30.00	0.00
									6348966.50	1788598.89	30.00	0.00
									6348969.00	1788909.78	30.00	0.00
									6349747.33	1788896.84	30.00	0.00
									6349747.54	1788846.92	30.00	0.00
									6349850.41	1788845.19	30.00	0.00
									6349849.97	1788794.84	30.00	0.00
									6349953.79	1788794.14	30.00	0.00
B08			B08	x	0		30.00	r	6348625.23	1787898.63	30.00	0.00

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(ft)		(ft)	(ft)	(ft)	(ft)
									6347801.01	1787909.05	30.00	0.00
									6347695.03	1787910.82	30.00	0.00
									6347697.11	1788171.93	30.00	0.00
									6348631.83	1788155.96	30.00	0.00
B09			B09	x	0		30.00	r	6348126.88	1788463.31	30.00	0.00
									6347818.65	1788468.53	30.00	0.00
									6347822.12	1788936.59	30.00	0.00
									6348131.15	1788931.73	30.00	0.00
									6348131.40	1788877.54	30.00	0.00
B10			B10	x	0		30.00	r	6348467.55	1789357.10	30.00	0.00
									6348465.09	1789097.15	30.00	0.00
									6347791.48	1789108.44	30.00	0.00
									6347793.33	1789369.41	30.00	0.00
									6347822.24	1789368.56	30.00	0.00
B11			B11	x	0		30.00	r	6347082.10	1788472.15	30.00	0.00
									6347083.45	1788525.88	30.00	0.00
									6347090.74	1789331.09	30.00	0.00
									6347091.13	1789410.67	30.00	0.00
									6347381.93	1789406.33	30.00	0.00
									6347373.25	1788466.82	30.00	0.00
B12			B12	x	0		30.00	r	6346682.02	1788480.26	30.00	0.00
									6346390.78	1788484.16	30.00	0.00
									6346399.12	1789372.04	30.00	0.00
									6346689.48	1789366.58	30.00	0.00
									6346688.66	1789312.86	30.00	0.00
									6346680.32	1788535.77	30.00	0.00

Ground Absorption(s)

Name	Sel.	M.	ID	G	Coordinates	
					x	y
					(ft)	(ft)

Contour(s)

Name	Sel.	M.	ID	OnlyPts	Height		Coordinates		
					Begin	End	x	y	z
					(ft)	(ft)	(ft)	(ft)	(ft)

Vertical Area Source(s)

Name	ID	Height		Coordinates			
		Begin	End	x	y	z	Ground
		(ft)	(ft)	(ft)	(ft)	(ft)	(ft)

Rail

Name	Sel.	M.	ID	Lw'		Train Class	Correct.	Vmax
				Day	Night		Track	
				(dBA)	(dBA)		(dB)	(km(mph)

Sound Level Spectra

Name	ID	Type	Oktave Spectrum (dB)											Source
			Weight.	31.5	63	125	250	500	1000	2000	4000	8000	A	lin	

Roads

Name	Sel.	M.	ID	Lme			Count Data		exact Count Data						Speed Limit		SCS	Surface		Gradient	Mult. Reflection		
				Day	Evening	Night	DTV	Str.class.	M			p (%)			Auto	Truck	Dist.	Dstro	Type		Drefl	Hbuild	Dist.
				(dBA)	(dBA)	(dBA)			Day	Evening	Night	Day	Evening	Night	(mph)	(mph)		(dB)		(%)	(dB)	(ft)	(ft)

RoadsGeo

Name	Height				Coordinates				Dist	LSlope
	Begin		End		x	y	z	Ground	(ft)	(%)
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)		

APPENDIX 3.2:

CADNAA: CONSTRUCTION NOISE MODEL INPUTS

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15250 - Majestic Otay

CadnaA Noise Prediction Model: 15250-02_Construction.cna
Date: 08.08.23
Analyst: B. Maddux

