

Moreno Valley Trade Center WAREHOUSE Noise Impact Analysis City of Moreno Valley

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LIST OF ABBREVIATED TERMS

(1) Reference

ADT Average Daily Traffic

ANSI American National Standards Institute

Calveno California Vehicle Noise

CEQA California Environmental Quality Act
CNEL Community Noise Equivalent Level

dBA A-weighted decibels

EPA Environmental Protection Agency
FHWA Federal Highway Administration
FTA Federal Transit Administration

Hz Hertz

INCE Institute of Noise Control Engineering

 $\begin{array}{lll} L_{eq} & & \text{Equivalent continuous (average) sound level} \\ L_{max} & & \text{Maximum level measured over the time interval} \\ L_{min} & & \text{Minimum level measured over the time interval} \\ \text{MARB/IPA} & & \text{March Air Reserve Base / Inland Port Airport} \\ \end{array}$

mph Miles per hour

OPR Office of Planning and Research

PPV Peak particle velocity

Project Moreno Valley Trade Center

REMEL Reference Energy Mean Emission Level

RMS Root-mean-square VdB Vibration Decibels



EXECUTIVE SUMMARY

Urban Crossroads, Inc. has prepared this noise study to determine the potential noise impacts and the necessary noise mitigation measures, if any, for the proposed Moreno Valley Trade Center development ("Project"). As shown on Exhibit 1-A, the Project site is bounded to the north by Eucalyptus Avenue, the west by Quincy Avenue (the Quincy channel), the south by Encilia Avenue and the east by Redlands Boulevard. The Project is proposed to consist of 1,332,380 square feet of warehouse uses. The Project is anticipated to be constructed in a single phase by the year 2024. At the time this noise analysis was prepared, the future tenants of the proposed Project were unknown, and therefore, this noise study includes a conservative analysis of the proposed Project uses. This study has been prepared to satisfy applicable City of Moreno Valley standards and thresholds of significance based on guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1)

OFF-SITE TRAFFIC NOISE ANALYSIS

Traffic generated by the operation of the proposed Project will influence the traffic noise levels in surrounding off-site areas. To quantify the off-site traffic noise increases on the surrounding off-site areas, the changes in traffic noise levels on 36 roadway segments surrounding the Project site were calculated based on the change in the average daily traffic (ADT) volumes. The traffic noise levels provided in this analysis are based on the traffic forecasts found in the *Moreno Valley Trade Center Traffic Impact Analysis*. (2) To assess the off-site noise level impacts associated with the proposed Project, noise contour boundaries were developed for Existing, Opening Year (2024), and General Plan Build-Out (2040) traffic conditions. The analysis shows that the Project-related traffic noise level increases under all "with Project" traffic scenarios would result in *less than significant* impacts at receiving land uses adjacent to the study area roadway segments.

OPERATIONAL NOISE ANALYSIS

Using reference noise levels to represent the expected noise sources from the Moreno Valley Trade Center site, the operational analysis estimates the Project-related stationary-source noise hourly average L_{eq} levels at nearby sensitive receiver locations. The typical activities associated with the proposed Moreno Valley Trade Center are anticipated to include cold storage loading dock activity, dry goods loading dock activity, entry gate & truck movements, roof-top air conditioning units, and trash enclosure activity. The operational noise analysis shows that the Project will satisfy the City of Moreno Valley stationary-source exterior hourly average L_{eq} noise levels of 65 dBA L_{eq} daytime and 60 dBA L_{eq} nighttime noise level standards at all nearby receiver locations and at 200 feet from the property line of the source. Therefore, the Project-related operational noise level impacts are considered *less than significant*.

OPERATIONAL VIBRATION ANALYSIS

The operation of the Project site will include heavy trucks moving on site to and from the loading dock areas. Truck vibration levels are dependent on vehicle characteristics, load, speed, and pavement conditions. According to the FTA *Transit Noise and Vibration Impact Assessment*



Manual, (3 p. 113) trucks rarely create vibration that exceeds 70 VdB (unless there are bumps due to frequent potholes in the road). Trucks transiting on site will be travelling at very low speeds so it is expected that delivery truck vibration impacts at nearby homes will satisfy the FTA maximum-acceptable 78 VdB for daytime and 72 VdB for nighttime vibration criteria for residential uses, and therefore, will be *less than significant*

CONSTRUCTION NOISE ANALYSIS

Using sample reference noise levels to represent the typical planned construction activities of the Moreno Valley Trade Center site, this analysis estimates the Project-related construction noise levels at nearby sensitive receiver locations. The Project-related short-term construction noise levels are expected to range from 58.6 to 64.7 dBA L_{eq} and will satisfy the City of Moreno Valley daytime 65 dBA L_{eq} significance threshold during Project construction activities. Therefore, the noise impacts due to Project construction noise is considered *less than significant* at all receiver locations and at 200 feet from the property line of the source.

CONSTRUCTION VIBRATION ANALYSIS

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. It is expected that ground-borne vibration from Project construction activities would cause only intermittent, localized intrusion. At distances ranging from 118 feet to 1,651 feet from typical Project construction activities (at the Project site boundary), construction vibration levels are estimated to range from 32.4 to 66.8 VdB and will remain below the FTA Transit Noise and Vibration Impact Assessment Manual maximum acceptable vibration criteria of 78 VdB for daytime residential uses at all receiver locations and at 200 feet from the property line of the source. Therefore, the Project-related vibration impacts are considered *less than significant* during typical construction activities at the Project site.

SHEET PILE SYSTEM CONSTRUCTION NOISE ANALYSIS

An additional analysis was completed to assess potential impacts due to sheet pile drilling activities planned near the western project site boundary. According to the applicant, the sheet pile system will be installed using and ABI drill rig, forklift and rigging crane. It is expected that the contractor will be using the ABI drill rig to drive piles 8 hours per day for approximately 25 days. Sheet pile system methods can include different equipment types, such as impact or drilling, and as such, noise levels will vary depending on the method used. Non-impact pile driving equipment (e.g., drilling or other non-impact alternatives) such as the planned ABI drill rig shall be required to reduce the pile driving equipment noise levels at adjacent receiver locations. The sheet pile system construction noise levels are estimated and expected to range from 57.4 to 64.1 dBA L_{eq} at the receiver locations near the planned sheet pile area. The sheet pile system construction noise analysis shows that the nearby receiver locations will satisfy the City of Moreno Valley daytime 65 dBA L_{eq} significance threshold. Therefore, the noise impacts due to the Project sheet pile construction noise is considered *less than significant* at all receiver locations and at 200 feet from the property line of the source.



SHEET PILE SYSTEM CONSTRUCTION VIBRATION ANALYSIS

At distances ranging from 124 feet to 250 feet from the sheet pile construction activities (at the Project site boundary), construction vibration levels are estimated to range from 63.0 to 72.1 VdB and will remain below the FTA Transit Noise and Vibration Impact Assessment Manual maximum acceptable vibration criteria of 78 VdB for daytime residential uses at all receiver locations and at 200 feet from the property line of the source. Therefore, the Project-related sheet pile system vibration impacts are considered *less than significant* during the construction activities at the Project site.

SUMMARY OF CEQA SIGNIFICANCE FINDINGS

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

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings		
Analysis		Unmitigated	Mitigated	
Off-Site Traffic Noise	7	Less Than Significant	-	
Operational Noise	9	Less Than Significant	-	
Operational Vibration		Less Than Significant	-	
Construction Noise		Less Than Significant	-	
Construction Vibration	10	Less Than Significant	-	
Sheet Pile System Noise	10	Less Than Significant	-	
Sheet Pile System Vibration		Less Than Significant	-	



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1 INTRODUCTION

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

1.1 SITE LOCATION

The proposed project is located in the eastern portion of the City of Moreno Valley in the County of Riverside. The project is 80 gross acres and is bounded to the north by Eucalyptus Avenue, the west by Quincy Street (the Quincy channel), the south by Encilia Avenue and the east by Redlands Boulevard. The Project location is shown on Exhibit 1-A. The project is surrounded by varied land uses. To the north the properties are zoned for Industrial uses and the Aldi's logistics building was recently constructed and is in operation. To the east the properties are within the approved World Logistics Center Specific Plan and are planned for logistics use. To the south the properties are zoned for residential use, most of which are already developed with houses. To the west the zone is for residential uses and is vacant.

1.2 PROJECT DESCRIPTION

The project envisions the development of the site for 1,332,380 square feet of warehouse uses. The project opening year is 2024. Truck access to and from the project site will be restricted to three project driveways. These driveways include the two driveways on Eucalyptus Avenue, and the southern driveway on Redlands Boulevard. The western driveway will include inbound/outbound access for autos/trucks and the eastern driveway will be restricted to outbound truck traffic only. The southern driveway on Redlands Boulevard will allow inbound truck traffic, but will restrict outbound truck traffic via onsite features such as a pork-chop designed driveway, signage posted at the driveway exit prohibiting outbound truck traffic, or other measures based on discussion with City staff. The two driveways on Redlands Boulevard will be restricted to right-in/right-out access only for autos and the three driveways on Encilia Avenue will be full-access for autos. The Project includes a planned 14-foot high screen wall surrounding the loading dock areas.

At the time this noise analysis was prepared, the future tenants of the proposed Project were unknown; the building is designed to accommodate one tenant or be divisible to accommodate two tenants. The on-site Project-related noise sources are expected to include: cold storage loading dock activity, dry goods loading dock activity, entry gate & truck movements, roof-top air conditioning units, and trash enclosure activity. This noise analysis is intended to describe noise level impacts associated with the expected typical operational activities at the Project site. To present a conservative approach, this report assumes the Project will operate 24-hours daily for seven days per week.



EXHIBIT 1-A: LOCATION MAP

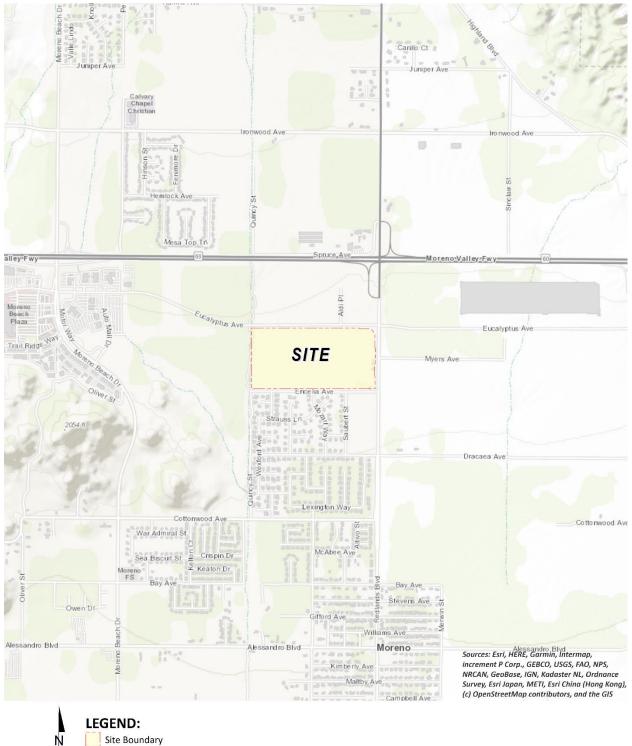
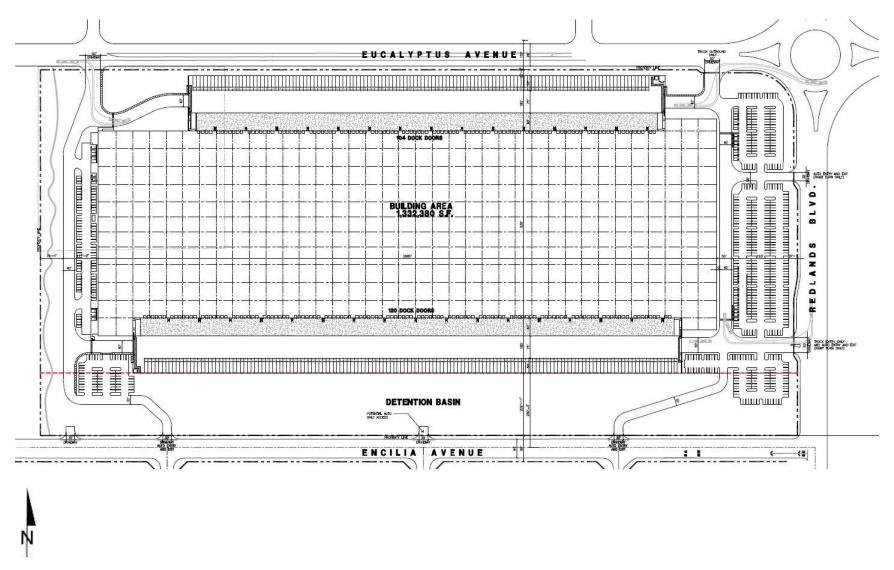






EXHIBIT 1-B: SITE PLAN





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2 FUNDAMENTALS

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

EXHIBIT 2-A: TYPICAL NOISE LEVELS

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

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

2.1 RANGE OF NOISE

Since the range of intensities that the human ear can detect is so large, the scale frequently used to measure intensity is a scale based on multiples of 10, the logarithmic scale. The scale for measuring intensity is the decibel scale. Each interval of 10 decibels indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud. (4) The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at three feet is roughly at 60 dBA, while loud jet engine noises equate to 110 dBA



at approximately 100 feet, which can cause serious discomfort. (5) Another important aspect of noise is the duration of the sound and the way it is described and distributed in time.

2.2 Noise Descriptors

Environmental noise descriptors are generally based on averages, rather than instantaneous, noise levels. The most 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 Aweighted 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.

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

2.3 SOUND PROPAGATION

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

2.3.1 GEOMETRIC SPREADING

Sound from a localized source (i.e., a stationary point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source. (4)

2.3.2 GROUND ABSORPTION

The propagation path of noise from a highway to a receiver is usually very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually



sufficiently accurate for distances of less than 200 ft. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance from a line source. (6)

2.3.3 ATMOSPHERIC EFFECTS

Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects. (4)

2.3.4 SHIELDING

A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Shielding by trees and other such vegetation typically only has an "out of sight, out of mind" effect. That is, the perception of noise impact tends to decrease when vegetation blocks the line-of-sight to nearby residents. However, for vegetation to provide a substantial, or even noticeable, noise reduction, the vegetation area must be at least 15 feet in height, 100 feet wide and dense enough to completely obstruct the line-of sight between the source and the receiver. This size of vegetation may provide up to 5 dBA of noise reduction. The FHWA does not consider the planting of vegetation to be a noise abatement measure. (6)

2.3.5 REFLECTION

Field studies conducted by the FHWA have shown that the reflection from barriers and buildings does not substantially increase noise levels. (6) 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. Federal Highway Administration (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.

2.4 Noise Control

Noise control is the process of obtaining an acceptable noise environment for an observation point or receiver by controlling the noise source, transmission path, receiver, or all three. This



concept is known as the source-path-receiver concept. In general, noise control measures can be applied to these three elements.

2.5 Noise Barrier Attenuation

Effective noise barriers can reduce noise levels by 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. (6)

2.6 LAND USE COMPATIBILITY WITH NOISE

Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches, and residences are more sensitive to noise intrusion than are commercial or industrial developments and related activities. As ambient noise levels affect the perceived amenity or livability of a development, so too can the mismanagement of noise impacts impair the economic health and growth potential of a community by reducing the area's desirability as a place to live, shop and work. For this reason, land use compatibility with the noise environment is an important consideration in the planning and design process. The FHWA encourages State and Local government to regulate land development in such a way that noise-sensitive land uses are either prohibited from being located adjacent to a highway, or that the developments are planned, designed, and constructed in such a way that noise impacts are minimized. (7)

2.7 COMMUNITY RESPONSE TO NOISE

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

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

Approximately ten percent of the population has a very low tolerance for noise and will object to any noise not of their making. Consequently, even in the quietest environment, some complaints will occur. Twenty-five percent of the population will not complain even in very severe noise environments. Thus, a variety of reactions can be expected from people exposed to any given noise environment. (8) Surveys have shown that about ten percent of the people exposed to traffic noise of 60 dBA will report being highly annoyed with the noise, and each increase of one dBA is associated with approximately two percent more people being highly annoyed. When traffic noise exceeds 60 dBA or aircraft noise exceeds 55 dBA, people may begin to complain. (8) Despite this variability in behavior on an individual level, the population can be expected to exhibit the following responses to changes in noise levels as shown on Exhibit 2-B. A change of



3 dBA are considered *barely perceptible*, and changes of 5 dBA are considered *readily perceptible*. (6)

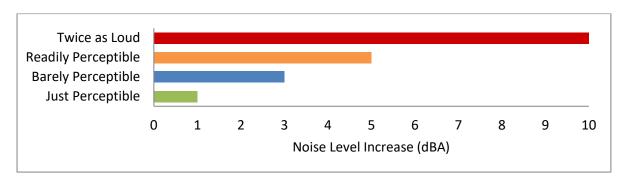


EXHIBIT 2-B: NOISE LEVEL INCREASE PERCEPTION

2.8 EXPOSURE TO HIGH NOISE LEVELS

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

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

2.9 VIBRATION

Per the Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual* (3), vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure-borne noise. Sources of ground-borne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction



equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, ground-borne vibrations may be described by amplitude and frequency.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings but is not always suitable for evaluating human response (annoyance) because it takes some time for the human body to respond to vibration signals. Instead, the human body responds to average vibration amplitude often described as the root mean square (RMS). The RMS amplitude is defined as the average of the squared amplitude of the signal and is most frequently used to describe the effect of vibration on the human body. Decibel notation (VdB) is commonly used to measure RMS. Decibel notation (VdB) serves to reduce the range of numbers used to describe human response to vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receivers for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration-sensitive equipment and/or activities

The background vibration-velocity level in residential areas is generally 50 VdB. Ground-borne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground-borne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Exhibit 2-C illustrates common vibration sources and the human and structural response to ground-borne vibration.



Velocity Typical Sources Level* (50 ft from source) Human/Structural Response 100 Threshold, minor cosmetic damage Blasting from construction projects fragile buildings Bulldozers and other heavy tracked construction equipment Difficulty with tasks such as 90 reading a VDT screen Commuter rail, upper range 80 Residential annoyance, infrequent Rapid transit, upper range events (e.g. commuter rail) Commuter rail, typical Residential annoyance, frequent Bus or truck over bump events (e.g. rapid transit) Rapid transit, typical Limit for vibration sensitive equipment. Approx. threshold for Bus or truck, typical human perception of vibration 60 Typical background vibration 50

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

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

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



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3 REGULATORY SETTING

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

3.1 STATE OF CALIFORNIA NOISE REQUIREMENTS

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards, and provides guidance for local land use compatibility. State law requires that each county and city adopt a General Plan that includes a Noise Element which is to be prepared per guidelines adopted by the Governor's Office of Planning and Research (OPR). (10) The purpose of the Noise Element is to *limit the exposure of the community to excessive noise levels*. In addition, the California Environmental Quality Act (CEQA) requires that all known environmental effects of a project be analyzed, including environmental noise impacts.

3.2 STATE OF CALIFORNIA GREEN BUILDING STANDARDS CODE

The State of California's Green Building Standards Code contains mandatory measures for non-residential building construction in Section 5.507 on Environmental Comfort. (11) These noise standards are applied to new construction in California for controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when non-residential structures are developed in areas where the exterior noise levels exceed 65 dBA CNEL, such as within a noise contour of an airport, freeway, railroad, and other areas where noise contours are not readily available. If the development falls within an airport or freeway 65 dBA CNEL noise contour, the combined sound transmission class (STC) rating of the wall and roof-ceiling assemblies must be at least 50. For those developments in areas where noise contours are not readily available and the noise level exceeds 65 dBA L_{eq} for any hour of operation, a wall and roof-ceiling combined STC rating of 45, and exterior windows with a minimum STC rating of 40 are required (Section 5.507.4.1).



3.3 CITY OF MORENO VALLEY GENERAL PLAN NOISE ELEMENT

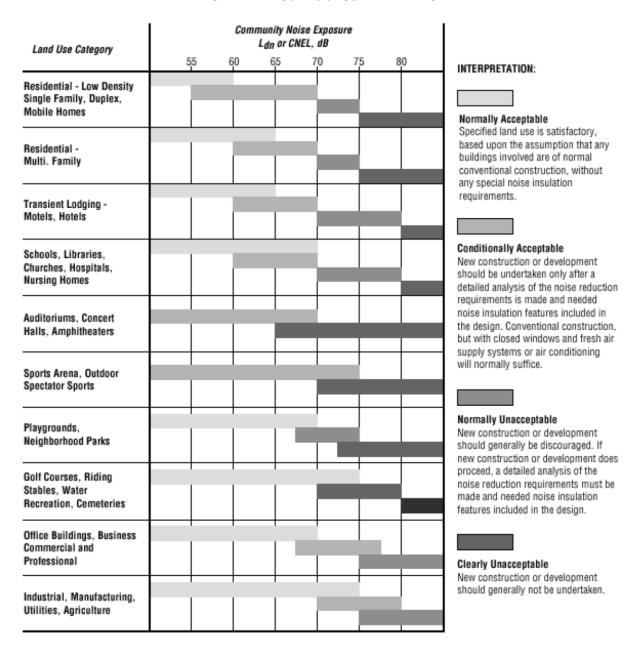
The City of Moreno Valley Noise Element typically provides the standards for land use compatibility for community noise exposure. However, the City of Moreno Valley General Plan does not include a noise element or specific transportation-related noise standards. Rather, noise is considered in the Environmental Safety section of the General Plan Safety Element. (12) While the General Plan provides background and noise fundamentals, it does not identify criteria to assess the impacts associated with off-site transportation-related noise impacts. Therefore, for this analysis, the transportation noise criteria are derived from standards contained in the California Office of Planning and Research (OPR) *General Plan Guidelines*. (10)

The OPR land use/noise compatibility standards are used by many California cities and counties and specify the maximum noise levels allowable for new developments impacted by transportation noise sources. The OPR land use/noise compatibility criteria, found in Figure 2 of the *General Plan Guidelines, Appendix D: Noise Element Guidelines,* identify the criteria for industrial land uses such as the Project, as shown on Exhibit 3-A. When the unmitigated exterior noise levels approach 70 dBA CNEL industrial land use is considered *normally acceptable*. With exterior noise levels ranging from 70 to 80 dBA CNEL, industrial land uses are considered *conditionally acceptable*, and with exterior noise levels greater than 80 dBA CNEL, they are considered *normally unacceptable*. For *normally unacceptable* land use, *new construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design. (10) For the purposes of this analysis, industrial land use such as the Project does not contain outdoor living areas requiring exterior noise mitigation as outlined in the OPR <i>General Plan Guidelines*, and therefore, only the interior noise levels experienced by employees at the Project site are evaluated against the appropriate noise level standards.

The purpose of the transportation noise criteria is to protect, create, and maintain an environment free from noise and vibration that may jeopardize the health or welfare of sensitive receptors, or degrade quality of life. City General Policies (City of Moreno Valley General Plan, pp.9-31, 9-32) act to ensure that when exterior noise levels exceed 65 dBA CNEL at sensitive receivers, mitigation is provided to ensure that interior noise levels of 45 dBA CNEL are maintained. General Plan Policies in this regard are consistent with, and support, the California Building Code interior noise standards.



EXHIBIT 3-A: LAND USE NOISE COMPATIBILITY CRITERIA



Source: OPR General Plan Guidelines, Appendix D: Noise Element Guidelines, Figure 2.



3.4 OPERATIONAL NOISE STANDARDS

To analyze noise impacts originating from a designated fixed location or private property such as the Moreno Valley Trade Center Project, stationary-source (operational) noise such as the expected cold storage loading dock activity, dry goods loading dock activity, entry gate & truck movements, roof-top air conditioning units, and trash enclosure activity are typically evaluated against standards established under a City's Municipal Code.

The City of Moreno Valley Municipal Code, Chapter 11.80 *Noise Regulation*, provides performance standards and noise control guidelines for determining and mitigating nontransportation or stationary-source noise impacts from operations at private properties. The City of Moreno Valley Municipal Code defines *Maximum Sound Levels* (in dB(A)) for Source Land Uses in Table 11.80.030-2 for *Residential* and *Commercial* land uses. As defined by the Municipal Code, Section 11.80.020 *Definitions, Commercial* land use *means all uses of land not otherwise classified as residential*, and *Residential* land use *means all uses of land primarily for dwelling units, as well as hospitals, schools, colleges and universities, and places of religious assembly.* (13) For the purpose of this analysis, the Moreno Valley Trade Center Project is considered *Commercial* land use since it is not classified as residential. Based on this standard, the operational noise level limits for commercial land use, from Table 11.80.030-2, of 65 dBA Leq during the daytime (8:00 a.m. to 10:00 p.m.) hours and 60 dBA Leq during the nighttime (10:01 p.m. to 7:59 a.m.) hours shall apply to the operational noise source activities from the Project.

Further, Section 11.80.030 (C) Prohibited Acts, Nonimpulsive Sound Decibel Limits, states: No person shall maintain, create, operate or cause to be operated on private property any source of sound in such a manner as to create any nonimpulsive sound which exceeds the limits set forth for the source land use category (as defined in Section 11.80.020) in Table 11.80.030-2 when measured at a distance of two hundred (200) feet or more from the real property line of the source of the sound, if the sound occurs on a privately owned property... (13) Therefore, at a distance of 200 feet from the property line, the Project's operational noise levels shall not exceed the 65 dBA Leq daytime and 60 dBA Leq nighttime noise level standards for commercial land uses, as shown on Table 3-1.

The City of Moreno Valley Municipal Code also identifies continuous sound level limits in Table 11.80.030-1 based on the Center for Disease Control and Prevention and the National Institute for Occupational Safety and Health (NIOSH) noise exposure guidelines. A division of the U.S. Department of Health and Human Services, NIOSH identifies a noise level threshold based on the duration of exposure to the source. The City of Moreno Valley noise level threshold starts at 90 dBA for more than eight hours per day, and for every increase, the exposure time is reduced. The City of Moreno Valley identifies noise level thresholds of 92 dBA for more than 6 hours per day, 95 dBA for more than 4 hour per day, 97 dBA for more than 3 hours per day, and up to 100 dBA for more than 2 hours per day. However, this noise study uses the more restrictive City of Moreno Valley commercial noise level limits identified on Table 11.80.030-2 for source land uses in the Municipal Code, shown on Table 3-1 of this report, to evaluate the potential operational noise levels due to the operation of the Project.



TABLE 3-1: OPERATIONAL NOISE STANDARDS AT 200 FEET FROM THE SOURCE

City	Source	Noise Level Standards (dBA Leq) ¹		
City	Land use	Daytime	Nighttime	
Moreno Valley	Commercial	65	60	

¹ City of Moreno Valley Municipal Code, Chapter 11.80 Noise Regulation, Table 11.80.030-2 Maximum Sound Levels (in dB(A)) for Source Land Uses when measured at a distance of 200 feet from the property line of the source land use (Appendix 3.1). Leq represents a steady state sound level containing the same total energy as a time varying signal over a given period. "Daytime" = 8:00 a.m. to 10:00 p.m.; "Nighttime" = 10:01 p.m. to 7:59 a.m.

3.5 CONSTRUCTION NOISE STANDARDS

To analyze noise impacts originating from the construction of the Moreno Valley Trade Center site, noise from construction activities are typically evaluated against standards established under a City's Municipal Code. The Municipal Code noise standards for construction are described below for the City of Moreno Valley to determine the potential noise impacts at nearby receiver locations. The construction-related noise standards are shown on Table 3-2.

The Municipal Code noise standards for construction are described below for the City of Moreno Valley to determine the potential noise impacts at nearby sensitive receiver locations. As a subset of its stationary-source noise regulations, the City Municipal Code establishes permitted hours of construction activity. More specifically, Municipal Code Section 11.80.030 (D)(7), Construction and Demolition, provides the following:

No person shall operate, or cause operation of any tools or equipment used in construction, drilling, repair, alteration, or demolition work between the hours of eight p.m. and seven a.m. the following day such that the sound there from creates a noise disturbance, except for emergency work by public service utilities or for other work approved by the city manager or designee.

Therefore, based on the Section 11.80.030 (D)(7) construction regulations, a construction-related *noise disturbance* occurs if Project construction activity occurs outside of the permitted hours. However, for this analysis, the stationary-source noise level limits of 65 dBA L_{eq} during the daytime hours and 60 dBA L_{eq} during the nighttime hours are used as appropriate thresholds for the nearby sensitive land uses (e.g. residential homes) in the Project study area. In addition, grading operations shall be limited to the hours identified in Section 8.21.050 (O) of 7:00 a.m. to 6:00 p.m., Monday through Friday, and 8:00 a.m. to 4:00 p.m. on weekends and holidays or as approved by the City Engineer. The City of Moreno Valley construction noise standards are shown on Table 3-2 and included in Appendix 3.1. As previously discussed in Section 3.4, the construction noise level threshold used in this noise study represents a conservative approach, since it is more restrictive than the continuous sound level limits of Table 11.80.030-1 of the City of Moreno Valley Municipal Code.



TABLE 3-2: CONSTRUCTION NOISE STANDARDS FROM THE SOURCE LAND USE

City	Permitted Hours of Construction Activity	Construction Noise Level Standard (dBA L _{eq}) ²		
	Construction Activity	Daytime	Nighttime	
Moreno Valley ¹	General Activity: 7:00 a.m. to 8:00 p.m. on any day. Grading is limited to 7:00 a.m. to 6:00 p.m. Monday to Friday; 8:00 a.m. to 4:00 p.m. on weekends and holidays.	65	60 ³	

¹ Source: City of Moreno Valley Municipal Code, Section 11.80.030 (D)(7) and Section 8.21.050 (O) (Appendix 3.1).

3.5 VIBRATION STANDARDS

Construction activity can result in varying degrees of ground-borne vibration, depending on the equipment and methods used, distance to the affected structures and soil type. Construction vibration is generally associated with pile driving and rock blasting. Other construction equipment such as air compressors, light trucks, hydraulic loaders, etc., generates little or no ground vibration. (3)

To analyze vibration impacts originating from the operation and construction of the Moreno Valley Trade Center, vibration-generating activities are appropriately evaluated against standards established under a City's Municipal Code, if such standards exist. However, the City of Moreno Valley does not identify specific vibration level limits and instead relies on the Federal Transit Administration (FTA) methodology. The FTA *Transit Noise and Vibration Impact Assessment Manual* methodology provides guidelines for the maximum-acceptable vibration criteria for different types of land uses. These guidelines allow 90 VdB for industrial (workshop) use, 84 VdB for office use and 78 VdB for daytime residential uses and 72 VdB for nighttime uses in buildings where people normally sleep. (3)



² Acceptable threshold for determining the relative significance of short-term Project construction noise levels, based on the City of Moreno Valley stationary noise standards shown on Table 3-1.

³ Any nighttime construction activity requires an exemption from the City of Moreno Valley Municipal Code as indicated in Section 11.80.030 (E)(8) for a special event permit (Section 11.80.040). The special event permit application shall be submitted to the City of Moreno Valley Planning Department for approval and meet the requirements of Municipal Code Section 11.80.040.

[&]quot;Daytime" = 8:00 a.m. to 10:00 p.m.; "Nighttime" = 10:01 p.m. to 7:59 a.m.

4 SIGNIFICANCE CRITERIA

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

- A. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- B. Generation of excessive ground-borne vibration or ground-borne noise levels?
- C. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

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

4.1 CEQA GUIDELINES NOT FURTHER ANALYZED

The Project site is not located within two miles of a public airport or within an airport land use plan. The closest airport is the March Air Reserve Base/Inland Port Airport (MARB/IPA) located over 5 miles west of the Project site. As such, the Project site would not be exposed to excessive noise levels from airport operations, and therefore, impacts are considered *less than significant*, and no further noise analysis is conducted in relation to Guideline C.

4.2 Noise-Sensitive Receivers

Noise level increases resulting from the Project are evaluated based on the Appendix G CEQA Guidelines described above at the closest sensitive receiver locations. Under CEQA, consideration must be given to the magnitude of the increase, the existing ambient noise levels, and the location of noise-sensitive receivers to determine if a noise increase represents a significant adverse environmental impact. This approach recognizes that there is no single noise increase that renders the noise impact significant. (14)

Unfortunately, there is no completely satisfactory way to measure the subjective effects of noise or of the corresponding human reactions of annoyance and dissatisfaction. This is primarily because of the wide variation in individual thresholds of annoyance and differing individual experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted—the so-called *ambient* environment. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will typically be judged. The Federal Interagency Committee on Noise (FICON) (15) developed guidance to be used for the assessment



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

As previously stated, the approach used in this noise study recognizes that there is no single noise increase that renders the noise impact significant, based on a 2008 California Court of Appeal ruling on Gray v. County of Madera. (14) For example, if the ambient noise environment is quiet (<60 dBA) and the new noise source greatly increases the noise levels, an impact may occur if the noise criteria may be exceeded. Therefore, for this analysis, FICON identifies a readily perceptible 5 dBA or greater project-related noise level increase is considered a significant impact when the noise criteria for a given land use is exceeded. Per the FICON, in areas where the without project noise levels range from 60 to 65 dBA, a 3 dBA barely perceptible noise level increase appears to be appropriate for most people. When the without project noise levels already exceed 65 dBA, any increase in community noise louder than 1.5 dBA or greater is considered a significant impact if the noise criteria for a given land use is exceeded, since it likely contributes to an existing noise exposure exceedance.

The FICON guidance provides an established source of criteria to assess the impacts of substantial temporary or permanent increase in ambient noise levels. Based on the FICON criteria, the amount to which a given noise level increase is considered acceptable is reduced when the without Project noise levels are already shown to exceed certain land-use specific exterior noise level criteria. The specific levels are based on typical responses to noise level increases of 5 dBA or *readily perceptible*, 3 dBA or *barely perceptible*, and 1.5 dBA depending on the underlying without Project noise levels for noise-sensitive uses. These levels of increases and their perceived acceptance are consistent with guidance provided by both the Federal Highway Administration (6 p. 9) and Caltrans (16 p. 2 48).

4.3 Non-Noise-Sensitive Receivers

Since the City of Moreno Valley General Plan Safety Element does not identify criteria to assess the impacts associated with off-site transportation-related noise impacts, the OPR land use/noise compatibility criteria, found in Figure 2 of the *General Plan Guidelines*, *Appendix D: Noise Element Guidelines* is used to determine potential impacts at adjacent land uses. As previously shown on Exhibit 3-A, the *normally acceptable* exterior noise level for non-noise-sensitive land use, such as industrial use, is 70 dBA CNEL. Noise levels greater than 70 dBA CNEL are considered *conditionally acceptable* according to the *Land Use Compatibility Criteria*. (10)

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



level increase thresholds for noise-sensitive land uses but instead rely on the OPR land use/noise compatibility criteria, found in Figure 2 of the *General Plan Guidelines*, *Appendix D: Noise Element Guidelines normally acceptable* 70 dBA CNEL exterior noise level criteria.

4.4 SIGNIFICANCE CRITERIA SUMMARY

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development. Table 4-1 shows the significance criteria summary matrix.

OFF-SITE TRAFFIC NOISE

- When the noise levels at existing and future noise-sensitive land uses (e.g. residential, etc.):
 - are less than 60 dBA CNEL and the Project creates a readily perceptible 5 dBA CNEL or greater Project-related noise level increase; or
 - range from 60 to 65 dBA CNEL and the Project creates a barely perceptible 3 dBA CNEL or greater Project-related noise level increase; or
 - o already exceed 65 dBA CNEL, and the Project creates a community noise level increase of greater than 1.5 dBA CNEL (FICON, 1992).
- When the noise levels at existing and future non-noise-sensitive land uses (e.g., office, commercial, industrial):
 - are greater than the OPR General Plan Guidelines, Figure 2, normally acceptable 70 dBA
 CNEL and the Project creates a barely perceptible 3 dBA CNEL or greater Project-related noise level increase.

OPERATIONAL NOISE & VIBRATION

- If Project-related operational (stationary source) noise levels:
 - exceed the 65 dBA L_{eq} daytime or 60 dBA L_{eq} nighttime noise level standards at 200 feet from the property line of the noise source (City of Moreno Valley Municipal Code, Table 11.80.030-2); or
- If the existing ambient noise levels at the nearby noise-sensitive receivers near the Project site:
 - are less than 60 dBA L_{eq} and the Project creates a readily perceptible 5 dBA L_{eq} or greater
 Project-related noise level increase; or
 - range from 60 to 65 dBA L_{eq} and the Project creates a barely perceptible 3 dBA L_{eq} or greater Project-related noise level increase; or
 - \circ already exceed 65 dBA L_{eq}, and the Project creates a community noise level increase of greater than 1.5 dBA L_{eq} (FICON, 1992).
 - If Project generated operational vibration levels exceed the FTA's acceptable vibration thresholds of 78 VdB for daytime residential use and 72 VdB for nighttime uses in buildings where people normally sleep. (FTA Transit Noise and Vibration Impact Assessment Manual).

CONSTRUCTION NOISE & VIBRATION

• If Project-related construction activities create noise levels at 200 feet from the property line of the noise source in the City of Moreno Valley which exceed the construction noise level threshold of 65 dBA Leq during the daytime hours, or 60 dBA Leq during the nighttime hours, (City of Moreno Valley Municipal Code, Table 11.80.030-2).



• If Project generated operational vibration levels exceed the FTA's acceptable vibration thresholds of 78 VdB for daytime residential use and buildings where people normally sleep. (FTA Transit Noise and Vibration Impact Assessment Manual).

TABLE 4-1: SIGNIFICANCE CRITERIA SUMMARY

Analysis	Receiving Land Use	Condition(s)	Significance Criteria		
	Land Ose		Daytime	Nighttime	
	Noise- Sensitive ¹	if ambient is < 60 dBA CNEL	≥ 5 dBA CNEL Project increase		
		if ambient is 60 - 65 dBA CNEL	≥ 3 dBA CNEL P	roject increase	
Off-Site	Sensitive	if ambient is > 65 dBA CNEL	≥ 1.5 dBA CNEL	≥ 1.5 dBA CNEL Project increase	
	Non-Noise- Sensitive ²	if ambient is > 70 dBA CNEL	≥ 3 dBA CNEL Project increase		
	ational		65 dBA L _{eq}	60 dBA L _{eq}	
Onematical		if ambient is < 60 dBA L _{eq} ¹	≥ 5 dBA L _{eq} Project increase		
Operational		if ambient is 60 - 65 dBA L _{eq} 1	≥ 3 dBA L _{eq} Project increase		
		roject increase			
		Vibration Level Threshold ⁴	78 VdB	72 VdB	
Construction	Noise- Sensitive	At 200' from the property line of the source ³	65 dBA L _{eq}	60 dBA L _{eq}	
	Sensitive	Vibration Level Threshold ⁴	78 VdB	n/a	

¹ FICON, 1992



² OPR General Plan Guidelines, Figure 2 Land Use Compatibility Criteria.

³ City of Moreno Valley Municipal Code, Chapter 11.80 Noise Regulation (Appendix 3.1).

⁴ Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual.

[&]quot;Daytime" = 8:00 a.m. - 10:00 p.m.; "Nighttime" = 10:01 p.m. - 7:59 a.m.

5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, 24-hour noise level measurements were taken at three locations in the Project study area. The receiver locations were selected to describe and document the existing noise environment within the Project study area. Exhibit 5-A provides the boundaries of the Project study area and the noise level measurement locations. To fully describe the existing noise conditions, noise level measurements were collected by Urban Crossroads, Inc. on Thursday, December 12th, 2019. Appendix 5.1 includes study area photos.

5.1 Measurement Procedure and Criteria

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

5.2 Noise Measurement Locations

The long-term noise level measurements were positioned as close to the nearest sensitive receiver locations as possible to assess the existing ambient hourly noise levels surrounding the Project site. Both Caltrans and the FTA recognize that it is not reasonable to collect noise level measurements that can fully represent every part of a private yard, patio, deck, or balcony normally used for human activity when estimating impacts for new development projects. This is demonstrated in the Caltrans general site location guidelines which indicate that, sites must be free of noise contamination by sources other than sources of interest. Avoid sites located near sources such as barking dogs, lawnmowers, pool pumps, and air conditioners unless it is the express intent of the analyst to measure these sources. (4) Further, FTA guidance states, that it is not necessary nor recommended that existing noise exposure be determined by measuring at every noise-sensitive location in the project area. Rather, the recommended approach is to characterize the noise environment for clusters of sites based on measurements or estimates at representative locations in the community. (3)

Based on recommendations of Caltrans and the FTA, it is not necessary to collect measurements at each individual building or residence, because each receiver measurement represents a group of buildings that share acoustical equivalence. (3) In other words, the area represented by the receiver shares similar shielding, terrain, and geometric relationship to the reference noise source. Receivers represent a location of noise sensitive areas and are used to estimate the future noise level impacts. Collecting reference ambient noise level measurements at the nearby sensitive receiver locations allows for a comparison of the before and after Project noise levels



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



EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS





5.3 Noise Measurement Results

The noise measurements presented below focus on the average or equivalent sound levels (L_{eq}). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. Table 5-1 identifies the hourly daytime (8:00 a.m. to 10:00 p.m.) and nighttime (10:01 p.m. to 7:59 a.m.) noise levels at each noise level measurement location. Appendix 5.2 provides a summary of the existing hourly ambient noise levels described below:

- Location L1 represents the noise levels north of the project site near existing residential home and the Moreno Valley Freeway. The noise levels at this location consist primarily of traffic noise from the Moreno Valley Freeway. The noise level measurements collected show an overall 24-hour exterior noise level of 80.5 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 75.3 dBA L_{eq} with an average nighttime noise level of 73.8 dBA L_{eq}.
- Location L2 represents the noise levels south of the Project site near existing single-family residential homes by Encelia Avenue and Shubert Street. The noise level measurements collected show an overall 24-hour exterior noise level of 61.0 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 54.2 dBA L_{eq} with an average nighttime noise level of 54.6 dBA L_{eq}. The noise levels at this location consist primarily of traffic noise from Encelia Avenue and Shubert Street.
- Location L3 represents the noise levels south of the Project site on Encelia Avenue next to
 existing single-family residential homes. The 24-hour CNEL indicates that the overall exterior
 noise level is 56.8 dBA CNEL. The energy (logarithmic) average daytime noise level was
 calculated at 51.0 dBA L_{eq} with an average nighttime noise level of 50.4 dBA L_{eq}. Traffic on
 Encelia Avenue represents the primary source of noise at this location.

Table 5-1 provides the (energy average) noise levels used to describe the daytime and nighttime ambient conditions. These daytime and nighttime energy average noise levels represent the average of all hourly noise levels observed during these time periods expressed as a single number. Appendix 5.2 provides summary worksheets of the noise levels for each hour as well as the minimum, maximum, L₁, L₂, L₅, L₈, L₂₅, L₅₀, L₉₀, L₉₅, and L₉₉ percentile noise levels observed during the daytime and nighttime periods.

The background ambient noise levels in the Project study area are dominated by the transportation-related noise associated with California State Route 60, and surrounding surface streets in addition to background industrial land use activities. The 24-hour existing noise level measurement results are shown on Table 5-1.



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

Location ¹	Description	Energy A Noise (dBA	CNEL	
		Daytime	Nighttime	
L1	Located north of the project site near existing residential home and the Moreno Valley Freeway.	75.3	73.8	80.5
L2	Located south of the Project site near existing single-family residential homes by Encelia Avenue and Shubert Street.	54.2	54.6	61.0
L3	Located south of the Project site on Encelia Avenue next to existing single-family residential homes.	51.0	50.4	56.8

¹ See Exhibit 5-A for the noise level measurement locations.



² Energy (logarithmic) average levels. The long-term 24-hour measurement worksheets are included in Appendix 5.2. "Daytime" = 8:00 a.m. to 10:00 p.m.; "Nighttime" = 10:01 p.m. to 7:59 a.m.

6 METHODS AND PROCEDURES

The following section outlines the methods and procedures used to model and analyze the future traffic noise environment. Consistent with the *Land Use Compatibility Criteria*, all transportation related noise levels are presented in terms of the 24-hour CNEL's.

6.1 FHWA TRAFFIC NOISE PREDICTION MODEL

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

6.2 OFF-SITE TRAFFIC NOISE PREDICTION MODEL INPUTS

Table 6-1 presents the roadway parameters used to assess the Project's off-site dBA CNEL transportation noise impacts. Table 6-1 identifies the 15 study area roadway segments, the distance from the centerline to adjacent land use based on the functional roadway classifications per the City of Moreno Valley General Plan Circulation Element, and the posted vehicle speeds. The ADT volumes used in this study area presented on Table 6-2 are based on the *Moreno Valley Trade Center Traffic Impact Analysis* for warehousing use, prepared by Translutions, Inc. for the following traffic scenarios under both Without and With Project alternatives: Existing, Opening Year (2024), and General Plan Build-Out (2040). (21)

The ADT volumes vary for each roadway segment based on the existing traffic volumes and the combination of project traffic distributions. This analysis relies on a comparative evaluation of the off-site traffic noise impacts, without and with project ADT traffic volumes from the Project traffic study.



TABLE 6-1: OFF-SITE ROADWAY PARAMETERS

ID	Roadway	Segment	Receiving Existing Land Use ¹	Distance from Centerline to Receiving Land Use (Feet) ²	Vehicle Speed (mph) ³
1	Redlands Blvd.	s/o SR-60 Westbound Ramps	Non-Sensitive	55'	50
2	Redlands Blvd.	s/o SR-60 Eastbound Ramps	Non-Sensitive	55'	50
3	Redlands Blvd.	s/o Eucalyptus Av.	Non-Sensitive	55'	50
4	Redlands Blvd.	s/o Dwy. 6	Non-Sensitive	55'	50
5	Redlands Blvd.	n/o Encelia Av.	Non-Sensitive	55'	50
6	Moreno Beach Dr.	s/o SR-60 Westbound Ramps	Non-Sensitive	67'	50
7	Moreno Beach Dr.	s/o SR-60 Eastbound Ramps	Non-Sensitive	67'	50
8	Eucalyptus Av.	e/o Moreno Beach Dr.	Non-Sensitive	50'	40
9	Eucalyptus Av.	e/o Auto Mall Dr.	Non-Sensitive	50'	40
10	Eucalyptus Av.	w/o Aldi Place	Non-Sensitive	50'	40
11	Eucalyptus Av.	w/o Dwy. 5	Non-Sensitive	50'	40
12	Eucalyptus Av.	w/o Redlands Blvd.	Non-Sensitive	50'	40
13	Encilia Av.	e/o Essen Lane	Sensitive	44'	45
14	Encilia Av.	e/o Mozart Wy.	Sensitive	44'	45
15	Encilia Av.	w/o Redlands Blvd.	Sensitive	44'	45

¹ 1 Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.



² Distance to receiving land use is based upon the right-of-way distances.

³ Source: Moreno Valley Trade Center Traffic Impact Analysis, translutions, inc.

TABLE 6-2: AVERAGE DAILY TRAFFIC VOLUMES

				Avera	age Daily Ti	raffic Volu	mes ¹			
ID	Roadway	Segment	Exist	Existing		Existing Opening Year (2024)		_	Genera Buildout	-
			Without Project	With Project	Without Project	With Project	Without Project	With Project		
1	Redlands Blvd.	s/o SR-60 Westbound Ramps	14,403	15,119	18,155	18,871	25,690	26,406		
2	Redlands Blvd.	s/o SR-60 Eastbound Ramps	12,290	13,209	16,324	17,243	26,068	26,987		
3	Redlands Blvd.	s/o Eucalyptus Av.	12,535	13,181	15,044	15,690	25,275	25,921		
4	Redlands Blvd.	s/o Dwy. 6	12,535	13,339	15,044	15,848	25,275	26,079		
5	Redlands Blvd.	n/o Encelia Av.	12,535	13,526	15,044	16,035	25,275	26,266		
6	Moreno Beach Dr.	s/o SR-60 Westbound Ramps	12,724	12,767	18,159	18,202	24,982	25,025		
7	Moreno Beach Dr.	s/o SR-60 Eastbound Ramps	23,934	24,704	32,941	33,711	44,511	45,281		
8	Eucalyptus Av.	e/o Moreno Beach Dr.	3,673	4,558	6,371	7,256	12,586	13,471		
9	Eucalyptus Av.	e/o Auto Mall Dr.	1,617	2,229	2,943	3,555	8,251	8,863		
10	Eucalyptus Av.	w/o Aldi Place	1,507	2,151	2,822	3,466	7,912	8,556		
11	Eucalyptus Av.	w/o Dwy. 5	2,424	3,070	3,834	4,480	9,978	10,624		
12	Eucalyptus Av.	w/o Redlands Blvd.	2,424	3,285	3,834	4,695	9,978	10,839		
13	Encilia Av.	e/o Essen Lane	217	375	240	398	3,996	4,154		
14	Encilia Av.	e/o Mozart Wy.	217	576	240	599	3,996	4,355		
15	Encilia Av.	w/o Redlands Blvd.	475	1,121	524	1,170	4,312	4,958		

¹ Moreno Valley Trade Center Traffic Impact Analysis, translutions, inc.

To quantify the off-site noise levels, the Project related truck trips were added to the heavy truck category in the FHWA noise prediction model. The addition of the Project related truck trips increases the percentage of heavy trucks in the vehicle mix. This approach recognizes that the FHWA noise prediction model is significantly influenced by the number of heavy trucks in the vehicle mix.

Table 6-3 provides the time of day (daytime, evening, and nighttime) vehicle splits. The daily Project truck trip-ends were assigned to the individual off-site study area roadway segments based on the Project truck trip distribution percentages documented in the *Traffic Impact Analysis*. Using the Project truck trips in combination with the Project trip distribution, Urban Crossroads, Inc. calculated the number of additional Project truck trips and vehicle mix percentages for each of the study area roadway segments. Table 6-4 shows the traffic flow by vehicle type (vehicle mix) used for all without Project traffic scenarios, and Tables 6-5 to 6-7 show the vehicle mixes used for the with Project traffic scenarios.



TABLE 6-3: TIME OF DAY VEHICLE SPLITS

Vahiala Tura		Time of Day Splits ¹		Total of Time of
Vehicle Type	Daytime	Evening	Nighttime	Day Splits
Autos	71.98%	14.56%	13.46%	100.00%
Medium Trucks	76.23%	9.38%	14.39%	100.00%
Heavy Trucks	81.79%	7.65%	10.55%	100.00%

¹ Source: Based on a 24-hour count taken at Iris Avenue between Lasselle Street and Nason Street (Moreno Valley Trade Center Traffic Impact Analysis, translutions, inc.). Values rounded to the nearest one-hundredth.

TABLE 6-4: WITHOUT PROJECT VEHICLE MIX

Classification		Total % Traffic Flow		Total
Classification	Autos	Medium Trucks	Heavy Trucks	Total
All Segments	94.24%	4.44%	1.32%	100.00%

Based on a 24-hour count taken at Iris Avenue between Lasselle Street and Nason Street (Moreno Valley Trade Center Traffic Impact Analysis, translutions, inc.). Vehicle mix percentage values rounded to the nearest one-hundredth.

Due to the added Project truck trips, the increase in Project traffic volumes and the distributions of trucks on the study area road segments, the percentage of autos, medium trucks and heavy trucks will vary for each of the traffic scenarios. This explains why the existing and future traffic volumes and vehicle mixes vary between seemingly identical study area roadway segments.

TABLE 6-5: EXISTING WITH PROJECT VEHICLE MIX

				With P	roject ¹	
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total ²
1	Redlands Blvd.	s/o SR-60 Westbound Ramps	91.59%	4.73%	3.69%	100.00%
2	Redlands Blvd.	s/o SR-60 Eastbound Ramps	90.62%	4.81%	4.56%	100.00%
3	Redlands Blvd.	s/o Eucalyptus Av.	94.53%	4.22%	1.25%	100.00%
4	Redlands Blvd.	s/o Dwy. 6	94.59%	4.17%	1.24%	100.00%
5	Redlands Blvd.	n/o Encelia Av.	94.67%	4.11%	1.22%	100.00%
6	Moreno Beach Dr.	s/o SR-60 Westbound Ramps	94.26%	4.43%	1.31%	100.00%
7	Moreno Beach Dr.	s/o SR-60 Eastbound Ramps	92.99%	4.54%	2.47%	100.00%
8	Eucalyptus Av.	e/o Moreno Beach Dr.	87.60%	4.89%	7.51%	100.00%
9	Eucalyptus Av.	e/o Auto Mall Dr.	79.95%	5.91%	14.14%	100.00%
10	Eucalyptus Av.	w/o Aldi Place	75.37%	6.60%	18.03%	100.00%
11	Eucalyptus Av.	w/o Dwy. 5	78.16%	6.44%	15.40%	100.00%
12	Eucalyptus Av.	w/o Redlands Blvd.	79.59%	6.02%	14.39%	100.00%
13	Encilia Av.	e/o Essen Lane	96.67%	2.57%	0.76%	100.00%
14	Encilia Av.	e/o Mozart Wy.	97.83%	1.67%	0.50%	100.00%
15	Encilia Av.	w/o Redlands Blvd.	97.56%	1.88%	0.56%	100.00%

¹ Source: Moreno Valley Trade Center Traffic Impact Analysis, translutions, inc.



[&]quot;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.

 $^{^{\}rm 2}$ Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-6: OPENING YEAR (2024) WITH PROJECT VEHICLE MIX

				With P	roject ¹	
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total ²
1	Redlands Blvd.	s/o SR-60 Westbound Ramps	92.11%	4.67%	3.22%	100.00%
2	Redlands Blvd.	s/o SR-60 Eastbound Ramps	91.47%	4.73%	3.80%	100.00%
3	Redlands Blvd.	s/o Eucalyptus Av.	94.48%	4.26%	1.26%	100.00%
4	Redlands Blvd.	s/o Dwy. 6	94.54%	4.21%	1.25%	100.00%
5	Redlands Blvd.	n/o Encelia Av.	94.60%	4.17%	1.23%	100.00%
6	Moreno Beach Dr.	s/o SR-60 Westbound Ramps	94.26%	4.43%	1.31%	100.00%
7	Moreno Beach Dr.	s/o SR-60 Eastbound Ramps	93.33%	4.52%	2.16%	100.00%
8	Eucalyptus Av.	e/o Moreno Beach Dr.	90.07%	4.73%	5.21%	100.00%
9	Eucalyptus Av.	e/o Auto Mall Dr.	85.28%	5.36%	9.36%	100.00%
10	Eucalyptus Av.	w/o Aldi Place	82.53%	5.78%	11.69%	100.00%
11	Eucalyptus Av.	w/o Dwy. 5	83.22%	5.81%	10.97%	100.00%
12	Eucalyptus Av.	w/o Redlands Blvd.	83.99%	5.54%	10.47%	100.00%
13	Encilia Av.	e/o Essen Lane	96.53%	2.68%	0.79%	100.00%
14	Encilia Av.	e/o Mozart Wy.	97.69%	1.78%	0.53%	100.00%
15	Encilia Av.	w/o Redlands Blvd.	97.42%	1.99%	0.59%	100.00%



¹ Source: Moreno Valley Trade Center Traffic Impact Analysis, translutions, inc. ² Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-7: GENERAL PLAN BUILD-OUT (2040) WITH PROJECT VEHICLE MIX

				With P	roject ¹	
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total ²
1	Redlands Blvd.	s/o SR-60 Westbound Ramps	92.75%	4.60%	2.65%	100.00%
2	Redlands Blvd.	s/o SR-60 Eastbound Ramps	92.51%	4.62%	2.88%	100.00%
3	Redlands Blvd.	s/o Eucalyptus Av.	94.38%	4.33%	1.28%	100.00%
4	Redlands Blvd.	s/o Dwy. 6	94.42%	4.31%	1.28%	100.00%
5	Redlands Blvd.	n/o Encelia Av.	94.46%	4.28%	1.27%	100.00%
6	Moreno Beach Dr.	s/o SR-60 Westbound Ramps	94.25%	4.43%	1.31%	100.00%
7	Moreno Beach Dr.	s/o SR-60 Eastbound Ramps	93.57%	4.50%	1.93%	100.00%
8	Eucalyptus Av.	e/o Moreno Beach Dr.	92.05%	4.59%	3.36%	100.00%
9	Eucalyptus Av.	e/o Auto Mall Dr.	90.74%	4.80%	4.46%	100.00%
10	Eucalyptus Av.	w/o Aldi Place	89.63%	4.97%	5.40%	100.00%
11	Eucalyptus Av.	w/o Dwy. 5	89.72%	5.00%	5.28%	100.00%
12	Eucalyptus Av.	w/o Redlands Blvd.	89.91%	4.91%	5.18%	100.00%
13	Encilia Av.	e/o Essen Lane	94.46%	4.28%	1.27%	100.00%
14	Encilia Av.	e/o Mozart Wy.	94.70%	4.09%	1.21%	100.00%
15	Encilia Av.	w/o Redlands Blvd.	94.97%	3.88%	1.15%	100.00%

¹ Source: Moreno Valley Trade Center Traffic Impact Analysis, translutions, inc.

