Simpson Road Warehouse

NOISE ANALYSIS

CITY OF HEMET

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LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
ANSI	American National Standards Institute
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dBA	A-weighted decibels
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HMC	Hemet Municipal Code
HR	Hemet-Ryan Airport
Hz	Hertz
INCE	Institute of Noise Control Engineering
L_{eq}	Equivalent continuous (average) sound level
L_{max}	Maximum level measured over the time interval
L_{min}	Minimum level measured over the time interval
OPR	Office of Planning and Research
PPV	Peak particle velocity
Project	Simpson Road Warehouse
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 Simpson Road Warehouse development ("Project") located at the intersection of Warren Road and Simpson Road. The Project is proposed to consist of two high-cube warehouse buildings totaling approximately 1,192,418 square feet (sf). This study has been prepared to satisfy applicable City of Hemet 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 Simpson Road Warehouse Noise 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.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

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

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1 INTRODUCTION

This noise analysis has been completed to determine the noise impacts associated with the development of the proposed Simpson Road Warehouse ("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 Community Noise Equivalent Level (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.

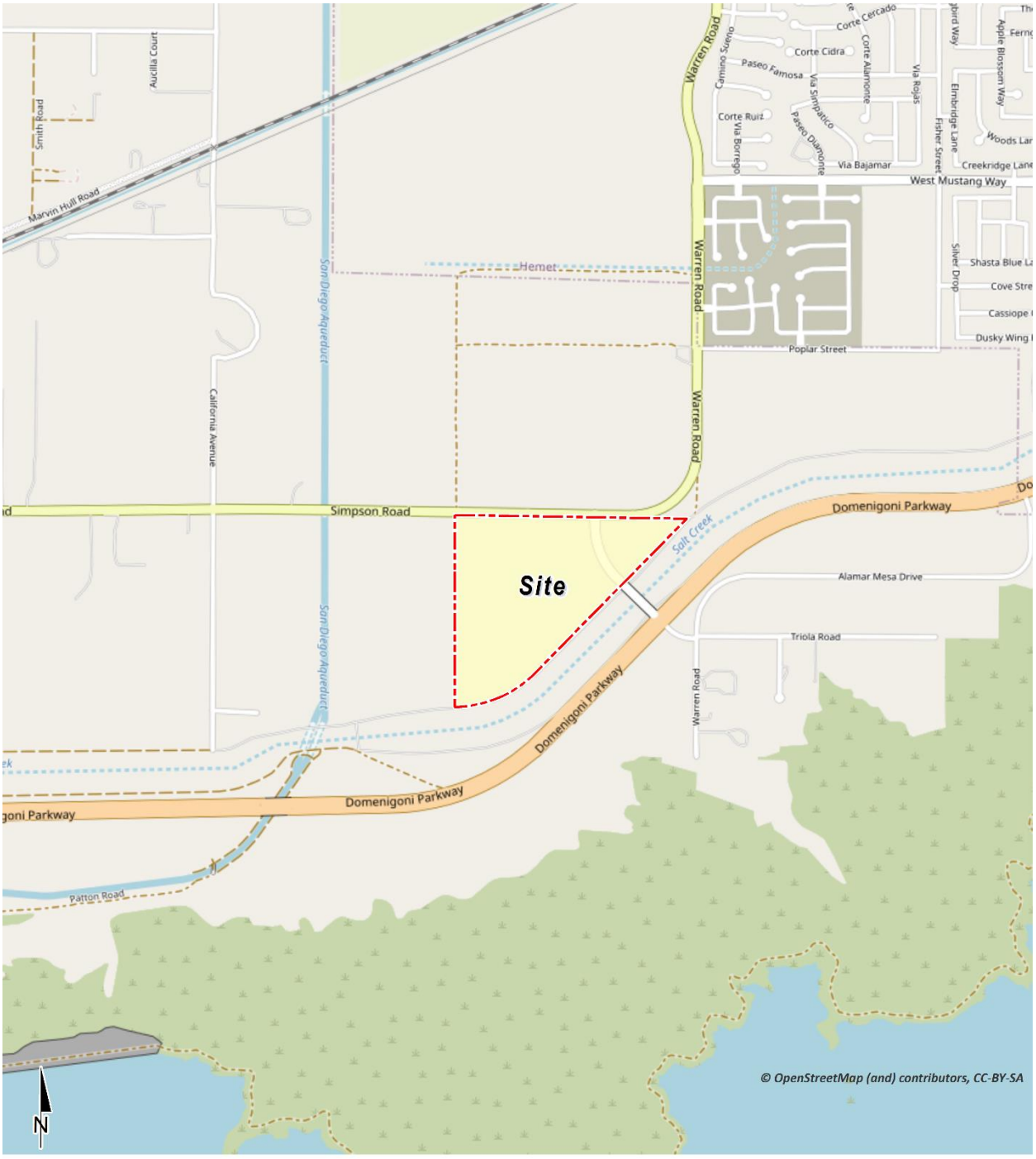
1.1 SITE LOCATION

The proposed Project site is 74.88 gross acres (71.11 net acres), located in the western portion of the City of Hemet at the intersection of Warren Road and Simpson Road, as shown on Exhibit 1-A. The Project site consists of two parcels, located on the southeast and southwest corners of the intersection of Simpson Road and Warren Road, and are identified by Riverside County Assessor's Parcel Numbers (APNs) 465-140-043 and 465-140-042. The site is relatively flat and is utilized for farming activities with no existing structures or improvements, other than irrigation infrastructure. The Project site is zoned Business Park (B-P) and has a General Plan land use designation of Mixed Use (MU). The Project site is surrounded by vacant and agricultural land uses to the north, south and west, and vacant land and residences to the east.

1.2 PROJECT DESCRIPTION

The Project includes a Site Development Review and Conditional Use Permit to construct approximately 1,192,418 square feet (sf) of speculative industrial uses and a General Plan Amendment to change the current Land Use designation of MU to BP, consistent with the B-P zoning for the site. The proposed Project would develop the 74.88 gross acres (71.11 net acre) site with two new speculative industrial buildings totaling approximately 1,192,418 sf, a trailer parking lot, and related improvements, as indicated on Exhibit 1-B. Building 1 would be approximately 883,080 sf and Building 2 would be 309,338 sf.

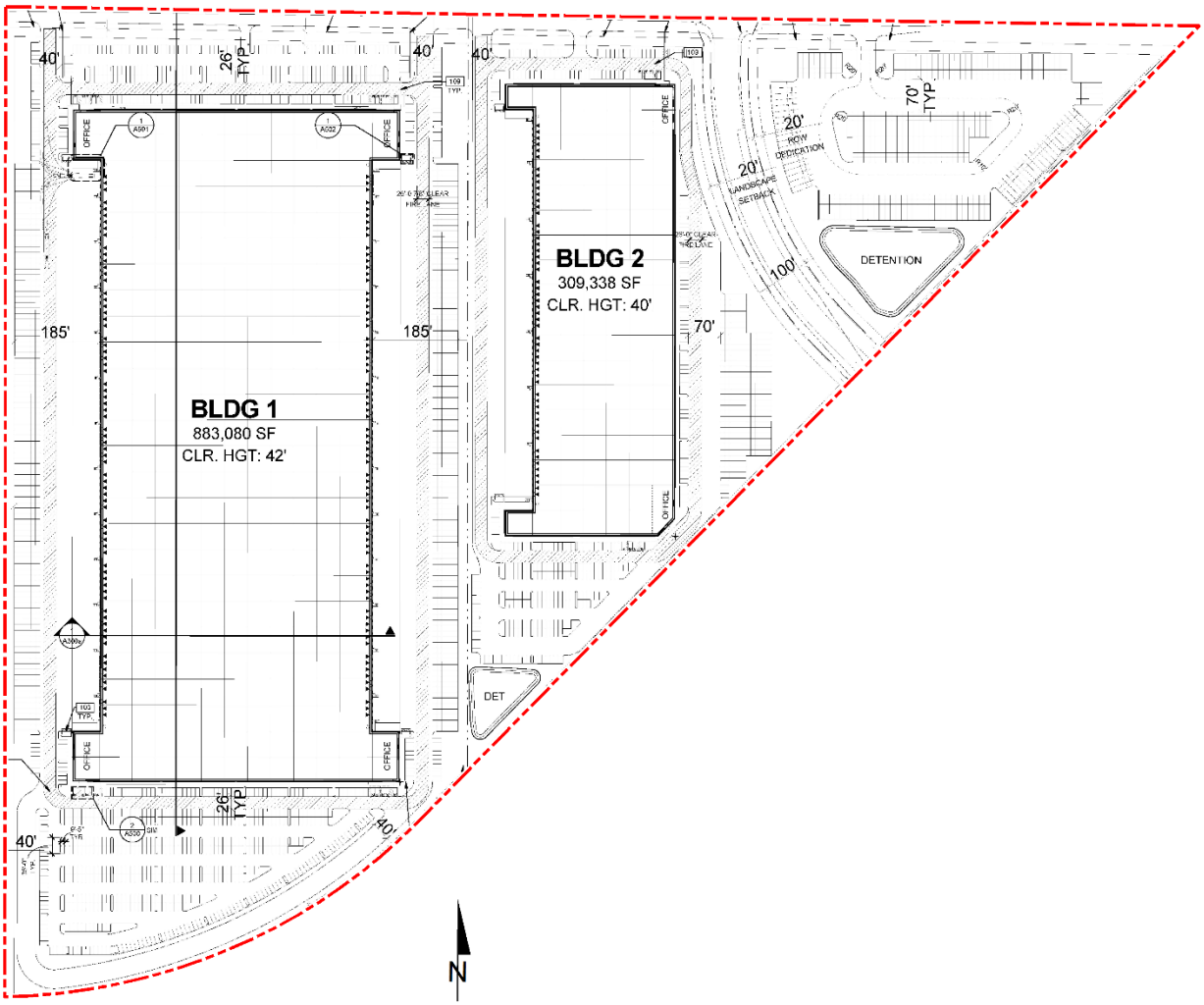
EXHIBIT 1-A: LOCATION MAP



LEGEND:

Site Boundary

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.

EXHIBIT 2-A: TYPICAL NOISE LEVELS

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

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

2.1 RANGE OF NOISE

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

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

2.2 NOISE DESCRIPTORS

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

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

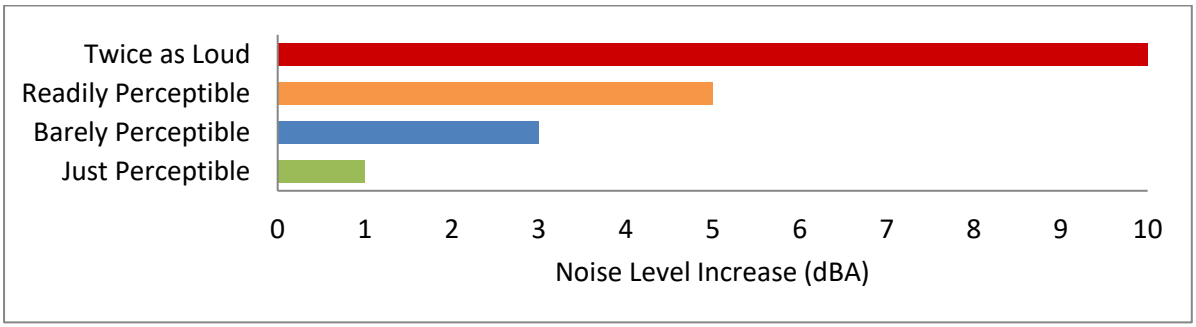
Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches, and residences are more sensitive to noise intrusion than are commercial or industrial developments and related activities. As ambient noise levels affect the perceived amenity or livability of a development, 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 Federal Highway Administration (FHWA) encourages State and Local government to regulate land development in such a way that noise-sensitive land uses are either prohibited from being located adjacent to a highway, or that the developments are planned, designed, and constructed in such a way that noise impacts are minimized. (6)

2.7 COMMUNITY RESPONSE TO NOISE

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

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

EXHIBIT 2-B: NOISE LEVEL INCREASE PERCEPTION



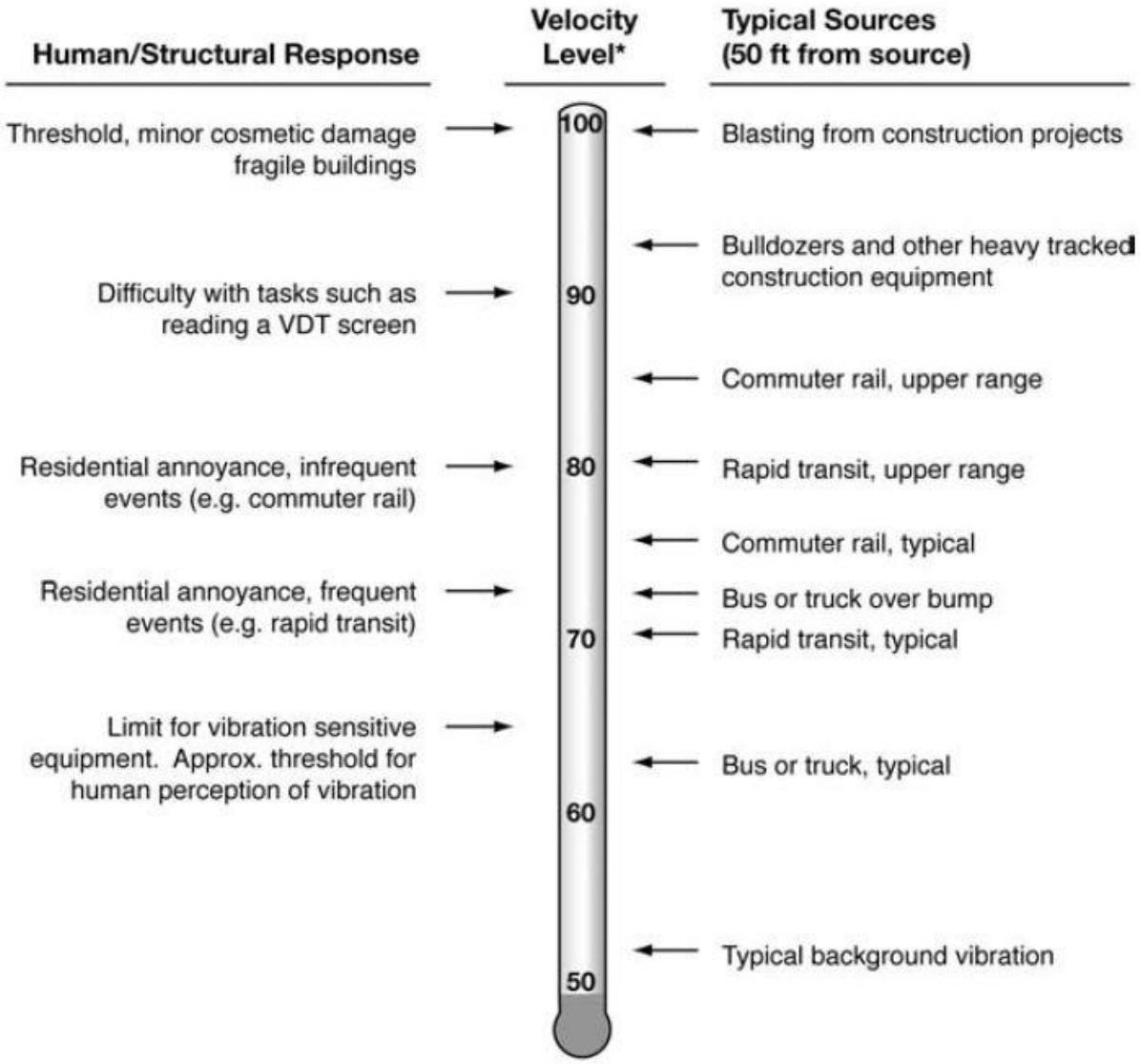
2.8 VIBRATION

Per the Federal Transit Administration (FTA) *Transit Noise 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 escribee 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

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

3.1 STATE OF CALIFORNIA NOISE REQUIREMENTS

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards, and provides guidance for local land use compatibility. State law requires that each county and city adopt a General Plan that includes a Noise Element which is to be prepared per guidelines adopted by the Governor's Office of Planning and Research (OPR). (9) OPR identifies suggested land use noise compatibility levels as part of its General Plan Guidelines. These suggested guidelines provide planners with a tool to gauge the compatibility of land uses relative to existing and future noise levels. The guidelines identify normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable noise levels for various land uses. The land use compatibility guidelines are intended to be an advisory resource when considering changes in land use and policies, such as zoning modifications. In addition, the State through the California Environmental Quality Act (CEQA) requires that all known environmental effects of a project be analyzed, including environmental noise impacts.

3.2 CITY OF HEMET GENERAL PLAN PUBLIC SAFETY ELEMENT

The City of Hemet General Plan Public Safety Element, Section 6.10 *Noise*, sets goals, policies, and implementation programs to address existing and future noise conditions. (10) To protect City of Hemet residents from excessive noise levels, the Public Safety Element contains the following goals:

PS-4	*Protect lives and property from the potential dangers associated with the use of Hemet-Ryan Airport while recognizing and maintaining its function as a part of Hemet's transportation system.*
PS-11	*Manage noise levels through land use planning and development review.*
PS-12	*Minimize noise conflicts from transportation sources and airports.*
PS-13	*Minimize noise conflicts with stationary noise generators.*

The noise policies specified in the City of Hemet Public Safety Element provide the guidelines necessary to satisfy these goals. To ensure that residents are not exposed to excessive noise levels from the Hemet-Ryan Airport (Goal PS-4), Policies 4.1, 4.6, and 4.10 require that new developments demonstrate a reduction of the noise levels due to aircraft activity. Goal PS-11

and Policies 11.1 to 11.4 require new developments to satisfy the noise standards of the Public Safety Element and incorporate design techniques to minimize noise. Table 6.4 includes the *Land Use Compatibility Standards for Exterior and Interior Noise* to satisfy Goal PS-12 and Policies 12.1 to 12.4 for transportation-related noise sources. To prevent noise conflicts with stationary noise generators (Goal PS-13), Policies 13.1 to 13.3 restrict the locations of sensitive land uses in relation to major noise sources in the City of Hemet. (10)

The noise criteria identified in the City of Hemet Public Safety Element (Table 6.3) are guidelines to evaluate the land use compatibility of transportation-related noise. The compatibility criteria, shown on Exhibit 3-A, provides the city with a planning tool to gauge the compatibility of land uses relative to existing and future exterior noise levels. The *Land Use Compatibility for Community Noise Environments* (Table 6.3) matrix indicates that noise-sensitive land uses such as single-family residences are considered *normally acceptable* with exterior noise levels below 60 dBA CNEL and *conditionally acceptable* with noise levels below 70 dBA CNEL. The non-noise sensitive industrial use of the Project is considered *normally acceptable* with exterior noise levels of up to 75 dBA CNEL and *conditionally acceptable* with exterior noise levels of up to 80 dBA CNEL. For *conditionally acceptable* land uses, *new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design.* (10)

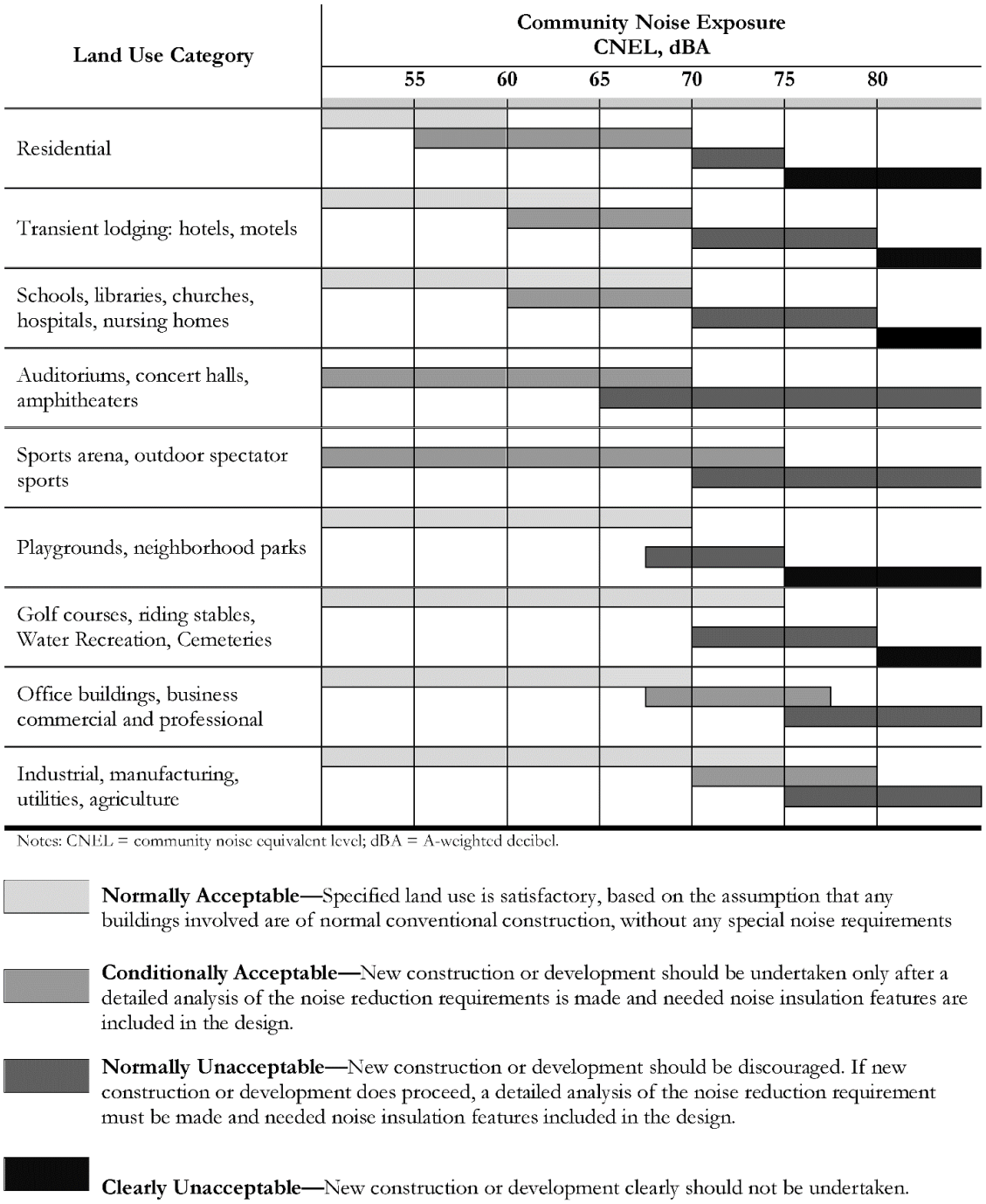
3.3 OPERATIONAL NOISE STANDARDS

To analyze noise impacts originating from a designated fixed location or private property such as the Simpson Road Warehouse Project, stationary-source (operational) noise such as the expected loading dock/truck parking activity, roof-top air conditioning units, parking lot vehicle movements, trash enclosure activity, and truck movements are typically evaluated against standards established under a jurisdiction's municipal code or general plan. The City of Hemet Municipal Code (HMC) included in Appendix 3.1, contains regulations to protect residents from exposure to excessive noise in Chapters 30, 53, and 90. According to HMC Section 30-32[a][42], *any noise that is made, generated, produced, or continued (whether from a human, animal, or device) in such a manner that it unreasonably disturbs the peace and quiet of any neighborhood of which causes any discomfort or annoyance to any reasonable person of normal sensitivities, or that otherwise violates any provision of the Hemet Municipal Code, including the noise limits set forth in the Hemet Zoning Code, or that violates the general plan (public safety element)*.

Section 53-4 of the HMC makes it unlawful for any person *willfully make or continue, or cause to be made or continued, any loud, unnecessary, and unusual noise which is greater than the level permissible for the applicable zone or which unreasonably disturbs the peace or quiet of any neighborhood or which would cause discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area*. In addition, HMC Section 90-1048 outlines the following performance standard for noise. *No use, except a temporary construction operation, shall be permitted which creates noise of a maximum sound pressure level greater than the value established in the public safety element of the general plan, and adopted building codes, or as may be further determined by project specific mitigation measures. The general plan specifies land use compatibility standards to ensure that stationary noise sources (e.g., industrial uses) do*

not adversely affect noise-sensitive land uses and that community noise environments do not negatively affect land uses. For stationary (operational) noise sources, Table 6.5 of City of Hemet General Plan Public Safety Element outlines the appropriate exterior performance standards to control the non-transportation stationary noise impacts. Table 6.5 identifies a daytime exterior noise level limit of 60 dBA L_{eq} and nighttime exterior noise level limit of 45 dBA L_{eq}.

EXHIBIT 3-A: LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS



Notes: CNEL = community noise equivalent level; dBA = A-weighted decibel.

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

Conditionally Acceptable—New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design.

Normally Unacceptable—New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirement must be made and needed noise insulation features included in the design.

Clearly Unacceptable—New construction or development clearly should not be undertaken.

Source: City of Hemet General Plan Public Safety Element, Table 6.3.

3.4 CONSTRUCTION NOISE STANDARDS

To control noise impacts associated with the construction of the proposed Project, the City of Hemet has established limits to the hours of construction activities. HMC Section 30-32[a][43], restricts construction activities to the approved hours of construction as set forth on a permit or other city entitlement as issued the building official, planning commission, or city council, or as otherwise prohibited by the Hemet Building Code. In addition, according to HMC Section 67-10, grading is allowed Monday through Friday between the hours of 6:00 a.m. and 6:00 p.m. from June 1 through September 30, and between the hours of 7:00 a.m. and 6:00 p.m. from October 1 through May 31. Grading is allowed on Saturdays between the hours of 7:00 a.m. and 6:00 p.m. year-round. Grading on Sundays is prohibited.

However, neither the City of Hemet General Plan nor the Municipal Code establish numeric maximum acceptable construction source noise levels at potentially affected receivers for CEQA analysis purposes. Therefore, to evaluate whether the Project will generate potentially significant short-term noise levels at nearby noise sensitive residential receiver locations, a daytime exterior construction noise level of 80 dBA L_{eq} is used as a reasonable threshold to assess construction noise level impacts based on the FTA detailed analysis construction noise criteria with a nighttime exterior construction noise level of 70 dBA L_{eq}. (8 p. 179)

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 operation and construction of the Simpson Road Warehouse, vibration-generating activities are appropriately evaluated against standards established under the Municipal Code if such standards exist. However, the City of Hemet does not identify specific construction vibration level limits. Therefore, for analysis purposes, the Caltrans *Transportation and Construction Vibration Guidance Manual*, (11 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).

