

North Fontana Industrial Complex (Acacia)

NOISE IMPACT ANALYSIS CITY OF FONTANA

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14283-07 (Acacia) Noise Study

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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
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
INCE	Institute of Noise Control Engineering
L _{eq}	Equivalent continuous (average) sound level
L _{max}	Maximum level measured over the time interval
L _{min}	Minimum level measured over the time interval
mph	Miles per hour
OPR	Office of Planning and Research
PPV	Peak Particle Velocity
Project	North Fontana Industrial Complex (Acacia)
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 North Fontana Industrial Complex (Acacia) development ("Project"). The proposed Project includes the development of two buildings: a 296,297 square foot warehouse building (Building 1) and a smaller 88,746 square foot warehouse building (Building 2). This study has been prepared to satisfy applicable City of Fontana standards and thresholds of significance based on guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1)

The results of this North Fontana Industrial Complex (Acacia) Noise Impact Analysis are summarized below based on the significance criteria in Section 4 of this report. Table ES-1 shows the findings of significance for each potential noise and/or vibration impact under CEQA before and after any required mitigation measures.

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

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

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1 INTRODUCTION

This noise analysis has been completed to determine the noise impacts associated with the development of the proposed North Fontana Industrial Complex (Acacia) ("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 east of Sierra Avenue and south of Duncan Canyon Road in the City of Fontana as shown on Exhibit 1-A.

1.2 PROJECT DESCRIPTION

The proposed Project includes the development of two buildings: a 296,297 square foot warehouse building (Building 1), and a smaller 88,746 square foot warehouse building (Building 2). It is anticipated to have an Opening Year of 2024. The preliminary site plan for the proposed Project is shown on Exhibit 1-B.

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



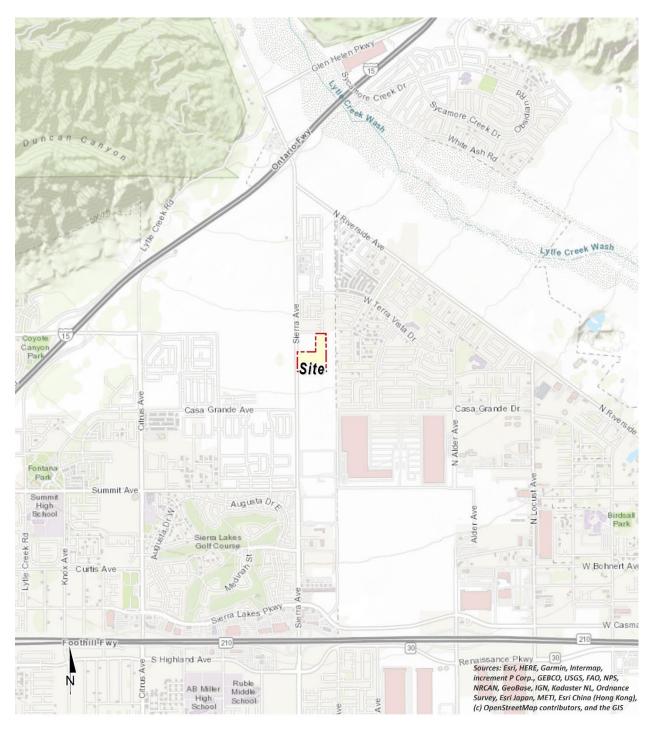


EXHIBIT 1-A: LOCATION MAP

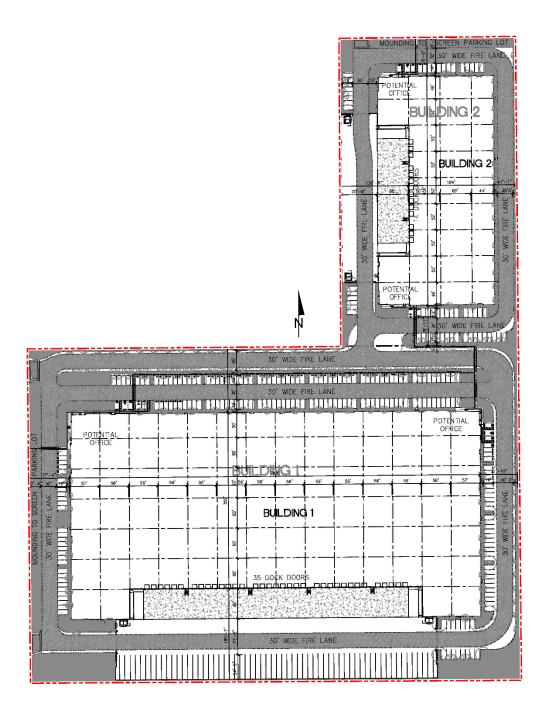


EXHIBIT 1-B: SITE PLAN



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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). A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies which are audible to the human ear. Exhibit 2-A presents a summary of the typical noise levels and their subjective loudness and effects that are described in more detail below.

COMMON OUTDOOR ACTIVITIES	COMMON INDOOR ACTIVITIES	A - WEIGHTED SOUND LEVEL dBA	SUBJECTIVE LOUDNESS	EFFECTS OF NOISE	
THRESHOLD OF PAIN		140	\mathbf{X}		
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		SPEECH INTERFERENCE	
NOISY URBAN AREA, DAYTIME	VACUUM CLEANER AT 3m (10 ft)	70	LOUD		
HEAVY TRAFFIC AT 90m (300 ft)	NORMAL SPEECH AT 1m (3 ft)	60			
QUIET URBAN DAYTIME	LARGE BUSINESS OFFICE	50	MODERATE	SLEEP	
QUIET URBAN NIGHTTIME	THEATER, LARGE CONFERENCE ROOM (BACKGROUND)	40		DISTURBANCE	
QUIET SUBURBAN NIGHTTIME	LIBRARY	30			
QUIET RURAL NIGHTTIME	BEDROOM AT NIGHT, CONCERT HALL (BACKGROUND)	20	FAINT		
	BROADCAST/RECORDING STUDIO	10		NO EFFECT	
LOWEST THRESHOLD OF HUMAN HEARING	LOWEST THRESHOLD OF HUMAN HEARING	0	VERT FAINT		

EXHIBIT 2-A: TYPICAL NOISE LEVELS

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

2.1 RANGE OF NOISE

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



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

2.2 NOISE DESCRIPTORS

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

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

2.3 SOUND PROPAGATION

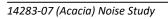
When sound propagates over a distance, it changes in level and frequency content. The way noise reduces with distance depends on the following factors.

2.3.1 GEOMETRIC SPREADING

Sound from a localized source (i.e., a stationary point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source. (2)

2.3.2 GROUND ABSORPTION

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





sufficiently accurate for distances of less than 200 ft. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance from a line source. (4)

2.3.3 ATMOSPHERIC EFFECTS

Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects. (2)

2.3.4 SHIELDING

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

2.4 NOISE CONTROL

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

2.5 Noise Barrier Attenuation

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



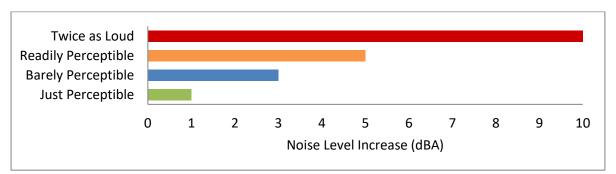
2.6 LAND USE COMPATIBILITY WITH NOISE

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

2.7 COMMUNITY RESPONSE TO NOISE

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

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







2.8 VIBRATION

Per the Federal Transit Administration (FTA) *Transit Noise Impact and Vibration Impact Assessment Manual* (8), 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.

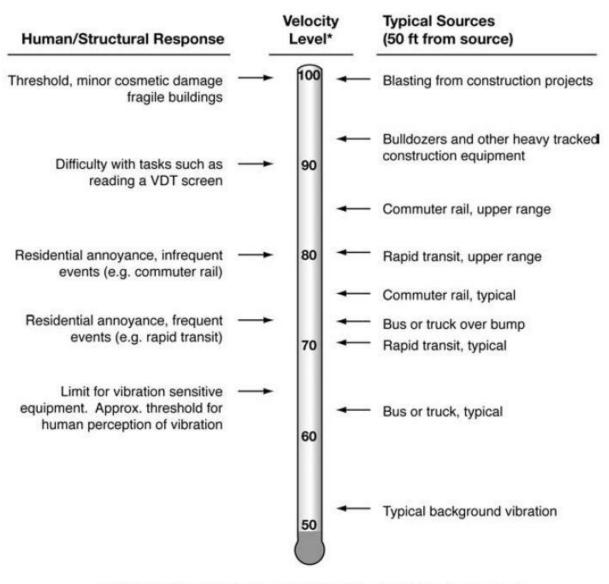


EXHIBIT 2-C: TYPICAL LEVELS OF GROUND-BORNE VIBRATION

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

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



3 REGULATORY SETTING

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). (9) 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 CITY OF FONTANA GENERAL PLAN NOISE ELEMENT

The City of Fontana General Plan was updated on November 13, 2018. (10) To protect residents from the negative effect of "spillover" noise (Goal #10), the City of Fontana has identified the following policies in the General Plan Noise Element:

Policy

Residential land uses and areas identified as noise-sensitive shall be protected from excessive noise from non-transportation sources including industrial, commercial, and residential activities and equipment.

Actions

- A. Projects located in commercial areas shall not exceed stationary- source noise standards at the property line of proximate residential or commercial uses.
- B. Industrial uses shall not exceed commercial or residential stationary source noise standards at the most proximate land uses.
- *C.* Non-transportation noise shall be considered in land use planning decisions.
- D. Construction shall be performed as quietly as feasible when performed in proximity to residential or other noise sensitive land uses.



3.3 OPERATIONAL NOISE STANDARDS

Although the Project site is located within the City of Fontana, noise-sensitive receivers potentially impacted by operational noise activities are also located in the City of Rialto. However, the City of Rialto Municipal Code does not identify specific exterior noise level standards. Therefore, the City of Fontana standards are used in this noise study to assess the potential impacts at adjacent sensitive receiver locations consistent with Section 9.50.050[B] of the City Rialto Municipal Code.

To analyze noise impacts originating from a designated fixed location or private property such as the North Fontana Industrial Complex (Acacia) Project, stationary-source (operational) noise such as the expected loading dock activity, roof-top air conditioning units, trash enclosure activity, parking lot vehicle movements, and truck movements are typically evaluated against standards established under a jurisdiction's Municipal Code.

3.3.1 CITY OF FONTANA EXTERIOR NOISE STANDARDS

The City of Fontana noise control guidelines for determining and mitigating non-transportation or stationary noise source impacts from operations in neighboring residential areas are found in the Zoning and Development Code (Section 30-543), provided in Appendix 3.1. For industrial zoning districts, Section 30-543 indicates that *no person shall create or cause to be created any sound which exceeds the noise levels in this section as measured at the property line of any residentially zoned property*. The performance standards found in Section 30-543 limit the exterior noise level to 70 dBA L_{eq} during the daytime hours, and 65 dBA L_{eq} during the nighttime hours at sensitive receiver locations as shown on Table 3-1. (11)

Inviation	Londuce	Noise Level Standards (dBA Leq) ²		
Jurisdiction	Land use	Daytime	Nighttime	
City of Fontana ¹	Residential	70	65	

TABLE 3-1: OPERATIONAL NOISE STANDARDS

¹ Section 30-543 of the City of Fontana Development Code (Appendix 3.1).

 2 L_{eq} represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. "Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

3.4 CONSTRUCTION NOISE STANDARDS

The City of Fontana has set restrictions to control noise impacts associated with the construction of the proposed Project. According to Section 18-63(b)(7) of the city's Municipal Code, *Construction or repairing of buildings or structures,* construction activity is limited: *between the hours of 7:00 a.m. and 6:00 p.m. on weekdays and between the hours of 8:00 a.m. and 5:00 p.m. on Saturdays except in the case of urgent necessity.* (12) Project construction noise levels are, therefore, considered exempt from municipal regulation if activities occur within the hours specified in the City of Fontana Municipal Code, Section 18-63(7) of 7:00 a.m. to 6:00 p.m. on weekdays and between the hours of 8:00 a.m. to 5:00 p.m. on Saturdays. However, if activity occurs outside of these hours, the City of Fontana stationary-source (operational) noise level



standards of 70 dBA L_{eq} during the daytime hours, and 65 dBA L_{eq} during the nighttime hours shall apply as previously discussed in Section 3.4. The City of Rialto Municipal Code does not identify specific construction noise level standards, therefore, the City of Fontana standards are used in this noise study to assess the potential impacts at adjacent sensitive receiver locations consistent with Section 9.50.050[B] of the City Rialto Municipal Code, which states that construction activities are permitted between the hours of 7:00 a.m. to 5:30 p.m. Monday through Friday from October 1st to April 30th, 6:00 a.m. to 7:00 p.m. Monday through Friday from May 1st to September 30th, and 8:00 a.m. to 5:00 p.m. on Saturdays any time of year; with no activity allowed on Sundays or state holidays. (13).

3.5 CONSTRUCTION VIBRATION STANDARDS

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

To analyze vibration impacts originating from the construction of the North Fontana Industrial Complex (Acacia), vibration-generating activities are appropriately evaluated against standards established under a City's Municipal Code, if such standards exist. However, the City of Fontana and the City of Rialto do not identify specific vibration level limits. Therefore, for analysis purposes, the Caltrans *Transportation and Construction Vibration Guidance Manual*, (14 p. 38) Table 19, vibration damage are used in this noise study to assess potential temporary construction-related impacts at adjacent building locations. The nearest noise sensitive buildings adjacent to the Project site can best be described as "older residential structures" with a maximum acceptable continuous vibration threshold of 0.3 PPV (in/sec).



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4 SIGNIFICANCE CRITERIA

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

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

4.1 Noise Level Increases (Threshold A)

Noise level increases resulting from the Project are evaluated based on the Appendix G CEQA Guidelines. Under CEQA, consideration must be given to the magnitude of the increase, the existing baseline ambient noise levels, and the location of receivers to determine if a noise increase represents a significant adverse environmental impact. This approach recognizes *that there is no single noise increase that renders the noise impact significant*. (15) This is primarily because of the wide variation in individual thresholds of annoyance and differing individual experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted—the so-called *ambient* environment. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will typically be judged.

The Federal Interagency Committee on Noise (FICON) (16) developed guidance to be used for the assessment of project-generated increases in noise levels that consider the ambient noise level. The FICON recommendations are based on studies that relate aircraft noise levels to the percentage of persons highly annoyed by aircraft noise. Although the FICON recommendations are often used in environmental noise impact assessments involving the use of cumulative noise exposure metrics, such as the average-daily noise level (CNEL) and equivalent continuous noise level (L_{eq}).

As previously stated, the approach used in this noise study recognizes *that there is no single noise increase that renders the noise impact significant*, based on a 2008 California Court of Appeal ruling on Gray v. County of Madera. (15) For example, if the ambient noise environment is quiet (<60 dBA) and the new noise source greatly increases the noise levels, an impact may occur if the noise criteria may be exceeded. Therefore, for this analysis, a *readily perceptible* 5 dBA or greater project-related noise level increase is considered a significant impact when the without project noise levels are below 60 dBA. Per the FICON, in areas where the without project noise levels range from 60 to 65 dBA, a 3 dBA *barely perceptible* noise level increase appears to be appropriate for most people. When the without project noise levels already exceed 65 dBA, any increase in community noise louder than 1.5 dBA or greater is considered a significant impact if the significant impact if

the noise criteria for a given land use is exceeded, since it likely contributes to an existing noise exposure exceedance. The FICON guidance provides an established source of criteria to assess the impacts of substantial temporary or permanent increase in baseline ambient noise levels. Based on the FICON criteria, the amount to which a given noise level increase is considered acceptable is reduced when the without Project (baseline) noise levels are already shown to exceed certain land-use specific exterior noise level criteria. The specific levels are based on typical responses to noise level increases of 5 dBA or *readily perceptible*, 3 dBA or *barely perceptible*, and 1.5 dBA depending on the underlying without Project noise levels for noise sensitive uses. These levels of increases and their perceived acceptance are consistent with guidance provided by both the Federal Highway Administration (4 p. 9) and Caltrans (17 p. 2_48).

4.2 VIBRATION (THRESHOLD B)

As described in Section 3.5, the vibration impacts originating from the construction of North Fontana Industrial Complex (Acacia), vibration-generating activities are appropriately evaluated using the Caltrans vibration damage thresholds to assess potential temporary construction-related impacts at adjacent building locations. The nearest noise sensitive buildings adjacent to the Project site can best be described as "older residential structures" with a maximum acceptable continuous vibration threshold of 0.3 PPV (in/sec).

4.3 CEQA GUIDELINES NOT FURTHER ANALYZED (THRESHOLD C)

CEQA Noise Threshold C applies when there are nearby public and private airports and/or air strips and focuses on land use compatibility of the Project to nearby airports and airstrips. The Project site is not located within two miles of an airport or airstrip. The closest airport is the Ontario International Airport (ONT) located roughly 10.8 miles southwest of the Project site. As such, the Project site would not be exposed to excessive noise levels from airport operations, and therefore, impacts are considered *less than significant*, and no further noise analysis is conducted in relation to Appendix G to the CEQA Guidelines, Noise Threshold C.



4.4 SIGNIFICANCE CRITERIA SUMMARY

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

Analusia	Receiving	Condition(a)	Significan	ce Criteria
Analysis	Land Use	Condition(s)	Daytime	Nighttime
		if ambient is < 60 dBA CNEL	≥ 5 dBA CNEL P	Project increase
	Noise- Sensitive ¹	if ambient is 60 - 65 dBA CNEL	≥ 3 dBA CNEL F	roject increase
Off-Site	Scholare	if ambient is > 65 dBA CNEL	≥ 1.5 dBA CNEL Project increase	
	Non-Noise	if ambient is < 70 dBA CNEL	≥ 5 dBA CNEL P	Project increase
	Sensitive ¹	if ambient is > 70 dBA CNEL	≥ 3 dBA CNEL Project increas	
	Adjacent Uses	Exterior Noise Level Standards ²	70 dBA L _{eq}	65 dBA L _{eq}
Operational Noise	Noise- Sensitive ¹	if ambient is < 60 dBA CNEL	≥ 5 dBA CNEL Project increase	
Noise		if ambient is 60 - 65 dBA CNEL	≥ 3 dBA CNEL P	roject increase
		if ambient is > 65 dBA CNEL	≥ 1.5 dBA CNEL Project increa	
Construction Noise ³	Adjacent	If construction occurs outside of permitted hours	70 dBA L _{eq}	65 dBA L _{eq}
Construction Vibration ⁴	Uses	Vibration Level Threshold	0.3 PPV	(in/sec)

TABLE 4-1: SIGNIFICANCE CRITERIA SUMMARY

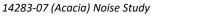
¹ FICON, 1992.

² Based on Section 30-543 of the City of Fontana Municipal Code.

³ Based on Sections 18-63(7) and 30-543 of the City of Fontana Municipal Code.

⁴ Caltrans Transportation and Construction Vibration Guidance Manual, April 2020, Table 19.

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



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5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, 24-hour noise level measurements were taken at four 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 Wednesday, January 12th, 2022. Appendix 5.1 includes study area photos.

5.1 MEASUREMENT PROCEDURE AND CRITERIA

To describe the existing noise environment, the hourly noise levels were measured during typical weekday conditions over a 24-hour period. By collecting individual hourly noise level measurements, it is possible to describe the equivalent daytime and nighttime hourly noise levels. 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. (18)

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. (2) 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. (8)*

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



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

5.3 NOISE MEASUREMENT RESULTS

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

Location ¹	Description	Noise	/ Average e Level A L _{eq}) ²	
		Daytime	Nighttime	
L1 Located north of the Project site near single-family reside 17007 Oriole Lane.		54.5	52.8	
L2	Located east of the Project site near single-family residence at 3414 North Flame Tree Avenue.	50.2	45.3	
L3	Located southwest of the Project site near single-family residence at 5348 Blue Ridge Way.	54.3	47.8	
L4	Located southwest of the Project site near single-family residence at Gabion Ranch Woodridge south of Casa Grande Avenue.	51.4	44.0	

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

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

² Energy (logarithmic) average levels. The long-term 24-hour measurement worksheets are included in Appendix 5.2.

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

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.



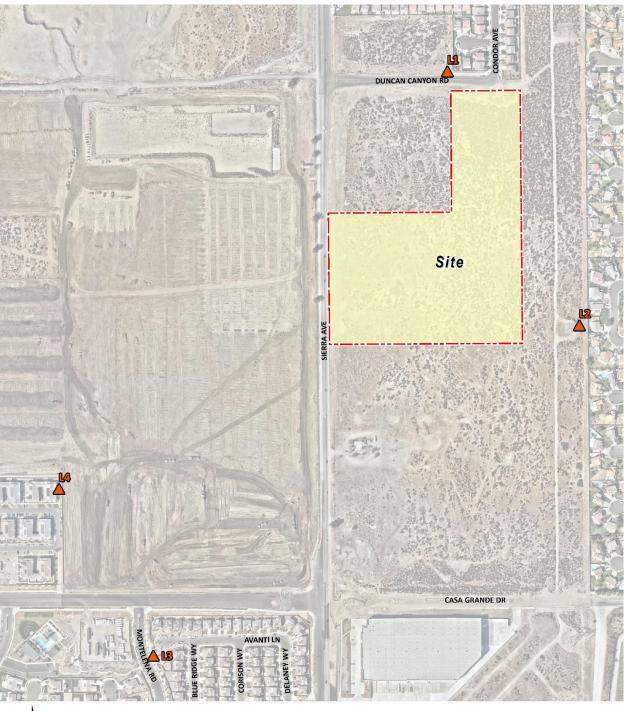
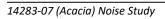


EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS







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6 TRAFFIC NOISE METHODS AND PROCEDURES

The following section outlines the methods and procedures used to estimate and analyze the future 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. (19) This methodology is commonly used to describe the off-site traffic noise levels throughout California and is consistent with the City of Fontana General Plan Noise Element.

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. (20) 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. (21)

6.1.1 OFF-SITE TRAFFIC NOISE PREDICTION MODEL INPUTS

Table 6-1 presents the roadway parameters used to assess the Project's off-site transportation noise impacts. Table 6-1 identifies the six off-site study area roadway segments, the distance from the centerline to adjacent land use based on the functional roadway classifications per the City of Fontana General Plan, and the posted vehicle speeds. The ADT volumes used in this study area presented on Table 6-2 are based on *North Fontana Industrial Complex (Acacia) Traffic Study by Urban Crossroads, Inc.* for the following traffic scenarios. (22)

- 1. Existing (2021)
- 2. Existing (2021) plus Project (E+P)
- 3. Existing plus Ambient Growth without Project (EA)
- 4. Existing plus Ambient Growth with Project (EAP) (Acacia + Shea Sites)
- 5. Opening Year Cumulative (2024) without Project (OYC)
- 6. Opening Year Cumulative (2024) with Project (OYCP)



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 at the boundary of the right-of-way of the receiving adjacent land use, without and with project ADT traffic volumes from the Project traffic study.

ID	Roadway	Segment	Classification ¹	Receiving Land Use ²	Distance from Centerline to Receiving Land Use (Feet) ³	Vehicle Speed (mph)
1	Sierra Av.	n/o Riverside Av.	Major Highway	Non-Sensitive	66'	55
2	Sierra Av.	n/o Terra Vista Dr.	Major Highway	Sensitive	66'	55
3	Sierra Av.	n/o Duncan Canyon Rd.	Major Highway	Sensitive	66'	55
4	Sierra Av.	s/o Dwy. 2	Major Highway	Sensitive	66'	55
5	Riverside Av.	e/o Sierra Av.	Major Highway	Sensitive	66'	55
6	Duncan Canyon Rd.	e/o Sierra Av.	Collector Street	Sensitive	34'	45

¹ North Fontana Industrial Complex (Acacia) Traffic Study, Urban Crossroads, Inc.

² Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

³ Distance to receiving land use is based upon the right-of-way distances.

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.

				Ave	rage Daily T	raffic Volum	mes ¹			
ID	Roadway	Segment	Existing (2021)		Existing plus Ambient		Opening Year (2024)			
			Without Project	With Project	Without Project	With Project	Without Project	With Project		
1	Sierra Av.	n/o Riverside Av.	25,275	25,541	26,898	27,164	29,996	30,262		
2	Sierra Av.	n/o Terra Vista Dr.	12,442	12,737	13,280	13,575	17,355	17,650		
3	Sierra Av.	n/o Duncan Canyon Rd.	15,184	15,478	16,189	16,484	20,263	20,558		
4	Sierra Av.	s/o Dwy. 2	15,538	15,947	16,871	17,280	21,600	22,009		
5	Riverside Av.	e/o Sierra Av.	13,423	13,452	14,245	14,273	15,221	15,249		
6	Duncan Canyon Rd.	e/o Sierra Av.	425	683	451	709	451	709		

TABLE 6-2: AVERAGE DAILY TRAFFIC VOLUMES

¹ North Fontana Industrial Complex (Acacia) Traffic Study, Urban Crossroads, Inc.

Table 6-3 provides the time of day (daytime, evening, and nighttime) vehicle splits. 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. 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.

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

TABLE 6-3: TIME OF DAY VEHICLE SPLITS

¹ Typical Southern California vehicle mix. Values rounded to the nearest one-hundredth.

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

TABLE 6-4: WITHOUT PROJECT VEHICLE MIX

Classification		Total % Traffic Flow		Total
Classification	Autos	Medium Trucks	Heavy Trucks	Total
All Segments	89.82%	3.92%	6.27%	100.00%

Based on an existing vehicle count taken at Sierra Avenue and Riverside Avenue (North Fontana Industrial Complex (Acacia) Traffic Study, Urban Crossroads, Inc.). Vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-5: EXISTING WITH PROJECT VEHICLE MIX

				With P	roject ¹	
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total ²
1	Sierra Av.	n/o Riverside Av.	93.28%	3.79%	2.93%	100.00%
2	Sierra Av.	n/o Terra Vista Dr.	93.10%	3.80%	3.10%	100.00%
3	Sierra Av.	n/o Duncan Canyon Rd.	93.17%	3.80%	3.04%	100.00%
4	Sierra Av.	s/o Dwy. 2	93.22%	3.77%	3.01%	100.00%
5	Riverside Av.	e/o Sierra Av.	93.48%	3.77%	2.75%	100.00%
6	Duncan Canyon Rd.	e/o Sierra Av.	95.93%	2.35%	1.71%	100.00%

¹ Total of vehicle mix percentage values rounded to the nearest one-hundredth.



				With P	roject ¹	
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	5 100.00% 5 100.00%
1	Sierra Av.	n/o Riverside Av.	93.29%	3.79%	2.92%	100.00%
2	Sierra Av.	n/o Terra Vista Dr.	93.12%	3.80%	3.08%	100.00%
3	Sierra Av.	n/o Duncan Canyon Rd.	93.18%	3.80%	3.02%	100.00%
4	Sierra Av.	s/o Dwy. 2	93.24%	3.77%	2.99%	100.00%
5	Riverside Av.	e/o Sierra Av.	93.48%	3.77%	2.75%	100.00%
6	Duncan Canyon Rd.	e/o Sierra Av.	95.84%	2.41%	1.75%	100.00%

TABLE 6-6: EXISTING PLUS AMBIENT WITH PROJECT VEHICLE MIX

 $^{\rm 1}$ Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-7: OPENING YEAR CUMULATIVE 2024 WITH PROJECT VEHICLE MIX

				With P	roject ¹		
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total² 100.00% 100.00%	
1	Sierra Av.	n/o Riverside Av.	93.31%	3.79%	2.90%	100.00%	
2	Sierra Av.	n/o Terra Vista Dr.	93.20%	3.79%	3.00%	100.00%	
3	Sierra Av.	n/o Duncan Canyon Rd.	93.24%	3.79%	2.97%	100.00%	
4	Sierra Av.	s/o Dwy. 2	93.29%	3.77%	2.94%	100.00%	
5	Riverside Av.	e/o Sierra Av.	93.48%	3.77%	2.75%	100.00%	
6	Duncan Canyon Rd.	e/o Sierra Av.	95.84%	2.41%	1.75%	100.00%	

¹ Total of vehicle mix percentage values rounded to the nearest one-hundredth.



7 OFF-SITE TRAFFIC NOISE ANALYSIS

To assess the off-site transportation CNEL noise level impacts associated with the proposed Project, noise contours were developed based on the *North Fontana Industrial Complex (Acacia) Traffic Impact Analysis*. (22) 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 traffic-related noise impacts at land uses adjacent to roadways conveying Project traffic. The noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 70, 65, and 60 dBA noise levels. The noise contours do not consider the effect of any existing noise barriers or topography that may attenuate ambient noise levels. In addition, because the noise contours reflect modeling of vehicular noise on area roadways, they appropriately do not reflect noise contributions from the surrounding stationary noise sources within the Project study area. Tables 7-1 to 7-6 present a summary of the exterior traffic noise levels for each traffic condition. Appendix 7.1 includes the traffic noise level contours worksheets.

ID	Road	Receiving Receiving	Distance to Contour from Centerline (Feet)				
	Road	Segment	Land Use ¹ Non-Sensitive Sensitive	Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Sierra Av.	n/o Riverside Av.	Non-Sensitive	76.5	178	383	826
2	Sierra Av.	n/o Terra Vista Dr.	Sensitive	73.4	111	239	515
3	Sierra Av.	n/o Duncan Canyon Rd.	Sensitive	74.2	127	273	588
4	Sierra Av.	s/o Dwy. 2	Sensitive	74.3	129	277	597
5	Riverside Av.	e/o Sierra Av.	Sensitive	73.7	117	251	542
6	Duncan Canyon Rd.	e/o Sierra Av.	Sensitive	59.3	RW	RW	RW

TABLE 7-1: EXISTING WITHOUT PROJECT CONTOURS

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.

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



ID	Road	Comment	Receiving	CNEL at Receiving	Distance to Contour from Centerline (Feet)			
	Koad	Segment	Land Use ¹ Non-Sensitive Sensitive Sensitive Sensitive Sensitive	Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	
1	Sierra Av.	n/o Riverside Av.	Non-Sensitive	76.6	183	393	847	
2	Sierra Av.	n/o Terra Vista Dr.	Sensitive	73.7	117	252	542	
3	Sierra Av.	n/o Duncan Canyon Rd.	Sensitive	74.5	132	285	614	
4	Sierra Av.	s/o Dwy. 2	Sensitive	74.6	134	289	624	
5	Riverside Av.	e/o Sierra Av.	Sensitive	73.7	117	252	542	
6	Duncan Canyon Rd.	e/o Sierra Av.	Sensitive	60.1	RW	RW	RW	

TABLE 7-2: EXISTING WITH PROJECT CONTOURS

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.