6.3 VIBRATION ASSESSMENT

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

However, while vehicular traffic is rarely perceptible, construction has the potential to result in varying degrees of temporary ground vibration, depending on the specific construction activities and equipment used. Ground vibration levels associated with various types of construction equipment are summarized on Table 6-8. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the potential Project construction vibration levels using the following vibration assessment methods defined by the FTA. To describe the human response (annoyance) associated with vibration impacts the FTA provides the following equation: $L_{VdB}(D) = L_{VdB}(25 \text{ ft}) - 30 \log(D/25)$



² Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-8: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	Vibration Decibels (VdB) at 25 feet
Small bulldozer	58
Jackhammer	79
Loaded Trucks	86
Large bulldozer	87
Pile Driver	93

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment



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7 OFF-SITE TRANSPORTATION NOISE IMPACTS

To assess the off-site transportation CNEL noise level impacts associated with the proposed Project, noise contours were developed based on the *Moreno Valley Trade Center Traffic Impact Analysis*. (21) Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway.

7.1 TRAFFIC NOISE CONTOURS

Noise contours were used to assess the Project's incremental 24-hour dBA CNEL traffic-related noise impacts at land uses adjacent to roadways conveying Project traffic. The noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 70, 65, and 60 dBA CNEL noise levels. The noise contours do not consider the effect of any existing noise barriers or topography that may attenuate ambient noise levels. In addition, because the noise contours reflect modeling of vehicular noise on area roadways, they appropriately do not reflect noise contributions from the surrounding stationary noise sources within the Project study area.

Tables 7-1 through 7-6 present a summary of the exterior dBA CNEL traffic noise levels without barrier attenuation. Roadway segments are analyzed from the without Project to the with Project conditions in each of the following timeframes: Existing, Opening Year (2024), and General Plan Build-Out (2040). Appendix 7.1 includes a summary of the dBA CNEL traffic noise level contours for each of the traffic scenarios.



TABLE 7-1: EXISTING WITHOUT PROJECT NOISE CONTOURS

			Receiving	CNEL at	Distance to Contour from Centerline (Feet)		
ID	Road	Segment	Existing Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	135 29 135 29 147 31 224 48 RW 87 RW RW RW 66 RW 66	60 dBA CNEL
1	Redlands Blvd.	s/o SR-60 Westbound Ramps	Non-Sensitive	71.5	69	148	319
2	Redlands Blvd.	s/o SR-60 Eastbound Ramps	Non-Sensitive	70.8	62	133	287
3	Redlands Blvd.	s/o Eucalyptus Av.	Non-Sensitive	70.9	63	135	291
4	Redlands Blvd.	s/o Dwy. 6	Non-Sensitive	70.9	63	135	291
5	Redlands Blvd.	n/o Encelia Av.	Non-Sensitive	70.9	63	135	291
6	Moreno Beach Dr.	s/o SR-60 Westbound Ramps	Non-Sensitive	70.1	68	147	316
7	Moreno Beach Dr.	s/o SR-60 Eastbound Ramps	Non-Sensitive	72.9	104	224	482
8	Eucalyptus Av.	e/o Moreno Beach Dr.	Non-Sensitive	63.6	RW	RW	87
9	Eucalyptus Av.	e/o Auto Mall Dr.	Non-Sensitive	60.1	RW	RW	50
10	Eucalyptus Av.	w/o Aldi Place	Non-Sensitive	59.7	RW	RW	RW
11	Eucalyptus Av.	w/o Dwy. 5	Non-Sensitive	61.8	RW	RW	66
12	Eucalyptus Av.	w/o Redlands Blvd.	Non-Sensitive	61.8	RW	RW	66
13	Encilia Av.	e/o Essen Lane	Sensitive	53.1	RW	RW	RW
14	Encilia Av.	e/o Mozart Wy.	Sensitive	53.1	RW	RW	RW
15	Encilia Av.	w/o Redlands Blvd.	Sensitive	56.5	RW	RW	RW

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses, non-sensitive uses include office, commercial and industrial



² The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

[&]quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-2: EXISTING WITH PROJECT NOISE CONTOURS

			Receiving	CNEL at	Distance to Contour from Centerline (Feet)			
ID	Road	Segment	Existing Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	### Centerline (Feet ### CNEL	60 dBA CNEL	
1	Redlands Blvd.	s/o SR-60 Westbound Ramps	Non-Sensitive	73.0	87	188	405	
2	Redlands Blvd.	s/o SR-60 Eastbound Ramps	Non-Sensitive	72.8	85	183	394	
3	Redlands Blvd.	s/o Eucalyptus Av.	Non-Sensitive	71.0	64	138	297	
4	Redlands Blvd.	s/o Dwy. 6	Non-Sensitive	71.0	64	138	298	
5	Redlands Blvd.	n/o Encelia Av.	Non-Sensitive	71.0	65	139	299	
6	Moreno Beach Dr.	s/o SR-60 Westbound Ramps	Non-Sensitive	70.1	68	147	317	
7	Moreno Beach Dr.	s/o SR-60 Eastbound Ramps	Non-Sensitive	73.7	118	254	547	
8	Eucalyptus Av.	e/o Moreno Beach Dr.	Non-Sensitive	67.9	RW	78	167	
9	Eucalyptus Av.	e/o Auto Mall Dr.	Non-Sensitive	66.8	RW	66	141	
10	Eucalyptus Av.	w/o Aldi Place	Non-Sensitive	67.5	RW	73	157	
11	Eucalyptus Av.	w/o Dwy. 5	Non-Sensitive	68.5	RW	85	184	
12	Eucalyptus Av.	w/o Redlands Blvd.	Non-Sensitive	68.5	RW	86	185	
13	Encilia Av.	e/o Essen Lane	Sensitive	54.5	RW	RW	RW	
14	Encilia Av.	e/o Mozart Wy.	Sensitive	55.8	RW	RW	RW	
15	Encilia Av.	w/o Redlands Blvd.	Sensitive	58.8	RW	RW	RW	

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses, non-sensitive uses include office, commercial and industrial



² The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

[&]quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-3: OPENING YEAR (2024) PROJECT NOISE CONTOURS

			Receiving	CNEL at	Distance to Contour from Centerline (Feet)			
ID	Road	Segment	Existing Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	Centerline (Fee dBA dB CNEL CN 173 37 161 34 153 32 153 32 153 32 186 40 277 59 58 12 RW 73 RW 90 RW 90 RW 90	60 dBA CNEL	
1	Redlands Blvd.	s/o SR-60 Westbound Ramps	Non-Sensitive	72.5	80	173	373	
2	Redlands Blvd.	s/o SR-60 Eastbound Ramps	Non-Sensitive	72.0	75	161	347	
3	Redlands Blvd.	s/o Eucalyptus Av.	Non-Sensitive	71.6	71	153	329	
4	Redlands Blvd.	s/o Dwy. 6	Non-Sensitive	71.6	71	153	329	
5	Redlands Blvd.	n/o Encelia Av.	Non-Sensitive	71.6	71	153	329	
6	Moreno Beach Dr.	s/o SR-60 Westbound Ramps	Non-Sensitive	71.7	86	186	401	
7	Moreno Beach Dr.	s/o SR-60 Eastbound Ramps	Non-Sensitive	74.2	128	277	596	
8	Eucalyptus Av.	e/o Moreno Beach Dr.	Non-Sensitive	66.0	RW	58	126	
9	Eucalyptus Av.	e/o Auto Mall Dr.	Non-Sensitive	62.7	RW	RW	75	
10	Eucalyptus Av.	w/o Aldi Place	Non-Sensitive	62.5	RW	RW	73	
11	Eucalyptus Av.	w/o Dwy. 5	Non-Sensitive	63.8	RW	RW	90	
12	Eucalyptus Av.	w/o Redlands Blvd.	Non-Sensitive	63.8	RW	RW	90	
13	Encilia Av.	e/o Essen Lane	Sensitive	53.6	RW	RW	RW	
14	Encilia Av.	e/o Mozart Wy.	Sensitive	53.6	RW	RW	RW	
15	Encilia Av.	w/o Redlands Blvd.	Sensitive	56.9	RW	RW	RW	

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses, non-sensitive uses include office, commercial and industrial.



² The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

[&]quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-4: OPENING YEAR (2024) WITH PROJECT NOISE CONTOURS

			Receiving	CNEL at			
ID	Road	Segment	Existing Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	dBA CNEL dBA CNEL dBA CNEL dB CNEL CN 98 210 45 45 46	60 dBA CNEL
1	Redlands Blvd.	s/o SR-60 Westbound Ramps	Non-Sensitive	73.7	98	210	453
2	Redlands Blvd.	s/o SR-60 Eastbound Ramps	Non-Sensitive	73.6	96	207	446
3	Redlands Blvd.	s/o Eucalyptus Av.	Non-Sensitive	71.7	72	155	334
4	Redlands Blvd.	s/o Dwy. 6	Non-Sensitive	71.8	72	156	335
5	Redlands Blvd.	n/o Encelia Av.	Non-Sensitive	71.8	73	156	337
6	Moreno Beach Dr.	s/o SR-60 Westbound Ramps	Non-Sensitive	71.7	86	186	401
7	Moreno Beach Dr.	s/o SR-60 Eastbound Ramps	Non-Sensitive	74.9	141	304	656
8	Eucalyptus Av.	e/o Moreno Beach Dr.	Non-Sensitive	68.9	RW	91	197
9	Eucalyptus Av.	e/o Auto Mall Dr.	Non-Sensitive	67.5	RW	73	157
10	Eucalyptus Av.	w/o Aldi Place	Non-Sensitive	68.1	RW	80	173
11	Eucalyptus Av.	w/o Dwy. 5	Non-Sensitive	69.0	RW	92	199
12	Eucalyptus Av.	w/o Redlands Blvd.	Non-Sensitive	69.0	RW	93	200
13	Encilia Av.	e/o Essen Lane	Sensitive	54.8	RW	RW	RW
14	Encilia Av.	e/o Mozart Wy.	Sensitive	56.1	RW	RW	RW
15	Encilia Av.	w/o Redlands Blvd.	Sensitive	59.1	RW	RW	RW

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses, non-sensitive uses include office, commercial and industrial.



² The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

 $[&]quot;RW" = Location \ of \ the \ respective \ noise \ contour \ falls \ within \ the \ right-of-way \ of \ the \ road.$

TABLE 7-5: GENERAL PLAN BUILD-OUT (2040) WITHOUT PROJECT NOISE CONTOURS

			Receiving	CNEL at		nce to Co enterline	
ID	Road	Segment	Existing Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Redlands Blvd.	s/o SR-60 Westbound Ramps	Non-Sensitive	74.0	101	218	470
2	Redlands Blvd.	s/o SR-60 Eastbound Ramps	Non-Sensitive	74.0	102	220	474
3	Redlands Blvd.	s/o Eucalyptus Av.	Non-Sensitive	73.9	100	216	465
4	Redlands Blvd.	s/o Dwy. 6	Non-Sensitive	73.9	100	216	465
5	Redlands Blvd.	n/o Encelia Av.	Non-Sensitive	73.9	100	216	465
6	Moreno Beach Dr.	s/o SR-60 Westbound Ramps	Non-Sensitive	73.0	107	230	496
7	Moreno Beach Dr.	s/o SR-60 Eastbound Ramps	Non-Sensitive	75.5	157	338	729
8	Eucalyptus Av.	e/o Moreno Beach Dr.	Non-Sensitive	69.0	RW	92	198
9	Eucalyptus Av.	e/o Auto Mall Dr.	Non-Sensitive	67.1	RW	69	149
10	Eucalyptus Av.	w/o Aldi Place	Non-Sensitive	67.0	RW	67	145
11	Eucalyptus Av.	w/o Dwy. 5	Non-Sensitive	68.0	RW	79	170
12	Eucalyptus Av.	w/o Redlands Blvd.	Non-Sensitive	68.0	RW	79	170
13	Encilia Av.	e/o Essen Lane	Sensitive	65.8	RW	50	107
14	Encilia Av.	e/o Mozart Wy.	Sensitive	65.8	RW	50	107
15	Encilia Av.	w/o Redlands Blvd.	Sensitive	66.1	RW	52	112

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses, non-sensitive uses include office, commercial and industrial



² The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

[&]quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

 $^{^{\}rm 1}$ 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 the receiving adjacent land use.

[&]quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-6: GENERAL PLAN BUILD-OUT (2040) WITH PROJECT NOISE CONTOURS

			Receiving	CNEL at		nce to Co enterline	
ID	Road	Road Segment Existi Land U		Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Redlands Blvd.	s/o SR-60 Westbound Ramps	Non-Sensitive	74.9	117	252	542
2	Redlands Blvd.	s/o SR-60 Eastbound Ramps	Non-Sensitive	75.1	121	260	561
3	Redlands Blvd.	s/o Eucalyptus Av.	Non-Sensitive	74.0	101	218	469
4	Redlands Blvd.	s/o Dwy. 6	Non-Sensitive		101	218	470
5	Redlands Blvd.	n/o Encelia Av.	Non-Sensitive	74.0	102	219	471
6	Moreno Beach Dr.	s/o SR-60 Westbound Ramps	Non-Sensitive	73.0	107	230	496
7	Moreno Beach Dr.	s/o SR-60 Eastbound Ramps	Non-Sensitive	76.0	169	363	783
8	Eucalyptus Av.	e/o Moreno Beach Dr.	Non-Sensitive	70.7	56	120	258
9	Eucalyptus Av.	e/o Auto Mall Dr.	Non-Sensitive	69.5	RW	100	215
10	Eucalyptus Av.	w/o Aldi Place	Non-Sensitive	69.8	RW	105	226
11	Eucalyptus Av.	w/o Dwy. 5	Non-Sensitive	70.7	56	120	259
12	Eucalyptus Av.	w/o Redlands Blvd.	Non-Sensitive	70.7	56	121	260
13	Encilia Av.	e/o Essen Lane	Sensitive	65.9	RW	50	108
14	Encilia Av.	e/o Mozart Wy.	Sensitive	66.0	RW	51	110
15	Encilia Av.	w/o Redlands Blvd.	Sensitive	66.4	RW	55	118

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses, non-sensitive uses include office, commercial and industrial

7.2 EXISTING 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 *Moreno Valley Trade Center Traffic Impact Analysis*. 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 7-1 shows the Existing without Project conditions CNEL noise levels. The Existing without Project exterior noise levels are expected to range from 53.1 to 72.9 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-2 shows the Existing with Project conditions will range from 54.5 to 73.7 dBA CNEL. Table 7-7 shows that the Project off-site traffic noise level impacts will range from 0.0 to 7.7 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-1, land uses adjacent to the study area roadway segments would experience *less than significant* noise level increases on receiving land uses due to the Project-related traffic.



² The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

[&]quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

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 the receiving adjacent land use.

[&]quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

In order for an off-site traffic noise level impact to be considered significant, receivers need to perceive an increase of traffic noise levels over time. Therefore, off-site traffic impacts are generally limited to noise sensitive residential receivers that are likely to perceive this increase. While the analysis shows that the non-sensitive industrial uses will experience an off-site traffic noise level increase of 7.7 dBA CNEL, this is not considered a significant noise level impact since there are no adjacent receivers that will experience this increase over time. In addition, the Project-related off-site traffic noise level increase are largely due to the low traffic volumes that currently exist. This finding is consistent with the off-site traffic increase significance criteria outlined in Section 4.

7.3 OPENING YEAR (2024) PROJECT TRAFFIC NOISE LEVEL INCREASES

Table 7-3 presents the Opening Year (2024) without Project conditions CNEL noise levels. The Opening Year (2024) without Project exterior noise levels are expected to range from 53.6 to 74.2 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-4 shows the Opening Year (2024) with Project conditions will range from 54.8 to 74.9 dBA CNEL. Table 7-8 shows that the Project off-site traffic noise level increases will range from 0.0 to 5.6 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-1, land uses adjacent to the study area roadway segments would experience less than significant noise level increases on receiving land uses due to the Project-related traffic.

In order for an off-site traffic noise level impact to be considered significant, receivers need to perceive an increase of traffic noise levels over time. Therefore, off-site traffic impacts are generally limited to noise sensitive residential receivers that are likely to perceive this increase. While the analysis shows that the non-sensitive industrial uses will experience an off-site traffic noise level increase of 5.6 dBA CNEL, this is not considered a significant noise level impact since there are no adjacent receivers that will experience this increase over time. In addition, the Project-related off-site traffic noise level increase are largely due to the low traffic volumes that currently exist. This finding is consistent with the off-site traffic increase significance criteria outlined in Section 4.

7.4 GENERAL PLAN BUILD-OUT (2040) PROJECT TRAFFIC NOISE LEVEL INCREASES

Table 7-5 presents the General Plan Build-Out (2040) without Project conditions CNEL noise levels. The General Plan Build-Out (2040) without Project exterior noise levels are expected to range from 65.8 to 75.5 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-6 shows that the General Plan Build-Out (2040) with Project conditions will range from 65.9 to 76.0 dBA CNEL. Table 7-9 shows that the Project off-site traffic noise level increases will range from 0.0 to 2.9 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-1, land uses adjacent to the study area roadway segments would experience *less than significant* noise level increases on receiving land uses due to the Project-related traffic.



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

ID	Road	Segment	Receiving Existing		CNEL at Receiving Land Use (dBA) ²			Level	ental Noise Increase eshold ³
		-	Land Use ¹	No Project	With Project	Project Addition	Land Use?	Limit	Exceeded?
1	Redlands Blvd.	s/o SR-60 Westbound Ramps	Non-Sensitive	71.5	73.0	1.6	No	3.0	No
2	Redlands Blvd.	s/o SR-60 Eastbound Ramps	Non-Sensitive	70.8	72.8	2.1	No	3.0	No
3	Redlands Blvd.	s/o Eucalyptus Av.	Non-Sensitive	70.9	71.0	0.1	No	3.0	No
4	Redlands Blvd.	s/o Dwy. 6	Non-Sensitive	70.9	71.0	0.1	No	3.0	No
5	Redlands Blvd.	n/o Encelia Av.	Non-Sensitive	70.9	71.0	0.2	No	3.0	No
6	Moreno Beach Dr.	s/o SR-60 Westbound Ramps	Non-Sensitive	70.1	70.1	0.0	No	3.0	No
7	Moreno Beach Dr.	s/o SR-60 Eastbound Ramps	Non-Sensitive	72.9	73.7	0.8	No	3.0	No
8	Eucalyptus Av.	e/o Moreno Beach Dr.	Non-Sensitive	63.6	67.9	4.3	No	n/a	No
9	Eucalyptus Av.	e/o Auto Mall Dr.	Non-Sensitive	60.1	66.8	6.7	No	n/a	No
10	Eucalyptus Av.	w/o Aldi Place	Non-Sensitive	59.7	67.5	7.7	No	n/a	No
11	Eucalyptus Av.	w/o Dwy. 5	Non-Sensitive	61.8	68.5	6.7	No	n/a	No
12	Eucalyptus Av.	w/o Redlands Blvd.	Non-Sensitive	61.8	68.5	6.7	No	n/a	No
13	Encilia Av.	e/o Essen Lane	Sensitive	53.1	54.5	1.4	Yes	5.0	No
14	Encilia Av.	e/o Mozart Wy.	Sensitive	53.1	55.8	2.7	Yes	5.0	No
15	Encilia Av.	w/o Redlands Blvd.	Sensitive	56.5	58.8	2.3	Yes	5.0	No

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses, non-sensitive uses include office, commercial and industrial.



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

³ Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

TABLE 7-8: OPENING YEAR (2024) WITH PROJECT TRAFFIC NOISE INCREASES

ID	Road	Segment	Receiving Existing		CNEL at Receiving Land Use (dBA) ²			Level	Incremental Noise Level Increase Threshold ³	
			Land Use ¹	No Project	With Project	Project Addition	Land Use?	Limit	Exceeded?	
1	Redlands Blvd.	s/o SR-60 Westbound Ramps	Non-Sensitive	72.5	73.7	1.3	No	3.0	No	
2	Redlands Blvd.	s/o SR-60 Eastbound Ramps	Non-Sensitive	72.0	73.6	1.6	No	3.0	No	
3	Redlands Blvd.	s/o Eucalyptus Av.	Non-Sensitive	71.6	71.7	0.1	No	3.0	No	
4	Redlands Blvd.	s/o Dwy. 6	Non-Sensitive	71.6	71.8	0.1	No	3.0	No	
5	Redlands Blvd.	n/o Encelia Av.	Non-Sensitive	71.6	71.8	0.2	No	3.0	No	
6	Moreno Beach Dr.	s/o SR-60 Westbound Ramps	Non-Sensitive	71.7	71.7	0.0	No	3.0	No	
7	Moreno Beach Dr.	s/o SR-60 Eastbound Ramps	Non-Sensitive	74.2	74.9	0.6	No	3.0	No	
8	Eucalyptus Av.	e/o Moreno Beach Dr.	Non-Sensitive	66.0	68.9	2.9	No	n/a	No	
9	Eucalyptus Av.	e/o Auto Mall Dr.	Non-Sensitive	62.7	67.5	4.8	No	n/a	No	
10	Eucalyptus Av.	w/o Aldi Place	Non-Sensitive	62.5	68.1	5.6	No	n/a	No	
11	Eucalyptus Av.	w/o Dwy. 5	Non-Sensitive	63.8	69.0	5.2	No	n/a	No	
12	Eucalyptus Av.	w/o Redlands Blvd.	Non-Sensitive	63.8	69.0	5.2	No	n/a	No	
13	Encilia Av.	e/o Essen Lane	Sensitive	53.6	54.8	1.3	Yes	5.0	No	
14	Encilia Av.	e/o Mozart Wy.	Sensitive	53.6	56.1	2.5	Yes	5.0	No	
15	Encilia Av.	w/o Redlands Blvd.	Sensitive	56.9	59.1	2.2	Yes	5.0	No	

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses, non-sensitive uses include office, commercial and industrial.



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

³ Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

TABLE 7-9: GENERAL PLAN BUILD-OUT (2040) WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	Receiving Existing		CNEL at Receiving Land Use (dBA) ²			Level	ental Noise Increase eshold ³
			Land Use ¹	No Project	With Project	Project Addition	Land Use?	Limit	Exceeded?
1	Redlands Blvd.	s/o SR-60 Westbound Ramps	Non-Sensitive	74.0	74.9	0.9	No	3.0	No
2	Redlands Blvd.	s/o SR-60 Eastbound Ramps	Non-Sensitive	74.0	75.1	1.1	No	3.0	No
3	Redlands Blvd.	s/o Eucalyptus Av.	Non-Sensitive	73.9	74.0	0.1	No	3.0	No
4	Redlands Blvd.	s/o Dwy. 6	Non-Sensitive	73.9	74.0	0.1	No	3.0	No
5	Redlands Blvd.	n/o Encelia Av.	Non-Sensitive	73.9	74.0	0.1	No	3.0	No
6	Moreno Beach Dr.	s/o SR-60 Westbound Ramps	Non-Sensitive	73.0	73.0	0.0	No	3.0	No
7	Moreno Beach Dr.	s/o SR-60 Eastbound Ramps	Non-Sensitive	75.5	76.0	0.5	No	3.0	No
8	Eucalyptus Av.	e/o Moreno Beach Dr.	Non-Sensitive	69.0	70.7	1.7	No	n/a	No
9	Eucalyptus Av.	e/o Auto Mall Dr.	Non-Sensitive	67.1	69.5	2.4	No	n/a	No
10	Eucalyptus Av.	w/o Aldi Place	Non-Sensitive	67.0	69.8	2.9	No	n/a	No
11	Eucalyptus Av.	w/o Dwy. 5	Non-Sensitive	68.0	70.7	2.8	No	n/a	No
12	Eucalyptus Av.	w/o Redlands Blvd.	Non-Sensitive	68.0	70.7	2.8	No	n/a	No
13	Encilia Av.	e/o Essen Lane	Sensitive	65.8	65.9	0.1	Yes	1.5	No
14	Encilia Av.	e/o Mozart Wy.	Sensitive	65.8	66.0	0.2	Yes	1.5	No
15	Encilia Av.	w/o Redlands Blvd.	Sensitive	66.1	66.4	0.3	Yes	1.5	No

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses, non-sensitive uses include office, commercial and industrial..



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

³ Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

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8 SENSITIVE RECEIVER LOCATIONS

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

To describe the potential off-site Project noise levels, three receiver locations in the vicinity of the Project site were identified. All distances are measured from the Project site boundary to the outdoor living areas (e.g., private backyards) or at the building façade, whichever is closer to the Project site. The selection of receiver locations is based on FHWA guidelines and is consistent with additional guidance provided by Caltrans and the FTA, as previously described in Section 5.2. Other sensitive land uses in the Project study area that are located at greater distances than those identified in this noise study will experience lower noise levels than those presented in this report due to the additional attenuation from distance and the shielding of intervening structures. Distance is measured in a straight line from the project boundary to each receiver location.

- R1: Location R1 represents the existing noise sensitive residence at 21969 Spruce Avenue, approximately 1,621 feet north of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R1 is placed at the residential building façade. A 24-hour noise measurement was taken near this location, L1, to describe the existing ambient noise environment.
- R2: Location R2 represents the existing noise sensitive residence at 13031 Shubert Street, approximately 126 feet south of the Project site. Receiver R2 is placed behind the existing 4-foot high noise barrier in the private outdoor living area (backyard). A 24-hour noise measurement near this location, L2, is used to describe the existing ambient noise environment.
- R3: Location R3 represents the existing noise sensitive residence at 13020 Essen Lane, approximately 118 feet south of the Project site. Receiver R3 is placed behind the existing 4-foot high noise barrier in the private outdoor living area (backyard). A 24-hour noise measurement near this location, L3, is used to describe the existing ambient noise environment.



SITE

EXHIBIT 8-A: SENSITIVE RECEIVER LOCATIONS





9 OPERATIONAL NOISE IMPACTS

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

9.1 OPERATIONAL NOISE SOURCES

At the time this noise analysis was prepared the future tenants of the proposed Project were unknown. Therefore, 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. Consistent with similar warehouse uses, the Project business operations would primarily be conducted within the enclosed buildings, except for traffic movement, parking, as well as loading and unloading of trucks at designated loading bays. The on-site Project-related noise sources are expected to include: cold storage loading dock activity, dry goods loading dock activity, entry gate & truck movements, roof-top air conditioning units, and trash enclosure activity.

9.2 REFERENCE NOISE LEVELS

To estimate the Project operational noise impacts, reference noise level measurements were collected from similar types of activities to represent the noise levels expected with the development of the proposed Project. This section provides a detailed description of the reference noise level measurements shown on Table 9-1 used to estimate the Project operational noise impacts. It is important to note that the following projected noise levels assume the worst-case noise environment with the cold storage loading dock activity, dry goods loading dock activity, entry gate & truck movements, roof-top air conditioning units, and trash enclosure activity all operating continuously. These sources of noise activity will likely vary throughout the day.



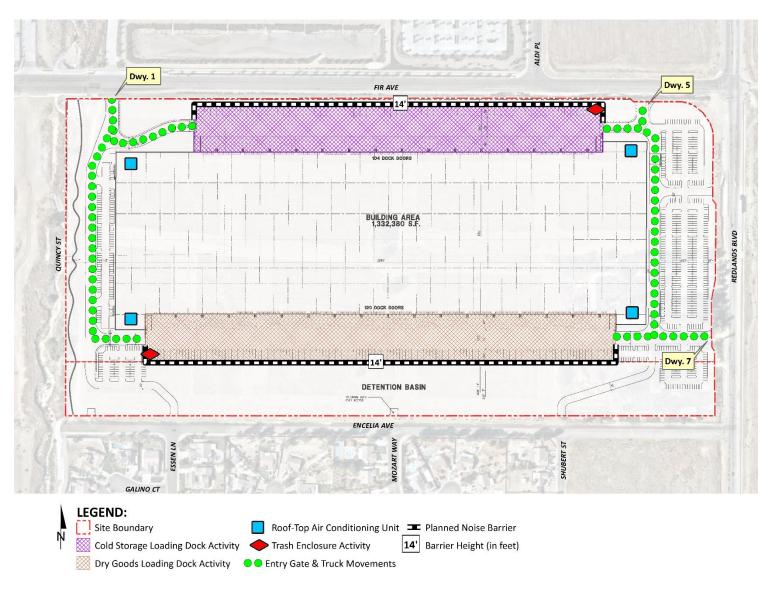


EXHIBIT 9-A: OPERATIONAL NOISE SOURCE LOCATIONS



TABLE 9-1: REFERENCE NOISE LEVEL MEASUREMENTS

Noise Source ¹	Noise Source	Min./Hour ²		Reference Noise	Sound Power	
Noise Source	Height (Feet)	Day	Night	Level (dBA L _{eq}) @ 50 feet	Level (dBA) ³	
Cold Storage Loading Dock Activity	8'	60	60	65.7	111.5	
Dry Goods Loading Dock Activity	8'	60	60	62.8	103.4	
Entry Gate & Truck Movements	8'	_4	_4	58.0	89.7	
Roof-Top Air Conditioning Units	5'	39	28	57.2	88.9	
Trash Enclosure Activity	5'	5	5	57.3	89.0	

¹ As measured by Urban Crossroads, Inc.

9.2.1 MEASUREMENT PROCEDURES

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

9.2.2 COLD STORAGE LOADING DOCK ACTIVITY

The reference loading dock activities are intended to describe the typical 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.

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 65.7 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.

 $^{^2}$ Anticipated duration (minutes within the hour) of noise activity during typical hourly conditions expected at the Project site. "Daytime" = 8:00 a.m. - 10:00 p.m.; "Nighttime" = 10:01 p.m. - 7:59 a.m.

³ Sound power level represents the total amount of acoustical energy (noise level) produced by a sound source independent of distance or surroundings. Sound power levels calculated using the CadnaA noise model at the reference distance to the noise source. Numbers may vary due to size differences between point and area noise sources.

⁴ Entry Gate & Truck Movements are calculate based on the number of events by time of day (See Table 9-2).

9.2.3 DRY GOODS LOADING DOCK ACTIVITY

The reference loading dock activities are intended to describe the typical operational noise source levels associated with the Project. This includes truck idling, deliveries, backup alarms, unloading/loading, docking including a combination of tractor trailer semi-trucks, two-axle delivery trucks, and background forklift operations. At a uniform reference distance of 50 feet, Urban Crossroads collected a reference noise level of 62.8 dBA Leq.

The loading dock activity noise level measurement was taken over a fifteen-minute period and represents multiple noise sources taken from the center of activity. The reference noise level measurement includes employees unloading a docked truck container included the squeaking of the truck's shocks when weight was removed from the truck, employees playing music over a radio, as well as a forklift horn and backup alarm. In addition, during the noise level measurement a truck entered the loading dock area and proceeded to reverse and dock in a nearby loading bay, adding truck engine, idling, air brakes noise, in addition to on-going idling of an already docked truck.

The noise level measurements represent the typical weekday dry goods logistics warehouse operation in a single building with a loading dock area on the eastern side of the building façade. In addition, since this reference noise level describes the peak noise source activity, it is also used in the noise prediction model as area source to conservatively describe the entire loading dock area even though during normal operations, the loading dock noise source activity will occur at different locations throughout the loading dock area.

9.2.4 ENTRY GATE & TRUCK MOVEMENTS

An entry gate and truck movements reference noise level measurement were taken at the southern entry gate of the Motivational Fulfillment & Logistics Services distribution facility located at 6810 Bickmore Avenue in the City of Chino over a 15-minute period and represents multiple noise sources producing a reference noise level of 58.0 dBA Leq at 50 feet. The noise sources included at this measurement location account for the rattling and squeaking during normal opening and closing operations, the gate closure equipment, truck engines idling outside the entry gate, truck movements through the entry gate, and background truck court activities and forklift backup alarm noise.

Consistent with the *Moreno Valley Trade Center Traffic Impact Analysis*, the Project is expected to generate a total of approximately 2,321 trip-ends per day (actual vehicles) and includes 885 truck trip-ends per day. (21) This noise study relies on the actual Project trips (as opposed to the passenger car equivalents) to accurately account for the effect of individual truck trips on the study area roadway network. Using the estimated number of truck trips in combination with time of day vehicle splits, the number of entry gate and truck movements by driveway location were calculated. As shown on Table 9-2, this information is then used to calculate the entry gate and truck movements operational noise source activity based on the number of events by time of day.

TABLE 9-2: ENTRY GATE & TRUCK MOVEMENTS BY LOCATION

Entry Gate &	Total	Trip	Dist. ³	Truck	Time of	Day Vehicl	le Splits ⁵	Truc	k Moveme	ents ⁶
Truck Movement Location ¹	Project Truck Trips ²	In	Out	Trips by Location ⁴	Day	Evening	Night	Day	Evening	Night
Driveway 1		70%	90%	708	81.79%	7.65%	10.55%	579	54	75
Driveway 5	885	0%	10%	44	81.79%	7.65%	10.55%	36	3	5
Driveway 7		30%	0%	133	81.79%	7.65%	10.55%	109	10	14

¹ Driveway locations as shown on Exhibit 9-A.

9.2.5 ROOF-TOP AIR CONDITIONING UNITS

To assess the noise levels created by the roof-top air conditioning units within the planned commercial retail land uses within the Project site, reference noise levels measurements were taken at the Santee Walmart. Located at 170 Town Center Parkway in the City of Santee, the noise level measurements describe a single mechanical roof-top air conditioning unit on the roof of the existing Walmart store. The reference noise level represents a Lennox SCA120 series 10-ton model packaged air conditioning unit. At 5 feet from the roof-top air conditioning unit, the exterior noise levels were measured at 77.2 dBA Leq. At the uniform reference distance of 50 feet, the reference noise levels are 57.2 dBA Leq. Based on the typical operating conditions observed over a four-day measurement period, the roof-top air conditioning units are estimated to operate for and average 39 minutes per hour during the daytime hours, and 28 minutes per hour during the nighttime hours. These operating conditions reflect peak summer cooling requirements with measured temperatures approaching 96 degrees Fahrenheit (°F) with average daytime temperatures of 82°F. For this noise analysis, the air conditioning units are expected to be located on the roof of the Project buildings. The noise attenuation provided by the existing parapet wall is not reflected in this reference noise level measurement.

9.2.6 TRASH ENCLOSURE ACTIVITY

To describe the noise levels associated with a trash enclosure, Urban Crossroads collected a reference noise level measurement at an existing commercial and office park trash enclosure within a parking lot on the northeast corner of Baker Street and Red Hill Avenue. The measured reference noise level at the uniform 50-foot reference distance is 57.3 dBA L_{eq} for the trash enclosure activity. The trash enclosure activity noise levels include two metal gates opening and closing, metal scraping against concrete floor sounds, dumpster movement on metal wheels, trash dropping into the metal dumpster, and background parking lot vehicle movements. Noise associated with trash enclosure activities is conservatively expected to occur for 5 minutes per hour.

² Total Project truck trips according to Table A of the Moreno Valley Trade Center TIA.

³ Project truck trip distribution according to Figure 6 of the Moreno Valley Trade Center TIA.

⁴ Calculated trip trucks per location represents the product of the total (inbound and outbound) project truck trips by and the trip distribution.

⁵ Heavy truck time of day vehicle splits as shown on Table 6-3.

⁶ Calculated time of day entry gate and truck movements by location.

9.3 CADNAA NOISE PREDICTION MODEL

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

Using the ISO 9613 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 (PWL) to describe individual noise sources. While sound pressure levels (e.g. Leq) quantify in decibels the intensity of given sound sources at a reference distance, sound power levels (PWL) are connected to the sound source and are independent of distance. Sound pressure levels vary substantially with distance from the source and diminish as a result of intervening obstacles and barriers, air absorption, wind, and other factors. Sound power is the acoustical energy emitted by the sound source and is an absolute value that is not affected by the environment.

The operational noise level calculations provided in this noise study account for the distance attenuation provided due to geometric spreading, when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. 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 9.1 includes the detailed noise model inputs including the planned 14-foot high screen wall used to estimate the Project operational noise levels presented in this section.

9.4 Project Operational Noise Levels

Using the reference noise levels to represent the proposed Project operations that include cold storage loading dock activity, dry goods loading dock activity, entry gate & truck movements, roof-top air conditioning units, and trash enclosure activity, Urban Crossroads, Inc. calculated the 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 and at 200 feet from the property line of the source. Tables 9-3 shows the Project operational noise levels during the daytime hours of 8:00 a.m. to 10:00 p.m. The daytime hourly noise levels at the off-site receiver locations are expected to range from 40.0 to 44.3 dBA Leq.

TABLE 9-3: DAYTIME PROJECT OPERATIONAL NOISE LEVELS

Noise Source ¹	Operational Noise Levels by Receiver Location (dBA Leq)						
Noise Source	R1	R2	R3	at 200'			
Cold Storage Loading Dock Activity	44.1	25.9	25.7	25.6			
Dry Goods Loading Dock Activity	14.1	39.3	39.3	38.9			
Entry Gate & Truck Movements	31.1	29.4	34.9	31.9			
Roof-Top Air Conditioning Units	22.1	26.9	27.5	25.7			
Trash Enclosure Activity	0.3	7.1	12.7	10.4			
Total (All Noise Sources)	44.3	40.1	41.0	40.0			

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

Table 9-4 shows the Project operational noise levels during the nighttime hours of 10:01 p.m. to 7:59 a.m. The nighttime hourly noise levels at the off-site receiver locations are expected to range from 39.3 to 44.1 dBA L_{eq} . The differences between the daytime and nighttime noise levels is largely related to the duration of noise activity (Table 9-1).

TABLE 9-4: NIGHTTIME PROJECT OPERATIONAL NOISE LEVELS

Noise Source ¹	Operational Noise Levels by Receiver Location (dBA Leq)							
Noise Source-	R1	R2	R3	at 200'				
Cold Storage Loading Dock Activity	44.1	25.9	25.7	25.6				
Dry Goods Loading Dock Activity	14.1	39.3	39.3	38.9				
Entry Gate & Truck Movements	22.2	20.6	25.9	23.0				
Roof-Top Air Conditioning Units	19.7	24.5	25.1	23.3				
Trash Enclosure Activity	0.0	6.1	11.8	9.4				
Total (All Noise Sources)	44.1	39.7	39.8	39.3				

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

9.5 Project Operational Noise Level Compliance

To demonstrate compliance with local noise regulations, the Project-only operational noise levels are evaluated against exterior noise level thresholds based on the City of Moreno Valley exterior noise level standards at nearby noise-sensitive receiver locations. Table 9-5 shows the operational noise levels associated with Moreno Valley Trade Center Project will satisfy the City of Moreno Valley 65 dBA L_{eq} daytime and 60 dBA L_{eq} nighttime exterior noise level standards at all nearby receiver locations and at 200 feet from the property line of the source. Therefore, the operational noise impacts are considered *less than significant* at the nearby noise-sensitive receiver locations.

TABLE 9-5: OPERATIONAL NOISE LEVEL COMPLIANCE

Receiver Location ¹	Project Op Noise Level	perational s (dBA Leq) ²	Noise Leve (dBA		Noise Level Standards Exceeded? ⁴		
Location	Daytime	Nighttime	Daytime	Nighttime	Daytime	Nighttime	
R1	44.3	44.1	65	60	No	No	
R2	40.1	39.7	65	60	No	No	
R3	41.0	39.8	65	60	No	No	
at 200'	40.0	39.3	65	60	No	No	

¹ See Exhibit 8-A for the receiver locations.

9.6 Project Operational Noise Level Increases

To describe the Project operational noise level increases, the Project operational noise levels are combined with the existing ambient noise levels measurements for the nearby receiver locations potentially impacted by Project operational noise sources. Since the units used to measure noise, decibels (dB), are logarithmic units, the Project-operational and existing ambient noise levels cannot be combined using standard arithmetic equations. (4) Instead, they must be logarithmically added using the following base equation:

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

Where "SPL1," "SPL2," etc. are equal to the sound pressure levels being combined, or in this case, the Project-operational and existing ambient noise levels. The difference between the combined Project and ambient noise levels describe the Project noise level increases to the existing ambient noise environment. As indicated on Tables 9-6 and 9-7, the Project is not expected to generate a measurable daytime and nighttime operational noise level increase dBA L_{eq} at the nearby receiver locations and at 200 feet from the property line of the source. Project-related operational noise level increases will satisfy the operational noise level increase significance criteria presented in Table 4-1. Therefore, the incremental Project operational noise level increase is considered *less than significant* at all receiver locations.

9.7 OPERATIONAL VIBRATION IMPACTS

To assess the potential vibration impacts from truck haul trips associated with operational activities the FTA *Transit Noise and Vibration Impact Assessment Manual* maximum-acceptable vibration criteria of 78 VdB for daytime residential uses and 72 VdB for nighttime uses in buildings where people normally sleep is used. However, trucks rarely create vibration that exceeds 70 VdB (unless there are bumps due to frequent potholes in the road). (3 p. 113) Trucks transiting on site will be travelling at very low speeds so it is expected that delivery truck vibration impacts at nearby homes will satisfy the maximum-acceptable vibration criteria of 78 VdB for daytime and 72 VdB for nighttime for residential uses, and therefore, will be *less than significant*.

² Proposed Project operational noise levels as shown on Tables 9-3 and 9-4.

³ Exterior noise level standards for source (commercial) land use, as shown on Table 4-1.

⁴ Do the estimated Project operational noise source activities exceed the noise level standards?

[&]quot;Daytime" = 8:00 a.m. - 10:00 p.m.; "Nighttime" = 10:01 p.m. - 7:59 a.m.

TABLE 9-6: DAYTIME PROJECT OPERATIONAL NOISE LEVEL INCREASES

Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Project Increase ⁶	Increase Criteria ⁷	Increase Criteria Exceeded?
R1	44.3	L1	75.3	75.3	0.0	1.5	No
R2	40.1	L2	54.2	54.4	0.2	5.0	No
R3	41.0	L3	51.0	51.4	0.4	5.0	No
at 200'	40.0	L3	51.0	51.3	0.3	5.0	No

¹ See Exhibit 8-A for the receiver locations.



² Total Project daytime operational noise levels as shown on Table 9-3.

³ Reference noise level measurement locations as shown on Exhibit 5-A.

⁴ Observed daytime ambient noise levels as shown on Table 5-1.

⁵ Represents the combined ambient conditions plus the Project activities.

⁶ The noise level increase expected with the addition of the proposed Project activities.

⁷ Significance increase criteria as shown on Table 4-1.

TABLE 9-7: 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	44.1	L1	73.8	73.8	0.0	1.5	No
R2	39.7	L2	54.6	54.7	0.1	5.0	No
R3	39.8	L3	50.4	50.8	0.4	5.0	No
at 200'	39.3	L3	50.4	50.7	0.3	5.0	No

¹ See Exhibit 8-A for the receiver locations.



² Total Project nighttime operational noise levels as shown on Table 9-4.

³ Reference noise level measurement locations as shown on Exhibit 5-A.

⁴ Observed nighttime ambient noise levels as shown on Table 5-1.

⁵ Represents the combined ambient conditions plus the Project activities.

⁶ The noise level increase expected with the addition of the proposed Project activities.

⁷ Significance increase criteria as shown on Table 4-1.

10 CONSTRUCTION IMPACTS

This section analyzes potential impacts resulting from the short-term construction activities associated with the development of the Project. Exhibit 10-A shows the construction noise source locations in relation to the nearby sensitive receiver locations previously described in Section 8.

To prevent high levels of construction noise from impacting noise-sensitive land uses, City of Moreno Valley Municipal Code Section 11.80.030 (D)(7) limits general construction activities within 200 feet of residential uses to weekdays, between 7:00 a.m. and 8:00 p.m. In addition, grading operations shall be limited to the hours identified in Section 8.21.050 (O) of 7:00 a.m. to 6:00 p.m., Monday through Friday, and 8:00 a.m. to 4:00 p.m. on weekends and holidays or as approved by the City Engineer.

10.1 Construction Noise Levels

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

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

This construction noise analysis was prepared using reference noise level measurements taken by Urban Crossroads, Inc. to describe the typical construction activity noise levels for each stage of Project construction. The construction reference noise level measurements represent a list of typical construction activity noise levels.

10.2 CONSTRUCTION REFERENCE NOISE LEVELS

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



LEGEND: Construction Activity Receiver Locations Ŋ Existing Barrier Distance from receiver to Project site boundary (in feet) 6' Existing Barrier Height (in feet)

EXHIBIT 10-A: Typical Construction Noise Source Locations



TABLE 10-1: TYPICAL CONSTRUCTION REFERENCE NOISE LEVELS

Construction Stage	Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA L _{eq})	Highest Reference Noise Level (dBA L _{eq})		
Demolition	Demolition Activity	67.9	71.9		
	Backhoe	64.2			
	Water Truck Pass-By & Backup Alarm	71.9			
Site Preparation	Scraper Turnaround & Pass-by 4 with Blades	72.6			
	Backhoe	64.2	72.6		
	Water Truck Pass-By & Backup Alarm	71.9			
Grading	Rough Grading Activities	73.5	73.5		
	Water Truck Pass-By & Backup Alarm	71.9			
	Construction Vehicle Maintenance Activities	67.5			
Building Construction	Foundation Trenching	68.2	71.6		
	Framing	62.3			
	Concrete Mixer Backup Alarms & Air Brakes	71.6			
Paving	Concrete Mixer Truck Movements	71.2			
	Concrete Paver Activities	65.6	71.2		
	Concrete Mixer Pour & Paving Activities	65.9			
Architectural Coating	Air Compressors	65.2			
	Generator	64.9	65.2		
	Crane	62.3			

 $^{^{\}rm 1}$ Reference construction noise level measurements taken by Urban Crossroads, Inc.

10.3 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 nearby sensitive receiver locations were completed. To assess the worst-case construction noise levels, the Project construction noise analysis relies on the highest noise level impacts when the equipment with the highest reference noise level is operating at the closest point from the edge of primary construction activity (Project site boundary) to each receiver location. As shown on Table 10-2, the construction noise levels are expected to range from 58.6 to 64.7 dBA $L_{\rm eq}$ at the nearby receiver locations and at 200 feet from the property line of the source. Appendix 10.1 includes the detailed CadnaA construction noise model inputs.



TABLE 10-2: TYPICAL CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY

	Construction Noise Levels (dBA L _{eq})						
Receiver Location ¹	Demolition	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Highest Levels ²
R1	57.0	57.7	58.6	56.7	56.3	50.3	58.6
R2	63.1	63.8	64.7	62.8	62.4	56.4	64.7
R3	62.9	63.6	64.5	62.6	62.2	56.2	64.5
at 200'	61.7	62.4	63.3	61.4	61.0	55.0	63.3

¹ Noise receiver locations are shown on Exhibit 10-A.

10.4 Typical Construction Noise Level Compliance

The construction noise analysis shows that the nearby receiver locations will satisfy the City of Moreno Valley daytime 65 dBA L_{eq} significance threshold during Project construction activities as shown on Table 10-3. Therefore, the noise impacts due to Project construction noise is considered *less than significant* at all receiver locations and at 200 feet from the property line of the source.

TABLE 10-3: TYPICAL CONSTRUCTION NOISE LEVEL COMPLIANCE

	Construction Noise Levels (dBA L _{eq})			
Receiver Location ¹	Highest Construction Noise Levels ²	Threshold ³	Threshold Exceeded? ⁴	
R1	58.6	65	No	
R2	64.7	65	No	
R3	64.5	65	No	
at 200'	63.3	65	No	

¹ Noise receiver locations are shown on Exhibit 10-A.

10.5 NIGHTTIME CONCRETE POUR NOISE ANALYSIS

Nighttime concrete pouring activities may occur as a part of Project construction activities. Nighttime concrete pouring activities are often used to support reduced concrete mixer truck transit times and lower air temperatures than during the daytime hours and are generally limited to the actual buildings area as shown on Exhibit 10-B. Since the nighttime concrete pours may take place outside the permitted hours of construction as outlined in Section 3.5, the Project Applicant will be required to obtain prior authorization for nighttime work from the City of Moreno Valley.



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 10.1.

² Highest construction noise level calculations based on distance from the construction noise source activity to nearby receiver locations as shown on Table 10-2.

³ Construction noise level thresholds as shown on Table 4-1.

⁴ Do the estimated Project construction noise levels exceed the construction noise level threshold?

LEGEND: Nighttime Concrete Pour Activity (Building Area) Existing Barrier Ŋ Site Boundary 6' Existing Barrier Height (in feet) Receiver Locations

EXHIBIT 10-B: NIGHTTIME CONCRETE POUR NOISE SOURCE AND RECEIVER LOCATIONS



The paving stage construction noise levels, previously presented on Table 10-1, are based on nighttime concrete pouring activity reference noise level measurements. Table 10-4 shows the concrete pour activities (paving) noise will range from 52.9 to 55.8 dBA L_{eq.} at the nearest sensitive receiver locations and at 200 feet from the property line of the source. The concrete pouring construction noise analysis shows that the noise sensitive residential receiver locations will satisfy the 60 dBA L_{eq} nighttime significance threshold during concrete pouring activities. Therefore, the noise impacts due to nighttime concrete pouring activity is considered *less than significant*. Appendix 10.2 includes the detailed CadnaA nighttime concrete construction noise model inputs.

TABLE 10-4: NIGHTTIME CONCRETE POUR NOISE LEVEL COMPLIANCE

	Construction Noise Levels (dBA L _{eq})										
Receiver Location ¹	Paving Construction ²	Nighttime Construction Standard ³	Threshold Exceeded? ⁴								
R1	52.9	60	No								
R2	55.8	60	No								
R3	55.8	60	No								
at 200'	55.4	60	No								

¹ Noise receiver locations are shown on Exhibit 10-B.

10.6 Typical Construction Vibration Impacts

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

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

Ground-borne vibration levels resulting from construction activities occurring within the Project site were estimated by data published by the Federal Transit Administration (FTA). Construction activities that would have the potential to generate low levels of ground-borne vibration within the Project site include grading. Using the vibration source level of construction equipment provided on Table 6-8 and the construction vibration assessment methodology published by the FTA, it is possible to estimate the Project vibration impacts. Table 10-5 presents the expected



 $^{^{2}}$ Construction noise level calculations based on the distance from the building paving construction activity area.

³ Construction noise level standards as shown on Table 4-1.

⁴ Do the estimated Project construction noise levels exceed the construction noise level threshold?

typical construction equipment vibration levels at the nearby receiver locations. At distances ranging from 118 feet to 1,651 feet from typical Project construction activities (at the Project site boundary), construction vibration levels are estimated to range from 32.4 to 66.8 VdB and will remain below the FTA Transit Noise and Vibration Impact Assessment Manual maximum acceptable vibration criteria of 78 VdB for daytime residential uses at all receiver locations and at 200 feet from the property line of the source. Therefore, the Project-related vibration impacts are considered *less than significant* during typical construction activities at the Project site.

TABLE 10-5: TYPICAL CONSTRUCTION EQUIPMENT VIBRATION LEVELS

	Distance to		Receiver V					
Receiver Location ¹	Construction Activity (Feet)	Small Bulldozer	Small Jack- Loaded Large Vibratio		Highest Vibration Levels	Threshold VdB ³	Threshold Exceeded? ⁴	
R1	1,651'	1' 3.4 24.4 31.4		32.4	32.4	78	No	
R2	126'	36.9	57.9	64.9	65.9	65.9	78	No
R3	118'	37.8	58.8	65.8	66.8	66.8	78	No
at 200'	200'	30.9	51.9	58.9	59.9	59.9	78	No

¹ Noise receiver locations are shown on Exhibit 10-A.

Moreover, the vibration levels reported at the sensitive receiver locations are unlikely to be sustained during the entire construction period but will occur rather only during the times that heavy construction equipment is operating adjacent to the Project site perimeter.

10.7 SHEET PILE SYSTEM CONSTRUCTION REFERENCE NOISE LEVELS

An additional analysis was completed to assess potential impacts due to sheet pile drilling activities planned near the western project site boundary. Exhibit 10-C shows the location of the sheet pile drilling area in relation to three nearby receiver locations. According to the applicant, the sheet pile system will be installed using and ABI drill rig, forklift and rigging crane. It is expected that the contractor will be using the ABI drill rig to drive piles 8 hours per day for approximately 25 days.

This sheet pile construction noise analysis was prepared using reference construction equipment noise levels from the Federal Highway Administration (FHWA) published the Roadway Construction Noise Model (RCNM), which includes a national database of construction equipment reference noise emission levels. (22) A default ground attenuation factor of 0.0 was used in the CadnaA noise prediction model to account for hard site conditions. Table 10-6 provides a summary of the reference average L_{eq} noise levels used to describe each stage of construction.



² Based on the Vibration Source Levels of Construction Equipment included on Table 6-8.

³ FTA Transit Noise and Vibration Impact Assessment Manual maximum acceptable vibration criteria as shown on Table 4-1.

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

FIR AVE Sheet pile system will be installed using an ABI drill rig, forklift and rigging crane. Non-impact pile driving equipment (e.g., drilling or other non-impact alternatives) shall be required to reduce the pile driving equipment noise levels at adjacent receiver locations. SITE ENCELIA AVE **LEGEND:** Sheet Pile Area Sheet Pile Receivers | 6' | Existing Barrier Height (in feet) Site Boundary Existing Barrier Distance from receiver to sheet pile activity (in feet)

EXHIBIT 10-C: SHEET PILE DRIVING NOISE SOURCE LOCATIONS



TABLE 10-6: SHEET PILE SYSTEM CONSTRUCTION REFERENCE NOISE LEVELS

Construction Stage	Typical Equipment	Reference Noise Level @ 50 Feet (dBA L _{eq}) ¹	Highest Reference Noise Level (dBA L _{eq})
	Drill Rig	77	
Sheet Pile System	Forklifts	68	77
System	Cranes	73	

¹ FHWA's Roadway Construction Noise Model, January 2006.

Sheet pile system methods can include different equipment types, such as impact or drilling, and as such, noise levels will vary depending on the method used. Non-impact pile driving equipment (e.g., drilling or other non-impact alternatives) such as the planned ABI drill rig shall be required to reduce the pile driving equipment noise levels at adjacent receiver locations.

10.8 SHEET PILE SYSTEM CONSTRUCTION NOISE ANALYSIS AND COMPLIANCE

Using the reference RCNM construction equipment noise levels and the CadnaA noise prediction model, calculations of the Project construction noise level impacts at three nearby sensitive receiver locations were completed. To assess the worst-case construction noise levels, the Project construction noise analysis relies on the highest noise level impacts when the equipment with the highest reference noise level is operating at the closest point from the edge of primary construction activity (Project site boundary) to each receiver location. As shown on Table 10-7, the sheet pile system construction noise levels are estimated at expected to range from 57.4 to 64.1 dBA L_{eq} at the receiver locations near the planned sheet pile area.