3.6 HEMET-RYAN AIRPORT LAND USE COMPATIBILITY

The Hemet-Ryan (HR) Airport runway is located approximately 1.6 miles northeast of the Project site. The *Riverside County Airport Land Use Compatibility Plan Policy Document* (RC ALUCP) includes the policies for determining the land use compatibility of the Project. Policy 4.1.5 *Noise Exposure for Other Land Uses* of the RC ALUCP requires that land uses demonstrate compatibility with the acceptable noise levels on Table 2B. The Table 2B *Supporting Compatibility Criteria: Noise* matrix is shown on Exhibit 3-B and indicates that the Project's industrial land uses experience *clearly acceptable* exterior noise levels below 60 dBA CNEL. *Normally acceptable* noise levels for industrial land use range from 60 to 65 dBA CNEL. *Marginally acceptable* noise

levels at industrial land uses range from 65 to 70 dBA CNEL. (12) The noise contour boundaries used to determine the potential aircraft-related noise impacts at the Project site are found on Exhibit HR-5 of the RC ALUCP. As shown on Exhibit 3-C, the Project site is located outside the 55 dBA CNEL noise level contour boundaries and is considered *clearly acceptable.* Therefore, based on the (RC ALUCP) compatibility criteria, *the activities associated with the specified land use can be carried out with essentially no interference from the noise exposure.*

EXHIBIT 3-B: RC ALUCP SUPPORTING COMPATIBILITY CRITERIA: NOISE

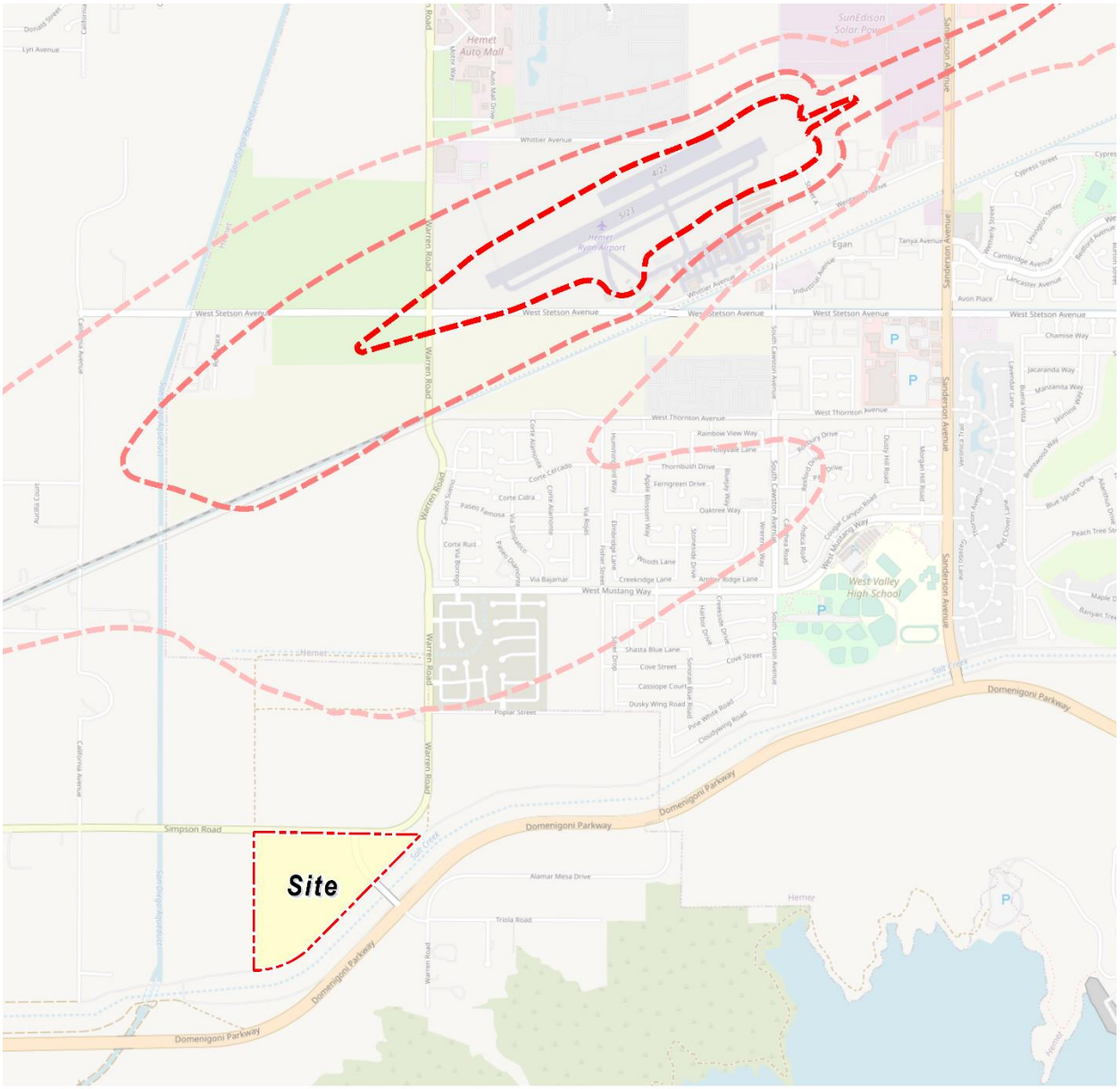
	CNEL (dB)				
Land Use Category	**50–55**	**55–60**	**60–65**	**65–70**	**70–75**
*Residential **					
single-family, nursing homes, mobile homes	++	o	–	– –	– –
multi-family, apartments, condominiums	++	+	o	– –	– –
Public					
schools, libraries, hospitals	+	o	–	– –	– –
churches, auditoriums, concert halls	+	o	o	–	– –
transportation, parking, cemeteries	++	++	++	+	o
Commercial and Industrial					
offices, retail trade	++	+	o	o	–
service commercial, wholesale trade, warehousing, light industrial	++	++	+	o	o
general manufacturing, utilities, extractive industry	++	++	++	+	+
Agricultural and Recreational					
cropland	++	++	++	++	+
livestock breeding	++	+	o	o	–
parks, playgrounds, zoos	++	+	+	o	–
golf courses, riding stables, water recreation	++	++	+	o	o
outdoor spectator sports	++	+	+	o	–
amphitheaters	+	o	–	– –	– –

Land Use Acceptability		**Interpretation/Comments**
++	*Clearly Acceptable*	The activities associated with the specified land use can be carried out with essentially no interference from the noise exposure.
+	*Normally Acceptable*	Noise is a factor to be considered in that slight interference with outdoor activities may occur. Conventional construction methods will eliminate most noise intrusions upon indoor activities.
o	*Marginally Acceptable*	The indicated noise exposure will cause moderate interference with outdoor activities and with indoor activities when windows are open. The land use is acceptable on the conditions that outdoor activities are minimal and construction features which provide sufficient noise attenuation are used (e.g., installation of air conditioning so that windows can be kept closed). Under other circumstances, the land use should be discouraged.
–	*Normally Unacceptable*	Noise will create substantial interference with both outdoor and indoor activities. Noise intrusion upon indoor activities can be mitigated by requiring special noise insulation construction. Land uses which have conventionally constructed structures and/or involve outdoor activities which would be disrupted by noise should generally be avoided.
– –	*Clearly Unacceptable*	Unacceptable noise intrusion upon land use activities will occur. Adequate structural noise insulation is not practical under most circumstances. The indicated land use should be avoided unless strong overriding factors prevail and it should be prohibited if outdoor activities are involved.

* Subtract 5 dB for low-activity outlying airports (Chiriaco Summit and Desert Center)

Source: Riverside County Airport Land Use Compatibility Plan, Table 2B.

EXHIBIT 3-C: HEMET-RYAN AIRPORT (HR) NOISE CONTOURS



Source: Hemet-Ryan Airport Land Use Compatibility Plan Future Noise Impact Exhibit HR-5.

4 SIGNIFICANCE CRITERIA

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

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

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

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

4.1 NOISE LEVEL INCREASES (THRESHOLD A)

Noise level increases resulting from the Project are evaluated based on the Appendix G CEQA Guidelines described above at the closest sensitive receiver locations. Under CEQA, consideration must be given to the magnitude of the increase, the existing baseline ambient noise levels, and the location of noise-sensitive receivers to determine if a noise increase represents a significant adverse environmental impact. This approach recognizes *that there is no single noise increase that renders a noise impact significant.* (13) This is primarily because of the wide variation in individual thresholds of annoyance and differing individual experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted—the so-called *ambient* environment. In general, the more a new noise level exceeds the previously existing ambient noise level, the less acceptable the new noise level will typically be judged.

4.1.1 NOISE-SENSITIVE RECEIVERS

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

As previously stated, the approach used in this noise study recognizes *that there is no single noise increase that renders a noise impact significant*, based on a 2008 California Court of Appeal ruling on Gray v. County of Madera. (13) For example, if the ambient noise environment is quiet (<60 dBA) and the new noise source greatly increases the noise levels, an impact may occur if the noise criteria may be exceeded. Therefore, for this analysis, a *readily perceptible* 5 dBA or greater project-related noise level increase is considered a significant impact when the without project noise levels are below 60 dBA. Per the FICON, in areas where the without project noise levels

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

4.1.2 NON-NOISE-SENSITIVE RECEIVERS

The City of Hemet General Plan Public Safety Element, Table 6-3, *Land Use Compatibility for Community Noise Environments* was used to establish the satisfactory noise levels of significance for non-noise-sensitive land uses in the Project study area. As previously shown on Exhibit 3-A, the *normally acceptable* exterior noise level for non-noise-sensitive land use is 70 dBA CNEL. (10) To determine if Project-related traffic noise level increases are significant at off-site non-noise-sensitive land uses, a *barely perceptible* 3 dBA criteria is used. When the without Project noise levels are greater than the *normally acceptable* 70 dBA CNEL land use compatibility criteria, a *barely perceptible* 3 dBA or greater noise level increase is considered a significant impact since the noise level criteria is already exceeded. The noise level increases used to determine significant impacts for non-noise-sensitive land uses is generally consistent with the FICON noise level increase thresholds for noise-sensitive land uses but instead rely on the City of Hemet General Plan Public Safety Element, Table 6-3, *Land Use Compatibility for Community Noise Environments normally acceptable* 70 dBA CNEL exterior noise level criteria.

4.2 VIBRATION (THRESHOLD B)

As described in Section 3.5, the vibration impacts originating from the construction of Simpson Road Warehouse are appropriately evaluated using the Caltrans maximum acceptable continuous vibration building damage threshold of 0.3 PPV (in/sec).

4.3 CEQA GUIDELINES NOT FURTHER ANALYZED (THRESHOLD C)

The closest airport which would require additional noise analysis under CEQA Appendix G Guideline C is the Hemet-Ryan Airport located approximately 1.6 miles northeast of the Project site. As previously described in Section 3.6, the Project site is located outside the Hemet-Ryan Airport 55 dBA CNEL noise level contours. Therefore, the potential impacts under CEQA Appendix G Guideline C, are *less than significant* and are not further analyzed in this noise study.

4.4 SIGNIFICANCE CRITERIA SUMMARY

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

TABLE 4-1: SIGNIFICANCE CRITERIA SUMMARY

Analysis	Receiving Land Use	Condition(s)	Significance Criteria	
			Daytime	Nighttime
Off-Site Traffic	Noise-Sensitive[1]	If ambient is < 60 dBA CNEL	≥ 5 dBA CNEL Project increase	
		If ambient is 60–- 65 dBA CNEL	≥ 3 dBA CNEL Project increase	
		If ambient is > 65 dBA CNEL	≥ 1.5 dBA CNEL Project increase	
	Non-Noise-Sensitive[2]	If ambient is > 70 dBA CNEL	≥ 3 dBA CNEL Project increase	
Operational	Noise-Sensitive	Residential Exterior Noise Level[3]	60 dBA L_{eq}	45 dBA L_{eq}
		If ambient is < 60 dBA Leq[1]	≥ 5 dBA L_{eq} Project increase	
		If ambient is 60–- 65 dBA Leq[1]	≥ 3 dBA L_{eq} Project increase	
		If ambient is > 65 dBA Leq[1]	≥ 1.5 dBA L_{eq} Project increase	
Construction	Noise-Sensitive	Noise Level Threshold[4]	80 dBA L_{eq}	70 dBA L_{eq}
		Vibration Level Threshold[5]	0.3 PPV (in/sec)	

[1] FICON, 1992.
[2] City of Hemet General Plan Public Safety Element, Table 6.3.
[3] City of Hemet General Plan Public Safety Element, Table 6.5.
[4] Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual.
[5] Caltrans Transportation and Construction Vibration Manual, April 2020 Table 19
“"Daytim”" = 7:00 a.m. to 10:00 p.m.;“"Nighttim”" = 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 five locations to describe the noise levels at the nearest noise sensitive receiver locations in the Project study area. The receiver locations were selected to describe and document the existing noise environment. 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, August 2, 2023. Appendix 5.1 includes study area photos.

5.1 MEASUREMENT PROCEDURE AND CRITERIA

To describe the existing noise environment, the hourly noise levels were measured during typical weekday conditions over a 24-hour period. By collecting individual hourly noise level measurements, it is possible to describe the equivalent daytime and nighttime hourly noise levels and calculate the 24-hour CNEL. The long-term noise readings were recorded using Piccolo Type 2 integrating sound level meter and dataloggers. The Piccolo sound level meters were calibrated using a Larson-Davis calibrator, Model CAL 150. All noise meters were programmed in“"slo”" mode to record noise levels in“"”" 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. (16)

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 equivalent hourly noise levels surrounding the Project site as shown on Exhibit 5-A. Both Caltrans and the FTA recognize that it is not reasonable to collect noise level measurements that can fully represent every part of a private yard, patio, deck, or balcony normally used for human activity when estimating impacts for new development projects. This is demonstrated in the Caltrans general site location guidelines which indicate that *sites must be free of noise contamination by sources other than sources of interest. Avoid sites located near sources such as barking dogs, lawnmowers, pool pumps, and air conditioners unless it is the express intent of the analyst to measure these sources*. (2) Further, FTA guidance states, t*hat it is not necessary nor recommended that existing noise exposure be determined by measuring at every noise-sensitive location in the project area. Rather, the recommended approach is to characterize the noise environment for clusters of sites based on measurements or estimates at representative locations in the community*. (8)

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

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

5.3 NOISE MEASUREMENT RESULTS

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

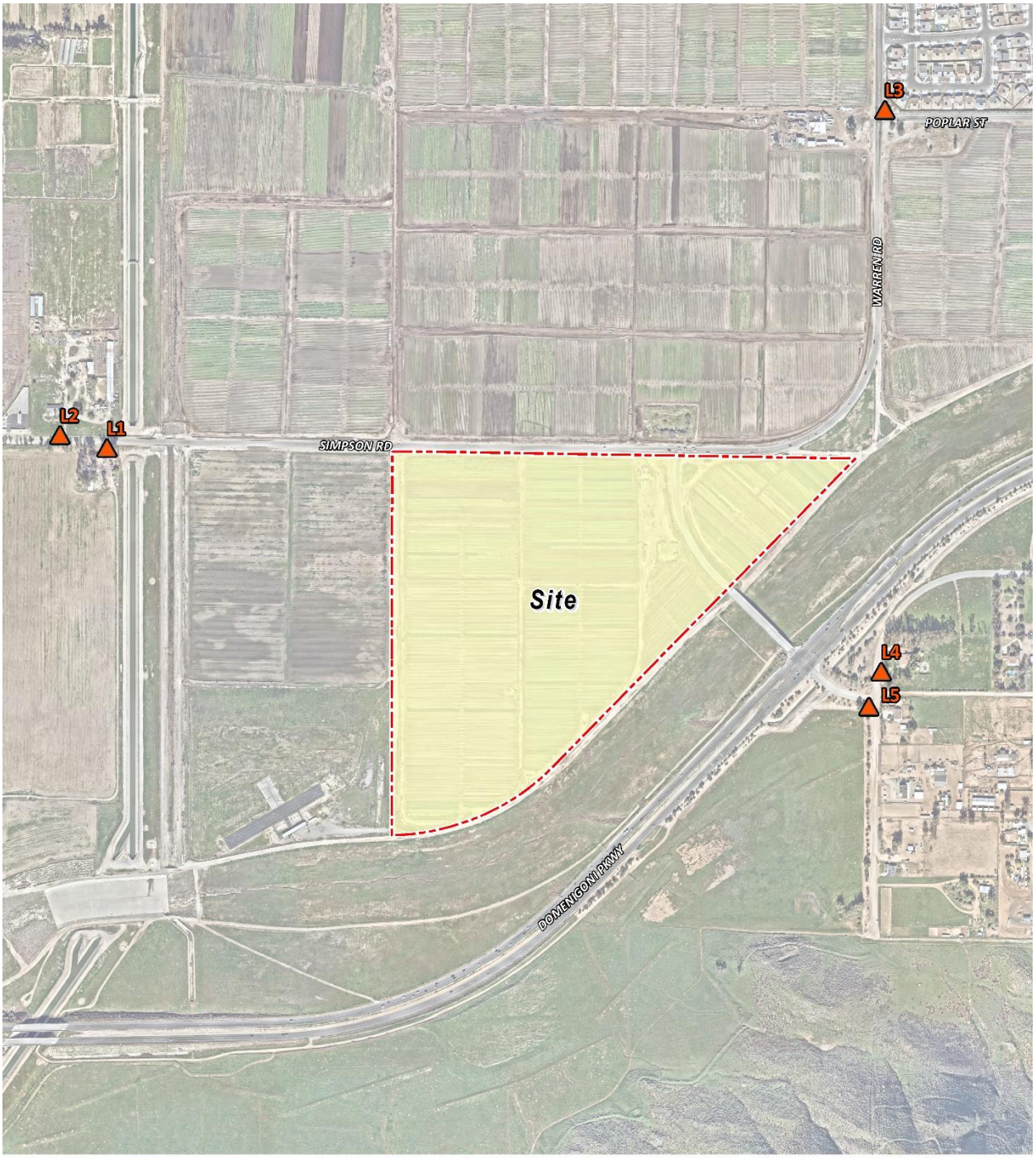
TABLE 5-1: 24-HOUR AMBIENT NOISE LEVEL MEASUREMENTS

Location[1]	Description	Energy Average Noise Level (dBA L_{eq})[2]	
		Daytime	Nighttime
L1	Located west of the site near the residence at 35125 Simpson Rd.	64.6	61.1
L2	Located west of the site near the residence at 35224 Simpson Rd.	70.1	66.0
L3	Located northeast of the site near the residence at 5599 Cottage Drive.	63.0	58.9
L4	Located east of the site near the residence at 28744 Warren Rd.	57.9	56.6
L5	Located east of the site near the residence at 28758 Warren Rd.	54.1	54.0

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

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

EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS



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6 TRAFFIC NOISE METHODS AND PROCEDURES

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

6.1 FHWA TRAFFIC NOISE PREDICTION MODEL

The expected roadway noise level increases from vehicular traffic were calculated by Urban Crossroads, Inc. using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108. (17) 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. (18) 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. (19)

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 15 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 Hemet General Plan Circulation Element, and the vehicle speeds. The ADT volumes used in this study area presented on Table 6-2 are based on *Simpson Road Warehouse Traffic Impact Analysis Report (TIA)*, prepared by EPD Solutions, Inc. (20)

- Existing Conditions
- Existing Conditions plus Project
- Opening Year Cumulative Without Project (2025) Conditions
- Opening Year Cumulative With Project (2025) Conditions

The opening year 2025 conditions reflect the analysis scenarios evaluated in the TIA consistent with the Project traffic study scoping agreement approved the City of Hemet. 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.

The Project is anticipated to generate a net total of 2,539 two-way trips per day (actual vehicles) that includes 451 truck trips. Table 6-3 provides the time of day (daytime, evening, and nighttime) vehicle splits. The daily Project truck trip-ends were assigned to the individual off-site study area roadway segments based on the Project truck trip distribution percentages documented in the *Simpson Road Warehouse Traffic Impact Analysis Report*.

TABLE 6-1: OFF-SITE ROADWAY PARAMETERS

ID	Roadway	Segment	Classification[1]	Receiving Land Use[2]	Distance from Centerline to Receiving Land Use (Feet)[3]	Vehicle Speed (mph)
1	SR-79	s/o SR-74	Major	Sensitive	59'	45
2	SR-79	s/o Simpson Rd.	Major	Sensitive	59'	45
3	SR-79	s/o Domenigoni Pkwy.	Major	Non-Sensitive	59'	45
4	Warren Rd.	n/o SR-74	Major	Sensitive	59'	45
5	Warren Rd.	s/o SR-74	Major	Non-Sensitive	59'	45
6	Warren Rd.	s/o Stetson Av.	Major	Sensitive	59'	45
7	Warren Rd.	s/o Mustang Wy.	Major	Sensitive	59'	45
8	SR-74	w/o SR-79	Expressway	Sensitive	92'	45
9	SR-74	e/o SR-79	Expressway	Sensitive	92'	45
10	SR-74	e/o Warren Rd.	Urban Arterial	Sensitive	76'	45
11	Stetson Av.	e/o Warren Rd.	Major	Non-Sensitive	59'	45
12	Simpson Rd.	e/o SR-79	Major	Sensitive	59'	45
13	Domenigoni Pkwy.	w/o SR-79	Urban Arterial	Sensitive	76'	45
14	Domenigoni Pkwy.	e/o SR-79	Urban Arterial	Non-Sensitive	76'	45
15	Domenigoni Pkwy.	e/o Warren Rd.	Urban Arterial	Sensitive	76'	45

[1] Simpson Road Warehouse Traffic Impact Analysis Report, EPD Solutions, Inc.
[2] Based on a review of existing aerial imagery.
[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 the existing heavy trucks in the vehicle mix (Table 6-4) when compared to the with Project vehicle mixes presented on Tables 6-5 and 6-6. This approach recognizes that the FHWA noise prediction model is significantly influenced by the number of heavy trucks in the vehicle mix. Using the Project truck trips in combination with the Project trip distribution, Urban Crossroads, Inc. calculated the number of additional Project truck trips and vehicle mix percentages for each of the study area roadway segments. Table 6-4 shows the traffic flow by vehicle type (vehicle mix) used for all without Project traffic scenarios, and Tables 6-5 to 6-6 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.

TABLE 6-2: AVERAGE DAILY TRAFFIC VOLUMES

ID	Roadway	Segment	Average Daily Traffic Volumes[1]			
			Existing		OYC (2025)	
			Without Project	With Project	Without Project	With Project
1	SR-79	s/o SR-74	12,240	12,457	13,530	13,747
2	SR-79	s/o Simpson Rd.	15,290	15,879	17,060	17,649
3	SR-79	s/o Domenigoni Pkwy.	29,760	30,349	33,020	33,609
4	Warren Rd.	n/o SR-74	7,910	8,014	10,710	10,814
5	Warren Rd.	s/o SR-74	12,760	13,485	15,040	15,765
6	Warren Rd.	s/o Stetson Av.	7,930	8,968	9,330	10,368
7	Warren Rd.	s/o Mustang Wy.	10,450	11,592	12,430	13,572
8	SR-74	w/o SR-79	21,670	22,104	27,690	28,124
9	SR-74	e/o SR-79	29,050	29,267	36,150	36,367
10	SR-74	e/o Warren Rd.	21,590	21,993	30,040	30,443
11	Stetson Av.	e/o Warren Rd.	7,740	8,053	9,140	9,453
12	Simpson Rd.	e/o SR-79	5,570	6,481	6,690	7,601
13	Domenigoni Pkwy.	w/o SR-79	21,610	21,886	23,960	24,236
14	Domenigoni Pkwy.	e/o SR-79	33,940	34,216	37,760	38,036
15	Domenigoni Pkwy.	e/o Warren Rd.	29,560	29,664	32,840	32,944

[1] Simpson Road Warehouse Traffic Impact Analysis Report, EPD Solutions, Inc.

TABLE 6-3: TIME OF DAY VEHICLE SPLITS

Vehicle Type	Time of Day Splits[1]			Total of Time of Day Splits
	Daytime	Evening	Nighttime	
Autos	75.55%	13.96%	10.49%	100.00%
Medium Trucks	48.92%	2.17%	48.91%	100.00%
Heavy Trucks	47.30%	5.40%	47.30%	100.00%

[1] County of Riverside Office of Industrial Hygiene. 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[1]			Total
	Autos	Medium Trucks	Heavy Trucks	
All Segments	97.42%	1.84%	0.74%	100.00%

County of Riverside Office of Industrial Hygiene. Values rounded to the nearest one-hundredth. Vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-5: EXISTING WITH PROJECT VEHICLE MIX

ID	Roadway	Segment	With Project[1]			
			Autos	Medium Trucks	Heavy Trucks	Total
1	SR-79	s/o SR-74	96.56%	2.00%	1.44%	100.00%
2	SR-79	s/o Simpson Rd.	97.09%	1.86%	1.05%	100.00%
3	SR-79	s/o Domenigoni Pkwy.	97.25%	1.85%	0.90%	100.00%
4	Warren Rd.	n/o SR-74	97.45%	1.82%	0.73%	100.00%
5	Warren Rd.	s/o SR-74	96.05%	2.06%	1.89%	100.00%
6	Warren Rd.	s/o Stetson Av.	95.46%	2.10%	2.44%	100.00%
7	Warren Rd.	s/o Mustang Wy.	95.92%	2.03%	2.05%	100.00%
8	SR-74	w/o SR-79	96.45%	2.02%	1.53%	100.00%
9	SR-74	e/o SR-79	97.05%	1.91%	1.04%	100.00%
10	SR-74	e/o Warren Rd.	97.06%	1.89%	1.05%	100.00%
11	Stetson Av.	e/o Warren Rd.	97.52%	1.77%	0.71%	100.00%
12	Simpson Rd.	e/o SR-79	95.00%	2.17%	2.84%	100.00%
13	Domenigoni Pkwy.	w/o SR-79	97.14%	1.88%	0.97%	100.00%
14	Domenigoni Pkwy.	e/o SR-79	97.24%	1.87%	0.89%	100.00%
15	Domenigoni Pkwy.	e/o Warren Rd.	97.43%	1.83%	0.74%	100.00%

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

TABLE 6-6: OPENING YEAR CUMULATIVE (2025) WITH PROJECT VEHICLE MIX

ID	Roadway	Segment	With Project[1]			
			Autos	Medium Trucks	Heavy Trucks	Total
1	SR-79	s/o SR-74	96.64%	1.98%	1.38%	100.00%
2	SR-79	s/o Simpson Rd.	97.12%	1.86%	1.02%	100.00%
3	SR-79	s/o Domenigoni Pkwy.	97.26%	1.85%	0.89%	100.00%
4	Warren Rd.	n/o SR-74	97.44%	1.82%	0.73%	100.00%
5	Warren Rd.	s/o SR-74	96.25%	2.03%	1.72%	100.00%
6	Warren Rd.	s/o Stetson Av.	95.72%	2.07%	2.21%	100.00%
7	Warren Rd.	s/o Mustang Wy.	96.14%	2.00%	1.86%	100.00%
8	SR-74	w/o SR-79	96.66%	1.98%	1.36%	100.00%
9	SR-74	e/o SR-79	97.13%	1.89%	0.98%	100.00%
10	SR-74	e/o Warren Rd.	97.16%	1.88%	0.96%	100.00%
11	Stetson Av.	e/o Warren Rd.	97.51%	1.78%	0.72%	100.00%
12	Simpson Rd.	e/o SR-79	95.36%	2.12%	2.53%	100.00%
13	Domenigoni Pkwy.	w/o SR-79	97.17%	1.88%	0.95%	100.00%
14	Domenigoni Pkwy.	e/o SR-79	97.26%	1.86%	0.88%	100.00%
15	Domenigoni Pkwy.	e/o Warren Rd.	97.43%	1.83%	0.74%	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 development of the proposed Project, noise contours were developed based on the *Simpson Road Warehouse Traffic Impact Analysis Report* prepared by EPD Solutions, Inc. (20) 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 7-5 present a summary of the exterior traffic noise levels for each traffic condition. Appendix 7.1 includes the traffic noise level contours worksheets for each traffic condition.

TABLE 7-1: EXISTING WITHOUT PROJECT CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	SR-79	s/o SR-74	Sensitive	68.8	RW	106	229
2	SR-79	s/o Simpson Rd.	Sensitive	69.8	RW	123	266
3	SR-79	s/o Domenigoni Pkwy.	Non-Sensitive	72.7	89	192	414
4	Warren Rd.	n/o SR-74	Sensitive	66.9	RW	80	171
5	Warren Rd.	s/o SR-74	Non-Sensitive	69.0	RW	109	236
6	Warren Rd.	s/o Stetson Av.	Sensitive	67.0	RW	80	172
7	Warren Rd.	s/o Mustang Wy.	Sensitive	68.2	RW	96	206
8	SR-74	w/o SR-79	Sensitive	69.0	RW	171	369
9	SR-74	e/o SR-79	Sensitive	70.3	97	208	448
10	SR-74	e/o Warren Rd.	Sensitive	70.1	77	165	356
11	Stetson Av.	e/o Warren Rd.	Non-Sensitive	66.8	RW	78	169
12	Simpson Rd.	e/o SR-79	Sensitive	65.4	RW	63	136
13	Domenigoni Pkwy.	w/o SR-79	Sensitive	70.1	77	166	357
14	Domenigoni Pkwy.	e/o SR-79	Non-Sensitive	72.0	104	224	482
15	Domenigoni Pkwy.	e/o Warren Rd.	Sensitive	71.4	95	204	439

[1] Based on a review of existing aerial imagery.
[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 7-2: EXISTING WITH PROJECT CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	SR-79	s/o SR-74	Sensitive	70.1	60	129	277
2	SR-79	s/o Simpson Rd.	Sensitive	70.5	64	137	296
3	SR-79	s/o Domenigoni Pkwy.	Non-Sensitive	73.1	94	204	439
4	Warren Rd.	n/o SR-74	Sensitive	67.0	RW	80	172
5	Warren Rd.	s/o SR-74	Non-Sensitive	71.0	69	149	320
6	Warren Rd.	s/o Stetson Av.	Sensitive	69.9	RW	125	268
7	Warren Rd.	s/o Mustang Wy.	Sensitive	70.5	64	138	297
8	SR-74	w/o SR-79	Sensitive	70.4	98	211	455
9	SR-74	e/o SR-79	Sensitive	70.9	105	227	489
10	SR-74	e/o Warren Rd.	Sensitive	70.7	85	182	392
11	Stetson Av.	e/o Warren Rd.	Non-Sensitive	66.9	RW	79	171
12	Simpson Rd.	e/o SR-79	Sensitive	68.9	RW	107	230
13	Domenigoni Pkwy.	w/o SR-79	Sensitive	70.5	83	178	384
14	Domenigoni Pkwy.	e/o SR-79	Non-Sensitive	72.3	109	234	505
15	Domenigoni Pkwy.	e/o Warren Rd.	Sensitive	71.4	95	204	440

[1] Based on a review of existing aerial imagery.

[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: OPENING YEAR CUMULATIVE (2025) WITHOUT PROJECT CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	SR-79	s/o SR-74	Sensitive	69.3	RW	114	245
2	SR-79	s/o Simpson Rd.	Sensitive	70.3	62	133	286
3	SR-79	s/o Domenigoni Pkwy.	Non-Sensitive	73.2	96	206	444
4	Warren Rd.	n/o SR-74	Sensitive	68.3	RW	97	210
5	Warren Rd.	s/o SR-74	Non-Sensitive	69.7	RW	122	263
6	Warren Rd.	s/o Stetson Av.	Sensitive	67.7	RW	89	191
7	Warren Rd.	s/o Mustang Wy.	Sensitive	68.9	RW	107	232
8	SR-74	w/o SR-79	Sensitive	70.1	94	201	434
9	SR-74	e/o SR-79	Sensitive	71.3	112	241	519
10	SR-74	e/o Warren Rd.	Sensitive	71.5	96	206	444
11	Stetson Av.	e/o Warren Rd.	Non-Sensitive	67.6	RW	88	189
12	Simpson Rd.	e/o SR-79	Sensitive	66.2	RW	71	153
13	Domenigoni Pkwy.	w/o SR-79	Sensitive	70.5	82	177	382
14	Domenigoni Pkwy.	e/o SR-79	Non-Sensitive	72.5	111	240	517
15	Domenigoni Pkwy.	e/o Warren Rd.	Sensitive	71.9	102	219	471

[1] Based on a review of existing aerial imagery.