Calculation Configuration

Configuration	
Parameter	**Value**
General	
Max. Error (dB)	**0.00**
Max. Search Radius (#(Unit,LEN))	**2000.01**
Min. Dist Src to Rcvr	**0.00**
Partition	
Raster Factor	**0.50**
Max. Length of Section (#(Unit,LEN))	**999.99**
Min. Length of Section (#(Unit,LEN))	**1.01**
Min. Length of Section (%)	**0.00**
Proj. Line Sources	**On**
Proj. Area Sources	**On**
Ref. Time	
Daytime Penalty (dB)	**0.00**
Recr. Time Penalty (dB)	**5.00**
Night-time Penalty (dB)	**10.00**
DTM	
Standard Height (m)	**0.00**
Model of Terrain	**Triangulation**
Reflection	
max. Order of Reflection	**2**
Search Radius Src	**100.00**
Search Radius Rcvr	**100.00**
Max. Distance Source - Rcvr	**1000.00 1000.00**
Min. Distance Rvcr - Reflector	**1.00 1.00**
Min. Distance Source - Reflector	**0.10**
Industrial (ISO 9613)	
Lateral Diffraction	**some Obj**
Obst. within Area Src do not shield	**On**
Screening	**Incl. Ground Att. over Barrier**
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	**3.0 20.0 0.0**
Temperature (#(Unit,TEMP))	**10**
rel. Humidity (%)	**70**
Ground Absorption G	**0.00**
Wind Speed for Dir. (#(Unit,SPEED))	**3.0**
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
R1		R1	50.1	-56.9	47.1	0.0	0.0	0.0		x	Total	5.00	r	6349065.95	1783270.46	5.00
R2		R2	54.1	-52.9	51.1	0.0	0.0	0.0		x	Total	5.00	r	6345334.29	1790924.45	5.00
R3		R3	56.3	-50.7	53.3	0.0	0.0	0.0		x	Total	5.00	r	6350007.54	1792002.50	5.00

Point Source(s)

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height	Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night		X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)	(ft)	(ft)	(ft)

Line Source(s)

Name	M.	ID	Result. PWL			Result. PWL'			Lw / Li			Operating Time			Moving Pt. Src				Height
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	Number			Speed	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	Day	Evening	Night	(mph)	(ft)

Name	ID	Height		Coordinates			
		Begin	End	x	y	z	Ground
		(ft)	(ft)	(ft)	(ft)	(ft)	(ft)

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Operating Time			Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
ConstructionActivity		ConstructionActivity1	122.6	15.6	15.6	62.5	-44.5	-44.5	PWL-Pt	115.6					8	r

Name	ID	Height				Coordinates			
		Begin		End		x	y	z	Ground
		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
ConstructionActivity	ConstructionActivity1	8.00	r			6350508.48	1786950.52	8.00	0.00
						6349636.29	1786964.19	8.00	0.00
						6348777.64	1786977.68	8.00	0.00
						6347524.57	1786997.34	8.00	0.00
						6347526.43	1788319.90	8.00	0.00
						6346196.53	1788348.75	8.00	0.00
						6346203.01	1789673.59	8.00	0.00
						6347528.30	1789642.46	8.00	0.00
						6348864.50	1789627.57	8.00	0.00
						6348865.75	1789882.17	8.00	0.00
						6348870.98	1790949.60	8.00	0.00
						6350212.15	1790934.07	8.00	0.00
						6350200.98	1789612.67	8.00	0.00
						6350194.64	1788862.89	8.00	0.00
						6350189.74	1788284.14	8.00	0.00
						6350519.72	1788279.59	8.00	0.00

Barrier(s)

Name	Sel.	M.	ID	Absorption		Z-Ext.	Cantilever		Height		Coordinates			
				left	right		horz.	vert.	Begin	End	x	y	z	Ground
						(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)

Building(s)

Name	Sel.	M.	ID	RB	Residents	Absorption	Height	Coordinates			
							Begin	x	y	z	Ground
							(ft)	(ft)	(ft)	(ft)	(ft)

Ground Absorption(s)

Name	Sel.	M.	ID	G	Coordinates	
					x	y
					(ft)	(ft)

Contour(s)

Name	Sel.	M.	ID	OnlyPts	Height		Coordinates		
					Begin	End	x	y	z
					(ft)	(ft)	(ft)	(ft)	(ft)

Vertical Area Source(s)

Name	ID	Height		Coordinates			
		Begin	End	x	y	z	Ground
		(ft)	(ft)	(ft)	(ft)	(ft)	(ft)

Rail

Name	Sel.	M.	ID	Lw'		Train Class	Correct.	Vmax
				Day	Night		Track	
				(dBA)	(dBA)		(dB)	(km(mph)

Sound Level Spectra

Name	ID	Type	Oktave Spectrum (dB)											Source
			Weight.	31.5	63	125	250	500	1000	2000	4000	8000	A	lin	

Roads

Name	Sel.	M.	ID	Lme			Count Data		exact Count Data						Speed Limit		SCS	Surface		Gradient	Mult. Reflection		
				Day	Evening	Night	DTV	Str.class.	M			p (%)			Auto	Truck	Dist.	Dstro	Type		Drefl	Hbuild	Dist.
				(dBA)	(dBA)	(dBA)			Day	Evening	Night	Day	Evening	Night	(mph)	(mph)		(dB)		(%)	(dB)	(ft)	(ft)

RoadsGeo

Name	Height				Coordinates				Dist	LSlope
	Begin		End		x	y	z	Ground	(ft)	(%)
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)		