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

TABLE 7-3: EA WITHOUT PROJECT CONTOURS

ID	Road	Sogment	Terra Vista Dr.Sensitive73.7Duncan Canyon Rd.Sensitive74.5Dwy. 2Sensitive74.7	Distance to Contour from Centerline (Feet)			
	Noau	Segment			70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Sierra Av.	n/o Riverside Av.	Non-Sensitive	76.7	185	400	861
2	Sierra Av.	n/o Terra Vista Dr.	Sensitive	73.7	116	250	538
3	Sierra Av.	n/o Duncan Canyon Rd.	Sensitive	74.5	132	285	614
4	Sierra Av.	s/o Dwy. 2	Sensitive	74.7	136	293	631
5	Riverside Av.	e/o Sierra Av.	Sensitive	74.0	121	262	564
6	Duncan Canyon Rd.	e/o Sierra Av.	Sensitive	59.6	RW	RW	RW

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.

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



ID	Road	Cognort	Receiving	CNEL at Receiving	Distance to Contour from Centerline (Feet)			
	Koad	Segment	Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	
1	Sierra Av.	n/o Riverside Av.	Non-Sensitive	76.9	190	409	882	
2	Sierra Av.	n/o Terra Vista Dr.	Sensitive	74.0	122	262	565	
3	Sierra Av.	n/o Duncan Canyon Rd.	Sensitive	74.8	138	296	639	
4	Sierra Av.	s/o Dwy. 2	Sensitive	75.0	141	305	657	
5	Riverside Av.	e/o Sierra Av.	Sensitive	74.0	121	262	564	
6	Duncan Canyon Rd.	e/o Sierra Av.	Sensitive	60.3	RW	RW	RW	

TABLE 7-4: EA WITH PROJECT CONTOURS

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.

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

TABLE 7-5: OYC 2024 WITHOUT PROJECT CONTOURS

ID	Road	Sogment	Receiving	CNEL at Receiving	Distance to Contour from Centerline (Feet)			
	NOAU	Segment	Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	
1	Sierra Av.	n/o Riverside Av.	Non-Sensitive	77.2	199	430	926	
2	Sierra Av.	n/o Terra Vista Dr.	Sensitive	74.8	138	298	643	
3	Sierra Av.	n/o Duncan Canyon Rd.	Sensitive	75.5	154	331	713	
4	Sierra Av.	s/o Dwy. 2	Sensitive	75.8	160	345	744	
5	Riverside Av.	e/o Sierra Av.	Sensitive	74.3	127	273	589	
6	Duncan Canyon Rd.	e/o Sierra Av.	Sensitive	59.6	RW	RW	RW	

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.

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



ID	Road	Cognort	Receiving	CNEL at Receiving	Distance to Contour from Centerline (Feet)			
	NOdu	Segment	Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	
1	Sierra Av.	n/o Riverside Av.	Non-Sensitive	77.3	204	439	946	
2	Sierra Av.	n/o Terra Vista Dr.	Sensitive	75.1	144	310	667	
3	Sierra Av.	n/o Duncan Canyon Rd.	Sensitive	75.7	159	342	736	
4	Sierra Av.	s/o Dwy. 2	Sensitive	76.0	165	356	768	
5	Riverside Av.	e/o Sierra Av.	Sensitive	74.3	127	274	589	
6	Duncan Canyon Rd.	e/o Sierra Av.	Sensitive	60.3	RW	RW	RW	

TABLE 7-6: OYC 2024 WITH PROJECT CONTOURS

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.

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

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 for informational purposes and to fully analyze all the existing traffic scenarios identified in the Traffic Study. However, the analysis of existing off-site traffic noise levels plus traffic noise generated by the proposed Project scenario will not actually occur since the Project would not be fully constructed and operational until 2024 conditions. Table 7-1 shows the Existing without Project conditions CNEL noise levels. The Existing without Project exterior noise levels range from 59.3 to 76.5 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-2 shows the Existing with Project conditions ranging from 60.1 to 76.6 dBA CNEL. Table 7-7 shows that the Project off-site traffic noise level increases range from 0.0 to 0.8 dBA CNEL on the study area roadway segments.

Based on the significance criteria for off-site traffic noise presented in Section 4.1, land uses adjacent to the study area roadway segments would experience *less than significant* noise level impacts due to unmitigated Project-related traffic noise levels.

7.3 EA TRAFFIC NOISE LEVEL INCREASES

Table 7-3 presents the EA 2024 without Project conditions CNEL noise levels. The EA without Project exterior noise levels range from 59.6 to 76.7 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-4 shows that the EA with Project conditions will range from 60.3 to 76.9 dBA CNEL. Table 7-8 shows that the Project off-site traffic noise level increases range from 0.0 to 0.7 dBA CNEL on the study area roadway segments.

Based on the significance criteria for off-site traffic noise presented in Section 4.1, land uses adjacent to the study area roadway segments would experience *less than significant* noise level impacts due to unmitigated Project-related traffic noise levels.



7.4 OYC 2024 TRAFFIC NOISE LEVEL INCREASES

Table 7-5 presents the OYC 2024 without Project conditions CNEL noise levels. The OYC 2024 without Project exterior noise levels range from 59.6 to 77.2 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-6 shows that the OYC 2024 with Project conditions will range from 60.3 to 77.3 dBA CNEL. Table 7-9 shows that the Project off-site traffic noise level increases range from 0.0 to 0.7 dBA CNEL on the study area roadway segments.

Based on the significance criteria for off-site traffic noise presented in Section 4.1, land uses adjacent to the study area roadway segments would experience *less than significant* noise level impacts due to unmitigated Project-related traffic noise levels.

ID	Road Segment		Receiving		EL at Receir nd Use (dB	0	Incremental Noise Level Increase Threshold ³	
			Land Use ¹	No Project	With Project	Project Addition	Limit	Exceeded?
1	Sierra Av.	n/o Riverside Av.	Non-Sensitive	76.5	76.6	0.1	3.0	No
2	Sierra Av.	n/o Terra Vista Dr.	Sensitive	73.4	73.7	0.3	1.5	No
3	Sierra Av.	n/o Duncan Canyon Rd.	Sensitive	74.2	74.5	0.3	1.5	No
4	Sierra Av.	s/o Dwy. 2	Sensitive	74.3	74.6	0.3	1.5	No
5	Riverside Av.	e/o Sierra Av.	Sensitive	73.7	73.7	0.0	1.5	No
6	Duncan Canyon Rd.	e/o Sierra Av.	Sensitive	59.3	60.1	0.8	5.0	No

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

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

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

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

TABLE 7-8: EA WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road Segment		Receiving		L at Receir d Use (dB	0	Incremental Noise Level Increase Threshold ³	
			Land Use ¹	No Project	With Project	Project Addition	Limit	Exceeded?
1	Sierra Av.	n/o Riverside Av.	Non-Sensitive	76.7	76.9	0.2	3.0	No
2	Sierra Av.	n/o Terra Vista Dr.	Sensitive	73.7	74.0	0.3	1.5	No
3	Sierra Av.	n/o Duncan Canyon Rd.	Sensitive	74.5	74.8	0.3	1.5	No
4	Sierra Av.	s/o Dwy. 2	Sensitive	74.7	75.0	0.3	1.5	No
5	Riverside Av.	e/o Sierra Av.	Sensitive	74.0	74.0	0.0	1.5	No
6	Duncan Canyon Rd.	e/o Sierra Av.	Sensitive	59.6	60.3	0.7	5.0	No

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

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

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



ID	Road	Segment	Receiving		L at Receiv d Use (dB	0	Incremental Noise Level Increase Threshold ³	
		Land	Land Use ¹	No Project	With Project	Project Addition	Limit	Exceeded?
1	Sierra Av.	n/o Riverside Av.	Non-Sensitive	77.2	77.3	0.1	3.0	No
2	Sierra Av.	n/o Terra Vista Dr.	Sensitive	74.8	75.1	0.3	1.5	No
3	Sierra Av.	n/o Duncan Canyon Rd.	Sensitive	75.5	75.7	0.2	1.5	No
4	Sierra Av.	s/o Dwy. 2	Sensitive	75.8	76.0	0.2	1.5	No
5	Riverside Av.	e/o Sierra Av.	Sensitive	74.3	74.3	0.0	1.5	No
6	Duncan Canyon Rd.	e/o Sierra Av.	Sensitive	59.6	60.3	0.7	5.0	No

TABLE 7-9: OYC 2024 WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

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

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

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



8 **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, outpatient 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, five 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 existing noise sensitive residence at 4893 Condor Avenue, approximately 58 feet north of the Project site. R1 is placed in the private outdoor living areas (backyard) facing the Project site. 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 3404 North Flame Tree Avenue in the City of Rialto, approximately 342 feet east of the Project site. R2 is placed in the private outdoor living areas (backyard) facing the Project site. A 24-hour noise measurement was taken near this location, L2, to describe the existing ambient noise environment.
- R3: Location R3 represents the existing noise sensitive residence at 2895 West Fairview Drive in the City of Rialto, approximately 1,171 feet southeast of the Project site. R3 is placed in the private outdoor living areas (backyard) facing the Project site. A 24-hour noise measurement was taken near this location, L2, to describe the existing ambient noise environment.
- R4: Location R4 represents the existing noise sensitive residence at 16696 Avanti Lane, approximately 1,384 feet southwest of the Project site. R4 is placed in the private outdoor living areas (backyard) facing the Project site. A 24-hour noise measurement was taken near this location, L3, to describe the existing ambient noise environment.



R5: Location R5 represents the existing noise sensitive Gabion Ranch Woodridge at 16502 Casa Grande Avenue, approximately 1,547 feet southwest of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R5 is placed at the building façade. A 24-hour noise measurement was taken near this location, L4, to describe the existing ambient noise environment.

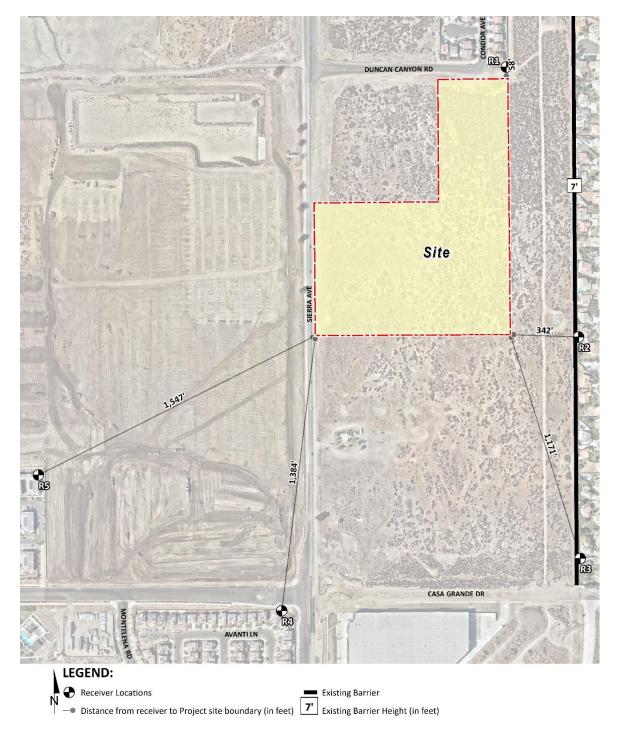


EXHIBIT 8-A: RECEIVER LOCATIONS



9 OPERATIONAL NOISE ANALYSIS

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 North Fontana Industrial Complex (Acacia) Project. Exhibit 9-A identifies the noise source locations used to assess the operational noise levels.

9.1 OPERATIONAL NOISE SOURCES

This operational noise analysis is intended to describe noise level impacts associated with the expected typical of daytime and nighttime activities at the Project site. 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 and industrial 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: loading dock activity, roof-top air conditioning units, trash enclosure activity, parking lot vehicle movements, and truck movements.

9.2 **REFERENCE NOISE LEVELS**

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

9.2.1 MEASUREMENT PROCEDURES

The reference noise level measurements presented in this section were collected using a Larson Davis LxT Type 1 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. (18)



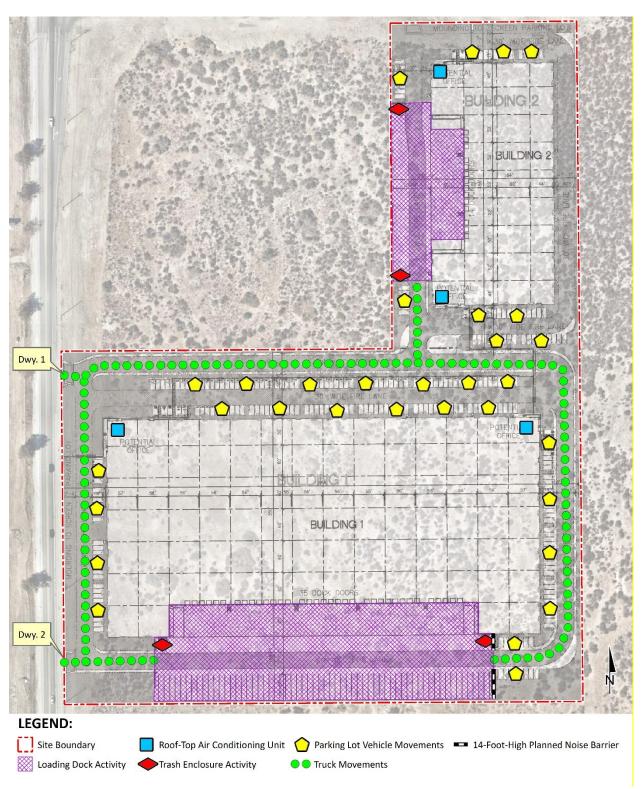


EXHIBIT 9-A: OPERATIONAL NOISE SOURCE LOCATIONS



Noise Source ¹	Noise Source	Source Hour ²		Reference Noise Level	Sound Power
Noise Source-	Height (Feet)	Day	Night	(dBA L _{eq}) @ 50 Feet	Level (dBA) ³
Loading Dock Activity	8'	60	60	65.7	111.5
Roof-Top Air Conditioning Units	5'	39	28	57.2	88.9
Trash Enclosure Activity	5'	10	10	57.3	89.0
Parking Lot Vehicle Movements	5'	60	60	56.1	87.8
Truck Movements	8'	_4	_4	59.8	93.2

TABLE 9-1: REFERENCE NOISE LEVEL MEASUREMENTS

¹ As measured by Urban Crossroads, Inc.

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

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

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

9.2.2 LOADING DOCK ACTIVITY

The reference loading dock activities are intended to describe the typical outdoor operational noise activities associated with the Project. This includes truck idling, reefer activity (refrigerator truck/cold storage), deliveries, backup alarms, trailer docking including a combination of tractor trailer semi-trucks, two-axle delivery trucks, and background operation activities. Since the noise levels generated by cold storage loading dock activity can be slightly higher due to the use of refrigerated trucks or reefers, this analysis conservatively assumes that all loading dock activity is associated with cold storage facilities, even though only 20 percent cold storage is anticipated.

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.

9.2.3 ROOF-TOP AIR CONDITIONING UNITS

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

96 degrees Fahrenheit (°F) with average daytime temperatures of 82°F. For this noise analysis, the air conditioning units are expected to be located on the roof of the Project buildings.

9.2.5 TRASH ENCLOSURE ACTIVITY

To describe the noise levels associated with a trash enclosure activity, Urban Crossroads collected a reference noise level measurement at an existing trash enclosure containing two dumpster bins. The trash enclosure noise levels describe metal gates opening and closing, metal scraping against concrete floor sounds, dumpster movement on metal wheels, and trash dropping into the metal dumpster. The reference noise levels describe trash enclosure noise activities when trash is dropped into an empty metal dumpster, as would occur at the Project Site. The measured reference noise level at the uniform 50-foot reference distance is 57.3 dBA L_{eq} for the trash enclosure activity. The reference noise level describes the expected noise source activities associated with the trash enclosures for the Project's proposed building. Typical trash enclosure activities are estimated to occur for 10 minutes per hour.

9.2.6 PARKING LOT VEHICLE MOVEMENTS

To describe the on-site parking lot activity, a long-term 29-hour reference noise level measurement was collected in the center of activity within the staff parking lot of a warehouse distribution center. At 50 feet from the center of activity, the parking lot produced a reference noise level of 56.1 dBA L_{eq} . Parking activities are expected to take place during the full hour (60 minutes) throughout the daytime and evening hours. The parking lot noise levels are mainly due cars pulling in and out of parking spaces in combination with car doors opening and closing.

9.2.7 TRUCK MOVEMENTS

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

Consistent with the *North Fontana Industrial Complex (Acacia) Traffic Study* prepared by Urban Crossroads, Inc., the Project is expected to generate a total of approximately 132 two-way truck trips per day (22). Using the estimated number of truck trips in combination with time-of-day vehicle splits, the number of truck movements were calculated. As shown on Table 9-2, this information is then used to calculate the truck movements operational noise source activity based on the number of events by time of day.



	Total		Truck	Time of Day Vehicle Splits ⁵			Truck Movements ⁶		
Truck Movement Location ¹		Trip Dist. ³	Trips by Location ⁴	Day	Evening	Night	Day	Evening	Night
Driveway 1	132	100%	132	86.50%	2.70%	10.80%	114	4	14
Driveway 2	132	100%	132	86.50%	2.70%	10.80%	114	4	14

TABLE 9-2: TRUCK MOVEMENTS BY LOCATION

¹ Driveway location as shown on the Site Plan Exhibit 9-A.

² Total Project truck trips according to Table 4-2 of the North Fontana Industrial Complex (Acacia) Traffic Study.

³ Project truck trip distribution according to Exhibit 4-1 of the North Fontana Industrial Complex (Acacia) Traffic Study.

⁴ Calculated trip trucks per location represents the product of the total project truck trips 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 9613-2 protocol, CadnaA will calculate the distance from each noise source to the noise receiver locations, using the ground absorption, distance, and barrier/building attenuation inputs to provide a summary of noise level at each receiver and the partial noise level contributions by noise source. Consistent with the ISO 9613-2 protocol, the CadnaA noise prediction model relies on the reference sound power level (L_w) to describe individual noise sources. While sound pressure levels (e.g., L_{eq}) quantify in decibels the intensity of given sound sources at a reference distance, sound power levels (L_w) are connected to the sound source and are independent of distance. Sound pressure levels vary substantially with distance from the source and diminish because of intervening obstacles and barriers, air absorption, wind, and other factors. Sound power is the acoustical energy emitted by the sound source and is an absolute value that is not affected by the environment.

The operational noise level calculations provided in this noise study account for the distance attenuation provided due to geometric spreading, when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. A default ground attenuation factor of 0.5 was used in the CadnaA noise analysis to account for mixed ground representing a combination of hard and soft surfaces. Appendix 9.1 includes the detailed noise model inputs 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 loading dock activity, roof-top air conditioning units, trash enclosure activity, parking lot vehicle movements, and truck movements, 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. Table 9-3 shows the Project operational noise levels during the daytime hours of 7:00 a.m. to 10:00 p.m. The daytime hourly noise levels at the off-site receiver locations are expected to range from 41.3 to 47.8 dBA L_{eq} .

Noise Source ¹	Operatio	Operational Noise Levels by Receiver Location (dBA Leq)							
Noise Source	R1	R2	R3	R4	R5				
Loading Dock Activity	36.0	40.9	41.0	46.8	45.4				
Roof-Top Air Conditioning Units	33.2	23.2	20.1	20.0	22.5				
Trash Enclosure Activity	11.3	7.4	12.3	17.5	16.5				
Parking Lot Vehicle Movements	47.1	30.6	25.1	28.0	27.4				
Truck Movements	35.3	32.1	27.1	32.2	31.8				
Total (All Noise Sources)	47.8	41.8	41.3	47.0	45.7				

TABLE 9-3: DAYTIME PROJECT OPERATIONAL NOISE LEVELS

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

Table 9-4 shows the Project operational noise levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. The nighttime hourly noise levels at the off-site receiver locations are expected to range from 40.2 to 46.7 dBA L_{eq} . The differences between the daytime and nighttime noise levels are largely related to the estimated duration of noise activity as outlined in Table 9-1 and Appendix 9.1.

Noise Source ¹	Operatio	Operational Noise Levels by Receiver Location (dBA Leq)						
Noise Source	R1	R2	R3	R4	R5			
Loading Dock Activity	35.0	40.0	40.0	45.9	44.4			
Roof-Top Air Conditioning Units	30.8	20.8	17.7	17.6	20.1			
Trash Enclosure Activity	10.3	6.4	11.3	16.5	15.6			
Parking Lot Vehicle Movements	46.2	29.6	24.1	27.0	26.4			
Truck Movements	26.2	23.0	17.9	23.1	22.7			
Total (All Noise Sources)	46.7	40.5	40.2	46.0	44.5			

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 Fontana exterior noise level standards at nearby noise-sensitive receiver locations. Table 9-5 shows the operational noise levels associated with North Fontana Industrial Complex (Acacia) Project will satisfy the City of Fontana 70 dBA L_{eq} daytime and 65 dBA L_{eq} nighttime exterior noise level standards at the nearest receiver locations. Therefore, the operational noise impacts are considered *less than significant* at the nearby noise-sensitive receiver locations.



Receiver Location ¹	City	Project Operational Noise Levels (dBA Leq) ²		Stan	e Level dards Leq) ³	Noise Level Standards Exceeded? ⁴		
		Daytime	Nighttime	Daytime	Nighttime	Daytime	Nighttime	
R1	Fontana	47.8	46.7	70	65	No	No	
R2	Rialto	41.8	40.5	55	45	No	No	
R3	Rialto	41.3	40.2	55	45	No	No	
R4	Fontana	47.0	46.0	70	65	No	No	
R5	Fontana	45.7	44.5	70	65	No	No	

TABLE 9-5: OPERATIONAL NOISE LEVEL COMPLIANCE

 $^{\rm 1}$ See Exhibit 8-A for the receiver locations.

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

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

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

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

9.6 PROJECT OPERATIONAL NOISE LEVEL INCREASES

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

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

Where "SPL1," "SPL2," etc. are equal to the sound pressure levels being combined, or in this case, the Project-operational and existing ambient noise levels. The difference between the combined Project and ambient noise levels describes the Project noise level increases to the existing ambient noise environment. As indicated on Table 9-6, the Project will generate a daytime noise operational level increase ranging from 0.5 to 1.0 dBA L_{eq} at the nearest receiver locations. Table 9-7 shows that the Project will generate a nighttime operational noise level increase ranging from 0.9 to 3.3 dBA L_{eq} at the nearest receiver locations. A review of the operational noise level increases shows that the nighttime increases are somewhat higher than the daytime increases. This is largely due to the lower nighttime ambient conditions that when combined with the Project produce a higher relative increase.

The project-related operational noise level increases will satisfy the operational noise level increase significance criteria presented on Table 4-1. Therefore, the incremental Project operational noise level increase is considered *less than significant* at all receiver locations.



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	47.8	L1	54.5	55.3	0.8	5.0	No
R2	41.8	L2	50.2	50.8	0.6	5.0	No
R3	41.3	L2	50.2	50.7	0.5	5.0	No
R4	47.0	L3	54.3	55.0	0.7	5.0	No
R5	45.7	L4	51.4	52.4	1.0	5.0	No

TABLE 9-6: DAYTIME PROJECT OPERATIONAL NOISE LEVEL INCREASES

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.



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	46.7	L1	52.8	53.7	0.9	5.0	No
R2	40.5	L2	45.3	46.5	1.2	5.0	No
R3	40.2	L2	45.3	46.5	1.2	5.0	No
R4	46.0	L3	47.8	50.0	2.2	5.0	No
R5	44.5	L4	44.0	47.3	3.3	5.0	No

TABLE 9-7: NIGHTTIME OPERATIONAL NOISE LEVEL INCREASES

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.



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10 CONSTRUCTION ANALYSIS

This section analyzes potential impacts resulting from the short-term construction activities associated with the development of the Project. Exhibit 10-A shows the construction activity boundaries in relation to the nearest sensitive receiver locations previously described in Section 8. City of Fontana Municipal Code Section 18-63(7), states that project construction noise levels are considered exempt between 7:00 a.m. and 6:00 p.m. on weekdays and between the hours of 8:00 a.m. to 5:00 p.m. on Saturdays.

If Project construction activity occurs outside of the hours specified in the Municipal Code, noise levels shall satisfy the City of Fontana construction noise level thresholds of 70 dBA L_{eq} during the daytime hours and 65 dBA L_{eq} during the nighttime hours.

10.1 CONSTRUCTION NOISE LEVELS

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

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

10.2 CONSTRUCTION REFERENCE NOISE LEVELS

To describe construction noise activities, this construction noise analysis was prepared using reference construction equipment noise levels from the Federal Highway Administration (FHWA) published the Roadway Construction Noise Model (RCNM), which includes a national database of construction equipment reference noise emission levels. (23) The RCNM equipment database, provides a comprehensive list of the noise generating characteristics for specific types of construction equipment. In addition, the database provides an acoustical usage factor to estimate the fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation.

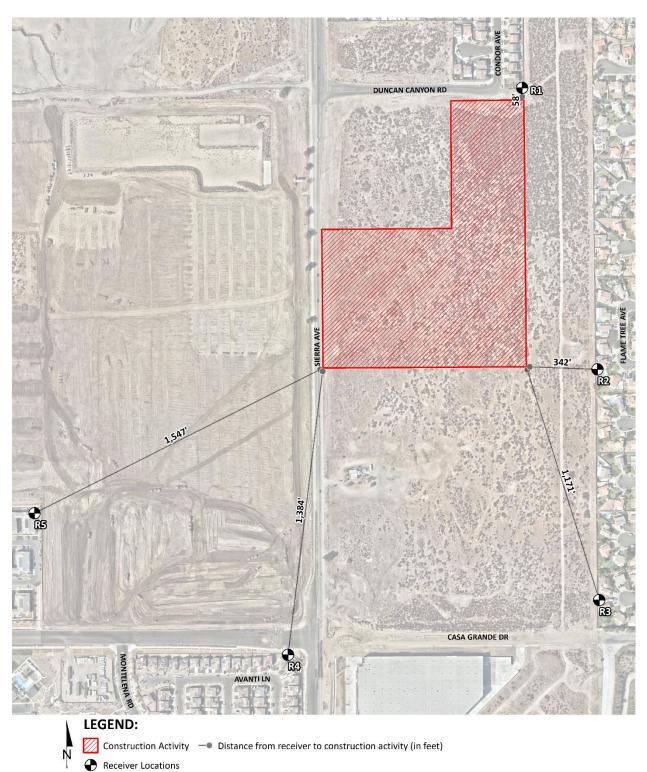


EXHIBIT 10-A: CONSTRUCTION NOISE SOURCE AND RECEIVER LOCATIONS



10.3 CONSTRUCTION NOISE ANALYSIS

Using the reference construction equipment noise levels and the CadnaA noise prediction model, calculations of the Project construction noise level impacts at the nearby sensitive receiver locations were completed. Consistent with FTA guidance for general construction noise assessment, Table 10-1 presents the combined noise levels for the loudest construction equipment, assuming they operate at the same time. As shown on Table 10-2, the construction noise levels are expected to range from 36.3 to 59.2 dBA L_{eq} at the nearby receiver locations. Appendix 10.1 includes the detailed CadnaA construction noise model inputs.

Construction Stage	Reference Construction Activity	Reference Noise Level @ 50 Feet (dBA L _{eq}) ¹	Combined Noise Level (dBA L _{eq}) ²	Combined Sound Power Level (PWL) ³	
	Crawler Tractors	78			
Site Preparation	Hauling Trucks	72	80	112	
reparation	Rubber Tired Dozers	75			
	Graders	81		115	
Grading	Excavators	77	83		
	Compactors	76			
	Cranes	73			
Building Construction	Tractors	80	81	113	
construction	Welders	70			
	Pavers	74		115	
Paving	Paving Equipment	82	83		
	Rollers	73			
	Cranes	73			
Architectural Coating	Air Compressors	74	77	109	
couting	Generator Sets	70			

TABLE 10-1: CONSTRUCTION REFERENCE NOISE LEVELS

¹ FHWA Roadway Construction Noise Model (RCNM).

² Represents the combined noise level for all equipment assuming they operate at the same time consistent with FTA Transit Noise and Vibration Impact Assessment guidance.

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



	Construction Noise Levels (dBA Leq)								
Receiver Location ¹	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Highest Levels ²			
R1	56.2	59.2	57.2	59.2	53.2	59.2			
R2	42.8	45.8	43.8	45.8	39.8	45.8			
R3	39.3	42.3	40.3	42.3	36.3	42.3			
R4	44.3	47.3	45.3	47.3	41.3	47.3			
R5	43.0	46.0	44.0	46.0	40.0	46.0			

TABLE 10-2: CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY

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

² Construction noise level calculations based on distance from the construction activity, which is measured from the Project site boundary to the nearest receiver locations. CadnaA construction noise model inputs are included in Appendix 10.1.

10.4 CONSTRUCTION NOISE LEVEL COMPLIANCE

The construction noise analysis shows that the highest construction noise levels will occur when construction activities take place at the closest point from the edge of primary construction activity to each of the nearby receiver locations. Project construction noise levels are considered exempt if activities occur within the hours specified in the City of Fontana Municipal Code, Section 18-63(7) of 7:00 a.m. to 6:00 p.m. on weekdays and between the hours of 8:00 a.m. to 5:00 p.m. on Saturdays.

If Project construction activity occurs outside of the hours specified in the Municipal Code, noise levels shall satisfy the City of Fontana construction noise level thresholds of 70 dBA L_{eq} during the daytime hours and 65 dBA L_{eq} during the nighttime hours. No Project construction activity is planned within the hours specified in the City of Fontana Municipal Code, Section 18-63(7). As shown on table 10-3, the noise impacts due to project construction noise is considered *less than significant* at all receiver locations.



	Construction Noise Levels (dBA Leq)							
	Highest	Specified						
Receiver Location ¹	Construction Noise Levels ²	Specified Hours ³	Outside of Specified Hours Daytime ⁴	Outside of Specified Hours Nighttime ⁴	Hours Threshold Exceeded? ⁵			
R1	59.2	Exempt	70	65	No			
R2	45.8	Exempt	70	65	No			
R3	42.3	Exempt	70	65	No			
R4	47.3	Exempt	70	65	No			
R5	46.0	Exempt	70	65	No			

TABLE 10-3: TYPICAL CONSTRUCTION NOISE LEVEL COMPLIANCE

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

 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 Specified hours of 7:00 a.m. to 6:00 p.m. on weekdays and between the hours of 8:00 a.m. to 5:00 p.m. on Saturdays as per the City of Fontana Municipal Code Section 18-63(7).

⁴ City of Fontana exterior noise level standards for residential land use, as shown on Table 3-1.

⁵ Do the estimated Project construction noise levels exceed the construction noise level threshold during the specified hours mentioned in The City of Fontana Municipal Code Section 18-63(7)?