[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 7-4: OPENING YEAR CUMULATIVE (2025) WITH PROJECT CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	SR-79	s/o SR-74	Sensitive	70.4	63	135	292
2	SR-79	s/o Simpson Rd.	Sensitive	70.9	68	146	315
3	SR-79	s/o Domenigoni Pkwy.	Non-Sensitive	73.5	101	217	467
4	Warren Rd.	n/o SR-74	Sensitive	68.3	RW	98	210
5	Warren Rd.	s/o SR-74	Non-Sensitive	71.5	74	160	344
6	Warren Rd.	s/o Stetson Av.	Sensitive	70.2	61	132	284
7	Warren Rd.	s/o Mustang Wy.	Sensitive	71.0	69	148	319
8	SR-74	w/o SR-79	Sensitive	71.2	111	239	515
9	SR-74	e/o SR-79	Sensitive	71.7	120	258	557
10	SR-74	e/o Warren Rd.	Sensitive	72.0	103	221	477
11	Stetson Av.	e/o Warren Rd.	Non-Sensitive	67.6	RW	88	191
12	Simpson Rd.	e/o SR-79	Sensitive	69.2	RW	113	244
13	Domenigoni Pkwy.	w/o SR-79	Sensitive	70.9	88	189	408
14	Domenigoni Pkwy.	e/o SR-79	Non-Sensitive	72.8	116	251	540
15	Domenigoni Pkwy.	e/o Warren Rd.	Sensitive	71.9	102	219	472

[1] Based on a review of existing aerial imagery.
[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 Analysis prepared by Urban Crossroads, Inc. 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 Year 2025 conditions. Table 7-1 shows the Existing without Project conditions CNEL noise levels. The Existing without Project exterior noise levels range from 65.4 to 72.7 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 66.9 to 73.1 dBA CNEL. Table 7-5 shows that the Project off-site traffic noise level increases range from 0.1 to 3.5 dBA CNEL on the study area roadway segments. Based on the significance criteria for off-site traffic noise presented in Table 4-1, three of the study area roadway segments are shown to experience *potentially significant* off-site traffic noise level increases due to the proposed Project conditions. The segments are described below.

- Warren Road south of Stetson Avenue (Segment #6)
- Warren Road south of Mustang Way (Segment #7)
- Simpson Road east of SR-79 (Segment #12)

Section 7.4 describes the off-site traffic noise mitigation measures considered in this analysis. All other roadway segments would experience *less than significant* noise level increases due to the proposed with Project traffic conditions.

7.3 OPENING YEAR CUMULATIVE (2025) TRAFFIC NOISE LEVEL INCREASES

Table 7-3 presents the Opening Year Cumulative (OYC) without Project conditions CNEL noise levels. The OYC without Project exterior noise levels range from 66.2 to 73.2 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-4 shows that the OYC with Project conditions will range from 67.6 to 73.5 dBA CNEL. Table 7-6 shows that the Project off-site traffic noise level increases range from 0.0 to 3.0 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-1, three of the study area roadway segments are shown to experience *potentially significant* off-site traffic noise level increases due to the proposed Project conditions. The segments are described below.

- Warren Road south of Stetson Avenue (Segment #6)
- Warren Road south of Mustang Way (Segment #7)
- Simpson Road east of SR-79 (Segment #12)

Section 7.4 describes the off-site traffic noise mitigation measures considered in this analysis. All other roadway segments would experience *less than significant* noise level increases due to the proposed with Project traffic conditions.

7.4 OFF-SITE TRAFFIC NOISE IMPACTS

The off-site Traffic Noise Analysis shows that Project traffic noise level increases on three study area roadway segments will exceed the incremental noise level increase thresholds shown on Table 4-1. To reduce the *potentially significant* Project traffic noise level increases on the three study area roadway segments, potential noise mitigation measures were considered in this analysis. Potential mitigation measures discussed below include rubberized asphalt hot mix pavement and off-site noise barriers for the existing noise sensitive residential land uses adjacent to impacted roadway segments.

7.5.1 RUBBERIZED ASPHALT

Due to the potential noise attenuation benefits, rubberized asphalt considered as a mitigation measure for the off-site Project-related traffic noise level increases. To reduce traffic noise levels at the noise source, Caltrans research has shown that rubberized asphalt can provide noise attenuation of approximately 4 dBA for automobile traffic noise levels. (21) Changing the pavement type of a roadway has been shown to reduce the amount of tire/pavement noise produced at the source under both near-term and long-term conditions. Traffic noise is generated primarily by the interaction of the tires and pavement, the engine, and exhaust systems. For automobiles noise, as much as 75 to 90-percent of traffic noise is generated by the interaction of the tires and pavement, especially when traveling at higher and constant speeds. (2)

TABLE 7-5: EXISTING WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]			Incremental Noise Level Increase Threshold[3]	
				No Project	With Project	Project Addition	Limit	Exceeded?
1	SR-79	s/o SR-74	Sensitive	68.8	70.1	1.3	1.5	No
2	SR-79	s/o Simpson Rd.	Sensitive	69.8	70.5	0.7	1.5	No
3	SR-79	s/o Domenigoni Pkwy.	Non-Sensitive	72.7	73.1	0.4	3.0	No
4	Warren Rd.	n/o SR-74	Sensitive	66.9	67.0	0.1	1.5	No
5	Warren Rd.	s/o SR-74	Non-Sensitive	69.0	71.0	2.0	n/a	No
6	Warren Rd.	s/o Stetson Av.	Sensitive	67.0	69.9	2.9	1.5	**Yes**
7	Warren Rd.	s/o Mustang Wy.	Sensitive	68.2	70.5	2.3	1.5	**Yes**
8	SR-74	w/o SR-79	Sensitive	69.0	70.4	1.4	1.5	No
9	SR-74	e/o SR-79	Sensitive	70.3	70.9	0.6	1.5	No
10	SR-74	e/o Warren Rd.	Sensitive	70.1	70.7	0.6	1.5	No
11	Stetson Av.	e/o Warren Rd.	Non-Sensitive	66.8	66.9	0.1	n/a	No
12	Simpson Rd.	e/o SR-79	Sensitive	65.4	68.9	3.5	1.5	**Yes**
13	Domenigoni Pkwy.	w/o SR-79	Sensitive	70.1	70.5	0.4	1.5	No
14	Domenigoni Pkwy.	e/o SR-79	Non-Sensitive	72.0	72.3	0.3	3.0	No
15	Domenigoni Pkwy.	e/o Warren Rd.	Sensitive	71.4	71.4	0.0	1.5	No

[1] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.
[3] Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

TABLE 7-6: OPENING YEAR CUMULATIVE (2025) WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]			Incremental Noise Level Increase Threshold[3]	
				No Project	With Project	Project Addition	Limit	Exceeded?
1	SR-79	s/o SR-74	Sensitive	69.3	70.4	1.1	1.5	No
2	SR-79	s/o Simpson Rd.	Sensitive	70.3	70.9	0.6	1.5	No
3	SR-79	s/o Domenigoni Pkwy.	Non-Sensitive	73.2	73.5	0.3	3.0	No
4	Warren Rd.	n/o SR-74	Sensitive	68.3	68.3	0.0	1.5	No
5	Warren Rd.	s/o SR-74	Non-Sensitive	69.7	71.5	1.8	n/a	No
6	Warren Rd.	s/o Stetson Av.	Sensitive	67.7	70.2	2.5	1.5	**Yes**
7	Warren Rd.	s/o Mustang Wy.	Sensitive	68.9	71.0	2.1	1.5	**Yes**
8	SR-74	w/o SR-79	Sensitive	70.1	71.2	1.1	1.5	No
9	SR-74	e/o SR-79	Sensitive	71.3	71.7	0.4	1.5	No
10	SR-74	e/o Warren Rd.	Sensitive	71.5	72.0	0.5	1.5	No
11	Stetson Av.	e/o Warren Rd.	Non-Sensitive	67.6	67.6	0.0	n/a	No
12	Simpson Rd.	e/o SR-79	Sensitive	66.2	69.2	3.0	1.5	**Yes**
13	Domenigoni Pkwy.	w/o SR-79	Sensitive	70.5	70.9	0.4	1.5	No
14	Domenigoni Pkwy.	e/o SR-79	Non-Sensitive	72.5	72.8	0.3	3.0	No
15	Domenigoni Pkwy.	e/o Warren Rd.	Sensitive	71.9	71.9	0.0	1.5	No

[1] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.
[3] Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

According to research conducted by Caltrans (21) and (18) the Canadian Ministry of Transportation and Highways (22) a 4 dBA reduction in tire/pavement noise is attainable using rubberized asphalt under typical operating conditions.

The effectiveness of reducing traffic noise levels is higher on roadways with low percentages of heavy trucks, since the heavy truck engine and exhaust noise is not affected by rubberized alternative pavement due to the truck engine and exhaust stack height above the pavement itself. (21) Per Caltrans guidance a truck stack height is modeled using a height of 11.5 feet above the road. (4) (23) With the primary off-site traffic noise source consisting of heavy trucks with a stack height of 11.5 feet off the ground, the tire/pavement noise reduction benefits associated rubberized asphalt will be primarily limited to autos. While the off-site Project-related traffic noise level increases would theoretically be reduced with the 4 dBA reduction provided by rubberized asphalt, the reduction would not provide reliable benefits for the noise levels generated by heavy truck traffic. This is, as previously stated, due to the noise source height difference between automobiles and trucks.

While rubberized asphalt could provide some nominal noise reduction, this noise study recognizes that rubberized asphalt is only effective for in the reduction of tire-on-pavement noise at higher speeds and would not materially reduce primary truck-related noise sources (e.g., truck engine noise and exhaust stack noise). Since the use of rubberized asphalt would not materially lower off-site traffic noise levels at potentially affected receptors, rubberized asphalt is not proposed as mitigation for the Project and the off-site Project-related traffic noise level increases at adjacent land uses would remain *significant.*

7.5.2 OFF-SITE NOISE BARRIERS

While noise barriers are commonly used to reduce the potential traffic noise levels from nearby transportation noise source activities, they are typically developed in coordination with new noise sensitive residential development or as part of a roadway widening project. Even though off-site noise barriers are typically not developed due to individual off-site projects that contribute to the cumulative off-site traffic noise levels off-site noise barriers were considered in this analysis as a potential traffic noise mitigation measure to reduce the Project-related impacts.

Off-site noise barriers are estimated to provide a *readily perceptible* 5 dBA reduction which, according to the FHWA, is *simple* to attain when blocking the line-of-sight from the noise source to the receiver. (4) Caltrans guidance in the Highway Design Manual, Section 1102.3 (23), indicates that for design purposes, *the noise barrier should intercept the line of sight from the exhaust stack of a truck to the receptor*, and an 11.5-foot-high truck stack height is assumed to represent the truck engine and exhaust noise source. (23) Therefore, any exterior noise barriers at receiving noise sensitive land uses experiencing Project-related traffic noise level increases would need to be high enough and long enough to block the line-of-sight from the noise source (at 11.5 feet high per Caltrans) to the receiver (at 5 feet high per FHWA guidance) in order to provide a 5 dBA reduction per FHWA guidance it is not practical to construct 11.5 foot-high barriers at off-site locations along the study area roadway segments.

Additionally, arguably such barriers would block views from area land uses and would result in aesthetic and visual impacts affecting passersby that would off-set any noise attenuation benefits that may result from such walls. Lastly, the Applicant cannot autonomously construct off-site walls or other features at properties owned or controlled by others. As such, off-site noise barriers would not be feasible and would not lower the off-site traffic noise levels below a level of significance, and therefore, noise barriers are not proposed as mitigation for the Project.

7.6.3 SIGNIFICANT OFF-SITE TRAFFIC NOISE IMPACTS

Both rubberized asphalt and off-site noise barriers are considered as potential noise mitigation measures to reduce the *potentially significant* off-site traffic noise level increases shown on Tables 7-5 to 7-6. However, due to the reasons outlined about neither form of mitigation is recommended for implementation since they would not eliminate the off-site traffic noise level increases at the adjacent land uses to the impacted roadway segments. Therefore, the Project-related off-site traffic noise level increases at adjacent noise-sensitive land uses are considered a *significant and unavoidable* impact.

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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, out-patient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and equestrian clubs. Land uses that are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals.

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

R1: Location R1 represents the existing residence at 35125 Simpson Road, approximately 1,607 feet west of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R1 is placed at the building façade. A 24-hour noise measurement was taken near this location, L1, to describe the existing ambient noise environment.

R2: Location R2 represents the existing residence at 35224 Simpson Road, approximately 1,834 feet west of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R2 is placed at the building façade. A 24-hour noise measurement was taken near this location, L2, to describe the existing ambient noise environment.

R3: Location R3 represents the existing residence at 5599 Cottage Drive, approximately 1,993 feet northeast of the Project site. Receiver R3 is placed in the private outdoor living areas (backyards) facing the Project site. A 24-hour noise measurement was taken near this location, L3, to describe the existing ambient noise environment.

R4: Location R4 represents the existing residence at 28744 Warren Road, approximately 930 feet southeast of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R4 is placed at the building façade. A 24-hour noise measurement was taken near this location, L4, to describe the existing ambient noise environment.

R5: Location R5 represents the existing residence at 28758 Warren Road, approximately 1,066 feet southeast of the Project site. Receiver R5 is placed in the private outdoor living

areas (backyards) facing the Project site. A 24-hour noise measurement was taken near this location, L5, to describe the existing ambient noise environment.

EXHIBIT 8-A: RECEIVER LOCATIONS

9 OPERATIONAL NOISE IMPACTS

This section analyzes the potential stationary-source operational noise impacts at the nearest receiver locations, identified in Section 8, resulting from the operation of the proposed Simpson Road Warehouse Project. Exhibit 9-A of the Noise Study includes over 69 individual noise sources to fully describe the potential reasonable worst-case noise environment.

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. Consistent with similar warehouse uses, the Project business operations would primarily be conducted within the enclosed building, 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/truck parking activity, roof-top air conditioning units, parking lot vehicle movements, trash enclosure activity, 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 reasonable worst-case noise environment with the typical noise sources operating at the same time. These sources of noise activity will likely vary throughout the day.

9.2.1 MEASUREMENT PROCEDURES

The reference noise level measurements presented in this section were collected using a Larson Davis LxT Type 1 precision sound level meter (serial number 01146). The LxT sound level meter was calibrated using a Larson-Davis calibrator, Model CAL 200, was programmed in "slow" mode to record noise levels in "A" weighted form and was located at approximately five feet above the ground elevation for each measurement. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (16)

EXHIBIT 9-A: OPERATIONAL NOISE SOURCE LOCATIONS

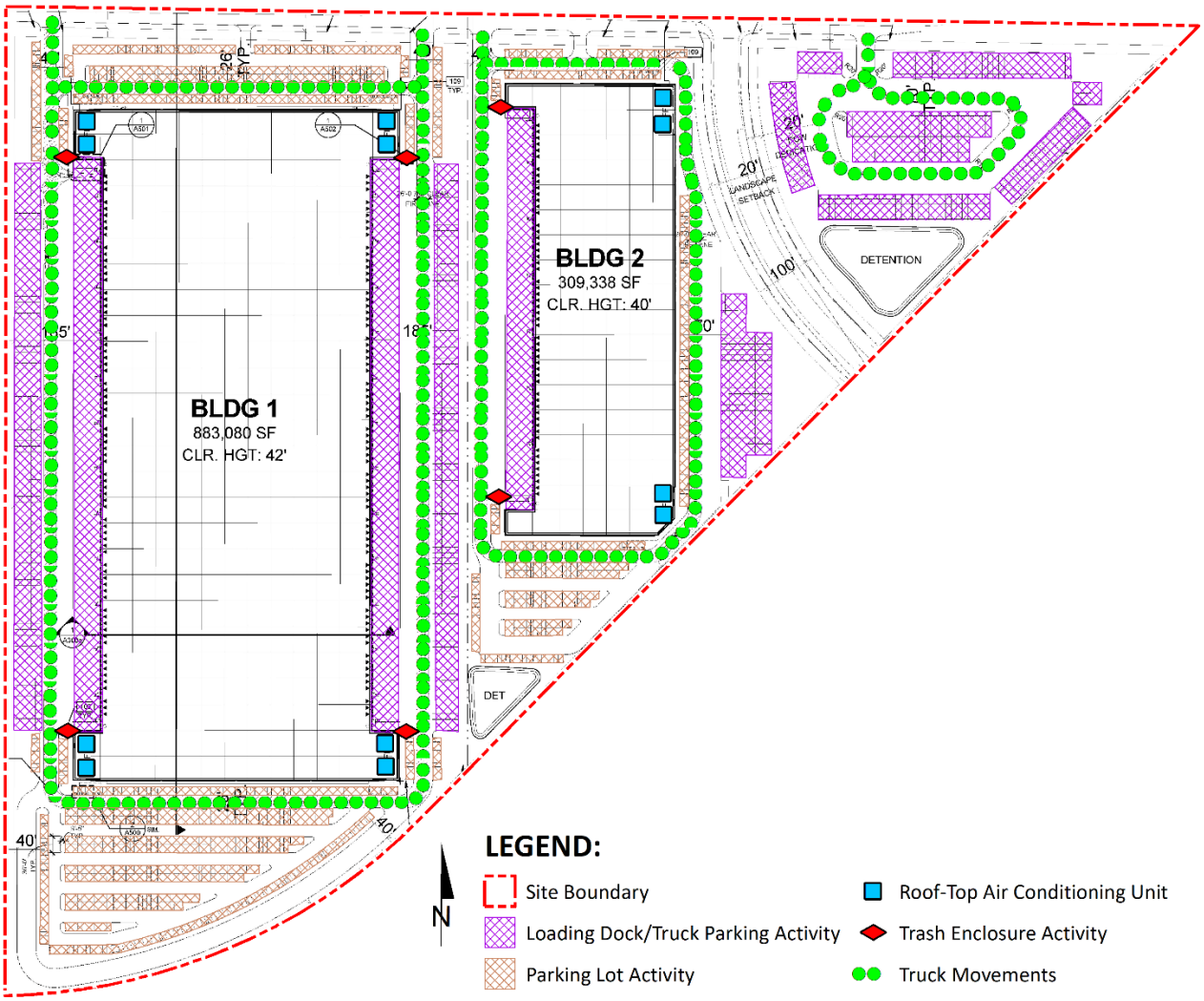


TABLE 9-1: REFERENCE NOISE LEVEL MEASUREMENTS

Reference Noise Source	Noise Source Height (Feet)	Min./ Hour[1]		Reference Noise Level (dBA L_{eq}) @ 50 Feet	Sound Power Level (dBA)[2]
		Day	Night		
Loading Dock/Truck Parking Activity	8'	60	60	62.8	103.4
Roof-Top Air Conditioning Units	5'	39	28	57.2	88.9
Parking Lot Vehicle Movements	5'	60	60	52.6	81.1
Trash Enclosure Activity	5'	60	30	57.3	89.0
Truck Movements	8'	60	60	59.8	93.2

[1] 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.

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

9.2.2 LOADING DOCK/TRUCK PARKING ACTIVITY

The reference loading dock activities are intended to describe the typical operational noise source levels associated with the Project. This includes truck idling, deliveries, backup alarms, unloading/loading, docking including a combination of tractor trailer semi-trucks, two-axle delivery trucks, and background forklift operations. At a uniform reference distance of 50 feet, Urban Crossroads collected a reference noise level of 62.8 dBA L_{eq}. The loading dock activity noise level measurement was taken over a fifteen-minute period and represents multiple noise sources taken from the center of activity. The reference noise level measurement includes employees unloading a docked truck container included the squeaking of the truck's shocks when weight was removed from the truck, employees playing music over a radio, as well as a forklift horn and backup alarm. In addition, during the noise level measurement a truck entered the loading dock area and proceeded to reverse and dock in a nearby loading bay, adding truck engine, idling, air brakes noise, in addition to on-going idling of an already docked truck. Loading dock activity is estimated during all the daytime, evening, and nighttime hours.

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 level is 57.2 dBA L_{eq}. Based on the typical operating conditions observed over a four-day measurement period, the roof-top air conditioning units are estimated to operate for and average 39 minutes per hour during the daytime hours, and 28 minutes per hour during the nighttime hours. These operating conditions reflect peak summer cooling requirements with measured temperatures approaching 96 degrees Fahrenheit (°F) with average daytime temperatures of 82°F. For this noise analysis, the air conditioning units are expected to be located on the roof of the Project buildings.

9.2.4 PARKING LOT VEHICLE MOVEMENTS

To describe the on-site parking lot activity, a long-term 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 52.6 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 to cars pulling in and out of parking spaces in combination with car doors opening and closing.

9.2.5 TRASH ENCLOSURE ACTIVITY

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

9.2.6 TRUCK MOVEMENTS

The truck movements reference noise level measurement was collected over a period of 1 hour and 28 minutes and represent 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.

9.3 CADNAA NOISE PREDICTION MODEL

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

While sound pressure levels (e.g., L_{eq}) quantify in decibels the intensity of given sound sources at a reference distance, sound power levels (L_w) are connected to the sound source and are independent of distance. Sound pressure levels vary substantially with distance from the source and diminish because of intervening obstacles and barriers, air absorption, wind, and other factors. Sound power is the acoustical energy emitted by the sound source and is an absolute

value that is not affected by the environment. The operational noise level calculations provided in this noise study account for the distance attenuation provided due to geometric spreading, when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. A default ground attenuation factor of 0.5 was used in the CadnaA noise analysis to account for mixed ground representing a combination of hard and soft surfaces. Appendix 9.1 includes the detailed noise model inputs including the planned screenwalls 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/truck parking activity, roof-top air conditioning units, parking lot vehicle movements, trash enclosure activity, 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 9-2 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 are expected to range from 36.6 to 43.6 dBA L_{eq}.

TABLE 9-2: DAYTIME PROJECT OPERATIONAL NOISE LEVELS

Noise Source[1]	Operational Noise Levels by Receiver Location (dBA Leq)				
	R1	R2	R3	R4	R5
Loading Dock/Truck Parking Activity	36.5	35.9	39.5	42.5	43.4
Roof-Top Air Conditioning Units	23.8	25.8	25.1	25.7	27.4
Parking Lot Vehicle Movements	18.6	17.5	15.3	17.7	19.8
Trash Enclosure Activity	19.7	18.5	13.9	15.5	16.8
Truck Movements	22.9	22.1	24.9	24.5	26.0
Total (All Noise Sources)	**37.0**	**36.6**	**39.8**	**42.7**	**43.6**

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

Table 9-3 shows the Project operational noise levels during the 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 36.4 to 43.6 dBA L_{eq}. The minor 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.

TABLE 9-3: NIGHTTIME PROJECT OPERATIONAL NOISE LEVELS

Noise Source[1]	Operational Noise Levels by Receiver Location (dBA Leq)				
	R1	R2	R3	R4	R5
Loading Dock/Truck Parking Activity	36.5	35.9	39.5	42.5	43.4
Roof-Top Air Conditioning Units	21.4	23.4	22.7	23.3	25.0
Parking Lot Vehicle Movements	18.6	17.5	15.3	17.7	19.8
Trash Enclosure Activity	15.7	14.6	10.0	11.5	12.9
Truck Movements	22.9	22.1	24.9	24.5	26.0
Total (All Noise Sources)	**36.9**	**36.4**	**39.8**	**42.6**	**43.6**

[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 Hemet exterior noise level standards at nearby noise-sensitive receiver locations. Table 9-4 shows the operational noise levels associated with Simpson Road Warehouse Project will not exceed the applicable City of Hemet 60 dBA L_{eq} daytime and 45 dBA L_{eq} nighttime exterior noise level standards. Therefore, the operational noise impacts are considered *less than significant* at the nearby noise-sensitive receiver locations.

TABLE 9-4: OPERATIONAL NOISE LEVEL COMPLIANCE

Receiver Location[1]	Project Operational Noise Levels (dBA Leq)[2]		Noise Level Standards (dBA Leq)[3]		Noise Level Standards Exceeded?[4]	
	Daytime	Nighttime	Daytime	Nighttime	Daytime	Nighttime
R1	37.0	36.9	60	45	No	No
R2	36.6	36.4	60	45	No	No
R3	39.8	39.8	60	45	No	No
R4	42.7	42.6	60	45	No	No
R5	43.6	43.6	60	45	No	No

[1] See Exhibit 8-A for the receiver locations.
[2] Proposed Project unmitigated operational noise levels as shown on Tables 9-2 and 9-3.
[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 that may be potentially impacted by Project operational noise sources. Since the units used to measure noise, decibels (dB), are logarithmic units, the Project-operational and existing ambient noise levels cannot be combined using standard arithmetic equations. (2) Instead, they must be logarithmically added using the following base equation:

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

Where "SPL1," "SPL2," etc. are equal to the sound pressure levels being combined, or in this case, the Project-operational and existing ambient noise levels. The difference between the combined Project and ambient noise levels describes the Project noise level increases to the existing ambient noise environment. Noise levels that would be experienced at receiver locations when Project-source noise is added to the daytime and nighttime ambient conditions are presented on Tables 9-5 and 9-6, respectively. As indicated on Tables 9-5, the Project will generate a daytime operational noise level increase ranging from 0.0 to 0.1 dBA L_{eq} at the nearest receiver locations. Table 9-6 shows that the Project will generate a nighttime operational noise level increase ranging from 0.0 to 0.2 dBA L_{eq} at the nearest receiver locations. Project-related operational noise level increases will not exceed the operational noise level increase significance criteria presented in Table 4-1, and, therefore, the increases at the sensitive receiver locations will be *less than significant.*

TABLE 9-5: DAYTIME PROJECT OPERATIONAL NOISE LEVEL INCREASES

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Increase[6]	Increase Criteria[7]	Increase Criteria Exceeded?
R1	36.9	L1	64.6	64.6	0.0	5.0	No
R2	36.4	L2	70.1	70.1	0.0	1.5	No
R3	39.8	L3	63.0	63.0	0.0	5.0	No
R4	42.6	L4	57.9	58.0	0.1	5.0	No
R5	43.6	L5	54.1	54.5	0.4	5.0	No

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

TABLE 9-6: NIGHTTIME OPERATIONAL NOISE LEVEL INCREASES

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Increase[6]	Increase Criteria[7]	Increase Criteria Exceeded?
R1	36.9	L1	61.1	61.1	0.0	5.0	No
R2	36.4	L2	66.0	66.0	0.0	1.5	No
R3	39.8	L3	58.9	59.0	0.1	5.0	No
R4	42.6	L4	56.6	56.8	0.2	5.0	No
R5	43.6	L5	54.0	54.4	0.4	5.0	No

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

10 CONSTRUCTION ANALYSIS

This section analyzes potential impacts resulting from the short-term construction activities associated with the development of the Project. Exhibit 10-A shows the construction activity boundaries in relation to the nearest sensitive receiver locations previously described in Section 6. However, neither the General Plan nor the Municipal Code establish numeric maximum acceptable construction source noise levels at potentially affected receivers for CEQA analysis purposes. Therefore, to evaluate whether the Project will generate potentially significant short-term noise levels at nearby noise sensitive residential receiver locations, a daytime exterior construction noise level of 80 dBA L_{eq} is used as a reasonable threshold to assess construction noise level impacts based on the FTA detailed analysis construction noise criteria with a nighttime exterior construction noise level of 70 dBA L_{eq}. (8 p. 179)

10.1 CONSTRUCTION NOISE LEVELS

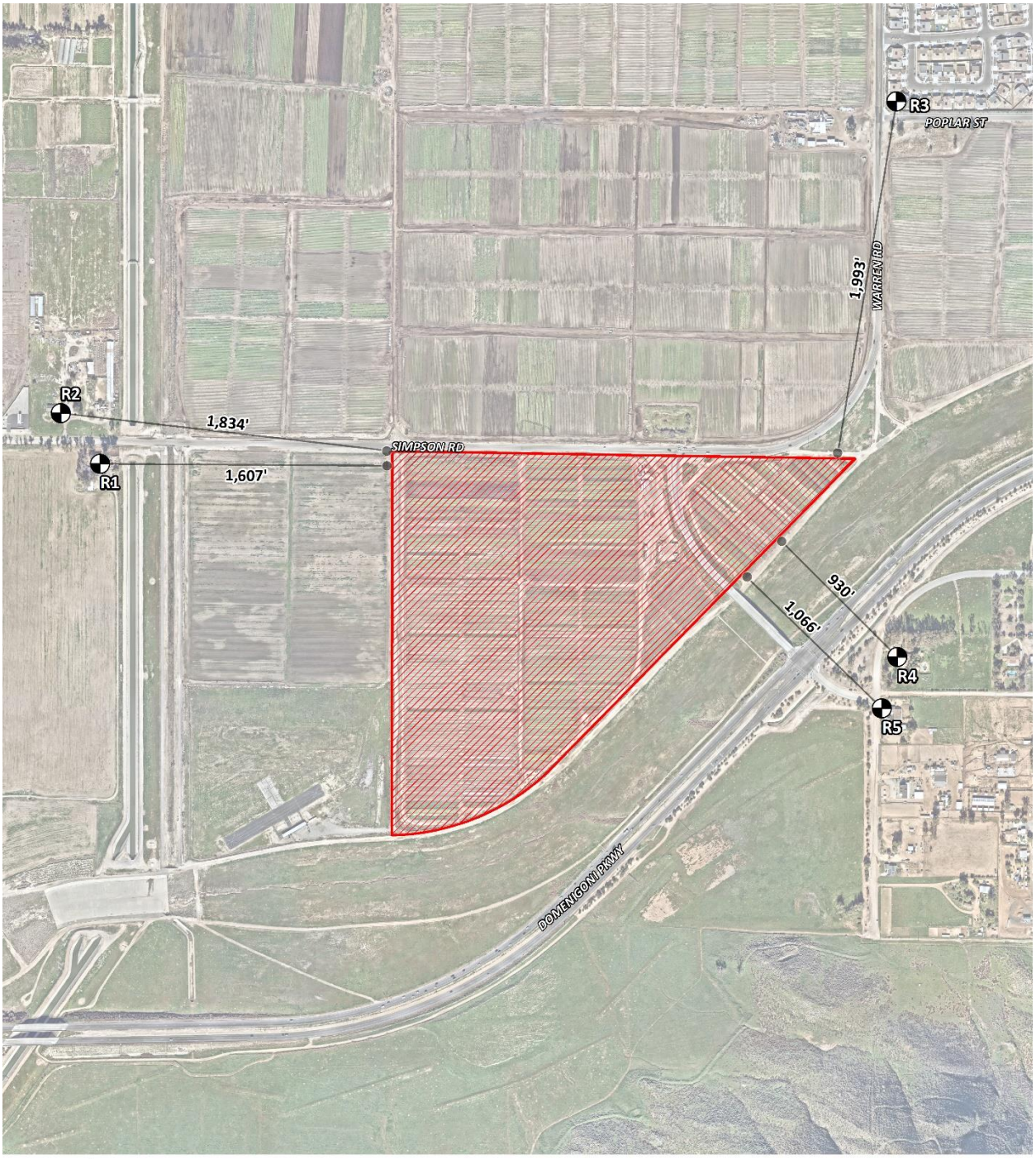
The FTA *Transit Noise and Vibration Impact Assessment Manual* recognizes that construction projects are accomplished in several different stages and outlines the procedures for assessing noise impacts during construction. Each stage has a specific equipment mix, depending on the work to be completed 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. (24) The RCNM equipment database, provides a comprehensive list of the noise generating characteristics for specific types of construction equipment. In addition, the database provides an acoustical usage factor to estimate the fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation.