The sheet pile system construction noise analysis shows that the nearby receiver locations will satisfy the City of Moreno Valley daytime 65 dBA L_{eq} significance threshold. Therefore, the noise impacts due to the Project sheet pile construction noise is considered *less than significant* at all receiver locations and at 200 feet from the property line of the source. Appendix 10.3 includes the detailed CadnaA sheet pile system construction noise model inputs.

TABLE 10-7: SHEET PILE SYSTEM CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY

	Sheet Pile System Construction Noise Levels (dBA Leq)									
Receiver Location ¹	Highest Construction Noise Levels ²	Threshold ³	Threshold Exceeded? ⁴							
R1	64.1	65	No							
R2	62.2	65	No							
R3	57.4	65	No							
at 200'	60.0	65	No							

¹Noise receiver locations near the planned sheet pile area are shown on Exhibit 10-B.



² Highest construction noise level calculations based on distance from the sheet pile noise source activity to nearby receiver locations as shown on Table 10-6.

³ Construction noise level thresholds as shown on Table 4-1.

⁴ Do the estimated Project construction noise levels exceed the construction noise level threshold?

10.9 SHEET PILE SYSTEM CONSTRUCTION VIBRATION IMPACTS

Using the typical pile driver vibration source level of construction equipment provided on Table 6-8 and the construction vibration assessment methodology published by the FTA, it is possible to estimate the sheet pile system vibration impacts. Table 10-8 presents the expected Project related vibration levels at the nearby receiver locations. At distances ranging from 124 feet to 250 feet from the sheet pile construction activities (at the Project site boundary), construction vibration levels are estimated to range from 63.0 to 72.1 VdB and will remain below the FTA Transit Noise and Vibration Impact Assessment Manual maximum acceptable vibration criteria of 78 VdB for daytime residential uses at all receiver locations and at 200 feet from the property line of the source. Therefore, the Project-related sheet pile construction vibration impacts are considered *less than significant* during the construction activities at the Project site.

TABLE 10-8: SHEET PILE SYSTEM CONSTRUCTION EQUIPMENT VIBRATION LEVELS

Receiver Location ¹	Distance to Construction Activity (Feet)	Receiver Vibration Levels (VdB) ²	Threshold VdB ³	Threshold Exceeded? ⁴
P1	124'	72.1	78	No
P2	142'	70.4	78	No
Р3	250'	63.0	78	No
at 200'	200'	65.9	78	No

¹ Noise receiver locations are shown on Exhibit 10-B.



² Based on the Vibration Source Levels of Construction Equipment included on Table 6-8.

³ FTA Transit Noise and Vibration Impact Assessment Manual maximum acceptable vibration criteria as shown on Table 4.1

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

11 REFERENCES

- 1. **State of California.** *California Environmental Quality Act, Appendix G.* 2018.
- 2. **Urban Crossroads.** *Goodman Logistics Center Traffic Impact Analysis.* May 2020.
- 3. **U.S. Department of Transportation, Federal Transit Administration.** *Transit Noise and Vibration Impact Assessment Manual.* September 2018.
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- 20. **California Department of Transportation.** *Traffic Noise Attenuation as a Function of Ground and Vegetation Final Report.* June 1995. FHWA/CA/TL-95/23.
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12 CERTIFICATION

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

Bill Lawson, P.E., INCE Principal URBAN CROSSROADS, INC. 260 E. Baker Street, Suite 200 Costa Mesa, CA 92626 (949) 336-5979 blawson@urbanxroads.com



EDUCATION

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

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

PROFESSIONAL REGISTRATIONS

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

PROFESSIONAL AFFILIATIONS

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

PROFESSIONAL CERTIFICATIONS

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





APPENDIX 3.1:

CITY OF MORENO VALLEY MUNICIPAL CODE





Chapter 11.80 NOISE REGULATION

Title 11 PEACE, MORALS AND SAFETY

11.80.010 Legislative findings.

It is found and declared that:

- A. Excessive sound within the limits of the city is a condition which has existed for some time, and the amount and intensity of such sound is increasing.
- B. Such excessive sound is a detriment to the public health, safety, and welfare and quality of life of the residents of the city.
- C. The necessity in the public interest for the provisions and prohibitions hereinafter contained and enacted is declared as a matter of legislative determination and public policy, and it is further declared that the provisions and prohibitions hereinafter contained and enacted are in pursuance of and for the purpose of securing and promoting the public health, safety, welfare and quality of life of the city and its inhabitants. (Ord. 740 § 1.2, 2007)

11.80.020 Definitions.

For purposes of this chapter, certain words and phrases used herein are defined as follows:

"A-weighted sound level" means the sound pressure level in decibels as measured with a sound level meter using the A-weighting network. The unit of measurement is the dB(A).

"Commercial" means all uses of land not otherwise classified as residential, as defined in this section.

"Construction" means any site preparation, and/or any assembly, erection, repair, or alteration, excluding demolition, of any structure, or improvements to real property.

"Continuous airborne sound" means sound that is measured by the slow-response setting of a meter manufactured to the specifications of ANSI Section 1.4-1983 (R2006) "Specification for Sound Level Meters," or its successor.

"Daytime" means eight a.m. to ten p.m. the same day.

"Decibel" (dB) means a unit for measuring the amplitude of sound, equal to twenty (20) times the logarithm to the base ten (10) of the ratio of the pressure of the sound measured to the reference pressure, which is twenty (20) microPascals (twenty (20) microNewtons per square meter.)

"Demolition" means any dismantling, intentional destruction or removal of structures or other improvements to real property.

"Disturb" means to interrupt, interfere with, or hinder the enjoyment of peace or quiet or the normal listening activities or the sleep, rest or mental concentration of the hearer.

"Emergency" means any occurrence or set of circumstances involving actual or imminent physical trauma or significant property damage which necessitates immediate action. Economic loss alone shall not constitute an emergency. It shall be the burden of an alleged violator to prove an "emergency."

"Emergency work" means any work made necessary to restore property to a safe condition following an emergency, or to protect persons or property threatened by an imminent emergency, to the extent such work is, in fact, necessary to protect persons or property from exposure to imminent danger or damage.

"Frequency" means the number of complete oscillation cycles per unit of time.

"Impulsive sound" means sound of short duration, usually less than one second, with an abrupt onset and rapid decay. Examples of sources of impulsive sound include explosions, drop forge impacts, and discharge of firearms.

"Nighttime" means 10:01 p.m. to 7:59 a.m. the following day.

"Noise disturbance" means any sound which:

1. Disturbs a reasonable person of normal sensitivities;

- 2. Exceeds the sound level limits set forth in this chapter; or
- 3. Is plainly audible as defined in this section. Where no specific distance is set forth for the determination of audibility, references to noise disturbance shall be deemed to mean plainly audible at a distance of two hundred (200) feet from the real property line of the source of the sound, if the sound occurs on privately owned property, or from the source of the sound, if the sound occurs on public right-of-way, public space or other publicly owned property.

"Person" means any person, person's firm, association, copartnership, joint venture, corporation, or any entity public or private in nature.

"Plainly audible" means that the sound or noise produced or reproduced by any particular source, can be clearly distinguished from ambient noise by a person using his/her normal hearing faculties.

"Public right-of-way" means any street, avenue, boulevard, sidewalk, bike path or alley, or similar place normally accessible to the public which is owned or controlled by a governmental entity.

"Public space" means any park, recreational or community facility, or lot which contains at least one building that is open to the general public during its hours of operation.

"Residential" means all uses of land primarily for dwelling units, as well as hospitals, schools, colleges and universities, and places of religious assembly.

"Sound" means an oscillation in pressure, particle displacement, particle velocity or other physical parameter, in a medium with internal forces that causes compression and rarefaction of that medium capable of producing an auditory impression. The description of sound may include any characteristic of such sound, including duration, intensity and frequency.

"Sound level" means the weighted sound pressure level as measured in dB(A) by a sound level meter and as specified in American National Standards Institute (ANSI) specifications for sound-level meters (ANSI Section 1.4-1971 (R1976)). If the frequency weighting employed is not indicated, the A-weighting shall apply.

"Sound level meter" means an instrument, demonstrably capable of accurately measuring sound levels as defined above.

All technical definitions not defined above shall be in accordance with applicable publications and standards of the American National Standards Institute (ANSI). (Ord. 740 § 1.2, 2007)

11.80.030 Prohibited acts.

- A. General Prohibition. It is unlawful and a violation of this chapter to maintain, make, cause, or allow the making of any sound that causes a noise disturbance, as defined in Section <u>11.80.020</u>.
 - B. Sound causing permanent hearing loss.
- 1. Sound level limits. Based on statistics from the Center for Disease Control and Prevention and the National Institute for Occupational Safety and Health, Table 1 and Table 1-A specify sound level limits which, if exceeded, will have a high probability of producing permanent hearing loss in anyone in the area where the sound levels are being exceeded. No sound shall be permitted within the city which exceeds the parameters set forth in Tables 11.80.030-1 and 11.80.030-1-A of this chapter:

Table 11.80.030-1 MAXIMUM CONTINUOUS SOUND LEVELS*

Duration per Day	
Continuous Hours	Sound level [db(A)]
8	90
6	92
4	95
3	97

2	100
1.5	102
1	105
0.5	110
0.25	115

^{*} When the daily sound exposure is composed of two or more periods of sound exposure at different levels, the combined effect of all such periods shall constitute a violation of this section if the sum of the percent of allowed period of sound exposure at each level exceeds 100 percent

Table 11.80.030-1A MAXIMUM IMPULSIVE SOUND LEVELS

Number of Repetitions per	Sound level							
24-Hour Period	[dB(A)]							
1	145							
10	135							
100	125							

- 2. Exemptions. No violation shall exist if the only persons exposed to sound levels in excess of those listed in Tables 11.80.030-1 and 11.80.030-1A are exposed as a result of:
 - a. Trespass;
 - b. Invitation upon private property by the person causing or permitting the sound; or
 - c. Employment by the person or a contractor of the person causing or permitting the sound.
- C. Nonimpulsive Sound Decibel Limits. No person shall maintain, create, operate or cause to be operated on private property any source of sound in such a manner as to create any nonimplusive sound which exceeds the limits set forth for the source land use category (as defined in Section 11.80.020) in Table 11.80.030-2 when measured at a distance of two hundred (200) feet or more from the real property line of the source of the sound, if the sound occurs on privately owned property, or from the source of the sound, if the sound occurs on public right-of-way, public space or other publicly owned property. Any source of sound in violation of this subsection shall be deemed prima facie to be a noise disturbance.

Table 11.80.030-2 MAXIMUM SOUND LEVELS (IN dB(A)) FOR SOURCE LAND USES

Resid	dential	Commercial						
Daytime	Nighttime	Daytime	Nighttime					
60	55	65	60					

- D. Specific Prohibitions. In addition to the general prohibitions set out in subsection A of this section, and unless otherwise exempted by this chapter, the following specific acts, or the causing or permitting thereof, are regulated as follows:
- 1. Motor Vehicles. No person shall operate or cause to be operated a public or private motor vehicle, or combination of vehicles towed by a motor vehicle, that creates a sound exceeding the sound level limits in Table 11.80.030-2 when the vehicle(s) are not otherwise subject to noise regulations provided for by the California Vehicle Code.

- 2. Radios, Televisions, Electronic Audio Equipment, Musical Instruments or Similar Devices from a Stationary Source. No person shall operate, play or permit the operation or playing of any radio, tape player, television, electronic audio equipment, musical instrument, sound amplifier or other mechanical or electronic sound making device that produces, reproduces or amplifies sound in such a manner as to create a noise disturbance. However, this subsection shall not apply to any use or activity exempted in subsection E of this section and any use or activity for which a special permit has been issued pursuant to Section <u>11.80.040</u>.
- 3. Radios, Electronic Audio Equipment, or Similar Devices from a Mobile Source Such as a Motor Vehicle. Sound amplification or reproduction equipment on or in a motor vehicle is subject to regulation in accordance with the California Vehicle Code when upon the public right-of-way. When upon public space or publicly owned property other than the public right-of-way or upon private property open to the public, sound amplification or reproduction equipment shall not be operated in such a manner that it is plainly audible at a distance of fifty (50) feet in any direction from the vehicle.
- 4. Portable, Hand-Held Music or Sound Amplification or Reproduction Equipment. Such equipment shall not be operated on a public right-of-way, public space or other publicly owned property in such a manner as to be plainly audible at a distance of fifty (50) feet in any direction from the operator.
 - 5. Loudspeakers and Public Address Systems.
- a. Except as permitted by Section <u>11.80.040</u>, no person shall operate, or permit the operation of, any loudspeaker, public address system or similar device, for any commercial purpose:
 - 1. Which produces, reproduces or amplifies sound in such a manner as to create a noise disturbance; or
 - 2. During nighttime hours on a public right-of-way, public space or other publicly owned property.
- b. No person shall operate, or permit the operation of, any loudspeaker, public address system or similar device, for any noncommercial purpose, during nighttime hours in such a manner as to create a noise disturbance.
- 6. Animals. No person shall own, possess or harbor an animal or bird that howls, barks, meows, squawks, or makes other sounds that:
 - a. Create a noise disturbance;
- b. Are of frequent or continued duration for ten (10) or more consecutive minutes and are plainly audible at a distance of fifty (50) feet from the real property line of the source of the sound; or
- c. Are intermittent for a period of thirty (30) or more minutes and are plainly audible at a distance of fifty (50) feet from the real property line of the source of the sound.
- 7. Construction and Demolition. No person shall operate or cause the operation of any tools or equipment used in construction, drilling, repair, alteration or demolition work between the hours of eight p.m. and seven a.m. the following day such that the sound there from creates a noise disturbance, except for emergency work by public service utilities or for other work approved by the city manager or designee. This section shall not apply to the use of power tools as provided in subsection (D)(9) of this section.
- 8. Emergency Signaling Devices. No person shall intentionally sound or permit the sounding outdoors of any fire, burglar or civil defense alarm, siren or whistle, or similar stationary emergency signaling device, except for emergency purposes or for testing as follows:
- a. Testing of a stationary emergency signaling device shall not occur between seven p.m. and seven a.m. the following day;
- b. Testing of a stationary emergency signaling device shall use only the minimum cycle test time, in no case to exceed sixty (60) seconds;
- c. Testing of a complete emergency signaling system, including the functioning of the signaling device and the personnel response to the signaling device, shall not occur more than once in each calendar month. Such testing shall only occur only on weekdays between seven a.m. and seven p.m. and shall be exempt from the time limit specified in subsection (D)(8)(2) of this section.
- 9. Power Tools. No person shall operate or permit the operation of any mechanically, electrically or gasoline motor-driven tool during nighttime hours so as to cause a noise disturbance across a residential real property boundary.
- 10. Pumps, Air Conditioners, Air-Handling Equipment and Other Continuously Operating Equipment. Notwithstanding the general prohibitions of subsection a of this section, no person shall operate or permit the operation of any pump, air

conditioning, air-handling or other continuously operating motorized equipment in a state of disrepair or in a manner which otherwise creates a noise disturbance distinguishable from normal operating sounds.

- E. Exemptions. The following uses and activities shall be exempt from the sound level regulations except the maximum sound levels provided in Tables 11.80.030-1 and 11.80.030-1A:
- 1. Sounds resulting from any authorized emergency vehicle when responding to an emergency call or acting in time of an emergency.
 - 2. Sounds resulting from emergency work as defined in Section 11.80.020
- 3. Any aircraft operated in conformity with, or pursuant to, federal law, federal air regulations and air traffic control instruction used pursuant to and within the duly adopted federal air regulations; and any aircraft operating under technical difficulties in any kind of distress, under emergency orders of air traffic control, or being operated pursuant to and subsequent to the declaration of an emergency under federal air regulations.
- 4. All sounds coming from the normal operations of interstate motor and rail carriers, to the extent that local regulation of sound levels of such vehicles has been preempted by the Noise Control Act of 1972 (42 U.S.C. § 4901 et seq.) or other applicable federal laws or regulations
 - 5. Sounds from the operation of motor vehicles, to the extent they are regulated by the California Vehicle Code.
- 6. Any constitutionally protected noncommercial speech or expression conducted within or upon a any public right-of-way, public space or other publicly owned property constituting an open or a designated public forum in compliance with any applicable reasonable time, place and manner restrictions on such speech or expression or otherwise pursuant to legal authority.
- 7. Sounds produced at otherwise lawful and permitted city-sponsored events, organized sporting events, school assemblies, school playground activities, by permitted fireworks, and by permitted parades on public right-of-way, public space or other publicly owned property.
- 8. An event for which a temporary use permit or special event permit has been issued under other provisions of this code, where the provisions of Section 11.80.040 are met, the permit granted expressly grants an exemption from specific standards contained in this chapter, and the permittee and all persons under the permittee's reasonable control actually comply with all conditions of such permit. Violation of any condition of such a permit related to sound or sound equipment shall be a violation of this chapter and punishable as such.
- F. Nothing in this chapter shall be construed to limit, modify or repeal any other regulation elsewhere in this code relating to the regulation of noise sources, nor shall any such other regulation be read to permit the emission of noise in violation of any provision of this chapter. (Ord. 740 § 1.2, 2007)

11.80.040 Special provisions for temporary use and special event permits.

The exemption by permit set forth in Section <u>11.80.030(E)(8)</u> shall be subject to the following requirements and conditions:

- A. The permit application shall include the name, address and telephone number of the permit applicant; the date, hours and location for which the permit is requested; and the nature of the event or activity. It shall also specify the types of sounds and/or sound equipment to be permitted, the proposed duration of such sound, the specific standards from which the sound is to be exempted, and the reasons for each requested exemption.
- B. The permit shall be issued provided the proposed activity meets the requirements of this section and the issuing official determines that the sound to be emitted at the event as proposed would not be detrimental to the public health, safety or welfare, that the event cannot reasonably achieve its legitimate aims and purposes without the exemption and that the sound levels proposed will not unreasonably damage the peace and quiet enjoyment of the lawful users of surrounding properties, nor constitute a public nuisance.
- C. The official issuing the permit may prescribe any reasonable conditions or requirements he/she deems necessary to minimize noise disturbances upon the community or the surrounding neighborhood, and/or to protect the health, safety or welfare of the public, including participants in the permitted event, including use of mufflers, screens or other sound-attenuating devices.
 - D. Any permit granted must be in writing and shall contain all conditions upon which the permit shall be effective.

- E. No more than six events requiring a sound limit exemption may be held at any particular location upon privately owned or controlled property per calendar year, provided further that the number of events shall not exceed the number permitted under the regulations for the type of permit issued. For purposes of this subsection, "location" means a legal parcel of real property or a complete shopping or commercial center or mall sharing common parking and access even if comprised of multiple legal parcels.
- F. The exemption from sound limits under such permit shall not exceed maximum period of four hours in one twenty-four (24) hour day.
- G. The permit will only be granted for hours between nine a.m. and ten p.m. on all days other than Friday and Saturday; and, on Friday and Saturday, between the hours of nine a.m. and one a.m. of the following day, except in the following circumstances:
- 1. A permit may be granted for hours between nine a.m. on New Year's Eve and one a.m. the following day (New Year's Day).
- 2. A permit may be granted for hours between nine a.m. and two a.m. the following day if there are no residences, hospitals, or nursing homes within a 0.5 mile radius of the property where the function is taking place.
- H. Functions for which the permits are issued shall be limited to a continuous airborne sound level not to exceed seventy (70) dB(A), as measured two hundred (200) feet from the real property boundary of the source property if on private property, or from the source if on public right-of-way, public space or other publicly owned property. (Ord. 740 § 1.2, 2007)

11.80.050 Measurement or assessment of sound.

A. Measurement With Sound Meter.

- 1. The measurement of sound shall be made with a sound level meter meeting the standards prescribed by ANSI Section 1.4-1983 (R2006). The instruments shall be maintained in calibration and good working order. A calibration check shall be made of the system at the time of any sound level measurement. Measurements recorded shall be taken so as to provide a proper representation of the source of the sound. The microphone during measurement shall be positioned so as not to create any unnatural enhancement or diminution of the measured sound. A windscreen for the microphone shall be used at all times. However, a violation of this chapter may occur without the occasion of the measurements being made as otherwise provided.
 - 2. The slow meter response of the sound level meter shall be used in order to best determine the average amplitude.
- 3. The measurement shall be made at any point on the property into which the sound is being transmitted and shall be made at least three feet away from any ground, wall, floor, ceiling, roof and other plane surface.
- 4. In case of multiple occupancy of a property, the measurement may be made at any point inside the premises to which any complainant has right of legal private occupancy; provided that the measurement shall not be made within three feet of any ground, wall, floor, ceiling, roof or other plane surface.
- 5. All measurements of sound provided for in this chapter will be made by qualified officials of the city who are designated by the city manager or designee to operate the apparatus used to make the measurements.
- B. Assessment Without Sound Level Meter. Any police officer, code enforcement officer, or other official designated by the city manager or designee who hears a noise or sound that is plainly audible, as defined in Section 11.80.020, in violation of this chapter, may enforce this chapter and shall assess the noise or sound according to the following standards:
- 1. The primary means of detection shall be by means of the official's normal hearing faculties, not artificially enhanced.
- 2. The official shall first attempt to have a direct line of sight and hearing to the vehicle or real property from which the sound or noise emanates so that the official can readily identify the offending source of the sound or noise and the distance involved. If the official is unable to have a direct line of sight and hearing to the vehicle or real property from which the sound or noise emanates, then the official shall confirm the source of the sound or noise by approaching the suspected vehicle or real property until the official is able to obtain a direct line of sight and hearing, and confirm the source of the sound or noise that was heard at the place of the original assessment of the sound or noise.

3. The official need not be required to identify song titles, artists, or lyrics in order to establish a violation. (Ord. 740 § 1.2, 2007)

11.80.060 Violation.

- A. Violation of Sound Level Limits. Any person violating any of the provisions of this chapter shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punishable by a fine not to exceed one thousand dollars (\$1,000.00) and/or six months in the county jail, or both. Notwithstanding the foregoing, any violation of the provisions of this chapter may, in the discretion of the citing officer or the city attorney, be cited and/or prosecuted as an infraction or be subject to civil citation pursuant to Chapter 1.10.
- B. Joint and Several Responsibility. In addition to the person causing the offending sound, the owner, tenant or lessee of property, or a manager, overseer or agent, or any other person lawfully entitled to possess the property from which the offending sound is emitted at the time the offending sound is emitted, shall be responsible for compliance with this chapter if the additionally responsible party knows or should have known of the offending noise disturbance. It shall not be a lawful defense to assert that some other person caused the sound. The lawful possessor or operator of the premises shall be responsible for operating or maintaining the premises in compliance with this chapter and may be cited regardless of whether or not the person actually causing the sound is also cited.
- C. Violation May be Declared a Public Nuisance. The operation or maintenance of any device, equipment, instrument, vehicle or machinery in violation of any provisions of this chapter which endangers the public health, safety and quality of life of residents in the area is declared to be a public nuisance, and may be subject to abatement summarily or by a restraining order or injunction issued

by a court of competent jurisdiction. (Ord. 824 § 1.2, 2011; Ord. 740 § 1.2, 2007)

View the mobile version.



APPENDIX 5.1:

STUDY AREA PHOTOS





JN: 12975 Study Area Photos



33, 56' 22.790000", 117, 9' 33.070000"



L1_N 33, 55' 13.090000", 117, 10' 43.080000"



L1_S 33, 56' 23.020000", 117, 9' 32.960000"



33, 56' 22.690000", 117, 9' 33.160000"



33, 55' 54.910000", 117, 9' 32.880000"



L2_N 33, 55' 54.960000", 117, 9' 33.020000"

JN: 12975 Study Area Photos



L2_S 33, 55' 54.650000", 117, 9' 32.880000"



L2_W 33, 55' 55.000000", 117, 9' 32.880000"



L3_E 33, 55' 54.360000", 117, 9' 48.320000"



L3_N 33, 55' 22.490000", 117, 9' 25.740000"



13_5 33, 55' 54.320000", 117, 9' 48.240000"



L3_W 33, 55' 54.320000", 117, 9' 48.260000"

APPENDIX 5.2:

NOISE LEVEL MEASUREMENT WORKSHEETS





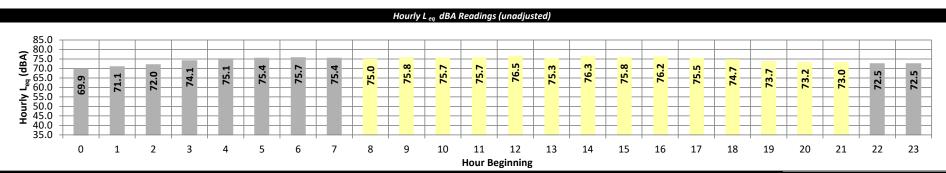
24-Hour Noise Level Measurement Summary

L1 - Located north of the project site near existing residential Location:

home and the Moreno Valley Freeway.

Meter: Piccolo I

JN: 12975 Analyst: P. Mara



Timeframe	Hour	L_{eq}	L max	L min	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L _{eq}
	0	69.9	86.1	49.6	81.0	79.0	77.0	75.0	68.0	62.0	55.0	54.0	51.0	69.9	10.0	79.9
	1	71.1	92.8	49.6	81.0	80.0	78.0	76.0	69.0	63.0	55.0	53.0	51.0	71.1	10.0	81.1
	2	72.0	86.0	50.0	81.0	80.0	78.0	77.0	71.0	65.0	57.0	56.0	53.0	72.0	10.0	82.0
Night	3	74.1	87.2	55.0	82.0	81.0	80.0	79.0	74.0	70.0	61.0	59.0	56.0	74.1	10.0	84.1
Nigitt	4	75.1	93.2	57.4	82.0	81.0	80.0	79.0	76.0	72.0	63.0	61.0	59.0	75.1	10.0	85.1
	5	75.4	93.0	57.8	82.0	81.0	80.0	79.0	76.0	73.0	65.0	63.0	60.0	75.4	10.0	85.4
	6	75.7	87.7	58.8	83.0	81.0	80.0	79.0	76.0	74.0	68.0	66.0	62.0	75.7	10.0	85.7
	7	75.4	90.3	54.5	83.0	81.0	80.0	79.0	76.0	73.0	66.0	64.0	59.0	75.4	0.0	75.4
	8	75.0	89.9	57.4	82.0	81.0	79.0	78.0	75.0	73.0	66.0	64.0	60.0	75.0	0.0	75.0
	9	75.8	88.1	55.7	83.0	82.0	80.0	79.0	76.0	73.0	66.0	63.0	60.0	75.8	0.0	75.8
	10	75.7	90.8	57.2	82.0	81.0	80.0	79.0	76.0	73.0	66.0	63.0	60.0	75.7	0.0	75.7
	11	75.7	98.0	57.5	82.0	81.0	80.0	79.0	76.0	73.0	66.0	64.0	61.0	75.7	0.0	75.7
	12	76.5	97.0	55.9	85.0	83.0	81.0	79.0	76.0	74.0	67.0	65.0	62.0	76.5	0.0	76.5
	13	75.3	89.0	58.6	82.0	81.0	80.0	79.0	76.0	73.0	66.0	64.0	60.0	75.3	0.0	75.3
Day	14	76.3	89.2	57.0	85.0	83.0	80.0	79.0	76.0	74.0	68.0	65.0	61.0	76.3	0.0	76.3
24,	15	75.8	96.2	59.9	83.0	82.0	80.0	79.0	76.0	73.0	67.0	64.0	61.0	75.8	0.0	75.8
	16	76.2	99.3	59.3	83.0	81.0	79.0	78.0	76.0	73.0	68.0	65.0	61.0	76.2	0.0	76.2
	17	75.5	98.2	59.4	83.0	81.0	79.0	78.0	75.0	73.0	67.0	65.0	62.0	75.5	0.0	75.5
	18	74.7	88.2	57.7	82.0	81.0	79.0	78.0	75.0	72.0	65.0	63.0	61.0	74.7	0.0	74.7
	19	73.7	90.8	58.0	81.0	80.0	79.0	78.0	74.0	70.0	63.0	61.0	59.0	73.7	5.0	78.7
	20	73.2	88.4	57.0	81.0	80.0	78.0	78.0	73.0	70.0	62.0	61.0	59.0	73.2	5.0	78.2
	21	73.0	89.9	55.7	81.0	80.0	79.0	77.0	73.0	69.0	61.0	60.0	58.0	73.0	5.0	78.0
Night	22	72.5	91.9	51.6	81.0	80.0	78.0	77.0	72.0	67.0	59.0	57.0	54.0	72.5	10.0	82.5
, and the second	23	72.5	95.4	52.4	81.0	80.0	78.0	77.0	71.0	67.0	60.0	59.0	54.0	72.5	10.0	82.5
Timeframe	Hour	L _{eq}	L _{max}	L min	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%		L _{eq} (dBA)	
Day	Min	73.0	88.1	55.7	81.0	80.0	78.0	77.0	73.0	69.0	61.0	60.0	58.0	24-Hour	Daytime	Nighttime
	Max	76.5	99.3	59.9	85.0	83.0	81.0	79.0	76.0	74.0	68.0	65.0	62.0	74.7	75.3	73.8
Energy A		75.3		rage:	82.5	81.2	79.5	78.4	75.2	72.4	65.6	63.4	60.4			
Night	Min	69.9	86.0	49.6	81.0	79.0	77.0	75.0	68.0	62.0	55.0	53.0	51.0	24-1	Hour CNEL (d	BA)
5	Max	75.7	95.4	58.8	83.0	81.0	80.0	79.0	76.0	74.0	68.0	66.0	62.0	80.5		
Energy A	Average	73.8	Avei	rage:	81.7	80.4	78.9	77.7	72.9	68.6	60.9	59.2	55.9			



Date: Thursday, December 12, 2019

Project: Moreno Valley Trade Center

24-Hour Noise Level Measurement Summary

Date: Thursday, December 12, 2019
Project: Moreno Valley Trade Center

ocation: L2 - Located south of the Project site near existing singlefamily residential homes by Encelia Avenue and Shubert Street.

Meter: Piccolo I

JN: 12975 Analyst: P. Mara

Hourly L eq dBA Readings (unadjusted) Honrly Leq (dBA) Hourly Leq (dBA) 85.0 60.0 65.0 60.0 45.0 40.0 35.0 **Hour Beginning**

Timeframe	Hour	L_{eq}	L max	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L _{eq}
	0	51.0	72.9	43.9	59.0	58.0	53.0	52.0	50.0	48.0	46.0	45.0	44.0	51.0	10.0	61.0
	1	49.5	65.4	43.2	55.0	54.0	53.0	52.0	49.0	48.0	45.0	44.0	44.0	49.5	10.0	59.5
	2	51.3	71.5	42.6	60.0	56.0	53.0	52.0	50.0	49.0	45.0	45.0	44.0	51.3	10.0	61.3
Night	3	54.4	79.5	46.6	61.0	58.0	56.0	55.0	53.0	51.0	49.0	48.0	47.0	54.4	10.0	64.4
Migrit	4	55.6	76.2	46.8	63.0	60.0	57.0	57.0	55.0	53.0	49.0	49.0	48.0	55.6	10.0	65.6
	5	57.6	75.5	50.0	69.0	66.0	60.0	58.0	55.0	54.0	52.0	52.0	51.0	57.6	10.0	67.6
	6	57.3	74.4	49.9	67.0	64.0	60.0	58.0	56.0	55.0	53.0	52.0	51.0	57.3	10.0	67.3
	7	55.9	79.5	46.1	67.0	63.0	56.0	54.0	52.0	50.0	48.0	47.0	46.0	55.9	0.0	55.9
	8	53.1	74.0	44.3	64.0	61.0	57.0	55.0	50.0	48.0	46.0	45.0	45.0	53.1	0.0	53.1
	9	52.1	76.4	41.8	63.0	60.0	55.0	52.0	47.0	45.0	43.0	42.0	42.0	52.1	0.0	52.1
	10	49.5	71.0	40.9	62.0	57.0	50.0	49.0	45.0	43.0	42.0	41.0	41.0	49.5	0.0	49.5
	11	52.0	75.8	39.6	65.0	60.0	52.0	49.0	43.0	42.0	40.0	40.0	40.0	52.0	0.0	52.0
	12	52.8	80.0	39.6	65.0	63.0	57.0	51.0	45.0	42.0	41.0	40.0	39.0	52.8	0.0	52.8
	13	51.7	74.0	39.6	64.0	60.0	55.0	52.0	47.0	44.0	41.0	41.0	40.0	51.7	0.0	51.7
Day	14	52.1	70.4	39.6	65.0	63.0	56.0	53.0	47.0	44.0	41.0	41.0	40.0	52.1	0.0	52.1
Day	15	56.7	80.3	45.4	66.0	63.0	59.0	57.0	54.0	52.0	49.0	48.0	46.0	56.7	0.0	56.7
	16	56.9	77.1	49.9	67.0	65.0	61.0	59.0	55.0	53.0	51.0	51.0	50.0	56.9	0.0	56.9
	17	57.7	81.7	46.9	68.0	66.0	61.0	59.0	54.0	52.0	50.0	50.0	48.0	57.7	0.0	57.7
	18	55.5	77.7	47.0	67.0	64.0	57.0	55.0	52.0	51.0	49.0	49.0	48.0	55.5	0.0	55.5
	19	53.9	71.4	47.0	64.0	62.0	57.0	55.0	52.0	51.0	49.0	48.0	47.0	53.9	5.0	58.9
	20	53.3	73.9	46.2	64.0	61.0	56.0	54.0	51.0	50.0	48.0	47.0	47.0	53.3	5.0	58.3
	21	52.6	77.6	43.8	61.0	59.0	56.0	53.0	50.0	49.0	46.0	46.0	45.0	52.6	5.0	57.6
Night	22	54.5	83.6	43.6	59.0	55.0	52.0	51.0	50.0	48.0	46.0	46.0	45.0	54.5	10.0	64.5
Night	23	50.4	64.3	43.5	56.0	55.0	53.0	52.0	50.0	49.0	47.0	46.0	45.0	50.4	10.0	60.4
Timeframe	Hour	L _{eq}	L max	L min	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%		L _{eq} (dBA)	
Day	Min	49.5	70.4	39.6	61.0	57.0	50.0	49.0	43.0	42.0	40.0	40.0	39.0	24-Hour	Daytime	Nighttime
	Max	57.7	81.7	49.9	68.0	66.0	61.0	59.0	55.0	53.0	51.0	51.0	50.0	54.4	54.2	54.6
Energy A		54.2		rage:	64.6	61.7	56.4	53.8	49.4	47.6	45.4	44.9	44.1			
Night	Min	49.5	64.3	42.6	55.0	54.0	52.0	51.0	49.0	48.0	45.0	44.0	44.0	24-	Hour CNEL (a	IBA)
	Max	57.6	83.6	50.0	69.0	66.0	60.0	58.0	56.0	55.0	53.0	52.0	51.0			
Energy A	Average	54.6	Avei	rage:	61.6	58.9	55.3	54.1	52.0	50.5	48.0	47.4	46.5		51.0	

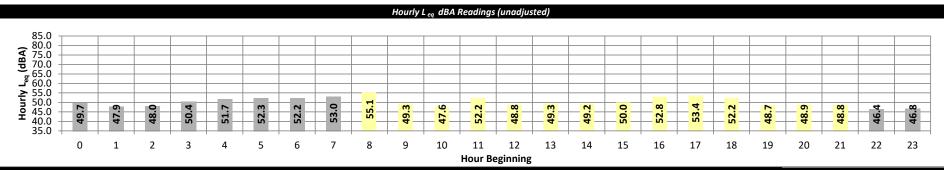


24-Hour Noise Level Measurement Summary

Location:

L3 - Located south of the Project site on Encelia Avenue next to existing single-family residential homes.

Meter: Piccolo I JN: 12975
Analyst: P. Mara



Timeframe	Hour	L_{eq}	L max	L min	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L _{eq}
	0	49.7	66.1	40.4	57.0	55.0	54.0	53.0	50.0	47.0	44.0	43.0	42.0	49.7	10.0	59.7
	1	47.9	67.9	41.3	52.0	51.0	50.0	49.0	48.0	47.0	44.0	44.0	43.0	47.9	10.0	57.9
	2	48.0	64.9	41.2	51.0	51.0	50.0	50.0	49.0	47.0	43.0	43.0	42.0	48.0	10.0	58.0
Night	3	50.4	67.8	44.1	55.0	53.0	53.0	52.0	50.0	49.0	46.0	46.0	45.0	50.4	10.0	60.4
Might	4	51.7	63.2	42.3	57.0	56.0	55.0	55.0	53.0	50.0	46.0	45.0	44.0	51.7	10.0	61.7
	5	52.3	77.3	46.0	60.0	56.0	53.0	52.0	51.0	50.0	48.0	48.0	47.0	52.3	10.0	62.3
	6	52.2	71.1	46.8	61.0	58.0	54.0	53.0	51.0	50.0	48.0	48.0	47.0	52.2	10.0	62.2
	7	53.0	77.2	44.7	62.0	57.0	54.0	53.0	51.0	49.0	47.0	47.0	46.0	53.0	0.0	53.0
	8	55.1	81.7	44.4	65.0	61.0	58.0	56.0	51.0	48.0	47.0	46.0	46.0	55.1	0.0	55.1
	9	49.3	71.9	41.8	59.0	55.0	51.0	49.0	48.0	47.0	45.0	44.0	44.0	49.3	0.0	49.3
	10	47.6	70.1	40.6	55.0	51.0	49.0	48.0	46.0	45.0	43.0	43.0	42.0	47.6	0.0	47.6
	11	52.2	81.3	40.0	62.0	57.0	50.0	48.0	45.0	44.0	43.0	42.0	41.0	52.2	0.0	52.2
	12	48.8	75.0	39.4	61.0	56.0	49.0	46.0	44.0	43.0	42.0	41.0	41.0	48.8	0.0	48.8
	13	49.3	72.1	40.1	61.0	58.0	52.0	50.0	46.0	44.0	42.0	42.0	41.0	49.3	0.0	49.3
Day	14	49.2	78.9	39.6	58.0	54.0	48.0	46.0	45.0	44.0	43.0	42.0	41.0	49.2	0.0	49.2
Juy	15	50.0	67.9	41.4	59.0	56.0	53.0	52.0	49.0	47.0	45.0	44.0	43.0	50.0	0.0	50.0
	16	52.8	70.6	45.6	61.0	59.0	55.0	54.0	52.0	51.0	49.0	48.0	47.0	52.8	0.0	52.8
	17	53.4	73.9	46.1	60.0	58.0	56.0	55.0	53.0	51.0	49.0	49.0	47.0	53.4	0.0	53.4
	18	52.2	77.2	42.8	62.0	59.0	53.0	52.0	49.0	48.0	46.0	45.0	44.0	52.2	0.0	52.2
	19	48.7	69.3	41.6	58.0	54.0	50.0	49.0	47.0	46.0	44.0	44.0	43.0	48.7	5.0	53.7
	20	48.9	68.5	42.2	57.0	53.0	51.0	50.0	48.0	47.0	45.0	44.0	43.0	48.9	5.0	53.9
	21	48.8	67.8	41.0	58.0	54.0	52.0	52.0	47.0	46.0	44.0	43.0	42.0	48.8	5.0	53.8
Night	22	46.4	61.0	40.2	51.0	50.0	48.0	48.0	46.0	45.0	43.0	43.0	42.0	46.4	10.0	56.4
	23	46.8	60.6	40.8	50.0	49.0	49.0	48.0	47.0	46.0	44.0	44.0	43.0	46.8	10.0	56.8
Timeframe	Hour	L _{eq}	L max	L min	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%		L _{eq} (dBA)	
Day	Min	47.6	67.8	39.4	55.0	51.0	48.0	46.0	44.0	43.0	42.0	41.0	41.0	24-Hour	Daytime	Nighttime
•	Max	55.1	81.7	46.1	65.0	61.0	58.0	56.0	53.0	51.0	49.0	49.0	47.0	50.8	51.0	50.4
Energy	Average	51.0		rage:	59.7	56.1	51.9	50.5	47.9	46.5	44.8	44.1	43.2			
Night	Min	46.4	60.6	40.2	50.0	49.0	48.0	48.0	46.0	45.0	43.0	43.0	42.0	24-Hour CNEL (dBA)		IBA)
•	Max	53.0	77.3	46.8	62.0	58.0	55.0	55.0	53.0	50.0	48.0	48.0	47.0		56.8	
Energy	Average	50.4	Ave	rage:	55.6	53.6	52.0	51.3	49.6	48.0	45.3	45.1	44.1		30.0	



Date: Thursday, December 12, 2019

Project: Moreno Valley Trade Center



APPENDIX 7.1:

OFF-SITE TRAFFIC NOISE CONTOURS





	FHW	A-RD-77-108	HIGH	HWAY N	OISE P	REDICTI	ON MC	DEL			
Road Name	o: Existing e: Redlands Bl et: s/o SR-60 W		mps				Name: umber:		oreno Valle	ey Trade	•
	SPECIFIC IN	PUT DATA							L INPUT	s	
Highway Data				2	site Cor	ditions (
Average Daily	Traffic (Adt):	14,403 vehicle	es					Autos:			
Peak Hour I	Percentage:	10.00%				edium Tru		/			
Peak Ho	our Volume:	1,440 vehicle	S		He	eavy Truc	ks (3+	Axles):	15		
	nicle Speed:	50 mph		1	/ehicle	Mix					
Near/Far Lar	ne Distance:	58 feet		F	Veh	icleType		Dav	Evening	Niaht	Dailv
Site Data							utos:	72.0%	-	13.5%	94.24%
Par	rier Height:	0.0 feet			М	edium Tr	ucks:	76.2%	9.4%	14.4%	4.44%
Barrier Type (0-Wa		0.0				Heavy Tr	ucks:	81.8%	7.7%	10.6%	1.32%
Centerline Dis		55.0 feet		1	Voise S	ource Ele	evation	s (in f	eet)		
Centerline Dist. t	o Observer:	55.0 feet		F		Autos		000	,		
Barrier Distance t		0.0 feet			Mediu	m Trucks	: 2	297			
Observer Height (,	5.0 feet			Hear	vy Trucks	s: 8.	004	Grade Ad	justmen	t: 0.0
	d Elevation:	0.0 feet		_							
	d Elevation:	0.0 feet		1	.ane Eq	uivalent		_ •	feet)		
F	Road Grade:	0.0%				Autos		.000			
	Left View:	-90.0 degree				m Trucks		811			
	Right View:	90.0 degree	es		Hea	vy Trucks	s: 46	.830			
FHWA Noise Mode	l Calculations										
VehicleType	REMEL	Traffic Flow	Dis	stance		Road	Fresi		Barrier Att		rm Atten
Autos:	70.20	-0.97		0.30	-	-1.20		-4.67		000	0.000
Medium Trucks:	81.00	-14.24		0.33	-	-1.20		-4.87		000	0.000
Heavy Trucks:	85.38	-19.52		0.32		-1.20		-5.38	0.0	000	0.000
Unmitigated Noise							N E I- 4	_	I also		A.I.
	Leq Peak Hour			Leq E		Leq I			Ldn		NEL
Autos: Medium Trucks:	68.3 65.5	-	66.1 63.9		65.2 60.8		60. 57.		68. 65.	-	68.6 66.1
		-						-			
Heavy Trucks:_ Vehicle Noise:	65.0 71.4		63.3 69.4		59.0 67.3		55. 63.		64. 71.		64.4 71.5
Centerline Distanc	e to Noise Cor	ntour (in feet)								
				70 c	iBA	65 0	iBA		60 dBA	55	dBA
			Ldn:		64		138	}	297	,	640
		C	NEL:		69		148	3	319)	688

	FHV	VA-RD-77-108	HIGH	N YAW	OISE P	REDICT	ION M	ODEL			
Road Nam	io: Existing le: Redlands B nt: s/o SR-60 B		mps					Alt2 M 12975	oreno Valle	ey Trade	
	SPECIFIC IN	PUT DATA							L INPUT	S	
Highway Data				S	ite Cor	ditions	(Hard	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	12,290 vehicl	es					Autos:	15		
Peak Hour	Percentage:	10.00%			Me	edium Ti	ucks (2	Axles):	15		
Peak H	lour Volume:	1,229 vehicle	s		He	eavy Tru	cks (3+	Axles):	15		
Ve	hicle Speed:	50 mph		ı	ehicle	Mix					
Near/Far La	ne Distance:	58 feet				icleType	9	Day	Evening	Night	Daily
Site Data							Autos:	72.0%	14.6%	13.5%	94.249
Bai	rrier Height:	0.0 feet			М	edium 7	rucks:	76.2%	9.4%	14.4%	4.44%
Barrier Type (0-W		0.0				Heavy 7	rucks:	81.8%	7.7%	10.6%	1.329
Centerline Dis	st. to Barrier:	55.0 feet			loise S	ource E	levatio	ns (in fe	pet)		
Centerline Dist.	to Observer:	55.0 feet		F	. 0.00	Auto		0.000	,,,,		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		2.297			
Observer Height (Above Pad):	5.0 feet				vy Truck		3.004	Grade Ad	iustment	0.0
Pá	ad Elevation:	0.0 feet				•					
Ros	ad Elevation:	0.0 feet		L	ane Eq	uivalen			feet)		
I	Road Grade:	0.0%				Auto		7.000			
	Left View:	-90.0 degre	es			m Truck		5.811			
	Right View:	90.0 degre	es		Hea	vy Truck	(S: 46	5.830			
FHWA Noise Mode	el Calculation										
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att		m Atten
Autos:	70.20	-1.66		0.30		-1.20		-4.67		000	0.00
Medium Trucks:	81.00	-14.93		0.33		-1.20		-4.87		000	0.00
Heavy Trucks:	85.38	-20.21		0.32	2	-1.20		-5.38	0.0	000	0.00
Unmitigated Noise											
	Leq Peak Hou			Leq Ev			Night		Ldn		NEL
Autos:	67		65.4		64.5		59		67.3		67.
Medium Trucks:	65	-	63.2		60.2		57		65.0	-	65.
Heavy Trucks:	64		62.6		58.4		55		63.4		63.
Vehicle Noise:	70	.7	68.7		66.6	i	62	3	70.3	3	70.
Centerline Distanc	ce to Noise Co	ntour (in feet)	70	D.4		-10.4		20 -10 4		-10.4
			Ldn:	70 d	<i>BA</i> 58	05	dBA 12		60 dBA 267		dBA 576
		0	NEL:		58 62		12		267		5/6 619
		C	IVEL:		62		13	3	287		618

	FH	WA-RD-77-108	HIGHW	AT NO	JISE PI	KEDICII	ON MO	DEL			
	c: Existing e: Redlands I t: s/o Eucaly						Name: umber:		oreno Valle	ey Trade	
	PECIFIC II	NPUT DATA							L INPUT	s	
Highway Data				Si	ite Con	ditions (Hard =	10, S	oft = 15)		
Average Daily T	raffic (Adt):	12,535 vehicl	es					Autos.	15		
Peak Hour F	Percentage:	10.00%			Me	dium Tru	icks (2)	Axles).	15		
Peak Ho	ur Volume:	1,254 vehicle	:S		He	avy Truc	ks (3+)	Axles).	15		
Veh	icle Speed:	50 mph		V	ehicle l	Mix					
Near/Far Lan	e Distance:	58 feet		-		icleType		Day	Evening	Night	Daily
Site Data						Α	utos:	72.0%	14.6%	13.5%	94.24
Barı	ier Heiaht:	0.0 feet			Me	edium Tr	ucks:	76.29	9.4%	14.4%	4.449
Barrier Type (0-Wa	all, 1-Berm):	0.0			F	leavy Tr	ucks:	81.89	7.7%	10.6%	1.32
Centerline Dist	t. to Barrier:	55.0 feet		N	oise Sc	urce Ele	evation	s (in f	eet)		
Centerline Dist. to	Observer:	55.0 feet				Autos		000			
Barrier Distance to	Observer:	0.0 feet			Mediu	n Trucks		297			
Observer Height (A	,	5.0 feet			Heav	v Trucks	: 8.	004	Grade Ad	justmen	t: 0.0
	d Elevation:	0.0 feet				,					
	d Elevation:	0.0 feet		Lá	ne Eq	uivalent			feet)		
R	oad Grade:	0.0%				Autos		000			
	Left View:	-90.0 degre				n Trucks		811			
	Right View:	90.0 degre	es		Heav	y Trucks	: 46.	830			
FHWA Noise Model	l Calculation	s									
VehicleType	REMEL	Traffic Flow	Distar		Finite	Road	Fresi		Barrier Att		rm Atter
Autos:	70.20			0.30		-1.20		-4.67		000	0.00
Medium Trucks:	81.00			0.33		-1.20		-4.87		000	0.00
Heavy Trucks:	85.38			0.32		-1.20		-5.38	0.	000	0.00
Unmitigated Noise			_					,			
	Leq Peak Ho			eq Eve		Leq I	-		Ldn		NEL
Autos:	-	7.7	65.5		64.6		59.	-	67.		68
Medium Trucks:	-	5.3	63.3		60.2		57.3	-	65.		65
Heavy Trucks: Vehicle Noise:		1.4	68.8		58.4 66.7		55.1 62.4		63. 70.	-	63 70
venicie ivoise:					00.7		62.4	+	70.	4	70
		ontour (in foo	t)								
Centerline Distance	e to Noise C	ontour (in ree		70 dE	2.4	65.4	4D A		SO ARA	5.6	ABA
Centerline Distance	e to Noise C	ontour (iii ree	Ldn:	70 dE	3 <i>A</i> 58	65 (1BA 126		50 dBA 271		5 dBA 58

Wednesday, November 4, 2020

	FH\	WA-RD-77-108	HIGH	WAY I	NOISE PI	REDICTI	ON M	DDEL			
Road Na	ario: Existing me: Redlands E ent: s/o Dwy. 6	Blvd.						Alt2 M	loreno Vall	ey Trade	1
SITE Highway Data	SPECIFIC IN	IPUT DATA			Site Con				L INPUT	s	
Average Dail Peak Hou Peak	y Traffic (Adt): ir Percentage: Hour Volume: 'ehicle Speed:	12,535 vehicle 10.00% 1,254 vehicle 50 mph			Ме	edium Tru eavy Truc	icks (2	Autos. Axles).	15		
Near/Far L	ane Distance:	58 feet		ŀ		icleType	Т	Dav	Evening	Night	Dailv
Site Data B. Barrier Type (0-	arrier Height: Wall, 1-Berm):	0.0 feet 0.0			М			72.09 76.29 81.89	6 14.6% 6 9.4%	13.5%	94.24% 4.44%
Centerline D	Dist. to Barrier:	55.0 feet		ŀ	Noise Source Elevations (in feet)						
Centerline Dist Barrier Distance Observer Height	e to Observer:	55.0 feet 0.0 feet 5.0 feet 0.0 feet			Mediu	Autos m Trucks yy Trucks	s: 0 s: 2	0.000 2.297 3.004	Grade Ad	ljustmen	t: 0.0
R	oad Elevation:	0.0 feet		L	Lane Eq	uivalent	Dista	nce (in	feet)		
	Road Grade: Left View: Right View:	0.0% -90.0 degree 90.0 degree				Autos m Trucks yy Trucks	s: 46	7.000 6.811 6.830			
FHWA Noise Mo	del Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	snel	Barrier At	ten Be	rm Atten
Autos	70.20	-1.57		0.3	10	-1.20		-4.67	0.	000	0.000
Medium Trucks	81.00	-14.84		0.3	13	-1.20		-4.87	0.	000	0.000
Heavy Trucks	: 85.38	-20.12		0.3	12	-1.20		-5.38	0.	000	0.000
Unmitigated Nois			_								
VehicleType	Leq Peak Hou			Leq E	vening	Leq			Ldn		NEL
Autos			65.5		64.6		59		67.		68.0
Medium Trucks			63.3 62.7		60.2 58.4		57 55		65. 63.		65.5 63.8
Heavy Trucks Vehicle Noise			68.8		66.7		62		70.	-	70.9
Centerline Distar	nce to Noise Co	ontour (in feet)								
				70	dBA	65 (dΒA		60 dBA	55	dBA
			Ldn:		58		12	6	271	ı	583
		C	NEL:								627

Wednesday, November 4, 2020

	FH	WA-RD-77-108	HIGH	1 YAW	IOISE P	REDICT	ION MO	DEL			
Road Nar	rio: Existing ne: Redlands E ent: n/o Encelia							Alt2 M 12975	oreno Valle	ey Trade	
	SPECIFIC II	NPUT DATA			a:: a				L INPUT	s	
Highway Data				-	Site Cor	ditions	(Hard :	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	12,535 vehicle	es					Autos:	15		
Peak Hour	r Percentage:	10.00%				dium Tr					
Peak I	Hour Volume:	1,254 vehicle	S		He	avy Tru	cks (3+	Axles):	15		
Ve	ehicle Speed:	50 mph		+	Vehicle	Mix					
Near/Far La	ane Distance:	58 feet		F		icleType		Dav	Evenina	Niaht	Dailv
Site Data							Autos:	72.0%	14.6%	13.5%	94.24%
Ra	rrier Height:	0.0 feet			М	edium T	rucks:	76.2%	9.4%	14.4%	4.44%
Barrier Type (0-V		0.0				Heavy T	rucks:	81.8%	7.7%	10.6%	1.32%
	ist. to Barrier:	55.0 feet		-							
Centerline Dist.		55.0 feet		Į.	Noise S				eet)		
Barrier Distance		0.0 feet				Auto		.000			
Observer Height	(Above Pad):	5.0 feet				m Truck		.297			
-	Pad Elevation:	0.0 feet			Hea	y Truck	s: 8	.004	Grade Ad	justment	: 0.0
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalent	Distar	ice (in	feet)		
	Road Grade:	0.0%				Auto	s: 47	.000			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 46	.811			
	Right View:	90.0 degree	es		Hear	y Truck	s: 46	.830			
FHWA Noise Mod	lel Calculation	ıs									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	nel	Barrier Att	en Bei	m Atten
Autos:	70.20	-1.57		0.3	0	-1.20		-4.67	0.0	000	0.000
Medium Trucks:	81.00	-14.84		0.3	3	-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	85.38	-20.12		0.3	2	-1.20		-5.38	0.0	000	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrie	er atten	uation)						
VehicleType	Leq Peak Ho	ur Leq Day	/	Leq E	vening	Leq	Night		Ldn	С	NEL
Autos:	67	7.7	65.5		64.6		59	.5	67.	4	68.0
Medium Trucks:	65	5.3	63.3		60.2		57	.3	65.	1	65.5
Heavy Trucks:	64	1.4	62.7		58.4		55	.1	63.	5	63.8
Vehicle Noise:	70	0.8	68.8		66.7		62	4	70.	4	70.9
Centerline Distan	ce to Noise C	ontour (in feet)								
		-		70	dBA	65	dBA	6	0 dBA	55	dBA
			Ldn:		58		12	6	271		583
		C	NEL:		63		13	5	291		627