10.5 NIGHTTIME CONCRETE POUR NOISE ANALYSIS

It is our understanding that nighttime concrete pouring activities will occur as a part of Project building 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 building pad area as shown on Exhibit 10-B. Since the nighttime concrete pours will take place outside the permitted City of Fontana Municipal Code, Section 18-63(b)(7) hours of 7:00 a.m. and 6:00 p.m. on weekdays and between the hours of 8:00 a.m. and 5:00 p.m. on Saturdays the Project Applicant will be required to obtain authorization for nighttime work from the City of Fontana. Any nighttime construction noise activities shall satisfy the residential noise limit categories outlined in Table 3-1.

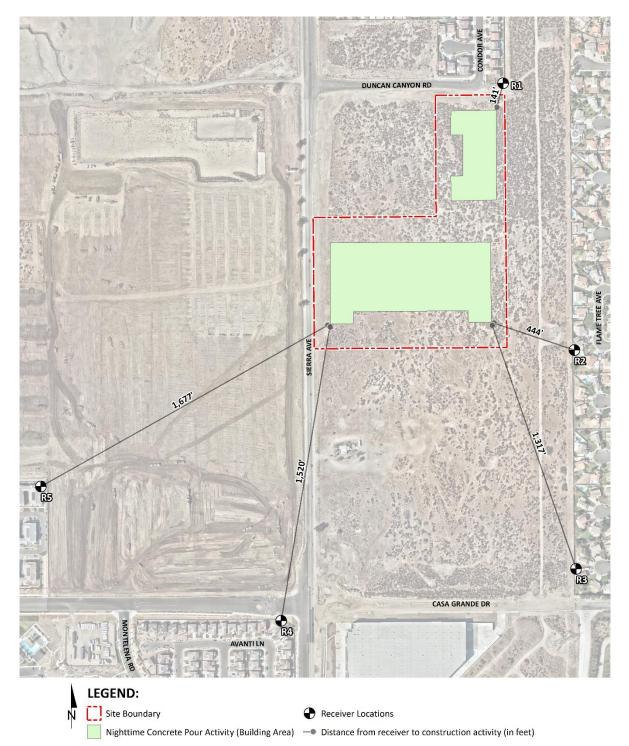
10.5.1 NIGHTTIME CONCRETE POUR REFERENCE NOISE LEVEL MEASUREMENTS

To estimate the noise levels due to nighttime concrete pour activities, sample reference noise level measurements were taken during a nighttime concrete pour at a construction site. Urban Crossroads, Inc. collected short-term nighttime concrete pour reference noise level measurements during the noise-sensitive nighttime hours between 1:00 a.m. to 2:00 a.m. The reference noise levels describe the expected concrete pour noise sources that may include concrete mixer truck movements and pouring activities, concrete paving equipment, rear mounted concrete mixer truck backup alarms, engine idling, air brakes, generators, and workers communicating/whistling.

To describe the nighttime concrete pour noise levels associated with the construction of the North Fontana Industrial Complex (Acacia), this analysis relies on reference sound power level of 100.3 dBA L_w. While the Project noise levels will depend on the actual duration of activities and



specific equipment fleet in use at the time of construction, the reference sound power level of 100.3 dBA L_w is used to describe the expected Project nighttime concrete pour noise activities.





10.5.2 NIGHTTIME CONCRETE POUR NOISE LEVEL COMPLIANCE

As shown on Table 10-4, the noise levels associated with the nighttime concrete pour activities are estimated to range from 29.1 to 47.8 dBA L_{eq} and will satisfy the City of Fontana 65 dBA L_{eq} nighttime stationary-source exterior hourly average L_{eq} residential noise level threshold at all the receiver locations. Based on the results of this analysis, all nearest noise receiver locations will experience *less than significant* impacts due to the Project related nighttime concrete pour activities. Appendix 10.2 includes the CadnaA nighttime concrete pour noise model inputs.

_ ·		Construction Noise Levels (dBA Leq)				
Receiver Location ¹	Use	Paving Construction ²	Nighttime Threshold ³	Threshold Exceeded? ⁴		
R1	Residence	47.8	65	No		
R2	Residence	32.9	65	No		
R3	Residence	29.1	65	No		
R4	Residence	33.8	65	No		
R5	Residence	32.6	65	No		

TABLE 10-4: NIGHTTIME CONCRETE POUR NOISE LEVEL COMPLIANCE

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

² Paving construction noise level calculations based on distance from the construction noise source activity to nearby receiver locations.

³ Exterior noise level standards based on the City of Fontana Development Code Section 30-543.

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

10.6 CONSTRUCTION VIBRATION ANALYSIS

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods employed. Operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Ground vibration levels associated with various types of construction equipment are summarized on Table 10-5. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the potential for human response (annoyance) and building damage using the following vibration assessment methods defined by the FTA. To describe the vibration impacts the FTA provides the following equation: $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$



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

TABLE 10-5: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT
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Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual

Table 10-6 presents the expected Project related vibration levels at the nearby receiver locations. At distances ranging from 58 to 1,547 feet from Project construction activities, construction vibration velocity levels are estimated to range from 0.000 to 0.025 in/sec PPV. Based on maximum acceptable continuous vibration threshold of 0.3 PPV (in/sec), the typical Project construction vibration levels will fall below the building damage thresholds at all the noise sensitive receiver locations. Therefore, the Project-related vibration impacts are considered *less than significant* during typical construction activities at the Project site. 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.

TABLE 10-6:	PROJECT CONSTRUCTION VIBRATION LEV	ELS
--------------------	------------------------------------	-----

	Distance to Const.		Typical Const P	ruction Vib PV (in/sec) ³		5	Thresholds	Thresholds	
Receiver ¹	Activity (Feet) ²	Small bulldozer	Jackhammer	Loaded Trucks	Large bulldozer	Highest Vibration Level	PPV (in/sec) ⁴	Exceeded? ⁵	
R1	58'	0.001	0.010	0.022	0.025	0.025	0.3	No	
R2	342'	0.000	0.001	0.002	0.002	0.002	0.3	No	
R3	1,171'	0.000	0.000	0.000	0.000	0.000	0.3	No	
R4	1,384'	0.000	0.000	0.000	0.000	0.000	0.3	No	
R5	1,547'	0.000	0.000	0.000	0.000	0.000	0.3	No	

¹ Receiver locations are shown on Exhibit 10-A.

² Distance from receiver location to Project construction boundary (Project site boundary).

 $^{\rm 3}$ Based on the Vibration Source Levels of Construction Equipment (Table 10-4).

⁴ Caltrans Transportation and Construction Vibration Guidance Manual, April 2020, Table 19, p. 38.

⁵ Does the peak vibration exceed the acceptable vibration thresholds?

"PPV" = Peak Particle Velocity



11 REFERENCES

- 1. **State of California.** *California Environmental Quality Act, Environmental Checklist Form Appendix G.* 2021.
- 2. California Department of Transportation Environmental Program. *Technical Noise Supplement A Technical Supplement to the Traffic Noise Analysis Protocol.* Sacramento, CA : s.n., September 2013.
- 3. Environmental Protection Agency Office of Noise Abatement and Control. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. March 1974. EPA/ONAC 550/9/74-004.
- 4. U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning, Noise and Air Quality Branch. *Highway Traffic Noise Analysis and Abatement Policy and Guidance*. December 2011.
- 5. U.S. Department of Transportation Federal Highway Administration. *Highway Noise Barrier Design Handbook*. 2001.
- 6. U.S. Department of Transportation, Federal Highway Administration. *Highway Traffic Noise in the United States, Problem and Response.* April 2000. p. 3.
- 7. U.S. Environmental Protection Agency Office of Noise Abatement and Control. *Noise Effects Handbook-A Desk Reference to Health and Welfare Effects of Noise.* October 1979 (revised July 1981). EPA 550/9/82/106.
- 8. U.S. Department of Transportation, Federal Transit Administration. *Transit Noise and Vibration Impact Assessment Manual.* September 2018.
- 9. Office of Planning and Research. State of California General Plan Guidlines. October 2019.
- 10. City of Fontana. General Plan Noise Element. November 2018.
- 11. —. Zoning and Development Code, Section 30, Article V Residential Zoning Districts, Division 6 Performance Standards.
- 12. —. Municipal Code, Chapter 18, Article II Noise.
- 13. City of Rialto. Municipal Code, Chapter 9.50 Noise Control.
- 14. California Department of Transportation. *Transportation and Construction Vibration Guidance Manual.* April 2020.
- 15. California Court of Appeal. *Gray v. County of Madera, F053661.* 167 Cal.App.4th 1099; Cal.Rptr.3d, October 2008.
- 16. Federal Interagency Committee on Noise. Federal Agency Review of Selected Airport Noise Analysis Issues. August 1992.
- 17. California Department of Transportation. Technical Noise Supplement. November 2009.
- 18. American National Standards Institute (ANSI). Specification for Sound Level Meters ANSI S1.4-2014/IEC 61672-1:2013.
- 19. U.S. Department of Transportation, Federal Highway Administration. FHWA Highway Traffic Noise Prediction Model. December 1978. FHWA-RD-77-108.
- 20. California Department of Transportation Environmental Program, Office of Environmental Engineering. Use of California Vehicle Noise Reference Energy Mean Emission Levels (Calveno REMELs) in FHWA Highway Traffic Noise Prediction. September 1995. TAN 95-03.



- 21. California Department of Transportation. *Traffic Noise Attenuation as a Function of Ground and Vegetation Final Report*. June 1995. FHWA/CA/TL-95/23.
- 22. Urban Crossroads, Inc. North Fontana Industrial Complex (Acacia) Traffic Study. January 2022.
- 23. U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning. FHWA Roadway Construction Noise Model. January, 2006.
- 24. Urban Crossroads, Inc. Banana & Rose Warehouse Trip Generation Assessment. February 2022.

12 CERTIFICATIONS

The contents of this noise study report represent an accurate depiction of the noise environment and impacts associated with the proposed North Fontana Industrial Complex (Acacia) 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. 1133 Camelback #8329 Newport Beach, CA 92658 (949) 581-3148 blawson@urbanxroads.com



EDUCATION

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

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

PROFESSIONAL REGISTRATIONS

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

PROFESSIONAL AFFILIATIONS

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

PROFESSIONAL CERTIFICATIONS

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



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APPENDIX 3.1:

CITY OF FONTANA DEVELOPMENT CODE



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Section No. 30-542 - Trash and Recycling Collection Areas.

All trash receptacles and disposal areas shall be screened from view. All industrial facilities shall be provided with trash receptacles and recycling facilities as follows:

- 1. *Number*. An adequate number and size of receptacles shall be provided to serve all uses on a property.
- 2. **Screening**. All receptacles shall be screened and the trash enclosure that is designed pursuant to the City approved Conceptual Plan. The receptacle shall not be visible above the wall. The enclosure shall be architecturally compatible with the architecture of the proposed/existing structures.

DIVISION 6. - PERFORMANCE STANDARDS

Section No. 30-543 - Noise and Vibration.

- A. **Noise Levels**. No person shall create or cause to be created any sound which exceeds the noise levels in this Section as measured at the property line of any residentially zoned property:
 - 1. The noise level between 7:00 a.m. and 10:00 p.m. shall not exceed 70 db(A).
 - 2. The noise level between 10:00 p.m. and 7:00 a.m. shall not exceed 65 db(A).
- B. Noise Measurements. Noise shall be measured with a sound level meter that meets the standards of the American National Standards Institute (ANSI) Section SI4-1979, Type 1 or Type 2. Noise levels shall be measured using the "A" weighted sound pressure level scale in decibels (reference pressure = 20 micronewtons per meter squared).
- C. *Vibration*. No person shall create or cause to be created any activity which causes a vibration which can be felt beyond the property line with or without the aid of an instrument.

Section No. 30-544 - Light and Glare.

All lights shall be directed and/or shielded to prevent the light from adversely affecting adjacent properties. No structure or lighting feature shall be permitted which creates adverse glare. A photometric plan shall be provided that indicates the amount of light emanating from the proposed/existing light fixtures.

Section No. 30-545 - Odors.

All uses shall be operated in a manner such that no offensive odor is perceptible at or beyond the property line of that use.

Section No. 30-546 - Electromagnetic Interference.

No use, activity, or process shall be conducted which produces electromagnetic interference with normal radio and television receptions beyond the property line of that use.

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APPENDIX 5.1:

STUDY AREA PHOTOS



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JN: 14283 Study Area Photos



L1_E 34, 9' 54.580000"117, 26' 2.610000"



L1_N 34, 9' 54.590000"117, 26' 2.590000"



L1_S 34, 9' 54.590000"117, 26' 2.610000"



L1_W 34, 9' 54.610000"117, 26' 2.640000"



L2_E 34, 9' 41.900000"117, 25' 54.810000"



L2_N 34, 9' 41.930000"117, 25' 54.900000"

JN: 14283 Study Area Photos



L2_S 34, 9' 41.900000"117, 25' 54.840000"



L2_W 34, 9' 41.920000"117, 25' 54.810000"



L3_E 34, 9' 25.530000"117, 26' 20.470000"



L3_N 34, 9' 25.550000"117, 26' 20.470000"



L3_S 34, 9' 25.520000"117, 26' 20.470000"



L3_W 34, 9' 25.530000"117, 26' 20.490000"

JN: 14283 Study Area Photos



L4_E 34, 9' 34.060000"117, 26' 26.070000"



L4_N 34, 9' 34.050000"117, 26' 26.100000"



L4_S 34, 9' 34.050000"117, 26' 26.120000"



L4_W 34, 9' 33.880000"117, 26' 26.100000"



APPENDIX 5.2:

NOISE LEVEL MEASUREMENT WORKSHEETS





						24-Ho	ur Noise Le	evel Meas	urement S	ummary						
	Wednesday Sierra Indus	/, January 12 strial	, 2022			: L1 - Located : residence at		-	site near sin	gle-family	Meter:	Piccolo II				14283 A. Khan
Troject.	Sierra maa				500/22	. Testaenee at			(unadjusted)						Analyst.	A. Khan
05.4							, Ed	<u></u>								
85.0	ר וווי															
Y ap 75.0 Y ap 70.0																
60.0																
<u>א</u> 55.0 50.0) — 4 —				- 6 -		<mark>60.5</mark>	<mark>n – v</mark> –		<mark> տ</mark>	თთ	<u> </u>	- <mark></mark> -			
▲ 55.0 → 50.0 → 45.0 40.0	5 – . . –	52.1	53.7	52.5	23.9	24.		2 <mark>.54.</mark>	<mark>52.9</mark>	23	23. 23.	23.	5 <mark>53.</mark>		50.1	48.2
35.0	O +−−−+	1 2							12 1		45 44	47	10 10	20 7	24 22	+
	0	1 2	3	4 5	6	7 8	9 1	.0 11 Hour Be	12 1 eginning	3 14	15 16	5 17	18 19	20 2	21 22	23
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}
	0	55.4	61.2	50.1	60.9	60.3	59.1	58.4	56.3	54.3	51.4	50.9	50.3	55.4	10.0	65.4
	1 2	52.1 53.7	57.9 59.8	47.4 48.5	57.5 59.5	57.1 59.1	55.9 57.6	55.1 56.8	52.9 54.5	51.1 52.5	48.5 49.8	48.1 49.3	47.6 48.7	52.1 53.7	10.0 10.0	62.1 63.7
Night	3	53.7	61.3	48.4	60.9	60.3	58.2	56.7	54.3	52.3	49.5	49.0	48.5	53.7	10.0	63.7
	4	52.6	59.3	48.7	59.0	58.4	56.7	55.4	52.9	51.4	49.6	49.3	48.8	52.6	10.0	62.6
	5	52.5	60.7	48.6	60.0	59.1	56.5 58.5	55.1	52.7	51.2	49.4	49.1	48.8	52.5	10.0	62.5
	6	53.9 54.6	61.2 61.2	49.4 50.3	60.8 60.9	60.3 60.4	58.5	57.0 57.7	54.3 54.9	52.5 53.3	50.4 51.2	50.0 50.9	49.6 50.5	53.9 54.6	10.0 0.0	63.9 54.6
	8	54.6	61.5	50.0	61.1	60.6	59.1	58.2	55.0	53.1	51.0	50.6	50.1	54.6	0.0	54.6
	9	60.5	73.9	49.4	73.5	72.6	68.0	63.3	54.5	52.4	50.3	49.9	49.5	60.5	0.0	60.5
	10 11	53.3 54.2	60.1 64.3	49.3 48.6	59.8 64.0	59.3 63.1	57.4 60.0	56.3 57.6	53.6 52.8	52.1 51.3	50.2 49.5	49.8 49.1	49.4 48.7	53.3 54.2	0.0 0.0	53.3 54.2
	11	54.2	61.0	48.0	64.0 60.7	60.1	58.3	57.6	52.8	51.5	49.5	49.1	48.7	52.9	0.0	54.2
	13	53.1	61.8	48.3	61.4	60.8	58.7	56.8	52.8	50.7	49.1	48.8	48.4	53.1	0.0	53.1
Day	14	53.5	62.6	48.8	62.1	61.5	59.0	57.0	52.9	51.2	49.5	49.2	48.9	53.5	0.0	53.5
	15 16	53.3 53.9	61.4 61.3	48.4 49.3	60.9 61.0	60.1 60.4	58.0 58.6	56.6 57.5	53.6 54.1	51.6 52.3	49.4 50.2	49.0 49.8	48.5 49.4	53.3 53.9	0.0 0.0	53.3 53.9
	16	53.9	61.8	49.5	61.3	60.4	58.2	57.5	53.2	52.5	49.7	49.8	49.4 49.0	53.3	0.0	53.9
	18	54.5	64.3	48.6	63.8	63.3	60.7	58.6	54.1	51.1	49.3	49.0	48.7	54.5	0.0	54.5
	19	53.5	62.7	47.8	62.4	61.9	59.7	58.0	52.6	50.5	48.7	48.4	47.9	53.5	5.0	58.5
	20	49.9	55.8	46.6	55.5	55.0	53.7	52.8	50.2	48.9	47.4	47.1	46.7	49.9	5.0	54.9
	21 22	50.1 48.5	56.4 55.5	46.9 44.8	56.0 55.1	55.3 54.6	53.8 52.8	52.7 51.8	50.4 48.6	49.1 47.2	47.6	47.4 45.3	47.0 44.9	50.1 48.5	5.0 10.0	55.1 58.5
Night	23	48.2	54.4	45.2	53.7	52.9	51.1	50.4	48.6	47.5	46.0	45.7	45.3	48.2	10.0	58.2
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%		L _{eq} (dBA)	
Day	Min Max	49.9 60.5	55.8 73.9	46.6 50.3	55.5 73.5	55.0 72.6	53.7 68.0	52.7 63.3	50.2 55.0	48.9 53.3	47.4 51.2	47.1 50.9	46.7 50.5	24-Hour	Daytime (7am-10pm)	Nighttime (10pm-7am)
Energy	Average	54.5		rage:	61.6	61.0	58.8	57.1	53.2	51.3	49.5	49.1	48.7			
Night	Min	48.2	54.4	44.8	53.7	52.9	51.1	50.4	48.6	47.2	45.6	45.3	44.9	53.9	54.5	52.8
-	Max Average	55.4 52.8	61.3	50.1	60.9 58.6	60.3 58.0	59.1 56.3	58.4 55.2	56.3 52.8	54.3 51.1	51.4 48.9	50.9 48.5	50.3			
	Average	52.8	Ave	age.	58.6	58.0	50.3	55.2	52.8	51.1	48.9	48.5	48.0			



						24-	Hour Noise I	Level Meas	urement S	Summary						
	-	/, January 12	2, 2022				ed east of the	•	•	nily	Mete	r: Piccolo II				14283
Project:	Sierra Indus	strial			Source	e: residence	at 3414 North	Flame Tree A	venue.						Analyst:	A. Khan
							Hourly L _{eq}	dBA Readings	s (unadjusted))						
85.0	0															
l 00.0	0 +															
(4 gp) 75.0																
່ ສຸດວ.ປ	ŏ															
60.0 ٿـ 55.0 <u>ح</u>	0 ++															
∧ 55.0 in 50.0 OH 45.0		<u>ч</u>		- <u>o</u>	- v	<u>.</u> a		<u>N</u>	<u>.</u>	<u>, v</u>	9	<mark>-i vi</mark>	4 <u>w</u>		o –	وب
40.0	0 7 0	43.	42	44.	46.5	50.1	<mark>49</mark>	49.7 49.2	20.	49. 49.	51 .	<mark>52.</mark>	- <mark>51.</mark>	49.	48.9	47.
35.0		1 7	2	4 F		7 0		10 11	12	12 14	15	10 17	10 10	20	21 22	
	0	1 2	3	4 5	6	7 8	9	10 11 Hour B	12 : eginning	13 14	15	16 17	18 19	20	21 22	23
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}
	0	45.0	50.5	41.2	50.0	49.5	48.5	47.8	45.8	44.2	42.0	41.7	41.3	45.0	10.0	55.0
	1	43.2	48.9	39.2	48.4	47.9	46.9	46.2	44.1	42.1	39.9	39.6	39.3	43.2	10.0	53.2
Night	2	44.5	50.1	41.1	49.6	49.0	47.5	46.7	45.1	43.9	41.8	41.5	41.2	44.5	10.0	54.5
Night	3	42.8 44.1	46.2 47.9	40.2 41.9	46.0 47.5	45.7 47.1	45.0 46.4	44.6 45.8	43.6 44.7	42.4 43.8	40.8 42.5	40.6 42.2	40.3 42.0	42.8 44.1	10.0 10.0	52.8 54.1
	5	46.0	50.0	43.4	49.7	49.4	48.7	48.1	46.6	45.3	44.0	43.8	43.5	46.0	10.0	56.0
	6	46.5	50.5	44.4	50.2	49.8	49.1	48.5	46.9	46.0	44.9	44.7	44.5	46.5	10.0	56.5
	7	50.1	53.1	48.2	52.7	52.5	51.8	51.5	50.6	49.8	48.7	48.5	48.3	50.1	0.0	50.1
	8	48.8	51.8	46.8	51.5	51.3	50.8	50.5	49.3	48.5	47.4	47.2	47.0	48.8	0.0	48.8
	9	49.4	52.5	47.8	52.1	51.8	51.1	50.8	49.8	49.1	48.3	48.1	47.9	49.4	0.0	49.4
	10 11	49.7 49.2	52.7 51.9	48.0 47.5	52.3 51.7	52.0 51.5	51.4 51.0	51.1 50.7	50.1 49.7	49.3 48.8	48.5 47.9	48.3 47.8	48.1 47.6	49.7 49.2	0.0 0.0	49.7 49.2
	12	50.0	55.9	45.9	55.3	54.7	53.3	52.6	50.7	49.2	46.9	46.6	46.1	50.0	0.0	50.0
	13	49.0	54.3	45.9	53.9	53.3	52.2	51.5	49.7	48.1	46.7	46.4	46.1	49.0	0.0	49.0
Day	14	49.2	54.5	46.2	54.1	53.5	52.3	51.7	49.7	48.4	47.0	46.7	46.3	49.2	0.0	49.2
	15	51.6	58.9	46.4	58.3	57.6	56.4	55.8	52.1	49.5	47.2	46.9	46.5	51.6	0.0	51.6
	16	52.1	58.3	47.5	57.7	57.1	55.9	55.2	53.0	50.9	48.6	48.2	47.7	52.1	0.0	52.1
	17 18	50.5 51.4	56.1 58.2	47.1 47.4	55.5 57.5	55.0 56.7	53.8 55.3	53.0 54.5	51.1 52.0	49.8 50.2	48.0 48.3	47.6 48.0	47.2 47.6	50.5 51.4	0.0 0.0	50.5 51.4
	19	51.3	56.9	47.7	56.3	55.6	54.4	53.7	51.9	50.5	48.7	48.2	47.8	51.3	5.0	56.3
	20	49.5	55.2	46.1	54.6	53.9	52.7	52.0	50.1	48.7	47.1	46.7	46.2	49.5	5.0	54.5
	21	48.9	54.3	45.6	53.8	53.2	51.9	51.2	49.4	48.2	46.6	46.2	45.8	48.9	5.0	53.9
Night	22	46.1	51.6	43.2	51.0	50.5	49.2	48.4	46.6	45.5	43.9	43.6	43.3	46.1	10.0	56.1
Timeframe	23 Hour	47.6	53.7	44.4	52.9 L1%	52.1 L2%	50.7 L5%	49.9 L8%	48.0 L25%	46.8 L50%	45.2 L90%	44.9 L95%	44.5 L99%	47.6	10.0 L _{eg} (dBA)	57.6
	Min	L _{eq} 48.8	L _{max} 51.8	L _{min} 45.6	51.5	51.3	50.8	50.5	49.3	48.1	46.6	46.2	45.8		Daytime	Nighttime
Day	Max	52.1	58.9	48.2	58.3	57.6	56.4	55.8	53.0	50.9	48.7	48.5	48.3	24-Hour	(7am-10pm)	(10pm-7am)
Energy	Average	50.2	Ave	erage:	54.5	54.0	53.0	52.4	50.6	49.3	47.7	47.4	47.1			
Night	Min	42.8	46.2	39.2	46.0	45.7	45.0	44.6	43.6	42.1	39.9	39.6	39.3	48.9	50.2	45.3
	Max	47.6	53.7	44.4	52.9	52.1	50.7	49.9	48.0	46.8	45.2	44.9	44.5			
Energy	Average	45.3	AVe	erage:	49.5	49.0	48.0	47.3	45.7	44.4	42.8	42.5	42.2			



						24-Ho	ur Noise Le	evel Meas	urement S	ummary						
Date:	Wednesday	y, January 12	2, 2022			: L3 - Located		,	site near sing	gle-family	Meter	: Piccolo II				14283
Project:	Sierra Indu	strial			Source	e: residence at	5348 Blue Rid	dge Way.							Analyst:	A. Khan
							Hourly L _{eq} d	dBA Readings	(unadjusted)							
	n															
85.0 80.0	5															
(Pap) 80.0 75.0 70.0 65.0 65.0 65.0	ğ —															
1 60.0 1 55.0 1 55.0												_				
A 55.0 50.0 0 45.0 40.0	n ————————————————————————————————————	<u>v</u> c	5 4	46.9	23.8		55.1	54.5	54.7	56.7	<mark></mark>	54.0 55.0	<u>.</u> 0	<u>,</u>	51.8 46.6	<u>6</u>
± 40.0	0 - 7 - 0	- 42	46.4	46.9	<u>12</u>	<u></u>	<u> </u>	л <u> </u>	<u> </u>	24 2	<u>N</u>	<u>0</u>	- <mark>52</mark>		51.8 46.6	46.9
55.0	0	1 2	2 3	4 5	6	7 8	9 1	.0 11	12 1	L3 14	15	16 17	18 19	20	21 22	23
	U	± 4		- 5	Ū	, 0	<u> </u>		eginning	19 14	10	10 1,	10 15	20		25
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}
	0	42.5	47.3	39.1	47.0	46.7	45.8	45.1	43.2	41.8	39.9	39.6	39.3	42.5	10.0	52.5
	1	42.2 42.0	48.3	39.2	48.1	47.8 45.2	46.4 44.5	45.1 44.0	42.0	41.0	39.8	39.6 39.9	39.3 39.7	42.2	10.0	52.2
Night	2	42.0	45.8 57.3	39.5 40.9	45.5 56.6	45.2 56.3	44.5 53.1	44.0 50.0	42.6 44.1	41.6 42.5	40.2 41.4	41.2	41.0	42.0 46.4	10.0 10.0	52.0 56.4
	4	46.9	56.2	42.6	55.9	55.4	53.1	50.7	45.5	44.4	43.3	43.0	42.7	46.9	10.0	56.9
	5	48.5	55.2	45.5	55.0	54.6	52.9	51.5	48.1	47.2	46.1	45.9	45.6	48.5	10.0	58.5
	6	53.8	64.9	46.9	64.1	63.2	60.8	58.9	51.9	48.7	47.5	47.3	47.0	53.8	10.0	63.8
	7	55.3	64.5	49.6	64.2	63.7	61.6	59.9	54.6	51.8	50.2	50.0	49.7	55.3	0.0	55.3
	8 9	53.8 55.1	62.4 65.1	48.5 49.4	62.2 64.9	61.7 64.4	60.0 62.4	58.5 59.7	53.4 53.1	50.5 51.0	49.0 49.9	48.8 49.7	48.6 49.5	53.8 55.1	0.0 0.0	53.8 55.1
	10	54.8	64.1	49.5	63.7	63.3	61.5	59.5	53.5	51.4	50.1	49.9	49.6	54.8	0.0	54.8
	11	54.5	63.6	48.4	63.3	62.9	61.1	59.5	53.4	51.0	49.1	48.8	48.5	54.5	0.0	54.5
	12	54.7	62.7	48.5	62.3	61.7	59.6	58.1	55.1	52.9	50.0	49.3	48.7	54.7	0.0	54.7
_	13	56.7	68.0	48.1	67.5	66.8	64.0	61.2	54.6	52.3	49.2	48.8	48.2	56.7	0.0	56.7
Day	14 15	54.2 55.4	62.9 63.9	47.3 46.9	62.5 63.4	62.0 62.7	60.3 61.1	58.8 59.8	53.8 56.3	51.4 52.2	48.6 48.6	48.1 47.8	47.5 47.1	54.2 55.4	0.0 0.0	54.2 55.4
	15	54.0	64.4	40.9	63.9	63.1	60.9	59.2	53.2	49.7	46.1	47.8	47.1	54.0	0.0	54.0
	17	55.0	66.5	44.9	65.8	65.1	62.3	60.1	53.1	49.1	46.1	45.6	45.1	55.0	0.0	55.0
	18	52.1	61.2	45.2	60.9	60.4	58.4	57.1	51.4	49.0	46.1	45.8	45.3	52.1	0.0	52.1
	19	52.0	60.1	45.9	59.8	59.4	57.7	56.1	51.9	49.8	47.1	46.6	46.1	52.0	5.0	57.0
	20 21	49.7 51.8	56.7 60.5	44.2 44.4	56.5 60.1	56.1 59.6	54.7 57.9	53.3 56.6	50.0 51.7	48.1 48.7	45.4 45.7	44.9 45.2	44.4 44.6	49.7 51.8	5.0 5.0	54.7 56.8
	21	46.6	54.9	44.4	54.4	59.6	52.5	50.3	46.0	48.7	45.7	45.2	44.6	46.6	10.0	56.6
Night	23	46.9	54.8	42.6	54.4	53.8	51.8	50.1	46.9	45.3	43.4	43.1	42.7	46.9	10.0	56.9
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%		L _{eq} (dBA)	
Day	Min	49.7	56.7	44.2	56.5	56.1	54.7	53.3	50.0	48.1	45.4	44.9	44.4	24-Hour	Daytime	Nighttime
Energy	Max Average	56.7 54.3	68.0	49.6 erage:	67.5 62.7	66.8 62.2	64.0 60.2	61.2 58.5	56.3 53.3	52.9 50.6	50.2 48.1	50.0 47.7	49.7 47.2		(7am-10pm)	(10pm-7am)
	Min	42.0	45.8	39.1	45.5	45.2	44.5	44.0	42.0	41.0	39.8	39.6	39.3	52.8	54.3	47.8
Night	Max	53.8	64.9	46.9	64.1	63.2	60.8	58.9	51.9	48.7	47.5	47.3	47.0			.,
Energy	Average	47.8	Ave	erage:	53.5	53.0	51.2	49.5	45.6	44.1	42.7	42.4	42.1			