EXHIBIT 10-A: CONSTRUCTION NOISE SOURCE LOCATIONS



LEGEND:

N

Construction Activity | Receiver Locations | Distance from receiver to Project site boundary (in feet)

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 detailed construction noise assessment, Table 10-1 presents the combined noise levels for the loudest construction equipment, assuming all equipment operates at the same time. To account for the dynamic nature of construction activities, the CadnaA construction noise analysis evaluates the equipment as multiple moving point sources within the construction area (Project site boundary). Construction impacts are based on the highest noise level calculated at each receiver location. As shown on Table 10-2, the construction noise levels are expected to range from 38.6 to 50.5 dBA L_{eq} at the nearby receiver locations. Appendix 10.1 includes the detailed CadnaA construction noise model inputs.

TABLE 10-1: CONSTRUCTION REFERENCE NOISE LEVELS

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

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

TABLE 10-2: CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY

Receiver Location[1]	Construction Noise Levels (dBA L_{eq})					
	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Highest Levels[2]
R1	47.6	46.9	44.2	41.5	39.8	47.6
R2	46.4	45.7	43.0	40.3	38.6	46.4
R3	46.5	45.8	43.1	40.4	38.7	46.5
R4	49.1	48.4	45.7	43.0	41.3	49.1
R5	50.5	49.8	47.1	44.4	42.7	50.5

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

10.4 CONSTRUCTION NOISE LEVEL COMPLIANCE

To evaluate whether the Project will generate potentially significant short-term noise levels at nearest receiver locations, a construction-related daytime noise level threshold of 80 dBA L_{eq} is used as a reasonable threshold to assess the daytime construction noise level impacts. The construction noise analysis shows that the nearest receiver locations will satisfy the reasonable daytime 80 dBA L_{eq} significance threshold during Project construction activities, as shown on Table 10-3. Therefore, the noise impacts due to Project construction noise are considered *less than significant* at all receiver locations.

TABLE 10-3: CONSTRUCTION NOISE LEVEL COMPLIANCE

Receiver Location[1]	Construction Noise Levels (dBA L_{eq})		
	Highest Construction Noise Levels[2]	Threshold[3]	Threshold Exceeded?[4]
R1	47.6	80	No
R2	46.4	80	No
R3	46.5	80	No
R4	49.1	80	No
R5	50.5	80	No

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

10.5 OFF-SITE ROADWAY AND UTILITY IMPROVEMENTS CONSTRUCTION NOISE ANALYSIS

To support the Project development, the Project would construct onsite water lines to connect to the existing 24-inch water main in Simpson Road. The Project would also construct onsite sewer lines to connect to a new 24-inch sewer main in Simpson Road, which would also be

constructed by the Project. Runoff from the Project site would be collected and treated by four underground and two aboveground infiltration basins, located throughout the site. The Project would construct onsite storm drain improvements, which would emergency overflow to Salt Creek Channel, mimicking existing conditions. The Project includes a 32-foot dedication to the Simpson Road right-of-way and would widen Simpson Road by approximately 20-feet. Additionally, the Project includes a 40-foot dedication to the Warren Road right-of-way and would widen Warren Road by approximately 26-feet. The Project would include construction of new sidewalks on all Project frontages. All off-site infrastructure and improvements would occur concurrently with the construction of the proposed Project. The loudest phase of construction associated with off-site roadway and utility improvements would likely be grading/excavation activities, which would generate similar noise levels compared to the grading/excavation phase of the proposed project's on-site construction activities previously outlined on Table 10-1.

It is expected that the off-site construction activities will be constructed within the existing public right-of-way (ROW) and will not take place at any one location for more than four days due to the nature of the linear construction activity. Construction noise from this off-site work would, therefore, be relatively short-term and the noise levels would be reduced as construction work moves linearly along the selected alignment and farther from sensitive uses. Although not required to address a *potentially significant* impact, the following noise abatement measures would further reduce construction noise impacts from the Project construction and the off-site roadway and utility Improvements.

1. All construction activities shall comply with HMC Section 30-32[a][43], restricting construction activities to the approved hours of construction as set forth on a permit or other city entitlement as issued the building official, planning commission, or city council, or as otherwise prohibited by the Hemet Building Code.
2. Construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards).
3. All stationary construction equipment shall be placed in such a manner so that the emitted noise is directed away from any sensitive receivers.
4. Construction equipment staging areas shall be located at the greatest feasible distance between the staging area and the nearest sensitive receivers.
5. The construction contractor shall limit equipment and material deliveries to the same hours specified for construction equipment.
6. Electrically powered air compressors and similar power tools shall be used, when feasible, in place of diesel equipment.
7. No music or electronically reinforced speech from construction workers shall be allowed.

With the implementation of these construction noise abatement measures, the potential impacts from the Project and construction and off-site roadway and utility Improvements would be reduced. Therefore, the off-site roadway and utility improvement construction activities will be *less than significant.*

10.6 NIGHTTIME CONCRETE POUR NOISE ANALYSIS

It is our understanding that nighttime concrete pouring activities may 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. Since the nighttime concrete pours will take place outside the daytime hours the Project Applicant will be required to obtain authorization for nighttime work from the City of Hemet. Any nighttime construction noise activities shall satisfy the noise limits outlined in Table 4-1.

10.6.1 NIGHTTIME CONCRETE POUR REFERENCE NOISE LEVEL MEASUREMENTS

To estimate the noise levels due to nighttime concrete pouring 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. at 27334 San Bernardino Avenue in the City of Redlands. 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 Simpson Road Warehouse, this analysis relies on reference sound pressure level of 67.7 dBA L_{eq} at 50 feet.

10.6.2 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 31.1 to 35.2 dBA L_{eq} at the existing noise sensitive receiver locations. The analysis shows that the unmitigated nighttime concrete pour activities will not exceed the FTA 70 dBA L_{eq} nighttime residential noise level threshold at all the nearest noise sensitive receiver locations. Therefore, the noise impacts due to Project construction nighttime concrete pour noise activity are considered *less than significant* at all receiver locations with prior authorization for nighttime work from the City of Hemet. Appendix 10.3 includes the CadnaA nighttime concrete pour noise model inputs.

TABLE 10-4: NIGHTTIME CONCRETE POUR NOISE LEVEL COMPLIANCE

Receiver Location[1]	Concrete Pour Construction Noise Levels (dBA L_{eq})		
	Exterior Noise Levels[2]	Threshold[3]	Threshold Exceeded?[4]
R1	32.3	70	No
R2	31.1	70	No
R3	31.2	70	No
R4	33.8	70	No
R5	35.2	70	No

[1] Construction noise source and receiver locations are shown on Exhibit 10-A.
[2] Nighttime Concrete Pour noise model inputs are included in Appendix 10.2.
[3] Exterior nighttime noise level standards as shown on Table 4-1.
[4] Do the estimated Project construction noise levels exceed the construction noise level threshold?

10.7 CONSTRUCTION VIBRATION ANALYSIS

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods employed. The operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Ground vibration levels associated with various types of construction equipment are summarized in 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: $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$

TABLE 10-5: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

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

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 930 to 1,993 feet from Project construction activities, construction vibration velocity levels are estimated to range from 0.000 to 0.001 PPV in/sec. 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.

TABLE 10-6: PROJECT CONSTRUCTION VIBRATION LEVELS

Location[1]	Distance to Const. Activity (Feet)[2]	Typical Construction Vibration Levels PPV (in/sec)[3]						Thresholds PPV (in/sec)[4]	Thresholds Exceeded?[5]
		Small bulldozer	Jack-hammer	Loaded Trucks	Large bulldozer	Vibratory Roller	Highest Vibration Level		
R1	1,607'	0.000	0.000	0.000	0.000	0.000	0.000	0.3	No
R2	1,834'	0.000	0.000	0.000	0.000	0.000	0.000	0.3	No
R3	1,993'	0.000	0.000	0.000	0.000	0.000	0.000	0.3	No
R4	930'	0.000	0.000	0.000	0.000	0.001	0.001	0.3	No
R5	1,066'	0.000	0.000	0.000	0.000	0.001	0.001	0.3	No

[1] Construction noise source and receiver locations are shown on Exhibit 10-A.
[2] Distance from receiver to limits of construction activity.
[3] Based on the Vibration Source Levels of Construction Equipment (Table 10-5).
[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

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13. **California Court of Appeal.** *Gray v. County of Madera, F053661.* 167 Cal.App.4th 1099; - Cal.Rptr.3d, October 2008.
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20. **EPD Solutions, Inc.** *Simpson Road Warehouse Traffic Impact Analysis Report.* November 2, 2023.

21. **California Department of Transportation Environmental Program.** *I-80 Davis OGAC Pavement Noise Study.* September 2001.

22. **Canadian Ministry of Transportation and Highways, Highway Environment Branch.** *Open-Graded Asphalt 'Quiet Pavement' - Assessment of Traffic Noise Reduction Performance.* November 1995.

23. **California Department of Transportation.** *Highway Design Manual, Chapter 1100 Highway Traffic Noise Abatement.* November 2017.

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

12 CERTIFICATIONS

The contents of this noise study report represent an accurate depiction of the noise environment and impacts associated with the proposed Simpson Road Warehouse 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.

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EDUCATION

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

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

PROFESSIONAL REGISTRATIONS

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

PROFESSIONAL AFFILIATIONS

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

PROFESSIONAL CERTIFICATIONS

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

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APPENDIX 3.1:

CITY OF HEMET DEVELOPMENT CODE

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Sec. 30-32[.1]. Prohibited public nuisance conditions.

The city council finds and declares that, notwithstanding any other provision of the Municipal Code, it is a public nuisance and unlawful for any person to allow, cause, create, maintain, or suffer, or permit others to cause, create, or maintain the following:

(a) Any real property or premises in the city in such a manner that any one or more of the following conditions are found to exist thereon:

(1) Land, the topography, geology or configuration of which, whether in natural state or as a result of the grading operations, excavation or fill, causes erosion, subsidence, or surface water drainage problems of such magnitude as to be injurious or potentially injurious to the public health, safety and welfare, or to adjacent properties.

(2) Buildings or other structures, or portions thereof, that are partially constructed or destroyed or allowed to remain in a state of partial construction or destruction for an unreasonable period of time. As used in this section, the term "unreasonable period" means any portion of time exceeding the period given to a responsible person by the city for the complete abatement of this nuisance condition with all required city approvals, permits and inspections. One or more of the following factors may be used by the city to establish a reasonable period for the complete abatement of this nuisance:

a. The degree of partial construction or destruction and the cause therefor.

b. Whether or not this condition constitutes an attractive nuisance or if it otherwise poses or promotes a hazard to the health, safety, or welfare of the occupants or the general public.

c. The degree of visibility, if any, of this condition from public or adjoining private real property.

d. The scope and type of work that is needed to abate this nuisance.

e. The existence of any current and valid approvals, permits, or other entitlements for the partially constructed or destroyed building or structure.

f. The promptness with which a responsible person has applied for and obtained all required city approvals and permits in order to lawfully commence the nuisance abatement actions.

g. Whether or not a responsible person has complied with other required technical code requirements, including requesting and passing required inspections in a timely manner, while completing nuisance abatement actions.

h. Whether or not a responsible person has applied for extensions to a technical code permit or renewed an expired permit, as well as the number of extensions and renewals that a responsible person has previously sought or obtained from the city.

i. Whether or not a responsible person has made substantial progress, as determined by the city, in performing nuisance abatement actions under a technical code permit that has expired, or is about to expire.

j. Whether delays in completing nuisance abatement actions under a technical code permit have occurred, and the reasons for such delays.

(3) Real property, or any building or structure thereon, that is abandoned, uninhabited, or vacant (irrespective of whether said structure is secured against unauthorized entry) for a period of more than six months.

(4) Exterior portions of buildings or structures (including, but not limited to, roofs, balconies, decks, fences, stairs, stairways, walls, signs and fixtures) and any detached or freestanding structure (including, but not limited to, fences and walls) that have become defective, cracked, broken, unsightly, or no longer viable; or are maintained in a condition of dilapidation, deterioration or disrepair to such an extent as to result in, or tend to result in, a diminution in property values; or where such condition creates a hazard to persons using said building, structure, or way; or where such condition interferes with the peaceful use, possession and/or enjoyment of adjacent properties; or where such condition otherwise violates, or is contrary to, the Hemet Municipal Code, or other applicable law.

(5) Sidewalks, walkways, pedestrian ways, driveways, and parking areas that have become defective, cracked, broken, unsightly, or no longer viable; or are maintained in a condition of dilapidation, deterioration or disrepair to such an extent as to result in, or tend to result in, a diminution in property values; or where such condition creates a hazard to persons using said building, structure, or way; or where such condition interferes with the peaceful use, possession and/or enjoyment of adjacent properties; or where such condition otherwise violates, or is contrary to, the Hemet Municipal Code, or other applicable law.

(6) Failure to provide and maintain adequate weather protection to buildings or structures (including but not limited to, fences, walls, and retaining walls) in such a manner that results in or tends to result in the existence of cracked, peeling, warped, rotted, deteriorated, or severely damaged paint, stucco or other exterior covering or that otherwise results in or tends to result in the decay, deterioration, or dilapidation of the building or structure.

(7) Broken, defective, damaged, dilapidated, or missing windows, doors, or vents in a building or structure, and/or broken, defective, damaged, dilapidated, or missing screens for windows, doors, or crawl spaces in a building or structure.

(8) Windows or doors that remain boarded up or sealed after 15 calendar days of written city notice to a responsible person requesting the removal of these coverings and the installation of fully functional or operable windows or doors. City actions to board up or seal windows or doors in order to deter unauthorized entry into structures shall not relieve responsible persons from installing fully functional or operational windows or doors.

(9) Obstructions of any kind, cause or form that interfere with required light or ventilation for a building or structure, or that interfere with, hinder, delay, or impede ingress therein and/or egress therefrom.

(10) Abandoned, broken, or neglected personal property that is visible from public or private property.

(11) Any form of an attractive nuisance.

(12) Interior portions of buildings or structures (including, but not limited to, attics, ceilings, walls floors, basements, mezzanines, and common areas) that have become defective, unsightly, or are maintained in a condition of dilapidation, deterioration or disrepair to such an extent as to result in, or tend to result in, a diminution in property values; or where such condition interferes with the peaceful use, possession and/or enjoyment of properties in the vicinity; or where such condition otherwise violates, or is contrary to, the Hemet Municipal Code or other applicable law.

(13) Items of junk, trash, debris, waste, or other personal property that are kept, placed, or stored inside of a structure or on exterior portions of real property that constitute a fire or safety hazard or a violation of any provision of the Hemet Municipal Code; or items of junk, trash, debris, waste, or other personal property that are visible from public or private real property, or that are otherwise out of conformity with neighboring community standards to such an extent as to result

in, or tend to result in, a diminution in property values. Notwithstanding the foregoing, the existence of a junkyard is not a nuisance when such use and the premises on which such use occurs are in full compliance with all provisions of the Hemet Zoning Code (including all approvals and permits required thereby), and all other applicable provisions of the Hemet Municipal Code and any future amendments and additions thereto, as well as applicable county, state, and/or federal laws and regulations.

(14) The keeping or disposing of, or the scattering or accumulating of flammable, combustible or other materials including, but not limited to, composting, firewood, lumber, junk, trash, debris, packing boxes, pallets, plant cuttings, tree trimmings or wood chips, discarded items, or other personal property on exterior portions of real property, or within any building or structure thereon, when such items or accumulations:

a. Render premises unsanitary or substandard as defined by the Hemet Housing Code, the state housing law, the Hemet Building Code, or other applicable local, state, or federal law, rule, or regulation;

b. Violate the Hemet Health Code, Riverside County Health Code, or other any other health code adopted by and/or applicable in the City of Hemet;

c. Cause, create, or tend to contribute to, a fire or safety hazard;

d. Harbor, promote, or tend to contribute to, the presence of rats, vermin and/or insects;

e. Cause, create, or tend to contribute to, an offensive odor; or

f. Cause the premises to be out of conformity with neighboring community standards to such an extent as to result in, or tend to result in, a diminution of property values; provided, however, that this use of land or condition shall not constitute a nuisance when expressly permitted under the applicable zone classification and the premises are in full compliance with all provisions of the Hemet Zoning Code, and all other applicable provisions of the Hemet Municipal Code and any future amendments and additions thereto, as well as applicable county, state, and/or federal laws and regulations.

(15) Unsanitary, polluted or unhealthful pools, ponds, standing water or excavations containing water that constitutes an attractive nuisance or that is otherwise likely to attract or harbor mosquitoes, insects or other vectors. The likelihood of insect harborage is evidenced by any of the following conditions: water which is unclear, murky, clouded or green; water containing bacterial growth, algae, insect larvae, insect remains, or animal remains; or, bodies of water which are abandoned, neglected, unfiltered or otherwise improperly maintained.

(16) The hanging, drying, or airing of clothing or household fabrics on fences, trees, or shrubberies, or the existence of clotheslines, in front yard areas of any real property.

(17) Canopies, tents, tarps, or other similar membrane structures located in the front yard of any real property or in any yard area that is visible from a public vantage in excess of 72 hours, unless otherwise authorized pursuant to a permit or other entitlement from the city;

(18) Overgrown vegetation, including, but not limited to, any one of the following:

a. Vegetation likely to harbor, or promote the presence of, rats, vermin and/or insects.

b. Vegetation causing detriment to neighboring properties, or that is out of conformity with neighboring community standards to such an extent as to result in, or contribute to, a diminution of property values, including, but not limited to:

1. Lawns with grass in excess of six inches in height.

2. Hedges, trees, lawns, plants, or other vegetation that are not maintained in a neat, orderly, and healthy manner as a result of lack of adequate mowing, grooming, trimming, pruning, fertilizing, watering, and/or replacement.

c. Vegetation that creates, or tends to create, the existence of a fire hazard.

d. Vegetation that overhangs or grows onto or into any public property, including, but not limited to, any public alley, highway, land, sidewalk, street or other right-of-way, so as to cause an obstruction to any person or vehicle using such public property.

(19) Dead, decayed, diseased or hazardous trees, weeds, ground cover, and other vegetation, or the absence of healthful vegetation, that causes, contributes to, or tends to cause or contribute to, any one of the following conditions or consequences:

a. An attractive nuisance;

b. A fire hazard;

c. The creation or promotion of dust or soil erosion;

d. A diminution in property values; or

e. A detriment to public health, safety or welfare.

(20) Lack of landscaping or other approved ground cover in any yard area as otherwise required by the Hemet Zoning Code or other provisions of the City Municipal Code, as well as design guidelines or specific plans adopted by the city council, or so as to otherwise cause or promote the existence of excessive dust or to allow the accumulation of debris. Visible front and side yards shall be mowed, landscaped and otherwise maintained to the satisfaction of the community development director or his or her designee. Landscape includes, but is not limited to, grass, ground covers, bushes, shrubs, hedges or similar plantings, decorative rock, bark, artificial turf, and sod. Weeds, dirt, gravel, broken concrete, asphalt, decomposed granite, plastic sheeting, mulch, indoor-outdoor carpet or any similar materials are not acceptable landscaping or ground cover. Maintenance of landscaping includes, but is not limited to, regular watering, irrigation, cutting, pruning and mowing of required landscape and removal of all trimmings.

(21) Waste containers, yard waste containers, and recycling containers that are kept, placed or stored in driveways or parking areas, or in front or side yards, such that said containers are visible from public streets, except when located in places of collection at times permitted and in full compliance with this Code.

(22) The use, parking, or storing of any recreational vehicle as temporary or permanent living space, unless otherwise authorized in accordance with section 90-1422(e) or other applicable provisions of this Code.

(23) Vehicles, trailers, campers, boats, recreational vehicles, and/or other mobile equipment placed, parked or stored in front yards of private real property (except when placed, parked, or stored on an approved driveway) or as otherwise in violation of any provision of the Hemet Municipal Code.

(24) Vehicles, trailers, campers, boats, recreational vehicles, and/or other mobile equipment placed, parked or stored on any portion of an undeveloped or vacant property, except as otherwise authorized by a current and valid city permit.

(25) Vehicles, trailers, campers, boats, recreational vehicles, and/or other mobile equipment placed, parked, or stored on any unpaved surface, or on any paved surface that does not have continuously paved access to an adjacent street, alley, highway, or other public right-of-way for vehicular travel.

(26) Parking spaces required by the Hemet Municipal Code, including the Hemet Zoning Code, that are not maintained in such a manner that said spaces are continuously free and accessible for vehicle parking without the movement of real or personal property.

(27) Abandoned, dismantled, inoperable or wrecked boats, campers, motorcycles, trailers, vehicles, or parts thereof, unless kept, placed, parked, or stored inside of a completely enclosed, lawfully constructed building or structure.

(28) Vehicles, construction equipment, or other machinery exceeding the permissible gross vehicle weight for the streets or public property upon which they are located. A nuisance also exists under this provision when a vehicle, construction equipment, or other machinery is stopped, kept, placed, parked, or stored on private real property and when such vehicle, equipment, or machinery exceeds the permissible gross vehicle weight for the streets or public property that were utilized in its placement on said private real property unless pursuant to a valid permit issued by the city.

(29) Any equipment, machinery, storage bin, or vehicle of any type or description that is designed, used, or maintained for construction-type activities that is kept, parked, placed, or stored on public or private real property except when such item is being used during excavation, construction, or demolition operations at the site where said equipment, machinery, or vehicle is located pursuant to an active permit issued by the city and is otherwise in compliance with all conditions of said permit and all applicable laws, rules, and regulations.

(30) Construction activity and/or the construction sites that are not conducted or maintained in accordance with accepted and approved best management practices, as determined by the directors of building and safety, engineering, and/or public works divisions.

(31) Maintenance of signs, or sign structures, on real property relating to uses no longer lawfully conducted or products no longer lawfully sold thereon, or signs and their structures that are in disrepair or which are otherwise in violation of, or contrary to, the Hemet Municipal Code, including the Hemet Zoning Code.

(32) Specialty structures that have been constructed for a specific single use only, and which are unfeasible to convert to other uses, and which are abandoned, partially destroyed or are permitted to remain in a state of partial destruction or disrepair. Such specialty structures include, but are not limited to, the following: tanks for gas or liquids, lateral support structures and bulkheads, utility high-voltage towers and poles, utility high-rise support structures, electronic transmitting antennas and towers, structures which support or house mechanical and utility equipment and are located above the roof lines of existing buildings, high-rise freestanding chimneys and smokestacks, and recreational structures such as tennis courts and cabanas.

(33) Any personal property or structure that obstructs or encroaches on any public property, including, but not limited to, any public alley, highway, land, sidewalk, street or other right-of-way, unless a valid encroachment permit or other city approval has been issued authorizing said encroachment or obstruction.

(34) The presence of graffiti or other defacement of real or personal property on a building, structure or vehicle, or portion thereof, or the presence of graffiti on a building, structure, or vehicle that has been painted over with a color that does not match the exterior of the remaining portion of the building or structure, in such instances where the paint, graffiti, or defacement is visible from a public right-of-way or from private real property.

(35) Storage of hazardous or toxic materials or substances, as so classified by any local, state or federal laws or regulations, on real property in such a manner as to be injurious, or potentially

injurious or hazardous, to the public health, safety or welfare, or to adjacent properties, or that otherwise violates local, state or federal laws or regulations.

(36) Accumulations of grease, oil, or other hazardous material on paved or unpaved surfaces, driveways, buildings, walls, or fences that are not stored in accordance with applicable laws.

(37) The disposing of, depositing of, or discharge of any substance or material other than stormwater which enters, or could possibly enter, the city's storm sewer system in violation of the Hemet Municipal Code.

(38) Maintenance of any tarpaulin (plastic, vinyl, canvas, or other similar material) or similar covering on or over any graded surface or hillside, except in the following circumstances:

a. A state of emergency has been declared by local, county, state, or federal officials directly impacting the area to be covered; and/or

b. Covering with a tarp performed pursuant to an active building or grading permit.

(39) Maintenance of any tarpaulin (plastic, vinyl, canvas, or other similar material) or similar covering on or over any roof of any structure, except during periods of active rainfall, or when specifically permitted under an active roofing or building permit.

(40) Maintenance of any tarpaulin (plastic, vinyl, canvas, or other similar non-durable material) or similar covering attached to, affixed to, or located on a fence for purposes of screening or for providing shade, except as otherwise approved pursuant to a current and valid city approval or permit.

(41) The keeping, maintaining, or suffering of any animal, reptile, or insect in a manner that poses a threat, disturbance, or menace to persons or property, or in such a manner or quantity that otherwise violates any provision of the Hemet Municipal Code.

(42) Any noise that is made, generated, produced, or continued (whether from a human, animal, or device) in such a manner that it unreasonably disturbs the peace and quiet of any neighborhood of which causes any discomfort or annoyance to any reasonable person of normal sensitivities, or that otherwise violates any provision of the Hemet Municipal Code, including the noise limits set forth in the Hemet Zoning Code, or that violates the general plan (public safety element). Factors which shall be considered in determining whether the noise is a nuisance shall include, but not be limited to the following:

a. The volume of the noise;

b. The intensity of the noise;

c. Whether the nature of the noise is usual or unusual;

d. Whether the origin of the noise is natural or unnatural;

e. The volume and intensity of the background noise, if any;

f. The proximity of the noise to residential sleeping facilities;

g. The nature of the zoning of the area from which the noise emanates;

h. The density of inhabitation of the area from which the noise emanates;

i. The time of day or night the noise occurs;

j. The duration of the noise;

k. Whether the noise is recurrent, intermittent, or constant;

l. Whether the noise is produced by commercial or noncommercial activity; and

m. Whether the noise is a consequence or expected result of an otherwise lawful use.

(43) Construction activities that occur outside of the approved hours of construction as set forth on a permit or other city entitlement as issued the building official, planning commission, or city council, or as otherwise prohibited by the Hemet Building Code.

(44) Maintenance of premises so out of harmony or conformity with the maintenance standards of properties in the vicinity as to cause, or that tends to cause, substantial diminution of the enjoyment, use, or property values of such properties in the vicinity.

(45) Any condition recognized in local or state law or in equity as constituting a public nuisance, or any condition existing on real property that constitutes, or tends to constitute, blight, or that is a health or safety hazard to the community or neighboring properties.

(b) Any dangerous building, unsafe building, unsafe structure, substandard building, or substandard property as defined by the Uniform Code for the Abatement of Dangerous Buildings, Uniform Housing Code, California Building Code, or California Residential Code, as adopted and amended by the Hemet Municipal Code.

(c) Any building or structure, or portion thereof, or the premises on which the same is located, in which there exists any of the conditions listed in Health and Safety Code § 17920.3, and any future amendments thereto.