FH	WA-RD-77-108	HIGH\	WAY N	OISE P	REDICT	TION MOE	DEL		
Scenario: Existing Road Name: Moreno B Road Segment: s/o SR-60		amps				t Name: A Number: 1		reno Valley	/ Trade
SITE SPECIFIC I	NPUT DATA					NOISE M	IODEI	. INPUTS	
Highway Data			S	ite Cor	ditions	(Hard = 1	10, So	ft = 15)	
Average Daily Traffic (Adt): Peak Hour Percentage: Peak Hour Volume: Vehicle Speed:	12,724 vehicle 10.00% 1,272 vehicle 50 mph				avy Tru	Arucks (2 A Icks (3+ A		15 15 15	
Near/Far Lane Distance:	82 feet		v				D 1	C in .	Minted Doile
Site Data						Autos:	72.0%	14.6%	Night Daily 13.5% 94.24%
Barrier Height:	0.0 feet				edium 7		76.2%	9.4%	14.4% 4.44%
Barrier Type (0-Wall, 1-Berm):	0.0				Heavy 1	rucks: 8	31.8%	7.7%	10.6% 1.32%
Centerline Dist. to Barrier:	67.0 feet		Ν	loise S	ource E	levations	(in fe	et)	
Centerline Dist. to Observer: Barrier Distance to Observer: Observer Height (Above Pad): Pad Elevation: Road Elevation: Road Grade:	67.0 feet 0.0 feet 5.0 feet 0.0 feet 0.0 feet		L	Hea	Auto m Truck ry Truck uivalen	ks: 2.2 ks: 8.0 at Distanc	97 104 e (in f e		stment: 0.0
Left View: Right View:	-90.0 degre				m Truck vy Truck	ks: 53.0)59		
FHWA Noise Model Calculation VehicleType REMEL	Traffic Flow	Di-4	ance	Fi-14-	Road	Fresne		Barrier Atte	n Berm Atten
VehicleType REMEL Autos: 70.20			-0.51		-1.20		-4.71	0.00	
Medium Trucks: 81.00			-0.49		-1.20		4.88	0.00	
Heavy Trucks: 85.38			-0.49		-1.20		-5.29	0.00	
Unmitigated Noise Levels (with	hout Topo and	barrie	r attenu	ıation)					
VehicleType Leq Peak Ho		_	Leq Ev			Night		Ldn	CNEL
	7.0	64.8		63.8		58.7		66.6	67.2
	4.5	62.6		59.5		56.6		64.3	64.7
	3.6	62.0		57.7		54.3		62.7	63.1
Vehicle Noise: 7	0.1	68.0		65.9		61.7		69.6	70.
Centerline Distance to Noise C	contour (in fee	t)	70 d	DΛ	e e	dBA	-) dBA	55 dBA
		Ldn:	7 U U	63	00	136	Di	294	634
	c	NEL:		68		147		316	681

	o: Existing e: Moreno Be	ach Dr.					Name: umber:		oreno Valle	ey Trade	
Road Segmen	t: s/o SR-60 I	Eastbound Ra	mps								
	SPECIFIC IN	IPUT DATA							L INPUT	S	
Highway Data				Si	ite Con	ditions	(Hard =	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	23,934 vehicl	les					Autos.	15		
Peak Hour I	Percentage:	10.00%			Me	dium Tri	ucks (2	Axles).	15		
Peak Ho	our Volume:	2,393 vehicle	es		He	avy Truc	cks (3+	Axles).	15		
Vel	nicle Speed:	50 mph		V	ehicle l	Mix					
Near/Far Lar	ne Distance:	82 feet				icleType		Day	Evening	Night	Daily
Site Data							Autos:	72.0%	14.6%	13.5%	94.249
Ran	rier Heiaht:	0.0 feet			Me	edium Ti	rucks:	76.29	9.4%	14.4%	4.44%
Barrier Type (0-Wa	all, 1-Berm):	0.0			F	leavy T	rucks:	81.89	7.7%	10.6%	1.329
Centerline Dis		67.0 feet		N	oise Sc	urce El	evation	s (in f	eet)		
Centerline Dist. t		67.0 feet				Auto	s: 0	.000			
Barrier Distance t		0.0 feet			Mediui	n Truck	s: 2	.297			
Observer Height (/	,	5.0 feet			Heav	v Truck	s: 8	.004	Grade Ad	iustment	: 0.0
	d Elevation:	0.0 feet		_							
	d Elevation:	0.0 feet		Li	ane Eq	uivalent			feet)		
F	Road Grade:	0.0%				Auto		.226			
	Left View:	-90.0 degre				n Truck		.059			
	Right View:	90.0 degre	es		Heav	y Truck	s: 53	.076			
FHWA Noise Mode											
VehicleType	REMEL	Traffic Flow		tance	Finite		Fres		Barrier Att		m Atten
Autos:	70.20			-0.51		-1.20		-4.71		000	0.00
Medium Trucks:	81.00			-0.49		-1.20		-4.88		000	0.00
Heavy Trucks:	85.38			-0.49		-1.20		-5.29	0.0	000	0.00
Unmitigated Noise			_				A 15 1-4	_	Lata		NE.
VehicleType Autos:	Leq Peak Hou		67.5	Leq Eve	ening 66.6	Leq	Night 61	E	Ldn 69.4		NEL 70.
Medium Trucks:	67		65.3		62.2		59	-	67.		67.
Heavy Trucks:	66		64.7		60.4		59. 57.	-	65.		65.
Vehicle Noise:	72		70.8		68.7		64.		72.4		72.
Centerline Distanc	e to Noise Co	ontour (in fee	t)								
		. ,		70 dE	3A	65	dBA		60 dBA	55	dBA
			Ldn:		97		208	3	448		965

Wednesday, November 4, 2020

FH	WA-RD-77-108 HIG	1 YAWHE	NOISE PI	REDICT	ION MODEL		
Scenario: Existing Road Name: Eucalyptus Road Segment: e/o Moreno					Name: Alt2 lumber: 1297	Moreno Valley 5	/ Trade
SITE SPECIFIC IN	IPUT DATA					EL INPUTS	i
Highway Data			Site Con	ditions	(Hard = 10,	Soft = 15)	
Average Daily Traffic (Adt):	3,673 vehicles				Auto	s: 15	
Peak Hour Percentage:	10.00%				ucks (2 Axles	,	
Peak Hour Volume:	367 vehicles		He	avy Truc	cks (3+ Axles	s): 15	
Vehicle Speed:	40 mph	T I	Vehicle I	Wix			
Near/Far Lane Distance:	48 feet	Ī	Veh	icleType	Day	Evening	Night Daily
Site Data				/	Autos: 72.0	14.6%	13.5% 94.24%
Barrier Height:	0.0 feet		M	edium Ti	rucks: 76.2	9.4%	14.4% 4.44%
Barrier Type (0-Wall, 1-Berm):	0.0		- 1	Heavy T	rucks: 81.8	7.7%	10.6% 1.32%
Centerline Dist. to Barrier:	50.0 feet	-	Noise Sc	nurce Fl	levations (in	feet)	
Centerline Dist. to Observer:	50.0 feet	ľ		Auto		7000	
Barrier Distance to Observer:	0.0 feet		Mediu	m Truck			
Observer Height (Above Pad):	5.0 feet		Heav	y Truck	s: 8.004	Grade Adju	stment: 0.0
Pad Elevation:	0.0 feet	-					
Road Elevation:	0.0 feet	l l	Lane Eq		t Distance (ii	n reet)	
Road Grade:	0.0%			Auto			
Left View:	-90.0 degrees			m Truck			
Right View:	90.0 degrees		Heat	y Truck	s: 43.966		
FHWA Noise Model Calculation	s						
VehicleType REMEL		Distance		Road	Fresnel	Barrier Atte	
Autos: 66.51	-5.93	0.7		-1.20	-4.6		
Medium Trucks: 77.72		0.7		-1.20	-4.8		
Heavy Trucks: 82.99	-24.48	0.7		-1.20	-5.4	3 0.00	0.000
Unmitigated Noise Levels (with							
VehicleType Leq Peak Hou			vening		Night	Ldn	CNEL
Autos: 60 Medium Trucks: 58			56.9 53.0		51.8 50.1	59.7 57.9	60.3 58.2
Heavy Trucks: 58 Vehicle Noise: 63			52.1 59.3		48.7 55.2	57.1 63.2	57.5 63.6
Centerline Distance to Noise Co	ontour (in feet)						
Centernine Distance to Noise Co	intour (in reet)	70	dBA	65	dBA	60 dBA	55 dBA
	Ldn		17		38	81	175
	CNEL	:	19		40	87	188

	FHW	A-RD-77-108	HIGH	HWAY N	IOISE P	REDICT	TION M	ODEL			
Road Nam	io: Existing ne: Eucalyptus A nt: e/o Auto Mal						t Name. Number.		oreno Valle	ey Trade	
	SPECIFIC INF	UT DATA			04- 0				L INPUT oft = 15)	S	
Highway Data				- 1	Site Cor	iaitions	(Hara				
Average Daily	. ,	1,617 vehicle	es					Autos			
		10.00%				edium Ti					
	lour Volume:	162 vehicles	S		HE	eavy Tru	ICKS (3+	Axies).	15		
	hicle Speed:	40 mph		١	Vehicle	Mix					
Near/Far La	ne Distance:	48 feet			Ver	icleType	е	Day	Evening	Night	Daily
Site Data							Autos:	72.0%	14.6%	13.5%	94.24%
Bai	rrier Height:	0.0 feet			M	ledium 7	rucks:	76.2%	9.4%	14.4%	4.44%
Barrier Type (0-W		0.0				Heavy 7	rucks:	81.8%	7.7%	10.6%	1.32%
Centerline Dis	st. to Barrier:	50.0 feet		,	Voise S	ource E	levatio	ns (in f	eet)		
Centerline Dist.	to Observer:	50.0 feet		F		Auto		0.000			
Barrier Distance	to Observer:	0.0 feet			Mediu	m Truck		297			
Observer Height (Above Pad):	5.0 feet				vv Truck		3.004	Grade Ad	liustmen	: 0.0
	ad Elevation:	0.0 feet		L		,					
	ad Elevation:	0.0 feet		1	Lane Eq	uivalen		_ •	feet)		
ı	Road Grade:	0.0%				Auto		1.147			
	Left View:	-90.0 degree				m Truck		3.947			
	Right View:	90.0 degree	es		Hea	vy Truck	ks: 40	3.966			
FHWA Noise Mode	el Calculations										
VehicleType		Traffic Flow	Dis	stance		Road	Fres		Barrier Att		m Atten
Autos:	66.51	-9.50		0.7	•	-1.20		-4.65		000	0.000
Medium Trucks:	77.72	-22.77		0.74		-1.20		-4.87		000	0.000
Heavy Trucks:	82.99	-28.05		0.73		-1.20		-5.43	0.0	000	0.000
Unmitigated Noise	•							-			
	Leq Peak Hour		_	Leg Ev			Night	<u> </u>	Ldn	_	NEL
Autos:	56.5		54.3		53.4		48		56.	_	56.7
Medium Trucks:	54.5		52.5 52.8		49.4 48.5		46 45		54.5 53.0	-	54.7
Heavy Trucks:	54.5							-		-	53.9
Vehicle Noise:	60.0		58.1		55.8	•	51	σ.	59.	0	60.1
Centerline Distance	e to Noise Cor	tour (in feet))	70 0	VD A	65	dBA		50 dBA		dBA
			Ldn:	700	1BA 10	00	ава 2		00 dBA 47		101
			VEL:		10		2	_	47 50		101
		CI	VLL.		11		2	3	50	,	109

	o: Existing e: Eucalyptus et: w/o Aldi Pla						t Name: lumber:		oreno Valle	ey Trade	
	SPECIFIC II	NPUT DAT	Α						L INPUT	s	
Highway Data				S	ite Cor	ditions	(Hard :	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	1,507 vel	nicles					Autos:	15		
	Percentage:	10.00%				edium Tr	,				
Peak H	our Volume:	151 veh	icles		He	eavy Tru	cks (3+	Axles):	15		
Vel	nicle Speed:	40 mpl	1	ı	ehicle	Mix					
Near/Far Lar	ne Distance:	48 feet			Ver	icleType	,	Day	Evening	Night	Daily
Site Data							Autos:	72.0%	14.6%	13.5%	94.24%
Rar	rier Heiaht:	0.0 fee	ıt.		M	edium T	rucks:	76.2%	9.4%	14.4%	4.44%
Barrier Type (0-W		0.0				Heavy T	rucks:	81.8%	7.7%	10.6%	1.32%
Centerline Dis	. ,	50.0 fee	ŧ		laiaa C	ource E	lovetio	na (in f	n a #1		
Centerline Dist. t	o Observer:	50.0 fee	ŧt	-	ioise s	Auto			ei)		
Barrier Distance t	o Observer:	0.0 fee	ŧ					.000			
Observer Height (Above Pad):	5.0 fee	ŧ			m Truck			Grade Ad	iuatmant	. 0 0
Pa	d Elevation:	0.0 fee	ŧt		Hea	vy Truck	(S.) 8	.004	Grade Ad	usunen	. 0.0
Roa	d Elevation:	0.0 fee	ŧ	L	ane Eq	uivalen	t Distar	ice (in	feet)		
F	Road Grade:	0.0%				Auto	s: 44	.147			
	Left View:	-90.0 de	grees		Mediu	m Truck	s: 43	.947			
	Right View:	90.0 de	grees		Hea	vy Truck	s: 43	3.966			
FHWA Noise Mode	l Calculation	s									
VehicleType	REMEL	Traffic Flo	w Di	stance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten
Autos:	66.51	-9	.80	0.71		-1.20		-4.65	0.0	000	0.000
Medium Trucks:	77.72	-23	.07	0.74		-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	82.99	-28	.35	0.73	3	-1.20		-5.43	0.0	000	0.000
Unmitigated Noise	Levels (with	out Topo a	nd barr	ier atteni	ıation)						
	Leq Peak Ho		-	Leq Ev			Night		Ldn		NEL
Autos:		3.2	54.0		53.1		48		55.9		56.4
Medium Trucks:		1.2	52.2		49.1		46		54.0		54.4
Heavy Trucks:		1.2	52.5		48.2		44		53.0		53.6
Vehicle Noise:	59	9.7	57.8		55.5		51	.3	59.3	3	59.7
Centerline Distanc	e to Noise C	ontour (in f	eet)					_			
							dBA		SO dBA		dBA
				70 d		03					
			Ldn:	70 a	10 10	05	2	1	45 48		97 104

	o: Existing	_							oreno Valle	ey Trade	
	e: Eucalyptus	Av.				Job N	lumber:	12975			
Road Segmen	it: w/o Dwy. 5										
	SPECIFIC IN	PUT DATA							L INPUT	S	
Highway Data				S	ite Con	ditions	(Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	2,424 vehicles	3					Autos:	15		
Peak Hour	Percentage:	10.00%			Me	dium Tı	ucks (2 /	(xies	15		
Peak H	our Volume:	242 vehicles			He	avy Tru	cks (3+ /	(xles	15		
Vel	nicle Speed:	40 mph		V	ehicle I	/liv					
Near/Far Lar	ne Distance:	48 feet		ř		cleTvpe		Dav	Evening	Night	Dailv
Site Data							Autos:	72.0%	-	13.5%	94.24
Rar	rier Height:	0.0 feet			Me	edium T	rucks:	76.2%	9.4%	14.4%	4.44
Barrier Type (0-W	-	0.0			F	leavy T	rucks:	81.8%	7.7%	10.6%	1.32
Centerline Dis	. ,	50.0 feet			laina Ca	uraa E	levation	o (in f	n a #1		
Centerline Dist. t	to Observer:	50.0 feet		N	ioise so	Auto		000	eu		
Barrier Distance t	to Observer:	0.0 feet			Mediur			297			
Observer Height (A	Above Pad):	5.0 feet				y Truck		004	Grade Ad	iustmant	. 0.0
Pa	d Elevation:	0.0 feet			ricav	y IIuun	s. 0.	JU4	Orauc Au	ustricit	. 0.0
Roa	d Elevation:	0.0 feet		L	ane Equ	uivalen	t Distan	ce (in	feet)		
F	Road Grade:	0.0%				Auto	s: 44.	147			
	Left View:	-90.0 degrees	3			n Truck		947			
	Right View:	90.0 degrees	8		Heav	y Truck	s: 43.	966			
FHWA Noise Mode	l Calculations										
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresr	iel .	Barrier Att	en Ber	m Atter
Autos:	66.51	-7.74		0.71		-1.20		-4.65	0.0	000	0.00
Medium Trucks:	77.72	-21.01		0.74		-1.20		-4.87	0.0	000	0.00
Heavy Trucks:	82.99	-26.29		0.73		-1.20		-5.43	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo and b	arrier	attenu	ıation)						
VehicleType	Leq Peak Hou	r Leq Day	L	.eq Ev	ening	Leq	Night		Ldn	C	NEL
Autos:	58.	3 5	6.1		55.1		50.0)	57.9	9	58
Medium Trucks:	56.	2 5	4.3		51.2		48.3	3	56.1	1	56
Heavy Trucks:	56.		4.6		50.3		46.9		55.3		55
Vehicle Noise:	61.	.8 5	9.8		57.5		53.4	ļ	61.4	1	61
Centerline Distanc	e to Noise Co	ntour (in feet)									
				70 d		65	dBA	- 6	60 dBA		dBA
		L	dn:		13		29		62		13
		CN			14		31		66		14

Wednesday, November 4, 2020

FH	WA-RD-77-108 H	IGHWAY	NOISE PI	REDICT	ON MODEL		
Scenario: Existing Road Name: Eucalyptu: Road Segment: w/o Redla					Name: Alt2 umber: 1297	Moreno Valley 75	Trade
SITE SPECIFIC I	NPUT DATA					EL INPUTS	
Highway Data			Site Con	ditions	(Hard = 10,	Soft = 15)	
Average Daily Traffic (Adt): Peak Hour Percentage: Peak Hour Volume: Vehicle Speed: Near/Far Lane Distance:	2,424 vehicles 10.00% 242 vehicles 40 mph			avy Truc	Auto ucks (2 Axles cks (3+ Axles	s): 15 s): 15	
Near/Far Lane Distance.	48 feet		Veh	icleType	Day	Evening	Night Daily
Site Data Barrier Height: Barrier Type (0-Wall, 1-Berm):	0.0 feet 0.0			edium Ti Heavy Ti		2% 9.4%	13.5% 94.24% 14.4% 4.44% 10.6% 1.32%
Centerline Dist. to Barrier:	50.0 feet		Noise So	ource El	evations (in	feet)	
Centerline Dist. to Observer: Barrier Distance to Observer: Observer Height (Above Pad): Pad Elevation: Road Elevation: Road Grade:	50.0 feet 0.0 feet 5.0 feet 0.0 feet 0.0 feet		Heav	Auto m Truck ry Truck uivalent Auto	s: 2.297 s: 8.004 Distance (i	Grade Adju n feet)	stment: 0.0
Left View: Right View:	-90.0 degrees 90.0 degrees			m Truck y Truck	s: 43.947		
FHWA Noise Model Calculation			1			T =	T =
VehicleType REMEL Autos: 66.5' Medium Trucks: 77.72	-7.74 2 -21.01	Distance 0.1 0.1	71 74	-1.20 -1.20	Fresnel -4.6 -4.8	7 0.00	0 0.000 0 0.000
Heavy Trucks: 82.99	-26.29	0.7	73	-1.20	-5.4	3 0.00	0.000
Unmitigated Noise Levels (with	out Topo and ba	rrier atte	nuation)				
VehicleType Leq Peak Ho			vening	Leq	Night	Ldn	CNEL
	8.3 56		55.1		50.0	57.9	58.5
	6.2 54		51.2		48.3	56.1	56.4
	6.2 54		50.3		46.9	55.3	55.7
Vehicle Noise: 6	1.8 59	.8	57.5		53.4	61.4	61.8
Centerline Distance to Noise C	ontour (in feet)				T		
			dBA	65	dBA	60 dBA	55 dBA
	Ld CNE		13 14		29 31	62 66	133 142
	CNE	L:	14		31	66	142

	FH	WA-RD-77-108	HIGH	WAY N	OISE P	REDICTI	ION MO	DDEL			
Road Na	ario: Existing me: Encilia Av. ent: e/o Essen							Alt2 Mo 12975	oreno Valle	ey Trade	•
	SPECIFIC II	NPUT DATA							L INPUT	S	
Highway Data	-			3	ite Cor	ditions	(Hara :				
-	y Traffic (Adt):	217 vehicle	es					Autos:			
	ır Percentage:	10.00%				dium Tru					
	Hour Volume:	22 vehicle	S		He	avy Truc	cks (3+	Axles):	15		
	ehicle Speed:	45 mph		ν	'ehicle	Mix					
Near/Far L	.ane Distance:	36 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	72.0%	14.6%	13.5%	94.24%
A	arrier Height:	0.0 feet			М	edium Tı	rucks:	76.2%	9.4%	14.4%	4.44%
Barrier Type (0-		0.0				Heavy Ti	rucks:	81.8%	7.7%	10.6%	1.32%
	Dist. to Barrier:	44.0 feet		۸	loise S	ource El	evatio	ns (in fe	eet)		
Centerline Dis	t. to Observer:	44.0 feet				Autos		000	,		
Barrier Distanc	e to Observer:	0.0 feet			Mediu	m Trucks	s: 2	297			
Observer Heigh	t (Above Pad):	5.0 feet			Hear	y Trucks	s: 8	.004	Grade Ad	liustmen	t: 0.0
	Pad Elevation:	0.0 feet								,	
R	oad Elevation:	0.0 feet		L	ane Eq	uivalent		_ •	feet)		
	Road Grade:	0.0%				Autos		.460			
	Left View:	-90.0 degree				m Trucks).241			
	Right View:	90.0 degree	es		Hea	y Trucks	s: 40).262			
FHWA Noise Mo	del Calculation	ıs									
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten
Auto	s: 68.46	-18.73		1.28		-1.20		-4.61	0.0	000	0.000
Medium Truck	s: 79.45	-32.00	-32.00			-1.20	-1.20 -4.87		7 0.000		0.000
Heavy Truck	s: 84.25	-37.28		1.31		-1.20		-5.50	0.0	000	0.000
Unmitigated Noi			barrie	r attenu	ıation)						
VehicleType	Leq Peak Ho	ur Leq Day	/	Leq Ev	ening	Leq	Night		Ldn	C	NEL
Auto	s: 49	9.8	47.6		46.7		41	.6	49.	5	50.0
Medium Truck	s: 47	7.6	45.6		42.5		39	.6	47.	4	47.7
Heavy Truck			45.4		41.1		37	-	46.		46.5
Vehicle Noise	e: 50	3.1	51.1		48.9		44	.7	52.	7	53.1
Centerline Dista	nce to Noise C	ontour (in feet)	70 '	D.4	0.5	-/0.4		20 40 4	1	-104
			Ldn:	70 d		05 (dBA .		60 dBA		dBA
			Lan: NEL:		3			7 7	14		31
		C	VEL.		3			1	15)	33

Scenar	io: Existing					Project	Nama	Alto N	Ioreno Valle	v Trada	
	ne: Encilia Av.							12975		y made	
	nt: e/o Mozart	Wv				JOD IVE	iiiibei.	1231	,		
	SPECIFIC IN	•				M	OISE	MODI	EL INPUT	2	
Highway Data	SPECIFIC II	IFUI DAIA		s	ite Con				oft = 15)		
Average Daily	Traffic (Adt):	217 vehicl	es					Autos	: 15		
Peak Hour Percentage: 10.00%					Ме	dium Tru	cks (2	Axles)	: 15		
Peak H	lour Volume:	22 vehicle	s		He	avy Truc	ks (3+	Axles)	: 15		
Ve	hicle Speed:	45 mph		1/	ehicle l	Miss					
Near/Far La	ne Distance:	36 feet		-		icleType		Dav	Evening	Night	Dailv
Site Data					V C//		utos:	72.09	-	13.5%	. ,
		0.0 feet			М	edium Tr		76.29		14.4%	
Barrier Type (0-W	rrier Height:	0.0 reet			ŀ	leavy Tr	ucks:	81.89	6 7.7%	10.6%	1.32%
Centerline Di		44.0 feet									
Centerline Dist		44.0 feet		Ν	oise Sc	ource Ele			eet)		
Barrier Distance		0.0 feet				Autos		.000			
Observer Height		5.0 feet				m Trucks		.297			
	ad Elevation:	0.0 feet			Heav	y Trucks	: 8	.004	Grade Adj	ustment	: 0.0
Road Elevation: 0.0 feet				L	ane Eq	uivalent	Dista	nce (in	feet)		
	Road Grade:	0.0%				Autos	: 40	.460			
	Left View:	-90.0 degre	es		Mediu	m Trucks	: 40	.241			
	Right View:	90.0 degre	es		Heav	y Trucks	: 40	.262			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fres	nel	Barrier Atte	en Bei	m Atten
Autos:	68.46	-18.73		1.28		-1.20		-4.61	0.0	000	0.00
Medium Trucks:	79.45	-32.00		1.31		-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	84.25	-37.28		1.31		-1.20		-5.50	0.0	000	0.00
Unmitigated Noise	e Levels (with	out Topo and	barri	ier attenu	ation)						
VehicleType	Leq Peak Hou			Leq Ev		Leq I	-		Ldn		NEL
Autos:		9.8	47.6		46.7		41	-	49.5		50.0
Medium Trucks:		7.6	45.6		42.5		39		47.4		47.7
Heavy Trucks:		'.1	45.4		41.1		37		46.2		46.
Vehicle Noise:	53	3.1	51.1		48.9		44	.7	52.7		53.
Centerline Distant	ce to Noise Co	ontour (in fee	r)	70 d		65 0		_	60 dBA		dBA

	io: Existing					Project I	Vame ·	Alt2 M	oreno Valle	v Trade	
	e: Encilia Av.					Job Nu			orciio valic	y made	
	nt: w/o Redlan	ds Blvd.				000710		.20.0			
	SPECIFIC IN	IPUT DATA							L INPUT	S	
Highway Data					Site Con	ditions (Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	475 vehicle	s					Autos:	15		
Peak Hour	Percentage:	10.00%			Med	dium Tru	cks (2 /	4xles):	15		
Peak H	lour Volume:	48 vehicles			Hea	avy Truci	ks (3+)	4xles):	15		
Ve	hicle Speed:	45 mph			Vehicle N	/liv					
Near/Far La	ne Distance:	36 feet		F		cleType		Day	Evening	Night	Daily
Site Data						A	utos:	72.0%	14.6%	13.5%	94.249
Bai	rrier Height:	0.0 feet			Me	edium Tru	icks:	76.2%	9.4%	14.4%	4.449
Barrier Type (0-W		0.0			H	leavy Tru	ıcks:	81.8%	7.7%	10.6%	1.329
Centerline Dis	st. to Barrier:	44.0 feet			Noise So	uraa Ela	. ration	a (in f	n o él		
Centerline Dist.	to Observer:	44.0 feet		H.	Worse 30	Autos		000	ei)		
Barrier Distance	to Observer:	0.0 feet			Modiur	n Trucks	-	297			
Observer Height (Above Pad):	5.0 feet				y Trucks		004	Grade Ad	iustmant	. 0 0
Pa	ad Elevation:	0.0 feet		L	11cav	y Trucks.	. 0.	004	0,000,10	dottmom	. 0.0
Roa	ad Elevation:	0.0 feet			Lane Equ	ıivalent	Distan	ce (in	feet)		
ı	Road Grade:	0.0%				Autos.	40.	460			
	Left View:	-90.0 degree	s			n Trucks		241			
	Right View:	90.0 degree	s		Heav	y Trucks	40.	262			
FHWA Noise Mode	el Calculation	s		-							
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fresr	nel	Barrier Att	en Ber	m Atten
Autos:	68.46	-15.33		1.2	-	-1.20		-4.61	0.0	000	0.00
Medium Trucks:	79.45	-28.60		1.3	1	-1.20		-4.87	0.0	000	0.00
Heavy Trucks:	84.25	-33.88		1.3	1	-1.20		-5.50	0.0	000	0.00
. rousy rracho.			arri	er atten	uation)						
Unmitigated Noise	e Levels (with	out Topo and I				1 1	light		Ldn	C	NEL
	Leyels (with Leq Peak Hou	ır Leq Day		Leq E	vening	Leq N	ngnt		Luii	0,	*
Unmitigated Noise VehicleType Autos:	Leq Peak Hou	Leq Day	51.0	Leq E	50.1	Leq N	45.0		52.9)	53
Unmitigated Noise VehicleType Autos: Medium Trucks:	Leq Peak Hou 53 51	Leq Day	51.0 19.0	Leq E	50.1 45.9	Leq	45.0 43.0)	52.9 50.8	3	53 51
VehicleType Autos: Medium Trucks: Heavy Trucks:	Leq Peak Hou 53 51	Ir Leq Day 1.2 .0 .4 1.5 .4	51.0 19.0 18.8	Leq E	50.1 45.9 44.5	Leq	45.0 43.0 41.2	2	52.9 50.8 49.6	3	53 51 49
Unmitigated Noise VehicleType Autos: Medium Trucks:	Leq Peak Hou 53 51	Ir Leq Day 1.2 .0 .4 1.5 .4	51.0 19.0	Leq E	50.1 45.9	Leq	45.0 43.0	2	52.9 50.8	3	53 51 49
VehicleType Autos: Medium Trucks: Heavy Trucks:	Leq Peak Hou 53 51 50 56	Leq Day 1.2 1.0 1.5 1.5 1.5	51.0 19.0 18.8		50.1 45.9 44.5	Leq n	45.0 43.0 41.2 48.1	1	52.9 50.8 49.6	3	53 51

Wednesday, November 4, 2020

FI	IWA-RD-77-108 F	HIGHWAY	NOISE P	REDICT	ION MOD	EL			
Scenario: Existing + Road Name: Redlands Road Segment: s/o SR-60	Blvd.	ıps			Name: A umber: 1		reno Valley	Trade	
SITE SPECIFIC		NOISE MODEL INPUTS							
Highway Data			Site Con	ditions	(Hard = 1	0, So	ft = 15)		
Average Daily Traffic (Adt):	15,119 vehicles	3			Α	utos:	15		
Peak Hour Percentage:	10.00%		Me	dium Tr	ucks (2 A)	des):	15		
Peak Hour Volume:	1,512 vehicles		He	avy Truc	cks (3+ A)	des):	15		
Vehicle Speed:	50 mph		Vehicle	Mix					
Near/Far Lane Distance:	58 feet	58 feet		icleType	E)ay	Evening	Night Daily	
Site Data					Autos: 7	2.0%	14.6%	13.5% 91.59%	
Barrier Height:	0.0 feet		М	edium Ti	rucks: 7	6.2%	9.4%	14.4% 4.73%	
Barrier Type (0-Wall, 1-Berm):	0.0			Heavy T	rucks: 8	1.8%	7.7%	10.6% 3.69%	
Centerline Dist. to Barrier:	55.0 feet		Noise So	ource El	evations	(in fe	et)		
Centerline Dist. to Observer:	55.0 feet			Auto		•	,		
Barrier Distance to Observer:	0.0 feet		Mediu	m Truck					
Observer Height (Above Pad):			Hear	vy Truck	s: 8.00	04	Grade Adju	stment: 0.0	
Pad Elevation:	0.0 1001			•					
Road Elevation:			Lane Eq		Distance		eet)		
Road Grade:	0.070			Auto					
Left View:			Medium Trucks: 46.811 Heavy Trucks: 46.830						
Right View:	90.0 degrees	5	пеа	ry Truck	5. 40.8	30			
FHWA Noise Model Calculation									
VehicleType REMEL	Traffic Flow	Distance		Road	Fresne		Barrier Atte		
Autos: 70.2		-	.30	-1.20		4.67	0.00		
Medium Trucks: 81.0		-	.33	-1.20		4.87	0.00		
Heavy Trucks: 85.3			.32	-1.20	~	5.38	0.00	0.000	
VehicleType Leq Peak H			Evening	10~	Night		Ldn	CNEL	
		6.2	Evening 65.3	,	60.2		68.1	68.6	
		4.4	61.3		58.4		66.2	66.5	
		8.0	63.7		60.4		68.8	69.1	
		1.2	68.5		64.5		72.6	73.0	
Centerline Distance to Noise	Contour (in feet)								
	<u></u>	70	0 dBA	65	dBA	6	0 dBA	55 dBA	
	L	dn:	82		176		379	816	
	CN	EL:	87		188		405	873	

Scenario: Existin	ı + Pro										
Road Segment: s/o SR	ds Blv	d.	nps				! Name: lumber:		oreno Valle	y Trade	
SITE SPECIFI	C INP	UT DATA							L INPUT	S	
Highway Data					Site Con	ditions	(Hard	= 10, Sc	oft = 15)		
Average Daily Traffic (Ad	(t): 1:	3,209 vehicle	:S					Autos:	15		
Peak Hour Percentag	e: 1	0.00%			Me	dium Tr	ucks (2	Axles):	15		
Peak Hour Volun	e: 1	,321 vehicles	5		He	avy Tru	cks (3+	Axles):	15		
Vehicle Spee	d:	50 mph			Vehicle	Miv					
Near/Far Lane Distant	e:	58 feet		F		icleType		Day	Evening	Night	Daily
Site Data							Autos:	72.0%	14.6%	13.5%	90.629
Barrier Heig	ht.	0.0 feet			М	edium T	rucks:	76.2%	9.4%	14.4%	4.819
Barrier Type (0-Wall, 1-Berr		0.0			-	Heavy T	rucks:	81.8%	7.7%	10.6%	4.569
Centerline Dist. to Barn	er:	55.0 feet		H	Noise So	nurce F	levatio	ns (in fe	oet)		
Centerline Dist. to Observ	er:	55.0 feet		H	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Auto		0.000			
Barrier Distance to Observ	er:	0.0 feet			Mediu	m Truck		2.297			
Observer Height (Above Pa	d):	5.0 feet				vy Truck		3.004	Grade Ad	iustment	0.0
Pad Elevation	n:	0.0 feet		L	77001	ry much	.5	7.004	07440714	dotimont	. 0.0
Road Elevation	n:	0.0 feet		_	Lane Eq			nce (in i	feet)		
Road Grad	le:	0.0%				Auto	s: 47	7.000			
Left Vie	W:	-90.0 degree	:S		Mediu	m Truck	s: 46	3.811			
Right Vie	W:	90.0 degree	!S		Heav	y Truck	s: 46	5.830			
FHWA Noise Model Calcula	tions										
VehicleType REME	_	raffic Flow	Dis	stance		Road	Fres		Barrier Att		m Atten
	0.20	-1.51		0.3	-	-1.20		-4.67		000	0.00
	1.00	-14.26		0.3	-	-1.20		-4.87		000	0.00
Heavy Trucks: 8	5.38	-14.49		0.3	2	-1.20		-5.38	0.0	000	0.00
Unmitigated Noise Levels (_										
VehicleType Leq Peak Autos:	67.8	Leq Day	65.6	Leq E	vening 64.7	Leq	Night 59		Ldn 67.4		VEL 68
	65.9		63.9		60.8		59 57		65.7		66.
Medium Trucks:	70.0		68.3		64.1		57 60		69.1		
Heavy Trucks: Vehicle Noise:	73.0		71.1		68.2		64		72.4		69. 72.
					08.2		64	.5	12.4	+	12.
	e Con	tour (in feet)					dBA				10.4
Centerline Distance to Nois			- 1	70	dBA	65	aba		i0 dBA	5.5	dBA
Centerline Distance to Nois			Ldn:	70	dBA 79	65	ава 17		60 dBA 369		ава 795

F	-AWI	RD-77-108 H	IGHW	AY N	OISE PI	REDICT	TON M	ODEL			
Scenario: Existing - Road Name: Redlands Road Segment: s/o Euca	Blvd.							: Alt2 N : 12975	loreno Valle	ey Trade	
SITE SPECIFIC	NPU	T DATA		Π,					EL INPUT	S	
Highway Data Average Daily Traffic (Adt). Peak Hour Percentage. Peak Hour Volume. Vehicle Speed:	10. 1,3	181 vehicles 00% 18 vehicles 50 mph			Me He	dium Tr avy Tru	ucks (2	Autos Axles)	: 15		
Near/Far Lane Distance:		58 feet		ν	ehicle I			Day	Evenine	Minht	Dailv
Site Data					ven	icleType ,	Autos:	72.09	Evening 14.6%	Night 13.5%	. ,
Barrier Height. Barrier Type (0-Wall, 1-Berm).		0.0 feet 0.0				edium T Heavy T		76.29 81.89		14.4% 10.6%	
Centerline Dist. to Barrier		5.0 feet		٨	loise Sc	ource E	levatio	ns (in t	eet)		
Centerline Dist. to Observer. Barrier Distance to Observer. Observer Height (Above Pad). Pad Elevation.	-	5.0 feet 0.0 feet 5.0 feet 0.0 feet			Heav	Auto m Truck ry Truck	s: 2	0.000 2.297 3.004	Grade Ad	justment	: 0.0
Road Elevation.		0.0 feet		L	ane Eq	uivalen: Auto		nce (In 7.000	reet)		
Road Grade. Left View. Right View.	-9	0% 0.0 degrees 0.0 degrees				m Truck ry Truck	s: 4	5.811 5.830			
FHWA Noise Model Calculation	ns										
VehicleType REMEL		affic Flow	Dista			Road	Fre		Barrier Att		m Atten
Autos: 70.2	-	-1.34		0.30		-1.20		-4.67		000	0.000
Medium Trucks: 81.0 Heavy Trucks: 85.3	-	-14.84 -20.12		0.33		-1.20 -1.20		-4.87 -5.38		000	0.000
Unmitigated Noise Levels (wi	hout	Topo and ba	rrier	attenı	ıation)						
VehicleType Leq Peak H		Leq Day	_	.eq Ev		Leq	Night		Ldn		NEL
	0.88	65			64.8		59		67.		68.2
	55.3	63			60.2		57		65.		65.5
	34.4	62			58.4		55		63.		63.8
	70.9	68	1.9		66.8		62	.5	70.	5	71.0
Centerline Distance to Noise	Conto	ur (in feet)		70 d	DΛ	e e	dBA		60 dBA	FE	dBA
		Lo	in:	, o a	59	00	и <i>Б</i> А 12		276		594

	Existing + I						Name: umber:		oreno Valle	y Trade	
Road Name: Road Segment:		siva.				JOD IV	umber:	12975			
SITE SP	ECIFIC IN	IPUT DATA				N	OISE	MODE	L INPUT	S	
Highway Data				Si	te Con	ditions	(Hard =	10, Sc	ft = 15)		
Average Daily Tra	ffic (Adt):	13,339 vehicl	es					Autos:	15		
Peak Hour Pe	rcentage:	10.00%			Med	dium Tr	icks (2)	Axles):	15		
Peak Hou	r Volume:	1,334 vehicle	s		Hea	avy Truc	cks (3+)	Axles):	15		
Vehic	le Speed:	50 mph		V	ehicle N	Niv					
Near/Far Lane	Distance:	58 feet		-		cleType		Dav	Evening	Night	Daily
Site Data							Autos:	72.0%		13.5%	
Rarrio	r Height:	0.0 feet			Ме	dium T	ucks:	76.2%	9.4%	14.4%	4.179
Barrier Type (0-Wall,	-	0.0			H	leavy T	ucks:	81.8%	7.7%	10.6%	1.249
Centerline Dist. 1	to Barrier:	55.0 feet		N	oise So	urce El	evation	s (in fe	et)		
Centerline Dist. to	Observer:	55.0 feet				Auto	s: 0.	000	.,		
Barrier Distance to	Observer:	0.0 feet			Mediur	n Truck		297			
Observer Height (Ab	ove Pad):	5.0 feet				y Truck		004	Grade Adj	ustment	0.0
	Elevation:	0.0 feet									
	Elevation:	0.0 feet		Lá	ne Equ		Distan		feet)		
	ad Grade:	0.0%				Auto		000			
-	Left View:	-90.0 degre				n Truck		811			
R	ight View:	90.0 degre	es		Heav	y Truck	s: 46.	830			
FHWA Noise Model (
	REMEL	Traffic Flow	Distai		Finite		Fresi	_	Barrier Att		m Atten
Autos:	70.20			0.30		-1.20		-4.67		000	0.00
Medium Trucks:	81.00			0.33		-1.20		-4.87		000	0.00
Heavy Trucks:	85.38			0.32		-1.20		-5.38	0.0	000	0.00
Unmitigated Noise L											
VehicleType Le	q Peak Hou	ur Leq Day	65.8	eq Eve	ning 64.9	Leq	Night 59.1		Ldn 67.7		NEL 68
Autos: Medium Trucks:		5.3	63.3		60.2		57.3	-	65.1		65
Heavy Trucks:		1.4	62.7		58.4		55.		63.5		63.
Vehicle Noise:	_	1.0	68.9		66.8		62.6		70.5		71.
O4lin Di-4	to Noise Co	ontour (in feet)								
Centeriine Distance l				70 dE	2.4	65	dBA	6	0 dBA	55	dBA
Centerline Distance t				70 UL	,,,	00				- 00	uDA
Centerline Distance t			Ldn:	70 UL	60	00	129		277		597

Wednesday, November 4, 2020

	FHV	VA-RD-77-108	HIGHWA	AY N	OISE PI	REDICTI	ON MO	DDEL			
Road Nam	io: Existing + F e: Redlands B nt: n/o Encelia	lvd.					Name: umber:		loreno Valle	ey Trade	•
SITE	SPECIFIC IN	PUT DATA				N	OISE	MODE	EL INPUT	S	
Highway Data				S	ite Con	ditions	(Hard :	= 10, S	oft = 15)		
	Traffic (Adt): Percentage: our Volume:	13,526 vehicle 10.00% 1,353 vehicles				dium Tru avy Truc		,	: 15		
Ve	hicle Speed:	50 mph		ν	ehicle l	Mix					
Near/Far Lar	ne Distance:	58 feet		H	Veh	icleType		Dav	Evening	Night	Daily
Site Data				\top			lutos:	72.09		13.59	6 94.67%
Par	rier Height:	0.0 feet			М	edium Ti	ucks:	76.29	6 9.4%	14.49	6 4.11%
Barrier Type (0-W	'all, 1-Berm):	0.0			1	Heavy Ti	ucks:	81.89	6 7.7%	10.69	6 1.22%
Centerline Dis		55.0 feet		Λ	loise So	ource El	evatio	ıs (in f	eet)		
Centerline Dist.		55.0 feet				Autos	s: 0	.000			
Barrier Distance		0.0 feet			Mediu	m Trucks	s: 2	.297			
Observer Height (,	5.0 feet			Heav	y Trucks	s: 8	.004	Grade Ad	justmen	t: 0.0
	ad Elevation:	0.0 feet		-			D : (,,	• 0		
	ad Elevation:	0.0 feet		L	ane Eq	uivalent		_	reet)		
ŀ	Road Grade:	0.0%				Auto		.000			
	Left View: Right View:	-90.0 degree 90.0 degree				m Truck: ry Truck:		.811 .830			
FHWA Noise Mode	el Calculation	-									
VehicleType	REMEL	Traffic Flow	Distan	се	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten
Autos:	70.20	-1.22		0.30		-1.20		-4.67	0.0	000	0.000
Medium Trucks:	81.00	-14.84		0.33		-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	85.38	-20.12		0.32	!	-1.20		-5.38	0.0	000	0.000
Unmitigated Noise	Levels (with	out Topo and I	arrier a	ttenı	ıation)						
	Leq Peak Hou			q Ev	ening		Night		Ldn		CNEL
Autos:	68		5.9		64.9		59		67.		68.3
Medium Trucks:	65		3.3		60.2		57	-	65.		65.5
Heavy Trucks:	64		2.7		58.4		55	.1	63.	-	63.8
Vehicle Noise:	71	.0 6	9.0		66.9		62	.6	70.0	5	71.0
Centerline Distanc	e to Noise Co	ntour (in feet)	-	70 d	DΛ	65	dBA		60 dBA		5 dBA
		,	dn:	10 U	60 60	00	и <i>в</i> м 12		278		600
		_	un. IEL:		65		13		299		645
		Ch			03		13		233	'	043

	FH\	WA-RD-77-108	HIGH	HWAY I	NOISE PI	REDICT	ION MO	DEL			
Road Nan	io: Existing + I ne: Moreno Be nt: s/o SR-60		amps				Name: . lumber:		oreno Valle	ey Trade	
	SPECIFIC IN	NPUT DATA			0:4- 0				L INPUT	S	
Highway Data					Site Con	aitions					
Average Daily		12,767 vehicl	es					Autos:			
	Percentage:	10.00%					ucks (2 A	,			
	lour Volume:	1,277 vehicle	es .		He	avy Tru	cks (3+ A	(xles	15		
	hicle Speed:	50 mph		f	Vehicle	Vlix					
Near/Far La	ne Distance:	82 feet		ŀ	Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	72.0%	14.6%	13.5%	94.26%
Ra	rrier Height:	0.0 feet			М	edium T	rucks:	76.2%	9.4%	14.4%	4.43%
Barrier Type (0-W		0.0			1	leavy T	rucks:	81.8%	7.7%	10.6%	1.31%
Centerline Di	st. to Barrier:	67.0 feet		ŀ	Noise So	urce F	levation	e (in fe	not)		
Centerline Dist.	to Observer:	67.0 feet		F	140/36 00	Auto		000			
Barrier Distance	to Observer:	0.0 feet			Mediu	m Truck		297			
Observer Height	(Above Pad):	5.0 feet				y Truck		004	Grade Ad	iustmen	. 00
P	ad Elevation:	0.0 feet		L						dotimon	0.0
Ro	ad Elevation:	0.0 feet		L	Lane Eq	uivalent	Distan	e (in	feet)		
	Road Grade:	0.0%				Auto		226			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 53.	059			
	Right View:	90.0 degre	es		Heav	y Truck	s: 53.	076			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow		stance		Road	Fresn	_	Barrier Att		rm Atten
Autos:	70.20			-0.5		-1.20		-4.71		000	0.000
Medium Trucks:				-0.4		-1.20		-4.88		000	0.000
Heavy Trucks:	85.38	-20.06	i	-0.4	.9	-1.20		-5.29	0.0	000	0.000
Unmitigated Nois		-	barri	er atter	nuation)						
VehicleType	Leq Peak Hou			Leq E	vening	Leq	Night		Ldn	_	NEL
Autos:		7.0	64.8		63.9		58.8		66.6		67.2
Medium Trucks:	-	1.5	62.6		59.5		56.6		64.3		64.7
Heavy Trucks:		3.6	62.0		57.7		54.3		62.7		63.1
Vehicle Noise:	70	0.1	68.1		65.9		61.7		69.6	j.	70.1
Centerline Distant	ce to Noise Co	ontour (in fee	t)							_	
			Ĺ	70	dBA	65	dBA	(60 dBA		i dBA
		_	Ldn:		63		137		294		634
		С	NEL:		68		147		317		682

Average Daily Traffic (Adt): 24,704 vehicles Peak Hour Volume: 2,470 vehicles Peak Hour Volume: 2,470 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 82 feet Vehicle Type		FH\	WA-RD-77-108	HIGH	IWAY N	OISE P	REDICT	TION MO	DEL			
SITE SPECIFIC INPUT DATA											y Trade	
SITE SPECIFIC INPUT DATA SITE SPECIFIC INPUT DATA Site Conditions (Hard = 10, Soft = 15)							Job I	Number:	12975			
Average Daily Traffic (Adj):	Road Segmer	nt: s/o SR-60	Eastbound Rai	nps								
Average Daily Traffic (Adt): 24,704 vehicles Peak Hour Potercentage: 10,00% Peak Hour Volume: 2,470 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 82 feet Vehicle Type		SPECIFIC IN	NPUT DATA								5	
Peak Hour Percentage: 10.00%	Highway Data				8	ite Cor	ditions	•				
Peak Hour Volume: 2,470 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 82 feet Vehicle Mix Vehicle Type Day Evening Night Dail) Dail Near/Far Lane Distance: 82 feet Vehicle Type Day Evening Night Dail) Dail Near/Far Lane Distance: 82 feet Vehicle Type Day Evening Night Dail) Dail Near Night Dail) Dail Near Night Dail) Night Dail Night Night Dail Night Dail) Night Dail Night Night Dail Night Dail Night Dail Night Night Dail Night Dail Night Night Dail Night Night Dail Night Night Night Night Dail Night N	Average Daily	Traffic (Adt):	24,704 vehicl	es								
Vehicle Speed: 50 mph Near/Far Lane Distance: 82 feet Vehicle Mix Vehicle Type Day Evening Night Daily Daily Site Data Autos: 72.0% 14.6% 13.5% 92.9% 14.4% 4.54 Medium Trucks: 67.0 feet Barrier Distance to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Autos: 0.00 Medium Trucks: 67.0 feet Barrier Distance to Observer: 0.0 feet Autos: 0.00 Medium Trucks: 8.004 Grade Adjustment: 0.0 feet Autos: 0.000 Medium Trucks: 53.256 Medium Trucks: 53.256 Medium Trucks: 53.059 Medium Trucks: 53.059 Medium Trucks: 53.059 Medium Trucks: 53.076 Medium Trucks: 53.076 Medium Trucks: 69.2 67.6 66.7 61.6 69.5 77.0 69.2 67.6 63.3 59.9 68.3 68.2 73.2 73.2 73.2 74.86 69.2 67.6 63.3 59.9 68.3 68.2 73.2 73.2 74.86 Medium Trucks: 69.2 67.6 63.3 59.9 68.3 68.2 73.2 73.2 74.86 Medium Trucks: 69.2 67.6 63.3 59.9 68.3 68.2 73.2 73.2 73.2 74.86 Medium Trucks: 69.2 67.6 63.3 59.9 68.3 68.2 73.2 73.2 73.2 74.86 Medium Trucks: 69.2 67.6 63.3 59.9 68.3 68.2 73.2 73.2 73.2 73.2 74.86 Medium Trucks: 69.2 67.6 63.3 59.9 68.3 68.2 73		-							/			
Near/Far Lane Distance: 82 feet Vehicle Mix Vehicle Type Day Evening Night Daily Daily			2,470 vehicle	s		He	avy Tru	icks (3+)	Axles):	15		
Site Data Autos: 72.0% 14.6% 13.5% 92.99			50 mph		V	ehicle	Mix					
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Centerline Dist. feet Centerline	Near/Far Lar	ne Distance:	82 feet			Veh	icleTyp	е	Day	Evening	Night	Daily
Barrier Trype (0-Well, 1-Berm): 0.0 Centerline Dist. to Observer: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Centerline Dist. to Observer: 0.0 feet Distance to Observer: 0.0 feet Pad Elevation: 0.0 feet Pad Pad Elevation: 0.0 feet Pad Pad Elevation: 0.0 feet Pad	Site Data							Autos:	72.0%	14.6%	13.5%	92.99%
Barrier Type (0-Wall, 1-Berm): 0.0 Heavy Trucks: 81.8% 7.7% 10.6% 2.47	Bar	rier Heiaht:	0.0 feet			М	edium 1	rucks:	76.2%	9.4%	14.49	4.549
Noise Model Calculations Vehicle Type REMEL Traffic Flow Distance 1.120 -4.71 0.000							Heavy 1	rucks:	81.8%	7.7%	10.69	2.479
Autos: 0.000 Barrier Distance to Observer: 0.0 Feet Barrier Distance to Observer O.0 Feet Pad Elevation: 0.0 Geet Pad Elevation: 0.0 Pad Elevation: 0.0 Geet Pad Elevation: 0.0 Pad	Centerline Dis	st. to Barrier:	67.0 feet		^	loise S	ource E	levation	s (in f	eet)		
Medium Trucks: 2.297 Medium Trucks: 8.004 Grade Adjustment: 0.0	Centerline Dist.	to Observer:	67.0 feet							,		
Diserver Height (Above Pad):	Barrier Distance	to Observer:	0.0 feet			Mediu	m Truck					
Pad Elevation:	Observer Height (Above Pad):	5.0 feet						004	Grade Adi	ustmen	t: 0.0
Road Grade: 0.0%			0.0 feet				•					
Right View:					L	ane Eq			_ •	feet)		
Right View: 90.0 degrees Heavy Trucks: 53.076	F		0.0%									
		Left View:	-90.0 degre	es								
VehicleType		Right View:	90.0 degre	es		Hea	y Truci	ks: 53.	076			
Autos: 70.20	FHWA Noise Mode	el Calculation			-							
Medium Trucks: 81.00 -11.79 -0.49 -1.20 -4.88 0.000 0.0 Heavy Trucks: 85.38 -14.45 -0.49 -1.20 -5.29 0.000 0.0 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 69.8 67.6 66.7 61.6 69.5 77. Medium Trucks: 67.5 65.5 62.5 59.6 67.3 67.5 Medium Trucks: 69.2 67.6 63.3 59.9 68.3 68.2 Vehicle Noise: 73.7 71.8 69.3 65.2 73.2 73.2 Centerline Distance to Noise Contour (in feet)												
Heavy Trucks: 85.38												0.00
Unmitigated Noise Levels (without Topo and barrier attenuation)							1.20					0.00
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 69.8 67.6 66.7 61.6 69.5 70 Medium Trucks: 67.5 65.5 62.5 59.6 67.3 66 Heavy Trucks: 69.2 67.6 63.3 59.9 68.3 66 Vehicle Noise: 73.7 71.8 69.3 65.2 73.2 73 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 110 237 511 1,10	Heavy Trucks:	85.38	-14.45		-0.49)	-1.20		-5.29	0.0	000	0.00
Autos: 69.8 67.6 66.7 61.6 69.5 70 Medium Trucks: 67.5 65.5 62.5 59.6 67.3 66 Heavy Trucks: 69.2 67.6 63.3 59.9 68.3 68 Vehicle Noise: 73.7 71.8 69.3 65.2 73.2 73 Centerline Distance to Noise Contour (in feet) 70 dBA												
Medium Trucks: 67.5 65.5 62.5 59.6 67.3 67 Heavy Trucks: 69.2 67.6 63.3 59.9 68.3 68 Vehicle Noise: 73.7 71.8 69.3 65.2 73.2 73.2 Centerline Distance to Noise Contour (in feet) Ldn: 110 237 511 1,10					Leq Ev		Leq					
Heavy Trucks: 69.2 67.6 63.3 59.9 68.3 66 Vehicle Noise: 73.7 71.8 69.3 65.2 73.2 73.2 Centerline Distance to Noise Contour (in feet)												70.
Vehicle Noise: 73.7 71.8 69.3 65.2 73.2 73 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 110 237 511 1,10									-			67.
Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 110 237 511 1,10	· -			-								68.
70 dBA 65 dBA 60 dBA 55 dBA Ldn: 110 237 511 1,10						69.3		65.2	<u>′</u>	73.2	<u>'</u>	73.
Ldn: 110 237 511 1,10	Centerline Distanc	e to Noise C	ontour (in fee)	70 4	DA.	65	dD A		en ana	I 6	E ADA
				I do:	70 a		00));	
UNEL. 118 254 547 1,17												,
			C	IVEL.		118		254		547		1,178

Road Name: Eucalyptus Av. Job Numi Road Segment: e/o Moreno Beach Dr.	ne: Alt2 Mo		
SITE SPECIFIC INDIT DATA NO.	ber: 12975	reno Valle	y Trade
	SE MODE		3
Highway Data Site Conditions (Ha	rd = 10, So	ft = 15)	
Average Daily Traffic (Adt): 4,558 vehicles	Autos:	15	
Peak Hour Percentage: 10.00% Medium Trucks	(2 Axles):	15	
Peak Hour Volume: 456 vehicles Heavy Trucks	(3+ Axles):	15	
Vehicle Speed: 40 mph			
Near/Far Lane Distance: 48 feet VehicleType	Day	Evening	Night Dail
Site Data Auto	s: 72.0%	14.6%	13.5% 87.6
Barrier Height: 0.0 feet Medium Truck	s: 76.2%	9.4%	14.4% 4.8
Barrier Type (0-Wall, 1-Berm): 0.0 Heavy Truck	s: 81.8%	7.7%	10.6% 7.5
Centerline Dist. to Barrier: 50.0 feet Noise Source Eleva	tions (in fo	of)	
Centerline Dist. to Observer: 50.0 feet Autos:	0.000	cij	
Barrier Distance to Observer: 0.0 feet Medium Trucks:	2.297		
Observer Height (Above Pad): 5.0 feet Heavy Trucks:		Grade Adi	ustment: 0.0
Pad Elevation: 0.0 feet			
Road Elevation: 0.0 feet Lane Equivalent Dis		eet)	
Road Grade: 0.0% Autos:	44.147		
Left View: -90.0 degrees Medium Trucks:	43.947		
Right View: 90.0 degrees Heavy Trucks:	43.966		
FHWA Noise Model Calculations			
		Barrier Atte	
Autos: 66.51 -5.31 0.71 -1.20	-4.65	0.0	
Medium Trucks: 77.72 -17.84 0.74 -1.20	-4.87	0.0	
Heavy Trucks: 82.99 -15.98 0.73 -1.20	-5.43	0.0	0.0
Unmitigated Noise Levels (without Topo and barrier attenuation)			
	ht	Ldn	CNEL
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Nig.		60.4 59.2	-
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Nig. Autos: 60.7 58.5 57.6	52.5		5
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Nig Autos: 60.7 58.5 57.6 Medium Trucks: 59.4 57.4 54.4	51.4		
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Nig Autos: 60.7 58.5 57.6 Medium Trucks: 59.4 57.4 54.4 Heavy Trucks: 66.5 64.9 60.6	51.4 57.2	65.6	
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Nig Autos: 60.7 58.5 57.6 Medium Trucks: 59.4 57.4 54.4 Heavy Trucks: 66.5 64.9 60.6 Vehicle Noise: 68.2 66.4 63.0	51.4		
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Nig. Autos: 60.7 58.5 57.6 Medium Trucks: 59.4 57.4 54.4 Heavy Trucks: 66.5 64.9 60.6 Vehicle Noise: 68.2 66.4 63.0 Centerline Distance to Noise Contour (in feet)	51.4 57.2 59.3	65.6 67.5	6
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Nig Autos: 60.7 58.5 57.6 Medium Trucks: 59.4 57.4 54.4 Heavy Trucks: 66.5 64.9 60.6 Vehicle Noise: 68.2 66.4 63.0 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA	51.4 57.2 59.3	65.6 67.5 0 dBA	55 dBA
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Nig. Autos: 60.7 58.5 57.6 Medium Trucks: 59.4 57.4 54.4 Heavy Trucks: 66.5 64.9 60.6 Vehicle Noise: 68.2 66.4 63.0 Centerline Distance to Noise Contour (in feet)	51.4 57.2 59.3	65.6 67.5	6