	Wednesday Sierra Indus	y, January 12 strial	2, 2022		Location Source	residence	Iour Noise I ed southwest o at Gabion Ran	of the Project	site near sin	gle-family	Meter	r: Piccolo II				14283 A. Khan
							Hourly L _{eq}	dBA Readings	(unadjusted)							
85.0	n															
_ 80 (0 +															
، 60.0 الم																
∧ 55.0 1 50.0 0 45.0 40.0	0 44 0 0 2.00	41.6		42.5	43.6	49.8 49.7		46.7 46.6		58.1 53.4	<mark>52.0</mark>	49.6 48.7	<mark>51.1</mark> 49.0	49.1	49.2 46.4	45.8
35.0																
	0	1 2	2 3	4 5	6	78	9	10 11 Hour B	12 1 eginning	13 14	15	16 17	18 19	20	21 22	23
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}
	0	44.5	48.8	41.9	48.5	48.0	47.1	46.6	45.2	44.0	42.5	42.3	42.0	44.5	10.0	54.5
	1	41.6	43.0	40.7	42.9	42.7	42.4	42.3	41.8	41.5	41.0	40.9	40.7	41.6	10.0	51.6
Night	2	44.2 41.6	49.3 43.3	41.0 40.7	48.8 43.1	48.1 42.9	47.2 42.6	46.6 42.3	44.9 41.8	43.5 41.4	41.7 40.9	41.4 40.8	41.1 40.7	44.2 41.6	10.0 10.0	54.2 51.6
Nigint	4	41.0	43.3	40.7	43.1	42.9	42.0	42.5	41.8	41.4	40.9	40.8	40.7	41.0	10.0	52.5
	5	42.8	44.8	41.8	44.6	44.4	44.0	43.8	43.0	42.6	42.1	42.0	41.8	42.8	10.0	52.8
	6	43.6	48.2	41.7	47.8	47.3	46.5	45.9	44.2	42.8	42.1	41.9	41.7	43.6	10.0	53.6
	7	49.8	52.5	47.8	52.2	51.9	51.4	51.1	50.3	49.6	48.4	48.2	47.9	49.8	0.0	49.8
	8	49.7	53.2	47.7	52.7	52.2	51.5	51.1	50.1	49.4	48.3	48.1	47.8	49.7	0.0	49.7
	9 10	48.1	53.4	45.6	52.7	52.1	50.8	50.1	48.5	47.5	46.3	46.1	45.7	48.1	0.0	48.1
	10	46.7 46.6	51.4 50.4	44.1 44.6	50.9 49.9	50.4 49.5	49.5 48.3	48.8 47.8	47.0 47.0	46.1 46.3	44.9 45.3	44.6 45.1	44.3 44.8	46.7 46.6	0.0 0.0	46.7 46.6
	12	52.7	58.0	47.3	57.6	57.1	56.3	55.8	53.7	51.9	48.7	48.2	47.5	52.7	0.0	52.7
	13	58.1	69.1	49.1	67.8	66.2	62.9	61.5	58.2	55.7	51.4	50.6	49.5	58.1	0.0	58.1
Day	14	53.4	59.8	47.2	59.3	58.8	57.6	56.7	54.2	52.4	49.2	48.4	47.4	53.4	0.0	53.4
	15	52.0	57.6	46.2	57.3	56.9	56.0	55.2	53.0	50.9	47.6	47.1	46.5	52.0	0.0	52.0
	16	49.6	57.2	43.8	56.5	55.7	54.4	53.5	50.0	47.8	44.9	44.5	43.9	49.6	0.0	49.6
	17 18	48.7 51.1	55.4 57.7	44.4 45.4	54.9 57.2	54.1 56.5	52.5 55.2	51.7 54.3	49.4 52.0	47.5 50.0	45.3 46.9	45.0 46.3	44.5 45.6	48.7 51.1	0.0 0.0	48.7 51.1
	18	49.0	53.9	45.0	53.5	53.1	52.2	54.5	49.9	48.3	46.1	40.5	45.0	49.0	5.0	54.0
	20	49.1	55.0	43.8	54.5	54.0	52.2	52.2	49.9	48.1	44.9	44.4	43.9	49.1	5.0	54.1
	21	49.2	54.4	44.4	54.0	53.5	52.6	52.1	50.2	48.4	45.8	45.2	44.6	49.2	5.0	54.2
Night	22	46.4	51.1	42.9	50.7	50.2	49.2	48.7	47.1	45.8	43.9	43.5	43.0	46.4	10.0	56.4
-	23	45.8	50.6	42.7	50.2	49.8	48.7	48.0	46.4	45.1	43.4	43.1	42.8	45.8	10.0	55.8
Timeframe	Hour Min	L _{eq} 46.6	L _{max} 50.4	L _{min} 43.8	L1% 49.9	L2% 49.5	L5% 48.3	L8%	L25% 47.0	L50% 46.1	<i>L90%</i> 44.9	L95% 44.4	L99% 43.9		L _{eq} (dBA) Daytime	Nighttime
Day	Max	40.0 58.1	50.4 69.1	43.8	49.9 67.8	49.5 66.2	48.3 62.9	47.8 61.5	58.2	46.1 55.7	44.9 51.4	44.4 50.6	43.9	24-Hour	(7am-10pm)	(10pm-7am)
Energy	Average	51.4		erage:	55.4	54.8	53.6	52.9	50.9	49.3	46.9	46.5	45.9			
Night	Min	41.6	43.0	40.7	42.9	42.7	42.4	42.3	41.8	41.4	40.9	40.8	40.7	49.8	51.4	44.0
	Max	46.4	51.1	42.9	50.7	50.2	49.2	48.7	47.1	45.8	43.9	43.5	43.0			
Energy	Average	44.0	Ave	erage:	46.8	46.4	45.7	45.3	44.1	43.2	42.1	41.9	41.7			



APPENDIX 7.1:

OFF-SITE TRAFFIC NOISE CONTOURS





FHWA-RD-77-108 HIGHWAY	NOISE	PREDIC	TION M	ODEL (9	/12/20)21)							
Scenario: E Road Name: Sierra Av. Road Segment: n/o Riverside Av.				Name: N umber: 1		ontana Ind	lustrial C						
SITE SPECIFIC INPUT DATA			N	OISE N	IODE	Inputs t = 15) 15 15 15 15 12.2% 15.9% 93.47% 7.0% 12.2% 7.0% 12.2% 15.9% 93.47% 7.0% 12.2% 7.0% 12.2% 7.6% 2.75%							
Highway Data		Site Con	ditions	(Hard =	10, So	ft = 15)							
Average Daily Traffic (Adt): 25,275 vehicles				A	Autos:	15							
Peak Hour Percentage: 8.81%		Me	dium Tru	icks (2 A	xles):	15							
Peak Hour Volume: 2,227 vehicles		He	avy Truc	ks (3+ A	xles):	15							
Vehicle Speed: 55 mph	-	Vehicle I	Mix										
Near/Far Lane Distance: 50 feet	H		icleType		Dav	Evening	Night Doilu						
Site Data		ven			71.9%	•							
			ء edium Ti		75.3%								
Barrier Height: 0.0 feet			Heavy Tr		75.3% 60.4%								
Barrier Type (0-Wall, 1-Berm): 0.0		,	icavy II	uchs.	00.4 %	12.0%	21.0% 2.15						
Centerline Dist. to Barrier: 35.0 feet	1	Noise So	ource El	evations	(in fe	et)							
Centerline Dist. to Observer: 35.0 feet			Autos	s: 0.0	00								
Barrier Distance to Observer: 0.0 feet		Mediu	m Trucks	s: 2.2	97								
Observer Height (Above Pad): 5.0 feet		Heav	y Truck	s: 8.0	04	Grade Adj	ustment: 0.0						
Pad Elevation: 0.0 feet	H			Distance	- 6- 4	41							
Road Elevation: 0.0 feet	4	Lane Eq				eet)							
Road Grade: 0.0%			Autos										
Left View: -90.0 degrees			m Trucks										
Right View: 90.0 degrees		Heav	ry Trucks	5: 24.6	078								
FHWA Noise Model Calculations							1						
	tance		Road	Fresne									
Autos: 71.78 0.47	4.4		-1.20		4.54								
Medium Trucks: 82.40 -13.46	4.5		-1.20		4.86								
Heavy Trucks: 86.40 -14.83	4.5	0	-1.20		-5.65	0.0	0.00						
Unmitigated Noise Levels (without Topo and barrie							T						
VehicleType Leq Peak Hour Leq Day	Leg Ei	•	Leq	Night		Ldn							
Autos: 75.5 73.8		72.1		68.5		76.1							
Medium Trucks: 72.3 70.8		66.5		65.7		73.1							
Heavy Trucks: 74.9 72.4		71.4		70.3		77.0							
Vehicle Noise: 79.2 77.3		75.4		73.3		80.5	80						
Centerline Distance to Noise Contour (in feet)			-										
	70 0	dBA	65 ('BA	6	0 dBA	55 dBA						
Centerline Distance to Noise Contour (in feet) Ldn: CNFL:	70 0	dBA 175 184	65 (376 397	6	0 dBA 811 856	55 dBA 1,74 1.84						

FHWA-RD-77-108 HIGHWA	Y NOISI	E PREDIC	TION	NODEL (S	9/12/2	021)			
Scenario: E+P Road Name: Sierra Av. Road Segment: n/o Riverside Av.						Fontana Ind	dustrial C	;	
SITE SPECIFIC INPUT DATA	Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15 Vehicle Mix Vehicle Type Day Evening Night D. Autos: 71.9% 12.2% 15.9% 93 Medium Trucks: 75.3% 7.0% 17.7% 3 Heavy Trucks: 60.4% 12.0% 27.6% 2 Noise Source Elevations (in feet) Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0 Lane Equivalent Distance (in feet) Autos: 24.644 Heavy Trucks: 24.644 Heavy Trucks: 24.644 Heavy Trucks: 24.644 Heavy Trucks: 24.678 Distance Finite Road Fresnel Barrier Atten Berm A 4.51 -1.20 -4.56 0.000 0 4.50 -1.20 -5.65 0.000 0 4.50 -1.20 -5.65 0.000 0 4.51 -1.20								
Highway Data		Site Con							
Average Daily Traffic (Adt): 25,541 vehicles				· ,	Autos:	15			
Peak Hour Percentage: 8.81%		Me	dium Ti						
Peak Hour Volume: 2,250 vehicles		He	avy Tru	cks (3+ A	xles):	15			
Vehicle Speed: 55 mph		Vehiele	Aiu	-					
Near/Far Lane Distance: 50 feet					Dav	Evenina	Night	Daily	
Site Data		veni				•			
Barrier Height: 0.0 feet		Me						3.79%	
Barrier Type (0-Wall, 1-Berm): 0.0		ŀ	leavy 1						
Centerline Dist. to Barrier: 35.0 feet						0			
Centerline Dist. to Observer: 35.0 feet		Noise So				eet)			
Barrier Distance to Observer: 0.0 feet		Marthur							
Observer Height (Above Pad): 5.0 feet						Grade Ad	iustment	0.0	
Pad Elevation: 0.0 feet		Tieav	y mucr		504	Orade Auj	ustinent	0.0	
Road Elevation: 0.0 feet		Lane Equ	uivalen	t Distanc	e (in i	feet)			
Road Grade: 0.0%									
Left View: -90.0 degrees									
Right View: 90.0 degrees		Heav	y Trucł	(s: 24.)	678				
FHWA Noise Model Calculations									
					-				
Autos: 71.78 0.51								0.00	
Medium Trucks: 82.40 -13.40								0.00	
Heavy Trucks: 86.40 -14.52	4.	50	-1.20		-5.65	0.0	000	0.00	
Unmitigated Noise Levels (without Topo and barr	ier atte	nuation)							
VehicleType Leq Peak Hour Leq Day			Leq			-			
								76.	
								73	
								77.	
		75.5		73.5	,	00.0)	01.	
Centerline Distance to Noise Contour (in feet)	70	-10.4		-/0.4		0 -0 4		-0.4	
Ldn:		dBA	65	dBA	6	0 dBA		dBA	
Lan: CNEL:		179 189		386 407		832 878		1,793 1.891	
UNLL.		105		-01		070		1,00	

Thursday, February 24, 2022

FHV	VA-RD	-77-108 HIGH\	NAY N	NOISE	PREDIC	TION M	ODEL (9	/12/2	021)		
Scenario: EA 20 Road Name: Sierra Road Segment: n/o R	Av.	e Av.					Name: N umber: 1		Fontana Ind	lustrial C	
SITE SPECIF	IC IN	PUT DATA							L INPUTS	3	
Highway Data				1	Site Con	ditions	(Hard = :	10, So	oft = 15)		
Average Daily Traffic (A	(dt):	26,898 vehicle	s				A	utos:	15		
Peak Hour Percenta	age:	8.81%			Mee	dium Tri	ucks (2 A	xles):	15		
Peak Hour Volu	me:	2,370 vehicles			Hea	avy Truc	cks (3+ A	xles):	15		
Vehicle Spe	ed:	55 mph			Vehicle N	lix					
Near/Far Lane Distar	nce:	50 feet		H		cleType		Day	Evening	Night	Daily
Site Data				-				71.9%	•	15.9%	
Barrier Hei	aht.	0.0 feet			Me	dium Ti	rucks:	75.3%	5 7.0%	17.7%	3.78%
Barrier Type (0-Wall, 1-Be		0.0			H	leavy Ti	rucks: (50.4%	5 12.0%	27.6%	2.75%
Centerline Dist. to Bar		35.0 feet		-	N-: 0-			(i #	41		
Centerline Dist. to Obser	ver:	35.0 feet		-	Noise So	Auto:			eet)		
Barrier Distance to Obser	ver:	0.0 feet					0.0				
Observer Height (Above P	ad):	5.0 feet				n Truck			Grade Adji	unter ant	0.0
Pad Eleval	ion:	0.0 feet			Heav	y Truck	s: 8.0	04	Grade Adji	usuneni.	0.0
Road Eleval	tion:	0.0 feet		1	Lane Equ	iivalent	Distanc	e (in	feet)		
Road Gra	ade:	0.0%		Γ		Auto	s: 25.0	00			
Left V	iew:	-90.0 degree	s		Mediur	n Truck	s: 24.6	i44			
Right V	iew:	90.0 degree	s		Heav	y Truck	s: 24.6	78			
FHWA Noise Model Calcul	ations	;									
VehicleType REM	EL	Traffic Flow	Dista	ance	Finite	Road	Fresne	e/	Barrier Atte	en Ben	m Atten
	71.78	0.74		4.4	1	-1.20	-	4.54	0.0	00	0.000
Medium Trucks:	82.40	-13.19		4.5	1	-1.20	-	4.86	0.0	00	0.000
Heavy Trucks:	86.40	-14.56		4.5	0	-1.20	-	5.65	0.0	00	0.000
Unmitigated Noise Levels											
VehicleType Leq Pea				Leg E	vening	Leq	Night		Ldn		IEL
Autos:	75.		74.1		72.4		68.8		76.3		76.8
Medium Trucks:	72.		71.0		66.7		66.0		73.4		73.6
Heavy Trucks:	75.		2.7		71.7		70.6		77.3		77.6
Vehicle Noise:	79.		77.5		75.7		73.6		80.7		81.1
Centerline Distance to Noi	se Co	ntour (in feet)									
			. –	70 0	dBA	65	dBA		60 dBA	55	dBA
			.dn:		182		392		845		1,821 1.921
			IEL:		192		414		892		

FHWA-RD-77-108 HIGHWA	AY NOISE	PREDIC	TION M	ODEL (9/	12/202 [.]	1)		
Scenario: EAP 2024 Road Name: Sierra Av. Road Segment: n/o Riverside Av.						ntana Ind	ustrial C	
SITE SPECIFIC INPUT DATA	Job Number: 14283 Job Number: 14283 NPUT DATA NOISE MODE Site Conditions (Hard = 10, Site 27,164 vehicles Autos: 8.81% Medium Trucks (2 Axles) 2,393 vehicles Heavy Trucks (3+ Axles) 50 feet Vehicle Mix 0.0 feet Medium Trucks: 75.37 0.0 feet Noise Source Elevations (in f 35.0 feet Autos: 2.297 0.0 feet Medium Trucks: 2.297 0.0 feet Medium Trucks: 2.5000 0.0 feet Lane Equivalent Distance (in f 0.00 Autos: 2.5000 0.00 feet Lane Equivalent Distance (in f 0.00 Medium Trucks: 2.4644 0.00 feet Lane Equivalent Distance (in f 0.00 Medium Trucks: 2.4644 0.00 feet Lane Equivalent Distance (in f 0.90.00 degrees Medium Trucks: 2.4644 90.00 degrees Medium Trucks: 2.4678							
Highway Data	5	Site Con	ditions	(Hard = 1	0, Soft	= 15)		
Average Daily Traffic (Adt): 27,164 vehicles				AL	itos:	15		
Peak Hour Percentage: 8.81%						15		
Peak Hour Volume: 2,393 vehicles		Hei	avy Truc	:ks (3+ Ax	les):	15		
	1	Vehicle N	<i>lix</i>					
Near/Far Lane Distance: 50 feet	-			D	ay E	vening	Night	Daily
Site Data				Autos: 7	1.9%	12.2%	15.9%	93.29%
Barrier Height: 0.0 feet		Me	edium Tr	ucks: 7	5.3%	7.0%	17.7%	3.79%
· · · · · · · · · · · · · · · · · · ·		F	leavy Tr	ucks: 6	0.4%	12.0%	27.6%	2.92%
Centerline Dist. to Barrier: 35.0 feet		Noico So	urco El	wations	(in foot	1		
Centerline Dist. to Observer: 35.0 feet	-	10/30 00				/		
Barrier Distance to Observer: 0.0 feet		Modiur						
Observer Height (Above Pad): 5.0 feet						rade Adju	ustment:	0.0
Pad Elevation: 0.0 feet								
Road Elevation: 0.0 feet	L	Lane Equ				et)		
Road Grade: 0.0%					00			
Right View: 90.0 degrees		Heav	y Trucks	3: 24.67	'8			
FHWA Noise Model Calculations								
VehicleType REMEL Traffic Flow	Distance	Finite	Road	Fresnel	Ba	arrier Atte	n Berr	n Atten
Autos: 71.78 0.78	4.41	1	-1.20	-4	1.54	0.0	00	0.00
Medium Trucks: 82.40 -13.13	4.51	1	-1.20	-4	1.86	0.0	00	0.000
Heavy Trucks: 86.40 -14.27	4.50	0	-1.20	-5	5.65	0.0	00	0.00
Unmitigated Noise Levels (without Topo and ba	rrier atten	uation)						
VehicleType Leq Peak Hour Leq Day	Leg Ev		Leq	•	L	dn	CN	IEL
Autos: 75.8 74.		72.4		68.8		76.4		76.8
Medium Trucks: 72.6 71.		66.8		66.1		73.5		73.
Heavy Trucks: 75.4 73.	-	72.0		70.8		77.6		77.9
Vehicle Noise: 79.6 77.	7	75.8		73.8		80.9		81.3
Centerline Distance to Noise Contour (in feet)								
	70 c		65 (dBA	60	dBA	55 (dBA
						866		1.866
Ldı CNEI		187 197		402 424		914		1,969

FHWA-RD-77-1	08 HIGHWAY	NOISE	PREDIC	TION MO	DDEL (9	/12/20)21)	
Scenario: OYC 2024 Road Name: Sierra Av. Road Segment: n/o Riverside Av.					Vame: N mber: 1		ontana Ind	lustrial C
SITE SPECIFIC INPUT	DATA						L INPUTS	5
Highway Data			Site Con	ditions (Hard =	10, So	ft = 15)	
Average Daily Traffic (Adt): 29,99	6 vehicles				A	Autos:	15	
Peak Hour Percentage: 8.81	%		Me	dium Tru	cks (2 A	xles):	15	
Peak Hour Volume: 2,643	vehicles		He	avy Truc	ks (3+ A	xles):	15	
Vehicle Speed: 55	mph	-	Vehicle I	Mix				
Near/Far Lane Distance: 50	feet	-		icleType		Dav	Evening	Night Dai
Site Data			10.11			71.9%	•	15.9% 93.4
Barrier Height: 0.	0 feet		Me	edium Tru	icks:	75.3%	7.0%	17.7% 3.7
Barrier Type (0-Wall, 1-Berm): 0.			ŀ	leavy Tru	icks:	60.4%	12.0%	27.6% 2.7
	o 0 feet	H					0	
	0 feet	-	Noise So				et)	
Barrier Distance to Observer: 0.	0 feet		Martin	Autos				
Observer Height (Above Pad): 5.	0 feet			n Trucks v Trucks			Grade Adi	ustment: 0.0
Pad Elevation: 0.	0 feet		neav	y mucks	. 0.0	104	Graue Auji	Journeint. 0.0
Road Elevation: 0.	0 feet		Lane Equ	uivalent	Distanc	e (in f	eet)	
Road Grade: 0.0%	6			Autos	25.0	000		
Left View: -90.	0 degrees		Mediur	n Trucks	24.6	644		
Right View: 90.	0 degrees		Heav	y Trucks	24.6	678		
FHWA Noise Model Calculations								
		stance	Finite		Fresne		Barrier Atte	
Autos: 71.78	1.22	4.4		-1.20		4.54	0.0	
Medium Trucks: 82.40	-12.72	4.5		-1.20		4.86	0.0	
Heavy Trucks: 86.40	-14.09	4.5	0	-1.20		-5.65	0.0	00 0.
Unmitigated Noise Levels (without To								
	Leq Day	Leq E	vening	Leq N	•		Ldn	CNEL
Autos: 76.2	74.5		72.9		69.2		76.8	
Medium Trucks: 73.0	71.5		67.2		66.5		73.9	
Heavy Trucks: 75.6	73.2		72.2		71.0		77.8	
Vehicle Noise: 79.9	78.0		76.1		74.1		81.2	8
Centerline Distance to Noise Contour	(in feet)	=0	(2.4					
	L day	70	dBA	65 d		6	0 dBA	55 dBA
	Ldn: CNEL:		196 207		422 445		909 959	1,9
	UNEL:		207		445		959	2,0

	FHWA-RD	0-77-108 HIGH\	NAY NO	ISE PRED		MODEL (9/12/2	021)					
	io: OYCP 2024	Ļ						ontana Ind	dustrial C)			
	e: Sierra Av. nt: n/o Riversid	le Av.			Job I	Number:	14283						
SITE	SPECIFIC IN	PUT DATA				NOISE	IODE		5				
Highway Data				Site Co	nditions	: (Hard =	10, Sc	oft = 15)					
Average Daily	Traffic (Adt):	30,262 vehicle	s				Autos:	15					
Peak Hour	Percentage:	8.81%				rucks (2 /							
	lour Volume:	2,666 vehicles		F	leavy Tri	ıcks (3+)	Axles):	15					
	hicle Speed:	55 mph		Vehicle	Mix								
Near/Far La	ne Distance:	50 feet		Ve	hicleTyp	е	Day	Evening	Night	Daily			
Site Data						Autos:	71.9%	12.2%	15.9%	93.319			
Bai	rrier Height:	0.0 feet		1	Medium 1		75.3%	7.0%					
Barrier Type (0-W	/all, 1-Berm):	0.0			Heavy 1	rucks:	60.4%	12.0%	27.6%	2.90%			
Centerline Dis	st. to Barrier:	35.0 feet		Noise	Source E	levation	s (in fe	et)					
Centerline Dist.		35.0 feet			Auto		000						
Barrier Distance		0.0 feet		Medi	um Truci	ks: 2.	297						
Observer Height (5.0 feet		He	avy Truci	ks: 8.	004	Grade Adj	iustment	: 0.0			
	ad Elevation:	0.0 feet		Long E	avivalar	t Distan	o (in i	fa a tì					
	ad Elevation: Road Grade:	0.0 feet 0.0%		Lane E	Auto		000	eel)					
,	Left View:	-90.0 degree		Mod	um Truci		644						
	Right View:	90.0 degree			avy Truci		678		5) ing Night Deil 2% 15.9% 93.3 0% 17.7% 3.7 0% 27.6% 2.9 e Adjustment: 0.0 r Atten Berm Atte 0.000 0.0 0.000 0.0 CNEL 78.9 7 78.0 7 81.4 8 1 55 dBA				
FHWA Noise Mode	el Calculations	s											
VehicleType	REMEL	Traffic Flow	Distan	ce Finit	e Road	Fresr	-	Barrier Atte	en Ber	m Atten			
Autos:	71.78	1.25		4.41	-1.20		-4.54			0.00			
Medium Trucks:	82.40	-12.66		4.51	-1.20		-4.86			0.00			
Heavy Trucks:	86.40	-13.83		4.50	-1.20		-5.65	0.0	000	0.00			
Unmitigated Noise					1		1						
VehicleType Autos:	Leq Peak Hou 76		'4.6	q Evening 72.		Night 69.3		Ldn		VEL 77.			
Medium Trucks:	78		4.0 1.6	67.		66.5				74.			
Heavy Trucks:	75		'3.4	72.		71.3				74.			
Vehicle Noise:	80		8.1	76.		74.2				81.			
Centerline Distand	ce to Noise Co	ontour (in feet)											
				70 dBA		dBA	6	60 dBA					
			.dn:	20	-	431				2,002			
			IEL:	21		455							

Thursday, February 24, 2022

FHWA	RD-77-1	08 HIGH	WAY	NOISE	PREDIC	TION M	ODEL (9	/12/2	021)		
Scenario: E						Project	Name: N	lorth	Fontana Inc	lustrial C	; _
Road Name: Sierra Av						Job N	umber: 1	4283			
Road Segment: n/o Terra	i Vista Dr	r.								g Night Di % 15.9% 93 % 17.7% 3 % 27.6% 2. Adjustment: 0.0 2 Adjustment: 0.000 0 0.000 0 0 0.000 0 0 1.1 5.0 8.4	
SITE SPECIFIC	INPUT	DATA							L INPUTS	6	
Highway Data					Site Con	ditions	(Hard = 1	10, So	oft = 15)		
Average Daily Traffic (Adt)	: 12,44	2 vehicle	s				A	utos:	15		
Peak Hour Percentage	8.81	%			Me	dium Tri	icks (2 A	xles):	15		
Peak Hour Volume	: 1,096	vehicles	5		He	avy Truc	cks (3+ A.	xles):	15		
Vehicle Speed	55	5 mph		-	Vehicle I	<i>lix</i>					
Near/Far Lane Distance	: 50) feet		F		cleType	[Dav	Evening	Niaht	Daily
Site Data								71.9%	•	•	
Barrier Height	· 0	0 feet			Me	edium Ti	ucks: ī	75.3%	5 7.0%	17.7%	3.78%
Barrier Type (0-Wall, 1-Berm)					F	leavy Ti	ucks: 6	50.4%	12.0%	27.6%	2.75%
Centerline Dist. to Barrier		5 feet		-	N 0-			(in \$	4)		
Centerline Dist. to Observer	: 32.	5 feet		Ľ	Noise So	Auto:			eet)		
Barrier Distance to Observer	. 0.	0 feet					. 0.0				
Observer Height (Above Pad)	5.	0 feet				n Truck			Grada Adi	ustmont	
Pad Elevation	: 0.	0 feet			Heav	y Truck	s: 8.0	04	Graue Auj	usunen.	0.0
Road Elevation	: 0.	0 feet			Lane Equ	ıivalent	Distance	e (in	feet)		
Road Grade	: 0.0%	%				Auto	s: 21.3	60			
Left View	-90.	0 degree	s		Mediur	n Truck	s: 20.9	42			
Right View	90.	0 degree	s		Heav	y Truck	5. 20.9	83			
FHWA Noise Model Calculati	ons			I							
VehicleType REMEL	Traffi	ic Flow	Dis	stance	Finite	Road	Fresne	e/	Barrier Atte	en Ber	m Atten
Autos: 71.	78	-2.60		5.4	4	-1.20	-	4.52	0.0	00	0.000
Medium Trucks: 82	40	-16.54		5.5	7	-1.20	-	4.86	0.0	00	0.000
Heavy Trucks: 86.	40	-17.91		5.5	5	-1.20	-	5.71	0.0	00	0.000
Unmitigated Noise Levels (wi											
VehicleType Leq Peak F		Leq Day		Leq E	vening	Leq	Night		Ldn		
	73.4		71.7		70.1		66.4		74.0		74.5
	70.2		68.8		64.4		63.7		71.1		71.4
Heavy Trucks:	72.8		70.4		69.4		68.3		75.0		75.3
Vehicle Noise:	77.1	1	75.2		73.4		71.3		78.4		78.8
Centerline Distance to Noise	Contour	r (in feet)	_								
			L	70	dBA	65	dBA		60 dBA	55	dBA
			Ldn: IEL:		119 125		256 270		551 582		1,188 1.253