(d) Any building or structure used by any person to engage in acts which are prohibited pursuant to the laws of the United States or the State of California, the provisions of the Hemet Municipal Code, or any other ordinance of the city, including, but not limited to, the following acts:

(1) Unlawful possession, use, and/or sale of controlled substances;

(2) Prostitution; and/or

(3) Unlawful gambling.

(e) Any chronic nuisance as prohibited by section 46-65.

(f) Any condition, use, or activity that constitutes a public nuisance as defined by Civil Code § 3479 or 3480, and any future amendments thereto.

(g) Any building, structure, or use of real property that violates or fails to comply with:

(i) Any applicable approval, permit, license, or entitlement or condition relating thereto;

(ii) Any ordinance of the city, including, but not limited to, any provision of this Code; or

(iii) Any applicable county, state, or federal law or regulation.

(Ord. No. 1865, § 2(Exh. A), 7-9-13)

Sec. 53-4. Noise.

No person shall willfully make or continue, or cause to be made or continued, any loud, unnecessary, and unusual noise which is greater than the level permissible for the applicable zone or which unreasonably disturbs the peace or quiet of any neighborhood or which would cause discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area.

The word "unreasonably" as used herein shall include but not be limited to, consideration of the hour, place, nature, and circumstances of any loud, unnecessary, and unusual noise.

(Ord. No. 1687 § 2, 7-8-03)

Sec. 67-10. Time of grading operations.

Grading is allowed Monday through Friday between the hours of 6:00 a.m. and 6:00 p.m. from June 1 through September 30, and between the hours of 7:00 a.m. and 6:00 p.m. from October 1 through May 31. Grading is allowed on Saturdays between the hours of 7:00 a.m. and 6:00 p.m. yearround. Grading on Sundays is prohibited.

The city engineer may extend the hours allowed for grading if he or she determines that such operations are not detrimental to the health, safety or welfare of the occupants of nearby structures, or the quiet enjoyment of nearby residential property.

(Ord. No. 1862, § 1(Exh. A), 6-25-13)

Sec. 90-1048. Performance standards.

All uses established or placed into operation shall comply at all times with the performance standards set out in this section. The director may require submission of evidence of ability to comply with the required conditions.

(1) *Noise.* No use, except a temporary construction operation, shall be permitted which creates noise of a maximum sound pressure level greater than the value established in the public safety element of the general plan, and adopted building codes, or as may be further determined by project specific mitigation measures. The general plan specifies land use compatibility standards to ensure that stationary noise sources (e.g., industrial uses) do not adversely affect noise-sensitive land uses and that community noise environments do not negatively affect land uses.

(2) *Fire, toxic materials, and explosion hazards.* The storage and handling of hazardous materials including flammable liquids, liquid petroleum gases and explosives shall comply with the state rules and regulations and with the ordinances of the city.

(3) *Air contaminants.* No use shall emit any air contaminant except in compliance with the rules and regulations of the south coast air management district and local regulations.

(4) *Odor.* No use shall be permitted which creates annoying odor in such quantities as to be readily detectable beyond the boundaries of the site.

(5) *Radioactivity and electrical disturbances.* The use of radioactive materials shall be limited to measuring, gauging and calibration devices such as tracer elements, use in X-ray and like apparatus, and use in connection with the processing and preservation of food. No use shall emit dangerous radioactivity or produce electric or magnetic fields that adversely affect public health, safety, and welfare including interference with normal radio, telephone, or television reception off-site.

(6) *Dust, heat, cold, glare and electrical disturbance.* No use, except a temporary construction operation, shall be permitted which creates dust, changes in temperature or direct or sky-reflecting glare detectable by the human senses without the aid of instruments beyond the boundaries of the site. No use shall be permitted which creates electrical disturbances that affect the operation of any equipment beyond the boundaries of the site.

(7) *Vibration.* No use, except a temporary construction operation, shall be permitted which creates vibration sufficient to cause a displacement of 0.003 inch beyond the boundaries of the site.

(8) *Wastewater discharge.* No liquids of any kind shall be discharged into a public or private sewage or drainage system, water course, body of water, or into ground except in compliance with federal, state, regional, and local laws, rules and regulations.

(9) *Sustainable design.* All new development proposals shall demonstrate best management practices in project design and implementation to maximum the efficient use of resources and reduce deleterious environmental impacts on the community.

(Ord. No. 1553, § 2, 1-28-97; Ord. No. 1875, § 1(Exh. 1A), 1-14-14)

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APPENDIX 5.1:

STUDY AREA PHOTOS

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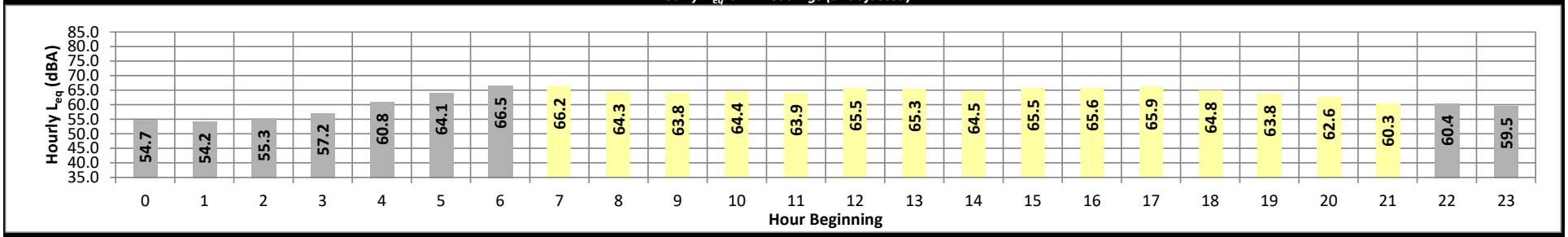
24-Hour Noise Level Measurement Summary

Date: Wednesday, August 2, 2023 *Location:* L1 - Located west of the site near the residence at 35125 *Meter:* Piccolo II *JN:* 14977

Project: Simpson and Warren Road *Source:* Simpson Rd. *Analyst:* Z. Ibrahim

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	54.7	69.2	30.1	68.6	67.4	62.6	57.8	41.2	34.4	31.0	30.7	30.2	54.7	10.0	64.7
	1	54.2	69.1	29.1	68.3	66.8	61.7	57.0	43.6	35.9	30.2	29.8	29.3	54.2	10.0	64.2
	2	55.3	69.5	29.9	68.8	67.5	63.0	59.3	46.6	36.5	31.5	30.6	30.1	55.3	10.0	65.3
	3	57.2	71.6	31.8	70.9	69.7	65.0	60.9	44.4	36.6	32.8	32.4	32.0	57.2	10.0	67.2
	4	60.8	74.1	38.2	73.4	72.2	68.7	66.1	55.7	48.1	41.3	40.0	38.7	60.8	10.0	70.8
	5	64.1	75.9	42.7	75.3	74.2	71.6	70.0	62.1	54.3	45.9	44.5	43.1	64.1	10.0	74.1
	6	66.5	77.0	45.9	76.4	75.5	73.8	72.4	66.3	57.7	48.5	47.4	46.2	66.5	10.0	76.5
Day	7	66.2	76.8	42.3	76.1	75.2	73.3	71.9	66.4	58.7	45.3	43.7	42.5	66.2	0.0	66.2
	8	64.3	75.4	38.7	74.8	73.8	71.5	70.1	63.6	55.3	41.6	40.1	38.9	64.3	0.0	64.3
	9	63.8	75.0	38.1	74.4	73.3	71.4	70.0	62.6	53.2	41.0	39.7	38.6	63.8	0.0	63.8
	10	64.4	76.5	37.8	75.8	74.5	71.5	69.9	63.3	53.9	41.0	39.6	38.1	64.4	0.0	64.4
	11	63.9	75.1	37.7	74.4	73.3	71.1	69.7	63.3	53.8	40.7	39.4	38.1	63.9	0.0	63.9
	12	65.5	79.2	35.2	78.4	76.7	72.3	69.6	62.8	53.0	38.1	36.6	35.5	65.5	0.0	65.5
	13	65.3	77.6	36.9	76.9	75.7	72.4	70.2	64.0	55.5	40.2	38.5	37.2	65.3	0.0	65.3
	14	64.5	75.5	38.4	74.7	73.6	71.6	70.4	64.3	54.8	41.2	39.6	38.6	64.5	0.0	64.5
	15	65.5	76.3	40.8	75.6	74.6	72.3	71.2	65.7	57.2	44.0	42.5	41.0	65.5	0.0	65.5
	16	65.6	76.4	43.7	75.7	74.7	72.6	71.2	65.8	57.6	46.5	45.2	44.0	65.6	0.0	65.6
	17	65.9	75.5	44.1	75.0	74.2	72.7	71.7	66.7	58.9	47.1	45.5	44.5	65.9	0.0	65.9
	18	64.8	75.3	41.6	74.6	73.7	71.9	70.6	64.7	56.4	45.9	44.0	42.0	64.8	0.0	64.8
	19	63.8	75.3	39.1	74.6	73.5	71.3	69.8	62.4	53.3	41.9	40.3	39.3	63.8	5.0	68.8
	20	62.6	74.8	38.5	74.2	73.1	70.5	68.5	59.7	50.3	40.5	39.5	38.8	62.6	5.0	67.6
	21	60.3	73.6	35.4	72.9	71.5	68.1	65.6	56.0	46.0	36.8	36.1	35.6	60.3	5.0	65.3
Night	22	60.4	74.3	36.1	73.5	72.2	68.4	65.3	52.1	44.0	37.5	36.8	36.3	60.4	10.0	70.4
	23	59.5	74.0	33.2	72.6	71.5	67.2	64.0	52.5	42.8	35.1	34.1	33.3	59.5	10.0	69.5

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	60.3	73.6	35.2	72.9	71.5	68.1	65.6	56.0	46.0	36.8	36.1	35.5
	Max	66.2	79.2	44.1	78.4	76.7	73.3	71.9	66.7	58.9	47.1	45.5	44.5
Energy Average		64.6	Average:		75.2	74.1	71.6	70.0	63.4	54.5	42.1	40.7	39.5
Night	Min	54.2	69.1	29.1	68.3	66.8	61.7	57.0	41.2	34.4	30.2	29.8	29.3
	Max	66.5	77.0	45.9	76.4	75.5	73.8	72.4	66.3	57.7	48.5	47.4	46.2
Energy Average		61.1	Average:		72.0	70.8	66.9	63.6	51.6	43.4	37.1	36.2	35.5

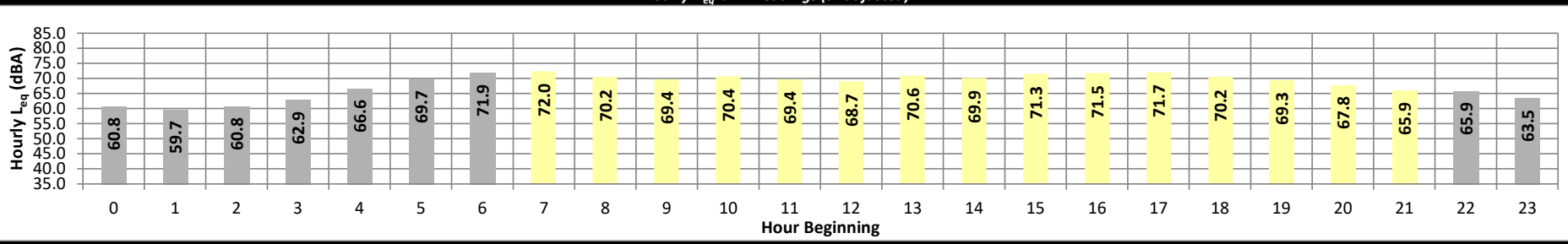
24-Hour CNEL	*Leq (dBA) Daytime (7am-10pm)*	*Leq (dBA) Nighttime (10pm-7am)*
68.5	**64.6**	**61.1**

24-Hour Noise Level Measurement Summary

Date: Wednesday, August 2, 2023 *Location:* L2 - Located west of the site near the residence at 35224 *Meter:* Piccolo II *JN:* 14977

Project: Simpson and Warren Road *Source:* Simpson Rd. *Analyst:* Z. Ibrahim

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	60.8	74.6	37.2	74.2	73.2	69.4	65.1	45.8	40.8	38.0	37.7	37.3	60.8	10.0	70.8
	1	59.7	74.1	35.1	73.5	72.1	67.4	63.4	48.5	40.3	36.0	35.6	35.3	59.7	10.0	69.7
	2	60.8	74.6	36.2	74.1	72.9	68.9	65.3	51.5	42.0	37.6	37.0	36.4	60.8	10.0	70.8
	3	62.9	76.4	39.5	76.0	74.8	71.2	67.8	52.3	44.1	40.6	40.1	39.6	62.9	10.0	72.9
	4	66.6	79.3	46.1	78.7	77.6	74.7	72.2	62.7	52.4	47.3	46.8	46.3	66.6	10.0	76.6
	5	69.7	81.1	47.7	80.6	79.7	77.3	75.8	68.3	57.6	49.2	48.5	47.9	69.7	10.0	79.7
	6	71.9	82.2	51.3	81.7	80.8	79.0	77.8	72.1	63.5	52.9	52.0	51.5	71.9	10.0	81.9
Day	7	72.0	82.2	46.5	81.7	80.9	79.1	77.7	72.4	64.2	49.3	47.8	46.7	72.0	0.0	72.0
	8	70.2	81.4	44.6	80.8	79.7	77.2	76.0	70.1	61.1	47.2	45.9	45.0	70.2	0.0	70.2
	9	69.4	80.3	43.8	79.8	78.9	76.8	75.4	68.8	60.0	46.5	45.3	44.0	69.4	0.0	69.4
	10	70.4	85.0	44.5	82.3	80.6	77.0	75.1	68.8	59.5	48.6	46.7	44.9	70.4	0.0	70.4
	11	69.4	80.6	43.6	80.0	78.9	76.5	75.2	68.8	59.3	46.1	44.9	43.9	69.4	0.0	69.4
	12	68.7	79.2	45.3	78.7	77.9	76.0	74.7	68.6	59.2	47.5	46.4	45.5	68.7	0.0	68.7
	13	70.6	82.7	43.5	82.0	80.8	77.6	75.7	69.7	61.0	46.7	45.3	43.8	70.6	0.0	70.6
	14	69.9	80.3	48.3	79.8	78.9	76.8	75.6	70.0	62.2	51.1	49.9	48.7	69.9	0.0	69.9
	15	71.3	81.6	56.0	80.9	79.9	77.7	76.5	71.7	65.2	57.9	57.1	56.3	71.3	0.0	71.3
	16	71.5	81.4	58.7	80.9	79.9	77.8	76.6	72.0	66.3	60.4	59.8	59.0	71.5	0.0	71.5
	17	71.7	80.7	56.8	80.3	79.6	78.2	77.2	72.6	66.0	59.1	58.1	57.1	71.7	0.0	71.7
	18	70.2	80.2	49.7	79.8	78.9	77.2	76.0	70.6	62.1	51.7	50.8	50.0	70.2	0.0	70.2
	19	69.3	80.3	46.6	79.8	78.8	76.7	75.3	68.5	58.9	48.7	47.6	46.8	69.3	5.0	74.3
	20	67.8	79.6	44.5	79.0	78.0	75.5	73.7	65.7	55.3	45.9	45.1	44.7	67.8	5.0	72.8
	21	65.9	78.6	42.8	78.0	76.8	73.5	71.3	63.2	52.6	43.9	43.4	42.9	65.9	5.0	70.9
Night	22	65.9	79.5	42.6	78.9	77.6	73.9	71.0	58.7	50.3	43.8	43.3	42.7	65.9	10.0	75.9
	23	63.5	76.4	40.0	75.9	74.7	71.5	69.0	58.5	48.9	41.5	41.0	40.2	63.5	10.0	73.5

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	65.9	78.6	42.8	78.0	76.8	73.5	71.3	63.2	52.6	43.9	43.4	42.9
	Max	72.0	85.0	58.7	82.3	80.9	79.1	77.7	72.6	66.3	60.4	59.8	59.0
Energy Average		70.1	Average:		80.3	79.2	76.9	75.5	69.4	60.9	50.0	48.9	48.0
Night	Min	59.7	74.1	35.1	73.5	72.1	67.4	63.4	45.8	40.3	36.0	35.6	35.3
	Max	71.9	82.2	51.3	81.7	80.8	79.0	77.8	72.1	63.5	52.9	52.0	51.5
Energy Average		66.6	Average:		77.1	75.9	72.6	69.7	57.6	48.9	43.0	42.4	41.9

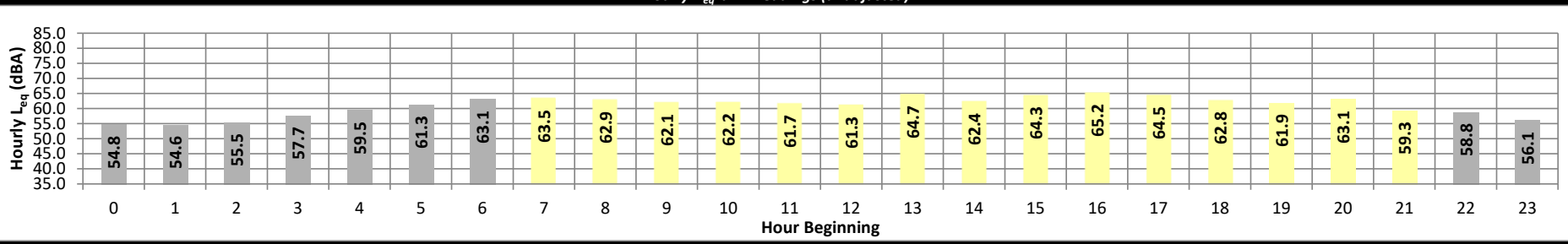
24-Hour CNEL	Leq (dBA) Daytime (7am-10pm)	Leq (dBA) Nighttime (10pm-7am)
74.0	**70.1**	**66.6**

24-Hour Noise Level Measurement Summary

Date: Wednesday, August 2, 2023 *Location:* L3 - Located northeast of the site near the residence at 5599 *Meter:* Piccolo II *JN:* 14977

Project: Simpson and Warren Road *Source:* Cottage Drive. *Analyst:* Z. Ibrahim

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	54.8	66.1	37.3	65.7	65.0	62.6	60.4	52.7	45.7	38.3	37.7	37.3	54.8	10.0	64.8
	1	54.6	66.7	36.3	66.4	65.7	62.8	59.7	50.8	43.1	37.1	36.7	36.2	54.6	10.0	64.6
	2	55.5	67.6	36.5	67.2	66.5	63.9	61.1	50.8	42.5	37.3	36.8	36.5	55.5	10.0	65.5
	3	57.7	68.6	41.4	68.3	67.6	65.1	63.1	56.9	50.0	42.6	42.0	41.6	57.7	10.0	67.7
	4	59.5	69.1	42.0	68.9	68.3	66.6	65.0	59.9	52.8	43.5	42.8	42.2	59.5	10.0	69.5
	5	61.3	70.1	47.8	69.7	69.1	67.4	66.0	62.3	57.9	49.9	48.8	48.0	61.3	10.0	71.3
	6	63.1	71.3	50.4	70.9	70.4	68.7	67.7	64.3	60.4	52.7	51.4	50.6	63.1	10.0	73.1
Day	7	63.5	71.2	50.1	70.9	70.3	68.9	67.9	64.7	61.3	53.0	51.5	50.4	63.5	0.0	63.5
	8	62.9	72.1	47.1	71.6	70.9	68.7	67.3	63.8	59.9	50.9	49.2	47.3	62.9	0.0	62.9
	9	62.1	70.5	46.7	70.2	69.7	67.8	66.5	63.2	59.5	50.6	48.9	46.9	62.1	0.0	62.1
	10	62.2	71.8	46.6	71.3	70.5	68.3	66.6	62.9	58.9	50.0	48.3	46.9	62.2	0.0	62.2
	11	61.7	70.5	45.3	70.3	69.7	67.6	66.2	62.8	58.5	48.6	47.1	45.5	61.7	0.0	61.7
	12	61.3	70.3	46.1	69.9	69.1	66.8	65.5	62.4	58.6	49.4	47.6	46.3	61.3	0.0	61.3
	13	64.7	77.9	46.3	77.3	75.9	71.0	67.6	62.9	59.0	49.8	48.0	46.5	64.7	0.0	64.7
	14	62.4	70.6	48.7	70.3	69.7	67.7	66.4	63.5	60.3	52.7	51.1	49.0	62.4	0.0	62.4
	15	64.3	72.8	52.6	72.3	71.6	69.3	68.1	65.2	62.5	56.2	54.7	53.1	64.3	0.0	64.3
	16	65.2	72.9	54.9	72.3	71.6	69.8	68.9	66.2	63.7	58.4	57.1	55.3	65.2	0.0	65.2
	17	64.5	71.6	53.8	71.1	70.5	69.1	68.1	65.5	63.2	57.4	55.7	54.2	64.5	0.0	64.5
	18	62.8	71.0	49.5	70.6	69.9	68.0	66.7	63.9	60.9	52.9	51.3	49.8	62.8	0.0	62.8
	19	61.9	70.3	47.8	69.9	69.3	67.7	66.5	63.0	59.1	50.2	48.9	48.0	61.9	5.0	66.9
	20	63.1	75.5	46.3	75.1	74.1	70.3	67.2	61.2	56.2	47.8	47.0	46.4	63.1	5.0	68.1
	21	59.3	69.0	43.8	68.6	68.0	65.9	64.5	59.9	54.2	45.5	44.7	43.9	59.3	5.0	64.3
Night	22	58.8	69.0	43.2	68.7	68.0	65.9	64.2	58.6	52.6	45.3	44.3	43.4	58.8	10.0	68.8
	23	56.1	66.3	40.2	66.0	65.5	63.4	61.7	55.2	48.4	41.6	40.9	40.3	56.1	10.0	66.1

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	59.3	69.0	43.8	68.6	68.0	65.9	64.5	59.9	54.2	45.5	44.7	43.9
	Max	65.2	77.9	54.9	77.3	75.9	71.0	68.9	66.2	63.7	58.4	57.1	55.3
Energy Average		63.0	Average:		71.5	70.7	68.5	66.9	63.4	59.7	51.6	50.1	48.6
Night	Min	54.6	66.1	36.3	65.7	65.0	62.6	59.7	50.8	42.5	37.1	36.7	36.2
	Max	63.1	71.3	50.4	70.9	70.4	68.7	67.7	64.3	60.4	52.7	51.4	50.6
Energy Average		58.9	Average:		68.0	67.4	65.2	63.2	56.8	50.4	43.2	42.4	41.8

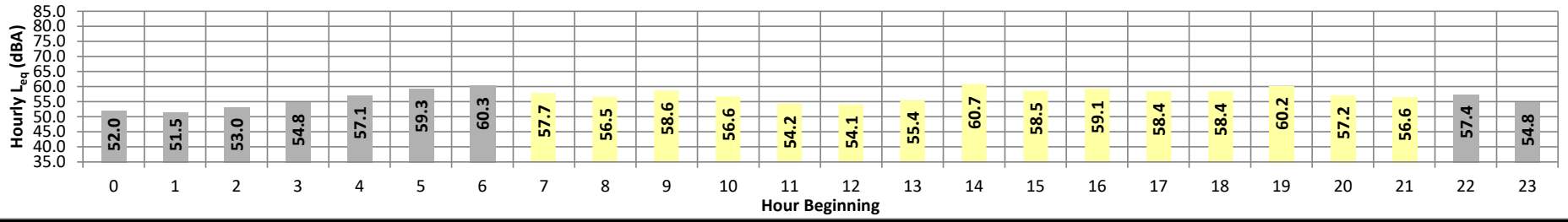
24-Hour CNEL	*Leq (dBA) Daytime (7am-10pm)*	*Leq (dBA) Nighttime (10pm-7am)*
66.6	**63.0**	**58.9**

24-Hour Noise Level Measurement Summary

Date: Wednesday, August 2, 2023 | *Location:* L4 - Located east of the site near the residence at 28744 | *Meter:* Piccolo II | *JN:* 14977

Project: Simpson and Warren Road | *Source:* Warren Rd. | *Analyst:* Z. Ibrahim

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	52.0	59.6	43.2	59.4	59.2	58.1	56.7	52.3	49.5	44.7	44.0	43.4	52.0	10.0	62.0
	1	51.5	59.4	41.8	59.0	58.7	57.7	56.6	51.9	48.7	43.4	42.5	42.0	51.5	10.0	61.5
	2	53.0	60.9	43.2	60.5	60.0	59.2	58.3	53.4	50.1	45.1	44.3	43.5	53.0	10.0	63.0
	3	54.8	62.2	47.4	61.9	61.6	60.1	58.9	55.6	52.8	49.1	48.2	47.6	54.8	10.0	64.8
	4	57.1	63.1	51.3	62.7	62.3	61.5	60.9	57.8	55.8	52.5	51.9	51.4	57.1	10.0	67.1
	5	59.3	63.8	54.5	63.6	63.3	62.7	62.3	60.4	58.6	55.5	55.1	54.7	59.3	10.0	69.3
	6	60.3	65.2	55.5	64.9	64.7	64.0	63.4	61.1	59.5	56.6	56.1	55.6	60.3	10.0	70.3
Day	7	57.7	64.6	51.1	64.3	63.7	62.1	61.1	58.5	56.4	52.5	51.8	51.2	57.7	0.0	57.7
	8	56.5	62.3	49.8	62.0	61.7	60.6	59.9	57.6	55.5	51.4	50.7	50.0	56.5	0.0	56.5
	9	58.6	69.1	49.1	68.8	68.3	65.6	63.0	57.3	54.8	50.5	49.9	49.2	58.6	0.0	58.6
	10	56.6	66.3	47.5	65.9	65.4	63.2	61.7	55.6	53.1	48.7	48.1	47.6	56.6	0.0	56.6
	11	54.2	62.2	46.6	61.8	61.2	59.1	57.9	54.9	52.3	48.2	47.4	46.8	54.2	0.0	54.2
	12	54.1	62.2	46.5	61.6	61.2	59.4	58.1	54.6	52.1	48.2	47.4	46.7	54.1	0.0	54.1
	13	55.4	63.4	47.6	63.0	62.6	61.2	59.5	56.0	53.2	49.1	48.3	47.7	55.4	0.0	55.4
	14	60.7	70.8	49.4	70.4	69.8	68.0	66.6	59.4	55.3	50.9	50.3	49.6	60.7	0.0	60.7
	15	58.5	65.8	52.3	65.3	64.7	63.5	62.2	58.9	57.1	53.7	53.2	52.4	58.5	0.0	58.5
	16	59.1	66.2	52.8	65.8	65.3	63.8	62.6	59.7	57.7	54.2	53.5	53.0	59.1	0.0	59.1
	17	58.4	64.7	52.5	64.3	63.8	62.6	61.6	59.1	57.4	54.0	53.3	52.6	58.4	0.0	58.4
	18	58.4	67.0	51.2	66.6	66.0	63.9	62.3	58.5	56.5	52.6	52.0	51.3	58.4	0.0	58.4
	19	60.2	71.7	50.8	70.9	69.7	67.2	64.6	58.7	56.2	52.3	51.6	50.9	60.2	5.0	65.2
	20	57.2	66.2	49.4	65.8	65.5	63.9	61.5	56.9	54.4	50.7	50.1	49.5	57.2	5.0	62.2
	21	56.6	61.7	50.4	61.4	61.1	60.4	59.8	57.9	55.8	51.9	51.0	50.5	56.6	5.0	61.6
Night	22	57.4	64.6	50.2	64.1	63.7	62.7	61.7	58.0	55.6	51.7	50.9	50.3	57.4	10.0	67.4
	23	54.8	61.4	46.7	61.1	60.7	59.8	59.0	55.8	53.2	48.4	47.6	46.9	54.8	10.0	64.8

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	54.1	61.7	46.5	61.4	61.1	59.1	57.9	54.6	52.1	48.2	47.4	46.7
	Max	60.7	71.7	52.8	70.9	69.8	68.0	66.6	59.7	57.7	54.2	53.5	53.0
Energy Average		57.9	Average:		65.2	64.7	63.0	61.5	57.6	55.2	51.3	50.6	49.9
Night	Min	51.5	59.4	41.8	59.0	58.7	57.7	56.6	51.9	48.7	43.4	42.5	42.0
	Max	60.3	65.2	55.5	64.9	64.7	64.0	63.4	61.1	59.5	56.6	56.1	55.6
Energy Average		56.6	Average:		61.9	61.6	60.7	59.7	56.3	53.8	49.7	48.9	48.4

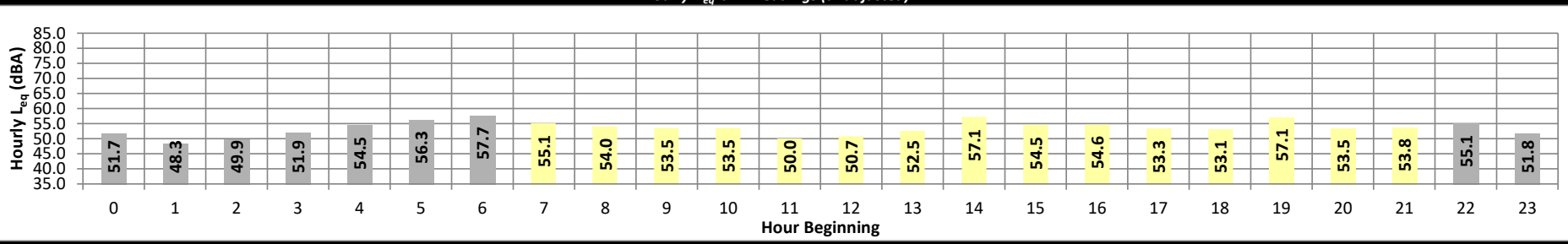
24-Hour CNEL	Leq (dBA) Daytime (7am-10pm)	Leq (dBA) Nighttime (10pm-7am)
63.6	**57.9**	**56.6**