Wednesday, November 4, 2020

FH	WA-RD-77-108 H	IGHWAY	NOISE P	REDICTI	ON MODE	L	
Scenario: Existing + I Road Name: Eucalyptus Road Segment: e/o Auto M	Av.				Name: Alt2 umber: 129	Moreno Valley 75	Trade
SITE SPECIFIC IN	IPUT DATA			N	OISE MO	DEL INPUTS	
Highway Data			Site Con	ditions	(Hard = 10,	Soft = 15)	
Average Daily Traffic (Adt): Peak Hour Percentage: Peak Hour Volume: Vehicle Speed:	2,229 vehicles 10.00% 223 vehicles 40 mph		He	avy Truc	Aut ucks (2 Axle cks (3+ Axle	es): 15	
Near/Far Lane Distance:	48 feet		Vehicle			. Foreign	Nii-bi D-ii-
Site Data					Autos: 72	0% 14.6%	Night Daily 13.5% 79.95%
Barrier Height:	0.0 feet			edium Ti		2% 9.4%	14.4% 5.91%
Barrier Type (0-Wall, 1-Berm):	0.0		,	Heavy Ti	ucks: 81.	8% 7.7%	10.6% 14.14%
Centerline Dist. to Barrier:	50.0 feet		Noise S	ource El	evations (i	n feet)	
Centerline Dist. to Observer: Barrier Distance to Observer: Observer Height (Above Pad): Pad Elevation: Road Elevation: Road Grade: Left View: Right View:	50.0 feet 0.0 feet 5.0 feet 0.0 feet 0.0 feet 0.0 feet 0.0% -90.0 degrees 90.0 degrees		Heav	Autos m Trucks ny Trucks uivalent Autos m Trucks ny Trucks	s: 2.297 s: 8.004 Distance (s: 44.147	Grade Adju	stment: 0.0
				,	10.000		
FHWA Noise Model Calculation VehicleType REMEL	S Traffic Flow	Distance	Fi-4-	Road	Fresnel	Barrier Atte	n Berm Atten
VehicleType REMEL Autos: 66.51			.71	-1.20	-4.		
Medium Trucks: 77.72			74	-1.20	-4		
Heavy Trucks: 82.99		-	.73	-1.20	-5.		
Unmitigated Noise Levels (with	out Topo and ba	arrier atte	enuation)				
VehicleType Leq Peak Hot			Evening	,	Night	Ldn	CNEL
		5.0	54.1		49.0	56.8	57.4
		5.2	52.1		49.2	56.9	57.3
		1.5	60.3		56.9	65.3	65.6
Vehicle Noise: 67	7.2 65	5.4	61.7		58.1	66.4	66.8
Centerline Distance to Noise Co	ontour (in feet)	7/) dBA	65	dBA	60 dBA	55 dBA
	1.	dn:	29	00	62 62	133	287
	CNE		30		66	141	305

	FH	WA-RD-77-108	HIGH	WAY N	IOISE P	REDICT	ION MO	DDEL			
Road Nar	rio: Existing + l ne: Eucalyptus ent: w/o Aldi Pla	Av.					Name: lumber:		oreno Valle	ey Trade	
	SPECIFIC II	NPUT DATA			0:4- 0				L INPUT	s	
Highway Data					Site Cor	aitions	(Hara =				
Average Daily	. ,	2,151 vehicle	es					Autos:	15		
	Percentage:	10.00%				dium Tr					
Peak I	Hour Volume:	215 vehicle	S		He	avy Tru	cks (3+	Axles):	15		
Ve	ehicle Speed:	40 mph			Vehicle	Mix					
Near/Far La	ane Distance:	48 feet		F		icleType	,	Dav	Evenina	Niaht	Dailv
Site Data							Autos:	72.0%	14.6%	13.5%	75.37%
Ra	rrier Height:	0.0 feet			М	edium T	rucks:	76.2%	9.4%	14.4%	6.60%
Barrier Type (0-V		0.0				Heavy T	rucks:	81.8%	7.7%	10.6%	18.03%
** '	ist. to Barrier:	50.0 feet		- 1	Noise S			<i>(! \$</i>			
Centerline Dist.	to Observer:	50.0 feet		Ľ	voise S				et)		
Barrier Distance	to Observer:	0.0 feet				Auto		.000			
Observer Height	(Above Pad):	5.0 feet				m Truck		.297			
-	ad Elevation:	0.0 feet			Hea	y Truck	s: 8	.004	Grade Ad	justment	: 0.0
	ad Elevation:	0.0 feet		- 1	Lane Eq	uivalent	t Distar	ce (in	feet)		
	Road Grade:	0.0%				Auto	s: 44	.147			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 43	.947			
	Right View:	90.0 degree			Hea	y Truck	s: 43	.966			
FHWA Noise Mod	lel Calculation	ıs									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten
Autos:	66.51	-9.23		0.7	1	-1.20		-4.65	0.0	000	0.000
Medium Trucks:	77.72	-19.81		0.7	4	-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	82.99	-15.44		0.7	3	-1.20		-5.43	0.0	000	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrie	er atten	uation)						
VehicleType	Leq Peak Ho	ur Leq Day	/	Leq E	vening	Leq	Night		Ldn	C	NEL
Autos:	56	3.8	54.6		53.7		48.	.5	56.	1	57.0
Medium Trucks:	57	7.4	55.5		52.4		49.	.5	57.	3	57.6
Heavy Trucks:	67	7.1	65.4		61.2		57.	.8	66.	2	66.5
Vehicle Noise:	67	7.9	66.2		62.3		58.	.8	67.	1	67.5
Centerline Distan	ce to Noise C	ontour (in feet)								
				70 (dΒA	65	dBA	(0 dBA	55	dBA
			Ldn:		32		69	9	149		320
		C	NEL:		34		73	3	157		339

	FH	WA-RD-77-108	HIGH	NAY NO	DISE P	REDICT	ION MOI	DEL			
	o: Existing + l e: Eucalyptus nt: w/o Dwy. 5	Av.					t Name: / lumber: *		oreno Valle	y Trad	e
SITE S	SPECIFIC II	IPUT DATA					NOISE N	IODE	L INPUT	S	
Highway Data				S	ite Cor	ditions	(Hard =	10, S	oft = 15)		
Peak H	Traffic (Adt): Percentage: our Volume: hicle Speed:	3,070 vehicl 10.00% 307 vehicle 40 mph			He	avy Tru	rucks (2 A ocks (3+ A	,	15		
Near/Far Lai		48 feet		V	ehicle						
Site Data		10 12-1			Veh	icleType		<i>Day</i> 72.0%	Evening 14.6%	Night 13.59	Daily 6 78.16%
Bar	rier Height:	0.0 feet			М	edium 7	rucks:	76.2%	9.4%	14.49	6.44%
Barrier Type (0-W		0.0				Heavy 7	rucks:	81.8%	7.7%	10.69	6 15.40%
Centerline Dis		50.0 feet		N	nisa Si	urce F	levations	: (in fi	not)		
FHWA Noise Mode VehicleType	to Observer: Above Pad): Id Elevation: Id Elevation: Id Elevation: Road Grade: Left View: Right View: Id Calculation REMEL	Traffic Flow	es Dista	ance	Head ane Eq Mediu Head	Auto m Truck ry Truck Road	(s: 2.2 (s: 8.0 t Distance (s: 43.9 (s: 43.9	147 947 966	Barrier Att	en Be	erm Atten
Autos:	66.51			0.71		-1.20		-4.65		000	0.000
Medium Trucks: Heavy Trucks:	77.72 82.99			0.74 0.73		-1.20 -1.20		-4.87 -5.43		000	0.000
Unmitigated Noise	Levels (with	out Topo and	barrier	attenu	ation)						
VehicleType	Leq Peak Ho	ur Leq Daj	V .	Leq Eve	ening	Leq	Night		Ldn	(CNEL
Autos:	58	3.5	56.3		55.4		50.2		58.1	İ	58.7
Medium Trucks:	58	3.9	56.9		53.8		50.9		58.7	,	59.1
Heavy Trucks:		3.0	66.3		62.0		58.6		67.0		67.4
Vehicle Noise:	68	3.9	67.1		63.4		59.8		68.1		68.5
Centerline Distance	e to Noise C	ontour (in feet)	70.							
			L	70 dl		65	dBA		60 dBA	5	5 dBA
			Ldn:		37		80		173		374
		C	NEL:		40		85		184		396

Scenario: Existing -	- Project					Project N	ame: /	Alt2 Mo	oreno Valle	ey Trade	
Road Name: Eucalypti						Job Nur				•	
Road Segment: w/o Redla	ands Blvd.										
SITE SPECIFIC	INPUT D	ATA							L INPUT	s	
lighway Data				S	ite Cond	ditions (H	lard =	10, Sc	ft = 15)		
Average Daily Traffic (Adt):	3,285	vehicles					-	Autos:	15		
Peak Hour Percentage:	10.00%				Med	dium Truc	ks (2 A	xles):	15		
Peak Hour Volume:	329 v	ehicles			Hea	vy Truck	s (3+ A	xles):	15		
Vehicle Speed:	40 n	nph		V	ehicle N	lix					
Near/Far Lane Distance:	48 fe	eet		Ė		cleType		Day	Evening	Night	Daily
Site Data				T		Au	tos:	72.0%	14.6%	13.5%	79.59
Barrier Height:	0.0	feet		1	Ме	dium Truc	cks:	76.2%	9.4%	14.4%	6.02
Barrier Type (0-Wall, 1-Berm):					Н	leavy Trud	cks:	81.8%	7.7%	10.6%	14.39
Centerline Dist. to Barrier.		feet		N	oise So	urce Elev	rations	(in fe	et)		
Centerline Dist. to Observer.	50.0	feet		Т		Autos:		000	,		
Barrier Distance to Observer.	0.0	feet			Mediun	n Trucks:		97			
Observer Height (Above Pad):	5.0	feet			Heav	y Trucks:	8.0	004	Grade Ad	iustment	: 0.0
Pad Elevation.				L							
Road Elevation:	0.0	feet		L	ane Equ	ıivalent D			eet)		
Road Grade.	0.0%					Autos:	44.1				
Left View.		degrees				n Trucks:	43.9				
Right View.	90.0	degrees			Heav	y Trucks:	43.9	966			
HWA Noise Model Calculation				_							
VehicleType REMEL	Traffic		Distanc	_	Finite		Fresn		Barrier Att		m Atter
Autos: 66.5		-7.15		0.71		-1.20		-4.65		000	0.00
Medium Trucks: 77.7	_	-18.37		0.74		-1.20		-4.87		000	0.00
Heavy Trucks: 82.9		-14.58		0.73		-1.20		-5.43	0.0	000	0.0
Inmitigated Noise Levels (wi VehicleType Leg Peak H				_	ation) ening	Leg Ni	a h t		Ldn		NEL
	58.9	eq Day 56		⊏ve	55.7	Leq IVI	9111 50.6		58.5		NEL 59
	58.9	56			53.8		50.0		58.7		59
	36.9 38.0	66			62.0		58.6		67.0		67
	58.9	67			63.4		59.9		68.		68
Centerline Distance to Noise	Contour (i	in feet)									
Jenner mie Distance to Noise	comour (i	ii iceij	7	'0 dE	ВА	65 dE	BA .	6	0 dBA	55	dBA
		La	n:		38		81		174		37

Wednesday, November 4, 2020

	FHW	/A-RD-77-108	HIGH	WAY I	NOISE PE	REDICTI	ON MC	DEL			
Road Nam	o: Existing + P e: Encilia Av. nt: e/o Essen L	-				Project I Job Nu			oreno Vall	ey Trad	Э
	SPECIFIC IN	PUT DATA			0				L INPUT	S	
Highway Data					Site Con	aitions (Hara =				
Average Daily	. ,	375 vehicle	es					Autos:			
		10.00%				dium Tru					
	our Volume:	37 vehicles	3		He	avy Truc	ks (3+	Axles):	15		
	hicle Speed:	45 mph		-	Vehicle I	Mix					
Near/Far Lai	ne Distance:	36 feet		ŀ	Veh	icleType		Day	Evening	Night	Daily
Site Data						Α	utos:	72.0%	14.6%	13.59	6 96.67%
Rai	rier Heiaht:	0.0 feet			Me	edium Tr	ucks:	76.2%	9.4%	14.49	6 2.57%
Barrier Type (0-W		0.0			F	leavy Tr	ucks:	81.8%	7.7%	10.69	6 0.76%
Centerline Dis	. ,	44.0 feet		-	Noise Sc		4!	- //- #			
Centerline Dist.	to Observer:	44.0 feet		-	Noise Sc				eet)		
Barrier Distance	to Observer:	0.0 feet				Autos		.000			
Observer Height (Above Pad):	5.0 feet				n Trucks		.297	0	···	-4- 0.0
	nd Elevation:	0.0 feet			Heav	y Trucks	: 8	.004	Grade Ad	justmer	n: 0.0
Roa	ad Elevation:	0.0 feet			Lane Eq	uivalent	Distan	ce (in	feet)		
F	Road Grade:	0.0%				Autos	: 40	.460			
	Left View:	-90.0 degree	es		Mediui	n Trucks	: 40	.241			
	Right View:	90.0 degree	es		Heav	y Trucks	: 40	.262			
FHWA Noise Mode	el Calculations										
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite		Fres		Barrier Att		erm Atten
Autos:	68.46	-16.24		1.2	-	-1.20		-4.61		000	0.000
Medium Trucks:	79.45	-32.00		1.3		-1.20		-4.87		000	0.000
Heavy Trucks:	84.25	-37.28		1.3	11	-1.20		-5.50	0.	000	0.000
Unmitigated Noise	Levels (witho	ut Topo and	barrie	er attei	nuation)						
VehicleType	Leq Peak Hou	Leq Day	,	Leq E	vening	Leq I	Vight		Ldn	(CNEL
Autos:	52.	3	50.1		49.2		44.	-	51.	-	52.5
Medium Trucks:	47.	6	45.6		42.5		39.	6	47.		47.7
Heavy Trucks:	47.		45.4		41.1		37.	-	46.		46.5
Vehicle Noise:	54.	4	52.4		50.5		46.	1	54.	0	54.5
Centerline Distanc	e to Noise Co	ntour (in feet))								
			Т	70	dBA	65 c			60 dBA		5 dBA
			Ldn:		4		8	3	18	3	38
		CI	VEL:		4		9	9	19)	41

y, November 4, 2020 Wednesday, November 4, 2020

	FH\	VA-RD-77-108	HIGH	WAY N	IOISE PI	REDICT	ION MO	DEL			
	o: Existing + F e: Encilia Av. nt: e/o Mozart	,					Name: lumber:		oreno Valle	ey Trade	•
	SPECIFIC IN	IPUT DATA							L INPUT	s	
Highway Data					Site Con	aitions					
Average Daily		576 vehicle	es					Autos:	15		
	Percentage:	10.00%					ucks (2)		15		
	our Volume:	58 vehicle	S		He	avy Tru	cks (3+)	Axles):	15		
	hicle Speed:	45 mph			Vehicle I	Vlix					
Near/Far Lar	ne Distance:	36 feet		ı	Veh	icleType	•	Day	Evening	Night	Daily
Site Data						,	Autos:	72.0%	14.6%	13.5%	97.83%
Rar	rier Height:	0.0 feet			Me	edium T	rucks:	76.2%	9.4%	14.4%	1.67%
Barrier Type (0-W		0.0			F	Heavy T	rucks:	81.8%	7.7%	10.6%	0.50%
Centerline Dis		44.0 feet		H	Noise So	roo E	lavation	a (in fe	n e f l		
Centerline Dist.	to Observer:	44.0 feet		-	voise Sc	Auto		- (et)		
Barrier Distance	to Observer:	0.0 feet			A 4 40	Auto m Truck		000 297			
Observer Height (Above Pad):	5.0 feet				m Truck vy Truck		297 004	Grade Ad	iuotmon	t. 0.0
Pa	d Elevation:	0.0 feet			пеач	y ITUCK	S. O.	004	Grade Au	usunen	1. 0.0
Roa	d Elevation:	0.0 feet		I	Lane Eq	uivalent	t Distan	ce (in i	feet)		
F	Road Grade:	0.0%				Auto	s: 40.	460			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 40.	241			
	Right View:	90.0 degre	es		Heav	y Truck	s: 40.	262			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	stance		Road	Fresr	_	Barrier Att		rm Atten
Autos:	68.46	-14.33		1.2	-	-1.20		-4.61		000	0.000
Medium Trucks:	79.45	-32.00		1.3		-1.20		-4.87		000	0.000
Heavy Trucks:	84.25	-37.28		1.3	1	-1.20		-5.50	0.0	000	0.000
Unmitigated Noise				er atten	uation)			,		_	
	Leq Peak Hou			Leq E		Leq	Night		Ldn	_	NEL
Autos:	54	-	52.0		51.1		46.0	-	53.9		54.4
Medium Trucks:	47		45.6		42.5		39.6	-	47.4		47.7
Heavy Trucks:	47		45.4		41.1		37.8		46.2		46.5
Vehicle Noise:	55	.7	53.6		52.0		47.4	1	55.3	3	55.8
Centerline Distanc	e to Noise Co	ntour (in feet)							_	
			L	70 (dBA	65	dBA		0 dBA		dBA
			Ldn:		5		10		21		46
		C	NEL:		5		11		23		50

	FHW	/A-RD-77-108	HIGH	WAY N	OISE P	REDICT	ION MO	ODEL			
Road Nam	io: Existing + P ne: Encilia Av. nt: w/o Redland	•					t Name: lumber:		oreno Valle	y Trade	
	SPECIFIC IN	PUT DATA			··· 0				L INPUT	s	
Peak H	Percentage: lour Volume:	1,121 vehicle 10.00% 112 vehicle		3	Ме	dium Ti avy Tru	ucks (2	Autos: Axles):	15		
	hicle Speed: ne Distance:	45 mph 36 feet		ν	ehicle						
Site Data					Veh	icleType	Autos:	72.0%	Evening 14.6%	Night 13.5%	Daily 97.56%
	rrier Height: /all, 1-Berm):	0.0 feet 0.0				edium 1 Heavy 1	rucks:	76.2% 81.8%	9.4%	14.4% 10.6%	1.889
Centerline Dist.	st. to Barrier:	44.0 feet 44.0 feet		Ν	loise S	ource E			eet)		
Barrier Distance Observer Height (0.0 feet 5.0 feet 0.0 feet				m Truck ry Truck	(s: 2	0.000 2.297 3.004	Grade Adj	iustment	: 0.0
	ad Elevation: Road Grade: Left View: Right View:	0.0 feet 0.0% -90.0 degree 90.0 degree		L	Mediu	Auto Auto m Truck ry Truck	s: 40 (s: 40	0.460 0.241 0.262	feet)		
FHWA Noise Mode	el Calculations	·									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	inel	Barrier Att	en Bei	m Atten
Autos: Medium Trucks:	68.46 79.45	-11.45 -28.60 -33.88		1.28 1.31 1.31		-1.20 -1.20 -1.20		-4.61 -4.87 -5.50	0.0	000	0.00
Heavy Trucks:	84.25					-1.20		-5.50	0.0	000	0.00
Unmitigated Noise VehicleType	Leg Peak Hou		_	Leg Ev		Len	Night	_	Ldn		NEL
Autos:	57.		54.9	LUG LV	53.9		48	.8	56.7		57.
Medium Trucks:	51.	0	49.0		45.9		43	.0	50.8	3	51.
Heavy Trucks:	50.	5	48.8		44.5		41	.2	49.6	3	49.
Vehicle Noise:	58.	7	56.6		55.0		50	.4	58.3	3	58.
Centerline Distance	ce to Noise Co	ntour (in feet)								
			L	70 d		65	dBA		60 dBA		dBA
	Ldn: CNEL:					7 16 34			73		
			8 17 37				79				

Scenari	o: OY (2024)					Project	Name:	ΔH2 M	oreno Valle	v Trade	
	e: Redlands F	Blvd					lumber:			y made	
		Westbound Ra	mps			00071	uniber.	12373			
	SPECIFIC IN					N	IOISE	MODE	L INPUT	s	
Highway Data				Si	te Con	ditions	(Hard =	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	18,155 vehicl	es					Autos.	15		
Peak Hour	Percentage:	10.00%			Me	dium Tr	ucks (2	Axles).	15		
Peak H	our Volume:	1,816 vehicle	s		He	avy Tru	cks (3+	Axles).	15		
Vel	nicle Speed:	50 mph		V	ehicle l	Wix					
Near/Far Lar	ne Distance:	58 feet		-		icleType		Day	Evening	Night	Daily
Site Data							Autos:	72.09	14.6%	13.5%	94.249
Bar	rier Heiaht:	0.0 feet			Me	edium T	rucks:	76.29	9.4%	14.4%	4.44%
Barrier Type (0-W		0.0			F	leavy T	rucks:	81.89	7.7%	10.6%	1.329
Centerline Dis	t. to Barrier:	55.0 feet		N	oise Sc	urce E	levatio	ıs (in f	eet)		
Centerline Dist. t	o Observer:	55.0 feet				Auto		.000	,		
Barrier Distance t	o Observer:	0.0 feet			Mediu	n Truck		297			
Observer Height (Above Pad):	5.0 feet			Heav	v Truck	s: 8	.004	Grade Ad	iustment	0.0
	d Elevation:	0.0 feet				,					
	d Elevation:	0.0 feet		Lá	ne Eq	uivalen			feet)		
F	Road Grade:	0.0%				Auto		.000			
	Left View:	-90.0 degre				n Truck		.811			
	Right View:	90.0 degre	es		Heav	y Truck	s: 46	.830			
FHWA Noise Mode		-									
VehicleType	REMEL	Traffic Flow		ance	Finite		Fres		Barrier Att		m Atten
Autos:	70.20			0.30		-1.20		-4.67		000	0.00
Medium Trucks:	81.00			0.33		-1.20		-4.87		000	0.00
Heavy Trucks:	85.38			0.32		-1.20		-5.38	0.0	000	0.00
Unmitigated Noise VehicleType							N II I-4	_	Ldn		NEL
Venicie i ype Autos:	Leq Peak Hou		67.1	Leq Eve	66.2	Leq	Night 61	4	Lan 69.0	_	VEL 69.
Medium Trucks:	66		64.9		61.8		58		66.1		67.
Heavy Trucks:	66		64.3		60.1		56	-	65.		65.
Vehicle Noise:	72		70.4		68.3		64.		72.0		72.
Centerline Distance	e to Noise Co	ontour (in feet)								
		,		70 dE	3A	65	dBA		60 dBA	55	dBA
			Ldn:		75		16	1	347		747

Wednesday, November 4, 2020

FH\	WA-RD-77-108 H	IGHWAY	NOISE P	REDICT	ION MODEL	-			
Scenario: OY (2024) Road Name: Redlands E Road Segment: s/o SR-60 l		s			Name: Alt2 lumber: 129	Moreno Valley 75	Trade		
SITE SPECIFIC IN	IPUT DATA			N	IOISE MOI	DEL INPUTS			
Highway Data			Site Con	ditions	(Hard = 10,	Soft = 15)			
Average Daily Traffic (Adt): Peak Hour Percentage: Peak Hour Volume:	16,324 vehicles 10.00% 1,632 vehicles				Auto ucks (2 Axle cks (3+ Axle	s): 15			
Vehicle Speed:	50 mph		Vehicle	Mix					
Near/Far Lane Distance:	58 feet			icleType	Day	/ Evening	Night Daily		
Site Data					Autos: 72.		13.5% 94.24%		
Barrier Height:	0.0 feet		М	edium Ti	rucks: 76.	2% 9.4%	14.4% 4.44%		
Barrier Type (0-Wall, 1-Berm):	0.0		-	Heavy T	rucks: 81.	8% 7.7%	10.6% 1.32%		
Centerline Dist. to Barrier:	55.0 feet		Noise S	ource El	evations (ir	n feet)			
Centerline Dist. to Observer: Barrier Distance to Observer: Observer Height (Above Pad): Pad Elevation: Road Elevation:		Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0 Lane Equivalent Distance (in feet)							
Road Grade:	0.0%			Auto	s: 47.000				
Left View: Right View:	-90.0 degrees 90.0 degrees			m Truck vy Truck	10.011				
FHWA Noise Model Calculation	s								
VehicleType REMEL	Traffic Flow	Distance	Finite	Road	Fresnel	Barrier Atter	Berm Atten		
Autos: 70.20	-0.42	0	.30	-1.20	-4.6	0.00	0.000		
Medium Trucks: 81.00	-13.69	0	.33	-1.20	-4.8	37 0.00	0.000		
Heavy Trucks: 85.38	-18.97	0	.32	-1.20	-5.3	38 0.00	0.000		
Unmitigated Noise Levels (with			,						
VehicleType Leq Peak Hou			Evening	,	Night	Ldn	CNEL		
Autos: 68			65.7		60.6	68.5	69.1		
Medium Trucks: 66			61.4		58.5	66.2	66.6		
Heavy Trucks: 65		1.9	59.6		56.2	64.6	65.0		
Vehicle Noise: 72	2.0 69).9	67.8		63.6	71.5	72.0		
Centerline Distance to Noise Co	ontour (in feet)	7.) dBA	65	dBA	60 dBA	55 dBA		
				05			55 dBA 696		
	Ldn: CNEL:				70 150 323 69 75 161 347 74				

	FHW	A-RD-77-108	HIGH	HWAY N	OISE P	REDICT	ION MO	DDEL					
Road Nam	o: OY (2024) e: Redlands Bl nt: s/o Eucalypt						t Name: lumber:		Moreno Va	lley Tra	ade		
SITE :	SPECIFIC IN	PUT DATA			24- 0				EL INPU	TS			
Average Daily Peak Hour Peak H	Percentage: our Volume:	15,044 vehicle 10.00% 1,504 vehicle			Ме	edium Tr	ucks (2	Autos Axles)	: 15				
Vei Near/Far Lai	hicle Speed:	50 mph 58 feet		١	/ehicle								
	ie Distance.	DO TEEL			Veh	icleType		Day	Evening	-		Daily	
Site Data Barrier Type (0-W	rier Height: all, 1-Berm):	0.0 feet 0.0				ledium T Heavy T		72.09 76.29 81.89	% 9.4%	14	.5% .4% .6%	94.24% 4.44% 1.32%	
Centerline Dis	st. to Barrier:	55.0 feet		,	Voise S	ource F	levatio	ns (in t	feet)				
Barrier Distance	Centerline Dist. to Observer: 55.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet					Noise Source Elevations (in feet) Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0							
Pa	d Elevation:	0.0 feet			Hea	vy Iruck	:s: 8	.004	Grade A	ajustrr	ient:	0.0	
	Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Lane Equivalent Distance (in feet) Autos: 47.000 Medium Trucks: 46.811 Heavy Trucks: 46.830								
FHWA Noise Mode	el Calculations												
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier A	tten	Ben	n Atten	
Autos:	70.20	-0.78		0.30)	-1.20		-4.67		.000		0.000	
Medium Trucks: Heavy Trucks:	81.00 85.38	-14.05 -19.33		0.33	-	-1.20 -1.20		-4.87 -5.38	-	.000		0.000	
Unmitigated Noise	Levels (witho	ut Topo and	barri	er atten	uation)								
VehicleType	Leq Peak Hou	Leq Day	′	Leq Ev	ening	Leq	Night		Ldn		CI	IEL	
Autos:	68.	-	66.3		65.4		60	-	68			68.7	
Medium Trucks:	66.		64.1		61.0		58		65			66.3	
Heavy Trucks: Vehicle Noise:	65. 71.		63.5 69.6		59.2 67.5		55 63	-	64 71	_		64.6 71.6	
Centerline Distance	e to Noise Co	ntour (in feet)										
	2.3	(1001)		70 a	iBA	65	dBA		60 dBA		55	dBA	
			Ldn:		66		14	2	30	6		659	
	CNEL:					71 153 329			708				

	FH\	WA-RD-77-108	HIGH	IWAY N	OISE P	REDICT	ION MODE	L		
Scenario. Road Name. Road Segment.		Blvd.					t Name: Alt2 lumber: 129	Moreno Valle 75	ey Trade	
SITE S	PECIFIC IN	IPUT DATA					NOISE MO	DEL INPUT	s	
Highway Data				5	Site Cor	ditions	(Hard = 10,	Soft = 15)		
	ercentage: ur Volume:	15,044 vehicle 10.00% 1,504 vehicle					Auto rucks (2 Axle rcks (3+ Axle	s): 15		
	cle Speed:	50 mph		١	/ehicle	Mix				
Near/Far Lane	e Distance:	58 feet			Veh	icleType	e Da	y Evening	Night	Daily
Site Data							Autos: 72.		13.5%	
Barri	ier Height:	0.0 feet			М	edium 7	rucks: 76.	2% 9.4%	14.4%	4.44%
Barrier Type (0-Wai		0.0				Heavy 7	rucks: 81.	8% 7.7%	10.6%	1.32%
Centerline Dist.	to Barrier:	55.0 feet			loise Si	nurce F	levations (ii	n feet)		
Centerline Dist. to	Observer:	55.0 feet		- 1	.0.00	Auto				
Barrier Distance to	Observer:	0.0 feet			Mediu	m Truck	0.000			
Observer Height (A.	bove Pad):	5.0 feet				y Truck			iustmen	t: 0.0
Pad	l Elevation:	0.0 feet				•				
Road	l Elevation:	0.0 feet		L	.ane Eq	uivalen	t Distance (
Ro	oad Grade:	0.0%				Auto				
F	Left View: Right View:	-90.0 degre 90.0 degre				m Truck vy Truck				
FHWA Noise Model	Calculation	s								
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresnel	Barrier Att	en Be	rm Atten
Autos:	70.20	-0.78		0.30)	-1.20	-4.0	57 0.0	000	0.000
Medium Trucks:	81.00	-14.05		0.33	3	-1.20	-4.8	37 0.0	000	0.000
Heavy Trucks:	85.38	-19.33		0.32	2	-1.20	-5.3	38 0.0	000	0.000
Unmitigated Noise	Levels (with	out Topo and	barrie	er atteni	uation)					
VehicleType L	eq Peak Hou	ur Leq Da	У	Leq Ev	ening	Leq	Night	Ldn	С	NEL
Autos:	68		66.3		65.4		60.3	68.2	_	68.7
Medium Trucks:	66		64.1		61.0		58.1	65.9	9	66.3
Heavy Trucks:	65		63.5		59.2		55.9	64.3		64.6
Vehicle Noise:	71	.6	69.6		67.5		63.2	71.2	2	71.6
Centerline Distance	to Noise Co	ontour (in fee	t)							
			L	70 d		65	dBA	60 dBA		dBA
	Ldn:					66 142 306			659	
	CNEL:					71 153 329				708

Scenario: OY (202	24)					Project N	lame: F	Alt2 Mo	oreno Valle	ey Trade	
Road Name: Redland	ls Blv	rd.				Job Nu	mber: 1	12975		•	
Road Segment: n/o Ence	elia A	iV.									
SITE SPECIFIC	INF	UT DATA							LINPUT	s	
Highway Data				2	site Con	ditions (F	ara =	10, So			
Average Daily Traffic (Adt)		5,044 vehicle	S					Autos:	15		
Peak Hour Percentage		0.00%				dium Truc		,	15		
Peak Hour Volume		,504 vehicles			He	avy Truck	's (3+ A	xles):	15		
Vehicle Speed		50 mph		١	/ehicle I	Nix					
Near/Far Lane Distance	9.	58 feet			Vehi	cleType		Day	Evening	Night	Daily
Site Data						Αι	itos:	72.0%	14.6%	13.5%	94.249
Barrier Heigh	t:	0.0 feet			Me	edium Tru	cks:	76.2%	9.4%	14.4%	4.44%
Barrier Type (0-Wall, 1-Berm,):	0.0			F	leavy Tru	cks:	81.8%	7.7%	10.6%	1.32%
Centerline Dist. to Barrie		55.0 feet		1	Voise So	urce Ele	vations	(in fe	et)		
Centerline Dist. to Observe		55.0 feet				Autos:	0.0	000			
Barrier Distance to Observe		0.0 feet			Mediur	n Trucks:	2.2	297			
Observer Height (Above Pad,		5.0 feet			Heav	y Trucks:	8.0	004	Grade Ad	justment	: 0.0
Pad Elevation		0.0 feet		-							
Road Elevation		0.0 feet		L	ane Equ	uivalent L			eet)		
Road Grade		0.0%				Autos:					
Left View		-90.0 degree				n Trucks:					
Right View	v:	90.0 degree	S		Heav	y Trucks:	46.8	330			
FHWA Noise Model Calculati	_										
VehicleType REMEL		Traffic Flow	Dis	tance	Finite		Fresn	_	Barrier Att		rm Atten
Autos: 70.		-0.78		0.30		-1.20		-4.67		000	0.00
Medium Trucks: 81.		-14.05		0.33		-1.20		-4.87		000	0.000
Heavy Trucks: 85.		-19.33		0.32		-1.20		-5.38	0.0	000	0.000
Unmitigated Noise Levels (w VehicleType Leg Peak I			arrie			1 1	Contrat.		Ldn		NEL
VehicleType Leq Peak I	68.5		6.3	Leq Ev	65.4	Leq N	ignt 60.3		68.1		NEL 68.7
Medium Trucks:	66.1		4.1		61.0		58.1		65.9		66.1
Heavy Trucks:	65.2	-	3.5		59.2		55.9		64.3	-	64.
Vehicle Noise:	71.6		9.6		67.5		63.2		71.3		71.6
Centerline Distance to Noise	Cor	tour (in feet)									
		1000 (111 1000)		70 c	IDΛ	65 dl	RA	6	0 dBA	55	dBA
				700	DA	00 01					
		L	.dn:	700	66	00 01	142		306		659

Wednesday, November 4, 2020

	FHW	/A-RD-77-108 I	HIGHWAY	NOISE P	REDICT	ION MODE	L		
Road Name	o: OY (2024) e: Moreno Bea t: s/o SR-60 V	ich Dr. Vestbound Ran	nps			Name: Alt2 lumber: 129	2 Moreno Vall 975	ey Trad	>
	PECIFIC IN	PUT DATA					DEL INPUT	s	
Highway Data				Site Con	ditions	(Hard = 10	, Soft = 15)		
Average Daily 1	raffic (Adt):	18,159 vehicles	S			Aut	os: 15		
Peak Hour F	Percentage:	10.00%				ucks (2 Axle			
Peak Ho	our Volume:	1,816 vehicles		He	avy Tru	cks (3+ Axle	es): 15		
Veh	icle Speed:	50 mph		Vehicle	Mix				
Near/Far Lan	e Distance:	82 feet			icleType	Da	y Evening	Night	Daily
Site Data						Autos: 72	.0% 14.6%	13.59	6 94.24%
Ban	rier Height:	0.0 feet		М	edium T	rucks: 76	.2% 9.4%	14.49	6 4.44%
Barrier Type (0-Wa		0.0		1	Heavy T	rucks: 81	.8% 7.7%	10.69	6 1.32%
Centerline Dis	t. to Barrier:	67.0 feet		Noise S	ource E	levations (i	n feet)		
Centerline Dist. t		67.0 feet			Auto				
Barrier Distance t		0.0 feet		Mediu	m Truck				
Observer Height (A	,	5.0 feet			/y Truck		Grade Ad	djustmer	nt: 0.0
	d Elevation:	0.0 feet			•				
	d Elevation:	0.0 feet		Lane Eq		Distance			
F	Road Grade:	0.0%			Auto				
	Left View:	-90.0 degrees			m Truck				
	Right View:	90.0 degrees	S	Heav	y Truck	s: 53.076	5		
FHWA Noise Mode	l Calculations	1		1					
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresnel	Barrier At	ten Be	erm Atten
Autos:	70.20	0.04		.51	-1.20	-4.		000	0.000
Medium Trucks:	81.00	-13.23	-	.49	-1.20	-4.		000	0.000
Heavy Trucks:	85.38	-18.51	-0.	.49	-1.20	-5.	29 0.	000	0.000
Unmitigated Noise	Levels (withou	out Topo and b	arrier atte	enuation)					
	Leq Peak Hou			Evening		Night	Ldn		CNEL
Autos:	68.		6.3	65.4		60.3	68.		68.8
Medium Trucks:	66.		4.1	61.0		58.1	65.	-	66.3
Heavy Trucks:	65.		3.5	59.2		55.9	64.		64.6
Vehicle Noise:	71.	6 6	9.6	67.5		63.2	71.	2	71.7
Centerline Distanc	e to Noise Co	ntour (in feet)							
) dBA	65	dBA	60 dBA		5 dBA
		_	.dn:	80 173 373				803 863	
	CNEL:				86 186 401				

ay, November 4, 2020 Wednesday, Nov

	FH\	WA-RD-77-108	HIGH	WAY I	NOISE PI	REDICT	ION M	DDEL			
Road Nam	io: OY (2024) ne: Moreno Be nt: s/o SR-60 I	ach Dr. Eastbound Ran	nps				t Name: lumber:		oreno Valle	y Trade	
	SPECIFIC IN	IPUT DATA			0:: 0				L INPUT	s	
Highway Data					Site Con	iaitions	(Hara				
Average Daily		32,941 vehicle	es					Autos:			
	Percentage:	10.00%				edium Tr					
	lour Volume:	3,294 vehicles	3		He	avy Tru	cks (3+	Axles).	15		
	hicle Speed:	50 mph		Ī	Vehicle	Mix					
Near/Far La	ne Distance:	82 feet		Ī	Veh	icleType	,	Day	Evening	Night	Daily
Site Data							Autos:	72.0%	14.6%	13.5%	94.24%
Rai	rrier Heiaht:	0.0 feet			М	edium T	rucks:	76.2%	9.4%	14.4%	4.44%
Barrier Type (0-W		0.0			1	Heavy T	rucks:	81.8%	7.7%	10.6%	1.32%
Centerline Dis	st. to Barrier:	67.0 feet		ŀ	Noise So	nurce F	levatio	ns (in f	pet)		
Centerline Dist.	to Observer:	67.0 feet		ŀ		Auto		0.000			
Barrier Distance	to Observer:	0.0 feet			Mediu	m Truck		.297			
Observer Height (Above Pad):	5.0 feet				vv Truck		3.004	Grade Ad	iustment	. 0.0
Pa	ad Elevation:	0.0 feet			11001	ry much	.5	7.004	0,000,10	dotimom	. 0.0
Roa	ad Elevation:	0.0 feet			Lane Eq	uivalen	t Distai	nce (in	feet)		
1	Road Grade:	0.0%				Auto	s: 53	3.226			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 53	3.059			
	Right View:	90.0 degree	es		Heav	vy Truck	s: 53	3.076			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	inel	Barrier Att	en Bei	m Atten
Autos:	70.20	2.62		-0.5	51	-1.20		-4.71	0.0	000	0.000
Medium Trucks:	81.00	-10.64		-0.4	19	-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	85.38	-15.93		-0.4	19	-1.20		-5.29	0.0	000	0.000
Unmitigated Noise			barrie								
VehicleType	Leq Peak Hou		_	Leq E	vening		Night		Ldn		NEL
Autos:	71		68.9		68.0		62		70.8		71.3
Medium Trucks:	68		66.7		63.6		60		68.5		68.8
Heavy Trucks:	67		66.1		61.8		58		66.9		67.2
Vehicle Noise:	74	.2	72.2		70.0		65	.8	73.8	3	74.2
Centerline Distant	ce to Noise Co	ontour (in feet)		70	dBA	65	dBA		50 dBA		dBA
			Ldn:	70		65					
				119 257 554			1,195				
	CNEL:				128 277 596				1,284		

	FIL	WA-RD-77-1	ло пісі	NWAI N	UISE P	KEDICI	ION IN	JUEL			
	o: OY (2024) e: Eucalyptus	Av						Alt2 M	oreno Valle	y Trade	
Road Segmen											
	SPECIFIC IN	IPUT DATA	١						L INPUT	s	
Highway Data				S	ite Cor	ditions	(Hard	= 10, Sc	ft = 15)		
Average Daily	Traffic (Adt):	6,371 vehi	cles					Autos:	15		
Peak Hour	Percentage:	10.00%			Me	edium Tr	ucks (2	Axles):	15		
Peak H	our Volume:	637 vehic	les		He	avy Tru	cks (3+	Axles):	15		
Vel	nicle Speed:	40 mph			ehicle	Miv					
Near/Far Lar	ne Distance:	48 feet		-		icleType		Day	Evening	Night	Daily
Site Data							Autos:	72.0%	14.6%	13.5%	94.249
Rar	rier Height:	0.0 feet			М	edium T	rucks:	76.2%	9.4%	14.4%	4.44%
Barrier Type (0-Wi		0.0				Heavy T	rucks:	81.8%	7.7%	10.6%	1.329
Centerline Dis	t. to Barrier:	50.0 feet		٨	loise S	ource E	levatio	ns (in fe	eet)		
Centerline Dist. t	o Observer:	50.0 feet				Auto		0.000	.,		
Barrier Distance t	o Observer:	0.0 feet			Mediu	m Truck		.297			
Observer Height (Above Pad):	5.0 feet				vy Truck		3.004	Grade Ad	iustment	: 0.0
Pa	d Elevation:	0.0 feet				•					
Roa	d Elevation:	0.0 feet		L	ane Eq	uivalen		_ •	feet)		
F	Road Grade:	0.0%				Auto		1.147			
	Left View:	-90.0 degi	ees			m Truck		3.947			
	Right View:	90.0 degi	ees		Hea	vy Truck	s: 43	3.966			
FHWA Noise Mode											
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att		m Atten
Autos:	66.51	-3.5		0.71		-1.20		-4.65		000	0.00
Medium Trucks:	77.72			0.74		-1.20		-4.87		000	0.00
Heavy Trucks:	82.99		-	0.73		-1.20		-5.43	0.0	000	0.00
Unmitigated Noise								-			
VehicleType Autos:	Leq Peak Hou		60.3	Leq Ev		,	Night 54		Ldn 62.1		NEL 62.
	60		58.5		59.3 55.4		54 52	-	60.2		60.
Medium Trucks:	60		58.8						59.5	-	
Heavy Trucks: Vehicle Noise:		3.0	64.0		54.5 61.7		51 57		59.t		59. 66.
					61.7		5/	.0	00.0	•	00.
Centerline Distanc	e to Noise Co	ontour (in fe	et)	70 d	'BA	65	dBA	1 6	0 dBA	55	dBA
			Ldn:		25		5		117		252
CNEL:											

0	0)//(0004)					Danie od A		A 140 A 4	oreno Valle	Tanada	
	o: OY (2024) e: Eucalyptus	Av				Job Nu			oreno valle	y rrade	
	nt: e/o Auto Ma					JOD IVUI	iibei.	12975			
•	SPECIFIC IN					NC	NSE N	IODE	L INPUT	8	
Highway Data	DI E011 10 11	FOIDAIA		5	Site Con	ditions (F					
Average Daily	Traffic (Adt):	2,943 vehicle	s				,	Autos:	15		
Peak Hour	Percentage:	10.00%			Me	dium Truc	ks (2 A	(xles	15		
Peak H	our Volume:	294 vehicles			He	avy Truck	s (3+ A	(xles	15		
Vei	hicle Speed:	40 mph		,	/ehicle I	Miv					
Near/Far Lar	ne Distance:	48 feet		F		cleType		Dav	Evening	Niaht	Dailv
Site Data						AL	itos:	72.0%	14.6%	13.5%	94.24
Bar	rier Heiaht:	0.0 feet			Me	edium Tru	cks:	76.2%	9.4%	14.4%	4.44
Barrier Type (0-W		0.0			F	leavy Tru	cks:	81.8%	7.7%	10.6%	1.32
Centerline Dis	st. to Barrier:	50.0 feet			Voice So	urce Ele	vation	e (in fo	of)		
Centerline Dist.	to Observer:	50.0 feet		-	VOISE 30	Autos:		000	eu		
Barrier Distance	to Observer:	0.0 feet			Mediur	n Trucks:		297			
Observer Height (Above Pad):	5.0 feet				v Trucks:		004	Grade Ad	iustment	: 0.0
	ad Elevation:	0.0 feet				,					
	ad Elevation:	0.0 feet		L	ane Equ	uivalent L			eet)		
F	Road Grade:	0.0%				Autos:					
	Left View:	-90.0 degree				n Trucks:					
	Right View:	90.0 degree	s		Heav	y Trucks:	43.9	966			
HWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite		Fresn	_	Barrier Att		m Atter
Autos:	66.51	-6.90		0.71		-1.20		-4.65		000	0.00
Medium Trucks:	77.72	-20.16		0.74		-1.20		-4.87		000	0.00
Heavy Trucks:	82.99	-25.45		0.73	-	-1.20		-5.43	0.0	000	0.00
Inmitigated Noise						1 1	C		Ldn		NFL.
VehicleType Autos:	Leq Peak Hou		6.9	Leq Ev	rening 56.0	Leq N	1gnt 50.9		Lan 58.8		NEL 59
Medium Trucks:	57		55.1		52.0		49.1		56.9		57
Heavy Trucks:	57		55.4		51.1		47.8		56.2		56
Vehicle Noise:	62		0.7		58.4		54.2		62.2	2	62
Centerline Distanc	e to Noise Co	ntour (in feet)									
				70 d	iBA	65 dl	ВА	6	i0 dBA	55	dBA
		L	.dn:		15		33		70	•	15
									75		16

Wednesday, November 4, 2020

	FHWA	-RD-77-108 H	IIGH\	WAY N	OISE PI	REDICT	ION MC	DEL			
Scenario: OY (20 Road Name: Eucaly Road Segment: w/o Ald	tus Av						Name: lumber:		loreno Vall	ey Tr	rade
SITE SPECIFIC	INPL	UT DATA							EL INPUT	s	
Highway Data				5	ite Con	ditions	(Hard =	= 10, S	oft = 15)		
Average Daily Traffic (Ad Peak Hour Percentag Peak Hour Volum	e: 10	2,822 vehicles 0.00% 282 vehicles	3			dium Tr avy Tru		/	: 15		
Vehicle Spee	d:	40 mph		,	/ehicle l	Miv					
Near/Far Lane Distanc	e:	48 feet		F.		icleType		Dav	Evening	Nic	nht Daily
Site Data					7011		Autos:	72.09		_	5.5% 94.24%
Barrier Heigh	t:	0.0 feet			M	edium T	rucks:	76.29	6 9.4%	14	.4% 4.44%
Barrier Type (0-Wall, 1-Bern):	0.0			I	Heavy T	rucks:	81.89	6 7.7%	10	0.6% 1.32%
Centerline Dist. to Barrie		50.0 feet		٨	loise So	ource El	levation	s (in i	feet)		
Centerline Dist. to Observe		50.0 feet				Auto	s: 0	.000			
Barrier Distance to Observe	er:	0.0 feet			Mediu	m Truck		.297			
Observer Height (Above Page	n):	5.0 feet				y Truck		.004	Grade Ad	liustr	nent: 0.0
Pad Elevation	n:	0.0 feet		L						,	
Road Elevation	n:	0.0 feet		L	ane Eq	uivalen			feet)		
Road Grad	e: (0.0%				Auto	s: 44	.147			
Left Vie	v: -	90.0 degrees	6		Mediu	m Truck	s: 43	.947			
Right Vie	v:	90.0 degrees	3		Heav	y Truck	s: 43	.966			
FHWA Noise Model Calcula											
VehicleType REMEL	Ti	raffic Flow	Dista	ance	Finite	Road	Fres	nel	Barrier At	ten	Berm Atten
Autos: 66	.51	-7.08		0.71		-1.20		-4.65	0.	000	0.000
Medium Trucks: 77	.72	-20.35		0.74	ļ	-1.20		-4.87	0.	000	0.000
Heavy Trucks: 82	.99	-25.63		0.73	3	-1.20		-5.43	0.	000	0.000
Unmitigated Noise Levels (v	_	t Topo and b	arrier	r atteni	uation)						
VehicleType Leq Peak		Leq Day		Leq Ev			Night		Ldn		CNEL
Autos:	58.9	-	6.7		55.8		50.		58.		59.2
Medium Trucks:	56.9	-	4.9		51.9		48.	-	56.		57.1
Heavy Trucks:	56.9	5	5.2		51.0		47.	6	56.	0	56.4
Vehicle Noise:	62.5	6	0.5		58.2		54.	0	62.	0	62.5
Centerline Distance to Noise	Cont	our (in feet)		70			10.4		00 104		55 104
			. ∟	70 d		65	dBA		60 dBA	\perp	55 dBA
		_	dn:	15 32 68			147				
	CNEL:				16 34 73			5	157		

	FHW	A-RD-77-108	HIGH	HWAY I	NOISE P	REDICT	ION MO	DDEL			
	o: OY (2024) e: Eucalyptus int: w/o Dwy. 5	Av.					t Name: lumber:		oreno Valle	y Trade	
	SPECIFIC IN	PUT DATA			04- 0				L INPUT	S	
Highway Data					Site Cor	aitions	(Hara :				
Average Daily	. ,	3,834 vehicle	es					Autos:			
		10.00%				dium Ti	,				
	our Volume:	383 vehicle	S		He	avy Tru	cks (3+	Axles):	15		
	hicle Speed:	40 mph		ľ	Vehicle	Mix					
Near/Far Lar	ne Distance:	48 feet		ľ	Veh	icleType	,	Day	Evening	Night	Daily
Site Data							Autos:	72.0%	14.6%	13.5%	94.24%
Rar	rier Height:	0.0 feet			М	edium 7	rucks:	76.2%	9.4%	14.4%	4.44%
Barrier Type (0-W		0.0				Heavy 7	rucks:	81.8%	7.7%	10.6%	1.32%
Centerline Dis	st. to Barrier:	50.0 feet		f	Noise S	ource E	levatio	ns (in fe	eet)		
Centerline Dist.	to Observer:	50.0 feet		f		Auto		000	,		
Barrier Distance	to Observer:	0.0 feet			Mediu	m Truck	s: 2	297			
Observer Height (Above Pad):	5.0 feet			Hear	y Truck	s: 8	.004	Grade Ad	iustment	: 0.0
	ad Elevation:	0.0 feet				•					
	ad Elevation:	0.0 feet			Lane Eq				feet)		
F	Road Grade:	0.0%				Auto		.147			
	Left View:	-90.0 degree				m Truck		1.947			
	Right View:	90.0 degree	es		Hea	y Truck	s: 43	1.966			
FHWA Noise Mode	el Calculations										
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten
Autos:	66.51	-5.75		0.7		-1.20		-4.65	0.0	000	0.000
Medium Trucks:	77.72	-19.02		0.7	74	-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	82.99	-24.30		0.7	73	-1.20		-5.43	0.0	000	0.000
Unmitigated Noise			_					_			
,,	Leq Peak Hou	.,.,		Leq E	vening	_	Night		Ldn		NEL
Autos:	60.		58.1		57.1		52		59.9		60.5
Medium Trucks:	58. 58.	=	56.3 56.6		53.2 52.3		50 48	-	58.0		58.4
Heavy Trucks: Vehicle Noise:	63.		61.8		52.3		48 55		57.3 63.3		57.7 63.8
Centerline Distance	e to Noise Co	ntour (in feet)								
				70	dBA	65	dBA	6	60 dBA	55	dBA
			Ldn:		18		3	9	84	•	180
		C	NEL:		19		4:	2	90		193

	o: OY (2024) e: Eucalyptus nt: w/o Redlan							Alt2 M 12975	oreno Valle	ey Trade	
	SPECIFIC IN	IPUT DATA							L INPUT	s	
Highway Data				5	ite Coi	nditions	(Hara	-			
Average Daily	. ,	3,834 vehicl	es					Autos:	15		
	Percentage:	10.00%				edium Ti					
	our Volume:	383 vehicle	es.		He	eavy Tru	cks (3+	Axles):	15		
Vel	hicle Speed:	40 mph		ν	ehicle	Mix					
Near/Far Lar	ne Distance:	48 feet		_	Ver	icleType	,	Day	Evening	Night	Daily
Site Data							Autos:	72.0%	-	13.5%	,
Par	rier Heiaht:	0.0 feet			M	ledium 7	rucks:	76.2%	9.4%	14.4%	4.44%
Barrier Type (0-W		0.0				Heavy 7	rucks:	81.8%	7.7%	10.6%	1.32%
Centerline Dis		50.0 feet									
Centerline Dist. 1		50.0 feet		Ν	oise S	ource E			eet)		
Barrier Distance t		0.0 feet				Auto		0.000			
Observer Height (5.0 feet				m Truck		2.297			
	d Elevation:	0.0 feet			Hea	vy Truck	:s: 8	3.004	Grade Ad	justment	: 0.0
	d Elevation:	0.0 feet		L	ane Eo	uivalen	t Dista	nce (in	feet)		
F	Road Grade:	0.0%				Auto	s: 4	1.147			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 4:	3.947			
	Right View:	90.0 degre			Hea	vy Truck	s: 40	3.966			
FHWA Noise Mode	l Calculation	s									
VehicleType	REMEL	Traffic Flow	Di:	stance	Finite	Road	Fres	snel	Barrier Att	en Bei	m Atten
Autos:	66.51	-5.75	,	0.71		-1.20		-4.65	0.0	000	0.00
Medium Trucks:	77.72	-19.02	!	0.74		-1.20		-4.87	0.0	000	0.00
Heavy Trucks:	82.99	-24.30	1	0.73		-1.20		-5.43	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo and	barri	er attenu	ation)						
VehicleType	Leq Peak Hou	ur Leq Da	У	Leq Ev	ening	Leq	Night		Ldn	C	NEL
Autos:	60	0.3	58.1		57.1		52	.0	59.9	9	60.
Medium Trucks:	58	3.2	56.3		53.2	!	50	.3	58.0)	58.4
Heavy Trucks:	58	3.2	56.6		52.3	}	48	.9	57.3	3	57.
Vehicle Noise:	63	3.8	61.8		59.5	,	55	.4	63.3	3	63.
Centerline Distanc	e to Noise C	ontour (in fee	t)								
			L	70 d		65	dBA		60 dBA		dBA
			Ldn:		18 19		-	9	84		180
			NEL:					2	90		193