	FHWA-RI	0-77-108 HIGH	IWAY N	IOISE F	PREDIC	TION M	ODEL (9/1:	2/2021)		
Road Nam	io: E+P ne: Sierra Av. nt: n/o Terra V	ista Dr.					Name: Nor umber: 142	th Fontana Ind 83	dustrial C	;
SITE	SPECIFIC IN	IPUT DATA				N	OISE MO	DEL INPUTS	5	
Highway Data				S	ite Con	ditions	(Hard = 10,	Soft = 15)		
Average Daily	Traffic (Adt):	12,737 vehicle	es				Aut	os: 15		
Peak Hour	Percentage:	8.81%			Me	dium Tri	icks (2 Axle	es): 15		
Peak H	lour Volume:	1,122 vehicle	s		He	avy Tru	ks (3+ Axle	s): 15		
Ve	hicle Speed:	55 mph		V	ehicle l	Mix				
Near/Far La	ne Distance:	50 feet				icleType	Da	y Evening	Night	Daily
Site Data					veni			9% 12.2%		
		0.0 feet			Me	edium Ti	ucks: 75	3% 7.0%		
Barrier Type (0-W	rrier Height:	0.0 teet 0.0			F	leavy T	ucks: 60	4% 12.0%	27.6%	3.10
Centerline Di	. ,	32.5 feet							-	
Centerline Dist.		32.5 feet		N	loise So		evations (i			
Barrier Distance		0.0 feet				Auto	. 0.000			
Observer Height (5.0 feet				m Truck				
	ad Elevation:	0.0 feet			Heav	y Truck	8: 8.004	Grade Adj	ustment	: 0.0
Ro	ad Elevation:	0.0 feet		L	ane Equ	uivalent	Distance (in feet)		
	Road Grade:	0.0%				Auto				
	Left View:	-90.0 degree	es		Mediur	m Truck	s: 20.942			
	Right View:	90.0 degree			Heav	y Truck	s: 20.983		Night Da 15.9% 93. 17.7% 3. 27.6% 3. ijustment: 0.0 000 0 0000 0 0000 0 0000 0 0000 0 0000 0 0000 0 0000 0 0000 0 1 2 6 8 55 dBA 55 dBA	
FHWA Noise Mode	el Calculation	s								
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fresnel	Barrier Atte	en Ber	m Atten
Autos:	71.78	-2.52		5.44	Ļ	-1.20	-4.	52 0.0	00	0.00
		-16.41		5.57	7	-1.20	-4.	86 0.0	00	0.00
Medium Trucks:	82.40	-10.41				-1.20				
Medium Trucks: Heavy Trucks:	82.40 86.40	-17.30		5.55		-1.20	-5.	71 0.0	00	0.00
Heavy Trucks:	86.40	-17.30			5			71 0.0	00	0.00
Heavy Trucks:	86.40	-17.30 out Topo and	barrier		ation)	-1.20		Ldn	Ci	NEL
Heavy Trucks: Unmitigated Noise	86.40 E Levels (with	-17.30 out Topo and Ir Leq Day	barrier	attenu	ation)	-1.20	-5.		Ci	NEL
Heavy Trucks: Unmitigated Noise VehicleType Autos: Medium Trucks:	86.40 E Levels (with Leq Peak Hou 73 70	-17.30 out Topo and r Leq Day 3.5 4.4	barrier / 1 71.8 68.9	attenu	<i>iation)</i> <i>rening</i> 70.2 64.6	-1.20 Leq	-5. Night 66.5 63.8	Ldn 74.1 71.2	Ci	NEL 74 71
Heavy Trucks: Unmitigated Noise VehicleType Autos: Medium Trucks: Heavy Trucks:	86.40 e Levels (with Leq Peak Hou 73 70 73	-17.30 out Topo and r Leq Day .5 .4 .5	barrier / 1 71.8 68.9 71.0	attenu	<i>iation)</i> rening 70.2 64.6 70.0	-1.20 Leq	-5. Night 66.5 63.8 68.9	Ldn 74.1 71.2 75.6	Ci	NEL 74 71 75
Heavy Trucks: Unmitigated Noise VehicleType Autos: Medium Trucks:	86.40 E Levels (with Leq Peak Hou 73 70	-17.30 out Topo and r Leq Day .5 .4 .5	barrier / 1 71.8 68.9	attenu	<i>iation)</i> <i>rening</i> 70.2 64.6	-1.20 Leq	-5. Night 66.5 63.8	Ldn 74.1 71.2	Ci	NEL 74 71 75
Heavy Trucks: Unmitigated Noise VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	86.40 E Levels (with Leq Peak Hou 73 70 73 77	-17.30 out Topo and r Leq Day 5.5 .4 .5 .4	barrier 71.8 68.9 71.0 75.5	attenu Leq Eve	5 vening 70.2 64.6 70.0 73.7	-1.20 Leq	-5. Night 66.5 63.8 68.9 71.7	Ldn 74.1 71.2 75.6 78.8		NEL 74 71 75 79
Heavy Trucks: Unmitigated Noise VehicleType Autos: Medium Trucks: Heavy Trucks:	86.40 E Levels (with Leq Peak Hou 73 70 73 77	-17.30 out Topo and ir Leg Day 5.5 4.4 5.5 4.4 5.5 6.4 ontour (in feet	barrier 71.8 68.9 71.0 75.5	attenu	s vening 70.2 64.6 70.0 73.7 BA	-1.20 Leq	-5. Night 66.5 63.8 68.9 71.7	Ldn 74.1 71.2 75.6 78.8 60 dBA		NEL 74. 71. 75. 79. dBA
Heavy Trucks: Unmitigated Noise VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	86.40 E Levels (with Leq Peak Hou 73 70 73 77	-17.30 out Topo and rr Leq Day .5 .4 .5 .4 .5 .4 .5 .4 .5 .4 .5 .4 .5 .4 .5 .4 .5 .4 .5 .4 .5 .4 .5 .4 .5 .4 .5 .4 .5 .5 .4 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5	barrier 71.8 68.9 71.0 75.5	attenu Leq Eve	5 vening 70.2 64.6 70.0 73.7	-1.20 Leq	-5. Night 66.5 63.8 68.9 71.7	Ldn 74.1 75.6 78.8 60 dBA 581		74. 71. 75. 79. dBA 1,25

FHWA-RD-77-108 HIGI	IWAY NOIS	E PREDIC		DEL (9/12/2	2021)	
Scenario: EA 2024 Road Name: Sierra Av. Road Segment: n/o Terra Vista Dr.				ame: North hber: 14283	Fontana Ind	lustrial C
SITE SPECIFIC INPUT DATA			NO	ISE MOD	EL INPUTS	6
Highway Data		Site Con	ditions (H	ard = 10, S	oft = 15)	
Average Daily Traffic (Adt): 13,280 vehic	es			Autos	: 15	
Peak Hour Percentage: 8.81%		Me	dium Trucł	ks (2 Axles)	: 15	
Peak Hour Volume: 1,170 vehicle	s	He	avy Trucks	(3+ Axles)	: 15	
Vehicle Speed: 55 mph		Vehicle I	liv			
Near/Far Lane Distance: 50 feet			icleType	Dav	Evening	Night Daily
Site Data		ven	Aut		•	15.9% 93.47%
		Me	edium Truc			17.7% 3.78%
			leavv Truc	10.0		27.6% 2.75%
Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 32.5 feet						21.070 2.107
Centerline Dist. to Observer: 32.5 feet		Noise So	ource Elev	ations (in i	feet)	
Barrier Distance to Observer: 0.0 feet			Autos:	0.000		
Observer Height (Above Pad): 5.0 feet			m Trucks:	2.297		
Pad Elevation: 0.0 feet		Heav	y Trucks:	8.004	Grade Adji	ustment: 0.0
Road Elevation: 0.0 feet		Lane Eq	uivalent D	istance (in	feet)	
Road Grade: 0.0%			Autos:	21,360	,	
Left View: -90.0 degre	es	Mediur	n Trucks:	20.942		
Right View: 90.0 degre	es	Heav	y Trucks:	20.983		
FHWA Noise Model Calculations						
VehicleType REMEL Traffic Flow	Distance	Finite	Road	Fresnel	Barrier Atte	n Berm Atten
Autos: 71.78 -2.32	-	.44	-1.20	-4.52		
Medium Trucks: 82.40 -16.25	-	.57	-1.20	-4.86		
Heavy Trucks: 86.40 -17.63	5	.55	-1.20	-5.71	0.0	00 0.00
Unmitigated Noise Levels (without Topo and		,		1		
VehicleType Leq Peak Hour Leq Da		Evening	Leq Nig		Ldn	CNEL
Autos: 73.7	72.0	70.3		66.7	74.3	
Medium Trucks: 70.5	69.0	64.7		64.0	71.4	
Heavy Trucks: 73.1	70.7	69.7		68.5	75.3	
Vehicle Noise: 77.4	75.5	73.6		71.6	78.7	79.
Centerline Distance to Noise Contour (in fee						55 /04
		0 dBA	65 dB		60 dBA	55 dBA
	Ldn: NEL:	124		267	576	1,240
L. L.	NEL:	131		282	607	1,309

FHW	A-RD-	77-108 HIGH	WAY	NOISE	E PREDIC	TION	MODEL (9/12/2	021)		
Scenario: EAP 2 Road Name: Sierra Road Segment: n/o Te	Av.	ta Dr.					t Name: Number:		Fontana In	dustrial C	:
SITE SPECIFI	C INP	UT DATA					NOISE	NODE	L INPUT	s	
Highway Data					Site Con	ditions	; (Hard =	10, Sc	oft = 15)		
Average Daily Traffic (A	<i>dt):</i> 1	3,575 vehicle	s					Autos:	15		
Peak Hour Percenta	ge:	8.81%			Me	dium T	rucks (2)	Axles):	15		
Peak Hour Volur	ne: 1	,196 vehicles	6		Hei	avy Tru	ıcks (3+)	Axles):	15		
Vehicle Spe	ed:	55 mph			Vehicle N	lix					
Near/Far Lane Distan	ce:	50 feet			Vehi	cleTyp	e	Dav	Evening	Night	Daily
Site Data							Autos:	71.9%	•	•	93.129
Barrier Heig	ht:	0.0 feet			Me	dium 1	Trucks:	75.3%	7.0%	17.7%	3.809
Barrier Type (0-Wall, 1-Ber		0.0			F	leavy 1	Frucks:	60.4%	12.0%	27.6%	3.089
Centerline Dist. to Barr		32.5 feet			Noise So	uree F	Invotion	o lin fi	not)		
Centerline Dist. to Observ	/er:	32.5 feet			NUISE 30	Auto		000	el)		
Barrier Distance to Observ	/er:	0.0 feet			Mediur			297			
Observer Height (Above Pa	ad):	5.0 feet				y Truci		257	Grade Ad	iustment	0.0
Pad Elevati	ion:	0.0 feet			Tieav	y muci	NG. 0.	004	Orade Ha	Justinent	0.0
Road Elevati	ion:	0.0 feet			Lane Equ	ıivaler	t Distan	ce (in i	feet)		
Road Gra	de:	0.0%				Auto	os: 21.	360			
Left Vi	ew:	-90.0 degree	s		Mediur			942			
Right Vi	ew:	90.0 degree	es		Heav	y Truci	ks: 20.	983			
FHWA Noise Model Calcula	ations										
VehicleType REME		Traffic Flow	Dis	stance	Finite		Fresr		Barrier Att		m Atten
	1.78	-2.24		5.4		-1.20		-4.52		000	0.00
	2.40	-16.14		5.5		-1.20		-4.86		000	0.00
Heavy Trucks: 8	6.40	-17.05		5.8	55	-1.20		-5.71	0.0	000	0.00
Unmitigated Noise Levels			- T		<u> </u>			1		1	
VehicleType Leq Peal		Leq Day		Leq E	vening	Leq	Night		Ldn		VEL
Autos:	73.8		72.1		70.4		66.		74.4		74
Medium Trucks:	70.6		69.2		64.8		64.		71.	-	71.
Heavy Trucks:	73.7		71.3		70.3		69.		75.		76
Vehicle Noise:	77.7		75.8		73.9		71.9	9	79.	J	79
Centerline Distance to Nois	se Con	tour (in feet)) 	70	-10.4		-10.4		0 -0 4		-04
			L dn:	70	dBA	65	dBA		50 dBA		dBA
			Ldn:		130		281		605		1,30
		CI	VEL:		137		296	i i	638		1,374

Thursday, February 24, 2022

FHV	VA-RD	-77-108 HIGH	WAY	NOISE	PREDIC	TION M	ODEL (9	12/2	021)		
Scenario: OYC									ontana Ind	ustrial C	
Road Name: Sierra						Job N	umber: 1	4283			
Road Segment: n/o T	erra Vi	sta Dr.									
SITE SPECIF	IC IN	PUT DATA							L INPUTS		
Highway Data					Site Con	ditions	(Hard = 1	0, Sc	oft = 15)		
Average Daily Traffic (A	Adt):	17,355 vehicle	s					utos:			
Peak Hour Percente	age:	8.81%					icks (2 A				
Peak Hour Volu	me:	1,529 vehicles			He	avy Truc	cks (3+ A)	kles):	15		
Vehicle Spe		55 mph		-	Vehicle I	Mix					
Near/Far Lane Dista	nce:	50 feet		F	Veh	icleType	Ľ	Day	Evening	Night	Daily
Site Data							Autos: 7	1.9%	12.2%	15.9%	93.47%
Barrier Hei	aht:	0.0 feet			Me	edium Ti	ucks: 7	5.3%	7.0%	17.7%	3.78%
Barrier Type (0-Wall, 1-Be		0.0			F	leavy Ti	ucks: 6	0.4%	12.0%	27.6%	2.75%
Centerline Dist. to Bar	rier:	32.5 feet		H	Noise Sc	urco Fl	evations	(in fe	oof)		
Centerline Dist. to Obser	ver:	32.5 feet		- F	10130 00	Auto:					
Barrier Distance to Obser	ver:	0.0 feet			Modiu	n Truck	. 0.0				
Observer Height (Above P	ad):	5.0 feet				y Truck			Grade Adju	istment	0.0
Pad Eleva	tion:	0.0 feet									
Road Eleva	tion:	0.0 feet		1	Lane Eq		Distance		feet)		
Road Gra	ade:	0.0%				Auto		60			
Left V		-90.0 degree	s			n Truck					
Right V	iew:	90.0 degree	s		Heav	y Truck	s: 20.9	83			
FHWA Noise Model Calcul	lations	5									
VehicleType REMI	EL	Traffic Flow	Dis	stance	Finite	Road	Fresne	/	Barrier Atte	n Ber	m Atten
	71.78	-1.16		5.4	4	-1.20	-	4.52	0.00	00	0.000
Medium Trucks:	82.40	-15.09		5.5	7	-1.20	-	4.86	0.00	00	0.000
Heavy Trucks:	86.40	-16.47		5.5	5	-1.20	-	5.71	0.00	00	0.000
Unmitigated Noise Levels	(with	out Topo and I	barrie	er atten	uation)						
VehicleType Leq Pea				Leq E	vening	Leq	Night		Ldn	CI	IEL
Autos:	74		73.2		71.5		67.9		75.5		75.9
Medium Trucks:	71		70.2		65.9		65.2		72.6		72.8
Heavy Trucks:	74	-	71.9		70.8		69.7		76.5		76.8
Vehicle Noise:	78	.6	76.7		74.8		72.7		79.9		80.2
Centerline Distance to No.	ise Co	ntour (in feet)									
				70	dBA	65	dBA	6	60 dBA	55	dBA
		1	Ldn:		148		319		688		1,483
			IEL :		156		337		726		1.564

	E PREDICTION MODEL (9/12/2021)
Scenario: OYCP 2024 Road Name: Sierra Av. Road Segment: n/o Terra Vista Dr.	Project Name: North Fontana Industrial C Job Number: 14283
SITE SPECIFIC INPUT DATA	NOISE MODEL INPUTS
Highway Data	Site Conditions (Hard = 10, Soft = 15)
Average Daily Traffic (Adt): 17,650 vehicles	Autos: 15
Peak Hour Percentage: 8.81%	Medium Trucks (2 Axles): 15
Peak Hour Volume: 1,555 vehicles	Heavy Trucks (3+ Axles): 15
Vehicle Speed: 55 mph	Vehicle Mix
Near/Far Lane Distance: 50 feet	VehicleType Day Evening Night Daily
Site Data	Autos: 71.9% 12.2% 15.9% 93.20%
Barrier Height: 0.0 feet	Medium Trucks: 75.3% 7.0% 17.7% 3.79%
Barrier Type (0-Wall, 1-Berm): 0.0	Heavy Trucks: 60.4% 12.0% 27.6% 3.00%
Centerline Dist. to Barrier: 32.5 feet	Noise Source Elevations (in feet)
Centerline Dist. to Observer: 32.5 feet	Autos: 0.000
Barrier Distance to Observer: 0.0 feet	Medium Trucks: 2.297
Observer Height (Above Pad): 5.0 feet	Heavy Trucks: 8.004 Grade Adjustment: 0.0
Pad Elevation: 0.0 feet	
Road Elevation: 0.0 feet	Lane Equivalent Distance (in feet)
Road Grade: 0.0%	Autos: 21.360
Left View: -90.0 degrees	Medium Trucks: 20.942
Right View: 90.0 degrees	Heavy Trucks: 20.983
FHWA Noise Model Calculations	
VehicleType REMEL Traffic Flow Distance	Finite Road Fresnel Barrier Atten Berm Atten
	44 -1.20 -4.52 0.000 0.000
	57 -1.20 -4.86 0.000 0.000
Heavy Trucks: 86.40 -16.02 5.	55 -1.20 -5.71 0.000 0.000
Unmitigated Noise Levels (without Topo and barrier atte	
	Evening Leq Night Ldn CNEL
Autos: 74.9 73.2	71.6 67.9 75.5 76.0
Medium Trucks: 71.8 70.3	66.0 65.3 72.7 72.9 74.0 70.0 77.0
Heavy Trucks: 74.7 72.3 Vehicle Noise: 78.8 76.9	71.3 70.2 76.9 77.2 75.0 73.0 80.1 80.5
	75.0 73.0 80.1 80.8
Centerline Distance to Noise Contour (in feet)	dBA 65 dBA 60 dBA 55 dBA
Ldn:	154 332 715 1.540
Lan: CNEL:	154 332 /15 1,540 162 350 754 1.624
UNEL:	102 300 734 1,624

FHW	'A-RD-77	'-108 HIGH	IWAY	NOISE	PREDIC		IODEL (9)/12/20	021)		
Scenario: E Road Name: Sierra Road Segment: n/o Du		nyon Rd.					Name: N lumber: 1		ontana Inc	lustrial (;
SITE SPECIFI	C INPU	T DATA				N	IOISE N	IODE	L INPUTS	6	
Highway Data				1	Site Con	ditions	(Hard =	10, Sc	ft = 15)		
Average Daily Traffic (A	dt): 15,	184 vehicl	es					Autos:	15		
Peak Hour Percenta	qe: 8.	.81%			Me	dium Tr	ucks (2 A	xles):	15		
Peak Hour Volur	ne: 1,3	38 vehicle	s		He	avy Tru	cks (3+ A	xles):	15		
Vehicle Spe	ed:	55 mph		-	Vehicle I	Aire					
Near/Far Lane Distan	ce:	50 feet		-		icleType		Dav	Evening	Night	Daily
Site Data					ven			71.9%	•	15.9%	
					14	, dium T		75.3%		17.7%	
Barrier Heig		0.0 feet				leavv T		60.4%		27.6%	
Barrier Type (0-Wall, 1-Ber	· ·	0.0 32.5 feet				loary n	aono.	00.47	12.070	21.070	2.10
Centerline Dist. to Barr Centerline Dist. to Observ		32.5 feet		1	Noise So	urce El	evations	; (in fe	et)		
Barrier Distance to Observ		0.0 feet				Auto	s: 0.0	000			
Observer Height (Above Pa		5.0 feet				n Truck		297			
Pad Elevati	· ·	0.0 feet			Heav	y Truck	s: 8.0	004	Grade Adj	ustment	0.0
Road Elevati		0.0 feet			Lane Eq	uivalen	Distanc	e (in t	eet)		
Road Gra		.0%				Auto			,		
Left Vie	ew: -9	0.0 degre	es		Mediur	n Truck	s: 20.9	942			
Right Vie		0.0 degre			Heav	y Truck	s: 20.9	983			
FHWA Noise Model Calcula	ations										
VehicleType REME	L Tra	affic Flow	Dis	stance	Finite	Road	Fresn	el	Barrier Atte	en Ber	m Atter
	1.78	-1.74		5.4		-1.20		-4.52	0.0		0.00
	2.40	-15.67		5.5		-1.20		-4.86	0.0		0.00
Heavy Trucks: 8	6.40	-17.05		5.5	5	-1.20		-5.71	0.0	00	0.00
Unmitigated Noise Levels (Topo and	barri	er atten	uation)						
VehicleType Leq Peal		Leq Day		Leg Ei		Leq	Night		Ldn		VEL
Autos:	74.3		72.6		70.9		67.3		74.9		75
Medium Trucks:	71.1		69.6		65.3		64.6		72.0		72
Heavy Trucks:	73.7		71.3		70.3		69.1		75.9		76
Vehicle Noise:	78.0		76.1		74.2		72.2		79.3		79
Centerline Distance to Nois	se Conto	our (in feet)		1					I	
			. L	70 0		65	dBA	6	0 dBA	55	dBA
			Ldn:		136		292		629		1,356
		-	NEL		143		308		664		1.43

	FHWA-RD	-77-108 HIGHWA	Y NOISI	E PREDIC	TION MO	DEL (S	9/12/20)21)		
	o: E+P e: Sierra Av. nt: n/o Duncan	Canyon Rd.			Project N Job Nui			ontana Ind	dustrial C	:
SITE	SPECIFIC IN	PUT DATA							5	
Highway Data				Site Con	ditions (H	lard =	10, So	ft = 15)		
Average Daily	Traffic (Adt):	15,478 vehicles					Autos:	15		
Peak Hour	Percentage:	8.81%		Me	dium Truc	ks (2 A	xles):	15		
Peak H	our Volume:	1,364 vehicles		Hea	avy Truck	s (3+ A	xles):	15		
Ve	hicle Speed:	55 mph		Vehicle N	lix					
Near/Far La	ne Distance:	50 feet			cleType		Dav	Evening	Night	Daily
Site Data						tos:	71.9%	•	15.9%	
Bai	rier Height:	0.0 feet		Me	edium Tru	cks:	75.3%	7.0%	17.7%	3.80%
Barrier Type (0-W		0.0		F	leavy Tru	cks:	60.4%	12.0%	27.6%	3.04%
Centerline Dis	. ,	32.5 feet		Noise So	uree Ele	ations	lin fo	of)		
Centerline Dist.	to Observer:	32.5 feet		Noise 30	Autos:		000	el)		
Barrier Distance	to Observer:	0.0 feet		Mediur	n Trucks:		297			
Observer Height (Above Pad):	5.0 feet			y Trucks:			Grade Ad	iustment	0.0
	ad Elevation:	0.0 feet								
	ad Elevation:	0.0 feet		Lane Equ				eet)		
1	Road Grade:	0.0%			Autos:					
	Left View:	-90.0 degrees			n Trucks:					
	Right View:	90.0 degrees		Heav	y Trucks:	20.9	983			
FHWA Noise Mode	el Calculations									
VehicleType	REMEL	Traffic Flow D	istance	Finite	Road	Fresn	el I	Barrier Atte	en Ber	m Atten
Autos:	71.78	-1.67	5.4	44	-1.20		-4.52	0.0	000	0.00
Medium Trucks:	82.40	-15.57	5.		-1.20		-4.86		000	0.00
Heavy Trucks:	86.40	-16.54	5.	55	-1.20		-5.71	0.0	000	0.00
Unmitigated Noise	Levels (witho	ut Topo and barı	rier atte	nuation)						
VehicleType	Leq Peak Hour			ening	Leq N	ight		Ldn		VEL
Autos:	74.			71.0		67.4		75.0		75.
Medium Trucks:	71.			65.4		64.7		72.1		72.
Heavy Trucks:	74.			70.8		69.6		76.4		76.
Vehicle Noise:	78.	2 76.3	3	74.5		72.5		79.6	6	79.
Centerline Distand	e to Noise Co	ntour (in feet)	_				_			
				dBA	65 dE		6	0 dBA		dBA
		Ldn.		142		305		657		1,416
		CNEL		149		322		693		1,494

Thursday, February 24, 2022

FHWA	-RD-77	-108 HIGH	WAY	NOISE	PREDIC	TION M	ODEL (9	9/12/2	021)		
Scenario: EA 2024						Project	Name: N	lorth	Fontana Ind	ustrial (
Road Name: Sierra A	۷.					Job N	umber: 1	4283			
Road Segment: n/o Dune	can Ca	nyon Rd.									
SITE SPECIFIC	INPU	T DATA							L INPUTS	5	
Highway Data					Site Con	ditions	(Hard =	10, S	oft = 15)		
Average Daily Traffic (Adt)	: 16,	189 vehicle	es				A	Autos.	15		
Peak Hour Percentage	: 8.	81%			Me	dium Tri	ıcks (2 A	xles).	15		
Peak Hour Volume	: 1,4	26 vehicles	5		He	avy Tru	cks (3+ A	xles).	15		
Vehicle Speed	t:	55 mph		ŀ	Vehicle I	Mix					
Near/Far Lane Distance	e -	50 feet		-		icleType		Day	Evening	Night	Daily
Site Data							Autos:	71.9%	6 12.2%	15.9%	93.47%
Barrier Heigh		0.0 feet			Me	edium Ti	ucks:	75.3%	6 7.0%	17.7%	3.78%
Barrier Type (0-Wall, 1-Berm	-	0.0			ŀ	leavy Ti	ucks:	60.4%	6 12.0%	27.6%	2.75%
Centerline Dist. to Barrie		32.5 feet		ŀ	Noise So	urco El	ovations	(in f	ooti		
Centerline Dist. to Observe	r: 3	32.5 feet		ŀ	10130 00	Auto		000			
Barrier Distance to Observe	c	0.0 feet			Madiu	n Truck		297			
Observer Height (Above Pad,);	5.0 feet				y Truck		04	Grade Adju	istment	.00
Pad Elevation	r:	0.0 feet								Journoine	. 0.0
Road Elevation	r:	0.0 feet			Lane Equ	uivalent	Distanc	e (in	feet)		
Road Grade	e: 0.	.0%				Auto					
Left View	·: -9	0.0 degree	es			n Truck		942			
Right View	/: 9	0.0 degree	es		Heav	y Truck	s: 20.9	983			
FHWA Noise Model Calculati	ons										
VehicleType REMEL	Tra	affic Flow	Dis	stance	Finite	Road	Fresne	e/	Barrier Atte	n Ber	m Atten
Autos: 71.	78	-1.46		5.4	14	-1.20		-4.52	0.0	00	0.00
Medium Trucks: 82.	40	-15.39		5.5	57	-1.20		-4.86	0.0	00	0.00
Heavy Trucks: 86.	40	-16.77		5.5	55	-1.20		-5.71	0.0	00	0.00
Unmitigated Noise Levels (w	ithout	Topo and	barri	er atter	nuation)						
VehicleType Leq Peak I		Leq Day		Leq E	vening	Leq	Night		Ldn		NEL
Autos:	74.6		72.9		71.2		67.6		75.2		75.
Medium Trucks:	71.4		69.9		65.6		64.9		72.3		72.
Heavy Trucks:	74.0		71.5		70.5		69.4		76.2		76.
Vehicle Noise:	78.3		76.4		74.5		72.4		79.6		79.
Centerline Distance to Noise	Conto	ur (in feet))								
			Ι	70	dBA	65	dBA		60 dBA	55	dBA
											1.415
			Ldn: VEL:		142 149		305 322		657 693		1,410

FI FI	IWA-RD	0-77-108 HIGH	WAY N	OISE	PREDICT		ODEL (9	/12/20	121)		
Scenario: EAF									ontana Inc	lustrial C	2
Road Name: Sier						Job N	umber: 1	4283			
Road Segment: n/o	Duncan	Canyon Rd.									
SITE SPEC	FIC IN	PUT DATA								3	
Highway Data				s	Site Cond	litions (· ·	,		
Average Daily Traffic		16,484 vehicle	S					utos:	15		
Peak Hour Percer		8.81%					icks (2 A	/	15		
Peak Hour Vo		1,452 vehicles			Hea	ivy Truc	ks (3+ A)	kles):	15		
Vehicle S		55 mph		ν	/ehicle M	lix					
Near/Far Lane Dist	ance:	50 feet			Vehic	leType	L	Day	Evening	Night	Daily
Site Data						A	utos: 7	1.9%	12.2%	15.9%	93.18
Barrier H	eiaht:	0.0 feet			Me	dium Tr	ucks: 7	5.3%	7.0%	17.7%	3.80%
Barrier Type (0-Wall, 1-E		0.0			н	eavy Tr	ucks: 6	60.4%	12.0%	27.6%	3.02
Centerline Dist. to B	arrier:	32.5 feet			loise Sol	urce Eli	evations	(in fe	ef)		
Centerline Dist. to Obs	erver:	32.5 feet		-		Autos					
Barrier Distance to Obs	erver:	0.0 feet			Medium		. 0.0				
Observer Height (Above	Pad):	5.0 feet				/ Trucks			Grade Adj	ustment	0.0
Pad Elev	ation:	0.0 feet						•			
Road Elev		0.0 feet		L	ane Equ				ieet)		
Road G		0.0%				Autos					
	View:	-90.0 degree			Medium						
Right	View:	90.0 degree	s		Heavy	/ Trucks	20.9	83			
FHWA Noise Model Calc	ulations	s									
VehicleType REI		Traffic Flow	Dista		Finite F		Fresne		Barrier Atte		m Atten
Autos:	71.78	-1.40		5.44		-1.20		4.52	0.0		0.00
Medium Trucks:	82.40	-15.30		5.57		-1.20		4.86	0.0		0.00
Heavy Trucks:	86.40	-16.29		5.55	5	-1.20	-	5.71	0.0	00	0.00
Unmitigated Noise Level	s (with	out Topo and I	barrier	attenı	uation)						
	eak Hou			.eq Ev		Leq I	•		Ldn		NEL
Autos:	74		2.9		71.3		67.6		75.2		75.
Medium Trucks:	71		70.0		65.7		65.0		72.4		72
Heavy Trucks:	74	-	72.0		71.0		69.9		76.6		76.
Vehicle Noise:	78	.5	76.6		74.7		72.7		79.8		80.
Centerline Distance to N	oise Co	ontour (in feet)									
				70 d	IBA 🛛	65 0	1BA	6	0 dBA	55	dBA
			_dn: IEL :		147 155		318 335		684 722		1,474 1.55