24-Hour Noise Level Measurement Summary

Date: Wednesday, August 2, 2023 *Location:* L5 - Located east of the site near the residence at 28758 *Meter:* Piccolo II *JN:* 14977

Project: Simpson and Warren Road *Source:* Warren Rd. *Analyst:* Z. Ibrahim

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	51.7	62.7	40.1	62.1	61.5	59.2	57.7	49.4	46.8	41.9	41.1	40.3	51.7	10.0	61.7
	1	48.3	56.1	38.6	55.7	55.2	54.1	53.3	49.1	45.6	40.4	39.6	38.8	48.3	10.0	58.3
	2	49.9	58.2	39.2	57.9	57.3	55.9	54.9	50.4	46.7	41.3	40.4	39.4	49.9	10.0	59.9
	3	51.9	59.9	44.2	59.5	58.9	57.2	55.7	52.7	49.8	45.8	45.0	44.3	51.9	10.0	61.9
	4	54.5	61.5	48.3	61.1	60.6	59.3	58.6	54.9	53.0	49.5	48.9	48.4	54.5	10.0	64.5
	5	56.3	61.9	51.4	61.6	61.1	60.0	59.2	57.3	55.5	52.4	51.9	51.5	56.3	10.0	66.3
	6	57.7	63.5	52.5	63.1	62.7	61.9	61.0	58.4	56.7	53.7	53.1	52.6	57.7	10.0	67.7
Day	7	55.1	62.4	48.1	62.0	61.5	60.0	58.8	55.9	53.6	49.6	48.8	48.3	55.1	0.0	55.1
	8	54.0	60.5	47.0	60.1	59.6	58.5	57.7	54.9	52.8	48.5	47.8	47.2	54.0	0.0	54.0
	9	53.5	61.1	45.6	60.6	60.1	58.8	57.9	54.1	51.4	47.2	46.5	45.8	53.5	0.0	53.5
	10	53.5	62.2	43.5	61.7	61.3	60.7	59.7	52.3	49.4	44.9	44.3	43.7	53.5	0.0	53.5
	11	50.0	57.2	42.5	56.8	56.4	55.1	54.2	50.9	48.1	44.0	43.3	42.7	50.0	0.0	50.0
	12	50.7	59.1	42.1	58.8	58.5	57.3	55.5	50.7	47.8	43.7	43.0	42.3	50.7	0.0	50.7
	13	52.5	61.8	43.4	61.4	61.1	58.8	56.8	52.5	49.4	45.0	44.3	43.6	52.5	0.0	52.5
	14	57.1	68.1	44.9	67.6	67.0	65.0	63.1	54.3	50.6	46.5	45.8	45.1	57.1	0.0	57.1
	15	54.5	62.9	48.2	62.5	61.9	59.9	58.3	54.4	52.6	49.6	49.0	48.3	54.5	0.0	54.5
	16	54.6	61.8	48.5	61.4	60.9	59.3	57.9	55.1	53.3	49.9	49.3	48.6	54.6	0.0	54.6
	17	53.3	59.6	48.1	59.3	58.9	57.6	56.5	53.9	52.3	49.4	48.8	48.3	53.3	0.0	53.3
	18	53.1	60.3	46.7	59.9	59.4	58.3	57.2	53.6	51.3	48.0	47.5	46.8	53.1	0.0	53.1
	19	57.1	68.0	47.5	67.3	66.4	64.6	62.5	54.7	52.3	48.9	48.3	47.7	57.1	5.0	62.1
	20	53.5	61.1	46.7	60.6	60.2	59.0	57.6	54.2	51.3	47.9	47.4	46.8	53.5	5.0	58.5
	21	53.8	59.3	47.6	59.0	58.7	57.8	57.0	54.9	52.8	49.1	48.4	47.7	53.8	5.0	58.8
Night	22	55.1	63.3	47.2	62.8	62.3	60.7	59.5	55.3	52.5	48.8	48.1	47.4	55.1	10.0	65.1
	23	51.8	59.2	43.8	58.8	58.2	57.0	55.9	52.6	49.9	45.3	44.6	43.9	51.8	10.0	61.8

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	50.0	57.2	42.1	56.8	56.4	55.1	54.2	50.7	47.8	43.7	43.0	42.3
	Max	57.1	68.1	48.5	67.6	67.0	65.0	63.1	55.9	53.6	49.9	49.3	48.6
Energy Average		54.1	Average:		61.3	60.8	59.4	58.0	53.8	51.3	47.5	46.8	46.2
Night	Min	48.3	56.1	38.6	55.7	55.2	54.1	53.3	49.1	45.6	40.4	39.6	38.8
	Max	57.7	63.5	52.5	63.1	62.7	61.9	61.0	58.4	56.7	53.7	53.1	52.6
Energy Average		54.0	Average:		60.3	59.8	58.4	57.3	53.3	50.7	46.6	45.9	45.2

24-Hour CNEL	*Leq (dBA) Daytime (7am-10pm)*	*Leq (dBA) Nighttime (10pm-7am)*
60.7	**54.1**	**54.0**

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APPENDIX 5.2:

NOISE LEVEL MEASUREMENT WORKSHEETS

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JN:14977

14977_L1_J 1.North
33, 42' 27.100000", 117, 2' 46.580000"

14977_L1_J 2.South
33, 42' 27.110000", 117, 2' 46.640000"

14977_L1_J 3.East
33, 42' 27.130000", 117, 2' 46.250000"

14977_L1_J 4.West
33, 42' 27.150000", 117, 2' 46.470000"

14977_L2_I 1.North
33, 42' 27.210000", 117, 2' 50.670000"

14977_L2_I 2.South
33, 42' 27.170000", 117, 2' 50.700000"

14977_L2_I 3.East
33, 42' 27.130000", 117, 2' 50.400000"

14977_L2_I 4.West
33, 42' 27.110000", 117, 2' 50.590000"

JN:14977

14977_L3_M 1.North
33, 42' 45.470000", 117, 1' 56.760000"

14977_L3_M 2.South
33, 42' 45.470000", 117, 1' 56.780000"

14977_L3_M 3.East
33, 42' 45.490000", 117, 1' 56.760000"

14977_L3_M 4.West
33, 42' 45.490000", 117, 1' 56.780000"

JN:14977

14977_L4_N 1.North
33, 42' 14.820000", 117, 1' 56.920000"

14977_L4_N 2.South
33, 42' 14.560000", 117, 1' 56.920000"

14977_L4_N 3.East
33, 42' 14.550000", 117, 1' 56.950000"

14977_L4_N 4.West
33, 42' 14.530000", 117, 1' 57.000000"

JN:14977

14977_L5_O 1.North
33, 42' 13.470000", 117, 1' 58.270000"

14977_L5_O 2.South
33, 42' 13.420000", 117, 1' 58.210000"

14977_L5_O 3.East
33, 42' 13.410000", 117, 1' 58.210000"

14977_L5_O 4.West
33, 42' 13.430000", 117, 1' 58.270000"

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APPENDIX 7.1:

OFF-SITE TRAFFIC NOISE CONTOURS

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

Scenario: E | Project Name: Simpson Road Warehous
Road Name: SR-79 | Job Number: 14977
Road Segment: s/o SR-74

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,240 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,224 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.07	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-18.31	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-22.27	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.6	63.6	62.2	56.2	64.7	65.3
Medium Trucks:	59.3	55.4	47.9	56.7	62.9	62.9
Heavy Trucks:	60.2	56.1	52.7	57.4	63.6	63.7
Vehicle Noise:	67.4	64.8	62.8	61.6	68.5	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	47	102	219	471
CNEL:	49	106	229	494

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

Scenario: EP | Project Name: Simpson Road Warehous
Road Name: SR-79 | Job Number: 14977
Road Segment: s/o SR-74

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,457 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,246 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	96.56%
Medium Trucks:	48.9%	2.2%	48.9%	2.00%
Heavy Trucks:	47.3%	5.4%	47.3%	1.44%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.04	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-17.88	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-19.29	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.6	63.6	62.3	56.3	64.7	65.3
Medium Trucks:	59.8	55.9	48.4	57.1	63.3	63.3
Heavy Trucks:	63.2	59.1	55.7	60.4	66.6	66.7
Vehicle Noise:	68.2	65.4	63.3	63.1	69.8	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	57	124	267	575
CNEL:	60	129	277	597

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

Scenario: OYC | Project Name: Simpson Road Warehous
Road Name: SR-79 | Job Number: 14977
Road Segment: s/o SR-74

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,530 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,353 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.64	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-17.88	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-21.83	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.0	64.0	62.7	56.7	65.1	65.7
Medium Trucks:	59.8	55.9	48.4	57.1	63.3	63.3
Heavy Trucks:	60.6	56.6	53.2	57.8	64.0	64.1
Vehicle Noise:	67.8	65.2	63.3	62.0	69.0	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	109	234	504
CNEL:	53	114	245	528

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

Scenario: OYC+P | Project Name: Simpson Road Warehous
Road Name: SR-79 | Job Number: 14977
Road Segment: s/o SR-74

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,747 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,375 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	96.64%
Medium Trucks:	48.9%	2.2%	48.9%	1.98%
Heavy Trucks:	47.3%	5.4%	47.3%	1.38%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.60	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-17.48	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-19.07	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.0	64.0	62.7	56.7	65.1	65.7
Medium Trucks:	60.2	56.3	48.8	57.5	63.7	63.7
Heavy Trucks:	63.4	59.3	55.9	60.6	66.8	66.9
Vehicle Noise:	68.6	65.8	63.7	63.4	70.2	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	60	130	280	604
CNEL:	63	135	292	628

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

Scenario: E | Project Name: Simpson Road Warehous
Road Name: SR-79 | Job Number: 14977
Road Segment: s/o Simpson Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,290 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,529 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.11	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-17.35	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-21.30	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.5	64.5	63.2	57.2	65.6	66.2
Medium Trucks:	60.3	56.4	48.9	57.7	63.8	63.9
Heavy Trucks:	61.1	57.1	53.7	58.4	64.6	64.6
Vehicle Noise:	68.4	65.8	63.8	62.5	69.5	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	55	118	254	546
CNEL:	57	123	266	573

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

Scenario: EP | Project Name: Simpson Road Warehous
Road Name: SR-79 | Job Number: 14977
Road Segment: s/o Simpson Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,879 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,588 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.09%
Medium Trucks:	48.9%	2.2%	48.9%	1.86%
Heavy Trucks:	47.3%	5.4%	47.3%	1.05%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.04	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-17.13	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-19.62	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	64.7	63.4	57.3	65.8	66.4
Medium Trucks:	60.5	56.6	49.1	57.9	64.0	64.1
Heavy Trucks:	62.8	58.8	55.4	60.0	66.2	66.3
Vehicle Noise:	68.9	66.2	64.1	63.4	70.2	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	61	131	283	610
CNEL:	64	137	296	637

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

Scenario: OYC | Project Name: Simpson Road Warehous
Road Name: SR-79 | Job Number: 14977
Road Segment: s/o Simpson Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,060 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,706 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.37	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-16.87	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-20.83	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	65.0	63.7	57.7	66.1	66.7
Medium Trucks:	60.8	56.9	49.4	58.1	64.3	64.3
Heavy Trucks:	61.6	57.6	54.2	58.8	65.0	65.1
Vehicle Noise:	68.8	66.3	64.3	63.0	70.0	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	59	127	273	588
CNEL:	62	133	286	616

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

Scenario: OYC+P | Project Name: Simpson Road Warehous
Road Name: SR-79 | Job Number: 14977
Road Segment: s/o Simpson Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,649 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,765 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.12%
Medium Trucks:	48.9%	2.2%	48.9%	1.86%
Heavy Trucks:	47.3%	5.4%	47.3%	1.02%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.50	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-16.68	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-19.29	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.1	65.1	63.8	57.8	66.2	66.9
Medium Trucks:	61.0	57.1	49.6	58.3	64.5	64.5
Heavy Trucks:	63.2	59.1	55.7	60.4	66.6	66.7
Vehicle Noise:	69.3	66.6	64.6	63.7	70.6	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	65	140	301	649
CNEL:	68	146	315	678

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

Scenario: E
Road Name: SR-79
Road Segment: s/o Domenigoni Pkwy.

Project Name: Simpson Road Warehous
Job Number: 14977

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,760 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,976 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	2.79	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-14.45	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-18.41	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.4	67.4	66.1	60.1	68.5	69.1
Medium Trucks:	63.2	59.3	51.8	60.5	66.7	66.8
Heavy Trucks:	64.0	60.0	56.6	61.2	67.4	67.5
Vehicle Noise:	71.3	68.7	66.7	65.4	72.4	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	85	184	395	852
CNEL:	89	192	414	893

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

Scenario: EP
Road Name: SR-79
Road Segment: s/o Domenigoni Pkwy.

Project Name: Simpson Road Warehous
Job Number: 14977

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,349 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,035 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.25%
Medium Trucks:	48.9%	2.2%	48.9%	1.85%
Heavy Trucks:	47.3%	5.4%	47.3%	0.90%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	2.86	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-14.34	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-17.47	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.5	67.5	66.2	60.2	68.6	69.2
Medium Trucks:	63.3	59.4	51.9	60.7	66.8	66.9
Heavy Trucks:	65.0	60.9	57.5	62.2	68.4	68.5
Vehicle Noise:	71.5	68.9	66.9	65.9	72.8	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	90	195	419	903
CNEL:	94	204	439	945

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

Scenario: OYC
Road Name: SR-79
Road Segment: s/o Domenigoni Pkwy.

Project Name: Simpson Road Warehous
Job Number: 14977

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,020 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,302 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	3.24	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-14.00	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-17.96	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.9	67.9	66.6	60.5	69.0	69.6
Medium Trucks:	63.6	59.8	52.2	61.0	67.2	67.2
Heavy Trucks:	64.5	60.4	57.0	61.7	67.9	68.0
Vehicle Noise:	71.7	69.1	67.2	65.9	72.8	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	91	197	424	913
CNEL:	96	206	444	957

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

Scenario: OYC+P
Road Name: SR-79
Road Segment: s/o Domenigoni Pkwy.

Project Name: Simpson Road Warehous
Job Number: 14977

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,609 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,361 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.26%
Medium Trucks:	48.9%	2.2%	48.9%	1.85%
Heavy Trucks:	47.3%	5.4%	47.3%	0.89%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	3.31	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-13.90	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-17.10	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.9	67.9	66.6	60.6	69.0	69.7
Medium Trucks:	63.7	59.9	52.3	61.1	67.3	67.3
Heavy Trucks:	65.4	61.3	57.9	62.6	68.8	68.9
Vehicle Noise:	72.0	69.3	67.3	66.3	73.2	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	96	207	447	963
CNEL:	101	217	467	1,007

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

Scenario: E
Road Name: Warren Rd.
Road Segment: n/o SR-74
Project Name: Simpson Road Warehous
Job Number: 14977

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,910 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	791 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	75.6%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.97	-0.62	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	79.45	-20.21	-0.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.16	-0.60	-1.20	*-5.35*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	61.7	60.3	54.3	62.8	63.4
Medium Trucks:	57.4	53.5	46.0	54.8	61.0	61.0
Heavy Trucks:	58.3	54.2	50.8	55.5	61.7	61.8
Vehicle Noise:	65.5	62.9	61.0	59.7	66.6	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	163	352
CNEL:	37	80	171	369

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

Scenario: EP
Road Name: Warren Rd.
Road Segment: n/o SR-74
Project Name: Simpson Road Warehous
Job Number: 14977

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,014 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	801 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	75.6%	14.0%	10.5%	97.45%
Medium Trucks:	48.9%	2.2%	48.9%	1.82%
Heavy Trucks:	47.3%	5.4%	47.3%	0.73%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.91	-0.62	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	79.45	-20.21	-0.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.16	-0.60	-1.20	*-5.35*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	61.7	60.4	54.4	62.8	63.4
Medium Trucks:	57.4	53.5	46.0	54.8	61.0	61.0
Heavy Trucks:	58.3	54.2	50.8	55.5	61.7	61.8
Vehicle Noise:	65.5	63.0	61.0	59.7	66.7	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	353
CNEL:	37	80	172	371

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

Scenario: OYC
Road Name: Warren Rd.
Road Segment: n/o SR-74
Project Name: Simpson Road Warehous
Job Number: 14977

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,710 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,071 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	75.6%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.65	-0.62	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	79.45	-18.89	-0.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.85	-0.60	-1.20	*-5.35*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.0	61.7	55.7	64.1	64.7
Medium Trucks:	58.8	54.9	47.4	56.1	62.3	62.3
Heavy Trucks:	59.6	55.6	52.2	56.8	63.0	63.1
Vehicle Noise:	66.8	64.2	62.3	61.0	68.0	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	93	200	431
CNEL:	45	97	210	452

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

Scenario: OYC+P
Road Name: Warren Rd.
Road Segment: n/o SR-74
Project Name: Simpson Road Warehous
Job Number: 14977

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,814 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,081 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	75.6%	14.0%	10.5%	97.44%
Medium Trucks:	48.9%	2.2%	48.9%	1.82%
Heavy Trucks:	47.3%	5.4%	47.3%	0.73%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.61	-0.62	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	79.45	-18.89	-0.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.85	-0.60	-1.20	*-5.35*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	63.0	61.7	55.7	64.1	64.7
Medium Trucks:	58.8	54.9	47.4	56.1	62.3	62.3
Heavy Trucks:	59.6	55.6	52.2	56.8	63.0	63.1
Vehicle Noise:	66.9	64.3	62.3	61.0	68.0	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	93	201	432
CNEL:	45	98	210	453

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

Scenario: E | Project Name: Simpson Road Warehous
Road Name: Warren Rd. | Job Number: 14977
Road Segment: s/o SR-74

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,760 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,276 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.89	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-18.13	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-22.09	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.7	63.7	62.4	56.4	64.8	65.5
Medium Trucks:	59.5	55.6	48.1	56.9	63.0	63.1
Heavy Trucks:	60.4	56.3	52.9	57.6	63.8	63.9
Vehicle Noise:	67.6	65.0	63.0	61.7	68.7	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	48	104	225	484
CNEL:	51	109	236	508

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

Scenario: EP | Project Name: Simpson Road Warehous
Road Name: Warren Rd. | Job Number: 14977
Road Segment: s/o SR-74

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,485 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,348 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	96.05%
Medium Trucks:	48.9%	2.2%	48.9%	2.06%
Heavy Trucks:	47.3%	5.4%	47.3%	1.89%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.71	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-17.41	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-17.78	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.9	63.9	62.6	56.6	65.0	65.6
Medium Trucks:	60.2	56.3	48.8	57.6	63.8	63.8
Heavy Trucks:	64.7	60.6	57.2	61.9	68.1	68.2
Vehicle Noise:	69.0	66.1	63.8	64.1	70.8	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	67	143	309	665
CNEL:	69	149	320	689

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

Scenario: OYC | Project Name: Simpson Road Warehous
Road Name: Warren Rd. | Job Number: 14977
Road Segment: s/o SR-74

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,040 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,504 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.18	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-17.42	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-21.37	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.5	64.5	63.1	57.1	65.5	66.2
Medium Trucks:	60.2	56.3	48.8	57.6	63.8	63.8
Heavy Trucks:	61.1	57.0	53.6	58.3	64.5	64.6
Vehicle Noise:	68.3	65.7	63.7	62.5	69.4	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	54	116	251	540
CNEL:	57	122	263	566

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

Scenario: OYC+P | Project Name: Simpson Road Warehous
Road Name: Warren Rd. | Job Number: 14977
Road Segment: s/o SR-74

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,765 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,576 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	96.25%
Medium Trucks:	48.9%	2.2%	48.9%	2.03%
Heavy Trucks:	47.3%	5.4%	47.3%	1.72%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.03	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-16.79	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-17.50	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.6	64.6	63.3	57.3	65.7	66.3
Medium Trucks:	60.9	57.0	49.4	58.2	64.4	64.4
Heavy Trucks:	65.0	60.9	57.5	62.2	68.4	68.5
Vehicle Noise:	69.5	66.6	64.4	64.5	71.2	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	71	154	331	714
CNEL:	74	160	344	740

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

Scenario: E
Road Name: Warren Rd.
Road Segment: s/o Stetson Av.

Project Name: Simpson Road Warehous
Job Number: 14977

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,930	vehicles
Peak Hour Percentage:	10.00%	
Peak Hour Volume:	793	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	75.6%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.96	-0.62	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	79.45	-20.20	-0.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.15	-0.60	-1.20	*-5.35*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	61.7	60.4	54.3	62.8	63.4
Medium Trucks:	57.5	53.6	46.0	54.8	61.0	61.0
Heavy Trucks:	58.3	54.3	50.9	55.5	61.7	61.8
Vehicle Noise:	65.5	62.9	61.0	59.7	66.6	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	164	353
CNEL:	37	80	172	370

Wednesday, November 29, 2023

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

Scenario: EP
Road Name: Warren Rd.
Road Segment: s/o Stetson Av.

Project Name: Simpson Road Warehous
Job Number: 14977

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,968	vehicles
Peak Hour Percentage:	10.00%	
Peak Hour Volume:	897	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	75.6%	14.0%	10.5%	95.46%
Medium Trucks:	48.9%	2.2%	48.9%	2.10%
Heavy Trucks:	47.3%	5.4%	47.3%	2.44%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.51	-0.62	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	79.45	-19.08	-0.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-18.43	-0.60	-1.20	*-5.35*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	62.1	60.8	54.8	63.2	63.8
Medium Trucks:	58.6	54.7	47.2	55.9	62.1	62.1
Heavy Trucks:	64.0	60.0	56.6	61.2	67.4	67.5
Vehicle Noise:	67.7	64.6	62.3	63.0	69.7	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	121	260	560
CNEL:	58	125	268	578

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

Scenario: OYC
Road Name: Warren Rd.
Road Segment: s/o Stetson Av.

Project Name: Simpson Road Warehous
Job Number: 14977

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,330	vehicles
Peak Hour Percentage:	10.00%	
Peak Hour Volume:	933	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	75.6%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.25	-0.62	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	79.45	-19.49	-0.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.45	-0.60	-1.20	*-5.35*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	62.4	61.1	55.1	63.5	64.1
Medium Trucks:	58.2	54.3	46.8	55.5	61.7	61.7
Heavy Trucks:	59.0	55.0	51.6	56.2	62.4	62.5
Vehicle Noise:	66.2	63.6	61.7	60.4	67.4	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	85	182	393
CNEL:	41	89	191	412

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

Scenario: OYC+P
Road Name: Warren Rd.
Road Segment: s/o Stetson Av.

Project Name: Simpson Road Warehous
Job Number: 14977

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,368	vehicles
Peak Hour Percentage:	10.00%	
Peak Hour Volume:	1,037	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	75.6%	14.0%	10.5%	95.72%
Medium Trucks:	48.9%	2.2%	48.9%	2.07%
Heavy Trucks:	47.3%	5.4%	47.3%	2.21%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.87	-0.62	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	79.45	-18.53	-0.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-18.23	-0.60	-1.20	*-5.35*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	62.8	61.4	55.4	63.9	64.5
Medium Trucks:	59.1	55.2	47.7	56.5	62.6	62.7
Heavy Trucks:	64.2	60.2	56.8	61.4	67.6	67.7
Vehicle Noise:	68.1	65.1	62.9	63.4	70.0	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	128	275	592
CNEL:	61	132	284	612

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

Scenario: E | Project Name: Simpson Road Warehous
Road Name: Warren Rd. | Job Number: 14977
Road Segment: s/o Mustang Wy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,450 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,045 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.76	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-19.00	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-22.95	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.9	62.9	61.6	55.5	64.0	64.6
Medium Trucks:	58.7	54.8	47.2	56.0	62.2	62.2
Heavy Trucks:	59.5	55.5	52.0	56.7	62.9	63.0
Vehicle Noise:	66.7	64.1	62.2	60.9	67.8	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	42	91	197	424
CNEL:	44	96	206	444

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

Scenario: EP | Project Name: Simpson Road Warehous
Road Name: Warren Rd. | Job Number: 14977
Road Segment: s/o Mustang Wy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,592 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,159 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	95.92%
Medium Trucks:	48.9%	2.2%	48.9%	2.03%
Heavy Trucks:	47.3%	5.4%	47.3%	2.05%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.38	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-18.13	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-18.08	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.3	63.3	61.9	55.9	64.3	65.0
Medium Trucks:	59.5	55.6	48.1	56.9	63.0	63.1
Heavy Trucks:	64.4	60.3	56.9	61.6	67.8	67.9
Vehicle Noise:	68.4	65.5	63.3	63.6	70.3	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	62	133	287	618
CNEL:	64	138	297	640

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

Scenario: OYC | Project Name: Simpson Road Warehous
Road Name: Warren Rd. | Job Number: 14977
Road Segment: s/o Mustang Wy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,430 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,243 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.01	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-18.24	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-22.20	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.6	63.6	62.3	56.3	64.7	65.3
Medium Trucks:	59.4	55.5	48.0	56.8	62.9	63.0
Heavy Trucks:	60.2	56.2	52.8	57.5	63.7	63.8
Vehicle Noise:	67.5	64.9	62.9	61.6	68.6	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	48	103	221	476
CNEL:	50	107	232	499

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

Scenario: OYC+P | Project Name: Simpson Road Warehous
Road Name: Warren Rd. | Job Number: 14977
Road Segment: s/o Mustang Wy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,572 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,357 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	96.14%
Medium Trucks:	48.9%	2.2%	48.9%	2.00%
Heavy Trucks:	47.3%	5.4%	47.3%	1.86%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.68	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-17.50	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-17.82	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.0	63.9	62.6	56.6	65.0	65.7
Medium Trucks:	60.1	56.2	48.7	57.5	63.7	63.7
Heavy Trucks:	64.6	60.6	57.2	61.8	68.0	68.1
Vehicle Noise:	69.0	66.1	63.9	64.1	70.8	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	66	143	307	662
CNEL:	69	148	319	686

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

Scenario: E | Project Name: Simpson Road Warehous
Road Name: SR-74 | Job Number: 14977
Road Segment: w/o SR-79

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,670 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,167 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	102 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	92.0 feet
Centerline Dist. to Observer:	92.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	76.733
Medium Trucks:	76.618
Heavy Trucks:	76.629

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	1.41	-2.89	-1.20	-4.76	0.000	0.000
Medium Trucks:	79.45	-15.83	-2.88	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-19.79	-2.88	-1.20	-5.18	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.8	63.8	62.5	56.4	64.9	65.5
Medium Trucks:	59.5	55.6	48.1	56.9	63.1	63.1
Heavy Trucks:	60.4	56.3	52.9	57.6	63.8	63.9
Vehicle Noise:	67.6	65.0	63.1	61.8	68.7	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	76	163	352	758
CNEL:	79	171	369	794

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

Scenario: EP | Project Name: Simpson Road Warehous
Road Name: SR-74 | Job Number: 14977
Road Segment: w/o SR-79

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,104 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,210 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	102 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	92.0 feet
Centerline Dist. to Observer:	92.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	96.45%
Medium Trucks:	48.9%	2.2%	48.9%	2.02%
Heavy Trucks:	47.3%	5.4%	47.3%	1.53%

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:	76.733
Medium Trucks:	76.618
Heavy Trucks:	76.629

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	1.45	-2.89	-1.20	-4.76	0.000	0.000
Medium Trucks:	79.45	-15.34	-2.88	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-16.54	-2.88	-1.20	-5.18	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.8	63.8	62.5	56.5	64.9	65.5
Medium Trucks:	60.0	56.1	48.6	57.4	63.5	63.6
Heavy Trucks:	63.6	59.6	56.2	60.8	67.0	67.1
Vehicle Noise:	68.5	65.7	63.5	63.4	70.2	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	94	203	438	945
CNEL:	98	211	455	981

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

Scenario: OYC | Project Name: Simpson Road Warehous
Road Name: SR-74 | Job Number: 14977
Road Segment: w/o SR-79

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,690 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,769 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	102 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	92.0 feet
Centerline Dist. to Observer:	92.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	76.733
Medium Trucks:	76.618
Heavy Trucks:	76.629

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	2.47	-2.89	-1.20	-4.76	0.000	0.000
Medium Trucks:	79.45	-14.77	-2.88	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-18.72	-2.88	-1.20	-5.18	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	64.8	63.5	57.5	65.9	66.6
Medium Trucks:	60.6	56.7	49.2	58.0	64.1	64.2
Heavy Trucks:	61.4	57.4	54.0	58.7	64.9	64.9
Vehicle Noise:	68.7	66.1	64.1	62.8	69.8	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	89	192	414	892
CNEL:	94	201	434	935

Wednesday, November 29, 2023

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

Scenario: OYC+P | Project Name: Simpson Road Warehous
Road Name: SR-74 | Job Number: 14977
Road Segment: w/o SR-79

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,124 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,812 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	102 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	92.0 feet
Centerline Dist. to Observer:	92.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	96.66%
Medium Trucks:	48.9%	2.2%	48.9%	1.98%
Heavy Trucks:	47.3%	5.4%	47.3%	1.36%