Y (2024) rollia Av. o Essen CIFIC II c (Adt): entage: folume: Speed: stance: Height: -Berm): Barrier: sserver: ee Pad): evation: evation:	240 vehi 10.00% 24 vehi 45 mph 36 feet 0.0 feet 0.0 feet 0.0 feet 0.0 feet 0.0 feet 0.0 feet 0.0 feet	icles		Mediun	ditions (H dium Truck avy Truck Mix icleType	ISE MG Au	2975 ODEI 0, Sor utos: utos: utos: 22.0% 6.2% 1.8% (in fee) 00	15 15 15 15 16 Evening 14.6% 9.4% 7.7%	Night 13.5% 14.4% 10.6%	4.44% 1.32%
c (Adt): entage: folume: Speed: stance: Height: -Bermi: Barrier: sserver: e Pad): evation:	240 vehi 10.00% 24 vehi 10.00% 24 vehi 45 mph 36 feet 0.0 feet 44.0 feet 44.0 feet 0.0 feet 0.0 feet 0.0 feet 0.0 feet 0.0 feet	icles		Mediun	NO ditions (H dium Truck avy Trucks Mix icleType Au edium Truch Heavy Truc Autos: m Trucks: ny Trucks:	Date	DDEL (100) (100	ft = 15) 15 15 15 15 15 15 17 18 19 19 19 19 10 10 10 10 10 10	Night 13.5% 14.4% 10.6%	94.24% 4.44% 1.32%
c (Adt): entage: folume: Speed: stance: Height: -Bermi: Barrier: eserver: ee Pad): evation:	240 vehi 10.00% 24 vehic 45 mph 36 feet 0.0 feet 0.0 feet 44.0 feet 5.0 feet 0.0 feet 0.0 feet	icles		Mediun	ditions (H dium Truck avy Truck Mix icleType Au edium Truc Heavy Truck ource Elev Autos: m Trucks: ny Trucks:	Autom Auto	0, Soi utos: des): des): 2.0% 6.2% 1.8% (in fe	ft = 15) 15 15 15 15 15 15 17 18 19 19 19 19 10 10 10 10 10 10	Night 13.5% 14.4% 10.6%	94.24% 4.44% 1.32%
c (Adt): entage: folume: Speed: stance: Height: -Berm): Barrier: pserver: e Pad): evation:	240 vehi 10.00% 24 vehic 45 mph 36 feet 0.0 feet 0.0 feet 0.0 feet 0.0 feet 0.0 feet 0.0 feet 0.0 feet	icles		Mediun	dium Truck: avy Truck: Mix icleType Au edium Truck Heavy Truck ource Elev Autos: m Trucks: ny Trucks:	Auks (2 Axx s (3+ Axx D) tos: 72 cks: 76 cks: 8 attions (0.00 2.29 8.00	utos: des): des): des): 2.0% 6.2% 1.8% (in fe	15 15 15 15 Evening 14.6% 9.4% 7.7%	13.5% 14.4% 10.6%	94.249 4.449 1.329
entage: //olume: Speed: stance: Height: -Berm): Barrier: oserver: e Pad): evation:	10.00% 24 vehic 45 mph 36 feet 0.0 feet 0.0 44.0 feet 44.0 feet 0.0 feet 5.0 feet 0.0 feet 0.0 feet	t		Vehicle I Veh Veh Me F Noise So Mediui Heav	avy Truck: Mix icleType Au edium Truc Heavy Truc Ource Elev Autos: m Trucks:	Di Di tos: 72 cks: 76 cks: 81 0.00 2.29 8.00	les): les): 2.0% 6.2% 1.8% (in fe	15 15 15 Evening 14.6% 9.4% 7.7%	13.5% 14.4% 10.6%	94.24% 4.44% 1.32%
Volume: Speed: Stance: Height: -Berm): Barrier: oserver: e Pad): evation:	24 vehic 45 mph 36 feet 0.0 feet 0.0 44.0 feet 44.0 feet 5.0 feet 0.0 feet 0.0 feet			Vehicle I Veh Veh Me F Noise So Mediui Heav	avy Truck: Mix icleType Au edium Truc Heavy Truc Ource Elev Autos: m Trucks:	Ditos: 72 cks: 76 cks: 8 ations (0.00 2.29 8.00	les): 2.0% 6.2% 1.8% (in fee)	15 Evening 14.6% 9.4% 7.7% et)	13.5% 14.4% 10.6%	94.24% 4.44% 1.32%
Volume: Speed: Stance: Height: -Berm): Barrier: oserver: e Pad): evation:	45 mph 36 feet 0.0 44.0 feet 44.0 feet 0.0 feet 5.0 feet 0.0 feet 0.0 feet			Vehicle I Vehicle I Vehicle I Noise So Mediur Heav	Mix icleType Au edium Truc Heavy Truc Autos: m Trucks:	Ditos: 72 cks: 76 cks: 8 rations (0.00 2.29 8.00	2.0% 6.2% 1.8% (in fe	Evening 14.6% 9.4% 7.7%	13.5% 14.4% 10.6%	94.24% 4.44% 1.32%
Height: -Berm): Barrier: oserver: oserver: ee Pad): evation:	0.0 feet 0.0 44.0 feet 44.0 feet 0.0 feet 5.0 feet 0.0 feet 0.0 feet			Noise So	icleType Au edium Truc Heavy Truc ource Elev Autos: m Trucks:	tos: 72 cks: 76 cks: 8 cations (0.00 2.29 8.00	2.0% 6.2% 1.8% (in fee	14.6% 9.4% 7.7% et)	13.5% 14.4% 10.6%	94.24% 4.44% 1.32%
Height: -Berm): Barrier: oserver: oserver: e Pad): evation:	0.0 feet 0.0 44.0 feet 44.0 feet 0.0 feet 5.0 feet 0.0 feet 0.0 feet			Noise So	icleType Au edium Truc Heavy Truc ource Elev Autos: m Trucks:	tos: 72 cks: 76 cks: 8 cations (0.00 2.29 8.00	2.0% 6.2% 1.8% (in fee	14.6% 9.4% 7.7% et)	13.5% 14.4% 10.6%	94.24% 4.44% 1.32%
-Berm): Barrier: oserver: oserver: e Pad): evation:	0.0 44.0 feet 44.0 feet 0.0 feet 5.0 feet 0.0 feet 0.0 feet			Noise Sc Mediur Heav	Au edium Truc Heavy Truc Durce Elev Autos: m Trucks: ry Trucks:	tos: 72 cks: 76 cks: 8 cations (0.00 2.29 8.00	2.0% 6.2% 1.8% (in fee	14.6% 9.4% 7.7% et)	13.5% 14.4% 10.6%	94.24% 4.44% 1.32%
-Berm): Barrier: oserver: oserver: e Pad): evation:	0.0 44.0 feet 44.0 feet 0.0 feet 5.0 feet 0.0 feet 0.0 feet			Noise So Mediui Heav	Heavy Truc Durce Elev Autos: m Trucks: ny Trucks:	0.00 2.29 8.00	1.8% (in fe	7.7% et)	10.6%	1.32%
-Berm): Barrier: oserver: oserver: e Pad): evation:	0.0 44.0 feet 44.0 feet 0.0 feet 5.0 feet 0.0 feet 0.0 feet			Noise So Mediui Heav	Autos: m Trucks: ry Trucks:	0.00 2.29 8.00	(in fe	et)		
Barrier: oserver: oserver: e Pad): evation:	44.0 feet 44.0 feet 0.0 feet 5.0 feet 0.0 feet 0.0 feet 0.0%			Mediui Heav	Autos: m Trucks: ry Trucks:	0.00 2.29 8.00	00	,	ustment:	0.0
oserver: oserver: e Pad): evation:	0.0 feet 5.0 feet 0.0 feet 0.0 feet 0.0%			Mediui Heav	Autos: m Trucks: ry Trucks:	0.00 2.29 8.00	00	,	ustment:	0.0
e Pad): evation:	5.0 feet 0.0 feet 0.0 feet 0.0%			Heav	m Trucks: yy Trucks:	2.29 8.00	97	Grade Adj	ustment:	0.0
evation:	0.0 feet 0.0 feet 0.0%			Heav	y Trucks:	8.00		Grade Adj	ustment:	0.0
	0.0 feet 0.0%						14	Graue Auj	ustriient.	0.0
evation:	0.0%			Lane Eq	uivalent D	intonno				
						istance	(in fe	eet)		
Grade:					Autos:	40.46				
ft View:	-90.0 degr	rees			m Trucks:					
nt View:	90.0 degr	rees		Heav	y Trucks:	40.26	52			
culation	15			1						
EMEL	Traffic Flow	v D	Distance	Finite	Road	Fresnel	I E	Barrier Atte	en Ber	m Atten
68.46	3 -18.2	29	1.	28	-1.20	-4	1.61	0.0	100	0.000
79.45	5 -31.5	56	1.	31	-1.20	-4	1.87	0.0	100	0.000
84.25	-36.8	34	1.	31	-1.20	-5	5.50	0.0	100	0.000
els (with	hout Topo an	id bar	rier atte	nuation)						
Peak Ho				Evening	Leq Ni	_		Ldn		VEL
	0.2	48.0		47.1		42.0		49.9		50.
40			-	43.0		40.0				48.
				41.6		38.2				47.
47			5	49.3		45.1		53.1		53.
47	3.5	51.5	,							
47 53	3.5 Contour (in fe) dBA	65 dF) dBA		dBA
	4	48.0 47.5	48.0 46.0 47.5 45.9	48.0 46.0	48.0 46.0 43.0 47.5 45.9 41.6	48.0 46.0 43.0 47.5 45.9 41.6	48.0 46.0 43.0 40.0 47.5 45.9 41.6 38.2	48.0 46.0 43.0 40.0 47.5 45.9 41.6 38.2	48.0 46.0 43.0 40.0 47.8 47.5 45.9 41.6 38.2 46.6	48.0 46.0 43.0 40.0 47.8 47.5 45.9 41.6 38.2 46.6

Wednesday, November 4, 2020

	FHW	A-RD-77-108 I	HIGHW	AY N	IOISE PI	REDICTI	ON M	ODEL			
Scenario: ON Road Name: En Road Segment: e/o	cilia Av.	/y.						Alt2 N	loreno Valle	ey Trad	е
SITE SPEC	IFIC INF	UT DATA			24- 0				EL INPUT	s	
	(A III)	040 111		- 3	site Con	aitions	Hara		oft = 15)		
Average Daily Traffic	. ,	240 vehicles	S		140	dium Tru	iaka (1	Autos			
Peak Hour Perce Peak Hour V		0.00% 24 vehicles				avy Truc		,			
					пе	avy IIuc	KS (3+	Axies)	. 15		
Vehicle S Near/Far Lane Dis		45 mph		١	/ehicle l	Wix					
Near/Far Lane Dis	stance:	36 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						A	lutos:	72.09	6 14.6%	13.59	6 94.24%
Barrier H	leiaht:	0.0 feet			M	edium Tı	ucks:	76.29	6 9.4%	14.49	6 4.44%
Barrier Type (0-Wall, 1-		0.0			ı	Heavy Ti	ucks:	81.89	6 7.7%	10.69	6 1.32%
Centerline Dist. to I	Barrier:	44.0 feet		,	Voico Sa	ource El	ovatio	ne (in t	foot)		
Centerline Dist. to Ob	server:	44.0 feet		ľ	voise sc	Auto:		0.000	eetj		
Barrier Distance to Ob-	server:	0.0 feet			14-45-	m Truck:		2.297			
Observer Height (Above	e Pad):	5.0 feet				m Truck: vy Truck:		3.004	Grade Ad	liuctmar	vt· 0.0
Pad Ele	vation:	0.0 feet			пеач	ry Trucks	s. c	0.004	Orauc Au	justinoi	n. 0.0
Road Ele	vation:	0.0 feet		L	ane Eq	uivalent	Dista	nce (in	feet)		
Road	Grade:	0.0%				Autos	s: 40	0.460			
Let	t View:	-90.0 degrees	S		Mediu	m Truck	s: 4(0.241			
Righ	t View:	90.0 degrees	S		Heav	y Truck	5: 40	0.262			
FHWA Noise Model Cal	culations										
VehicleType RE	MEL	Traffic Flow	Dista	nce	Finite	Road	Fres	snel	Barrier Att	en Be	erm Atten
Autos:	68.46	-18.29		1.28	-	-1.20		-4.61		000	0.000
Medium Trucks:	79.45	-31.56		1.31		-1.20		-4.87		000	0.000
Heavy Trucks:	84.25	-36.84		1.31		-1.20		-5.50	0.0	000	0.000
Unmitigated Noise Leve							h 15 1- 4	1	Ldn	1 .	ONFL.
VehicleType Leq F	Peak Hour 50.2		8.0	ey Ev	ening 47.1	Leq	Night 42		49.9		50.5
Medium Trucks:	48.0		6.0		47.1		42		49.		48.2
Heavy Trucks:	47.5		5.9		41.6		38		46.0	-	47.0
Vehicle Noise:	53.5		1.5		49.3		45		53.	-	53.6
Centerline Distance to I	Noise Con	tour (in feet)									
				70 a	IBA	65	dΒA		60 dBA	5	5 dBA
		L	.dn:		3			7	15	5	33
		CN	EI.		4			8	16		35

	FH	WA-RD-77-108	HIG	HWAY I	NOISE P	REDICT	ION MC	DEL			
Road Na	ario: OY (2024) me: Encilia Av. ent: w/o Redlar						Name: lumber:		oreno Valle	ey Trade	
	SPECIFIC II	NPUT DATA			0				L INPUT	S	
Highway Data					Site Cor	aitions	(Hara =				
	y Traffic (Adt):	524 vehicle	es					Autos:			
	ır Percentage:	10.00%				dium Tr					
Peak	Hour Volume:	52 vehicle	S		He	avy Tru	cks (3+	Axles):	15		
1	ehicle Speed:	45 mph		- 1	Vehicle	Mix					
Near/Far L	.ane Distance:	36 feet		ŀ	Veh	icleType		Dav	Evening	Night	Dailv
Site Data							Autos:	72.0%	-		94.24%
	arrier Height:	0.0 feet			М	edium T	rucks:	76.2%	9.4%	14.4%	4.44%
Barrier Type (0-		0.0				Heavy T	rucks:	81.8%	7.7%	10.6%	1.32%
*, ,	Dist. to Barrier:	44.0 feet									
	t to Observer:	44.0 feet			Noise S				eet)		
Barrier Distanc		0.0 feet				Auto		.000			
Observer Heigh		5.0 feet				m Truck		.297			
	Pad Flevation:	0.0 feet			Hea	y Truck	s: 8	.004	Grade Ad	justment	: 0.0
R	oad Flevation:	0.0 feet		ı	Lane Eq	uivalen	t Distan	ce (in	feet)		
	Road Grade:	0.0%		Ī		Auto	s: 40	.460			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 40	.241			
	Right View:	90.0 degre	es		Hear	y Truck	s: 40	.262			
FHWA Noise Mo	del Calculation	15									
VehicleType	REMEL	Traffic Flow	Di	stance		Road	Fres		Barrier Att	en Bei	m Atten
Autos		-14.90		1.2		-1.20		-4.61	0.0	000	0.000
Medium Trucks	s: 79.45	-28.17		1.3	31	-1.20		-4.87	0.0	000	0.000
Heavy Trucks	s: 84.25	-33.45		1.3	31	-1.20		-5.50	0.0	000	0.000
Unmitigated Noi			barri								
VehicleType	Leq Peak Ho	ur Leq Day		Leq E	vening		Night		Ldn		NEL
Autos		3.6	51.4		50.5		45.		53.0		53.9
Medium Trucks		1.4	49.4		46.3		43.		51.2	_	51.6
Heavy Trucks Vehicle Noise		0.9 6.9	49.2 54.9		45.0 52.7		41. 48.		50.0 56.9		50.4 56.9
Centerline Dista							.0.	-	50.	-	
Co.nermie Dista	10 110136 0	JJui (iii leet	,	70	dBA	65	dBA	6	60 dBA	55	dBA
			Ldn:		6		12	2	26	i	55
		C	NEL:		6		13	3	28		59

	FHV	VA-RD-77-10	8 HIGI	HWATN	JISE P	REDICI	ION M	JUEL			
	o: OYP (2024 e: Redlands B t: s/o SR-60 \	lvd.	amps					Alt2 Mo 12975	oreno Valle	y Trade	
SITE S	SPECIFIC IN	IPUT DATA				-	NOISE	MODE	L INPUT	s	
Highway Data				S	ite Cor	ditions	(Hard	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	18,871 vehic	les					Autos:	15		
Peak Hour I	Percentage:	10.00%			Ме	edium Tr	ucks (2	Axles):	15		
Peak Ho	our Volume:	1,887 vehicle	es		He	avy Tru	cks (3+	Axles):	15		
Veh	nicle Speed:	50 mph		1/	ehicle	Miv					
Near/Far Lar	ne Distance:	58 feet				icleType		Day	Evening	Night	Daily
Site Data							Autos:	72.0%	-	13.5%	,
	rier Height:	0.0 feet			М	edium T		76.2%		14.4%	
Barrier Type (0-Wa		0.0				Heavy T	rucks:	81.8%	7.7%	10.6%	3.229
Centerline Dis	t. to Barrier:	55.0 feet		N	oise S	ource E	levatio	ns (in fe	eet)		
Centerline Dist. t	o Observer:	55.0 feet				Auto		0.000	.,		
Barrier Distance t	o Observer:	0.0 feet			Mediu	m Truck		.297			
Observer Height (/	Above Pad):	5.0 feet				vy Truck		3.004	Grade Ad	iustment	: 0.0
	d Elevation:	0.0 feet				•					
	d Elevation:	0.0 feet		L	ane Eq	uivalen			feet)		
F	Road Grade:	0.0%				Auto		7.000			
	Left View:	-90.0 degre				m Truck		3.811			
	Right View:	90.0 degre	ees		Hea	vy Truck	s: 46	3.830			
FHWA Noise Mode	l Calculation			•							
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att		rm Atten
Autos:	70.20	0.11		0.30		-1.20		-4.67		000	0.00
Medium Trucks:	81.00	-12.84		0.33		-1.20		-4.87		000	0.00
Heavy Trucks:	85.38	-14.46		0.32		-1.20		-5.38	0.0	000	0.00
Unmitigated Noise											
	Leq Peak Hou		,	Leq Ev			Night		Ldn		NEL
Autos:	69		67.2		66.3		61	-	69.1		69.
Medium Trucks:	67		65.3		62.2		59		67.1		67.
Heavy Trucks:	70		68.4		64.1		60		69.1		69.
Vehicle Noise:	73		71.9		69.3		65	.2	73.3	5	73.
Centerline Distanc	e to Noise Co	ntour (in fee	t)	70 d	RA.	65	dBA	-	i0 dBA	55	dBA
			Ldn:	70 0	91	- 00	19		423		912

: OYP (2024) : Redlands B	,									
	lvd				Job Nur			reno Valle	y made	
: s/o SR-60 E	Eastbound Ram	ıps			000 1101	nocr.	2010			
	PUT DATA				NO	ISE N	IODE	L INPUT	s	
			S	ite Con	ditions (F	lard =	10, So	ft = 15)		
raffic (Adt):	17,243 vehicle	s				-	Autos:	15		
ercentage:	10.00%			Med	dium Truc	ks (2 A	xles):	15		
ur Volume:	1,724 vehicles	;		Hea	avy Truck	s (3+ A	xles):	15		
icle Speed:	50 mph		V	ahicla 1	/liv					
e Distance:	58 feet						Day	Evening	Night	Daily
					Au	tos:	72.0%	14.6%	13.5%	91.47
ier Heiaht:	0.0 feet			Ме	edium Tru	cks:	76.2%	9.4%	14.4%	4.73
II, 1-Berm):	0.0			H	leavy Tru	cks:	81.8%	7.7%	10.6%	3.80
to Barrier:	55.0 feet		M	nisa Sn	urce Fles	rations	(in fo	of)		
Observer:	55.0 feet			0/36 00			•	<i></i>		
Observer:	0.0 feet			Mediur						
bove Pad):	5.0 feet							Grade Ad	iustment	. 0 0
f Elevation:	0.0 feet			11cuv	y Trucks.	0.0	104	07440714	dottriont	. 0.0
d Elevation:	0.0 feet		L	ane Equ	ıivalent E	istanc	e (in f	eet)		
oad Grade:	0.0%				Autos:	47.0	000			
Left View:	-90.0 degree	s		Mediun	n Trucks:	46.8	311			
Right View:	90.0 degree	·S		Heav	y Trucks:	46.8	330			
Calculations	s									
REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresn	e/ I	Barrier Att	en Ber	m Atter
										0.00
										0.00
85.38	-14.13		0.32		-1.20		-5.38	0.0	000	0.00
•										
-			.eq Eve		Leq Ni	-			_	NEL
									-	69
										67
										69
73	.8	71.9		69.1		65.1		73.2	2	73
to Noise Co	ntour (in feet)		70 -4	D.4	CF 45	24		0 404		-10.4
		dn:	/U al	90	oo at	194	6	U ава 417		<i>aBA</i> 89
	lercentage: ur Volume: (cide Speed: le Distance: ler Height: li, 1-Berm): to Barrier: o Observer: o Observer: o Observer: le Elevation: d Elevation: d Elevation: d Elevation: REMEL 70.20 81.00 85.38 Levels (withus) 69 66 70 73	10.00% 1		raffic (Adt): 17.243 vehicles ercentage: 10.00% ur Volume: 1,724 vehicles cle Speed: 50 mph e Distance: 58 feet lier Height: 0.0 feet II, 1-Berm): 0.0 to Barrier: 55.0 feet Observer: 55.0 feet bove Pad): 5.0 feet bove Pad): 5.0 feet bove Pad): 5.0 feet bove Pad): 0.0 feet Lelevation: 0.0 feet Lelevation: 0.0 feet Lelevation: 0.0 feet Dad Grade: 0.0% Left View: 90.0 degrees RIGHUW: 90.0 degrees REMEL Traffic Flow Distance 70.20 -0.32 0.30 81.00 -13.18 0.33 85.38 -14.13 0.32 Levels (without Topo and barrier attenueq Peak Hour Leq Day Leq Eve 69.0 66.9 65.0 70.4 68.7 73.8 71.9	### ### ### ### ### ### ### ### ### ##	### ### ### ### ### ### ### ### ### ##	### ### ### ### ### ### ### ### ### ##	### Autos: 17,243 vehicles Medium Trucks (2 Autes): 17,244 vehicles Medium Trucks (3 + Autes): 17,244 vehicles Seed: Seed: Seed: Wehicle Mix Vehicle Type Day Autos: 72.0% Medium Trucks: 81.0% Noise Source Elevations (in fe autos) Source Elevations (in fe autos) Medium Trucks: 8.004 Lane Equivalent Distance (in fe autos) Medium Trucks: 46.810 Medium Trucks: 46.811 Medium Trucks: 46.813 Medium Trucks: 50.00 Medium Trucks: 62.297 Medium Trucks: 62.297 Medium Trucks: 8.004 Medium Trucks: 70.00 Medium Trucks: 70.00 Medium Trucks: 81.8% Music No.00 Medium Trucks: 70.297 Medium Trucks:		### Autos: 15 15 15 15 15 15 15 15

Wednesday, November 4, 2020

	FHW	/A-RD-77-108 H	IIGHWA'	Y NOISE P	REDICTI	ON MODEL		
Road Name	o: OYP (2024) e: Redlands Bl nt: s/o Eucalypt	vd.				Name: Alt2 umber: 1297	Moreno Valley 5	/ Trade
SITE S	SPECIFIC IN	PUT DATA			N	OISE MOD	EL INPUTS	1
Highway Data				Site Con	ditions (Hard = 10, 3	Soft = 15)	
	Percentage:	15,690 vehicles 10.00% 1,569 vehicles 50 mph	•			Auto cks (2 Axles ks (3+ Axles): 15	
Near/Far Lar		58 feet		Vehicle	Mix			
Neal/Fal Lal	ie Distance.	28 leet		Veh	icleType	Day	Evening	Night Daily
Site Data					A edium Tr	utos: 72.0		13.5% 94.48% 14.4% 4.26%
	rier Height:	0.0 feet			eulum m Heavy Tr			10.6% 1.26%
Barrier Type (0-Wa	. ,	0.0			neavy II	UCKS. 01.0	70 1.170	10.0% 1.20%
Centerline Dis		55.0 feet		Noise So	ource Ele	evations (in	feet)	
Centerline Dist. t		55.0 feet			Autos	: 0.000		
Barrier Distance t		0.0 feet		Mediu	m Trucks	2.297		
Observer Height (Above Pad): Id Elevation:	5.0 feet 0.0 feet		Hear	y Trucks	8.004	Grade Adju	stment: 0.0
	id Elevation:	0.0 feet		I ano Fo	uivalent	Distance (ii	n foot)	
	Road Grade:	0.0 reet 0.0%		Lane Lq	Autos		riccij	
r	Left View:			Modiu	m Trucks			
	Right View:	-90.0 degrees			y Trucks			
FHWA Noise Mode	l Calculations							
VehicleType	REMEL	Traffic Flow	Distance	e Finite	Road	Fresnel	Barrier Atte	n Berm Atten
Autos:	70.20	-0.59	(0.30	-1.20	-4.6	7 0.00	0.000
Medium Trucks:	81.00	-14.05	(0.33	-1.20	-4.8	7 0.00	0.000
Heavy Trucks:	85.38	-19.33	(0.32	-1.20	-5.3	9 0.00	0.000
Unmitigated Noise	Levels (witho	ut Topo and b	arrier att	enuation)				
VehicleType	Leq Peak Hour	Leq Day	Leg	Evening	Leq I	Vight	Ldn	CNEL
Autos:	68.	7 6	6.5	65.6		60.5	68.4	68.9
Medium Trucks:	66.	1 6	4.1	61.0		58.1	65.9	66.3
Heavy Trucks:	65.1	2 6	3.5	59.2		55.9	64.3	64.6
Vehicle Noise:	71.	7 6	9.7	67.6		63.3	71.3	71.7
Centerline Distanc	e to Noise Co	ntour (in feet)				ı	,	
				0 dBA	65 (60 dBA	55 dBA
		_	dn:	67		144	310	669
		CNI	EL:	72		155	334	719

	FHW	/A-RD-77-108	HIGI	HWAY N	OISE P	REDICT	ION MO	DDEL			
Road Nam	io: OYP (2024) ne: Redlands Bl nt: s/o Dwy. 6						t Name: lumber:		oreno Valle	ey Trade	
	SPECIFIC IN	PUT DATA							L INPUT	S	
Highway Data					Site Cor	ditions	(Hard =	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	15,848 vehicle	es					Autos:	15		
Peak Hour	Percentage:	10.00%			Me	edium Tr	ucks (2	Axles):	15		
Peak H	lour Volume:	1,585 vehicle	S		He	avy Tru	cks (3+	Axles):	15		
Ve	hicle Speed:	50 mph		1	/ehicle	Mix					
Near/Far La	ne Distance:	58 feet		F	Veh	icleType	9	Day	Evening	Night	Daily
Site Data							Autos:	72.0%	14.6%	13.5%	94.54%
Bai	rrier Height:	0.0 feet			М	edium T	rucks:	76.2%	9.4%	14.4%	4.21%
Barrier Type (0-W		0.0				Heavy T	rucks:	81.8%	7.7%	10.6%	1.25%
Centerline Dis	st. to Barrier:	55.0 feet		,	Voise S	ource E	levation	ns (in fe	eet)		
Centerline Dist.	to Observer:	55.0 feet		Ľ	.0.00	Auto		.000			
Barrier Distance	to Observer:	0.0 feet			Mediu	m Truck		.297			
Observer Height (Above Pad):	5.0 feet				vy Truck		.004	Grade Ad	iustment	. 0.0
Pa	ad Elevation:	0.0 feet		L						uotiiioiii	. 0.0
Ros	ad Elevation:	0.0 feet		I	.ane Eq	uivalen	t Distar	ice (in i	feet)		
	Road Grade:	0.0%				Auto	s: 47	.000			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 46	.811			
	Right View:	90.0 degree	es		Hea	vy Truck	s: 46	.830			
FHWA Noise Mode	el Calculations	i									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fres	nel	Barrier Att	en Bei	m Atten
Autos:	70.20	-0.54		0.30)	-1.20		-4.67	0.0	000	0.00
Medium Trucks:	81.00	-14.05		0.33		-1.20		-4.87		000	0.00
Heavy Trucks:	85.38	-19.33		0.32	2	-1.20		-5.38	0.0	000	0.00
Unmitigated Noise											
VehicleType	Leq Peak Hou			Leg Ev			Night		Ldn		NEL
Autos:	68.	-	66.5		65.6		60.	-	68.4		69.
Medium Trucks:	66.	-	64.1		61.0		58.		65.9		66.3
Heavy Trucks:	65.		63.5		59.2		55.		64.3		64.0
Vehicle Noise:	71.	-	69.7		67.6	i	63.	3	71.3	3	71.8
Centerline Distant	ce to Noise Co.	ntour (in feet)	70 0	ID A	65	dBA	1 4	i0 dBA		dBA
			Ldn:	700	67	00	UDA 14:		312		0DA 671
			NEL:		72		156	-	312		722
		Ci	*LL.		12		101	,	333		122

	FHW	/A-RD-77-108	HIGH	A YAWH	IOISE P	REDICT	TION MOI	DEL			
Scenario: OYP (Road Name: Redla Road Segment: n/o Er	nds Bl	lvd.					t Name: A Number: 1		oreno Valle	y Trade	•
SITE SPECIF	C IN	PUT DATA							L INPUTS	3	
Highway Data					Site Cor	nditions	(Hard =	10, S	oft = 15)		
Average Daily Traffic (A Peak Hour Percenta Peak Hour Volur Vehicle Spe	ge: ne:	16,035 vehicle 10.00% 1,603 vehicle 50 mph			He	eavy Tru	rucks (2 A icks (3+ A		15		
Near/Far Lane Distar	ce:	58 feet		L	Vehicle			_	T= : T	AC 11	I 5 "
Site Data					ver	icleTyp		Day 72.0%	Evening 14.6%	Night 13.5%	Daily 94.60%
Barrier Heig	ıht:	0.0 feet			M	ledium 1	rucks:	76.2%		14.4%	4.17%
Barrier Type (0-Wall, 1-Bei	m):	0.0				Heavy T	rucks:	81.8%	7.7%	10.6%	1.23%
Centerline Dist. to Ban	ier:	55.0 feet			Voice S	ource F	levations	(in fi	not)		
Centerline Dist. to Obser	/er:	55.0 feet		– F	10/36 0	Auto		_			
Barrier Distance to Obser	/er:	0.0 feet			Modiu	m Truck		297			
Observer Height (Above Pa	ad):	5.0 feet				vv Truci			Grade Adju	uetman	t· 0.0
Pad Elevat	ion:	0.0 feet			Tica	vy much	13. 0.0	704	Ordao riaji		0.0
Road Elevat	ion:	0.0 feet		1	Lane Eq	uivalen	t Distanc	e (in	feet)		
Road Gra	de:	0.0%				Auto		000			
Left Vi	ew:	-90.0 degre	es		Mediu	m Truck	ks: 46.8	311			
Right Vi	ew:	90.0 degre	es		Hea	vy Truci	ks: 46.8	330			
FHWA Noise Model Calcul	ations			1							
VehicleType REME		Traffic Flow		stance		Road	Fresn		Barrier Atte		rm Atten
	0.20	-0.49		0.3		-1.20		-4.67	0.0		0.000
	1.00	-14.05		0.3		-1.20		-4.87	0.0		0.000
	5.38	-19.33		0.3		-1.20		-5.38	0.0	00	0.000
Unmitigated Noise Levels						1	Night		Ldn	_	NEL
VehicleType Leq Pea	68.		66.6	Leg E	ening 65.7		Night 60.6	L	Lan 68.5	_	NEL 69.0
Medium Trucks:	66.	-	64.1		61.0		58.1		65.9		66.3
Heavy Trucks:	65.	-	63.5		59.2		55.9		64.3		64.6
Vehicle Noise:	71.		69.7		67.6		63.4		71.3		71.8
Centerline Distance to Noi	se Co	ntour (in feet)								
·				70 d	BA	65	dBA	- (60 dBA	58	5 dBA
			Ldn:		67		145		313		674
		C	NEL:		73		156		337		725

		VA-RD-77-108			10.0211						
	o: OYP (2024	,							oreno Valle	ey Trade	
	e: Moreno Be					Job N	lumber:	12975			
		Vestbound Ran	ıps					_		_	
SITE :	SPECIFIC IN	PUT DATA			Site Con				L INPUT	S	
Average Daily	Traffic (Adt):	18.202 vehicle	s				(Autos			
	Percentage:	10.00%	_		Me	dium Tr	ucks (2				
	our Volume:	1.820 vehicles				avy Tru		,			
	hicle Speed:	50 mph		L		•	(
Near/Far Lai		82 feet			Vehicle I						
					Vehi	cleType		Day	Evening	Night	Daily
Site Data							Autos:	72.0%		13.5%	
Bar	rier Height:	0.0 feet				edium T		76.2%		14.4%	
Barrier Type (0-W	'all, 1-Berm):	0.0			F	leavy T	rucks:	81.8%	7.7%	10.6%	1.31
Centerline Dis	st. to Barrier:	67.0 feet		İ	Noise So	urce E	levatio	ns (in f	eet)		
Centerline Dist.	to Observer:	67.0 feet		f		Auto		.000			
Barrier Distance	to Observer:	0.0 feet			Mediur	n Truck		.297			
Observer Height (Above Pad):	5.0 feet				y Truck		.004	Grade Ad	iustment	0.0
Pa	ad Elevation:	0.0 feet		L						,	
Roa	ad Elevation:	0.0 feet		- 4	Lane Equ				feet)		
F	Road Grade:	0.0%				Auto		.226			
	Left View:	-90.0 degree	S			n Truck		.059			
	Right View:	90.0 degree	s		Heav	y Truck	s: 53	.076			
FHWA Noise Mode	el Calculation	s		- 1							
VehicleType	REMEL	Traffic Flow	Dista		Finite		Fres		Barrier Att		m Atter
Autos:	70.20	0.05		-0.5		-1.20		-4.71		000	0.00
Medium Trucks:	81.00	-13.23		-0.4	-	-1.20		-4.88		000	0.00
Heavy Trucks:	85.38	-18.51		-0.4		-1.20		-5.29	0.0	000	0.00
Unmitigated Noise VehicleType	Leg Peak Hou						A Control		Ldn		NEL
Venicie i ype Autos:	Leq Peak Hot		6.3	Leq E	vening 65.4	Leq	Night 60	2	Lan 68.1		VEL 68
Medium Trucks:	66		64.1		61.0		58	-	65.5		66
Heavy Trucks:	65		33.5		59.2		55		64.3	-	64
Vehicle Noise:	71		9.6		67.5		63		71.		71
Centerline Distanc	e to Noise Co	ntour (in feet)									
		,		70	dBA	65	dBA	(60 dBA	55	dBA
		L	dn:		80		17	3	373		80

Wednesday, November 4, 2020

	FH\	WA-RD-77-108	HIGHWA	Y NOISE	PREDICT	ION MOD	EL		
Road Nan	nio: OYP (2024 ne: Moreno Be ent: s/o SR-60 l		ıps			t Name: Al lumber: 12		no Valley T	rade
	SPECIFIC IN	IPUT DATA				NOISE M			
Highway Data				Site C	onditions	(Hard = 1	0, Soft =	: 15)	
Average Daily	. ,	33,711 vehicle	:S					15	
	Percentage:	10.00%				ucks (2 Ax	,	15	
	lour Volume:	3,371 vehicles	;		Heavy Tru	cks (3+ Ax	(les):	15	
	ehicle Speed:	50 mph		Vehic	e Mix				
Near/Far La	ane Distance:	82 feet		V	ehicleType	e C	ay Ev	ening Ni	ght Daily
Site Data						Autos: 7	2.0% 1	14.6% 1	3.5% 93.33%
Ba	rrier Height:	0.0 feet			Medium 7	rucks: 7	6.2%	9.4% 1	4.4% 4.52%
Barrier Type (0-V	-	0.0			Heavy 7	rucks: 8	1.8%	7.7% 1	0.6% 2.16%
Centerline Di	ist. to Barrier:	67.0 feet		Noise	Source E	levations	(in feet)		
Centerline Dist.	to Observer:	67.0 feet			Auto		. ,		
Barrier Distance		0.0 feet		Med	ium Truck				
Observer Height	. ,	5.0 feet		He	avy Truck	s: 8.00	n4 Gra	ade Adjust	ment: 0.0
-	ad Elevation:	0.0 feet							
	ad Elevation:	0.0 feet		Lane		t Distance)	
	Road Grade:	0.0%		١	Auto				
	Left View:	-90.0 degree			ium Truck	00.01			
	Right View:	90.0 degree	S	He	avy Truck	s: 53.0	76		
FHWA Noise Mod	el Calculation	s		-					
VehicleType	REMEL	Traffic Flow	Distan		te Road	Fresne		rier Atten	Berm Atten
Autos:		2.68		0.51	-1.20		4.71	0.000	0.000
Medium Trucks:		-10.47		0.49	-1.20		4.88	0.000	0.000
Heavy Trucks:	85.38	-13.68		0.49	-1.20	-4	5.29	0.000	0.000
Unmitigated Nois									
VehicleType	Leq Peak Hou			q Evening		Night	Ldi		CNEL
Autos:			59.0	68		62.9		70.8	71.4
Medium Trucks:			66.9	63		60.9		68.6	69.0
Heavy Trucks:			38.3	64	• •	60.7		69.1	69.5 74.9
Vehicle Noise:			72.9	70	.5	66.4		74.4	74.9
Centerline Distan	ce to Noise Co	ontour (in feet)		70 dBA		dBA	60 d	D4	55 dBA
			dn:	70 aBA 13		284	ou a	611	55 dBA 1.317
		-	Lan: IFL:	14		304		656	1,317
		Cr	ILL.	14	1	304		000	1,412

	FH\	WA-RD-77-108	HIGH	HWAY	NOISE PI	REDICT	ION MO	DEL			
Road Nam	io: OYP (2024 ne: Eucalyptus nt: e/o Moreno	Av.					Name: lumber:		oreno Valle	ey Trade	;
	SPECIFIC IN	IPUT DATA			0				L INPUT	S	
Highway Data					Site Con	aitions	•				
Average Daily		7,256 vehicle	es					Autos:			
	Percentage:	10.00%					ucks (2)	,			
	lour Volume:	726 vehicle	S		He	avy Tru	cks (3+)	Axles):	15		
	hicle Speed:	40 mph		ľ	Vehicle	Mix					
Near/Far La	ne Distance:	48 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	72.0%	14.6%	13.5%	6 90.07%
Ba	rrier Height:	0.0 feet			М	edium T	rucks:	76.2%	9.4%	14.49	6 4.73%
Barrier Type (0-W		0.0			1	Heavy T	rucks:	81.8%	7.7%	10.69	5.21%
Centerline Di	. ,	50.0 feet		ŀ	Noise So	urco E	lovation	c (in f	not)		
Centerline Dist.	to Observer:	50.0 feet		ŀ	NOISE SC	Auto		000	ei)		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		297			
Observer Height (Above Pad):	5.0 feet				y Truck		004	Grade Ad	iuetman	t· 0.0
P	ad Elevation:	0.0 feet								Juotimon	1. 0.0
Ro	ad Elevation:	0.0 feet		ļ	Lane Eq	uivalen	Distan	ce (in :	feet)		
	Road Grade:	0.0%				Auto		147			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 43.	947			
	Right View:	90.0 degre	es		Heav	y Truck	s: 43.	966			
FHWA Noise Mod										1	
VehicleType	REMEL	Traffic Flow		stance		Road	Fresr	_	Barrier Att		rm Atten
Autos:	66.51			0.7		-1.20		-4.65		000	0.000
Medium Trucks:				0.7		-1.20		-4.87		000	0.000
Heavy Trucks:	82.99	-15.55		0.7	73	-1.20		-5.43	0.0	000	0.000
Unmitigated Noise								,			
VehicleType	Leq Peak Hou			Leq E	vening		Night		Ldn	_	NEL
Autos:		2.8	60.6		59.7		54.6	-	62.	-	63.1
Medium Trucks:	-	.3	59.3		56.2		53.0	-	61.		61.5
Heavy Trucks:		7.0	65.3		61.0		57.7		66.		66.4
Vehicle Noise:		0.2			64.2		60.4	+	68.)	68.9
Centerline Distant	ce to Noise Co	ontour (in feet)	-			/D.4	1 .		1 -	
			L	70	dBA	65	dBA	4 - 7	60 dBA		5 dBA
			Ldn:		40		86		185		398
		C	NEL:		42		91		197		424

	OVD (0							4110.		-	
	o: OYP (2024								loreno Valle	ey Trade	•
	e: Eucalyptus					JOD N	lumber.	12975	,		
Road Segmen	it: e/o Auto IVI	ali Dr.									
	SPECIFIC IN	IPUT DATA							L INPUT	S	
Highway Data					Site Cor	ditions	(Hard	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	3,555 vehic	les					Autos	15		
Peak Hour I	Percentage:	10.00%			Me	dium Tr	ucks (2	Axles)	: 15		
Peak H	our Volume:	356 vehicle	es		He	avy Tru	cks (3+	Axles)	: 15		
Vel	hicle Speed:	40 mph		+	Vehicle	Mix					
Near/Far Lar	ne Distance:	48 feet		ŀ	Veh	icleType	9	Day	Evening	Night	Daily
Site Data							Autos:	72.09	6 14.6%	13.5%	85.28%
Bar	rier Heiaht:	0.0 feet			М	edium T	rucks:	76.29	6 9.4%	14.4%	5.36%
Barrier Type (0-W	all, 1-Berm):	0.0				Heavy T	rucks:	81.89	6 7.7%	10.6%	9.36%
Centerline Dis		50.0 feet			Noise S	ource E	levatio	ns (in t	eet)		
Centerline Dist. t		50.0 feet				Auto	os: (0.000	,		
Barrier Distance t		0.0 feet			Mediu	m Truck		2.297			
Observer Height (,	5.0 feet			Hear	v Truck	rs: 8	3.004	Grade Ad	justmen	t: 0.0
	d Elevation:	0.0 feet		L							
	d Elevation:	0.0 feet		L	Lane Eq			_ •	feet)		
F	Road Grade:	0.0%				Auto		1.147			
	Left View:	-90.0 degre				m Truck		3.947			
	Right View:	90.0 degre	es		Hea	y Truck	(S: 4)	3.966			
FHWA Noise Mode											
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att		rm Atten
Autos:	66.51			0.7		-1.20		-4.65		000	0.00
Medium Trucks:	77.72		-	0.7		-1.20		-4.87		000	0.00
Heavy Trucks:	82.99			0.7		-1.20		-5.43	0.0	000	0.00
Unmitigated Noise											
	Leq Peak Hou		,	Leq E	vening		Night		Ldn		NEL
Autos:		9.5	57.3		56.4		51		59.2	_	59.
Medium Trucks:		3.7	56.8		53.7		50		58.	-	58.
Heavy Trucks:		3.4	64.8		60.5		57		65.	_	65.
Vehicle Noise:		7.8	66.0		62.5		58	.9	67.	1	67.
Centerline Distanc	e to Noise Co	ontour (in fee	t)	70	dBA	C.	dBA		60 dBA		5 dBA
			Ldn:	70	ава 32	05	<i>aBA</i> 6		<i>ьи ава</i> 148		319 319
			Lan:		32			3	148 157		319
		C	11 VLL.		34		,	0	137		558

	FH'	WA-RD-77-108	HIGH	YAW	NOISE PI	REDICTI	ON MO	DEL			
	o: OYP (2024 e: Eucalyptus t: w/o Aldi Pl	Av.					Name: . umber:		oreno Valle	ey Trade	•
	PECIFIC II	NPUT DATA			04- 0				L INPUT	S	
Highway Data					Site Con	aitions (
Average Daily 1	. ,	3,466 vehic	es					Autos:			
Peak Hour F		10.00%				dium Tru		,			
	our Volume:	347 vehicle	es		не	avy Truc	KS (3+)	axies):	15		
	icle Speed:	40 mph			Vehicle I	Viix					
Near/Far Lan	e Distance:	48 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						Α	utos:	72.0%	14.6%	13.5%	82.539
Ban	rier Height:	0.0 feet			M	edium Tr	ucks:	76.2%	9.4%	14.49	5.789
Barrier Type (0-Wa	all, 1-Berm):	0.0			I	Heavy Tr	ucks:	81.8%	7.7%	10.69	5 11.69°
Centerline Dis	t. to Barrier:	50.0 feet		1	Noise So	urco Ek	wation	c (in f	not)		
Centerline Dist. t	o Observer:	50.0 feet		ł	NOISE SC	Autos		000	eei)		
Barrier Distance t	o Observer:	0.0 feet			Modiu	m Trucks		297			
Observer Height (A	Above Pad):	5.0 feet				v Trucks		004	Grade Ad	iustman	t- 0.0
Pa	d Elevation:	0.0 feet			ricas	ry Trucks	. 0.	004	Orade Au	ustrici	i. 0.0
Roa	d Elevation:	0.0 feet			Lane Eq	uivalent			feet)		
F	Road Grade:	0.0%				Autos	: 44.	147			
	Left View:	-90.0 degre	es			m Trucks		947			
	Right View:	90.0 degre	es		Heav	y Trucks	43.	966			
FHWA Noise Mode	l Calculation	is		'							
VehicleType	REMEL	Traffic Flow		stance		Road	Fresr		Barrier Att	_	rm Atten
Autos:	66.51			0.7		-1.20		-4.65		000	0.00
Medium Trucks:	77.72			0.7		-1.20		-4.87		000	0.00
Heavy Trucks:	82.99			0.7	-	-1.20		-5.43	0.0	000	0.00
Unmitigated Noise								1			
VehicleType Autos:	Leq Peak Ho	ur Leq Da	57.0	Leq E	vening 56.1	Leq I	vignt 51.0		Ldn 58.9	_	NEL 59
Autos: Medium Trucks:		9.3 3.9	57.0		55.1		51.0	-	58.5	-	59 59
		7.3	65.6				58.0	-	66.4		
Heavy Trucks:_ Vehicle Noise:		7.3	66.7		61.3		58.0		67.		66 68
					63.0		59.4	+	67.	'	68
Centerline Distanc	e to Noise C	ontour (in fee	t)	70	dBA	65 c	IRA		60 dBA	5	5 dBA
			Ldn:		35	00 0	76		163		35

Wednesday, November 4, 2020

	FHWA	-RD-77-108 I	HIGHW.	AY NOI	SE PF	REDICTI	ON MC	DEL			
Scenario: OYI Road Name: Euc Road Segment: w/o	alyptus Av	1.					Name: umber:		loreno Valle	y Trad	de
SITE SPEC	IFIC INP	UT DATA				N	OISE	MODE	L INPUT	S	
Highway Data				Site	Con	ditions (Hard =	10, S	oft = 15)		
Average Daily Traffic Peak Hour Percer Peak Hour Vo	ntage: 10 lume:	1,480 vehicles 0.00% 448 vehicles	3			dium Tru avy Truc	icks (2	,	15		
Vehicle S		40 mph		Veh	icle I	Nix					
Near/Far Lane Dist	ance:	48 feet			Vehi	cleТуре		Day	Evening	Nigh	t Daily
Site Data						Α	utos:	72.0%	4 14.6%	13.5	% 83.22%
Barrier He	eiaht:	0.0 feet			Me	edium Tr	ucks:	76.29	9.4%	14.4	% 5.81%
Barrier Type (0-Wall, 1-E		0.0			F	leavy Tr	ucks:	81.89	6 7.7%	10.6	% 10.97%
Centerline Dist. to B	arrier:	50.0 feet		Noi	se So	urce Ele	evation	s (in f	eet)		
Centerline Dist. to Obs	erver:	50.0 feet		11.0		Autos		000	,		
Barrier Distance to Obs	erver:	0.0 feet		۸.	Apdiur	n Trucks	. 0.	297			
Observer Height (Above	Pad):	5.0 feet				y Trucks		004	Grade Ad	iustme	ent: 0.0
Pad Elev		0.0 feet									
Road Elev		0.0 feet		Lan	e Equ	uivalent			feet)		
Road G		0.0%				Autos		147			
		-90.0 degrees				n Trucks		947			
Right	View:	90.0 degrees	3		Heav	y Trucks	: 43	966			
FHWA Noise Model Calc	ulations										
VehicleType REI	VEL T	raffic Flow	Distar	ice F	Finite	Road	Fresi	nel	Barrier Atte	en E	Berm Atten
Autos:	66.51	-5.61		0.71		-1.20		-4.65	0.0		0.000
Medium Trucks:	77.72	-17.17		0.74		-1.20		-4.87		000	0.000
Heavy Trucks:	82.99	-14.41		0.73		-1.20		-5.43	0.0	000	0.000
Unmitigated Noise Level	ls (withou	t Topo and b	arrier a	ttenuat	ion)						
	eak Hour	Leq Day		eq Even	-	Leq I			Ldn		CNEL
Autos:	60.4	-	8.2		57.3		52.	_	60.1		60.6
Medium Trucks:	60.1	-	8.1		55.0		52.		59.9		60.3
Heavy Trucks:	68.1		6.5		62.2		58.	_	67.2		67.6
Vehicle Noise:	69.3	6	7.6		64.0		60.	4	68.6	6	69.0
Centerline Distance to N	oise Cont	our (in feet)						,			
			. L	70 dBA		65 (60 dBA		55 dBA
		_	dn:		40		87		187		404
		CN	EL:		43		92		199		428

	FHW	A-RD-77-108	HIGH	HWAY N	OISE P	REDICT	ION MO	DDEL			
Road Nan	nio: OYP (2024) ne: Eucalyptus A nt: w/o Redland						t Name: lumber:		oreno Valle	ey Trade	
	SPECIFIC IN	UT DATA							L INPUT	s	
Highway Data				5	Site Cor	iditions	(Hard :	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	4,695 vehicle	es					Autos:	15		
Peak Hour	Percentage:	10.00%			Me	edium Tr	ucks (2	Axles):	15		
Peak F	lour Volume:	470 vehicles	S		He	avy Tru	cks (3+	Axles):	15		
Ve	ehicle Speed:	40 mph		1	/ehicle	Mix					
Near/Far La	ne Distance:	48 feet		F		icleType		Day	Evening	Night	Daily
Site Data							Autos:	72.0%	14.6%	13.5%	83.99%
Ra	rrier Height:	0.0 feet			М	edium T	rucks:	76.2%	9.4%	14.4%	5.54%
Barrier Type (0-W		0.0				Heavy T	rucks:	81.8%	7.7%	10.6%	10.47%
Centerline Di		50.0 feet		,	loise S	ource E	levatio	ns (in fe	eet)		
Centerline Dist.	to Observer:	50.0 feet				Auto		.000	,		
Barrier Distance	to Observer:	0.0 feet			Mediu	m Truck		.297			
Observer Height	(Above Pad):	5.0 feet				vy Truck		.004	Grade Ad	iustment	0.0
P	ad Elevation:	0.0 feet				•					
Ro	ad Elevation:	0.0 feet		L	.ane Eq	uivalen	t Distar	nce (in i	feet)		
	Road Grade:	0.0%				Auto	s: 44	.147			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 43	3.947			
	Right View:	90.0 degree	es		Hea	vy Truck	s: 43	1.966			
FHWA Noise Mod	el Calculations										
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Bei	m Atten
Autos:		-5.37		0.71		-1.20		-4.65		000	0.000
Medium Trucks:	77.72	-17.17		0.74	1	-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	82.99	-14.41		0.73	3	-1.20		-5.43	0.0	000	0.000
Unmitigated Nois											
VehicleType	Leq Peak Hour		_	Leq Ev			Night		Ldn		NEL
Autos:			58.4		57.5		52		60.3	-	60.9
Medium Trucks:			58.1		55.0		52		59.9	-	60.3
Heavy Trucks:			66.5		62.2		58		67.2		67.6
Vehicle Noise:	69.4	ı	67.6		64.0		60	.4	68.6	3	69.0
Centerline Distan	ce to Noise Cor	tour (in feet,)	70 o	ID A	65	dBA		60 dBA		dBA
			Ldn:	700	41	03	0DA 8	_	188		406
			VEL:		41		9:		188 200		406
		CI	VCL.		43		9.	٥	200	'	431

	FHV	VA-RD-77-108	HIG	HWAY NO	DISE P	REDICT	ION M	ODEL			
Road Nan	io: OYP (2024 ne: Encilia Av. nt: e/o Essen I	,						Alt2 M 12975	oreno Valle	ey Trade	
	SPECIFIC IN	PUT DATA							L INPUT	S	
Highway Data				S	ite Cor	ditions	(Hard	= 10, S	oft = 15)		
Peak F	Traffic (Adt): Percentage: four Volume: chicle Speed:	398 vehicle 10.00% 40 vehicle 45 mph	-			dium Tr avy Tru		/	15		
	ne Distance:	36 feet		V	ehicle						
	ile Distalle.	30 leet			Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	72.0%		13.5%	96.53%
Ba Barrier Type (0-W	rrier Height:	0.0 feet 0.0				edium T Heavy T		76.2% 81.8%		14.4% 10.6%	
Centerline Di		44.0 feet									
Centerline Dist.	to Observer:	44.0 feet		N	oise s	ource E		- '	eet)		
Barrier Distance		0.0 feet			Mediu	Auto m Truck	(0.000 2.297			
Observer Height	ad Elevation:	5.0 feet 0.0 feet			Hear	y Truck	:s: 8	3.004	Grade Ad	justmeni	t: 0.0
	au Elevation: ad Elevation:	0.0 feet		1	ane Fo	uivalen	t Dista	nce (in	feet)		
	Road Grade:	0.0%				Auto		1.460	,		
	Left View:	-90.0 degree	20		Mediu	m Truck	s: 40	241			
	Right View:	90.0 degree			Hea	y Truck	s: 40	0.262			
FHWA Noise Mod											
VehicleType	REMEL	Traffic Flow	Di	istance		Road	Fres		Barrier Att		rm Atten
Autos:	68.46	-15.99		1.28		-1.20		-4.61		000	0.00
Medium Trucks:		-31.56		1.31		-1.20		-4.87		000	0.00
Heavy Trucks:		-36.84		1.31		-1.20		-5.50	0.0	000	0.00
Unmitigated Nois			_								
VehicleType	Leq Peak Hou			Leq Eve			Night		Ldn	_	NEL
Autos:	52	.0	50.3		49.4		44	.0	52.	_	52.
Medium Trucks:			46.0		43.0		40		47.	-	48.
Heavy Trucks: Vehicle Noise:			45.9 52.7		41.6 50.8		38 46	-	46. 54.		47. 54.
Centerline Distant	ce to Noise Co	ontour (in feet)								
		, , , ,		70 di	BA	65	dBA		60 dBA	55	dBA
			'								