	FHWA-RD	-77-108 HIGH	WAY NO	DISE F	REDIC		ODEL (9	/12/20	021)		
Scenario: O Road Name: S Road Segment: nj	ierra Av.	Canyon Rd.					Name: N umber: 1		ontana Inc	dustrial (C
SITE SPE	CIFIC IN	PUT DATA							L INPUTS	3	
Highway Data				Si	te Con	ditions	(Hard =	10, So	ft = 15)		
Average Daily Traff	fic (Adt):	20,263 vehicl	es					Autos:	15		
Peak Hour Perc	entage:	8.81%			Me	dium Tri	ucks (2 A	xles):	15		
Peak Hour	Volume:	1,785 vehicle	s		He	avy Truc	cks (3+ A	xles):	15		
Vehicle	Speed:	55 mph		V	ehicle I	Mix					
Near/Far Lane D	istance:	50 feet				icleType		Dav	Evening	Night	Daily
Site Data					1011			71.9%	•	15.9%	
Barrier	Height:	0.0 feet			Me	edium Ti	rucks:	75.3%	7.0%	17.7%	3.78%
Barrier Type (0-Wall, 1		0.0			ŀ	leavy Ti	rucks:	60.4%	12.0%	27.6%	2.75%
Centerline Dist. to	,	32.5 feet				_					
Centerline Dist. to O		32.5 feet		N	oise So		evations		et)		
Barrier Distance to O	bserver:	0.0 feet			1 4 m all	Auto					
Observer Height (Abov	ve Pad):	5.0 feet				n Truck			Grade Adj	untmont	
Pad El	evation:	0.0 feet			Heav	y Truck	s: 8.0	104	Grade Auj	usunen	. 0.0
Road El	levation:	0.0 feet		Lá	ane Equ	uivalent	Distanc	e (in f	eet)		
Road	Grade:	0.0%				Auto	s: 21.3	860			
Le	eft View:	-90.0 degre	es		Mediur	n Truck	s: 20.9	942			
Rig	ht View:	90.0 degre	es		Heav	y Truck	s: 20.9	983			
FHWA Noise Model Ca	lculations	5									
	EMEL	Traffic Flow	Distar		Finite		Fresn		Barrier Atte		rm Atten
Autos:	71.78	-0.49		5.44		-1.20		4.52	0.0		0.00
Medium Trucks:	82.40	-14.42		5.57		-1.20		4.86	0.0		0.00
Heavy Trucks:	86.40	-15.79		5.55		-1.20		-5.71	0.0	00	0.00
Unmitigated Noise Lev			barrier a	ttenu	ation)						
	Peak Hou			eq Eve	•	Leq	Night		Ldn		NEL
Autos:	75		73.9		72.2		68.6		76.1		76.
Medium Trucks:	72		70.9		66.6		65.8		73.2		73.
Heavy Trucks:	75		72.5		71.5		70.4		77.1		77.4
			77.4		75.5		73.4		80.6	i	80.9
Vehicle Noise:	79	.3									
)								
				70 dE		65	dBA	6	0 dBA	55	dBA
Vehicle Noise: Centerline Distance to		ntour (in feet) Ldn: NEL:	70 dE	BA 164 173	65	dBA 354 374	6	0 dBA 763 805	55	dBA 1,644 1,734

	FHWA-RD-7	7-108 HIGHW	AY NOI	SE PREDIO	TION I	NODEL (9/12/20	021)		
Scenario: Road Name: Road Segment:		anyon Rd.				t Name: I Number:		Fontana Ind	dustrial C	;
SITE SI	PECIFIC INP	UT DATA							S	
Highway Data				Site Cor	ditions	; (Hard =	10, Sc	oft = 15)		
Average Daily Tr	affic (Adt): 20),558 vehicles					Autos:	15		
Peak Hour Pe	ercentage:	8.81%		Me	dium T	rucks (2 A	Axles):	15		
Peak Hou	ir Volume: 1	,811 vehicles		He	avy Tru	icks (3+ A	Axles):	15		
	cle Speed:	55 mph		Vehicle	Mix					
Near/Far Lane	Distance:	50 feet		Veh	icleTyp	е	Day	Evening	Night	Daily
Site Data						Autos:	71.9%	12.2%	15.9%	93.249
Barri	er Height:	0.0 feet		M	edium 1	Trucks:	75.3%	7.0%	17.7%	3.799
Barrier Type (0-Wal		0.0			Heavy 1	Frucks:	60.4%	12.0%	27.6%	2.979
Centerline Dist.	to Barrier:	32.5 feet		Noise S	ource F	levation	s (in fa	oof)		
Centerline Dist. to	Observer:	32.5 feet		140/36 3	Auto		000	ei)		
Barrier Distance to	Observer:	0.0 feet		Mediu	m Truci		297			
Observer Height (Al	bove Pad):	5.0 feet			/y Truci		D04	Grade Ad	iustment	0.0
	Elevation:	0.0 feet								
	Elevation:	0.0 feet		Lane Eq		t Distand		leet)		
Ro		0.0%		A da alia	Auto					
		-90.0 degrees 90.0 degrees			m Truci /y Truci					
r	Right View:	90.0 degrees		i ica	ry muci	13. 20.	505			
FHWA Noise Model	Calculations									
VehicleType	REMEL 7	raffic Flow	Distanc	e Finite	Road	Fresh	el	Barrier Atte	en Ber	m Atten
Autos:	71.78	-0.43		5.44	-1.20		-4.52	0.0	000	0.00
Medium Trucks:	82.40	-14.34		5.57	-1.20		-4.86		000	0.00
Heavy Trucks:	86.40	-15.41		5.55	-1.20		-5.71	0.0	000	0.00
Unmitigated Noise L	.evels (withou	t Topo and ba	rrier at	tenuation)						
VehicleType L	eq Peak Hour	Leq Day	Leo	q Evening	Leq	Night		Ldn	C	VEL
Autos:	75.6	73		72.2		68.6		76.2		76.
Medium Trucks:	72.4	71		66.6		65.9		73.3		73.
Heavy Trucks:	75.3	72		71.9		70.8		77.5		77.
Vehicle Noise:	79.4	77	.5	75.7		73.6	6	80.8	3	81.
Centerline Distance	to Noise Con	tour (in feet)								
				70 dBA	65	dBA	6	60 dBA		dBA
		Lo		170		366		788		1,698
		CNE	1.	179		386		832		1.791

Thursday, February 24, 2022

			SE PRED		IODEL (9	/12/2	021)		
Scenario: E Road Name: Sierra Av. Road Segment: s/o Dwy. :					Name: N lumber: 1		Fontana Ind	lustrial C	
SITE SPECIFIC	INPUT DATA						L INPUTS	3	
Highway Data			Site Co	nditions	(Hard =	10, Sc	oft = 15)		
Average Daily Traffic (Adt):	15,538 vehicle	s			A	Autos:	15		
Peak Hour Percentage:	8.81%		٨	fedium Tr	ucks (2 A	xles):	15		
Peak Hour Volume:	1,369 vehicles	;	ŀ	leavy Tru	cks (3+ A	xles):	15		
Vehicle Speed:	55 mph		Vehicle	Mix					
Near/Far Lane Distance:	14 feet			hicleType		Dav	Evening	Night	Daily
Site Data						71.9%		15.9%	93.47%
Barrier Height:	0.0 feet			Medium T	rucks:	75.3%	7.0%	17.7%	3.78%
Barrier Type (0-Wall, 1-Berm):				Heavy T	rucks:	60.4%	12.0%	27.6%	2.75%
Centerline Dist. to Barrier:									
Centerline Dist. to Observer:			Noise	Source El			eet)		
Barrier Distance to Observer:				Auto	. 0.0				
Observer Height (Above Pad):	5.0 feet			um Truck	•••				
Pad Elevation:			He	avy Truck	s: 8.0	104	Grade Adji	ustment:	0.0
Road Elevation:	0.0 feet		Lane E	quivalent	t Distanc	e (in i	feet)		
Road Grade:	0.0%			Auto	s: 12.5	580			
Left View:		s	Med	um Truck	s: 11.8	356			
Right View:	90.0 degree	s	He	avy Truck	s: 11.9	28			
FHWA Noise Model Calculatio	ns		1						
VehicleType REMEL	Traffic Flow	Distanc	e Fini	e Road	Fresn	e/	Barrier Atte	en Ben	m Atten
Autos: 71.7	8 -1.64	;	8.89	-1.20		4.02	0.0	00	0.000
Medium Trucks: 82.4	0 -15.57	1	9.27	-1.20		4.82	0.0	00	0.000
Heavy Trucks: 86.4	0 -16.95	1	9.23	-1.20		6.72	0.0	00	0.000
Unmitigated Noise Levels (wit									
VehicleType Leq Peak H			Evening	,	Night		Ldn		VEL
		76.2	74	-	70.8		78.4		78.9
		73.4	69		68.4		75.8		76.0
	-	75.1 79.8	74		72.9		79.7		80.0
			77	9	75.9		83.0		83.4
Centerline Distance to Noise (Contour (in feet)		70 dBA	65	dBA	6	60 dBA	55	dBA
		Ldn:	9		214		462	55	995
		IEL:	10		214		402		1,049
	0.1		10	-	220		101		.,010

	FHWA-RD	0-77-108 HIGH	WAY NC	ISE PR	EDIC		ODEL (9	/12/20)21)				
Scenari Road Nam Road Segmer	e: Sierra Av.			Project Name: North Fontana Industrial C Job Number: 14283									
SITE	SPECIFIC IN	PUT DATA				N	OISE M	ODE		5			
Highway Data				Site	Con	ditions ('Hard = 1	0, So	ft = 15)				
Average Daily	Traffic (Adt):	15,947 vehicle	s				A	utos:	15				
Peak Hour	Percentage:	8.81%			Me	dium Tru	cks (2 A	kles):	15				
Peak H	our Volume:	1,405 vehicles	5		Hei	avy Truc	ks (3+ A	kles):	15				
Ve	hicle Speed:	55 mph		Vah	icle N	Aire							
Near/Far La	ne Distance:	14 feet		ven		cleType	1	Dav	Evening	Night	Daily		
Site Data				_	veni			71.9%		15.9%			
				-	Me	edium Tr		5.3%		17.7%			
	rrier Height:	0.0 feet 0.0				leavy Tr		6.0% 60.4%		27.6%			
Barrier Type (0-W Centerline Dis		0.0 13.5 feet								27.070	0.01		
Centerline Dist.		13.5 feet		Nois	se So	urce Ele	evations	(in fe	et)				
Barrier Distance		0.0 feet				Autos	0.0	00					
Observer Height (5.0 feet		M	lediur	n Trucks	: 2.2	97					
÷ (ad Elevation:	0.0 feet			Heav	y Trucks	: 8.0	04	Grade Adj	iustment	: 0.0		
	ad Elevation:	0.0 feet		Lan	e Fai	ivalent	Distance	o (in f	eet)				
	Road Grade:	0.0%			o Equ	Autos			000				
1	Left View:	-90.0 degree		M	lediur	n Trucks							
	Right View:	90.0 degree				y Trucks							
FHWA Noise Mode	el Calculation	5											
VehicleType	REMEL	Traffic Flow	Distan	ce F	inite	Road	Fresne	e/	Barrier Atte	en Ber	m Atter		
Autos:	71.78	-1.54		8.89		-1.20	-	4.02	0.0	000	0.0		
Medium Trucks:	82.40	-15.47		9.27		-1.20	-	4.82	0.0	000	0.0		
Heavy Trucks:	86.40	-16.45		9.23		-1.20	-	6.72	0.0	000	0.0		
Unmitigated Noise													
	Leq Peak Hou			eq Eveni		Leq I	•		Ldn		NEL		
Autos:	77		76.3		74.6		70.9		78.5		79		
Medium Trucks:	75		73.5		69.2		68.5		75.9		76		
Heavy Trucks:	78	-	75.6		74.5		73.4		80.2		80		
Vehicle Noise:	81		80.0		78.2		76.2		83.3	3	83		
Centerline Distanc	e to Noise Co	ontour (in feet,	1										
			🖵	70 dBA		65 c		6	0 dBA		dBA		
			Ldn:		104		224		483		1,04 1.09		
			VEL:		110		236		509				

F	HWA-RD-7	77-108 HIGH	WAY NOI	SE PREDIO	CTION M	ODEL (9	/12/20	21)		
Scenario: EA Road Name: Si Road Segment: s/o	erra Av.					Name: N umber: 1		ontana Inc	lustrial (0
SITE SPEC	IFIC INP	UT DATA						LINPUTS	3	
Highway Data				Site Con	ditions	(Hard =	10, So	ft = 15)		
Average Daily Traffi	c (Adt): 16	6,871 vehicle	s			A	Autos:	15		
Peak Hour Perce	entage:	8.81%		Me	edium Tru	icks (2 A	xles):	15		
Peak Hour V	olume: 1	,486 vehicles		He	avy Truc	:ks (3+ A	xles):	15		
Vehicle	Speed:	55 mph		Vehicle	Mix					
Near/Far Lane Di	stance:	14 feet			icleType		Dav	Evening	Night	Daily
Site Data				Ven			71.9%	12.2%	15.9%	
	In larket.	0.0.6		м	Iedium Tr		75.3%	7.0%	17.7%	
Barrier I		0.0 feet			Heavy Tr		60.4%		27.6%	
Barrier Type (0-Wall, 1- Centerline Dist. to	,	0.0 13.5 feet							21.070	2.1070
Centerline Dist. to Ob		13.5 feet		Noise Se			in fe	et)		
Barrier Distance to Ob		0.0 feet			Autos	s: 0.0	00			
Observer Height (Abov		5.0 feet		Mediu	m Trucks	s: 2.2	97			
Pad Ele	,	0.0 feet		Hear	vy Trucks	s: 8.0	04	Grade Adj	ustment	: 0.0
Road Ele		0.0 feet		Lane Eq	uivalont	Distanc	o (in f	oof)		
		0.0%		Lano Lq	Autos			000		
		-90.0 degree	e	Mediu	m Trucks					
	t View:	90.0 degree			vy Trucks					
FHWA Noise Model Cal	culations									
VehicleType RE	MEL 7	Traffic Flow	Distanc	e Finite	Road	Fresne	e/ I	Barrier Atte	en Ber	m Atten
Autos:	71.78	-1.28	8	3.89	-1.20		4.02	0.0	00	0.000
Medium Trucks:	82.40	-15.21	9	9.27	-1.20		4.82	0.0	00	0.000
Heavy Trucks:	86.40	-16.59	9	9.23	-1.20		6.72	0.0	00	0.000
Unmitigated Noise Leve		t Topo and I	barrier att	enuation)						
	Peak Hour	Leq Day		Evening		Night		Ldn		NEL
Autos:	78.2		76.5	74.8		71.2		78.8		79.2
Medium Trucks:	75.3		73.8	69.5		68.7		76.1		76.4
Heavy Trucks:	77.8		75.4	74.4		73.3		80.0		80.3
Vehicle Noise:	82.0		30.1	78.3		76.2		83.4		83.7
Centerline Distance to	Noise Com	tour (in feet)	-	0 -10 4	07	10.4	-	0.404		-/0.4
				0 dBA	65 (IBA	6	0 dBA	55	dBA
			Ldn:	105		226		488		1,051
		Cr	IEL:	111		239		514		1,108

	FHWA-RI	0-77-108 HIGH	WAY NO	ISE PRED	ICTION I	MODEL (9/12/20	021)		
	o: EAP 2024 e: Sierra Av. nt: s/o Dwy. 2					t Name: Number:		Fontana Ind	dustrial C	;
SITE S	SPECIFIC IN	IPUT DATA				NOISE	NODE	L INPUT	5	
Highway Data				Site Co	onditions	(Hard =	10, So	ft = 15)		
Average Daily	Traffic (Adt):	17.280 vehicle	s				Autos:	15		
Peak Hour	Percentage:	8.81%		٨	1edium T	rucks (2)	Axles):	15		
Peak H	our Volume:	1,522 vehicles	6	ŀ	leavy Tru	icks (3+)	Axles):	15		
Vel	hicle Speed:	55 mph		Vehicle	Mix					
Near/Far Lar	ne Distance:	14 feet			hicleTyp	<u>م</u>	Day	Evening	Night	Daily
Site Data					постур	Autos:	71.9%	•	15.9%	
	vier Height	0.0 fort		-	Medium		75.3%		17.7%	3.779
Barrier Type (0-W	rier Height:	0.0 feet 0.0			Heavy		60.4%		27.6%	2.99%
Centerline Dis	. ,	13.5 feet								
Centerline Dist.		13.5 feet		Noise		levation		et)		
Barrier Distance		0.0 feet			Auto		000			
Observer Height (5.0 feet			ium Truc		297			
• •	d Elevation:	0.0 feet		He	avy Truc	ks: 8.	004	Grade Adj	iustment.	0.0
	d Elevation:	0.0 feet		Lane E	quivaler	t Distan	ce (in f	feet)		
F	Road Grade:	0.0%			Auto	os: 12.	580	,		
	Left View:	-90.0 degree	s	Med	ium Truc	ks: 11.	856			
	Right View:	90.0 degree	s	He	avy Truc	ks: 11.	928			
FHWA Noise Mode										
VehicleType	REMEL	Traffic Flow	Distan		e Road	Fresr		Barrier Atte		m Atten
Autos:	71.78	-1.19		8.89	-1.20		-4.02		000	0.00
Medium Trucks:	82.40	-15.12		9.27	-1.20		-4.82		000	0.00
Heavy Trucks:	86.40	-16.13		9.23	-1.20		-6.72	0.0	000	0.00
Unmitigated Noise)					
	Leq Peak Hou			q Evening		Night		Ldn		VEL
Autos:	78		76.6	74		71.3		78.9		79.
Medium Trucks:	75		73.9	69		68.8		76.2		76.
Heavy Trucks:	78	-	75.9	74		73.7		80.5		80.
Vehicle Noise:	82		80.4	78	.5	76.5	Ď	83.6	5	84.
Centerline Distanc	e to Noise Co	ontour (in feet)								
				70 dBA		dBA		0 dBA		dBA
			Ldn: VEL:	10		236		508		1,09
		Cr	VEL:	11	5	249		536		1,154

Thursday, February 24, 2022

	FHWA-RE	0-77-108 HIGH	NAY NC	DISE P	REDIC		ODEL (9	/12/2	021)	_	_
	o: OYC 2024 e: Sierra Av. t: s/o Dwy. 2						Name: N umber: 1		Fontana Ind	ustrial C	
SITE S	SPECIFIC IN	IPUT DATA							L INPUTS		
Highway Data				Si	te Cond	ditions	(Hard = 1	10, So	oft = 15)		
Average Daily	Traffic (Adt):	21,600 vehicle	s				A	utos:	15		
Peak Hour I	Percentage:	8.81%			Med	dium Tru	icks (2 A	xles):	15		
Peak Ho	our Volume:	1,903 vehicles			Hea	avy Truc	:ks (3+ A)	xles):	15		
Vel	nicle Speed:	55 mph		Ve	hicle N	Niv					
Near/Far Lar	e Distance:	14 feet		Ve		cleType	1	Day	Evening	Night	Daily
Site Data				_	Verm			71.9%	•	15.9%	93.47%
				_	Me	dium Ti		75.3%		17.7%	3.78%
	rier Height:	0.0 feet				leavy Tr		50.4%		27.6%	2.75%
Barrier Type (0-Wa	. ,	0.0				icavy ii	<i>uch</i> 3. C	JO.4 /	12.070	21.070	2.107
Centerline Dis Centerline Dist. f		13.5 feet 13.5 feet		No	oise So	urce El	evations	(in f	eet)		
Barrier Distance f		0.0 feet				Autos	s: 0.0	00			
		5.0 feet			Mediun	n Trucks	s: 2.2	97			
Observer Height (/	d Elevation:				Heav	y Trucks	s: 8.0	04	Grade Adju	istment:	0.0
	d Elevation: d Elevation:	0.0 feet 0.0 feet		1 2	no Fau	uvəlont	Distance	o (in	foot)		
	a Elevation: Road Grade:			La	пе сци	Autos			ieeij		
r	Left View:	0.0%	-		Modium	n Truck					
	Right View:	-90.0 degree				y Trucks					
	Right view.	90.0 degree	s		i icav	y much	5. 11.9	20			
FHWA Noise Mode	I Calculation:	s									
VehicleType	REMEL	Traffic Flow	Distan	ice	Finite	Road	Fresne	e/	Barrier Atte	n Ben	m Atten
Autos:	71.78	-0.21		8.89		-1.20	-	4.02	0.00	00	0.000
Medium Trucks:	82.40	-14.14		9.27		-1.20	-	4.82	0.00	00	0.000
Heavy Trucks:	86.40	-15.52		9.23		-1.20	-	6.72	0.00	00	0.00
Unmitigated Noise	Levels (with	out Topo and I	oarrier a	ttenua	ation)						
VehicleType	Leq Peak Hou		Le	eq Eve		Leq	Night		Ldn	CI	IEL
Autos:	79	.3 7	7.6		75.9		72.3		79.9		80.3
Medium Trucks:	76	.3 7	74.9		70.6		69.8		77.2		77.5
Heavy Trucks:	78	.9	76.5		75.5		74.3		81.1		81.4
Vehicle Noise:	83	.1 8	31.2		79.3		77.3		84.4		84.8
Centerline Distanc	e to Noise Co	ontour (in feet)									
				70 dE	3A	65 (1BA	(60 dBA	55	dBA
			.dn:		124		267		575		1,239

F	HWA-RD	0-77-108 HIGH	WAY NO			IODEL (9/	12/20	21)	_	_
Scenario: O Road Name: Si Road Segment: slo	erra Av.	l				Name: No lumber: 14		ontana Inc	lustrial C	
SITE SPE	CIFIC IN	PUT DATA						INPUTS	3	
Highway Data				Site Cor	ditions	(Hard = 1	0, So	ft = 15)		
Average Daily Traffi	c (Adt):	22,009 vehicle	es			A	utos:	15		
Peak Hour Perce	entage:	8.81%		Me	dium Tr	ucks (2 Ax	(les):	15		
Peak Hour V	/olume:	1,939 vehicles	6	He	avy Tru	cks (3+ Ax	(les):	15		
Vehicle	Speed:	55 mph		Vehicle	Mix					
Near/Far Lane Di	stance:	14 feet			icleType)av	Evening	Night	Daily
Site Data							1.9%	12.2%	15.9%	
Barrier I	Unight	0.0 feet		м	edium T	rucks: 7	5.3%	7.0%	17.7%	
Barrier Type (0-Wall, 1-		0.0			Heavy T	rucks: 6	0.4%	12.0%	27.6%	2.94%
Centerline Dist. to		13.5 feet			-					
Centerline Dist. to Ob		13.5 feet		Noise S		levations		et)		
Barrier Distance to Ob	server:	0.0 feet			Auto	0.00				
Observer Height (Abov	e Pad):	5.0 feet			m Truck			~		
• •	evation:	0.0 feet		Hea	/y Truck	s: 8.00)4	Grade Adj	ustment	. 0.0
Road Ele	evation:	0.0 feet		Lane Eq	uivalen	t Distance	e (in fe	eet)		
Road	Grade:	0.0%			Auto	s: 12.58	30			
Le	ft View:	-90.0 degree	s	Mediu	m Truck	s: 11.85	56			
Righ	nt View:	90.0 degree	es	Hea	/y Truck	s: 11.92	28			
FHWA Noise Model Cal	culations	S		1						
VehicleType RE	EMEL	Traffic Flow	Distan	ce Finite	Road	Fresne	1 I	Barrier Atte	en Ber	m Atten
Autos:	71.78	-0.13		8.89	-1.20		4.02	0.0	00	0.00
Medium Trucks:	82.40	-14.07		9.27	-1.20	-4	4.82	0.0	00	0.00
Heavy Trucks:	86.40	-15.15		9.23	-1.20	-(6.72	0.0	00	0.00
Unmitigated Noise Lev				,						
	Peak Hou			q Evening		Night		Ldn		NEL
Autos:	79		77.7	76.0		72.4		79.9		80.
Medium Trucks:	76		74.9	70.6		69.9		77.3		77.
Heavy Trucks:	79		76.8	75.8		74.7		81.4		81.
Vehicle Noise:	83		81.4	79.5		77.5		84.7		85.0
Centerline Distance to	Noise Co	ontour (in feet)								10.4
				70 dBA	65	dBA	6	0 dBA	55	dBA
			Ldn: VEL:	128 135		276 291		594 626		1,279 1.349

FHWA-RD-77-108 HIGH	WAY NOI			ODEL (9	/12/20)21)		
Scenario: E Road Name: Riverside Av. Road Segment: e/o Sierra Av.				Name: N umber: 1		ontana Inc	lustrial (0
SITE SPECIFIC INPUT DATA						L INPUTS	6	
Highway Data		Site Cor	nditions	(Hard = :	10, So	ft = 15)		
Average Daily Traffic (Adt): 13,423 vehicle	s			A	Autos:	15		
Peak Hour Percentage: 8.81%		Me	edium Tru	icks (2 A	xles):	15		
Peak Hour Volume: 1,183 vehicles	3	He	eavy Truc	cks (3+ A	xles):	15		
Vehicle Speed: 55 mph		Vehicle	Mix					
Near/Far Lane Distance: 12 feet			nicleType	1	Dav	Evenina	Night	Daily
Site Data					71.9%		15.9%	
Barrier Height: 0.0 feet		М	ledium Ti	ucks:	75.3%	7.0%	17.7%	3.78%
Barrier Type (0-Wall, 1-Berm): 0.0			Heavy Tr	ucks: (60.4%	12.0%	27.6%	2.75%
Centerline Dist. to Barrier: 12.5 feet			-			0		
Centerline Dist. to Observer: 12.5 feet		Noise Se				et)		
Barrier Distance to Observer: 0.0 feet			Autos					
Observer Height (Above Pad): 5.0 feet			m Truck			Crada Adi	unternant	
Pad Elevation: 0.0 feet		Hea	vy Trucks	5. 8.0	104	Grade Adj	usument	. 0.0
Road Elevation: 0.0 feet		Lane Eq	uivalent	Distanc	e (in f	ieet)		
Road Grade: 0.0%			Autos	s: 12.0)52			
Left View: -90.0 degree	es	Mediu	m Trucks	s: 11.2	294			
Right View: 90.0 degree	es	Hear	vy Truck:	s: 11.3	870			
FHWA Noise Model Calculations								
VehicleType REMEL Traffic Flow	Distanc	e Finite	Road	Fresne	e/ i	Barrier Atte	en Ber	m Atten
Autos: 71.78 -2.27		9.17	-1.20	-	-3.95	0.0	00	0.000
Medium Trucks: 82.40 -16.21		9.59	-1.20		4.81	0.0		0.000
Heavy Trucks: 86.40 -17.58		9.54	-1.20	-	-6.84	0.0	00	0.000
Unmitigated Noise Levels (without Topo and	barrier at	tenuation)						
VehicleType Leq Peak Hour Leq Day		q Evening		Night		Ldn		NEL
	75.8	74.1		70.5		78.1		78.5
	73.1	68.8		68.1		75.5		75.1
Heavy Trucks: 77.2	74.7	73.7		72.6		79.3		79.6
						82.7		83.0
	79.5	77.6	i	75.5		02.7		00.0
Vehicle Noise: 81.4								
Vehicle Noise: 81.4 Centerline Distance to Noise Contour (in feet,		70 dBA		dBA		0 dBA		dBA
Vehicle Noise: 81.4 Centerline Distance to Noise Contour (in feet,								

FI	HWA-RD-77	-108 HIGHWAY	Y NOISE	PREDIC	TION M	ODEL (9	9/12/2	021)		
Scenario: E+ Road Name: Riv Road Segment: e/o	erside Av.					Name: 1 umber: 1		Fontana In	dustrial C	;
SITE SPEC		TDATA			N				6	
Highway Data				Site Cond					3	
Average Daily Traffic	(Adt): 13	452 vehicles					Autos:	,		
Peak Hour Perce	t) -)	4 <u>32</u> venicies 81%		Mer	dium Tru					
Peak Hour Vo		85 vehicles			avy Truc	,				
Vehicle S	,	55 mph	-							
Near/Far Lane Dis		12 feet	-	Vehicle N			_			0."
				Veni	cleType		Day 71.9%	Evening 12.2%	Night 15.9%	Daily 93.489
Site Data				140	ہ dium Tr		71.9%		15.9%	
Barrier H		0.0 feet			leavy Tr		75.3% 60.4%		27.6%	
Barrier Type (0-Wall, 1-	,	0.0		-	cavy II	0073.	00.4%	12.0%	21.0%	2.15
Centerline Dist. to E		2.5 feet		Noise So	urce Ele	evations	s (in fe	eet)		
Centerline Dist. to Obs		2.5 feet	ſ		Autos	:: 0.0	000			
Barrier Distance to Obs		0.0 feet		Mediun	n Trucks	: 2.2	297			
Observer Height (Above Pad Ele	,	5.0 feet 0.0 feet		Heav	y Trucks	: 8.0	004	Grade Ad	justment	0.0
Road Ele		0.0 feet	ŀ	Lane Equ	vivalent	Distanc	o (in i	foot)		
Road Lie		0.0 Teel .0%	ŀ	Lune Lyo	Autos			000		
		0.0 degrees		Mediur	n Trucks					
		0.0 degrees			y Trucks					
FHWA Noise Model Cald										
			istance	Finite		Fresn	-	Barrier Att		m Atten
Autos:	71.78	-2.26	9.1		-1.20		-3.95		000	0.00
Medium Trucks:	82.40	-16.21	9.5		-1.20		-4.81		000	0.00
Heavy Trucks:	86.40	-17.58	9.5	i4	-1.20		-6.84	0.0	000	0.00
Unmitigated Noise Leve				,						
	eak Hour	Leq Day		vening	Leq I			Ldn		VEL
Autos:	77.5	75.8		74.1		70.5		78.1		78
Medium Trucks:	74.6	73.1		68.8		68.1		75.5		75
Heavy Trucks: Vehicle Noise:	77.2	74.7		73.7		72.6		79.3 82.7		79.
				11.0		75.5	,	82.	1	83.
Centerline Distance to N	loise Conto	ur (in feet)	70	dBA	65 (0 dBA		dBA
		Ldn:		<i>aba</i> 88	00 (6			-
		CNEL:		88 92		189 199		406 429		87
								429		923