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:	76.733
Medium Trucks:	76.618
Heavy Trucks:	76.629

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	2.51	-2.89	-1.20	-4.76	0.000	0.000
Medium Trucks:	79.45	-14.38	-2.88	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-16.00	-2.88	-1.20	-5.18	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.9	64.9	63.6	57.5	66.0	66.6
Medium Trucks:	61.0	57.1	49.6	58.3	64.5	64.5
Heavy Trucks:	64.2	60.1	56.7	61.4	67.6	67.7
Vehicle Noise:	69.4	66.6	64.5	64.2	71.0	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	107	230	495	1,066
CNEL:	111	239	515	1,109

Wednesday, November 29, 2023

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

Scenario: E
Road Name: SR-74
Road Segment: e/o SR-79

Project Name: Simpson Road Warehous
Job Number: 14977

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,050 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,905 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	102 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	92.0 feet
Centerline Dist. to Observer:	92.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	76.733
Medium Trucks:	76.618
Heavy Trucks:	76.629

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	2.68	-2.89	-1.20	-4.76	0.000	0.000
Medium Trucks:	79.45	-14.56	-2.88	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-18.51	-2.88	-1.20	-5.18	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	65.0	63.7	57.7	66.1	66.8
Medium Trucks:	60.8	56.9	49.4	58.2	64.3	64.4
Heavy Trucks:	61.7	57.6	54.2	58.9	65.1	65.2
Vehicle Noise:	68.9	66.3	64.3	63.0	70.0	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	92	198	428	921
CNEL:	97	208	448	966

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

Scenario: EP
Road Name: SR-74
Road Segment: e/o SR-79

Project Name: Simpson Road Warehous
Job Number: 14977

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,267 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,927 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	102 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	92.0 feet
Centerline Dist. to Observer:	92.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.05%
Medium Trucks:	48.9%	2.2%	48.9%	1.91%
Heavy Trucks:	47.3%	5.4%	47.3%	1.04%

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:	76.733
Medium Trucks:	76.618
Heavy Trucks:	76.629

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	2.70	-2.89	-1.20	-4.76	0.000	0.000
Medium Trucks:	79.45	-14.37	-2.88	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-17.01	-2.88	-1.20	-5.18	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.1	65.1	63.7	57.7	66.1	66.8
Medium Trucks:	61.0	57.1	49.6	58.3	64.5	64.6
Heavy Trucks:	63.2	59.1	55.7	60.4	66.6	66.7
Vehicle Noise:	69.2	66.6	64.5	63.7	70.6	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	101	217	468	1,009
CNEL:	105	227	489	1,053

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

Scenario: OYC
Road Name: SR-74
Road Segment: e/o SR-79

Project Name: Simpson Road Warehous
Job Number: 14977

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,150 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,615 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	102 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	92.0 feet
Centerline Dist. to Observer:	92.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	76.733
Medium Trucks:	76.618
Heavy Trucks:	76.629

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	3.63	-2.89	-1.20	-4.76	0.000	0.000
Medium Trucks:	79.45	-13.61	-2.88	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-17.56	-2.88	-1.20	-5.18	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.0	66.0	64.7	58.7	67.1	67.7
Medium Trucks:	61.8	57.9	50.4	59.1	65.3	65.3
Heavy Trucks:	62.6	58.6	55.2	59.8	66.0	66.1
Vehicle Noise:	69.8	67.2	65.3	64.0	71.0	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	107	230	495	1,066
CNEL:	112	241	519	1,117

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

Scenario: OYC+P
Road Name: SR-74
Road Segment: e/o SR-79

Project Name: Simpson Road Warehous
Job Number: 14977

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,367 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,637 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	102 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	92.0 feet
Centerline Dist. to Observer:	92.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.13%
Medium Trucks:	48.9%	2.2%	48.9%	1.89%
Heavy Trucks:	47.3%	5.4%	47.3%	0.98%

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:	76.733
Medium Trucks:	76.618
Heavy Trucks:	76.629

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	3.64	-2.89	-1.20	-4.76	0.000	0.000
Medium Trucks:	79.45	-13.46	-2.88	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-16.32	-2.88	-1.20	-5.18	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.0	66.0	64.7	58.7	67.1	67.7
Medium Trucks:	61.9	58.0	50.5	59.3	65.4	65.5
Heavy Trucks:	63.9	59.8	56.4	61.1	67.3	67.4
Vehicle Noise:	70.1	67.5	65.4	64.6	71.4	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	115	247	533	1,148
CNEL:	120	258	557	1,199

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

Scenario: E | Project Name: Simpson Road Warehous
Road Name: SR-74 | Job Number: 14977
Road Segment: e/o Warren Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,590 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,159 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	76.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	65.422
Medium Trucks:	65.286
Heavy Trucks:	65.299

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	1.39	-1.85	-1.20	-4.73	0.000	0.000
Medium Trucks:	79.45	-15.85	-1.84	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-19.80	-1.84	-1.20	-5.25	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	64.8	63.5	57.5	65.9	66.5
Medium Trucks:	60.6	56.7	49.2	57.9	64.1	64.1
Heavy Trucks:	61.4	57.4	54.0	58.6	64.8	64.9
Vehicle Noise:	68.6	66.0	64.1	62.8	69.8	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	73	158	340	733
CNEL:	77	165	356	768

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

Scenario: EP | Project Name: Simpson Road Warehous
Road Name: SR-74 | Job Number: 14977
Road Segment: e/o Warren Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,993 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,199 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	76.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.06%
Medium Trucks:	48.9%	2.2%	48.9%	1.89%
Heavy Trucks:	47.3%	5.4%	47.3%	1.05%

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:	65.422
Medium Trucks:	65.286
Heavy Trucks:	65.299

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	1.46	-1.85	-1.20	-4.73	0.000	0.000
Medium Trucks:	79.45	-15.64	-1.84	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-18.20	-1.84	-1.20	-5.25	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.9	64.9	63.5	57.5	65.9	66.6
Medium Trucks:	60.8	56.9	49.4	58.1	64.3	64.3
Heavy Trucks:	63.0	59.0	55.6	60.2	66.4	66.5
Vehicle Noise:	69.1	66.4	64.3	63.5	70.4	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	81	174	376	810
CNEL:	85	182	392	845

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

Scenario: OYC | Project Name: Simpson Road Warehous
Road Name: SR-74 | Job Number: 14977
Road Segment: e/o Warren Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,040 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,004 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	76.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	65.422
Medium Trucks:	65.286
Heavy Trucks:	65.299

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	2.83	-1.85	-1.20	-4.73	0.000	0.000
Medium Trucks:	79.45	-14.41	-1.84	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-18.37	-1.84	-1.20	-5.25	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.2	66.2	64.9	58.9	67.3	67.9
Medium Trucks:	62.0	58.1	50.6	59.3	65.5	65.6
Heavy Trucks:	62.8	58.8	55.4	60.0	66.2	66.3
Vehicle Noise:	70.1	67.5	65.5	64.2	71.2	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	91	197	424	913
CNEL:	96	206	444	957

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

Scenario: OYC+P | Project Name: Simpson Road Warehous
Road Name: SR-74 | Job Number: 14977
Road Segment: e/o Warren Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,443 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,044 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	76.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.16%
Medium Trucks:	48.9%	2.2%	48.9%	1.88%
Heavy Trucks:	47.3%	5.4%	47.3%	0.96%

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:	65.422
Medium Trucks:	65.286
Heavy Trucks:	65.299

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	2.87	-1.85	-1.20	-4.73	0.000	0.000
Medium Trucks:	79.45	-14.27	-1.84	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-17.16	-1.84	-1.20	-5.25	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.3	66.3	65.0	58.9	67.4	68.0
Medium Trucks:	62.1	58.2	50.7	59.5	65.7	65.7
Heavy Trucks:	64.0	60.0	56.6	61.3	67.5	67.6
Vehicle Noise:	70.4	67.7	65.7	64.8	71.7	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	98	212	456	983
CNEL:	103	221	477	1,027

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

Scenario: E | Project Name: Simpson Road Warehous
Road Name: Stetson Av. | Job Number: 14977
Road Segment: e/o Warren Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,740 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	774 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.06	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-20.30	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-24.26	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.6	61.6	60.3	54.2	62.7	63.3
Medium Trucks:	57.3	53.4	45.9	54.7	60.9	60.9
Heavy Trucks:	58.2	54.1	50.7	55.4	61.6	61.7
Vehicle Noise:	65.4	62.8	60.9	59.6	66.5	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	35	75	161	347
CNEL:	36	78	169	364

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

Scenario: EP | Project Name: Simpson Road Warehous
Road Name: Stetson Av. | Job Number: 14977
Road Segment: e/o Warren Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,053 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	805 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.52%
Medium Trucks:	48.9%	2.2%	48.9%	1.77%
Heavy Trucks:	47.3%	5.4%	47.3%	0.71%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.89	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-20.30	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-24.26	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.8	61.7	60.4	54.4	62.8	63.5
Medium Trucks:	57.3	53.4	45.9	54.7	60.9	60.9
Heavy Trucks:	58.2	54.1	50.7	55.4	61.6	61.7
Vehicle Noise:	65.5	63.0	61.0	59.6	66.6	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	35	76	163	351
CNEL:	37	79	171	368

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

Scenario: OYC | Project Name: Simpson Road Warehous
Road Name: Stetson Av. | Job Number: 14977
Road Segment: e/o Warren Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,140 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	914 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.34	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-19.58	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-23.54	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.3	62.3	61.0	55.0	63.4	64.0
Medium Trucks:	58.1	54.2	46.7	55.4	61.6	61.6
Heavy Trucks:	58.9	54.9	51.5	56.1	62.3	62.4
Vehicle Noise:	66.1	63.5	61.6	60.3	67.3	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	39	84	180	388
CNEL:	41	88	189	406

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

Scenario: OYC+P | Project Name: Simpson Road Warehous
Road Name: Stetson Av. | Job Number: 14977
Road Segment: e/o Warren Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,453 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	945 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.51%
Medium Trucks:	48.9%	2.2%	48.9%	1.78%
Heavy Trucks:	47.3%	5.4%	47.3%	0.72%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.19	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-19.58	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-23.54	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.4	62.4	61.1	55.1	63.5	64.2
Medium Trucks:	58.1	54.2	46.7	55.4	61.6	61.6
Heavy Trucks:	58.9	54.9	51.5	56.1	62.3	62.4
Vehicle Noise:	66.2	63.7	61.7	60.3	67.3	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	39	84	182	391
CNEL:	41	88	191	411

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

Scenario: E | Project Name: Simpson Road Warehous
Road Name: Simpson Rd. | Job Number: 14977
Road Segment: e/o SR-79

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,570 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	557 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-4.49	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-21.73	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-25.69	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.1	60.1	58.8	52.8	61.2	61.9
Medium Trucks:	55.9	52.0	44.5	53.3	59.4	59.5
Heavy Trucks:	56.8	52.7	49.3	54.0	60.2	60.3
Vehicle Noise:	64.0	61.4	59.4	58.1	65.1	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	28	60	129	279
CNEL:	29	63	136	292

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

Scenario: EP | Project Name: Simpson Road Warehous
Road Name: Simpson Rd. | Job Number: 14977
Road Segment: e/o SR-79

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,481 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	648 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	95.00%
Medium Trucks:	48.9%	2.2%	48.9%	2.17%
Heavy Trucks:	47.3%	5.4%	47.3%	2.84%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.94	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-20.36	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-19.20	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.7	60.7	59.4	53.4	61.8	62.4
Medium Trucks:	57.3	53.4	45.9	54.6	60.8	60.8
Heavy Trucks:	63.3	59.2	55.8	60.5	66.7	66.8
Vehicle Noise:	66.5	63.5	61.1	62.1	68.7	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	48	103	223	480
CNEL:	50	107	230	495

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

Scenario: OYC | Project Name: Simpson Road Warehous
Road Name: Simpson Rd. | Job Number: 14977
Road Segment: e/o SR-79

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,690 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	669 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.70	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-20.94	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-24.89	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.9	60.9	59.6	53.6	62.0	62.7
Medium Trucks:	56.7	52.8	45.3	54.1	60.2	60.3
Heavy Trucks:	57.6	53.5	50.1	54.8	61.0	61.1
Vehicle Noise:	64.8	62.2	60.2	58.9	65.9	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	31	68	146	315
CNEL:	33	71	153	330

Wednesday, November 29, 2023

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

Scenario: OYC+P | Project Name: Simpson Road Warehous
Road Name: Simpson Rd. | Job Number: 14977
Road Segment: e/o SR-79

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,601 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	760 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	95.36%
Medium Trucks:	48.9%	2.2%	48.9%	2.12%
Heavy Trucks:	47.3%	5.4%	47.3%	2.53%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.24	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-19.77	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-19.00	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.4	61.4	60.1	54.1	62.5	63.1
Medium Trucks:	57.9	54.0	46.5	55.2	61.4	61.4
Heavy Trucks:	63.4	59.4	56.0	60.7	66.9	66.9
Vehicle Noise:	67.0	64.0	61.6	62.4	69.0	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	51	110	236	508
CNEL:	52	113	244	525

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

Scenario: E
Road Name: Domenigoni Pkwy.
Road Segment: w/o SR-79
Project Name: Simpson Road Warehous
Job Number: 14977

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,610 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,161 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	76.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	65.422
Medium Trucks:	65.286
Heavy Trucks:	65.299

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	1.40	-1.85	-1.20	-4.73	0.000	0.000
Medium Trucks:	79.45	-15.84	-1.84	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-19.80	-1.84	-1.20	-5.25	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	64.8	63.5	57.5	65.9	66.5
Medium Trucks:	60.6	56.7	49.2	57.9	64.1	64.1
Heavy Trucks:	61.4	57.4	54.0	58.6	64.8	64.9
Vehicle Noise:	68.6	66.0	64.1	62.8	69.8	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	73	158	340	733
CNEL:	77	166	357	768

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

Scenario: EP
Road Name: Domenigoni Pkwy.
Road Segment: w/o SR-79
Project Name: Simpson Road Warehous
Job Number: 14977

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,886 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,189 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	76.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.14%
Medium Trucks:	48.9%	2.2%	48.9%	1.88%
Heavy Trucks:	47.3%	5.4%	47.3%	0.97%

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:	65.422
Medium Trucks:	65.286
Heavy Trucks:	65.299

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	1.44	-1.85	-1.20	-4.73	0.000	0.000
Medium Trucks:	79.45	-15.69	-1.84	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-18.55	-1.84	-1.20	-5.25	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	64.8	63.5	57.5	65.9	66.6
Medium Trucks:	60.7	56.8	49.3	58.1	64.2	64.3
Heavy Trucks:	62.7	58.6	55.2	59.9	66.1	66.2
Vehicle Noise:	69.0	66.3	64.3	63.4	70.3	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	79	170	367	791
CNEL:	83	178	384	826

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

Scenario: OYC
Road Name: Domenigoni Pkwy.
Road Segment: w/o SR-79
Project Name: Simpson Road Warehous
Job Number: 14977

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,960 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,396 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	76.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	65.422
Medium Trucks:	65.286
Heavy Trucks:	65.299

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	1.84	-1.85	-1.20	-4.73	0.000	0.000
Medium Trucks:	79.45	-15.39	-1.84	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-19.35	-1.84	-1.20	-5.25	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.2	65.2	63.9	57.9	66.3	67.0
Medium Trucks:	61.0	57.1	49.6	58.4	64.5	64.6
Heavy Trucks:	61.9	57.8	54.4	59.1	65.3	65.4
Vehicle Noise:	69.1	66.5	64.5	63.2	70.2	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	79	169	365	785
CNEL:	82	177	382	823

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

Scenario: OYC+P
Road Name: Domenigoni Pkwy.
Road Segment: w/o SR-79
Project Name: Simpson Road Warehous
Job Number: 14977

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,236 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,424 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	76.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.17%
Medium Trucks:	48.9%	2.2%	48.9%	1.88%
Heavy Trucks:	47.3%	5.4%	47.3%	0.95%

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:	65.422
Medium Trucks:	65.286
Heavy Trucks:	65.299

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	1.88	-1.85	-1.20	-4.73	0.000	0.000
Medium Trucks:	79.45	-15.26	-1.84	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-18.21	-1.84	-1.20	-5.25	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.3	65.3	64.0	58.0	66.4	67.0
Medium Trucks:	61.2	57.3	49.7	58.5	64.7	64.7
Heavy Trucks:	63.0	59.0	55.6	60.2	66.4	66.5
Vehicle Noise:	69.4	66.7	64.7	63.8	70.7	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	84	181	391	841
CNEL:	88	189	408	879

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

Scenario: E | Project Name: Simpson Road Warehous
Road Name: Domenigoni Pkwy. | Job Number: 14977
Road Segment: e/o SR-79

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,940 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,394 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	76.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	65.422
Medium Trucks:	65.286
Heavy Trucks:	65.299

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	3.36	-1.85	-1.20	-4.73	0.000	0.000
Medium Trucks:	79.45	-13.88	-1.84	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-17.84	-1.84	-1.20	-5.25	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.8	66.8	65.4	59.4	67.8	68.5
Medium Trucks:	62.5	58.6	51.1	59.9	66.0	66.1
Heavy Trucks:	63.4	59.3	55.9	60.6	66.8	66.9
Vehicle Noise:	70.6	68.0	66.0	64.8	71.7	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	99	213	460	991
CNEL:	104	224	482	1,038

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

Scenario: EP | Project Name: Simpson Road Warehous
Road Name: Domenigoni Pkwy. | Job Number: 14977
Road Segment: e/o SR-79

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,216 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,422 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	76.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.24%
Medium Trucks:	48.9%	2.2%	48.9%	1.87%
Heavy Trucks:	47.3%	5.4%	47.3%	0.89%

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:	65.422
Medium Trucks:	65.286
Heavy Trucks:	65.299

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	3.38	-1.85	-1.20	-4.73	0.000	0.000
Medium Trucks:	79.45	-13.78	-1.84	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-17.00	-1.84	-1.20	-5.25	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.8	66.8	65.5	59.5	67.9	68.5
Medium Trucks:	62.6	58.7	51.2	60.0	66.1	66.2
Heavy Trucks:	64.2	60.2	56.8	61.4	67.6	67.7
Vehicle Noise:	70.8	68.2	66.2	65.1	72.0	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	104	224	483	1,041
CNEL:	109	234	505	1,088

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

Scenario: OYC | Project Name: Simpson Road Warehous
Road Name: Domenigoni Pkwy. | Job Number: 14977
Road Segment: e/o SR-79

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,760 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,776 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	76.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	65.422
Medium Trucks:	65.286
Heavy Trucks:	65.299

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	3.82	-1.85	-1.20	-4.73	0.000	0.000
Medium Trucks:	79.45	-13.42	-1.84	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-17.37	-1.84	-1.20	-5.25	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.2	67.2	65.9	59.9	68.3	68.9
Medium Trucks:	63.0	59.1	51.6	60.3	66.5	66.6
Heavy Trucks:	63.8	59.8	56.4	61.0	67.2	67.3
Vehicle Noise:	71.1	68.5	66.5	65.2	72.2	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	106	229	494	1,064
CNEL:	111	240	517	1,115

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

Scenario: OYC+P | Project Name: Simpson Road Warehous
Road Name: Domenigoni Pkwy. | Job Number: 14977
Road Segment: e/o SR-79

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,036 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,804 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	76.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.6%	14.0%	10.5%	97.26%
Medium Trucks:	48.9%	2.2%	48.9%	1.86%
Heavy Trucks:	47.3%	5.4%	47.3%	0.88%

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:	65.422
Medium Trucks:	65.286
Heavy Trucks:	65.299

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	3.84	-1.85	-1.20	-4.73	0.000	0.000
Medium Trucks:	79.45	-13.33	-1.84	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-16.61	-1.84	-1.20	-5.25	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.2	67.2	65.9	59.9	68.3	69.0
Medium Trucks:	63.1	59.2	51.7	60.4	66.6	66.6
Heavy Trucks:	64.6	60.6	57.1	61.8	68.0	68.1
Vehicle Noise:	71.2	68.6	66.6	65.6	72.5	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	111	240	516	1,112
CNEL:	116	251	540	1,163

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

Scenario: E
Road Name: Domenigoni Pkwy.
Road Segment: e/o Warren Rd.
Project Name: Simpson Road Warehous
Job Number: 14977

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,560 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,956 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	76.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	75.6%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	65.422
Medium Trucks:	65.286
Heavy Trucks:	65.299

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.76	-1.85	-1.20	*-4.73*	0.000	0.000
Medium Trucks:	79.45	-14.48	-1.84	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-18.44	-1.84	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	66.2	64.8	58.8	67.2	67.9
Medium Trucks:	61.9	58.0	50.5	59.3	65.4	65.5
Heavy Trucks:	62.8	58.7	55.3	60.0	66.2	66.3
Vehicle Noise:	70.0	67.4	65.4	64.2	71.1	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	195	419	903
CNEL:	95	204	439	947

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

Scenario: EP
Road Name: Domenigoni Pkwy.
Road Segment: e/o Warren Rd.
Project Name: Simpson Road Warehous
Job Number: 14977

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,664 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,966 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	76.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	75.6%	14.0%	10.5%	97.43%
Medium Trucks:	48.9%	2.2%	48.9%	1.83%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	65.422
Medium Trucks:	65.286
Heavy Trucks:	65.299

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.77	-1.85	-1.20	*-4.73*	0.000	0.000
Medium Trucks:	79.45	-14.48	-1.84	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-18.44	-1.84	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	66.2	64.9	58.8	67.3	67.9
Medium Trucks:	61.9	58.0	50.5	59.3	65.4	65.5
Heavy Trucks:	62.8	58.7	55.3	60.0	66.2	66.3
Vehicle Noise:	70.0	67.4	65.5	64.2	71.1	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	195	420	904
CNEL:	95	204	440	948

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

Scenario: OYC
Road Name: Domenigoni Pkwy.
Road Segment: e/o Warren Rd.
Project Name: Simpson Road Warehous
Job Number: 14977

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,840 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,284 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	76.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	75.6%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	65.422
Medium Trucks:	65.286
Heavy Trucks:	65.299

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.21	-1.85	-1.20	*-4.73*	0.000	0.000
Medium Trucks:	79.45	-14.03	-1.84	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-17.98	-1.84	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	66.6	65.3	59.3	67.7	68.3
Medium Trucks:	62.4	58.5	51.0	59.7	65.9	65.9
Heavy Trucks:	63.2	59.2	55.8	60.4	66.6	66.7
Vehicle Noise:	70.5	67.9	65.9	64.6	71.6	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	209	450	969
CNEL:	102	219	471	1,016

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

Scenario: OYC+P
Road Name: Domenigoni Pkwy.
Road Segment: e/o Warren Rd.
Project Name: Simpson Road Warehous
Job Number: 14977

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,944 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,294 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	76.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	75.6%	14.0%	10.5%	97.43%
Medium Trucks:	48.9%	2.2%	48.9%	1.83%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	65.422
Medium Trucks:	65.286
Heavy Trucks:	65.299

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.23	-1.85	-1.20	*-4.73*	0.000	0.000
Medium Trucks:	79.45	-14.03	-1.84	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-17.98	-1.84	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	66.6	65.3	59.3	67.7	68.3
Medium Trucks:	62.4	58.5	51.0	59.7	65.9	65.9
Heavy Trucks:	63.2	59.2	55.8	60.4	66.6	66.7
Vehicle Noise:	70.5	67.9	65.9	64.6	71.6	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	209	450	970
CNEL:	102	219	472	1,017

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APPENDIX 9.1:

CADNAA OPERATIONAL NOISE MODEL INPUTS

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14977 - Simpson Road Warehouse

CadnaA Noise Prediction Model: 14977-02.cna
Date: 28.11.23
Analyst: B. Lawson

Calculation Configuration

Configuration	
Parameter	**Value**
General	
Max. Error (dB)	**0.00**
Max. Search Radius (#(Unit,LEN))	**3048.00**
Min. Dist Src to Rcvr	**0.00**
Partition	
Raster Factor	**0.50**
Max. Length of Section (#(Unit,LEN))	**999.99**
Min. Length of Section (#(Unit,LEN))	**1.01**
Min. Length of Section (%)	**0.00**
Proj. Line Sources	**On**
Proj. Area Sources	**On**
Ref. Time	
Daytime Penalty (dB)	**0.00**
Recr. Time Penalty (dB)	**5.00**
Night-time Penalty (dB)	**10.00**
DTM	
Standard Height (m)	**0.00**
Model of Terrain	**Triangulation**
Reflection	
max. Order of Reflection	**1**
Search Radius Src	**100.00**
Search Radius Rcvr	**100.00**
Max. Distance Source - Rcvr	**1000.00 1000.00**
Min. Distance Rvcr - Reflector	**1.00 1.00**
Min. Distance Source - Reflector	**0.10**
Industrial (ISO 9613)	
Lateral Diffraction	**some Obj**
Obst. within Area Src do not shield	**On**
Screening	**Incl. Ground Att. over Barrier**
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	**3.0 20.0 0.0**
Temperature (#(Unit,TEMP))	**10**
rel. Humidity (%)	**70**
Ground Absorption G	**0.50**
Wind Speed for Dir. (#(Unit,SPEED))	**3.0**
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	37.1	36.9	43.6	60.0	45.0	0.0				5.00	r	6319406.32	2201874.17	4893.45
RECEIVERS		R2	36.6	36.4	43.1	60.0	45.0	0.0				5.00	r	6319191.16	2202152.32	4893.27
RECEIVERS		R3	39.8	39.8	46.4	60.0	45.0	0.0				5.00	r	6323786.64	2203869.33	4954.58
RECEIVERS		R4	42.7	42.6	49.3	60.0	45.0	0.0				5.00	r	6323792.29	2200811.17	4942.11
RECEIVERS		R5	43.6	43.6	50.3	60.0	45.0	0.0				5.00	r	6323706.35	2200528.62	4955.79

Point Source(s)

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night			X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		AC01	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6321827.00	2201649.52	4958.64
POINTSOURCE		AC02	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6321827.00	2201699.00	4958.64
POINTSOURCE		AC03	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6321186.37	2201649.52	4958.64
POINTSOURCE		AC04	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6321186.37	2201697.70	4958.64
POINTSOURCE		AC05	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6321185.07	2200317.49	4958.64
POINTSOURCE		AC06	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6321185.07	2200368.27	4958.64
POINTSOURCE		AC07	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6321824.39	2200320.10	4958.64
POINTSOURCE		AC08	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6321823.09	2200369.57	4958.64
POINTSOURCE		AC09	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6322417.93	2200857.42	4969.16
POINTSOURCE		AC10	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6322416.84	2200902.99	4969.16
POINTSOURCE		AC11	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6322415.76	2201691.84	4969.16
POINTSOURCE		AC12	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6322416.84	2201748.26	4969.16
POINTSOURCE		TRASH01	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	r	6322065.28	2200896.92	4916.29
POINTSOURCE		TRASH02	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	r	6322069.19	2201728.95	4923.63
POINTSOURCE		TRASH03	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	r	6321868.66	2201620.88	4920.96

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night			X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		TRASH04	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	r	6321867.36	2200395.62	4916.33
POINTSOURCE		TRASH05	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	r	6321144.71	2200396.92	4906.57
POINTSOURCE		TRASH06	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	r	6321142.10	2201622.18	4912.06

Line Source(s)

Name	M.	ID	Result. PWL			Result. PWL'			Lw / Li			Operating Time			Moving Pt. Src				Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	Number			Speed		
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	Day	Evening	Night	(mph)	(ft)	
LINESOURCE		TRUCK01	93.2	93.2	93.2	67.6	67.6	67.6	Lw	93.2									8	r
LINESOURCE		TRUCK02	93.2	93.2	93.2	62.2	62.2	62.2	Lw	93.2									8	r
LINESOURCE		TRUCK03	93.2	93.2	93.2	69.4	69.4	69.4	Lw	93.2									8	r
LINESOURCE		TRUCK04	93.2	93.2	93.2	63.6	63.6	63.6	Lw	93.2									8	r