	FHV	VA-RD-77-108	HIGI	1 YAWH	IOISE PF	REDICTION	ON MO	DEL			
Scenario: OYF Road Name: End Road Segment: e/o	ilia Av.						Name: I Imber:		oreno Valle	y Trade	
SITE SPECI	FIC IN	PUT DATA			04- 0				L INPUT	3	
Highway Data					Site Con	aitions (
Average Daily Traffic	, ,	599 vehicle	S					Autos:			
Peak Hour Percer		10.00%				dium Tru		,			
Peak Hour Vo.		60 vehicles			Hea	avy Truc	ks (3+ A	(xles	15		
Vehicle S	peed:	45 mph		1	Vehicle N	/lix					
Near/Far Lane Dist	ance:	36 feet				cleType		Day	Evening	Night	Daily
Site Data						Α	utos:	72.0%	14.6%	13.5%	97.699
Barrier He	eiaht:	0.0 feet			Me	edium Tri	ucks:	76.2%	9.4%	14.4%	1.789
Barrier Type (0-Wall, 1-B		0.0			H	leavy Tro	ıcks:	81.8%	7.7%	10.6%	0.539
Centerline Dist. to B	,	44.0 feet			Noise So		4:	- /:- £	41		
Centerline Dist. to Obs	erver:	44.0 feet			voise 50			_	eet)		
Barrier Distance to Obs	erver:	0.0 feet				Autos		000			
Observer Height (Above	Pad):	5.0 feet				n Trucks		297	Crada Ad	otmo o nt	
Pad Elev	ation:	0.0 feet			neav	y Trucks	. 8.0	004	Grade Adj	ustrient	0.0
Road Elev	ation:	0.0 feet		1	Lane Equ	iivalent	Distanc	e (in	feet)		
Road G	rade:	0.0%				Autos	: 40.4	460			
Left	View:	-90.0 degree	s		Mediun	n Trucks	: 40.	241			
Right	View:	90.0 degree	s		Heav	y Trucks	: 40.	262			
FHWA Noise Model Calc	ulations	s									
VehicleType REN	ΛEL	Traffic Flow	Dis	stance	Finite	Road	Fresn	el	Barrier Atte	en Ber	m Atten
Autos:	68.46	-14.16		1.2	В	-1.20		-4.61	0.0	100	0.00
Medium Trucks:	79.45	-31.56		1.3	1	-1.20		-4.87	0.0	00	0.00
Heavy Trucks:	84.25	-36.84		1.3	1	-1.20		-5.50	0.0	00	0.00
Unmitigated Noise Level	s (with	out Topo and b	arri	er atten	uation)						
	eak Hou			Leg E		Leq N			Ldn		VEL
Autos:	54		2.2		51.2		46.1		54.0		54.
Medium Trucks:	48		6.0		43.0		40.0		47.8		48.
Heavy Trucks:	47		5.9		41.6		38.2		46.6		47.
Vehicle Noise:	55	.9 5	3.9		52.2		47.6		55.5	,	56
Centerline Distance to N	oise Co	ntour (in feet)		70 (65.0			50 dBA		dBA

Wednesday, November 4, 2020

	FHV	VA-RD-77-108	HIGHV	NAY N	OISE PI	REDICTI	ON M	DDEL			
Road Na	ario: OYP (2024) me: Encilia Av. ent: w/o Redlan							Alt2 M 12975	oreno Vall	ey Trade	
SITE Highway Data	SPECIFIC IN	PUT DATA			ite Con	N ditions			L INPUT	s	
Average Dail Peak Hou Peak V	y Traffic (Adt): ir Percentage: Hour Volume: 'ehicle Speed:	1,170 vehicle 10.00% 117 vehicles 45 mph			Ме	dium Tru avy Truc	icks (2	Autos. Axles).	15 15		
Near/Far L	ane Distance:	36 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data Barrier Type (0-	arrier Height: Wall, 1-Berm):	0.0 feet 0.0				A edium Tr Heavy Tr		72.0% 76.2% 81.8%	9.4%		1.99%
Centerline L	Dist. to Barrier:	44.0 feet		^	loise So	ource Ele	evatio	ns (in f	eet)		
Centerline Disi Barrier Distance Observer Height	e to Observer:	44.0 feet 0.0 feet 5.0 feet 0.0 feet			Mediu	Autos m Trucks ry Trucks	s: 0 s: 2	.000 2.297 3.004	Grade Ad	ljustmen	t: 0.0
R	oad Elevation:	0.0 feet		L	ane Eq	uivalent	Distai	nce (in	feet)		
	Road Grade: Left View: Right View:	0.0% -90.0 degree 90.0 degree				Autos m Trucks ry Trucks	s: 40).460).241).262			
FHWA Noise Mo	del Calculation	5									
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fres	nel	Barrier Att	ten Be	rm Atten
Autos	: 68.46	-11.27		1.28	3	-1.20		-4.61	0.	000	0.000
Medium Trucks	79.45	-28.17		1.31		-1.20		-4.87	0.	000	0.000
Heavy Trucks	84.25	-33.45		1.31		-1.20		-5.50	0.	000	0.000
Unmitigated Nois			barrier	atteni	uation)						
VehicleType	Leq Peak Hou			Leq Ev		Leq			Ldn		NEL
Autos			55.0		54.1		49		56.	-	57.5
Medium Trucks			19.4		46.3		43		51.	-	51.6
Heavy Trucks Vehicle Noise		-	49.2 56.9		45.0 55.2		41 50		50. 58.	-	50.4 59.1
Centerline Distar	nce to Noise Co	ntour (in feet)									
20000		(111 1000)		70 d	BA	65 (dBA		60 dBA	55	dBA
			.dn:		8		1	6	35	5	76
		CI	IEL:		8		1	8	38	3	83

November 4, 2020 Wednesday, November 4, 2020

FI	HWA-RD-77-108	HIGH	HWAY N	OISE P	REDICT	ION MO	DDEL			
Scenario: GPBO (2 Road Name: Redlands Road Segment: s/o SR-60	Blvd.	mps				t Name: lumber:		oreno Valle	ey Trade	
SITE SPECIFIC	INPUT DATA							L INPUT	s	
Highway Data			S	Site Cor	ditions	(Hard =	= 10, Sc	oft = 15)		
Average Daily Traffic (Adt):	25,690 vehicl	es					Autos:	15		
Peak Hour Percentage:	10.00%			Me	edium Tr	ucks (2	Axles):	15		
Peak Hour Volume:	2,569 vehicle	S		He	avy Tru	cks (3+	Axles):	15		
Vehicle Speed:	50 mph		1	/ehicle	Mix					
Near/Far Lane Distance:	58 feet		F		icleType	,	Day	Evening	Night	Daily
Site Data						Autos:	72.0%	14.6%	13.5%	94.24%
Barrier Height:	0.0 feet			М	edium T	rucks:	76.2%	9.4%	14.4%	4.44%
Barrier Type (0-Wall, 1-Berm):					Heavy T	rucks:	81.8%	7.7%	10.6%	1.32%
Centerline Dist. to Barrier:	55.0 feet		٨	loise S	ource E	levation	ns (in fe	eet)		
Centerline Dist. to Observer:	55.0 feet				Auto		.000	,		
Barrier Distance to Observer:				Mediu	m Truck		.297			
Observer Height (Above Pad):	5.0 feet				vy Truck		.004	Grade Ad	iustment	: 0.0
Pad Elevation:	0.0 feet									
Road Elevation:	0.0 feet		L	ane Eq	uivalen		_ •	feet)		
Road Grade:	0.0%				Auto		.000			
Left View:	-90.0 degre	es			m Truck		.811			
Right View:	90.0 degre	es		Hea	vy Truck	s: 46	.830			
FHWA Noise Model Calculation	ns									
VehicleType REMEL	Traffic Flow		stance		Road	Fres		Barrier Att		m Atten
Autos: 70.2			0.30		-1.20		-4.67		000	0.000
Medium Trucks: 81.0			0.33		-1.20		-4.87		000	0.000
Heavy Trucks: 85.3			0.32		-1.20		-5.38	0.0	000	0.000
Unmitigated Noise Levels (with						A E 6-4	1	I do		NITI
VehicleType Leq Peak H			Leq Ev			Night	^	Ldn	_	NEL 71.1
	70.8 88.4	68.6 66.4		67.7 63.4		62. 60.	-	70.5 68.2	-	68.6
	87.5	65.8		61.6		58.		66.6	_	
	73.9	71.9		69.8		65.		73.5		66.9 74.0
Centerline Distance to Noise							-			
Centernine Distance to Noise	Jonitour (In reel	,	70 d	IBA	65	dBA	6	60 dBA	55	dBA
		Ldn:		94		203	3	437		941

	FHV	VA-RD-77-108	HIGH	HWAY N	IOISE P	REDICT	TION M	ODEL			
Scenario: (Road Name: I Road Segment: s	Redlands B	llvd.	mps					: Alt2 M : 12975	oreno Valle	ey Trade	
SITE SPI Highway Data	ECIFIC IN	IPUT DATA			Cita Car				L INPUT	S	
Average Daily Trai Peak Hour Per Peak Hour	centage: Volume: e Speed:	26,068 vehicle 10.00% 2,607 vehicle 50 mph			Ме	edium Ti eavy Tru	rucks (2	Autos: Axles):	15 15		
Near/Far Lane L	Jistance:	58 feet			Veh	nicleType	е	Day	Evening	Night	Daily
Site Data Barrier Barrier Type (0-Wall,	r Height: 1-Berm):	0.0 feet 0.0				ledium 1 Heavy 1		72.0% 76.2% 81.8%	9.4%	13.5% 14.4% 10.6%	4.44%
	Observer: Observer: ove Pad): Elevation:	55.0 feet 55.0 feet 0.0 feet 5.0 feet 0.0 feet			Hea	Auto m Truck vy Truck	os: (ks: 2 ks: 8	0.000 2.297 3.004	Grade Ad	iustment	: 0.0
Roa L	Elevation: d Grade: eft View: ght View:	0.0 feet 0.0% -90.0 degre 90.0 degre				Auto m Truck vy Truck	os: 4'	7.000 6.811 6.830	ieet)		
FHWA Noise Model C					_						
VehicleType Autos: Medium Trucks: Heavy Trucks:	70.20 81.00 85.38	1.61 -11.66 -16.94		0.30 0.30 0.31	0	-1.20 -1.20 -1.20		-4.67 -4.87 -5.38	0.0	en Ber 000 000	0.000 0.000 0.000
Unmitigated Noise Le	vels (with	out Tono and	harri	er atten	uation)						
	Peak Hou			Leg Ev		Leq	Night		Ldn	C	NEL
Autos: Medium Trucks: Heavy Trucks:	70 68 67	.9 .5	68.7 66.5 65.9	,	67.8 63.4 61.6		62	2.7 0.5 3.3	70.6 68.3 66.7	3	71.1 68.6 67.0
Vehicle Noise:	74		72.0		69.8			i.6	73.6		74.0
Centerline Distance to	o Noise Co	ntour (in fee	t)								
		, , , , , , ,	_	70 c	iBA	65	dBA		60 dBA	55	dBA
			Ldn:		95		20	15	441		950
		С	NEL:		102		22	.0	474		1,022

• ,	Project Name: Alt2 Moreno Valley Trade Job Number: 12975 NOISE MODEL INPUTS
Road Segment: s/o Eucalyptus Av. SITE SPECIFIC INPUT DATA Highway Data Site	
SITE SPECIFIC INPUT DATA Highway Data Site	NOISE MODEL INPUTS
Highway Data Site	NOISE MODEL INPUTS
• •	
	Conditions (Hard = 10, Soft = 15)
Average Daily Traffic (Adt): 25,275 vehicles	Autos: 15
Peak Hour Percentage: 10.00%	Medium Trucks (2 Axles): 15
Peak Hour Volume: 2,528 vehicles	Heavy Trucks (3+ Axles): 15
Vehicle Speed: 50 mph	icle Mix
Near/Far Lane Distance: 58 feet	VehicleType Day Evening Night Dail
Site Data	Autos: 72.0% 14.6% 13.5% 94.2
Barrier Height: 0.0 feet	Medium Trucks: 76.2% 9.4% 14.4% 4.4
Barrier Type (0-Wall, 1-Berm): 0.0	Heavy Trucks: 81.8% 7.7% 10.6% 1.3
Centerline Dist. to Barrier: 55.0 feet	se Source Elevations (in feet)
Centerline Dist. to Observer: 55.0 feet	Autos: 0.000
Barrier Distance to Observer: 0.0 feet	Medium Trucks: 2.297
Observer Height (Above Pad): 5.0 foot	Heavy Trucks: 8.004 Grade Adjustment: 0.0
Pad Elevation: 0.0 feet	Treavy Trucks. 8.004 Grade Adjustment. 6.6
Road Elevation: 0.0 feet Lane	e Equivalent Distance (in feet)
Road Grade: 0.0%	Autos: 47.000
Left View: -90.0 degrees Me	fedium Trucks: 46.811
Right View: 90.0 degrees	Heavy Trucks: 46.830
FHWA Noise Model Calculations	
VehicleType REMEL Traffic Flow Distance Fi	Finite Road Fresnel Barrier Atten Berm Atte
Autos: 70.20 1.47 0.30	-1.20 -4.67 0.000 0.0
Medium Trucks: 81.00 -11.79 0.33	-1.20 -4.87 0.000 0.0
Heavy Trucks: 85.38 -17.08 0.32	-1.20 -5.38 0.000 0.0
Unmitigated Noise Levels (without Topo and barrier attenuation	ion)
VehicleType Leq Peak Hour Leq Day Leq Evenir	
	67.6 62.5 70.4 7
	63.3 60.4 68.1 6
	61.5 58.1 66.5 6
	69.7 65.5 73.4 7
Vehicle Noise: 73.9 71.8 Centerline Distance to Noise Contour (in feet)	
Vehicle Noise: 73.9 71.8 (Centerline Distance to Noise Contour (in feet) 70 dBA	65 dBA 60 dBA 55 dBA
Vehicle Noise: 73.9 71.8 (Centerline Distance to Noise Contour (in feet) 70 dBA Ldn:	

Wednesday, November 4, 2020

	FHV	WA-RD-77-108	HIGH	-WAY	NOISE PI	REDICTI	ON M	DDEL			
Road Na	rio: GPBO (204 me: Redlands B ent: s/o Dwy. 6							Alt2 M 12975	oreno Vall	ey Trade	1
SITE Highway Data	SPECIFIC IN	IPUT DATA			Site Con				L INPUT	s	
Average Daily Peak Hou Peak l	r Traffic (Adt): r Percentage: Hour Volume: ehicle Speed:	25,275 vehicle 10.00% 2,528 vehicle 50 mph			Ме	dium Tru avy Truc	icks (2	Autos. Axles).	15 15		
Near/Far L	ane Distance:	58 feet		-		icleType	T	Day	Evening	Night	Dailv
Site Data Ba Barrier Type (0-V	arrier Height: Wall, 1-Berm):	0.0 feet 0.0			М			72.0% 76.2% 81.8%	14.6% 9.4%	13.5%	4.44%
Centerline D	ist. to Barrier:	55.0 feet		-	Noise So	urco El	vatio	ne (in f	not)		
Centerline Dist Barrier Distance Observer Height	to Observer:	55.0 feet 0.0 feet 5.0 feet 0.0 feet		-	Mediu	Autos m Trucks ry Trucks	:: 0 :: 2	0.000 0.297 0.004	Grade Ad	ljustmen	t: 0.0
Ro	oad Elevation:	0.0 feet			Lane Eq	uivalent	Distai	nce (in	feet)		
	Road Grade: Left View: Right View:	0.0% -90.0 degree 90.0 degree				Autos m Trucks ry Trucks	: 46	7.000 6.811 6.830			
FHWA Noise Mod	del Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	ten Be	rm Atten
Autos	70.20	1.47		0.3	30	-1.20		-4.67	0.	000	0.000
Medium Trucks	: 81.00	-11.79		0.3	33	-1.20		-4.87	0.	000	0.000
Heavy Trucks	: 85.38	-17.08		0.3	32	-1.20		-5.38	0.	000	0.000
Unmitigated Nois											
VehicleType	Leq Peak Hou		_	Leq E	vening	Leq I			Ldn		NEL
Autos			68.6		67.6		62		70.		71.0
Medium Trucks			66.4		63.3		60		68.		68.5
Heavy Trucks Vehicle Noise			65.8 71.8		61.5 69.7		58 65		66. 73.	-	73.9
Centerline Distar	ice to Noise Co	ontour (in feet)								
				70	dBA	65 0	iBA		60 dBA	55	dBA
			Ldn:		93		20	1	432	2	931
		C	NEL:		100		21	6	465	5	1,001

dnesday, November 4, 2020

	FH\	WA-RD-77-108	HIGH	HWAY I	NOISE P	REDICT	ION M	ODEL			
Road Na	ario: GPBO (20- me: Redlands I ent: n/o Encelia	Blvd.						Alt2 M 12975	oreno Valle	ey Trade	
	SPECIFIC II	NPUT DATA							L INPUT	s	
Highway Data					Site Cor	ditions	(Hard	= 10, Sc	oft = 15)		
Average Dail	y Traffic (Adt):	25,275 vehicle	es					Autos:	15		
Peak Hou	ır Percentage:	10.00%			Me	edium Tru	ucks (2	Axles):	15		
Peak	Hour Volume:	2,528 vehicles	S		He	avy Truc	cks (3+	Axles):	15		
V	ehicle Speed:	50 mph		ŀ	Vehicle	Miv					
Near/Far L	.ane Distance:	58 feet		ŀ		icleType	,	Dav	Evening	Niaht	Daily
Site Data					***		Autos:	72.0%	-	13.5%	
	arrier Height:	0.0 feet			М	edium Ti	rucks:	76.2%	9.4%	14.4%	
Barrier Type (0-		0.0 1661				Heavy Ti	rucks:	81.8%	7.7%	10.6%	1.32%
*, ,	Dist to Barrier	55.0 feet									
	t to Observer	55.0 feet			Noise S				eet)		
Barrier Distanc		0.0 feet				Auto		0.000			
Observer Heigh		5.0 feet				m Truck		2.297			
-	Pad Flevation:	0.0 feet			Hea	vy Truck	s: 8	3.004	Grade Ad	justment	: 0.0
	oad Elevation:	0.0 feet		ŀ	Lane Eq	uivalent	Distar	nce (in	feet)		
	Road Grade:	0.0%		f		Auto		7.000			
	Left View:	-90.0 degree	20		Mediu	m Truck		8.811			
	Right View:	90.0 degree				vy Truck		8.830			
						,					
FHWA Noise Mo	del Calculation	ıs									
VehicleType	REMEL	Traffic Flow	Dis	stance		Road	Fres		Barrier Att		m Atten
Autos				0.3		-1.20		-4.67		000	0.000
Medium Trucks				0.3	-	-1.20		-4.87		000	0.000
Heavy Trucks	85.38	-17.08		0.3	2	-1.20		-5.38	0.0	000	0.000
Unmitigated Noi	se Levels (with	out Topo and	barri	er atter	nuation)						
VehicleType	Leq Peak Ho		_	Leq E	vening		Night		Ldn		NEL
Autos			68.6		67.6		62		70.4	•	71.0
Medium Trucks			66.4		63.3		60		68.1		68.5
Heavy Trucks			65.8		61.5		58		66.5		66.9
Vehicle Noise	e: 73	3.9	71.8		69.7		65	.5	73.4	4	73.9
Centerline Dista	nce to Noise C	ontour (in feet,)								
			L	70	dBA	65	dBA		60 dBA		dBA
			Ldn:		93		20		432		931
		CI	VEL:		100		21	6	465		1,001

	- FH	WA-RD-77	-108 HIG	HWAY N	IOISE PI	REDIC I	TON MC	DEL			
	: GPBO (204								oreno Valle	y Trade	
	e: Moreno Be					Job N	lumber:	12975			
Road Segmen	t: s/o SR-60	Westboun	d Ramps								
	PECIFIC II	NPUT DA	TA						L INPUT	S	
Highway Data					Site Con	ditions	(Hard =	: 10, Sc	oft = 15)		
Average Daily 1	raffic (Adt):	24,982 ve	ehicles					Autos:			
Peak Hour F	Percentage:	10.00%					ucks (2				
Peak Ho	our Volume:	2,498 ve	hicles		He	avy Tru	cks (3+	Axles):	15		
	icle Speed:	50 mp	oh		Vehicle i	Wix					
Near/Far Lan	e Distance:	82 fee	et	F	Veh	icleType	9	Day	Evening	Night	Daily
Site Data							Autos:	72.0%	14.6%	13.5%	94.249
Barı	rier Heiaht:	0.0 fe	et		М	edium T	rucks:	76.2%	9.4%	14.4%	4.44%
Barrier Type (0-Wa	all, 1-Berm):	0.0			ı	Heavy T	rucks:	81.8%	7.7%	10.6%	1.329
Centerline Dis		67.0 fe			Noise So	urce E	levation	s (in fe	eet)		
Centerline Dist. t		67.0 fe				Auto	s: 0	.000			
Barrier Distance to		0.0 fe			Mediu	m Truck	s: 2	.297			
Observer Height (A		5.0 fe			Heav	y Truck	s: 8	.004	Grade Adj	ustment	0.0
	d Elevation:	0.0 fe		-	Lane Eq		4 Di-4	/	F 4)		
	d Elevation:	0.0 fe	et	H.	Lane Eq	Auto		.226	eet)		
, n	left View:	0.0%			Modiu	m Truck		.059			
	Right View:	-90.0 de				y Truck	00	.059			
	Rigitt view.	90.0 de	egrees		rical	y IIuch	.s. 55	.076			
FHWA Noise Mode											
VehicleType	REMEL	Traffic FI		stance		Road	Fres		Barrier Atte		m Atten
Autos:	70.20		1.42	-0.5		-1.20		-4.71	0.0		0.00
Medium Trucks:	81.00		1.84	-0.4	-	-1.20		-4.88	0.0		0.00
Heavy Trucks:	85.38		7.13	-0.4		-1.20		-5.29	0.0	100	0.00
Unmitigated Noise								1			
VehicleType Autos:	Leq Peak Ho	ur Leq	Day 67.7	Leq E	vening 66.8	Leq	Night 61.	7	Ldn 69.6		VEL 70.
Medium Trucks:		7.5	65.5		62.4		59.		67.3		67.
Heavy Trucks:		.5 3.6	64.9		60.6		59. 57.	-	65.7		66.
Vehicle Noise:		3.0	71.0		68.8		64.		72.6		73.
Centerline Distance	e to Noise C	ontour (in	feet)								
Contenine Distant		otour (III		70 (dBA	65	dBA	6	0 dBA	55	dBA
			!				214		461		993
			Ldn:		99		214	+	401		

Scenari	o: GPBO (204	0)				Proiec	t Name	: Alt2 M	oreno Valle	ev Trade	
	e: Moreno Bea							: 12975	010110 14111	,aao	
Road Segmen	nt: s/o SR-60 E	astbound Ram	os								
	SPECIFIC IN	PUT DATA							L INPUT	s	
Highway Data					Site Con	ditions	(Hard	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	44,511 vehicle:	3					Autos:	15		
Peak Hour	Percentage:	10.00%			Med	dium Ti	rucks (2	Axles):	15		
Peak H	our Volume:	4,451 vehicles			Hea	avy Tru	icks (3-	+ Axles):	15		
Vel	hicle Speed:	50 mph		1	Vehicle N	Niv					
Near/Far Lar	ne Distance:	82 feet		H.		cleTyp	e	Dav	Evening	Night	Dailv
Site Data							Autos:	72.0%		13.5%	94.24
Rar	rier Height:	0.0 feet			Ме	dium 7	rucks:	76.2%	9.4%	14.4%	4.44
Barrier Type (0-W	-	0.0			H	leavy 7	rucks:	81.8%	7.7%	10.6%	1.32
Centerline Dis	. ,	67.0 feet		١.							
Centerline Dist. 1		67.0 feet		1	Noise So				eet)		
Barrier Distance t	to Observer:	0.0 feet				Auto		0.000			
Observer Height (5.0 feet			Mediun			2.297	0	·	
Pa	nd Elevation:	0.0 feet			Heav	y Truck	(S.	8.004	Grade Ad	justment.	0.0
Roa	ad Elevation:	0.0 feet		I	Lane Equ	ıivalen	t Dista	nce (in	feet)		
F	Road Grade:	0.0%				Auto	s: 5	3.226			
	Left View:	-90.0 degrees	3		Mediun	n Truck	s: 5	3.059			
	Right View:	90.0 degrees	3		Heav	y Truck	(s: 5	3.076			
FHWA Noise Mode	el Calculations	;									
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fre	snel	Barrier Att	en Ber	m Atter
Autos:	70.20	3.93		-0.5	1	-1.20		-4.71	0.0	000	0.00
Medium Trucks:	81.00	-9.34		-0.49	9	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	85.38	-14.62		-0.49	9	-1.20		-5.29	0.0	000	0.00
Unmitigated Noise	Levels (witho	out Topo and b	arrie	r atten	uation)						
	Leq Peak Hou			Leg E		Leq	Night		Ldn	-	VEL
Autos:	72.		0.2		69.3		-	1.2	72.		72
Medium Trucks:	70.		8.0		64.9			2.0	69.	-	70
Heavy Trucks:	69.		7.4		63.1			9.8	68.2		68
Vehicle Noise:	75.	5 7	3.5		71.4		67	7.1	75.	1	75
Centerline Distanc	e to Noise Co	ntour (in feet)		7.			10.4			1	10.4
			. L	70 c		65	dBA		60 dBA		dBA
		L	dn:		146		31	15	678		1,46
			FL:		157		33		729		1.57

Wednesday, November 4, 2020

	FHV	VA-RD-77-108 H	HIGHWA'	Y NOISE P	REDICT	ION MODE	L	
Road Nam	io: GPBO (204 ne: Eucalyptus nt: e/o Moreno	Áv.				Name: Alt2 lumber: 129	2 Moreno Valle 975	y Trade
	SPECIFIC IN	PUT DATA					DEL INPUT	S
Highway Data Average Daily	Traffic (Adt):	12,586 vehicles	3	Site Cor	ditions	(Hard = 10 Aut		
	Percentage: lour Volume:	10.00% 1,259 vehicles				ucks (2 Axle cks (3+ Axle	.,	
	hicle Speed: ne Distance:	40 mph 48 feet		Vehicle	Mix nicleType	. Da	y Evening	Night Daily
Site Data				10			.0% 14.6%	13.5% 94.24%
Ba Barrier Type (0-W	rrier Height: /all, 1-Berm):	0.0 feet 0.0			edium Ti Heavy Ti		.2% 9.4% .8% 7.7%	14.4% 4.44% 10.6% 1.32%
Centerline Di	st. to Barrier:	50.0 feet		Noise S	ource El	levations (i	n feet)	
Centerline Dist. Barrier Distance Observer Height	to Observer:	50.0 feet 0.0 feet 5.0 feet 0.0 feet		Mediu	Auto m Truck vy Truck	s: 0.000 s: 2.297)	iustment: 0.0
Ro	ad Elevation:	0.0 feet		Lane Eq	uivalent	t Distance	(in feet)	
	Road Grade:	0.0%			Auto	s: 44.147	7	
	Left View: Right View:	-90.0 degrees			m Truck vy Truck	- 10.011		
FHWA Noise Mod	el Calculation:	5						
VehicleType	REMEL	Traffic Flow	Distance	e Finite	Road	Fresnel	Barrier Atte	en Berm Atten
Autos:	66.51	-0.58).71	-1.20	-4.		0.000
Medium Trucks: Heavy Trucks:	77.72 82.99	-13.85 -19.13).74).73	-1.20 -1.20	-4. -5.		0.000 0.000
Unmitigated Noise	e Levels (with	out Topo and b	arrier att	enuation)				
VehicleType	Leq Peak Hou			Evening	Leq	Night	Ldn	CNEL
Autos:	65	.4 6	3.2	62.3		57.2	65.1	65.7
Medium Trucks:	63		1.4	58.4		55.4	63.2	
Heavy Trucks:	63		1.7	57.5		54.1	62.5	
Vehicle Noise:	69	.0 6	7.0	64.7		60.5	68.5	69.0
Centerline Distant	ce to Noise Co	ntour (in feet)	-	O dBA	65	dBA	60 dBA	55 dBA
		,	dn:	40	03	86 86	184	39 UBA 397
		CN		43		92	198	

	FHV	VA-RD-77-108	HIGH	HWAY	NOISE P	REDICT	ION MC	DEL			
	o: GPBO (204 e: Eucalyptus t: e/o Auto Ma	Av.					Name: lumber:		oreno Valle	ey Trad	ie
	PECIFIC IN	IPUT DATA			04- 0-				L INPUT	S	
Highway Data					Site Cor	naitions	(Hara =	10, S	oft = 15)		
Average Daily 1		8,251 vehicle	es					Autos.			
Peak Hour F		10.00%				edium Tr					
	our Volume:	825 vehicles	S		He	eavy Tru	cks (3+ .	Axles)	15		
	icle Speed:	40 mph			Vehicle	Mix					
Near/Far Lan	e Distance:	48 feet			Veh	icleType		Day	Evening	Nigh	Daily
Site Data							Autos:	72.09		13.5	
Ran	rier Heiaht:	0.0 feet			M	ledium T	rucks:	76.29	6 9.4%	14.4	% 4.449
Barrier Type (0-Wa		0.0				Heavy T	rucks:	81.89	6 7.7%	10.6	% 1.32%
Centerline Dis		50.0 feet			Noise S	ource E	levation	s (in f	eet)		
Centerline Dist. t		50.0 feet		ı		Auto	s: 0.	.000	,		
Barrier Distance to		0.0 feet			Mediu	m Truck	s: 2	297			
Observer Height (A	,	5.0 feet			Hea	vy Truck	s: 8.	.004	Grade Ad	justme	nt: 0.0
	d Elevation:	0.0 feet		-	1 5-		4 Di-4	/:	£4\		
	d Elevation:	0.0 feet		-	Lane Eq	uivaien: Auto		.147	reet)		
H	load Grade:	0.0%			44	Auto m Truck		947			
	Left View: Right View:	-90.0 degree				m Truck vy Truck		.966			
FHWA Noise Mode	l Calculation	s									
VehicleType	REMEL	Traffic Flow	Di:	stance	Finite	Road	Fresi	nel	Barrier Att	en E	erm Atten
Autos:	66.51	-2.42		0.7		-1.20		-4.65		000	0.00
Medium Trucks:	77.72	-15.69		0.7	74	-1.20		-4.87	0.0	000	0.00
Heavy Trucks:	82.99	-20.97		0.7	73	-1.20		-5.43	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo and	barri	er atte	nuation)						
VehicleType I	Leq Peak Hou	ır Leq Day	,	Leq E	vening	Leq	Night		Ldn		CNEL
Autos:	63	.6	61.4		60.5	,	55.	4	63.	2	63.
Medium Trucks:	61	.6	59.6		56.5	,	53.	6	61.	4	61.
Heavy Trucks:	61		59.9		55.6		52.	-	60.	_	61.
Vehicle Noise:	67	.1	65.1		62.8	1	58.	7	66.	7	67.
Centerline Distance	e to Noise Co	ntour (in feet))	70	-/D 4		-ID 4	_	CO 4D4		ID 4
			Ldn:	70	dBA	65	dBA		60 dBA		55 dBA
			Lan: VEL:		30		65		139		300
		CI	VEL:		32		69	,	149	,	322

			REDICT		,DLL			
Scenario: GPBO (2040) Road Name: Eucalyptus Av. Road Segment: w/o Aldi Place				Name: lumber:		oreno Valle	ey Trade	
SITE SPECIFIC INPUT DATA						L INPUT	s	
Highway Data		Site Cor	ditions	•				
Average Daily Traffic (Adt): 7,912 vehicles					Autos:			
Peak Hour Percentage: 10.00%			edium Tr					
Peak Hour Volume: 791 vehicles		He	eavy Tru	cks (3+ .	Axles):	15		
Vehicle Speed: 40 mph		Vehicle	Mix					
Near/Far Lane Distance: 48 feet		Veh	icleType	•	Day	Evening	Night	Daily
Site Data				Autos:	72.0%	14.6%	13.5%	94.249
Barrier Height: 0.0 feet		M	edium T	rucks:	76.2%	9.4%	14.4%	4.44%
Barrier Type (0-Wall, 1-Berm): 0.0			Heavy T	rucks:	81.8%	7.7%	10.6%	1.329
Centerline Dist. to Barrier: 50.0 feet		Noise S	ource E	levation	s (in fe	eet)		
Centerline Dist. to Observer: 50.0 feet			Auto	s: 0.	.000			
Barrier Distance to Observer: 0.0 feet		Mediu	m Truck	s: 2	.297			
Observer Height (Above Pad): 5.0 feet		Hea	vy Truck	s: 8.	.004	Grade Adj	iustment	0.0
Pad Elevation: 0.0 feet		Lane Eq	isralan	t Diatan	oo (in	foot)		
Road Elevation: 0.0 feet Road Grade: 0.0%		Lane Eq	Auto		.147	ieei)		
0.070		Modiu	m Truck		.147			
Left View: -90.0 degrees Right View: 90.0 degrees			vy Truck	10	.966			
FHWA Noise Model Calculations								
VehicleType REMEL Traffic Flow	Distanc	e Finite	Road	Fresi	nel	Barrier Att	en Ber	m Atten
Autos: 66.51 -2.60	(0.71	-1.20		-4.65	0.0	000	0.00
Medium Trucks: 77.72 -15.87	(0.74	-1.20		-4.87	0.0	000	0.00
Heavy Trucks: 82.99 -21.15	(0.73	-1.20		-5.43	0.0	000	0.00
Unmitigated Noise Levels (without Topo and ba	rrier at	tenuation)						
VehicleType Leq Peak Hour Leq Day		Evening		Night		Ldn		NEL
Autos: 63.4 61	_	60.3		55.	_	63.1		63.
Medium Trucks: 61.4 59		56.3		53.		61.2	-	61.
Heavy Trucks: 61.4 59		55.4		52.	•	60.5		60.
Vehicle Noise: 66.9 65	.0	62.7	•	58.	5	66.5	5	67.
Centerline Distance to Noise Contour (in feet)					,			
Centernire Distance to Noise Contour (in feet)		70 dBA	65	dBA	1 6	60 dBA	5.5	dBA
, ,			00					
Ld. CNE	n:	29 31	00	63	3	135		292

	FHV	VA-RD-77-108 I	HIGHWA	ΥN	OISE PF	REDICT	ON MO	DEL				
Road Na	rio: GPBO (204 me: Eucalyptus ent: w/o Dwy. 5						Name: umber:		oreno Vall	ey Tra	de	
	SPECIFIC IN	PUT DATA							L INPUT	s		
Highway Data				S	Site Con	ditions	(Hard =	10, S	oft = 15)			
Average Daily	Traffic (Adt):	9,978 vehicles	3					Autos:	15			
Peak Hou	r Percentage:	10.00%			Me	dium Tru	icks (2 i	Axles):	15			
Peak	Hour Volume:	998 vehicles			He	avy Truc	ks (3+)	4xles):	15			
V	ehicle Speed:	40 mph		ī	/ehicle I	Mix						
Near/Far L	ane Distance:	48 feet		F		cleType		Dav	Evenina	Niah	t	Dailv
Site Data				+			lutos:	72.0%		13.5	-	94.24%
R	arrier Heiaht:	0.0 feet		1	Me	edium Ti	ucks:	76.2%	9.4%	14.4	1%	4.44%
Barrier Type (0-V		0.0			F	leavy Ti	ucks:	81.8%	7.7%	10.6	8%	1.32%
	ist. to Barrier:	50.0 feet		١.	O-			- /: #				
Centerline Dist	to Observer:	50.0 feet			Voise So				eet)			
Barrier Distance	to Observer:	0.0 feet				Auto: n Truck:		000 297				
Observer Height	(Above Pad):	5.0 feet						297 004	Grade Ad	li atm.	net: C	
F	Pad Elevation:	0.0 feet			neav	y Truck	s: 8.	004	Grade Ad	justrik	erit. C).0
Ro	oad Elevation:	0.0 feet		L	ane Equ	uivalent	Distan	ce (in	feet)			
	Road Grade:	0.0%				Autos	3: 44.	147				
	Left View:	-90.0 degrees	6		Mediur	n Trucks	3: 43.	947				
	Right View:	90.0 degrees	3		Heav	y Truck	3: 43.	966				
FHWA Noise Mod	del Calculation	s		_								
VehicleType	REMEL	Traffic Flow	Distanc	e	Finite	Road	Fresi	nel	Barrier Att	en L	Berm	Atten
Autos	: 66.51	-1.59		0.71		-1.20		-4.65	0.	000		0.000
Medium Trucks		-14.86		0.74		-1.20		-4.87		000		0.000
Heavy Trucks	82.99	-20.14		0.73	3	-1.20		-5.43	0.	000		0.000
Unmitigated Nois		-		_								
VehicleType	Leq Peak Hou	- 1 - 7		ą Ev	rening	Leq	Night		Ldn		CNE	
Autos		-	2.2		61.3		56.2	_	64.			64.6
Medium Trucks		-	0.4		57.3		54.4		62.	_		62.6
Heavy Trucks Vehicle Noise			0.7 6.0		56.5 63.7		53. 59.		61. 67.			61.8
	*		0.0		03.7		35.	,	07.			00.0
Centerline Distar	ice to Noise Co	ntour (in feet)		70 d	IBA .	65	dBA		60 dBA	1	55 dl	3 <i>A</i>
		L	dn:		34		73		158		0.	340
		CN			37		79		170			365

Wednesday, November 4, 2020

	FHW	A-RD-77-108 H	HIGHWA	Y NOISE P	REDICT	ON MODE		
	GPBO (2040 Eucalyptus A w/o Redlands	v.V.				Name: Alt2 umber: 129	Moreno Valley 75	/ Trade
	PECIFIC INP	UT DATA			N	IOISE MOI	DEL INPUTS	
Highway Data				Site Cor	nditions	(Hard = 10,	Soft = 15)	
	. ,	9,978 vehicles 0.00% 998 vehicles 40 mph	6			Auto ucks (2 Axle cks (3+ Axle	s): 15	
Near/Far Lane		48 feet		Vehicle				
	Distance.	40 1661		Veh	icleType			Night Daily
Site Data						Autos: 72.		13.5% 94.24%
Barrie	er Height:	0.0 feet			edium Ti			14.4% 4.44%
Barrier Type (0-Wall	l, 1-Berm):	0.0			Heavy T	ucks: 81.	3% 7.7%	10.6% 1.32%
Centerline Dist.	to Barrier:	50.0 feet		Noise S	ource El	evations (ii	feet)	
Centerline Dist. to	Observer:	50.0 feet			Auto			
Barrier Distance to	Observer:	0.0 feet		Mediu	m Truck	0.000		
Observer Height (Ab	oove Pad):	5.0 feet			vy Truck		Grade Adiu	stment: 0.0
	Elevation:	0.0 feet						
	Elevation:	0.0 feet		Lane Eq		Distance (in feet)	
	ad Grade:	0.0%			Auto			
	Left View:	-90.0 degrees	3		m Truck	10.011		
R	Right View:	90.0 degrees	3	Hea	vy Truck	43.966		
FHWA Noise Model	Calculations							
VehicleType	REMEL	Traffic Flow	Distanc	e Finite	Road	Fresnel	Barrier Atte	n Berm Atten
Autos:	66.51	-1.59		0.71	-1.20	-4.0	5 0.00	0.000
Medium Trucks:	77.72	-14.86		0.74	-1.20	-4.8	87 0.00	0.000
Heavy Trucks:	82.99	-20.14		0.73	-1.20	-5.4	3 0.00	0.000
Unmitigated Noise L	evels (withou	ut Topo and b	arrier at	tenuation)				
VehicleType Le	eq Peak Hour	Leq Day	Lec	Evening	Leq	Night	Ldn	CNEL
Autos:	64.4	6	2.2	61.3	i	56.2	64.1	64.6
Medium Trucks:	62.4	6	0.4	57.3		54.4	62.2	62.6
Heavy Trucks:	62.4	6	0.7	56.5	i	53.1	61.5	61.8
Vehicle Noise:	67.9	6	6.0	63.7		59.5	67.5	68.0
Centerline Distance	to Noise Con	tour (in feet)					1	
				70 dBA	65	dBA	60 dBA	55 dBA
		_	dn:	34		73	158	340
		CN	EL:	37		79	170	365

	FH	WA-RD-77-108	HIGI	HWAY	NOISE PI	REDICT	ION MO	DEL			
Road Nam	io: GPBO (20- ne: Encilia Av. nt: e/o Essen						Name: . lumber:		oreno Valle	ey Trade	,
	SPECIFIC II	NPUT DATA			04- 0				L INPUT	S	
Highway Data					Site Con	aitions					
Average Daily	. ,	3,996 vehicle	es					Autos:			
	Percentage:	10.00%					ucks (2 A	/			
	lour Volume:	400 vehicle	S		He	avy Tru	cks (3+ A	Axles):	15		
	hicle Speed:	45 mph		f	Vehicle	Mix					
Near/Far La	ne Distance:	36 feet		İ	Veh	icleType	,	Day	Evening	Night	Daily
Site Data						,	Autos:	72.0%	14.6%	13.5%	94.24%
Ba	rrier Height:	0.0 feet			М	edium T	rucks:	76.2%	9.4%	14.4%	4.44%
Barrier Type (0-W		0.0			1	Heavy T	rucks:	81.8%	7.7%	10.6%	1.32%
Centerline Di		44.0 feet		-	Noise So	roo E	lovetion	a (in f	n a #1		
Centerline Dist.	to Observer:	44.0 feet		-	NOISE SC	Auto.		000	ei)		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		297			
Observer Height (Above Pad):	5.0 feet				ry Truck		004	Grade Ad	iuctman	t· 0.0
P	ad Elevation:	0.0 feet			rical	ry Truck	3. 0.	004	Orauc Au	Jastinon	1. 0.0
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalent	Distan	ce (in i	feet)		
	Road Grade:	0.0%				Auto	s: 40.	460			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 40.	241			
	Right View:	90.0 degre	es		Heav	y Truck	s: 40.	262			
FHWA Noise Mod											
VehicleType	REMEL	Traffic Flow		stance		Road	Fresn	_	Barrier Att		rm Atten
Autos:	68.46			1.2		-1.20		-4.61		000	0.000
Medium Trucks:				1.3		-1.20		-4.87		000	0.000
Heavy Trucks:	84.25	-24.63		1.3	31	-1.20		-5.50	0.0	000	0.000
Unmitigated Nois			barri	er attei	nuation)					,	
VehicleType	Leq Peak Ho			Leq E	vening	_	Night		Ldn		NEL
Autos:		2.5	60.2		59.3		54.2	-	62.		62.7
Medium Trucks:		0.2	58.2		55.2		52.3		60.0	-	60.4
Heavy Trucks:		9.7	58.1		53.8		50.4		58.8		59.2
Vehicle Noise:		5.7	63.7		61.5		57.3	3	65.3	3	65.8
Centerline Distant	ce to Noise C	ontour (in feet)					_		_	
			L	70	dBA	65	dBA		60 dBA		5 dBA
			Ldn:		21		46		99		214
		C	NEL:		23		50		107		230

	o: GPBO (204 e: Encilia Av. t: e/o Mozart	-,						: Alt2 Me : 12975	oreno Valle	ey Trade	
	PECIFIC IN	IPUT DAT	A						L INPUT	s	
Highway Data				2	site Cor	nditions	(Hard				
Average Daily 1	. ,	3,996 veh	icles					Autos:	15		
Peak Hour F	-	10.00%				edium Ti					
	our Volume:	400 vehi			He	eavy Tru	icks (3+	Axles):	15		
	icle Speed:	45 mph		١	/ehicle	Mix					
Near/Far Lan	e Distance:	36 feet			Veh	icleType	е	Day	Evening	Night	Daily
Site Data							Autos:	72.0%	14.6%	13.5%	94.24%
Barr	rier Heiaht:	0.0 fee	t		М	ledium 7	rucks:	76.2%	9.4%	14.4%	4.44%
Barrier Type (0-Wa		0.0	•			Heavy 7	rucks:	81.8%	7.7%	10.6%	1.32%
Centerline Dis		44.0 fee	t		v-: 0			<i>(i £-</i>			
Centerline Dist. t	o Observer:	44.0 fee	t	r	voise S	ource E			et)		
Barrier Distance to	o Observer:	0.0 fee	t			Auto		0.000			
Observer Height (A	Above Pad):	5.0 fee	t			m Truck		2.297	0		
	d Elevation:	0.0 fee	t		Hea	vy Truck	rs: E	3.004	Grade Ad	justmeni	. 0.0
Roa	d Elevation:	0.0 fee	t	L	ane Eq	uivalen	t Dista	nce (in i	feet)		
R	load Grade:	0.0%				Auto	os: 40	0.460			
	Left View:	-90.0 deg	rees		Mediu	m Truck	ks: 40	0.241			
	Right View:	90.0 deg	rees		Hea	vy Truck	ks: 40	0.262			
FHWA Noise Mode	I Calculation	s									
VehicleType	REMEL	Traffic Flor	w Di	stance	Finite	Road	Fres	snel	Barrier Att	en Be	m Atten
Autos:	68.46	-6.	80	1.28	3	-1.20		-4.61	0.0	000	0.00
Medium Trucks:	79.45			1.31		-1.20		-4.87		000	0.00
Heavy Trucks:	84.25	-24.	63	1.31	1	-1.20		-5.50	0.0	000	0.00
Unmitigated Noise				ier atteni	uation)						
	Leq Peak Hou			Leq Ev			Night		Ldn		NEL
Autos:		2.5	60.2		59.3		54		62.		62.
Medium Trucks:).2	58.2		55.2		52		60.0		60.4
Heavy Trucks:).7	58.1		53.8		50		58.8	-	59.
Vehicle Noise:	65	5.7	63.7		61.5	,	57	.3	65.3	3	65.8
Centerline Distanc	e to Noise Co	ontour (in f	eet)	70 a	ID A	65	dBA		i0 dBA	5.6	dBA
			Ldn:	700	21	00		6	99		214

						REDICTIO					
	GPBO (2040	0)							oreno Valle	ey Trade	
Road Name:		- Divid				Job Nu	mber:	12975			
Road Segment:											
SITE SI Highway Data	PECIFIC IN	PUT DATA			Site Con	NO ditions (l			L INPUT	S	
Average Daily Tr	offic (Adt):	4,312 vehicles			nie con	unions (i		Autos:			
Peak Hour P	. ,	4,312 verilcles	•		140	dium Truc					
	ur Volume:	431 vehicles				avy Truck		/			
	cle Speed:	45 mph		L			13 (5+.	млез).	10		
Near/Far Lane		36 feet		١	/ehicle l	Лix					
Neal/Fal Lalle	Distance.	30 leet			Vehi	cleType		Day	Evening	Night	Daily
Site Data							utos:	72.0%	14.6%	13.5%	94.24%
Barri	er Height:	0.0 feet				edium Tru		76.2%	9.4%	14.4%	4.44%
Barrier Type (0-Wal	I, 1-Berm):	0.0			F	leavy Tru	icks:	81.8%	7.7%	10.6%	1.32%
Centerline Dist.	to Barrier:	44.0 feet			Inisa Sa	urce Ele	vation	e (in fa	not)		
Centerline Dist. to	Observer:	44.0 feet			10/36 00	Autos:		.000	.01)		
Barrier Distance to	Observer:	0.0 feet			Modius	n Trucks:	-	.297			
Observer Height (A	bove Pad):	5.0 feet				y Trucks:		.004	Grade Ad	iustmen	r 0.0
Pad	Elevation:	0.0 feet		L	11001	y Trucks.	0.	.004	Orado riaj	dottiloii	0.0
Road	Elevation:	0.0 feet		L	ane Equ	uivalent l	Distan	ce (in i	feet)		
Ro	oad Grade:	0.0%				Autos:		.460			
	Left View:	-90.0 degrees	6			n Trucks:		.241			
F	Right View:	90.0 degrees	3		Heav	y Trucks:	40	.262			
FHWA Noise Model	Calculations										
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fresi	nel	Barrier Att	en Be	rm Atten
Autos:	68.46	-5.75		1.28		-1.20		-4.61		000	0.000
Medium Trucks:	79.45	-19.02		1.31		-1.20		-4.87		000	0.000
Heavy Trucks:	84.25	-24.30		1.31		-1.20		-5.50	0.0	000	0.000
Unmitigated Noise I	•		arrie								
	eq Peak Hour			Leq Ev		Leq N	•		Ldn		NEL
Autos:	62.8		0.6		59.6		54.	-	62.4		63.0
Medium Trucks:	60.	-	8.6		55.5		52.	-	60.3	-	60.7
Heavy Trucks:	60.		8.4		54.1		50.		59.2		59.5
Vehicle Noise:	66.	1 6	4.1		61.9		57.	7	65.6	3	66.1
Centerline Distance	to Noise Co	ntour (in feet)								1	
			, L	70 d		65 di			0 dBA		dBA
			dn:		23		48		104		225
		CN	⊨L:		24		52	2	112		242

Wednesday, November 4, 2020

	FHWA	A-RD-77-108	HIGHWAY	NOISE P	REDICT	ION MODEL		
Scenario: GP Road Name: Red Road Segment: s/o	dlands Blv	ď.	nps			Name: Alt2 N lumber: 1297	Moreno Valley T 5	rade
SITE SPEC	IFIC INP	UT DATA			ı	IOISE MOD	EL INPUTS	
Highway Data				Site Con	ditions	(Hard = 10, S	Soft = 15)	
Average Daily Traffic Peak Hour Percei Peak Hour Vo	ntage: 1	6,406 vehicle 0.00% ,641 vehicles				Autos ucks (2 Axles) cks (3+ Axles)): 15	
Vehicle S	Speed:	50 mph		Vehicle	Miv			
Near/Far Lane Dis	tance:	58 feet			icleType	Dav	Evening Ni	ight Daily
Site Data				10		Autos: 72.0°		3.5% 92.72%
Barrier H	a i a la t	0.0 feet		М	edium T	rucks: 76.2°	% 9.4% 1	4.4% 4.60%
Barrier Type (0-Wall, 1-E		0.0			Heavy T	rucks: 81.8	% 7.7% 1	0.6% 2.67%
Centerline Dist. to B	Barrier:	55.0 feet		Noise St	ource F	levations (in	feet)	
Centerline Dist. to Obs	server:	55.0 feet		110,000	Auto			
Barrier Distance to Obs	server:	0.0 feet		Mediu	m Truck	0.000		
Observer Height (Above	Pad):	5.0 feet			vy Truck	o	Grade Adjust	ment: 0.0
Pad Elev	vation:	0.0 feet						
Road Elev	vation:	0.0 feet		Lane Eq	uivalen	t Distance (in	feet)	
Road (Grade:	0.0%			Auto	s: 47.000		
Left	View:	-90.0 degree	s		m Truck			
Right	View:	90.0 degree	s	Hear	y Truck	s: 46.830		
FHWA Noise Model Cald	culations							
VehicleType RE	MEL 7	Traffic Flow	Distance	e Finite	Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	1.59	C	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-11.45	0).33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-13.81	C).32	-1.20	-5.38	0.000	0.000
Unmitigated Noise Leve	ls (withou	it Topo and I	arrier att	enuation)				
VehicleType Leq P	eak Hour	Leq Day		Evening		Night	Ldn	CNEL
Autos:	70.9	-	8.7	67.8		62.6	70.5	71.1
Medium Trucks:	68.7	-	6.7	63.6		60.7	68.5	68.9
Heavy Trucks:	70.7		9.0	64.8		61.4	69.8	70.1
Vehicle Noise:	75.0	7	3.0	70.5		66.4	74.5	74.9
Centerline Distance to N	loise Con	tour (in feet)				,		
				0 dBA	65	dBA	60 dBA	55 dBA
			.dn:	109		235	506	1,091
		CN	IEL:	117		252	542	1,168

	FHW.	\-RD-77-108	HIGH	A YAWH	IOISE P	REDICT	ION MC	DEL					
Scenario: GPB Road Name: Redi Road Segment: s/o S	ands Blv	d.	nps				Name: lumber:		oreno Valle	y Trade			
SITE SPECI	FIC INP	UT DATA							L INPUT	s			
Highway Data					Site Cor	ditions							
Average Daily Traffic (Adt): 2	6,987 vehicle	es					Autos:	15				
Peak Hour Percent	age: 1	0.00%			Me	dium Tr	ucks (2	Axles):	15				
Peak Hour Vol	ıme: 2	,699 vehicles	S		He	avy Tru	cks (3+ .	Axles):	15				
Vehicle Sp	eed:	50 mph		l,	Vehicle	Mix							
Near/Far Lane Dista	ince:	58 feet			Veh	icleType		Day	Evening	Night	Daily		
Site Data							Autos:	72.0%		13.5%	92.47%		
Barrier He	iaht:	0.0 feet			М	edium T	rucks:	76.2%	9.4%	14.4%	4.62%		
Barrier Type (0-Wall, 1-Be	•	0.0				Heavy T	rucks:	81.8%	7.7%	10.6%	2.91%		
Centerline Dist. to Ba	mier:	55.0 feet		1	Noise S	ource E	levation	s (in fe	eet)				
Centerline Dist. to Obse		Autos: 0.000											
Barrier Distance to Obse	rver:	0.0 feet			Medium Trucks: 2.297								
Observer Height (Above I	Pad):	5.0 feet			Hear	y Truck		004	Grade Ad	iustment	: 0.0		
Pad Eleva	ation:	0.0 feet		L									
Road Eleva	ation:	0.0 feet		1	Lane Eq			_ •	feet)				
Road G	rade:	0.0%				Auto		.000					
Left \	/iew:	-90.0 degree	es			m Truck		.811					
Right	/iew:	90.0 degree	es		Heavy Trucks: 46.830								
FHWA Noise Model Calcu													
VehicleType REM		raffic Flow	Dis	stance		Road	Fresi		Barrier Att		m Atten		
Autos:	70.20	1.68		0.3		-1.20		-4.67		000	0.000		
Medium Trucks:	81.00	-11.33		0.3		-1.20		-4.87		000	0.000		
Heavy Trucks:	85.38	-13.35		0.3		-1.20		-5.38	0.0	000	0.000		
Unmitigated Noise Levels	•	•					A.E64	1	1 -1-	_	NITI		
VehicleType Leq Pe	ak Hour 71.0	Leq Day	68.8	Leg E	vening 67.8		Night 62	7	Ldn 70.6		NEL 71.2		
Autos: Medium Trucks:	68.8		66.8		63.7		60		68.6		69.0		
				61.	-								
Heavy Trucks: Vehicle Noise:		65.2 70.7		66.	-	70.2 74.7		70.6 75.1					
Centerline Distance to No	ise Con	tour (in feet))										
Biotaine to Me	0011	(1001)	T	70 0	dBA	65	dBA	6	0 dBA	55	dBA		
			Ldn:		113 243 524			1,128					
	CNEL:						121 260 561 1				1.208		