Thursday, February 24, 2022

	FHWA-RD	0-77-108 HIGH	WAY NO	ISE PR	EDIC.	TION M	ODEL (9	/12/2	021)		
Scenario: Road Name: Road Segment:	Riverside A						Name: N umber: 1		Fontana Inc	lustrial C	>
	ECIFIC IN	IPUT DATA							L INPUTS	3	
Highway Data				Site	Cond	ditions	(Hard =	10, So	oft = 15)		
Average Daily Tra	ffic (Adt):	14,245 vehicle	s				A	Autos:	15		
Peak Hour Pe	rcentage:	8.81%			Med	dium Tru	ucks (2 A	xles):	15		
Peak Hour	Volume:	1,255 vehicles			Hea	avy Truc	cks (3+ A	xles):	15		
Vehici	le Speed:	55 mph		Veh	icle N	lix					
Near/Far Lane	Distance:	12 feet		Ven		cleType		Day	Evening	Night	Daily
Site Data					10/11			71.9%	•	15.9%	
Barrio	r Height:	0.0 feet			Me	dium Ti	rucks:	75.3%	5 7.0%	17.7%	3.78%
Barrier Type (0-Wall,		0.0			н	leavy Tr	rucks:	60.4%	5 12.0%	27.6%	2.75%
Centerline Dist. t	,	12.5 feet		A/- 1	0-		evations	6 m #	41		
Centerline Dist. to (Observer:	12.5 feet		NOI	se 30	Auto:			eel)		
Barrier Distance to (Observer:	0.0 feet					0.0				
Observer Height (Ab	ove Pad):	5.0 feet		A		n Trucks			Grade Adj	untmont	
Pad I	Elevation:	0.0 feet			Heavy	y Trucks	s: 8.0	104	Graue Auj	usument	0.0
Road I	Elevation:	0.0 feet		Lan	e Equ	ivalent	Distanc	e (in	feet)		
Roa	d Grade:	0.0%				Autos	s: 12.0)52			
1	.eft View:	-90.0 degree	s	٨	lediun	n Trucks	s: 11.2	294			
Ri	ght View:	90.0 degree	s		Heavy	y Trucks	s: 11.3	870			
FHWA Noise Model C	alculation	s		_							
VehicleType	REMEL	Traffic Flow	Distand	ce l	=inite I	Road	Fresne	e/	Barrier Atte	en Ber	m Atten
Autos:	71.78	-2.02		9.17		-1.20		-3.95	0.0	00	0.00
Medium Trucks:	82.40	-15.95		9.59		-1.20		4.81	0.0	00	0.00
Heavy Trucks:	86.40	-17.33		9.54		-1.20		6.84	0.0	00	0.00
Unmitigated Noise Le								-			
	q Peak Hou			q Even		Leq	Night		Ldn		VEL
Autos:	77		76.1		74.4		70.8		78.3		78.
Medium Trucks:	74		73.4		69.1		68.3		75.7		76.
Heavy Trucks:	77		75.0		74.0		72.8		79.6		79.9
Vehicle Noise:	81	.6	79.7		77.8		75.8		82.9		83.3
Centerline Distance t	o Noise Co	ontour (in feet)									
				70 dBA		65 (dBA		50 dBA	55	dBA
			ـ								
			Ldn: IEL:		91 96		196 207		422 446		910 960

	FHWA-RI	D-77-108 HIGH	WAY NC	ISE PRE		IODEL (9	/12/20	21)		
Road Nam	io: EAP 2024 ne: Riverside A nt: e/o Sierra A					Name: N lumber: 1		ontana Ind	dustrial C	;
SITE	SPECIFIC IN	IPUT DATA				IOISE M	ODE		s	
Highway Data				Site	Conditions				-	
Average Daily	Traffic (Adt):	14,273 vehicle	es				lutos:	15		
Peak Hour	Percentage:	8.81%			Medium Tr	ucks (2 A	xles):	15		
Peak H	lour Volume:	1,257 vehicles	S		Heavy Tru	cks (3+ A	xles):	15		
Ve	hicle Speed:	55 mph		Vohi	cle Mix					
Near/Far La	ne Distance:	12 feet		vem	VehicleType	. 1	Day	Evening	Night	Daily
Site Data							71.9%	12.2%	15.9%	
Ba	rrier Heiaht:	0.0 feet			Medium T	rucks:	75.3%	7.0%	17.7%	3.77%
Barrier Type (0-W		0.0			Heavy T	rucks: (50.4%	12.0%	27.6%	2.75%
Centerline Di	st. to Barrier:	12.5 feet		Nois	e Source E	evations	(in fe	et)		
Centerline Dist.	to Observer:	12.5 feet			Auto			.,		
Barrier Distance	to Observer:	0.0 feet		14	edium Truck					
Observer Height ((Above Pad):	5.0 feet			leavy Truck			Grade Ad	iustment	0.0
Pa	ad Elevation:	0.0 feet			icavy mach	3. 0.0		,		
Roa	ad Elevation:	0.0 feet		Lane	Equivalen	t Distanc	e (in f	eet)		
	Road Grade:	0.0%			Auto	s: 12.0)52			
	Left View:	-90.0 degree	es	M	edium Truck	s: 11.2	94			
	Right View:	90.0 degree	es		leavy Truck	s: 11.3	70			
FHWA Noise Mode	el Calculation	s								
VehicleType	REMEL	Traffic Flow	Distan	ce F	inite Road	Fresne	e/	Barrier Atte	en Ber	m Atten
Autos:	71.78	-2.01		9.17	-1.20	-	3.95	0.0	000	0.00
Medium Trucks:		-15.95		9.59					000	0.00
	82.40	-15.95		9.59	-1.20	-	4.81	0.0	000	
Heavy Trucks:	82.40 86.40	-17.33		9.59 9.54	-1.20 -1.20		-4.81 -6.84		000	
	86.40	-17.33	barrier a	9.54	-1.20					
Unmitigated Noise VehicleType	86.40 e Levels (with Leq Peak Hou	-17.33 out Topo and Ir Leq Day	' Le	9.54 ttenuati eq Evenir	-1.20 on) ng Leq	Night		0.0 Ldn	000 C/	0.00
Unmitigated Noise VehicleType Autos:	86.40 e Levels (with Leq Peak Hou 77	-17.33 out Topo and ir Leq Day .7	76.1	9.54 ttenuati eq Evenir	-1.20 on) og Leq 74.4	Night 70.8		0.0 Ldn 78.3	000 CI	0.00 VEL 78.3
Unmitigated Noise VehicleType	86.40 e Levels (with Leq Peak Hou 77 74	-17.33 out Topo and r Leq Day .7 .8	76.1 73.4	9.54 ttenuati eq Evenir	-1.20 on) og Leq 74.4 59.1	Night 70.8 68.3		0.0 Ldn 78.3 75.7	000 CI	0.000 VEL 78.8 76.0
Unmitigated Noise VehicleType Autos: Medium Trucks: Heavy Trucks:	86.40 e Levels (with Leq Peak Hou 77 74 74 77	-17.33 out Topo and r Leq Day .7 .8	76.1	9.54 ttenuati eq Evenir	-1.20 on) og Leq 74.4	Night 70.8		0.0 Ldn 78.3	000 CI	0.000 VEL 78.8 76.0
Unmitigated Noise VehicleType Autos: Medium Trucks:	86.40 e Levels (with Leq Peak Hou 77 74 74 77	-17.33 out Topo and r Leq Day .7 .8 .4	76.1 73.4	9.54 ttenuati eq Evenir	-1.20 on) og Leq 74.4 59.1	Night 70.8 68.3	6.84	0.0 Ldn 78.3 75.7	000 C/	0.00 NEL 78.1 76.1 79.1
Unmitigated Noise VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	86.40 e Levels (with Leq Peak Hou 77 74 74 77 81	-17.33 out Topo and ir Leq Day .7 .8 .4 .6	76.1 73.4 75.0 79.7	9.54 ttenuati eq Evenir	-1.20 pg Leq 74.4 59.1 74.0 77.8	Night 70.8 68.3 72.8 75.8	-6.84	0.0 <i>Ldn</i> 78.3 75.7 79.6 82.9	000 <i>CI</i> 3 7 3	0.000 VEL 78.8 76.0 79.9 83.3
Unmitigated Noise VehicleType Autos: Medium Trucks: Heavy Trucks:	86.40 e Levels (with Leq Peak Hou 77 74 74 77 81	-17.33 out Topo and ir Leq Day .7 .8 .4 .6	76.1 73.4 75.0 79.7	9.54 ttenuati eq Evenir	-1.20 pg Leq 74.4 59.1 74.0 77.8	Night 70.8 68.3 72.8	-6.84	0.0 <i>Ldn</i> 78.3 75.7 79.6 82.9 0 dBA	000 <i>CI</i> 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	0.000 NEL 78.8 76.0 79.9
Unmitigated Noise VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	86.40 e Levels (with Leq Peak Hou 77 74 74 77 81	-17.33 out Topo and ir Leg Day 7 8 4 6 ontour (in feet	76.1 73.4 75.0 79.7	9.54 ttenuati eq Evenir	-1.20 pg Leq 74.4 59.1 74.0 77.8	Night 70.8 68.3 72.8 75.8	-6.84	0.0 <i>Ldn</i> 78.3 75.7 79.6 82.9	000 <i>CI</i> 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	0.000 NEL 78.8 76.0 79.9 83.3

	FHWA-RD)-77-108 HIGH	WAY NO	ISE PI	REDIC	TION M	ODEL (9/12/20	021)		
	: OYC 2024 : Riverside A : e/o Sierra A						Name: 1 umber: 1		ontana Inc	lustrial (
SITE S	PECIFIC IN	PUT DATA							L INPUTS	6	
Highway Data				Sit	e Con	ditions	(Hard =	10, Sc	ft = 15)		
Average Daily T	raffic (Adt):	15,221 vehicle	s					Autos:	15		
Peak Hour F	ercentage:	8.81%			Me	dium Tri	ucks (2 A	(xles):	15		
Peak Ho	ur Volume:	1,341 vehicles	6		He	avy Truc	cks (3+ A	(xles):	15		
Veh	icle Speed:	55 mph		Vo	hicle I	<i>Niv</i>					
Near/Far Lan	e Distance:	12 feet		ve		icleType		Dav	Evening	Night	Daily
Site Data					ven			71.9%	•	15.9%	
				_	M	, edium Ti		75.3%		17.7%	
	ier Height:	0.0 feet				leavy Ti		60.4%		27.6%	
Barrier Type (0-Wa	. ,	0.0				icavy n	uchs.	00.4 /0	12.070	21.070	2.1370
Centerline Dist		12.5 feet		No	ise So	urce El	evations	s (in fe	et)		
Centerline Dist. to		12.5 feet				Auto	s: 0.0	000			
Barrier Distance to		0.0 feet 5.0 feet			Mediui	n Truck	s: 2.2	297			
Observer Height (A	d Elevation:	0.0 feet			Heav	y Truck	s: 8.0	004	Grade Adj	ustment	: 0.0
	d Elevation:	0.0 feet		12	no Fai	uivalont	Distanc	o (in i	oof)		
	oad Grade:	0.0%		Lu	ne Equ	Auto			000		
~	Left View:	-90.0 degree			Mediuu	n Truck					
	Right View:	90.0 degree				ry Truck					
FHWA Noise Model	Calculations	5									
VehicleType	REMEL	Traffic Flow	Distan	ce	Finite	Road	Fresn	el	Barrier Atte	en Bei	rm Atten
Autos:	71.78	-1.73		9.17		-1.20		-3.95	0.0	00	0.000
Medium Trucks:	82.40	-15.66		9.59		-1.20		-4.81	0.0	00	0.000
Heavy Trucks:	86.40	-17.04		9.54		-1.20		-6.84	0.0	00	0.000
Unmitigated Noise			1								
	.eq Peak Hou			q Evei		Leq	Night		Ldn	-	NEL
Autos:	78		76.3		74.7		71.0		78.6		79.1
Medium Trucks:	75		73.7		69.3		68.6		76.0		76.3
Heavy Trucks:	77		75.3		74.3		73.1		79.9		80.2
Vehicle Noise:	81		80.0		78.1		76.1		83.2		83.6
Centerline Distance	to Noise Co	ntour (in feet)		70 dB	A 1	65	dBA	4	0 dBA	FF	dBA
			Ldn:	, u uB	ч 95	05	205 205		0 ава 442	55	<i>ава</i> 951
			Lan: VEL:		95 100		205		442		951 1.003
		CI	VLL.		100		216		466		1,003

	FHWA-RD-77	-108 HIGHWAY	(NOISE	PREDIC	TION M	ODEL (9/12/20)21)		
	OYCP 2024							ontana Ind	dustrial C	:
Road Name:					Job N	umber:	14283			
Road Segment:	e/o Sierra Av.									
	ECIFIC INPU	T DATA						L INPUT	5	
Highway Data				Site Cond	litions	(Hard =	10, So	ft = 15)		
Average Daily Tra	affic (Adt): 15,	249 vehicles					Autos:	15		
Peak Hour Pe	rcentage: 8.	81%		Med	lium Tri	ucks (2 A	Axles):	15		
Peak Hou	r Volume: 1,3	43 vehicles		Hea	avy Tru	cks (3+ A	Axles):	15		
		55 mph	ŀ	Vehicle N	lix					
Near/Far Lane	Distance:	12 feet	ŀ	Vehic	cleType		Day	Evening	Night	Daily
Site Data							71.9%	12.2%	15.9%	93.489
Barrie	r Height:	0.0 feet		Me	dium T	rucks:	75.3%	7.0%	17.7%	3.779
Barrier Type (0-Wall,		0.0		н	leavy Ti	rucks:	60.4%	12.0%	27.6%	2.75%
Centerline Dist.	,	2.5 feet	-	Noise So			- (i f.	- 41		
Centerline Dist. to	Observer:	2.5 feet	ŀ	NOISE SO	Auto		s (<i>in r</i> e 000	et)		
Barrier Distance to	Observer:	0.0 feet		Mediun			JUU 297			
Observer Height (Ab	ove Pad):	5.0 feet			/ Truck		297 D04	Grade Ad	ustment	0.0
Pad	Elevation:	0.0 feet		Tieav	y much	3. 0.	004	Orade Adj	ustinent.	0.0
Road	Elevation:	0.0 feet		Lane Equ	ivalent			ieet)		
Roa	ad Grade: 0	.0%			Auto	s: 12.	052			
1	Left View: -9	0.0 degrees		Mediun						
R	ight View:	0.0 degrees		Heav	/ Truck	s: 11.	370			
FHWA Noise Model C										
1 1 1			istance	Finite I		Fresn	-	Barrier Atte		m Atten
Autos:	71.78	-1.72	9.1		-1.20		-3.95		00	0.00
Medium Trucks: Heavy Trucks:	82.40 86.40	-15.66 -17.04	9.5 9.5		-1.20 -1.20		-4.81 -6.84		100 100	0.00
Heavy Trucks.	00.40	-17.04	9.0	14	-1.20		-0.04	0.0	00	0.00
Unmitigated Noise L									T	
	q Peak Hour	Leq Day	Leq E	vening	Leq	Night		Ldn		VEL
Autos:	78.0	76.4		74.7		71.0		78.6		79.
Medium Trucks:	75.1	73.7		69.3		68.6		76.0		76.
Heavy Trucks: Vehicle Noise:	77.7	75.3		74.3		73.1		79.9		80.
	81.9			78.1		76.1		83.2	-	83.
Centerline Distance t	o Noise Conto	ur (in feet)	70	-10.4	65			0 -10 4		104
		1 -1	70	dBA	65	dBA	-	0 dBA	55	dBA
		Ldn: CNEL:		95		205		442		952
		CNEL:		100		216		466		1,004

Thursday, February 24, 2022

-RD-7	7-108 HIGH	NAY	NOISE	PREDIC		ODEL (9	/12/2	021)		
	on Rd.								lustrial C	;
INP	UT DATA								6	
				Site Con	ditions	(Hard = '	10, So	oft = 15)		
):	425 vehicle	s				A	Autos:	15		
e: 8	3.81%			Me	dium Tri	icks (2 A	xles):	15		
e:	37 vehicles			He	avy Truc	cks (3+ A	xles):	15		
d:	45 mph		ŀ	Vehicle I	Mix					
e:	16 feet		ŀ				Dav	Evenina	Night	Daily
			-					•	15.9%	
<i>4</i> .	0.0 feet			Me					17.7%	
				ŀ	leavy T	ucks:	60.4%	12.0%	27.6%	2.75%
· · · · ·			-							
	19.0 feet		L.	Noise So				eet)		
r	0.0 feet					. 0.0				
	5.0 feet									
	0.0 feet			Heav	y Truck	s: 8.0	104	Grade Adji	usiment	0.0
n:	0.0 feet			Lane Eq	uivalent	Distanc	e (in	feet)		
e: (0.0%				Auto	s: 17.9	944			
v: -	90.0 degree	s		Mediui	n Truck	s: 17.4	44			
V:	90.0 degree	s		Heav	y Truck	s: 17.4	194			
		Dis								m Atten
										0.00
										0.00
-			-		-1.20		-6.24	0.0	00	0.00
		barrie								
			Leq E	•	Leq					VEL
										58. 55.
										55. 60.
										63.
• · · ·		13.0		30.0		50.0		03.1		03.
Cont	our (in feet)		70	dBA	65	dBA		60 dBA	55	dBA
			10						00	0.071
		dn:		7		14		31		66
	Canyura Av. : INP ::::::::::::::::::::::::::::::::::::	Canyon Rd. ra Av. INPUT DATA 21 A25 vehicles 8: 81% 8: 37 vehicles 32 vehicles 45 mph 9: 16 feet 45 mph 9: 16 feet 16 feet 17: 19.0 feet 17: 19.0 feet 17: 19.0 feet 17: 19.0 feet 17: 5.0 feet 10: 5.0 feet 1	Canyon Rd. ra Av. EINPUT DATA (245 vehicles e: 8.81% e: 37 vehicles d: 45 mph e: 16 feet (16 feet (17 19.0 feet (19.0 feet (1	Canyon Rd. ra Av. 2 INPUT DATA 2 State of the second se	Canyon Rd. ra Av. INPUT DATA Site Con 2: 425 vehicles 2: 435 mph Vehicle I 2: 16 feet Vehicle 2: 45 mph Vehicle I 3: 16 feet Vehicle 4: 0.0 feet Vehicle 7: 19.0 feet Vehicle 7: 19.0 feet Vehicle 7: 19.0 feet Vehicle Ve	Project Canyon Rd. Job N ra Av. Job N 2: INPUT DATA N Site Conditions. Site Conditions. 2: 8.81% Medium Tra. 2: 37 vehicles Heavy Truck 2: 45 mph Vehicle Mix 2: 45 mph Vehicle Mix 2: 10.0 feet Medium Tra. 4: 0.0 feet Medium Tra. 7: 19.0 feet Motise Source Element 7: 0.0 feet Medium Track 10: 0.0 feet Heavy Truck 10: 0.0 feet Lane Equivalent 10: 0.0 feet Lane Equivalent 10: 0.0 feet Lane Equivalent 10: 0.0 feet Jistance Finite Road 146 -16.39 6.57 -1.20	Project Name: Noise Number: 1 Canyon Rd. Job Number: 1 Ta Av. Job Number: 1 Site Conditions (Hard = 1): 425 vehicles A Site Conditions (Hard = 1): Asis A 2: 8.81% Medium Trucks (2 A 2: 8.81% Medium Trucks (2 A 2: 3.7 vehicles A 2: 16 feet Vehicle Mix 2: 16 feet Medium Trucks: (2 A 4: 45 mph Vehicle Mix 2: 16 feet Noise Source Elevations 4: 0.0 feet Medium Trucks: 0.0 1: 0.0 feet Autos: 0.0 1: 0.0 feet Medium Trucks: 0.0 1: 0.0 feet Autos: 0.0 1: 0.0 feet Autos: 17.2 1: 0.0 feet Lane Equivalent Distance Finite Road Fresn. 1: 0.0 degrees Medium Trucks: 17.2 12.2 1: 0.1 1.20 12.2 12.2 <td>Project Name: North Canyon Rd. Job Number: 14283 ra Av. Site Conditions (Hard = 10, St Site Conditions (Hard = 10, St Autos: s: 8.81% Medium Trucks (2 Ardes); e: 8.81% Medium Trucks (2 Ardes); e: 16 feet Vehicle Mix v: 10.0 feet Noise Source Elevations (In feet); r: 19.0 feet Noise Source Elevations (In feet); r: 19.0 feet Medium Trucks: 60.4% r: 19.0 feet Moise Source Elevations (In feet); r: 0.0 feet Medium Trucks: 2.297 D: 0.0 feet Lane Equivalent Distance (In feet); w: 90.0 degrees Finite Road Fresnel Autos: 17.944 Heavy Trucks: 17.444 Heavy Trucks: 17.444 Heavy Trucks: 17.444 Medium Trucks: 17.444 Heavy Trucks: 17.444 Heavy Trucks: 17.53 4.50.5 57.4 55.8 54.1 50.5 57.4<td>Project Name: North Fontana Inc. Job Number: 14283 Canyon Rd. ra Av. Site Conditions (Hard = 10, Soft = 15) Site Conditions (Hard = 10, Soft = 15) Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3 + Axles): 15 Vehicles R 37 vehicles Autos: 15 Heavy Trucks (3 + Axles): 15 Vehicle Mix Evening Autos: 71.9% 12.2% Medium Trucks: 73.5% 7.0% Medium Trucks: 75.3% 7.0% Medium Trucks: 71.9% 12.2% Medium Trucks: 71.9% Contr</td><td>Project Name: North Fontana Industrial C Canyon Rd. Job Number: 14283 Site Conditions (Hard = 10, Soft = 15) Conduct Soft = 10 Vehicle Mix Conduct Soft Soft Soft Soft Soft Soft Soft Sof</td></td>	Project Name: North Canyon Rd. Job Number: 14283 ra Av. Site Conditions (Hard = 10, St Site Conditions (Hard = 10, St Autos: s: 8.81% Medium Trucks (2 Ardes); e: 8.81% Medium Trucks (2 Ardes); e: 16 feet Vehicle Mix v: 10.0 feet Noise Source Elevations (In feet); r: 19.0 feet Noise Source Elevations (In feet); r: 19.0 feet Medium Trucks: 60.4% r: 19.0 feet Moise Source Elevations (In feet); r: 0.0 feet Medium Trucks: 2.297 D: 0.0 feet Lane Equivalent Distance (In feet); w: 90.0 degrees Finite Road Fresnel Autos: 17.944 Heavy Trucks: 17.444 Heavy Trucks: 17.444 Heavy Trucks: 17.444 Medium Trucks: 17.444 Heavy Trucks: 17.444 Heavy Trucks: 17.53 4.50.5 57.4 55.8 54.1 50.5 57.4 <td>Project Name: North Fontana Inc. Job Number: 14283 Canyon Rd. ra Av. Site Conditions (Hard = 10, Soft = 15) Site Conditions (Hard = 10, Soft = 15) Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3 + Axles): 15 Vehicles R 37 vehicles Autos: 15 Heavy Trucks (3 + Axles): 15 Vehicle Mix Evening Autos: 71.9% 12.2% Medium Trucks: 73.5% 7.0% Medium Trucks: 75.3% 7.0% Medium Trucks: 71.9% 12.2% Medium Trucks: 71.9% Contr</td> <td>Project Name: North Fontana Industrial C Canyon Rd. Job Number: 14283 Site Conditions (Hard = 10, Soft = 15) Conduct Soft = 10 Vehicle Mix Conduct Soft Soft Soft Soft Soft Soft Soft Sof</td>	Project Name: North Fontana Inc. Job Number: 14283 Canyon Rd. ra Av. Site Conditions (Hard = 10, Soft = 15) Site Conditions (Hard = 10, Soft = 15) Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3 + Axles): 15 Vehicles R 37 vehicles Autos: 15 Heavy Trucks (3 + Axles): 15 Vehicle Mix Evening Autos: 71.9% 12.2% Medium Trucks: 73.5% 7.0% Medium Trucks: 75.3% 7.0% Medium Trucks: 71.9% 12.2% Medium Trucks: 71.9% Contr	Project Name: North Fontana Industrial C Canyon Rd. Job Number: 14283 Site Conditions (Hard = 10, Soft = 15) Conduct Soft = 10 Vehicle Mix Conduct Soft Soft Soft Soft Soft Soft Soft Sof

FHV	/A-RD	-77-108 HIGH	WAY	NOISE	PREDIC	TION M	ODEL (9/1	12/2021)		
Scenario: E+P Road Name: Dunc Road Segment: e/o Si							Name: No umber: 14		tana Ind	dustrial (>
SITE SPECIF	IC IN	PUT DATA					IOISE MO			5	
Highway Data				3	Site Cond	litions	(Hard = 10), Soft =	= 15)		
Average Daily Traffic (A	dt):	683 vehicle	es				Au	itos:	15		
Peak Hour Percenta	ige:	8.81%			Med	lium Tri	ucks (2 Ax	les):	15		
Peak Hour Volu	me:	60 vehicles	6		Hea	avy Tru	cks (3+ Ax	les):	15		
Vehicle Spe	ed:	45 mph		1	Vehicle N	lix					
Near/Far Lane Distar	nce:	16 feet		E E		cleType	Di	av E	/ening	Night	Daily
Site Data									12.2%		95.93
Barrier Hei	aht.	0.0 feet			Me	dium T	ucks: 75	5.3%	7.0%	17.7%	2.359
Barrier Type (0-Wall, 1-Be		0.0			н	leavy Ti	ucks: 60	0.4%	12.0%	27.6%	1.719
Centerline Dist. to Bar		19.0 feet		,	Noise So	urco El	evations ((in foot)	1		
Centerline Dist. to Obser	ver:	19.0 feet		ŕ	10/36 30	Auto.					
Barrier Distance to Obser	ver:	0.0 feet			Mediun		0.00				
Observer Height (Above P	ad):	5.0 feet				v Truck			ade Ad	iustment	0.0
Pad Elevat	ion:	0.0 feet									
Road Elevat		0.0 feet		1	Lane Equ		Distance		t)		
Road Gra		0.0%				Auto					
Left Vi		-90.0 degree			Mediun						
Right Vi	iew:	90.0 degree	es		Heav	/ Truck	s: 17.49	14			
FHWA Noise Model Calcul	ations	:									
VehicleType REME		Traffic Flow	Dis	stance	Finite I		Fresnel		rrier Atte		m Atten
	68.46	-14.23		6.5		-1.20		.26		000	0.00
	79.45	-30.33		6.7	-	-1.20		.84		000	0.00
Heavy Trucks:	84.25	-31.70		6.74	4	-1.20	-6	.24	0.0	000	0.00
Unmitigated Noise Levels											
VehicleType Leq Pea				Leq E	•	Leq	Night	La			NEL
Autos:	59.	-	57.9		56.3		52.6		60.2		60.
Medium Trucks:	54.		53.2		48.9		48.2		55.6		55.
Heavy Trucks:	58.		55.7		54.6		53.5		60.3		60.
Vehicle Noise:	62.		60.8		59.0		56.7		63.9)	64.
Centerline Distance to Noi	se Co	ntour (in feet)									
			L	70 c		65	dBA	60 a			dBA
			Ldn:		7		16		35		75
		CI	VEL:		8		17		37		79

FH	WA-RD	-77-108 HIGH	WAY N	NOISE	PREDIC		ODEL (9)/12/20	21)		
Scenario: EA 2 Road Name: Duno Road Segment: e/o S	can Can						Name: N umber: 1		ontana Inc	lustrial (0
SITE SPECI	FIC INI	PUT DATA				N	OISE N	IODE		6	
Highway Data				4	Site Con	ditions	(Hard =	10, So	ft = 15)		
Average Daily Traffic (Adt):	451 vehicle	es					Autos:	15		
Peak Hour Percent	tage:	8.81%			Me	dium Tru	icks (2 A	xles):	15		
Peak Hour Vol	ume:	40 vehicle	s		He	avy Truc	:ks (3+ A	xles):	15		
Vehicle Sp	eed:	45 mph		- H	Vehicle I	Mix					
Near/Far Lane Dista	ance:	16 feet		H		icleType		Dav	Evening	Night	Daily
Site Data					ven			71.9%	12.2%	15.9%	
	i	0.0 feet			Me	edium Tr		75.3%	7.0%	17.7%	
Barrier He	-	0.0 teet			ŀ	Heavy Tr		60.4%		27.6%	
Barrier Type (0-Wall, 1-Be Centerline Dist. to Ba		19.0 feet									
Centerline Dist. to Obse		19.0 feet		1	Noise So				et)		
Barrier Distance to Obse		0.0 feet				Autos		000			
Observer Height (Above I		5.0 feet				m Trucks					
Pad Eleva		0.0 feet			Heav	ry Trucks	s: 8.0	004	Grade Adj	ustment	: 0.0
Road Eleva		0.0 feet			Lane Eq	uivalent	Distanc	e (in f	eet)		
Road G		0.0%		F		Autos					
Left		-90.0 degree	es		Mediui	m Trucks	: 17.4	144			
Right \		90.0 degree			Heav	y Trucks	s: 17.4	194			
FHWA Noise Model Calcu	Ilations										
VehicleType REM	1EL	Traffic Flow	Dist	ance	Finite	Road	Fresn	el I	Barrier Atte	en Ber	m Atten
Autos:	68.46	-16.14		6.5	7	-1.20		-4.26	0.0	00	0.000
Medium Trucks:	79.45	-30.07		6.7	6	-1.20		-4.84	0.0	00	0.000
Heavy Trucks:	84.25	-31.44		6.7	4	-1.20		-6.24	0.0	00	0.000
Unmitigated Noise Levels	s (witho	ut Topo and	barrier	r atten	uation)						
VehicleType Leq Pe	ak Hour	Leq Day	/	Leq E	vening	Leq	Night		Ldn	C	NEL
Autos:	57.	-	56.0		54.3		50.7		58.3		58.8
Medium Trucks:	54.9	-	53.5		49.2		48.4		55.8		56.1
Heavy Trucks:	58.		55.9		54.9		53.8		60.5		60.8
Vehicle Noise:	62.	D	60.1		58.2		56.3		63.4		63.7
Centerline Distance to No	oise Cor	ntour (in feet)								
Centerline Distance to No	oise Cor			70 0	dBA	65 0		6	0 dBA	55	dBA
Centerline Distance to No	oise Cor) Ldn: NEL:	70 (dBA 7 7	65 (1BA 15 16	6	0 dBA 32 34	55	dBA 69 73

	FHWA-RD	-77-108 HIGH	IWAY	NOISE	PREDIC	TION	IODEL (9/12/2	021)		
	EAP 2024 Duncan Car e/o Sierra A						t Name: lumber:		Fontana In	dustrial C	2
SITE S	PECIFIC IN	PUT DATA				1	OISE	MODE	L INPUT	s	
Highway Data				5	Site Con	ditions	(Hard =	10, Se	oft = 15)		
Average Daily T	raffic (Adt):	709 vehicl	es					Autos:	15		
Peak Hour F	Percentage:	8.81%			Me	dium Tr	ucks (2	Axles):	15		
Peak Ho	ur Volume:	62 vehicle	s		Hea	avy Tru	cks (3+ .	Axles):	15		
	icle Speed:	45 mph		1	/ehicle N	lix					
Near/Far Lan	e Distance:	16 feet			Vehi	cleType	9	Day	Evening	Night	Daily
Site Data							Autos:	71.9%	5 12.2%	15.9%	95.84
Barr	ier Height:	0.0 feet			Me	edium T	rucks:	75.3%	5.0%	17.7%	2.419
Barrier Type (0-Wa		0.0			F	leavy T	rucks:	60.4%	6 12.0%	27.6%	1.75
Centerline Dist	. ,	19.0 feet			loise So		lovation	e (in f	oof)		
Centerline Dist. to	Observer:	19.0 feet		<i>'</i>	10/36 30	Auto		000	eel)		
Barrier Distance to	Observer:	0.0 feet			Mediur			297			
Observer Height (A	bove Pad):	5.0 feet				y Truck		004	Grade Ad	iustment	· 0.0
Pad	d Elevation:	0.0 feet								Juotinioni	. 0.0
Road	d Elevation:	0.0 feet		L	ane Equ	iivalen			feet)		
R	oad Grade:	0.0%				Auto		.944			
	Left View:	-90.0 degre			Mediur			.444			
	Right View:	90.0 degre	es		Heav	y Truck	(S. 17.	.494			
FHWA Noise Model	Calculations	5									
VehicleType	REMEL	Traffic Flow		stance	Finite		Fresi		Barrier Att		m Atten
Autos:	68.46	-14.07		6.57		-1.20		-4.26		000	0.00
Medium Trucks:	79.45	-30.07		6.76		-1.20		-4.84		000	0.00
Heavy Trucks:	84.25	-31.44		6.74	1	-1.20		-6.24	0.0	000	0.00
Unmitigated Noise			-		<u> </u>			-			
	.eq Peak Hou			Leq Ev		Leq	Night		Ldn		NEL
Autos: Medium Trucks:	59. 54.		58.1 53.5		56.4 49.2		52. 48.		60.4 55.4		60. 56.
Heavy Trucks:	54. 58.		55.9		49.2 54.9		48.		55. 60.		50. 60.
Vehicle Noise:	62		61.0		59.2		57.	-	64.		64
					00.2		07.	•	01.		01.
Centerline Distance	to Noise Co	mour (in feet	, 	70 c	IBA	65	dBA		50 dBA	55	dBA
			Ldn:		8		17		36		7
		~	NEL:		8		18		38		8

Thursday, February 24, 2022

FHWA	-RD-77-10	8 HIGH	NAY NO	ISE	PREDIC	TION M	ODEL (S	0/12/2	021)		
Scenario: OYC 20 Road Name: Duncan Road Segment: e/o Sien	Canyon R	d.					Name: N umber: 1		Fontana Ind	lustrial C	
SITE SPECIFIC		ΠΑΤΑ				N	OISE N				
Highway Data	INFOT 1			s	ite Con						
Average Daily Traffic (Adt	. 45	l vehicle	s					Autos:	15		
Peak Hour Percentage		%			Mee	dium Tru	icks (2 A	xles):	15		
Peak Hour Volume	e: 40	vehicles			Hea	avy Truc	ks (3+ A	xles):	15		
Vehicle Speed	1: 45	mph			ehicle A			-			
Near/Far Lane Distance	: 16	feet		V		l ix cleType		Dav	Evening	Night	Daily
Site Data					veni			71.9%	•	15.9%	93.47
					Me	dium Tr		75.3%		17.7%	3.78
Barrier Heigh Barrier Type (0-Wall, 1-Berm) feet				leavy Tr		60.4%		27.6%	2.75
Centerline Dist. to Barrie) feet									
Centerline Dist. to Observe) feet		٨	loise So				eet)		
Barrier Distance to Observe) feet				Autos		000			
Observer Height (Above Pad) feet				n Trucks		297			
Pad Elevation) feet			Heav	y Trucks	s: 8.0	004	Grade Adj	ustment:	0.0
Road Elevation) feet		L	ane Equ	ivalent	Distanc	e (in	feet)		
Road Grade				F		Autos					
Left Viev	0.07	,) dearee	e		Mediur	n Trucks	5: 17.4	144			
Right Viev) degree			Heav	y Trucks	5: 17.4	194			
FHWA Noise Model Calculati	ons										
VehicleType REMEL	Traffic	: Flow	Distan	ce	Finite	Road	Fresn	e/	Barrier Atte	n Ben	m Atte
Autos: 68	46	-16.14		6.57	,	-1.20		-4.26	0.0	00	0.0
Medium Trucks: 79		-30.07		6.76		-1.20		-4.84	0.0		0.0
Heavy Trucks: 84	25	-31.44		6.74	ļ.	-1.20		-6.24	0.0	00	0.0
Unmitigated Noise Levels (w	ithout To	po and l	oarrier a	ttenı	uation)						
VehicleType Leq Peak I		Leq Day		q Ev	ening	Leq			Ldn		IEL
Autos:	57.7		56.0		54.3		50.7		58.3		58
Medium Trucks:	54.9		53.5		49.2		48.4		55.8		56
Heavy Trucks:	58.3		55.9		54.9		53.8		60.5		60
Vehicle Noise:	62.0	6	50.1		58.2		56.3		63.4		63
Centerline Distance to Noise	Contour	(in feet)									
				70 d		65 0		6	60 dBA	55	dBA
		1	dn:		7		15		32		6
			IEL:		7		16		34		7

	FHWA-RD	-77-108 HIGH	NAY NO	DISE P	REDICT		ODEL (9/	12/20	21)		
	o: OYCP 2024 e: Duncan Ca t: e/o Sierra A	nyon Rd.					Name: No umber: 14		ontana In	dustrial	2
SITE	SPECIFIC IN	PUT DATA				N		ODE		s	
Highway Data				Si	te Conc		Hard = 1			-	
Average Daily	Traffic (Adt):	709 vehicle	s				A	utos:	15		
• •	Percentage:	8.81%	-		Med	lium Tru	cks (2 Ax	les):	15		
	our Volume:	62 vehicles			Hea	vy Truc	ks (3+ Ax	les):	15		
Vel	nicle Speed:	45 mph		16	ehicle M	liv	-				
Near/Far Lar	ne Distance:	16 feet		Ve		leType		ay	Evening	Night	Daily
Site Data				_	venic			ay 1.9%	12.2%	15.9%	
					Mo	н dium Tr		1.9% 5.3%		17.7%	
	rier Height:	0.0 feet				eavy Tr		0.4%		27.6%	
Barrier Type (0-W	. ,	0.0				eavy III	uch3. 0	0.470	12.070	27.07	1.757
Centerline Dis		19.0 feet		No	oise Sou	urce Ele	evations	(in fe	et)		
Centerline Dist.		19.0 feet 0.0 feet				Autos	0.00	00			
Observer Height (5.0 feet			Medium	n Trucks	2.29	97			
	d Elevation:	0.0 feet			Heavy	/ Trucks	: 8.00)4	Grade Ad	iustmen	t: 0.0
	d Elevation: d Elevation:	0.0 feet		1.2	ane Fau	ivalent	Distance	(in f	eet)		
	o Elevation. Road Grade:	0.0 reet			ine Equ	Autos			,		
1	Left View:	-90.0 degree	~		Medium						
	Right View:	90.0 degree				/ Trucks					
	•		3		,						
FHWA Noise Mode											
VehicleType	REMEL	Traffic Flow	Distai		Finite F		Fresne		Barrier Att		rm Atten
Autos:	68.46 79.45	-14.07		6.57 6.76		-1.20		4.26		000	0.00
Medium Trucks: Heavy Trucks:	79.45 84.25	-30.07 -31.44		6.76		-1.20 -1.20		1.84 5.24		000 000	0.00
						-1.20	-(0.24	0.0	000	0.00
Unmitigated Noise											
	Leq Peak Hou			eq Eve		Leq I	•		Ldn		NEL
Autos:	59		58.1		56.4		52.8		60.4		60.
Medium Trucks:	54		53.5 55.9		49.2 54.9		48.4 53.8		55.8 60.9		56.
Heavy Trucks: Vehicle Noise:	58		5.9 31.0		54.9 59.2		53.8		60.8		60. 64
			01.0		59.2		0.10		04.1	I	04.
Centerline Distanc	e to Noise Co	ntour (in feet)	-							1	
				70 dE		65 c		6	0 dBA		i dBA
			dn:		8 8		17 18		36 38		77
		C1	IEL								82



APPENDIX 9.1:

CADNAA OPERATIONAL NOISE MODEL INPUTS





14283 - North Fontana Industrial Complex (Acacia)

CadnaA Noise Prediction Model: 14283_06.cna Date: 10.04.22 Analyst: S. Shami

Calculation Configuration

comparat	ion
Parameter	Value
General	
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	999.99
Min. Length of Section (#(Unit,LEN))	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID		Level Lr		Lir	nit. Valı	ue		Land	Use	Height		Co	oordinates	
			Day	Night	CNEL	Day	Night	CNEL	Туре	Auto	Noise Type			Х	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	47.9	46.6	53.1	70.0	65.0	0.0				5.00	а	6203818.88	2369608.45	5.00
RECEIVERS		R2	41.9	40.5	47.0	55.0	45.0	0.0				5.00	а	6204145.47	2368250.83	5.00
RECEIVERS		R3	41.3	40.2	46.6	55.0	45.0	0.0				5.00	а	6204146.23	2367149.21	5.00
RECEIVERS		R4	47.0	46.0	52.4	70.0	65.0	0.0				5.00	а	6202651.19	2366912.74	5.00
RECEIVERS		R5	45.6	44.5	50.9	70.0	65.0	0.0				5.00	а	6201448.49	2367611.31	5.00

Point Source(s)

		C(3)														
Name	M.	ID	R	esult. PW	/L		Lw/L	i	Op	erating Ti	me	Heigh	t	C	oordinates	
			Day	Evening	Night	Туре	Value	norm.	Day	Special	Night			Х	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		AC01	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6202950.70	2368797.49	50.00
POINTSOURCE		AC02	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6203718.63	2368788.89	50.00
POINTSOURCE		AC03	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6203563.98	2369036.99	50.00
POINTSOURCE		AC04	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6203567.70	2369460.06	50.00
POINTSOURCE		PARK01	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203690.95	2368327.25	5.00
POINTSOURCE		PARK02	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203689.73	2368384.13	5.00
POINTSOURCE		PARK03	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6202908.09	2368459.74	5.00
POINTSOURCE		PARK04	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6202908.50	2368548.30	5.00
POINTSOURCE		PARK05	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6202909.15	2368651.08	5.00
POINTSOURCE		PARK06	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6202913.64	2368722.08	5.00
POINTSOURCE		PARK07	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203760.63	2368760.17	5.00
POINTSOURCE		PARK08	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203759.93	2368654.12	5.00
POINTSOURCE		PARK09	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	a	6203758.22	2368553.55	5.00

Name	M.	ID	R	esult. PW	'L		Lw/L	i	Op	erating Ti	me	Heigh	t	C	oordinates	
			Day	Evening	Night	Туре	Value	norm.	Day	Special	Night			Х	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		PARK10	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203757.53	2368448.59	5.00
POINTSOURCE		PARK11	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203648.06	2368827.69	5.00
POINTSOURCE		PARK12	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203564.98	2368829.11	5.00
POINTSOURCE		PARK13	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203475.28	2368827.35	5.00
POINTSOURCE		PARK14	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203363.75	2368827.06	5.00
POINTSOURCE		PARK15	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203255.60	2368833.27	5.00
POINTSOURCE		PARK16	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203147.36	2368834.01	5.00
POINTSOURCE		PARK17	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203097.85	2368880.78	5.00
POINTSOURCE		PARK18	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203194.07	2368880.24	5.00
POINTSOURCE		PARK19	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203313.20	2368877.12	5.00
POINTSOURCE		PARK20	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203418.18	2368877.53	5.00
POINTSOURCE		PARK21	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203526.37	2368873.50	5.00
POINTSOURCE		PARK22	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203611.69	2368875.33	5.00
POINTSOURCE		PARK23	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203684.97	2368876.27	5.00
POINTSOURCE		PARK24	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203749.67	2368951.72	5.00
POINTSOURCE		PARK25	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203665.50	2368953.15	5.00
POINTSOURCE		PARK26	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203704.56	2368999.50	5.00
POINTSOURCE		PARK27	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203632.43	2369001.82	5.00
POINTSOURCE		PARK28	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203494.06	2369031.51	5.00
POINTSOURCE		PARK29	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203740.32	2369495.33	5.00
POINTSOURCE		PARK30	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203687.85	2369496.22	5.00
POINTSOURCE		PARK31	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203628.80	2369496.13	5.00
POINTSOURCE		PARK32	87.8	87.8	87.8	Lw	87.8		900.00	0.00	540.00	5.00	а	6203492.41	2369449.24	5.00
POINTSOURCE		TRASH01	89.0	89.0	89.0	Lw	89.0		150.00	0.00	90.00	5.00	а	6203027.72	2368392.12	5.00
POINTSOURCE		TRASH02	89.0	89.0	89.0	Lw	89.0		150.00	0.00	90.00	5.00	а	6203634.54	2368388.88	5.00
POINTSOURCE		TRASH03	89.0	89.0	89.0	Lw	89.0		150.00	0.00	90.00	5.00	а	6203486.58	2369078.41	5.00
POINTSOURCE		TRASH04	89.0	89.0	89.0	Lw	89.0		150.00	0.00	90.00	5.00	а	6203488.94	2369390.65	5.00

Line Source(s)

	• •																		
М.	ID	R	esult. PW	Ľ	R	esult. PW	Ľ'		Lw / Li		Op	erating Ti	me		Moving	Pt. Src		Heigh	nt
		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)	
	TRUCK01	90.9	76.4	81.8	73.8	59.2	64.7	PWL-Pt	93.2					114.0	4.0	14.0	6.2	8	а
	TRUCK02	95.9	81.3	86.8	73.8	59.2	64.7	PWL-Pt	93.2					114.0	4.0	14.0	6.2	8	а
	TRUCK03	90.5	75.9	81.4	73.8	59.2	64.7	PWL-Pt	93.2					114.0	4.0	14.0	6.2	8	а
	TRUCK04	100.7	86.1	91.6	73.8	59.2	64.7	PWL-Pt	93.2					114.0	4.0	14.0	6.2	8	а
	M.	TRUCK01 TRUCK02 TRUCK03	Day Comparison Day (dBA) (dBA) TRUCK01 90.9 TRUCK02 95.9 TRUCK03 90.5	Day Evening (dBA) (dBA) TRUCK01 90.9 76.4 TRUCK02 95.9 81.3 TRUCK03 90.5 75.9	Day Evening Night (dBA) (dBA) (dBA) TRUCK01 90.9 76.4 81.8 TRUCK02 95.9 81.3 86.8 TRUCK03 90.5 75.9 81.4	Image Day Evening Night Day (dBA) (dBA) (dBA) (dBA) (dBA) TRUCK01 90.9 76.4 81.8 73.8 TRUCK02 95.9 81.3 86.8 73.8 TRUCK03 90.5 75.9 81.4 73.8	Day Evening Night Day Evening (dBA) (dBA) (dBA) (dBA) (dBA) TRUCK01 90.9 76.4 81.8 73.8 59.2 TRUCK02 95.9 81.3 86.8 73.8 59.2 TRUCK03 90.5 75.9 81.4 73.8 59.2	Image: Normal System Day Evening System Night Day Evening System Night Image: Normal System (dBA) (dBA)	Image Day Evening Night Day Evening Night Type (dBA) (dBA) (dBA) (dBA) (dBA) (dBA) (dBA) (dBA) TRUCK01 90.9 76.4 81.8 73.8 59.2 64.7 PWL-Pt TRUCK02 95.9 81.3 86.8 73.8 59.2 64.7 PWL-Pt TRUCK03 90.5 75.9 81.4 73.8 59.2 64.7 PWL-Pt	Image: Name of the system of the sy	Image Day Evening Night Day Evening Night Type Value norm. (dBA) (dBA	Day Evening Night Day Evening Night Type Value norm. Day (dBA) (min) TRUCK01 90.9 76.4 81.8 73.8 59.2 64.7 PWL-Pt 93.2 TRUCK02 95.9 81.3 86.8 73.8 59.2 64.7 PWL-Pt 93.2 TRUCK03 90.5 75.9 81.4 73.8 59.2 64.7 PWL-Pt 93.2	Image: Day Evening Night Day Evening Night Day Evening Night Type Value norm. Day Special (dBA) (min) (min) TRUCK01 90.9 76.4 81.8 73.8 59.2 64.7 PWL-Pt 93.2	Image: Normal system Day Evening Night Type Value norm. Day Special Night Main (dBA) (dBA)	Image: Normal Market	Day Evening Night Day Evening Night Type Value norm. Day Special Night Number (dBA) (dB	Image: Name of the system of the sy	Image: Name of the streng st	Image: Normal system Day Evening Night Day Evening Night Type Value norm. Day Special Night Image: Night Night Night Image: Night Night

Name	ŀ	lei	ght		Coordinat	es	
	Begin		End	x	У	z	Ground
	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
LINESOURCE	8.00	а		6203012.33	2368363.75	8.00	0.00
				6202842.45	2368362.37	8.00	0.00
LINESOURCE	8.00	а		6202882.94	2368362.70	8.00	0.00
				6202888.90	2368897.17	8.00	0.00
LINESOURCE	8.00	а		6203517.73	2369068.10	8.00	0.00
				6203516.22	2368913.71	8.00	0.00
LINESOURCE	8.00	а		6202846.53	2368902.03	8.00	0.00
				6202888.90	2368897.17	8.00	0.00
				6202901.64	2368912.55	8.00	0.00
				6202920.45	2368918.47	8.00	0.00
				6202933.97	2368918.24	8.00	0.00
				6203516.22	2368913.71	8.00	0.00
				6203766.66	2368906.17	8.00	0.00
				6203789.35	2368895.39	8.00	0.00
				6203790.51	2368412.89	8.00	0.00
				6203780.75	2368389.14	8.00	0.00
				6203773.21	2368373.67	8.00	0.00
				6203756.40	2368363.56	8.00	0.00
				6203739.64	2368356.57	8.00	0.00
				6203649.19	2368353.89	8.00	0.00

Area Source(s)

Name	М.	ID	R	esult. PW	Ľ	Re	esult. PW	L''		Lw/L	i	Op	erating Ti	me	Height	t
			Day	Evening	Night	Day	Evening	Night	Туре	Value	norm.	Day	Special	Night	(ft)	Π
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		Π
AREASOURCE		DOCK01	111.5	111.5	111.5	71.3	71.3	71.3	Lw	111.5		900.00	0.00	540.00	8	a
AREASOURCE		DOCK02	111.5	111.5	111.5	76.1	76.1	76.1	Lw	111.5		900.00	0.00	540.00	8	а

Name	ŀ	lei	ght			Coordinat	es	
	Begin		End		х	У	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
AREASOURCE	8.00	а			6203041.99	2368467.16	8.00	0.00
					6203622.42	2368462.12	8.00	0.00
					6203621.96	2368403.70	8.00	0.00
					6203649.68	2368403.23	8.00	0.00

Name	Height					Coordinat	es	
	Begin		End		х	У	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
					6203648.45	2368280.12	8.00	0.00
					6203010.20	2368287.08	8.00	0.00
					6203013.52	2368406.53	8.00	0.00
					6203040.95	2368406.07	8.00	0.00
AREASOURCE	8.00	а			6203474.86	2369401.30	8.00	0.00
					6203550.40	2369402.60	8.00	0.00
					6203549.09	2369351.56	8.00	0.00
					6203610.19	2369351.06	8.00	0.00
					6203607.21	2369144.20	8.00	0.00
					6203546.10	2369144.17	8.00	0.00
					6203545.46	2369067.96	8.00	0.00
					6203472.23	2369068.34	8.00	0.00

Barrier(s)

Name	М.	ID	Abso	rption	Z-Ext.	Canti	lever	F	lei	ght	Coordinates				
			left	right		horz.	vert.	Begin		End	x	У	z	Ground	
					(ft)	(ft)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)	
BARRIEREXISTING		0						7.00	а		6204161.81	2370285.93	7.00	0.00	
											6204125.96	2367015.82	7.00	0.00	
BARRIERTEMP		0						14.00	а		6203649.92	2368403.25	14.00	0.00	
											6203649.60	2368371.34	14.00	0.00	
BARRIERTEMP		0						14.00	а		6203649.41	2368335.89	14.00	0.00	
											6203648.86	2368280.12	14.00	0.00	

Building(s)

	01		1								
Name	М.	ID	RB	Residents	Absorption	Height			Coordinat	es	
						Begin		x	У	z	Ground
						(ft)		(ft)	(ft)	(ft)	(ft)
BUILDING		BUILDING00001	х	0		45.00	а	6202931.62	2368816.91	45.00	0.00
								6203741.92	2368806.90	45.00	0.00
								6203737.71	2368401.73	45.00	0.00
								6203621.96	2368403.70	45.00	0.00
								6203622.42	2368462.12	45.00	0.00
								6203041.99	2368467.16	45.00	0.00
								6203040.95	2368406.07	45.00	0.00
								6202924.67	2368408.04	45.00	0.00
BUILDING		BUILDING00002	х	0		45.00	а	6203552.23	2369473.72	45.00	0.00
								6203781.63	2369472.50	45.00	0.00
								6203774.99	2369018.60	45.00	0.00
								6203545.05	2369019.29	45.00	0.00
								6203546.10	2369144.17	45.00	0.00
								6203607.21	2369144.20	45.00	0.00
								6203610.19	2369351.06	45.00	0.00
								6203549.09	2369351.56	45.00	0.00

Ground Absorption(s)

Name	М.	ID	G	Coord	inates
				х	У
				(ft)	(ft)
GROUND		0	1.0	6203807.85	2367020.69
				6203883.57	2370250.68
				6204126.37	2370232.67
				6204087.39	2367016.66



APPENDIX 10.1:

CADNAA CONSTRUCTION NOISE MODEL INPUTS





14283 - North Fontana Industrial Complex (Acacia) CadnaA Noise Prediction Model: 14283_06_Construction.cna

CadnaA Noise Prediction Model: 14283_06_Construction.cna Date: 10.04.22 Analyst: S. Shami

Calculation Configuration

Configurat	tion
Parameter	Value
General	
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	999.99
Min. Length of Section (#(Unit,LEN))	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID		Level Lr		Lir	ue		Use	Height		Coordinates				
			Day	Night	CNEL	Day	Night	CNEL	Туре	Auto	Noise Type			Х	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	59.2	59.2	65.9	70.0	65.0	0.0				5.00	а	6203818.88	2369608.45	5.00
RECEIVERS		R2	45.8	45.8	52.5	55.0	45.0	0.0				5.00	а	6204145.47	2368250.83	5.00
RECEIVERS		R3	42.3	42.3	49.0	55.0	45.0	0.0				5.00	а	6204146.23	2367149.21	5.00
RECEIVERS		R4	47.3	47.3	53.9	70.0	65.0	0.0				5.00	а	6202651.19	2366912.74	5.00
RECEIVERS		R5	46.0	46.0	52.7	70.0	65.0	0.0				5.00	а	6201448.49	2367611.31	5.00

Area Source(s)

		1-7														_
Name	М.	ID	R	Result. PWL			Result. PWL"			Lw/L	i	Ope	Height	t		
			Day	Evening	Night	Day	Evening	Night	Туре	Value	norm.	Day	Special	Night	(ft)	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
SITEBOUNDARY		CONSTRUCTION	115.0	115.0	115.0	66.0	66.0	66.0	Lw	115					8	а

Name	ł	lei	ght		Coordinates									
	Begin		End		х	у	z	Ground						
	(ft) (ft		(ft)		(ft)	(ft)	(ft)	(ft)						
SITEBOUNDARY	8.00	а			6203475.34	2369552.66	8.00	0.00						
					6203825.73	2369550.46	8.00	0.00						
					6203815.85	2368272.37	8.00	0.00						
					6202841.85	2368283.18	8.00	0.00						
					6202846.87	2368946.79	8.00	0.00						
			6203468.62	2368940.92	8.00	0.00								

Barrier(s)

Name	М.	ID	Abso	rption	Z-Ext.	Ext. Cantilever Height					Coordinates							
			left	right		horz.	vert.	Begin		End		х	У	z	Ground			
			(ft)		(ft)	(ft)	(ft)	(ft) (ft)			(ft)	(ft)	(ft)	(ft)				
BARRIEREXISTING		0						7.00	а			6204161.81	2370285.93	7.00	0.00			
												6204125.96	2367015.82	7.00	0.00			

Ground Absorption(s)

М.	ID	G	Coord	inates
			х	У
			(ft)	(ft)
	0	1.0	6203807.85	2367020.69
			6203883.57	2370250.68
			6204126.37	2370232.67
			6204087.39	2367016.66
	M.	M. ID 		x 0 1.0 6203807.85 6203883.57 6204126.37

APPENDIX 10.2:

CADNAA CONCRETE POUR NOISE MODEL INPUTS





14283 - North Fontana Industrial Complex (Acacia) CadnaA Noise Prediction Model: 14283_06 - ConcretePour.cna

CadnaA Noise Prediction Model: 14283_06 - ConcretePour.cna Date: 10.04.22 Analyst: S. Shami

Calculation Configuration

ParameterValueGeneral	Configurat	tion
Max. Error (dB)0.00Max. Search Radius (#(Unit,LEN))2000.01Min. Dist Src to Rcvr0.00PartitionRaster FactorRaster Factor0.50Max. Length of Section (#(Unit,LEN))999.99Min. Length of Section (#(Unit,LEN))1.01Min. Length of Section (%)0.00Proj. Line SourcesOnProj. Area SourcesOnReference Time Day (min)960.00Reference Time Night (min)480.00Daytime Penalty (dB)0.00Reference Time Night (min)0.00Nodel of TerrainTriangulationReflection2Search Radius Src100.00Max. Order of Reflection2Search Radius Src100.00Min. Distance Source - Rcvr1000.00Min. Distance Source - Rcvr1.00Min. Distance Source - Reflector0.10Industrial (ISO 9613)Incl. Ground Att. over BarrierDaytimi Area Src do not shieldOnScreeningIncl. Ground Att. over BarrierDz with Imin Area Src do not shieldOnScreeningDz with Imit (20/25)Barrier Coefficients C1,2,33.0 20.0.0Temperature (#(Unit,SPEED))1.0Railways (FTA/FRA)Aircraft (???)Aircraft (???)Industrial (??)	Parameter	Value
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Dz with limit (20/25) Barrier Coefficients C1,2,3 3.0 20.0 0.0 Temperature (#(Unit,TEMP)) 10 rel. Humidity (%) 70 Ground Absorption G 0.50 Wind Speed for Dir. (#(Unit,SPEED)) 3.0 Roads (TNM) Railways (FTA/FRA) Aircraft (???) 10	Obst. within Area Src do not shield	On
Barrier Coefficients C1,2,3 3.0 20.0 0.0 Temperature (#(Unit,TEMP)) 10 rel. Humidity (%) 70 Ground Absorption G 0.50 Wind Speed for Dir. (#(Unit,SPEED)) 3.0 Roads (TNM) Railways (FTA/FRA) Aircraft (???) Image: Comparison of the co	Screening	Incl. Ground Att. over Barrier
Temperature (#(Unit,TEMP)) 10 rel. Humidity (%) 70 Ground Absorption G 0.50 Wind Speed for Dir. (#(Unit,SPEED)) 3.0 Roads (TNM)		Dz with limit (20/25)
rel. Humidity (%) 70 Ground Absorption G 0.50 Wind Speed for Dir. (#(Unit,SPEED)) 3.0 Roads (TNM) Railways (FTA/FRA) Aircraft (???)	Barrier Coefficients C1,2,3	3.0 20.0 0.0
Ground Absorption G 0.50 Wind Speed for Dir. (#(Unit,SPEED)) 3.0 Roads (TNM) Railways (FTA/FRA) Aircraft (???)	Temperature (#(Unit,TEMP))	10
Wind Speed for Dir. (#(Unit,SPEED)) 3.0 Roads (TNM)	rel. Humidity (%)	70
Roads (TNM) Railways (FTA/FRA) Aircraft (???)	Ground Absorption G	0.50
Railways (FTA/FRA) Aircraft (???)	Wind Speed for Dir. (#(Unit,SPEED))	3.0
Aircraft (???)	Roads (TNM)	
	Railways (FTA/FRA)	
Strictly acc. to AzB	Aircraft (???)	
	Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID		Level Lr			Limit. Value				Land Use			Coordinates			
			Day	Night	CNEL	Day	Night	CNEL	Туре	Auto	Noise Type			Х	Y	Z	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)	
RECEIVERS		R1	47.8	47.8	54.4	70.0	65.0	0.0				5.00	а	6203818.88	2369608.45	5.00	
RECEIVERS		R2	32.9	32.9	39.6	55.0	45.0	0.0				5.00	а	6204145.47	2368250.83	5.00	
RECEIVERS		R3	29.1	29.1	35.8	55.0	45.0	0.0				5.00	а	6204146.23	2367149.21	5.00	
RECEIVERS		R4	33.8	33.8	40.4	70.0	65.0	0.0				5.00	а	6202651.19	2366912.74	5.00	
RECEIVERS		R5	32.6	32.6	39.3	70.0	65.0	0.0				5.00	а	6201448.49	2367611.31	5.00	

Area Source(s)

Name	М.	ID	Result. PWL			Result. PWL''			Lw / Li			Operating Time			Height	t
			Day	Evening	Night	Day	Evening	Night	Туре	Value	norm.	Day	Special	Night	(ft)	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
BUILDING		CONCRETEPOUR01	100.3	100.3	100.3	61.0	61.0	61.0	Lw	100.3					6	а
BUILDING		CONCRETEPOUR02	100.3	100.3	100.3	55.9	55.9	55.9	Lw	100.3					6	а

Name	ł	lei	ght		Coordinates							
	Begin		End		х	У	z	Ground				
	(ft)		(ft)	(ft) ((ft)	(ft)	(ft)				
BUILDING	6.00	а			6203552.23	2369473.72	6.00	0.00				
					6203781.63	2369472.50	6.00	0.00				
					6203774.99	2369018.60	6.00	0.00				
					6203545.05	2369019.29	6.00	0.00				
					6203546.10	2369144.17	6.00	0.00				
					6203607.21	2369144.20	6.00	0.00				
					6203610.19	2369351.06	6.00	0.00				

Name	ł	lei	ght		Coordinates								
	Begin		End		х	У	z	Ground					
	(ft)		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)			
					6203549.09	2369351.56	6.00	0.00					
BUILDING	6.00	a			6202931.62	2368816.91	6.00	0.00					
					6203741.92	2368806.90	6.00	0.00					
					6203737.71	2368401.73	6.00	0.00					
					6203621.96	2368403.70	6.00	0.00					
					6203622.42	2368462.12	6.00	0.00					
					6203041.99	2368467.16	6.00	0.00					
					6203040.95	2368406.07	6.00	0.00					
					6202924.67	2368408.04	6.00	0.00					

Barrier(s)

Name	М.	ID	Absorption		Z-Ext. Cantilever			Height				Coordinates				
			left	right		horz.	vert.	Begin		End		х	У	z	Ground	
					(ft)	(ft)	(ft)	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)	
BARRIEREXISTING		0						7.00	а			6204161.81	2370285.93	7.00	0.00	
												6204125.96	2367015.82	7.00	0.00	

Ground Absorption(s)

Name	М.	ID	G	Coord	inates
				x	У
				(ft)	(ft)
GROUND		0	1.0	6203807.85	2367020.69
				6203883.57	2370250.68
				6204126.37	2370232.67
				6204087.39	2367016.66