Average Daily Traffic (Adt): 25,921 vehicles Peak Hour Petroentage: 10,00% Medium Trucks (2 Axles): 15 Heavy Trucks (3 + Axles): 15		FH	WA-RD-77-10	B HIG	HWAY I	NOISE P	REDICT	TION M	ODEL			
SITE SPECIFIC INPUT DATA										oreno Valle	y Trade	
SITE SPECIFIC INPUT DATA NOISE MODEL INPUTS							Job I	Number	: 12975			
Autos: 15 Autos: 17 Auto	Road Segmen	it: s/o Eucaly	otus Av.									
Average Daily Traffic (Adt): 25,921 vehicles Peak Hour Percentage: 10,00% Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15		SPECIFIC II	NPUT DATA	١		04- 0-					S	
Peak Hour Percentage: 10.00% Medium Trucks (2 Axles): 15						Site Coi	naitions	Hara				
Peak Hour Volume:		. ,	- , -	cles								
Vehicle Speed: 50 mph Near/Far Lane Distance: 58 feet Vehicle Mix Vehicle Type Day Evening Night Daily Night Daily Near/Far Lane Distance: 58 feet Vehicle Type Day Evening Night Daily Night	-						,					
Near/Far Lane Distance: S8 feet VehicleType Day Evening Night Daily			,	les		H	eavy Iru	ICKS (34	· Axies):	15		
Site Data						Vehicle	Mix					
Barrier Height: 0.0 feet	Near/Far Lar	ne Distance:	58 feet			Vel	nicleTyp	е	Day	Evening	Night	Daily
Barrier Type (0-Well, 1-Berm): 0.0 teet Heavy Trucks: 81.8% 7.7% 10.6% 1.289	Site Data							Autos:	72.0%	14.6%	13.5%	94.39%
	Bar	rier Height:	0.0 feet		٦	N	fedium 1	Trucks:			14.4%	4.33%
Noise Model Calculations Noise Model Calculations Noise Model Calculations	Barrier Type (0-W	all, 1-Berm):	0.0				Heavy 1	Trucks:	81.8%	7.7%	10.6%	1.28%
Barrier Distance to Observer: 0.00 feet Medium Trucks: 0.000					ı	Noise S	ource E	levatio	ns (in f	eet)		
Barrier Distance to Observer: 0.0 feet Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0					ı		Auto	os: (0.000	,		
Pad Elevation:		Barrier Distance to Observer: 0.0 feet										
Pad Elevation: 0.0 feet Canada Elevation:						Hea	vv Truci	ks:	8.004	Grade Adj	iustment	: 0.0
Road Grade: 0.0% Autos: 47.000 Autos: 46.811 Autos: 46.811 Autos: 46.811 Autos: 46.811 Autos: 46.830 tos: 46.830 Autos: 46.830 A							•					
Left View:						Lane E				reet)		
	F											
VehicleType		Right View:	90.0 degr	ees		неа	vy iruci	KS: 4	6.830			
Autos: 70.20 1.59 0.30 -1.20 -4.67 0.000 0.00	FHWA Noise Mode											
Medium Trucks: 81.00 -11.79 0.33 -1.20 -4.87 0.000 0.00 Heavy Trucks: 85.38 -17.08 0.32 -1.20 -5.38 0.000 0.00 Unmitigated Noise Levels (without Topo and barrier attenuation)												
Heavy Trucks: 85.38				-		-						
Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNET				-		-						
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL							-1.20		-5.38	0.0	000	0.000
Autos: 70.9 68.7 67.8 62.6 70.5 71. Medium Trucks: 68.3 66.4 63.3 60.4 68.1 68. Heavy Trucks: 67.4 65.8 61.5 58.1 66.5 66. Vehicle Noise: 73.9 71.9 69.8 65.5 73.5 74. Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 94 202 436 940									_		_	
Medium Trucks: 68.3 66.4 63.3 60.4 68.1 68. Heavy Trucks: 67.4 65.8 61.5 58.1 66.5 66. Vehicle Noise: 73.9 71.9 69.8 65.5 73.5 74. Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 94 202 436 94	,,, .			,	Leq E							
Heavy Trucks: 67.4 65.8 61.5 58.1 66.5 66.5 Vehicle Noise: 73.9 71.9 69.8 65.5 73.5 74. Centerline Distance to Noise Contour (in feet) Ldn: 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 94 202 436 94												
Vehicle Noise: 73.9 71.9 69.8 65.5 73.5 74. Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 94 202 436 940												
Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 94 202 436 940	_											
70 dBA 65 dBA 60 dBA 55 dBA Ldn: 94 202 436 940						69.8	5	65	0.0	73.5)	74.0
Ldn: 94 202 436 940	Centerline Distanc	e to Noise C	ontour (in fe	et)	70	dD A		: dDA		EO ADA		dD1
				l do:			00					
C/VEL. 101 210 409 1,010												
				CIVEL.		101 218 469					1,010	

	FHW	A-RD-77-108	HIGH	WAY I	NOISE PI	REDICT	ON MO	DEL			
Scenario: GPBC Road Name: Redlar Road Segment: s/o Dv	nds Blv	- /					Name: . umber:		oreno Valle	ey Trade	
SITE SPECIFI	C INF	PUT DATA			0				L INPUT	S	
Highway Data					Site Con	ditions	(Hard =	10, S	oft = 15)		
Average Daily Traffic (A	it): 2	26,079 vehicle	es					Autos:			
Peak Hour Percenta	ge: 1	10.00%				dium Tr		,			
Peak Hour Volur	ne: 2	2,608 vehicle	S		He	avy Truc	cks (3+)	Axles):	15		
Vehicle Spe		50 mph		f	Vehicle I	Wix					
Near/Far Lane Distan	ce:	58 feet		ı	Veh	icleType		Day	Evening	Night	Daily
Site Data						-	lutos:	72.0%	14.6%	13.5%	94.429
Barrier Heig	ht:	0.0 feet			M	edium Ti	ucks:	76.2%	9.4%	14.4%	4.309
Barrier Type (0-Wall, 1-Ber		0.0			I	Heavy T	ucks:	81.8%	7.7%	10.6%	1.28
Centerline Dist. to Barr		55.0 feet		f	Noise So	ource El	evation	s (in f	eet)		
Centerline Dist. to Observ	er:	55.0 feet		İ		Auto		000	,		
Barrier Distance to Observ	er:	0.0 feet			Mediu	m Truck		297			
Observer Height (Above Pa	- /	5.0 feet			Heav	y Truck	s: 8.	004	Grade Ad	justment	: 0.0
Pad Elevati		0.0 feet									
Road Elevati		0.0 feet			Lane Eq				feet)		
Road Gra		0.0%				Auto		000			
Left Vi		-90.0 degree				m Truck		811			
Right Vi	ew:	90.0 degree	es		Heav	y Truck	s: 46.	830			
FHWA Noise Model Calcula					1						
VehicleType REME		Traffic Flow	Dist	tance		Road	Fresr		Barrier Att		m Atten
	0.20	1.62		0.3	-	-1.20		-4.67		000	0.00
	1.00	-11.79		0.3	-	-1.20		-4.87		000	0.00
Heavy Trucks: 8	5.38	-17.08		0.3	_	-1.20		-5.38	0.0	000	0.00
Unmitigated Noise Levels							N II I- 4		Lata	_	A 15-1
Unmitigated Noise Levels (VehicleType Leq Peal	Hour	Leq Day	,		vening	_	Night	7	Ldn		NEL 71
Unmitigated Noise Levels (VehicleType Leq Peal Autos:	70.9	Leq Day	68.7		vening 67.8		62.7		70.6	3	71.
VehicleType Leq Peal Autos: Medium Trucks:	70.9 68.3	Leq Day	68.7 66.4		vening 67.8 63.3		62.7 60.4	1	70.6	5 1	71 68
Unmitigated Noise Levels (VehicleType Leq Peal Autos:	70.9	Leq Day	68.7		vening 67.8		62.7	1 I	70.6	6 1 5	71 68 66
Unmitigated Noise Levels (VehicleType Leq Peal Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	70.9 68.3 67.4 73.9	Leq Day	68.7 66.4 65.8 71.9		67.8 63.3 61.5		62.7 60.4 58.1	1 I	70.6 68. 66.	6 1 5	71 68 66
Unmitigated Noise Levels (VehicleType Leq Peal Autos: Medium Trucks: Heavy Trucks:	70.9 68.3 67.4 73.9	Leq Day	68.7 66.4 65.8 71.9	Leq E	67.8 63.3 61.5		62.7 60.4 58.1	1 1 5	70.6 68. 66.	5 5	71. 68. 66. 74.
Unmitigated Noise Levels (VehicleType Leq Peal Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	70.9 68.3 67.4 73.9	Leq Day 3 4 9 intour (in feet	68.7 66.4 65.8 71.9	Leq E	67.8 63.3 61.5 69.8		62.7 60.4 58.1 65.5	1 5	70.6 68. 66.9 73.9	55	71 68 66 74

Wednesday, November 4, 2020

	FHV	VA-RD-77-108	HIGHWA	AY NO	ISE PE	REDICTI	ON MO	DDEL			
Road Name	o: GPBOP (20 e: Redlands B nt: n/o Encelia	lvd.						Alt2 N 12975	loreno Valle	ey Trade	
SITE S	SPECIFIC IN	PUT DATA				N	OISE	MODE	L INPUT	S	
Highway Data				Sit	e Con	ditions	(Hard :	= 10, S	oft = 15)		
	Percentage:	26,266 vehicle 10.00% 2,627 vehicles	S			dium Tru avy Truc		,	15		
Vel	hicle Speed:	50 mph		Ve	hicle l	Wix					
Near/Far Lar	ne Distance:	58 feet		-	Veh	icleType		Dav	Evening	Night	Daily
Site Data							lutos:	72.09		13.59	94.46%
Par	rier Height:	0.0 feet			М	edium Tr	ucks:	76.29	6 9.4%	14.49	4.27%
Barrier Type (0-W	all, 1-Berm):	0.0			F	Heavy Tr	ucks:	81.89	6 7.7%	10.69	1.27%
Centerline Dis		55.0 feet		No	ise Sc	ource Ele	evatio	ns (in f	eet)		
Centerline Dist. t		55.0 feet				Autos	s: 0	.000	-		
Barrier Distance t		0.0 feet			Mediui	m Trucks	: 2	.297			
Observer Height (,	5.0 feet			Heav	y Trucks	:: 8	.004	Grade Ad	justmen	t: 0.0
	d Elevation:	0.0 feet		-							
	d Elevation:	0.0 feet		La	ne Eq	uivalent		_	feet)		
F	Road Grade:	0.0%				Autos		.000			
	Left View:	-90.0 degree				m Trucks		.811			
	Right View:	90.0 degree	S		Heav	ry Trucks	s: 46	.830			
FHWA Noise Mode	el Calculations	;									
VehicleType	REMEL	Traffic Flow	Distan	ce	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten
Autos:	70.20	1.65		0.30		-1.20		-4.67	0.0	000	0.000
Medium Trucks:	81.00	-11.79		0.33		-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	85.38	-17.08		0.32		-1.20		-5.38	0.0	000	0.000
Unmitigated Noise	Levels (with	out Topo and b	arrier a	ttenua	tion)						
	Leq Peak Hou			eq Eve			Night		Ldn		NEL
Autos:	71.		8.7		67.8		62		70.0		71.2
Medium Trucks:	68.	-	6.4		63.3		60		68.		68.5
Heavy Trucks:	67.		5.8		61.5		58		66.	-	66.9
Vehicle Noise:	73.		1.9		69.8		65	.6	73.	5	74.0
Centerline Distanc	e to Noise Co	ntour (in feet)		70 dB	Λ.	65	dBA		60 dBA	-	5 dBA
	Ldn			, u uB.	A 94	05 (20 20		ви ава 438		944
		_		94 102					438		1.015
	CNEL:						219				1,015

	FHW	/A-RD-77-108	HIGH	I YAWH	NOISE P	REDICT	ION M	DDEL			
Road Nam	o: GPBOP (20 e: Moreno Bea nt: s/o SR-60 V	ch Dr.	mps				t Name: lumber:		loreno Val	ey Trad	e
SITE :	SPECIFIC IN	PUT DATA			04- 0				EL INPUT oft = 15)	s	
Average Daily Peak Hour Peak H	Percentage: our Volume:	25,025 vehicle 10.00% 2,503 vehicle			Ме	edium Tr eavy Tru	ucks (2	Autos Axles)	: 15 : 15		
Vei Near/Far Lai	hicle Speed: ne Distance:	50 mph 82 feet			Vehicle				T		
	ic Distance.	02 1001			Veh	icleType	Autos:	72.09	Evening	Night	
Site Data Barrier Type (0-W	rier Height: all, 1-Berm):	0.0 feet 0.0				edium T Heavy T	rucks:	76.29 81.89	6 9.4%	14.49	% 4.43%
Centerline Dis	Centerline Dist. to Barrier: 67.0 feet						levatio	ns (in t	eet)		
Centerline Dist. I Barrier Distance I Observer Height (to Observer:	67.0 feet 0.0 feet 5.0 feet 0.0 feet			Noise Source Elevations (in feet) Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0						nt: 0.0
	nd Elevation:	0.0 feet		H	Lane Eq	uivalen	t Distai	nce (in	feet)		
F	Road Grade: Left View: Right View:	0.0% -90.0 degree 90.0 degree			Autos: 53.226 Medium Trucks: 53.059 Heavy Trucks: 53.076						
FHWA Noise Mode	el Calculations	1									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier A	ten B	erm Atten
Autos:	70.20	1.43		-0.5		-1.20		-4.71	-	.000	0.000
Medium Trucks: Heavy Trucks:	81.00 85.38	-11.84 -17.13		-0.4 -0.4	-	-1.20 -1.20		-4.88 -5.29	-	.000	0.000
Unmitigated Noise	Levels (witho	ut Topo and	barri	er atter	uation)						
VehicleType	Leq Peak Hou	r Leq Day	,	Leq E	vening	Leq	Night		Ldn		CNEL
Autos:	69. 67.	-	67.7 65.5		66.8		61		69	-	70.1
Medium Trucks:		62.4		59	-	67	-	67.6			
Heavy Trucks: Vehicle Noise:	66. 73.	-	64.9 71.0		60.6 57.3 65.7 68.8 64.6 72.6				66.0 73.0		
Centerline Distance	a to Noisa Co	ntour (in foot)								
Centernine Distance	e to Noise Co.	intour (iii reet,		70	dBA	65	dBA		60 dBA	5	i5 dBA
	Ldn:				99		21	4	46	1	994
	CNEL:						107 230 496			1,069	

	FH	WA-RD-77-10	HIGH	IWAY N	OISE P	REDICT	ION MODE	L		
	c: GPBOP (2 e: Moreno Be t: s/o SR-60	ach Dr.	mps				t Name: Alta lumber: 129	2 Moreno Valle 975	ey Trad	e
SITE S	PECIFIC II	NPUT DATA						DEL INPUT	S	
Highway Data				5	Site Cor	ditions	(Hard = 10	, Soft = 15)		
Average Daily T Peak Hour F Peak Ho	. ,	45,281 vehic 10.00% 4,528 vehicle					Aut rucks (2 Axie rcks (3+ Axie	es): 15		
Veh	icle Speed:	50 mph		1	/ehicle	Mix				
Near/Far Lan	e Distance:	82 feet				icleType	e Da	y Evening	Night	Daily
Site Data								.0% 14.6%	13.5	
Barr	ier Height:	0.0 feet			M	edium 7	rucks: 76	.2% 9.4%	14.4	% 4.50%
Barrier Type (0-Wa		0.0				Heavy 7	rucks: 81	.8% 7.7%	10.69	% 1.94%
Centerline Dis		67.0 feet		,	loise S	nurce F	levations (i	n feet)		
Centerline Dist. to	Observer:	67.0 feet		F.	10/36 0	Auto				
Barrier Distance to	Observer:	0.0 feet			Modiu	m Truck	0.000			
Observer Height (A	lbove Pad):	5.0 feet				vy Truck			liustme	nt: 0.0
Pa	d Elevation:	0.0 feet		L		-			,	
Road	d Elevation:	0.0 feet		L	.ane Eq		t Distance	,		
R	oad Grade:	0.0%				Auto		-		
	Left View:	-90.0 degre				m Truck		-		
	Right View:	90.0 degre	es		Hea	vy Truck	s: 53.076	3		
FHWA Noise Mode	Calculation	IS								
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresnel	Barrier Att	en B	erm Atten
Autos:	70.20	3.98	3	-0.51	l	-1.20	-4.	71 0.0	000	0.000
Medium Trucks:	81.00			-0.49		-1.20			000	0.000
Heavy Trucks:	85.38	-12.85	5	-0.49	9	-1.20	-5.	29 0.0	000	0.000
Unmitigated Noise	Levels (with	out Topo and	barrie	er atten	uation)					
VehicleType I	Leq Peak Ho	ur Leq Da		Leq Ev	ening	Leq	Night	Ldn		CNEL
Autos:		2.5	70.2		69.3		64.2	72.		72.7
Medium Trucks:		0.1	68.1		65.1		62.1	69.9	-	70.3
Heavy Trucks:		0.8	69.2		64.9		61.5	69.9		70.3
Vehicle Noise:	76	6.0	74.0		71.7		67.6	75.6	6	76.0
Centerline Distance	e to Noise C	ontour (in fee	t)							
				70 a		65	dBA	60 dBA		5 dBA
	Ldn:				157 338 729			1,571		
		C	NEL:		169 363 783				1,686	

Coonari	o: GPBOP (2)	240)				Project	Name:	AH2 AA	oreno Valle	v Trada	
	e: Eucalyptus							12975	DIEIIO VAIIE	ey made	
Road Segmen						000740	iiiibci.	12370			
SITE S	SPECIFIC IN	IPUT DATA				N	OISE	MODE	L INPUT	s	
Highway Data				Si	ite Cond	ditions (Hard =	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	13,471 vehicle	es					Autos:	15		
Peak Hour I	Percentage:	10.00%			Med	dium Tru	cks (2	Axles):	15		
Peak Ho	our Volume:	1,347 vehicles	S		Hea	avy Truc	ks (3+	Axles):	15		
Vel	nicle Speed:	40 mph		V	ehicle N	lix					
Near/Far Lar	ne Distance:	48 feet		-		cleType		Day	Evening	Night	Daily
Site Data						A	utos:	72.0%	14.6%	13.5%	91.999
Bar	rier Height:	0.0 feet			Me	dium Tr	ucks:	76.2%	9.4%	14.4%	4.599
Barrier Type (0-Wa	-	0.0			Н	leavy Tr	ucks:	81.8%	7.7%	10.6%	3.419
Centerline Dis	t. to Barrier:	50.0 feet		N	nise Sn	urce Ele	vation	s (in f	eet)		
Centerline Dist. t	o Observer:	50.0 feet			0.00 00	Autos		.000	,,,,		
Barrier Distance t	o Observer:	0.0 feet			Mediun	n Trucks		.297			
Observer Height (/	,	5.0 feet			Heav	y Trucks	: 8	.004	Grade Ad	iustment	0.0
	d Elevation:	0.0 feet		_							
	d Elevation:	0.0 feet		Lá	ane Equ	iivalent			reet)		
F	Road Grade:	0.0%			A 4 15	Autos		.147			
	Left View:	-90.0 degree				n Trucks		.947			
	Right View:	90.0 degree	es		neav	y Trucks	. 43	.900			
FHWA Noise Mode											
VehicleType	REMEL	Traffic Flow	Dista		Finite	_	Fres		Barrier Att		m Atten
Autos:	66.51			0.71		-1.20		-4.65		000	0.00
Medium Trucks:	77.72			0.74		-1.20 -1.20		-4.87 -5.43		000	0.00
Heavy Trucks:	82.99			0.73		-1.20		-5.43	0.0	000	0.00
Unmitigated Noise							E-l-4	_	Ldn		NFL
VehicleType Autos:	Leq Peak Hou		63.4	Leq Eve	62.5	Leq I	vignt 57	4	Lan 65.3		VEL 65.
Medium Trucks:	63		61.9		58.8		55		63.6	-	64
Heavy Trucks:	67		66.2		61.9		58	-	66.9	-	67.
Vehicle Noise:	70		69.0		66.1		62.	-	70.3		70.
Centerline Distanc	e to Noise Co	ontour (in feet)								
		(70 dE	3A	65 (iBA	(0 dBA	55	dBA
			Ldn:		52		112	2	241	•	520

Wednesday, November 4, 2020

	FH\	WA-RD-77-108	HIGH	WAY N	IOISE PI	REDICTI	ON M	DDEL			
Road Na	nrio: GPBOP (2) me: Eucalyptus ent: e/o Auto M	Av.						Alt2 N 12975	loreno Vall	ey Trac	le
SITE Highway Data	SPECIFIC IN	IPUT DATA			Sita Can	N ditions (L INPUT	S	
Average Dail Peak Hou Peak	y Traffic (Adt): ir Percentage: Hour Volume:	8,863 vehicle 10.00% 886 vehicle			Ме	edium Tru eavy Truc	cks (2	Autos Axles)	15		
	'ehicle Speed: ane Distance:	40 mph 48 feet			Vehicle I				, ,		,
	ano Biotanos.	40 1000		_	Veh	icleType	,	Day	Evening	Night	
Site Data B Barrier Type (0-	arrier Height: Wall, 1-Berm):	0.0 feet 0.0				edium Tri Heavy Tri		72.09 76.29 81.89	6 9.4%		% 4.81%
Centerline L	Centerline Dist. to Barrier: 50.0 feet					ource Ele	evatio	ns (in f	eet)		
Barrier Distance	Centerline Dist. to Observer: 50.0 fe Barrier Distance to Observer: 0.0 fe Observer Height (Above Pad): 5.0 fe				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8,004 Grade Adjustment: 0.0						
-	Pad Elevation:	0.0 feet			Heav	y Trucks	: 8	3.004	Grade Ad	justme	nt: U.U
R	oad Elevation:	0.0 feet			Lane Eq	uivalent	Distai	nce (in	feet)		
	Road Grade:	0.0%				Autos	: 44	1.147			
	Left View: Right View:	-90.0 degrees 90.0 degrees				m Trucks vy Trucks		3.947 3.966			
FHWA Noise Mo	del Calculation	s									
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fres	snel	Barrier Att	en B	erm Atten
Autos		-2.28		0.7		-1.20		-4.65		000	0.000
Medium Trucks				0.7		-1.20		-4.87		000	0.000
Heavy Trucks				0.7		-1.20		-5.43	0.	000	0.000
Unmitigated Noi: VehicleType	Leg Peak Hou				vening	Leg I	liaht	1	Ldn	1	CNFL
Autos			61.5	Ley L	60.6	,	vigrit 55	5	63.		64.0
Medium Trucks			60.3		57.2		54		62.		62.4
Heavy Trucks: 67.3 65.6					61.3		57	.9	66.	3	66.7
Vehicle Noise	: 69).7	67.9		64.8		60	.9	69.	1	69.5
Centerline Distai	nce to Noise Co	ontour (in feet,)								
				70 (dBA	65 c			60 dBA		55 dBA
	Ldn: CNEL:				43 94			202	-	434	
			46		10	0	215	5	463		

	FH\	WA-RD-77-108	HIGI	HWAY	NOISE P	REDICT	ION MO	ODEL			
Road Na	ario: GPBOP (20 me: Eucalyptus ent: w/o Aldi Pla	Av.						Alt2 M 12975	oreno Valle	ey Trade	
SITE Highway Data	SPECIFIC IN	IPUT DATA			Site Cor				L INPUT	s	
					Site Coi	luluolis	(IIaIu ·				
	y Traffic (Adt):	8,556 vehicle	es					Autos:	15		
	ır Percentage:	10.00%				edium Tru					
	Hour Volume:	856 vehicles	3		He	eavy Truc	cks (3+	Axles):	15		
	ehicle Speed:	40 mph			Vehicle	Mix					
Near/Far L	ane Distance:	48 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	72.0%	14.6%	13.5%	89.50%
	arrier Height:	0.0 feet			М	ledium Ti	rucks:	76.2%	9.4%	14.4%	4.98%
Barrier Type (0-		0.0				Heavy Ti	rucks:	81.8%	7.7%	10.6%	5.52%
	Dist. to Barrier:	50.0 feet									
Centerline Dis		50.0 feet			Noise S	ource El Auto:		- '	eet)		
	Barrier Distance to Observer: 0.0 feet							0.000			
	Observer Height (Above Pad): 5.0 feet							2.297			
	Pad Elevation:	0.0 feet			Hea	vy Truck	s: 8	3.004	Grade Ad	ustmen	: 0.0
	oad Elevation:	0.0 feet			Lane Eq	uivalent	Distar	nce (in	feet)		
	Road Grade:	0.0%				Auto		1.147	,		
	Left View:	-90.0 degree	26		Mediu	m Truck	s: 43	947			
	Right View:	90.0 degree				vy Truck		3.966			
		00.09	-			,					
FHWA Noise Mo	del Calculation	s									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fres	inel	Barrier Att	en Be	rm Atten
Autos	66.51	-2.49		0.	71	-1.20		-4.65	0.0	000	0.000
Medium Trucks	s: 77.72	-15.03		0.	74	-1.20		-4.87	0.0	000	0.000
Heavy Trucks	82.99	-14.59		0.	73	-1.20		-5.43	0.0	000	0.000
Unmitigated Noi	se Levels (with	out Topo and	barri	er atte	nuation)						
VehicleType	Leq Peak Hou	ır Leq Day		Leq E	Evening	Leq	Night		Ldn	С	NEL
Autos	8: 63	.5	61.3		60.4		55	.3	63.2	2	63.8
Medium Trucks	62	2	60.3		57.2		54	.3	62.0)	62.4
Heavy Trucks: 67.9 66.3					62.0 58.6 67.0					67.4	
Vehicle Noise	2: 70	.1	68.2		65.1		61	.3	69.4	1	69.8
Centerline Distai	nce to Noise Co	ontour (in feet)	١.,							,	
			L	70	dBA	65	dBA		60 dBA		dBA
		Ldn:			46		9	-	212		457
		CI	VEL:		49 105 226				487		

	FH\	WA-RD-77-108	HIGH	WAY N	DISE P	REDICT	ION M	ODEL					
	o: GPBOP (20 e: Eucalyptus t: w/o Dwy. 5	Av.						Alt2 M 12975	oreno Valle	ey Trade			
SITE S Highway Data	PECIFIC IN	NPUT DATA			·4- O	nditions			L INPUT	s			
Average Daily T Peak Hour F Peak Ho	Percentage: our Volume: nicle Speed:	10,624 vehicle 10.00% 1,062 vehicle 40 mph 48 feet			Me He 'ehicle	edium Tr eavy Tru Mix	ucks (2 cks (3+	Autos: Axles): Axles):	15 15 15				
		10			Ver	icleType		72.0%	Evening	Night	Daily		
Site Data Barrier Type (0-Wa	rier Height: all, 1-Berm):	0.0 feet 0.0				ledium T Heavy T		76.2% 81.8%	9.4%	13.5% 14.4% 10.6%	5.02%		
Centerline Dist. to Barrier Distance to Observer Height (A	Centerline Dist. to Barrier: 50.0 feet Centerline Dist. to Observer: 50.0 feet Barrier Distance to Observer: 0.0 feet bserver Height (Above Pad): 5,0 feet Pad Elevation: 0,0 feet					Noise Source Elevations (in feet) Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0							
R	d Elevation: Poad Grade: Left View: Right View:	0.0 feet 0.0% -90.0 degre 90.0 degre			Lane Equivalent Distance (in feet) Autos: 44.147 Medium Trucks: 43.947 Heavy Trucks: 43.966								
FHWA Noise Mode		-											
VehicleType Autos: Medium Trucks: Heavy Trucks:	REMEL 66.51 77.72 82.99	-14.06		0.71 0.74 0.73		-1.20 -1.20 -1.20	Fres	-4.65 -4.87 -5.43	0.0	en Bei 000 000 000	0.000 0.000 0.000		
Unmitigated Noise	I evels (with	out Topo and	harrie	r atteni	ation)								
	Leg Peak Hou			Leg Ev		Leg	Night	1	Ldn	C	NEL		
Autos: Medium Trucks:	Autos: 64.5 62.3 Medium Trucks: 63.2 61.2				61.3 58.1		56 55	.2	64.1)	64.7 63.4		
Heavy Trucks: Vehicle Noise:		3.8	67.1 69.1		62.8		59 62		67.9 70.3		68.2 70.7		
Centerline Distance	e to Noise Co	ontour (in fee	9										
			Ldn:	70 d	BA 52	65	dBA 11		60 dBA 243		dBA 523		
			56 12						558				

	io: GPBOP (20								oreno Valle	y Trade	
	ne: Eucalyptus					Job N	umber:	12975			
Road Segillel	nt: w/o Redland	IS BIVO.									
	SPECIFIC IN	PUT DATA							L INPUT	5	
Highway Data				S	ite Con	ditions	(Hara :				
Average Daily	. ,	10,839 vehicle	s					Autos:	15		
		10.00%				dium Tr		,			
		1,084 vehicles			He	avy Tru	cks (3+	Axles):	15		
	hicle Speed:	40 mph		V	ehicle l	Wix					
Near/Far La	ne Distance:	48 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	72.0%	14.6%	13.5%	89.809
Rai	rrier Height:	0.0 feet			М	edium T	rucks:	76.2%	9.4%	14.4%	4.929
Barrier Type (0-W	-	0.0			I	Heavy T	rucks:	81.8%	7.7%	10.6%	5.289
Centerline Di	st. to Barrier:	50.0 feet		N	nisa Sr	ource El	ovatio	ne (in fa	not)		
Centerline Dist.	to Observer:	50.0 feet		/*	0/36 00	Auto		.000	.01)		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		297			
Observer Height ((Above Pad):	5.0 feet				y Truck		.004	Grade Ad	iustmant	. 0 0
Pa	ad Elevation:	0.0 feet			ricas	y ITUCK	s. c	1.004	Orade Adj	astment	0.0
Roa	ad Elevation:	0.0 feet		L	ane Eq	uivalen	Distar	nce (in i	feet)		
	Road Grade:	0.0%				Auto	s: 44	.147			
	Left View:	-90.0 degree	s		Mediu	m Truck	s: 43	3.947			
	Right View:	90.0 degree	s		Heav	ry Truck	s: 43	3.966			
FHWA Noise Mode	el Calculations										
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fres	nel	Barrier Att	en Bei	m Atten
Autos:	66.51	-1.44		0.71		-1.20		-4.65	0.0	000	0.00
Medium Trucks:	77.72	-14.06		0.74		-1.20		-4.87	0.0	000	0.00
Heavy Trucks:	82.99	-13.75		0.73		-1.20		-5.43	0.0	000	0.00
Unmitigated Noise	e Levels (witho	ut Topo and I	arrier	attenu	ation)						
VehicleType	Leq Peak Hou	Leq Day		Leq Eve	ening	Leq	Night		Ldn	C	NEL
Autos:	64.		32.4		61.4		56		64.2	-	64.
Medium Trucks:	63.	- '	31.2		58.1		55	-	63.0		63.
Heavy Trucks:	68.		37.1		62.8		59		67.9		68.
Vehicle Noise:	71.	0 6	39.1		66.0		62	.2	70.3	3	70.
Centerline Distanc	ce to Noise Co	ntour (in feet)		70			/D.4			T ==	10.4
			L	70 dl		65	dBA		0 dBA		dBA
		- /	dn:		53		11	3	244		525
		_	IEL:		56		12	-	260		560

Wednesday, November 4, 2020

	FH'	WA-RD-77-108	HIGH	WAY N	IOISE PI	REDICT	ION MC	DEL			
	o: GPBOP (2 e: Encilia Av. t: e/o Essen	,					Name: lumber:		oreno Valle	ey Trad	9
SITE S	SPECIFIC II	NPUT DATA				ı	IOISE	MODE	L INPUT	s	
Highway Data					Site Con	ditions	(Hard =	= 10, Sc	oft = 15)		
Average Daily 1 Peak Hour F Peak Ho	. ,	4,154 vehicl 10.00% 415 vehicle				dium Tr avy Tru		/	15		
Veh	nicle Speed:	45 mph		1	Vehicle I	Mix					
Near/Far Lan	e Distance:	36 feet		H		icleType	•	Dav	Evening	Night	Dailv
Site Data							Autos:	72.0%	-	13.59	. ,
Pan	rier Height:	0.0 feet			М	edium T	rucks:	76.2%	9.4%	14.49	6 4.27%
Barrier Type (0-Wa		0.0			1	Heavy T	rucks:	81.8%	7.7%	10.69	6 1.27%
Centerline Dis	t. to Barrier:	44.0 feet		-	Noise So	ource El	levation	s (in fe	eet)		
Centerline Dist. t	o Observer:	44.0 feet				Auto		.000	,		
Barrier Distance t	o Observer:	0.0 feet			Mediu	m Truck		.297			
Observer Height (A	Above Pad):	5.0 feet				y Truck		.004	Grade Ad	liustmer	t: 0.0
	d Elevation:	0.0 feet		_						,	
Roa	d Elevation:	0.0 feet		1	Lane Eq	uivalen			feet)		
F	Road Grade:	0.0%				Auto		.460			
	Left View: Right View:	-90.0 degre 90.0 degre				m Truck vy Truck		.241			
FHWA Noise Mode											
VehicleType	REMEL	Traffic Flow	Die	tance	Einite	Road	Fres	nol	Barrier Att	on D	rm Atten
Autos:	68.46			1.2		-1.20	1163	-4.61		000	0.000
Medium Trucks:	79.45			1.3		-1.20		-4.87		000	0.00
Heavy Trucks:	84.25			1.3		-1.20		-5.50		000	0.000
Unmitigated Noise	Levels (with	out Topo and	barrie	r atten	uation)						
VehicleType	Leq Peak Ho	ur Leq Day	/	Leg E	vening	Leq	Night		Ldn	(CNEL
Autos:	62	2.6	60.4		59.5		54.	4	62.3	3	62.9
Medium Trucks:	60	0.2	58.2		55.2		52.	3	60.0	0	60.4
Heavy Trucks:	59	9.7	58.1		53.8		50.	4	58.	8	59.2
Vehicle Noise:	65	5.8	63.8		61.6		57.	4	65.4	4	65.9
Centerline Distanc	e to Noise C	ontour (in feet)								
			L	70 c		65	dBA		60 dBA		5 dBA
	Ldn:				22 47 23 50			101		217	
		CNEL:				23			108 23		233

4, 2020 Wednesday, November 4, 2020

	FH	WA-RD-77-108	HIGHWA	NOISE P	REDICTION	ом ис	DDEL			
Scena	rio: GPBOP (2	040)			Project I	Vame:	Alt2 N	oreno Valle	y Trade	
Road Na	me: Encilia Av.				Job Nu	ımber:	12975			
Road Segme	ent: e/o Mozart	Wy.								
SITE	SPECIFIC II	NPUT DATA			N(OISE	MODE	L INPUT	S	
Highway Data				Site Con	nditions (Hard :	= 10, S	oft = 15)		
Average Daily	/ Traffic (Adt):	4,355 vehicle	s				Autos.	15		
Peak Hou	r Percentage:	10.00%		Me	dium Tru	cks (2	Axles)	15		
Peak	Hour Volume:	436 vehicles		He	avy Truci	ks (3+	Axles)	15		
V	ehicle Speed:	45 mph		Vehicle	Miss					
Near/Far L	ane Distance:	36 feet			icleTvpe		Dav	Evenina	Night	Dailv
Site Data				10	,,, .	utos:	72.09		13.5%	
D.	arrier Height:	0.0 feet		М	edium Tru	ıcks:	76.29	6 9.4%	14.4%	4.07%
Barrier Type (0-1		0.0 leet		1	Heavy Tru	ıcks:	81.89	6 7.7%	10.6%	1.21%
	ist to Barrier	44.0 feet								
Centerline Dist		44.0 feet		Noise So	ource Ele		- 1	eet)		
Barrier Distance		0.0 feet			Autos		.000			
Observer Height		5.0 feet			m Trucks	-	.297			
-	Pad Flevation:	0.0 feet		Heav	vy Trucks	: 8	.004	Grade Adj	ustment	0.0
	pad Elevation:	0.0 feet		Lane Eq	uivalent	Distar	nce (in	feet)		
	Road Grade:	0.0%			Autos		.460	,		
	Left View:	-90.0 degree	s	Mediu	m Trucks	: 40	.241			
	Right View:	90.0 degree		Heav	y Trucks	: 40	.262			
HWA Noise Mod				1	1					
VehicleType	REMEL	Traffic Flow	Distance		Road	Fres		Barrier Atte	_	m Atten
Autos				1.28	-1.20		-4.61	0.0		0.000
Medium Trucks				1.31	-1.20		-4.87	0.0		0.000
Heavy Trucks	: 84.25	-24.63	1	1.31	-1.20		-5.50	0.0	100	0.000
Inmitigated Nois										
VehicleType	Leq Peak Ho			Evening	Leq N	_		Ldn		VEL
Autos			0.6	59.7		54	-	62.5		63.1
Medium Trucks			8.2	55.2		52	-	60.0		60.4
Heavy Trucks			8.1	53.8		50		58.8		59.2
Vehicle Noise	: 65	5.9 6	3.9	61.8		57	.5	65.5)	66.0
Centerline Distar	ice to Noise C	ontour (in feet)								
				0 dBA	65 d			60 dBA		dBA
			.dn:	22		4		102		220
		CN	EL:	24		5	1	110		237

	FHW	A-RD-77-108	HIG	HWAY N	IOISE PI	REDICTIO	N MOE	DEL			
Scenar	io: GPBOP (204	40)				Project Na	ame: A	lt2 Mo	oreno Valle	y Trade	
Road Nam	ne: Encilia Av.					Job Nun	nber: 1	2975			
Road Segme	nt: w/o Redland	s Blvd.									
	SPECIFIC INI	PUT DATA							LINPUT	S	
Highway Data					Site Con	ditions (H	ard = 1	10, So	,		
Average Daily	Traffic (Adt):	4,958 vehicle	es					utos:	15		
Peak Hour	Percentage:	10.00%				dium Truck			15		
Peak H	lour Volume:	496 vehicles	3		He	avy Trucks	(3+ A	xles):	15		
	hicle Speed:	45 mph		1	Vehicle I	Mix					
Near/Far La	ne Distance:	36 feet			Veh	icleType	- 1	Day	Evening	Night	Daily
Site Data						Aut	os: T	72.0%	14.6%	13.5%	94.99%
Pa	rrier Height:	0.0 feet			Me	edium Truc	ks: T	76.2%	9.4%	14.4%	3.86%
Barrier Type (0-W		0.0 1661			F	Heavy Truc	ks: 8	31.8%	7.7%	10.6%	1.14%
Centerline Di		44.0 feet		-							
Centerline Dist.		44.0 feet		1	voise Sc	ource Elev		•	et)		
Barrier Distance		0.0 feet				Autos:	0.0				
Observer Height	(Above Pad):	5.0 feet				m Trucks:	2.2		0		
	ad Elevation:	0.0 feet			Heav	y Trucks:	8.0	04	Grade Ad	ustment	: 0.0
Ro	ad Elevation:	0.0 feet		I	Lane Eq	uivalent D	istanc	e (in f	eet)		
	Road Grade:	0.0%				Autos:	40.4	-60			
	Left View:	-90.0 degree	es		Mediu	m Trucks:	40.2	41			
	Right View:	90.0 degree	es		Heav	y Trucks:	40.2	62			
FHWA Noise Mod	el Calculations										
VehicleType	REMEL	Traffic Flow	D	istance	Finite	Road	Fresne	e/	Barrier Att	en Ber	m Atten
Autos:	68.46	-5.11		1.28	-	-1.20	-	4.61	0.0	000	0.00
Medium Trucks:	79.45	-19.02		1.3	1	-1.20		4.87	0.0	000	0.00
Heavy Trucks:	84.25	-24.30		1.3	1	-1.20	-	5.50	0.0	000	0.000
Unmitigated Noise											
VehicleType	Leq Peak Hour			Leq Ev		Leq Nig	,		Ldn		NEL
Autos:	63.4		61.2		60.3		55.2		63.1		63.
Medium Trucks:	60.	-	58.6		55.5		52.6		60.3		60.
Heavy Trucks:			58.4		54.1		50.8		59.2		59.
Vehicle Noise:			64.4		62.3		58.0		66.0)	66.4
Centerline Distant	ce to Noise Co	ntour (in feet)	1	70 c	VDA I	65 dB	A .		0 dBA		dBA
			Ldn:	700	1BA 24	oo aB	A 51	6	<i>0 ава</i> 110		ава 236
			Lan: VEL:		25		55		110		254



APPENDIX 9.1:

CADNAA OPERATIONAL NOISE MODEL INPUTS





12975

CadnaA Noise Prediction Model: 12975_10.cna

Date: 06.11.20 Analyst: B. Lawson

Receiver Noise Levels

Name	M.	ID		Level Lr		Lir	nit. Val	ue		Land	Use	Height		Co	oordinates	
			Day	Night	CNEL	Day	Night	CNEL	Туре	Auto	Noise Type			Х	Υ	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	44.4	44.2	50.9	65.0	60.0	0.0				5.00	а	6285795.43	2286852.14	5.00
RECEIVERS		R2	40.1	39.7	46.4	65.0	60.0	0.0				5.00	а	6285832.80	2283837.85	5.00
RECEIVERS		R3	41.0	39.8	46.6	65.0	60.0	0.0				5.00	а	6284622.63	2283845.08	5.00
RECEIVERS		R4 - at 200'	40.1	39.4	46.1	65.0	60.0	0.0				5.00	а	6284889.69	2283757.76	5.00

Point Source(s)

		- (- /															
Name	M.	ID	R	esult. PW	'L		Lw / L	i	Op	erating Ti	me	K0	Height		Co	oordinates	
			Day	Evening	Night	Туре	Value	norm.	Day	Special	Night				Х	Υ	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(dB)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		AC01	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6284276.19	2284341.01	53.00
POINTSOURCE		AC02	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6286231.53	2284365.09	53.00
POINTSOURCE		AC03	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6286226.71	2284996.00	53.00
POINTSOURCE		AC04	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6284276.19	2284945.43	53.00
POINTSOURCE		TRASH01	89.0	89.0	89.0	Lw	89		75.00	0.00	45.00	0.0	5.00	а	6286089.45	2285157.34	5.00
POINTSOURCE		TRASH02	89.0	89.0	89.0	Lw	89		75.00	0.00	45.00	0.0	5.00	а	6284350.84	2284203.75	5.00

Line Source(s)

		-1-,																	
Name	M.	ID	R	esult. PW	/L	R	esult. PW	'L'		Lw / Li		Op	erating Ti	me		Moving	Pt. Src		Height
			Day	Evening	Night	Day	Evening	Night	Туре	Value	norm.	Day	Special	Night		Number		Speed	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	Day	Evening	Night	(mph)	(ft)
LINESOURCE		DWY01	99.0	88.7	90.1	77.2	66.9	68.3	PWL-Pt	89.7					561.0	52.0	72.0	6.2	8
LINESOURCE		DWY01	102.3	91.9	93.3	77.2	66.9	68.3	PWL-Pt	89.7					561.0	52.0	72.0	6.2	8
LINESOURCE		DWY05	84.0	73.3	75.6	65.2	54.5	56.7	PWL-Pt	89.7					35.0	3.0	5.0	6.2	8
LINESOURCE		DWY05	89.2	78.6	80.8	65.2	54.5	56.7	PWL-Pt	89.7					35.0	3.0	5.0	6.2	8
LINESOURCE		DWY07	90.5	80.3	81.7	70.0	59.7	61.2	PWL-Pt	89.7					106.0	10.0	14.0	6.2	8

Name	ŀ	lei	ght		Coordinat	es	
	Begin		End	х	У	z	Ground
	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
LINESOURCE	8.00	а		6284201.61	2285199.22	8.00	0.00
				6284210.44	2285027.44	8.00	0.00
				6284268.65	2285025.67	8.00	0.00
				6284363.92	2285052.13	8.00	0.00
				6284438.01	2285085.65	8.00	0.00
				6284522.69	2285092.71	8.00	0.00
LINESOURCE	8.00	а		6284332.16	2284263.58	8.00	0.00
				6284127.52	2284263.58	8.00	0.00
				6284124.00	2284935.70	8.00	0.00
				6284207.17	2285091.05	8.00	0.00
LINESOURCE	8.00	а		6286117.44	2285082.12	8.00	0.00
				6286265.63	2285083.89	8.00	0.00
				6286270.92	2285117.41	8.00	0.00
				6286272.69	2285187.73	8.00	0.00
LINESOURCE	8.00	а		6286265.63	2285083.89	8.00	0.00
				6286322.08	2285045.08	8.00	0.00
				6286316.82	2284273.12	8.00	0.00
LINESOURCE	8.00	а		6286168.77	2284272.36	8.00	0.00
				6286541.71	2284274.29	8.00	0.00

Area Source(s)

ID	R	esult. PW	L	Re	esult. PW	L"	Lw	/ Li	Ор	erating Ti	me	M	oving Pt. S	Src	Height
	Day	Evening	Night	Day	Evening	Night	Туре	Value	Day	Special	Night		Number		
	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			(min)	(min)	(min)	Day	Evening	Night	(ft)
DOCK01	111.5	111.5	111.5	67.1	67.1	67.1	Lw	111.5							8
DRY01	103.4	103.4	103.4	58.4	58.4	58.4	Lw	103.4							8

125

Name	ŀ	lei	ght		Coordinat	es	
	Begin		End	х	у	Z	Ground
	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
AREASOURCE	8.00	а		6286117.44	2285177.39	8.00	0.00
				6286117.44	2284990.39	8.00	0.00
				6284522.69	2284990.39	8.00	0.00
				6284522.69	2285177.39	8.00	0.00
AREASOURCE	8.00	а		6286170.37	2284357.07	8.00	0.00
				6286166.84	2284170.08	8.00	0.00
				6284332.16	2284170.08	8.00	0.00
				6284332.16	2284357.07	8.00	0.00

Barrier(s)

Name	M.	ID	Abso	rption	Z-Ext.	Canti	ilever	F	lei	ght		Coordinate	es	
			left	right		horz.	vert.	Begin		End	х	у	Z	Ground
					(ft)	(ft)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
BARRIERS		BARRIERS00001						6.00	а		6284027.67	2283877.60	6.00	0.00
											6284391.46	2283874.88	6.00	0.00
											6284404.65	2283860.32	6.00	0.00
											6284403.29	2283750.28	6.00	0.00
BARRIERS		BARRIERS00002						4.00	а		6284639.26	2283884.29	4.00	0.00
											6285198.14	2283881.20	4.00	0.00
											6285197.37	2283847.19	4.00	0.00
BARRIERS		BARRIERS00003						4.00	а		6285333.13	2283849.84	4.00	0.00
											6285370.04	2283880.24	4.00	0.00
											6285851.26	2283877.34	4.00	0.00
											6285897.57	2283875.89	4.00	0.00
											6285899.74	2283875.17	4.00	0.00
BARRIERS		BARRIERS00004						4.00	а		6284639.26	2283884.29	4.00	0.00
											6284639.24	2283871.62	4.00	0.00
											6284513.10	2283872.78	4.00	0.00
BARRIERS		BARRIERS00005						14.00	а		6286168.19	2284241.64	14.00	0.00
											6286166.84	2284170.08	14.00	0.00
											6284332.16	2284170.08	14.00	0.00
											6284332.16	2284237.11	14.00	0.00
BARRIERS		BARRIERS00006						14.00	а		6284522.69	2285117.41	14.00	0.00
											6284522.69	2285177.39	14.00	0.00
											6286117.44	2285177.39	14.00	0.00
											6286117.44	2285103.29	14.00	0.00

Building(s)

	٠0١	-,									
Name	M.	ID	RB	Residents	Absorption	Height	:		Coordinat	es	
						Begin		х	у	Z	Ground
						(ft)		(ft)	(ft)	(ft)	(ft)
BUILDING		BUILDING00001	х	0		48.00	а	6284219.26	2284990.39	48.00	0.00
								6286117.44	2284990.39	48.00	0.00
								6286117.44	2285029.20	48.00	0.00
								6286288.56	2285029.20	48.00	0.00
								6286288.56	2284320.03	48.00	0.00
								6286170.37	2284320.03	48.00	0.00
								6286170.37	2284357.07	48.00	0.00
								6284332.16	2284357.07	48.00	0.00
								6284332.16	2284298.86	48.00	0.00
								6284212.20	2284298.86	48.00	0.00

APPENDIX 10.1:

CADNAA CONSTRUCTION NOISE MODEL INPUTS





12975

CadnaA Noise Prediction Model: 12975_Construction.cna

Date: 11.05.20 Analyst: B. Lawson

Receiver Noise Levels

Name	M.	ID		Level Lr		Lir	nit. Valı	ue		Land	l Use	Height		Co	oordinates	
			Day	Night	CNEL	Day	Night	CNEL	Туре	Auto	Noise Type			Х	Υ	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	58.6	58.6	65.2	65.0	60.0	0.0				5.00	а	6285795.43	2286852.14	5.00
RECEIVERS		R2	64.7	64.7	71.4	65.0	60.0	0.0				5.00	а	6285832.80	2283837.85	5.00
RECEIVERS		R3	64.5	64.5	71.2	65.0	60.0	0.0				5.00	а	6284622.63	2283845.08	5.00
RECEIVERS		R4 - at 200'	63.2	63.2	69.9	65.0	60.0	0.0				5.00	а	6284889.69	2283757.76	5.00

Area Source(s)

ID	R	esult. PW	/L	Re	esult. PW	L"	Lw	/ Li	Op	erating Ti	me	M	oving Pt. S	Src	Height
	Day	.,			Evening	Night	Туре	Value	Day	Special	Night		Number		
	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			(min)	(min)	(min)	Day	Evening	Night	(ft)
SITEBOUNDARY00001	128.1	(, (, , (, , , ,		73.5	73.5	73.5	Lw"	73.5							8

Name	H	lei	ght		Coordinat	es	
	Begin		End	х	у	Z	Ground
	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
SITEBOUNDARY	8.00	а		6284023.88	2285199.01	8.00	0.00
				6286220.93	2285201.61	8.00	0.00
				6286236.56	2285187.73	8.00	0.00
				6286424.06	2285187.73	8.00	0.00
				6286446.63	2285184.25	8.00	0.00
				6286470.93	2285173.84	8.00	0.00
				6286507.39	2285144.32	8.00	0.00
				6286535.17	2285104.39	8.00	0.00
				6286547.32	2285067.93	8.00	0.00
				6286545.59	2284804.04	8.00	0.00
				6286557.74	2284788.42	8.00	0.00
				6286556.00	2284496.75	8.00	0.00
				6286540.38	2284415.16	8.00	0.00
				6286542.11	2284231.13	8.00	0.00
				6286552.53	2284215.50	8.00	0.00
				6286554.27	2283963.77	8.00	0.00
				6284021.14	2283963.27	8.00	0.00

Barrier(s)

Darrie	1/3	,												
Name	M.	ID	Abso	rption	Z-Ext.	Canti	ilever	H	lei	ght		Coordinat	es	
			left	right		horz.	vert.	Begin		End	х	у	Z	Ground
					(ft)	(ft)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
BARRIERS		BARRIERS00001						6.00	а		6284027.67	2283877.60	6.00	0.00
											6284391.46	2283874.88	6.00	0.00
											6284404.65	2283860.32	6.00	0.00
											6284403.29	2283750.28	6.00	0.00
BARRIERS		BARRIERS00002						4.00	а		6284639.26	2283884.29	4.00	0.00
											6285198.14	2283881.20	4.00	0.00
											6285197.37	2283847.19	4.00	0.00
BARRIERS		BARRIERS00003						4.00	а		6285333.13	2283849.84	4.00	0.00
											6285370.04	2283880.24	4.00	0.00
											6285851.26	2283877.34	4.00	0.00
											6285897.57	2283875.89	4.00	0.00
											6285899.74	2283875.17	4.00	0.00
BARRIERS		BARRIERS00004						4.00	а		6284639.26	2283884.29	4.00	0.00
											6284639.24	2283871.62	4.00	0.00
											6284513.10	2283872.78	4.00	0.00

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APPENDIX 10.2:

CADNAA CONCRETE POUR CONSTRUCTION NOISE MODEL INPUTS





12975

CadnaA Noise Prediction Model: 12975_ConcretePour.cna

Date: 10.01.21 Analyst: B. Lawson

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value				l Use	Height		Co	oordinates		
			Day	Night	CNEL	Day	Night	CNEL	Туре	Auto	Noise Type			Х	Υ	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	52.8	52.8	59.5	65.0	60.0	0.0				5.00	а	6285795.43	2286852.14	5.00
RECEIVERS		R2	55.8	55.8	62.5	65.0	60.0	0.0				5.00	а	6285832.80	2283837.85	5.00
RECEIVERS		R3	55.8	55.8	62.5	65.0	60.0	0.0				5.00	а	6284622.63	2283845.08	5.00
RECEIVERS		R4 - at 200'	55.3	55.3	62.0	65.0	60.0	0.0				5.00	а	6284889.69	2283757.76	5.00

Area Source(s)

ID	R	esult. PW	/L	Re	esult. PW	L"	Lw	/Li	Оре	erating Ti	me	М	Height		
	Day	Evening	Night	Day	Evening	Night	Туре	Value	Day	Special	Night		Number		
	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			(min)	(min)	(min)	Day	Evening	Night	(ft)
BUILDING00001	122.1 122.1 122.1			71.2	71.2	71.2	Lw"	71.2							8

Name	H	lei	ght			Coordinat	es	
	Begin		End		х	у	Z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
BUILDING	8.00	а			6284219.26	2284990.39	8.00	0.00
					6286117.44	2284990.39	8.00	0.00
					6286117.44	2285029.20	8.00	0.00
					6286288.56	2285029.20	8.00	0.00
					6286288.56	2284320.03	8.00	0.00
					6286170.37	2284320.03	8.00	0.00
					6286170.37	2284357.07	8.00	0.00
					6284332.16	2284357.07	8.00	0.00
					6284332.16	2284298.86	8.00	0.00
					6284212.20	2284298.86	8.00	0.00

Barrier(s)

Name	M.	ID	Abso	rption	Z-Ext.	Canti	lever	Н	ei	ght		Coordinat	es	
			left	right		horz.	vert.	Begin		End	х	у	z	Ground
					(ft)	(ft)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
BARRIERS		BARRIERS00001						6.00	а		6284027.67	2283877.60	6.00	0.00
											6284391.46	2283874.88	6.00	0.00
											6284404.65	2283860.32	6.00	0.00
											6284403.29	2283750.28	6.00	0.00
BARRIERS		BARRIERS00002						4.00	а		6284639.26	2283884.29	4.00	0.00
											6285198.14	2283881.20	4.00	0.00
											6285197.37	2283847.19	4.00	0.00
BARRIERS		BARRIERS00003						4.00	а		6285333.13	2283849.84	4.00	0.00
											6285370.04	2283880.24	4.00	0.00
											6285851.26	2283877.34	4.00	0.00
											6285897.57	2283875.89	4.00	0.00
											6285899.74	2283875.17	4.00	0.00
BARRIERS		BARRIERS00004						4.00	а		6284639.26	2283884.29	4.00	0.00
											6284639.24	2283871.62	4.00	0.00
											6284513.10	2283872.78	4.00	0.00

Urban Crossroads, Inc.

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APPENDIX 10.3:

CADNAA SHEET PILE SYSTEM CONSTRUCTION NOISE MODEL INPUTS





12975

CadnaA Noise Prediction Model: 12975_ConstructionPile.cna

Date: 07.05.20 Analyst: B. Lawson

Receiver Noise Levels

Name	M.	ID		Level Lr		Limit. Value				Use	Height		Coordinates			
			Day	Night	CNEL	Day	Night	CNEL	Туре	Auto	Noise Type			Х	Υ	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
PILERECEIVERS		Р1	64.0	64.0	70.7	65.0	0.0	0.0				5.00	a	6284093.59	2283838.98	5.00
PILERECEIVERS		P2	62.2	62.2	68.8	65.0	0.0	0.0				5.00	а	6284200.83	2283840.29	5.00
PILERECEIVERS		Р3	57.3	57.3	64.0	65.0	0.0	0.0				5.00	a	6284351.12	2283845.30	5.00

Point Source(s)

Name	M.	ID	R	esult. PW	'L	Lw / Li			Operating Time			K0	Height		Coordinates			
			Day	Evening	Night	Туре	Value	norm.	Day	Special	Night			Х	Υ	Z		
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(dB)	(ft)	(ft)	(ft)	(ft)		
POINTSOURCE		PileDriver(Impact)	108.7	108.7	108.7	Lw	108.7					0.0	8.00	a 6284105.32	2283966.70	8.00		

Barrier(s)

Name	M.	ID	Abso	rption	Z-Ext.	Canti	lever	F	lei	ght		Coordinates				
			left	right		horz.	vert.	Begin		End	х	у	Z	Ground		
					(ft)	(ft)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)		
BARRIERS		BARRIERS00001						6.00	а		6284027.67	2283877.60	6.00	0.00		
											6284391.46	2283874.88	6.00	0.00		
											6284404.65	2283860.32	6.00	0.00		
											6284403.29	2283750.28	6.00	0.00		
BARRIERS		BARRIERS00002						4.00	а		6284639.26	2283884.29	4.00	0.00		
											6285198.14	2283881.20	4.00	0.00		
											6285197.37	2283847.19	4.00	0.00		
BARRIERS		BARRIERS00003						4.00	а		6285333.13	2283849.84	4.00	0.00		
											6285370.04	2283880.24	4.00	0.00		
											6285851.26	2283877.34	4.00	0.00		
											6285897.57	2283875.89	4.00	0.00		
											6285899.74	2283875.17	4.00	0.00		
BARRIERS		BARRIERS00004						4.00	а		6284639.26	2283884.29	4.00	0.00		
											6284639.24	2283871.62	4.00	0.00		
											6284513.10	2283872.78	4.00	0.00		