Name	ID	Height				Coordinates			
		Begin		End		x	y	z	Ground
		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
LINESOURCE	TRUCK01	8.00	r			6322854.95	2201874.63	4935.82	4927.82
						6322855.66	2201788.60	4935.76	4927.76
						6322859.55	2201779.04	4935.82	4927.82
						6322865.03	2201770.29	4935.82	4927.82
						6322871.93	2201762.61	4935.89	4927.89
						6322880.04	2201756.22	4936.07	4928.07
						6322889.14	2201751.33	4936.27	4928.27
						6322898.93	2201748.07	4936.49	4928.49
						6322909.15	2201746.53	4936.74	4928.74
						6322919.47	2201746.78	4936.97	4928.97
						6322929.60	2201748.79	4937.20	4929.20
						6323149.99	2201745.95	4939.85	4931.85
						6323157.32	2201742.49	4939.96	4931.96
						6323163.98	2201737.87	4940.06	4932.06
						6323169.79	2201732.23	4940.14	4932.14
						6323174.61	2201725.71	4940.14	4932.14
						6323178.29	2201718.49	4940.05	4932.05
						6323180.74	2201710.76	4939.94	4931.94
						6323181.90	2201702.74	4939.82	4931.82
						6323181.72	2201694.64	4939.68	4931.68
						6323180.22	2201686.67	4939.53	4931.53
						6323177.44	2201679.06	4939.37	4931.37
						6323173.45	2201672.01	4939.22	4931.22
						6323115.86	2201609.45	4938.84	4930.84
						6323110.91	2201603.11	4938.69	4930.69
						6323105.05	2201597.60	4938.54	4930.54
						6323098.43	2201593.04	4938.40	4930.40
						6323091.20	2201589.53	4938.26	4930.26
						6323083.51	2201587.15	4938.13	4930.13
						6323075.56	2201585.96	4938.10	4930.10
						6323067.52	2201585.98	4938.10	4930.10
						6322828.64	2201585.27	4935.66	4927.66
						6322813.40	2201589.35	4935.34	4927.34
						6322799.00	2201595.81	4935.02	4927.01
						6322785.83	2201604.48	4934.68	4926.68
						6322774.20	2201615.15	4934.35	4926.35
						6322764.43	2201627.54	4934.03	4926.03
						6322756.76	2201641.33	4933.82	4925.82
						6322751.39	2201656.16	4933.70	4925.70
						6322748.46	2201671.67	4933.58	4925.58
						6322748.05	2201687.44	4933.51	4925.51
						6322750.15	2201703.07	4933.45	4925.45
						6322754.73	2201718.17	4933.47	4925.47
						6322761.66	2201732.35	4933.63	4925.63
						6322770.77	2201745.23	4933.87	4925.87
						6322781.81	2201756.50	4934.13	4926.13
						6322794.52	2201765.85	4934.41	4926.41
						6322834.33	2201777.94	4935.25	4927.25
						6322845.68	2201792.62	4935.49	4927.49
						6322856.37	2201807.80	4935.82	4927.82
LINESOURCE	TRUCK02	8.00	r			6321112.69	2201911.33	4917.67	4909.66
						6321107.55	2200284.43	4909.57	4901.57
						6321108.59	2200277.09	4909.57	4901.57
						6321110.80	2200270.02	4909.57	4901.57
						6321114.12	2200263.39	4909.57	4901.57
						6321118.47	2200257.38	4909.57	4901.57
						6321123.72	2200252.16	4909.57	4901.57
						6321129.75	2200247.84	4909.57	4901.57
						6321136.39	2200244.55	4909.57	4901.57
						6321143.48	2200242.38	4909.57	4901.57

Name	ID	Height				Coordinates			
		Begin		End		x	y	z	Ground
		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
						6321150.82	2200241.37	4909.57	4901.57
						6321874.26	2200245.54	4919.42	4911.42
						6321880.74	2200248.05	4919.42	4911.42
						6321886.72	2200251.61	4919.42	4911.42
						6321892.01	2200256.12	4919.42	4911.42
						6321896.47	2200261.45	4919.42	4911.42
						6321899.98	2200267.45	4919.42	4911.42
						6321902.44	2200273.96	4919.42	4911.42
						6321903.77	2200280.78	4919.42	4911.42
						6321903.95	2200287.73	4919.42	4911.42
						6321902.91	2201898.80	4927.23	4919.23
LINESOURCE	TRUCK03	8.00	r			6321112.25	2201771.21	4916.14	4908.14
						6321902.99	2201770.76	4925.94	4917.94
LINESOURCE	TRUCK04	8.00	r			6322031.05	2201892.51	4928.20	4920.20
						6322027.29	2200797.25	4918.62	4910.62
						6322030.96	2200790.07	4918.68	4910.68
						6322035.81	2200783.63	4918.76	4910.76
						6322041.71	2200778.12	4918.86	4910.86
						6322048.47	2200773.72	4918.97	4910.97
						6322055.90	2200770.56	4919.09	4911.09
						6322063.75	2200768.72	4919.22	4911.22
						6322071.81	2200768.28	4919.35	4911.35
						6322396.90	2200767.85	4925.52	4917.52
						6322407.07	2200772.72	4925.98	4917.98
						6322416.50	2200778.91	4925.98	4917.98
						6322425.02	2200786.30	4925.98	4917.98
						6322432.49	2200794.76	4926.25	4918.25
						6322473.72	2200837.29	4928.92	4920.92
						6322479.09	2200846.14	4928.77	4920.77
						6322483.11	2200855.68	4928.50	4920.50
						6322485.68	2200865.70	4928.28	4920.28
						6322486.75	2200875.99	4927.82	4919.82
						6322486.31	2200886.34	4927.23	4919.23
						6322486.74	2201536.07	4929.26	4921.26
						6322465.04	2201624.62	4929.26	4921.26
						6322465.04	2201789.55	4930.31	4922.31
						6322463.53	2201795.34	4930.54	4922.54
						6322461.11	2201800.82	4930.83	4922.83
						6322457.85	2201805.84	4931.16	4923.16
						6322453.82	2201810.27	4931.53	4923.53
						6322449.13	2201814.00	4931.53	4923.53
						6322443.91	2201816.93	4931.58	4923.58
						6322438.28	2201818.98	4931.71	4923.71
						6322432.40	2201820.10	4931.88	4923.88
						6322031.01	2201821.14	4927.10	4919.10

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Operating Time			Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
AREASOURCE		CAR01	81.1	81.1	81.1	57.9	57.9	57.9	Lw	81.1					5	r
AREASOURCE		CAR02	81.1	81.1	81.1	56.1	56.1	56.1	Lw	81.1					5	r
AREASOURCE		CAR03	81.1	81.1	81.1	53.5	53.5	53.5	Lw	81.1					5	r
AREASOURCE		CAR04	81.1	81.1	81.1	62.0	62.0	62.0	Lw	81.1					5	r
AREASOURCE		CAR05	81.1	81.1	81.1	50.3	50.3	50.3	Lw	81.1					5	r
AREASOURCE		CAR06	81.1	81.1	81.1	54.0	54.0	54.0	Lw	81.1					5	r
AREASOURCE		CAR07	81.1	81.1	81.1	60.7	60.7	60.7	Lw	81.1					5	r
AREASOURCE		CAR08	81.1	81.1	81.1	52.1	52.1	52.1	Lw	81.1					5	r
AREASOURCE		CAR09	81.1	81.1	81.1	53.1	53.1	53.1	Lw	81.1					5	r
AREASOURCE		CAR10	81.1	81.1	81.1	54.8	54.8	54.8	Lw	81.1					5	r
AREASOURCE		CAR11	81.1	81.1	81.1	56.6	56.6	56.6	Lw	81.1					5	r
AREASOURCE		CAR12	81.1	81.1	81.1	56.7	56.7	56.7	Lw	81.1					5	r
AREASOURCE		CAR13	81.1	81.1	81.1	55.0	55.0	55.0	Lw	81.1					5	r
AREASOURCE		CAR14	81.1	81.1	81.1	58.8	58.8	58.8	Lw	81.1					5	r
AREASOURCE		CAR15	81.1	81.1	81.1	62.4	62.4	62.4	Lw	81.1					5	r
AREASOURCE		CAR16	81.1	81.1	81.1	53.8	53.8	53.8	Lw	81.1					5	r
AREASOURCE		CAR17	81.1	81.1	81.1	53.5	53.5	53.5	Lw	81.1					5	r
AREASOURCE		CAR18	81.1	81.1	81.1	62.2	62.2	62.2	Lw	81.1					5	r
AREASOURCE		CAR19	81.1	81.1	81.1	48.1	48.1	48.1	Lw	81.1					5	r
AREASOURCE		CAR20	81.1	81.1	81.1	50.4	50.4	50.4	Lw	81.1					5	r
AREASOURCE		CAR21	81.1	81.1	81.1	54.6	54.6	54.6	Lw	81.1					5	r
AREASOURCE		CAR22	81.1	81.1	81.1	58.8	58.8	58.8	Lw	81.1					5	r
AREASOURCE		CAR23	81.1	81.1	81.1	59.4	59.4	59.4	Lw	81.1					5	r
AREASOURCE		CAR24	81.1	81.1	81.1	59.4	59.4	59.4	Lw	81.1					5	r
AREASOURCE		CAR25	81.1	81.1	81.1	50.6	50.6	50.6	Lw	81.1					5	r
AREASOURCE		CAR26	81.1	81.1	81.1	48.4	48.4	48.4	Lw	81.1					5	r

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Operating Time			Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
AREASOURCE		CAR27	81.1	81.1	81.1	49.0	49.0	49.0	Lw	81.1					5	r
AREASOURCE		CAR28	81.1	81.1	81.1	50.0	50.0	50.0	Lw	81.1					5	r
AREASOURCE		CAR29	81.1	81.1	81.1	51.6	51.6	51.6	Lw	81.1					5	r
AREASOURCE		CAR30	81.1	81.1	81.1	59.2	59.2	59.2	Lw	81.1					5	r
AREASOURCE		CAR31	81.1	81.1	81.1	50.0	50.0	50.0	Lw	81.1					5	r
AREASOURCE		CAR32	81.1	81.1	81.1	54.4	54.4	54.4	Lw	81.1					5	r
AREASOURCE		CAR33	81.1	81.1	81.1	59.9	59.9	59.9	Lw	81.1					5	r
AREASOURCE		CAR34	81.1	81.1	81.1	58.8	58.8	58.8	Lw	81.1					5	r
AREASOURCE		DOCK01	103.4	103.4	103.4	68.2	68.2	68.2	Lw	103.4					8	r
AREASOURCE		DOCK02	103.4	103.4	103.4	70.7	70.7	70.7	Lw	103.4					8	r
AREASOURCE		DOCK03	103.4	103.4	103.4	68.9	68.9	68.9	Lw	103.4					8	r
AREASOURCE		DOCK04	103.4	103.4	103.4	79.2	79.2	79.2	Lw	103.4					8	r
AREASOURCE		DOCK05	103.4	103.4	103.4	72.6	72.6	72.6	Lw	103.4					8	r
AREASOURCE		DOCK06	103.4	103.4	103.4	70.6	70.6	70.6	Lw	103.4					8	r
AREASOURCE		DOCK07	103.4	103.4	103.4	72.9	72.9	72.9	Lw	103.4					8	r
AREASOURCE		DOCK08	103.4	103.4	103.4	77.3	77.3	77.3	Lw	103.4					8	r
AREASOURCE		DOCK09	103.4	103.4	103.4	65.3	65.3	65.3	Lw	103.4					8	r
AREASOURCE		DOCK10	103.4	103.4	103.4	65.9	65.9	65.9	Lw	103.4					8	r
AREASOURCE		DOCK11	103.4	103.4	103.4	65.0	65.0	65.0	Lw	103.4					8	r
AREASOURCE		DOCK12	103.4	103.4	103.4	65.1	65.1	65.1	Lw	103.4					8	r
AREASOURCE		DOCK13	103.4	103.4	103.4	66.7	66.7	66.7	Lw	103.4					8	r

Name	ID	Height				Coordinates			
		Begin		End		x	y	z	Ground
		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
AREASOURCE	CAR01	5.00	r			6322078.20	2201852.30	4925.11	4920.11
						6322200.72	2201852.30	4925.83	4920.83
						6322201.12	2201834.17	4925.67	4920.67
						6322080.22	2201833.77	4924.98	4919.98
AREASOURCE	CAR02	5.00	r			6322277.69	2201852.30	4926.26	4921.26
						6322467.50	2201851.50	4926.61	4921.61
						6322468.31	2201833.77	4927.26	4922.26
						6322276.88	2201834.57	4926.26	4921.26
AREASOURCE	CAR03	5.00	r			6322078.20	2201806.76	4924.60	4919.59
						6322411.89	2201807.57	4930.27	4925.27
						6322411.49	2201788.23	4931.15	4926.15
						6322079.01	2201789.03	4924.32	4919.32
AREASOURCE	CAR04	5.00	r			6322050.40	2201787.82	4924.18	4919.18
						6322068.93	2201787.42	4924.30	4919.30
						6322069.74	2201743.09	4923.76	4918.76
						6322049.59	2201742.69	4923.62	4918.62
AREASOURCE	CAR05	5.00	r			6322452.21	2200876.10	4922.73	4917.73
						6322452.55	2201539.64	4926.26	4921.26
						6322473.04	2201539.64	4926.26	4921.26
						6322470.61	2200875.06	4923.79	4918.79
AREASOURCE	CAR06	5.00	r			6322071.55	2200800.77	4916.33	4911.33
						6322378.04	2200800.77	4921.38	4916.38
						6322377.68	2200782.62	4921.37	4916.37
						6322071.91	2200782.62	4916.35	4911.35
AREASOURCE	CAR07	5.00	r			6322048.31	2200880.30	4915.96	4910.96
						6322067.92	2200879.58	4916.30	4911.30
						6322067.19	2200816.39	4916.25	4911.25
						6322049.40	2200817.12	4915.97	4910.97
AREASOURCE	CAR08	5.00	r			6322080.63	2200756.11	4916.42	4911.42
						6322342.45	2200756.11	4919.70	4914.70
						6322342.45	2200738.31	4919.70	4914.70
						6322323.21	2200739.04	4919.70	4914.70
						6322322.85	2200721.97	4919.70	4914.70
						6322081.35	2200722.33	4916.42	4911.42
AREASOURCE	CAR09	5.00	r			6322078.81	2200695.46	4916.42	4911.42
						6322279.99	2200694.74	4919.70	4914.70
						6322280.36	2200677.67	4919.70	4914.70
						6322261.11	2200676.94	4919.44	4914.44
						6322260.38	2200660.24	4919.48	4914.48
						6322080.63	2200659.51	4916.81	4911.81
AREASOURCE	CAR10	5.00	r			6322079.54	2200633.00	4917.14	4912.14
						6322221.16	2200634.45	4919.12	4914.12
						6322220.44	2200617.39	4919.33	4914.33
						6322201.92	2200616.66	4919.05	4914.05
						6322201.92	2200599.95	4919.26	4914.26
						6322079.54	2200598.14	4917.26	4912.26
AREASOURCE	CAR11	5.00	r			6322203.01	2200559.28	4919.29	4914.29
						6322203.73	2200541.85	4918.36	4913.36
						6322027.25	2200542.22	4916.42	4911.42
						6322028.34	2200559.65	4916.42	4911.42
AREASOURCE	CAR12	5.00	r			6322008.00	2200731.41	4915.68	4910.68
						6322025.79	2200731.41	4915.90	4910.90

Name	ID	Height				Coordinates			
		Begin		End		x	y	z	Ground
		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
						6322025.43	2200565.09	4916.42	4911.42
						6322007.64	2200566.18	4916.42	4911.42
AREASOURCE	CAR13	5.00	r			6321925.50	2201856.56	4922.98	4917.98
						6321944.82	2201855.66	4922.98	4917.98
						6321943.31	2201622.37	4922.17	4917.17
						6321924.90	2201622.37	4921.87	4916.87
AREASOURCE	CAR14	5.00	r			6321867.26	2201734.64	4922.07	4917.07
						6321884.46	2201734.94	4922.24	4917.24
						6321884.76	2201630.22	4921.21	4916.21
						6321866.65	2201629.91	4920.94	4915.94
AREASOURCE	CAR15	5.00	r			6321856.39	2201838.76	4922.61	4917.61
						6321873.29	2201838.45	4922.96	4917.96
						6321873.59	2201793.79	4922.46	4917.46
						6321855.49	2201792.58	4922.01	4917.01
AREASOURCE	CAR16	5.00	r			6321543.43	2201860.48	4919.70	4914.70
						6321855.79	2201860.18	4922.87	4917.87
						6321855.49	2201842.08	4922.63	4917.63
						6321544.64	2201841.77	4919.70	4914.70
AREASOURCE	CAR17	5.00	r			6321503.59	2201860.48	4919.70	4914.70
						6321502.39	2201843.28	4919.57	4914.56
						6321157.13	2201842.08	4914.68	4909.68
						6321156.23	2201860.48	4914.90	4909.90
AREASOURCE	CAR18	5.00	r			6321137.82	2201839.06	4914.09	4909.09
						6321155.32	2201838.45	4914.58	4909.58
						6321157.13	2201794.39	4914.06	4909.06
						6321137.52	2201794.09	4913.55	4908.55
AREASOURCE	CAR19	5.00	r			6321191.84	2201816.12	4915.13	4910.13
						6321819.87	2201814.61	4921.54	4916.54
						6321821.68	2201781.41	4921.16	4916.16
						6321192.44	2201781.41	4914.98	4909.98
AREASOURCE	CAR20	5.00	r			6321156.53	2201755.76	4914.10	4909.09
						6321849.45	2201754.25	4921.75	4916.75
						6321850.05	2201736.45	4921.70	4916.70
						6321158.04	2201737.05	4913.87	4908.87
AREASOURCE	CAR21	5.00	r			6321068.15	2201867.00	4913.14	4908.14
						6321086.87	2201867.62	4913.14	4908.14
						6321088.12	2201614.22	4910.01	4905.01
						6321068.77	2201613.90	4909.86	4904.85
AREASOURCE	CAR22	5.00	r			6321126.19	2201725.94	4913.14	4908.14
						6321145.85	2201725.63	4913.46	4908.46
						6321145.23	2201630.76	4912.32	4907.32
						6321126.82	2201630.76	4911.65	4906.65
AREASOURCE	CAR23	5.00	r			6321924.84	2200380.96	4916.42	4911.42
						6321942.51	2200381.51	4916.42	4911.42
						6321943.32	2200291.83	4916.42	4911.42
						6321925.39	2200291.28	4916.42	4911.42
AREASOURCE	CAR24	5.00	r			6321866.69	2200381.51	4916.42	4911.42
						6321883.81	2200381.51	4916.42	4911.42
						6321885.71	2200292.64	4916.42	4911.42
						6321867.23	2200292.64	4916.42	4911.42
AREASOURCE	CAR25	5.00	r			6321849.29	2200275.79	4916.42	4911.42
						6321849.02	2200258.67	4916.42	4911.42
						6321156.58	2200259.22	4906.69	4901.69
						6321157.40	2200276.61	4907.15	4902.15
AREASOURCE	CAR26	5.00	r			6321139.46	2200231.77	4906.57	4901.57
						6321710.43	2200230.68	4916.07	4911.07
						6321711.24	2200213.56	4915.85	4910.85
						6321702.54	2200212.75	4915.72	4910.72
						6321701.73	2200195.63	4915.47	4910.47
						6321139.73	2200196.44	4906.57	4901.57
AREASOURCE	CAR27	5.00	r			6321139.46	2200171.17	4906.57	4901.57
						6321649.28	2200170.35	4914.47	4909.47
						6321649.01	2200153.23	4914.29	4909.29
						6321615.31	2200152.42	4913.81	4908.81
						6321615.85	2200135.30	4913.64	4908.64
						6321140.01	2200135.84	4907.12	4902.12
AREASOURCE	CAR28	5.00	r			6321138.92	2200108.94	4907.34	4902.34
						6321554.16	2200109.48	4913.14	4908.14
						6321554.16	2200091.00	4913.14	4908.14
						6321521.01	2200091.27	4913.14	4908.14
						6321521.55	2200074.15	4913.14	4908.14
						6321139.46	2200074.97	4907.27	4902.27
AREASOURCE	CAR29	5.00	r			6321139.19	2200048.06	4907.24	4902.24
						6321427.25	2200048.06	4912.80	4907.80
						6321425.90	2200029.58	4913.04	4908.04
						6321390.84	2200030.13	4912.15	4907.15
						6321391.38	2200012.73	4912.59	4907.59

Name	ID	Height				Coordinates			
		Begin		End		x	y	z	Ground
		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
						6321139.73	2200012.73	4907.55	4902.55
AREASOURCE	CAR30	5.00	r			6321138.92	2199986.92	4907.72	4902.72
						6321236.75	2199985.83	4909.86	4904.85
						6321237.57	2199969.25	4909.86	4904.86
						6321141.37	2199968.98	4907.96	4902.96
AREASOURCE	CAR31	5.00	r			6321106.58	2199919.79	4906.99	4901.99
						6321107.67	2199938.00	4907.31	4902.30
						6321251.16	2199940.17	4909.86	4904.86
						6321300.82	2199952.74	4910.85	4905.85
						6321349.90	2199967.45	4912.33	4907.33
						6321398.28	2199984.29	4913.14	4908.14
						6321445.89	2200003.23	4913.14	4908.14
						6321492.62	2200024.22	4913.14	4908.14
						6321538.40	2200047.23	4913.14	4908.14
						6321583.12	2200072.22	4913.14	4908.14
						6321626.72	2200099.13	4913.42	4908.42
						6321669.10	2200127.92	4914.31	4909.31
						6321710.18	2200158.53	4915.20	4910.20
						6321749.89	2200190.90	4916.09	4911.09
						6321788.15	2200224.98	4916.42	4911.42
						6321800.92	2200211.39	4916.42	4911.42
						6321761.83	2200176.88	4916.15	4911.15
						6321721.30	2200144.09	4915.21	4910.21
						6321679.39	2200113.08	4914.30	4909.30
						6321636.18	2200083.90	4913.40	4908.40
						6321591.75	2200056.60	4913.14	4908.14
						6321546.19	2200031.25	4913.14	4908.14
						6321499.58	2200007.89	4913.14	4908.14
						6321452.01	2199986.55	4913.14	4908.14
						6321403.56	2199967.28	4913.14	4908.14
						6321354.33	2199950.12	4912.44	4907.44
						6321304.40	2199935.10	4910.87	4905.87
						6321253.87	2199922.24	4909.86	4904.86
						6321240.01	2199920.06	4909.86	4904.86
AREASOURCE	CAR32	5.00	r			6321085.93	2200217.37	4906.57	4901.57
						6321103.59	2200216.55	4906.57	4901.57
						6321104.13	2199940.99	4907.23	4902.23
						6321085.66	2199941.26	4906.59	4901.59
AREASOURCE	CAR33	5.00	r			6321067.99	2200389.20	4906.57	4901.57
						6321084.88	2200389.67	4906.57	4901.57
						6321085.59	2200308.48	4906.57	4901.57
						6321067.28	2200308.71	4906.57	4901.57
AREASOURCE	CAR34	5.00	r			6321125.24	2200379.11	4906.57	4901.57
						6321144.49	2200378.88	4906.57	4901.57
						6321144.72	2200283.84	4906.83	4901.83
						6321125.95	2200283.37	4906.57	4901.57
AREASOURCE	DOCK01	8.00	r			6322541.33	2201329.51	4929.26	4921.26
						6322594.55	2201330.08	4929.26	4921.26
						6322593.98	2201247.43	4929.26	4921.26
						6322649.23	2201246.47	4929.26	4921.26
						6322648.19	2200985.36	4928.75	4920.75
						6322594.37	2200985.01	4929.02	4921.02
						6322594.02	2200937.09	4929.13	4921.13
						6322539.86	2200938.13	4926.72	4918.72
AREASOURCE	DOCK02	8.00	r			6323114.87	2201486.09	4936.20	4928.20
						6322748.84	2201487.91	4934.08	4926.08
						6322749.57	2201541.19	4934.67	4926.67
						6323114.87	2201542.65	4937.42	4929.42
AREASOURCE	DOCK03	8.00	r			6322810.15	2201710.16	4934.60	4926.60
						6322809.42	2201719.28	4934.59	4926.59
						6323118.15	2201719.28	4939.30	4931.30
						6323117.79	2201664.54	4939.10	4931.10
						6323070.71	2201664.17	4939.10	4931.10
						6323070.71	2201611.26	4938.58	4930.58
						6322821.10	2201611.26	4935.21	4927.21
						6322821.10	2201665.27	4934.90	4926.90
						6322810.15	2201664.90	4934.71	4926.71
AREASOURCE	DOCK04	8.00	r			6323292.18	2201780.78	4942.13	4934.13
						6323353.32	2201781.50	4942.38	4934.38
						6323352.61	2201733.86	4941.03	4933.03
						6323292.06	2201734.85	4941.25	4933.25
AREASOURCE	DOCK05	8.00	r			6323291.47	2201728.89	4941.11	4933.11
						6323331.28	2201689.78	4940.21	4932.21
						6323160.65	2201520.58	4937.05	4929.05
						6323124.40	2201557.55	4937.78	4929.78
AREASOURCE	DOCK06	8.00	r			6322907.56	2201844.77	4936.21	4928.21
						6323286.49	2201844.06	4942.38	4934.38

Name	ID	Height				Coordinates			
		Begin		End		x	y	z	Ground
		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
						6323288.62	2201790.03	4942.12	4934.12
						6322907.56	2201791.45	4936.67	4928.67
AREASOURCE	DOCK07	8.00	r			6322642.37	2201777.94	4931.58	4923.58
						6322698.54	2201782.92	4932.54	4924.54
						6322700.97	2201745.36	4932.54	4924.54
						6322705.24	2201707.96	4932.63	4924.63
						6322711.34	2201670.82	4932.94	4924.93
						6322719.27	2201634.02	4933.17	4925.17
						6322728.99	2201597.65	4933.57	4925.57
						6322740.48	2201561.81	4934.10	4926.10
						6322692.14	2201544.75	4931.74	4923.74
						6322678.43	2201587.82	4932.20	4924.20
						6322666.79	2201631.49	4931.97	4923.97
						6322657.24	2201675.67	4930.69	4922.69
						6322649.81	2201720.26	4931.58	4923.58
						6322644.51	2201765.14	4931.55	4923.55
AREASOURCE	DOCK08	8.00	r			6322703.51	2201846.90	4932.65	4924.64
						6322798.78	2201845.48	4934.65	4926.64
						6322798.07	2201799.27	4934.17	4926.17
						6322704.23	2201800.69	4932.54	4924.54
AREASOURCE	DOCK09	8.00	r			6321031.43	2201607.86	4912.86	4904.86
						6321086.11	2201609.16	4912.86	4904.86
						6321090.02	2200398.22	4909.57	4901.57
						6321030.12	2200398.22	4909.57	4901.57
AREASOURCE	DOCK10	8.00	r			6321927.26	2201606.55	4924.96	4916.96
						6321979.34	2201606.55	4925.81	4917.81
						6321979.34	2200394.31	4919.42	4911.42
						6321931.16	2200398.22	4919.42	4911.42
AREASOURCE	DOCK11	8.00	r			6321157.73	2201623.48	4915.69	4907.69
						6321218.93	2201620.88	4916.70	4908.70
						6321220.23	2200394.31	4911.75	4903.75
						6321159.03	2200394.31	4909.76	4901.76
AREASOURCE	DOCK12	8.00	r			6321791.84	2201616.97	4922.80	4914.80
						6321853.04	2201618.27	4923.71	4915.71
						6321851.74	2200391.71	4919.06	4911.06
						6321793.14	2200395.62	4917.83	4909.83
AREASOURCE	DOCK13	8.00	r			6322142.32	2201725.48	4927.28	4919.28
						6322141.23	2200868.27	4919.42	4911.42
						6322081.56	2200870.44	4919.42	4911.42
						6322084.81	2201726.56	4926.73	4918.73

Building(s)

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(ft)		(ft)	(ft)	(ft)	(ft)
BUILDING			BLDG_1	x	0		45.00	r	6321157.73	2201721.14	4953.64	4908.64
									6321854.34	2201722.44	4953.64	4916.73
									6321853.04	2201618.27	4953.64	4915.71
									6321791.84	2201616.97	4953.64	4914.80
									6321793.14	2200395.62	4953.64	4909.83
									6321851.74	2200391.71	4953.64	4911.06
									6321849.13	2200291.45	4953.64	4911.42
									6321159.03	2200292.75	4953.64	4902.51
									6321159.03	2200394.31	4953.64	4901.76
									6321220.23	2200394.31	4953.64	4903.75
									6321218.93	2201620.88	4953.64	4908.70
									6321157.73	2201623.48	4953.64	4907.69
BUILDING			BLDG_2	x	0		45.00	r	6322082.64	2201776.48	4964.16	4919.16
									6322441.80	2201776.48	4964.16	4923.98
									6322437.46	2200848.74	4964.16	4917.72
									6322401.65	2200817.27	4964.16	4916.96
									6322084.81	2200817.27	4964.16	4911.42
									6322081.56	2200870.44	4964.16	4911.42
									6322141.23	2200868.27	4964.16	4911.42
									6322142.32	2201725.48	4964.16	4919.28
									6322084.81	2201726.56	4964.16	4918.73

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APPENDIX 10.1:

CADNAA CONSTRUCTION NOISE MODEL INPUTS

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14977 - Simpson Road Warehouse

CadnaA Noise Prediction Model: 14977-02_Construction.cna
Date: 28.11.23
Analyst: B. Lawson

Calculation Configuration

Configuration	
Parameter	**Value**
General	
Max. Error (dB)	**0.00**
Max. Search Radius (#(Unit,LEN))	**3048.00**
Min. Dist Src to Rcvr	**0.00**
Partition	
Raster Factor	**0.50**
Max. Length of Section (#(Unit,LEN))	**999.99**
Min. Length of Section (#(Unit,LEN))	**1.01**
Min. Length of Section (%)	**0.00**
Proj. Line Sources	**On**
Proj. Area Sources	**On**
Ref. Time	
Daytime Penalty (dB)	**0.00**
Recr. Time Penalty (dB)	**5.00**
Night-time Penalty (dB)	**10.00**
DTM	
Standard Height (m)	**0.00**
Model of Terrain	**Triangulation**
Reflection	
max. Order of Reflection	**1**
Search Radius Src	**100.00**
Search Radius Rcvr	**100.00**
Max. Distance Source - Rcvr	**1000.00 1000.00**
Min. Distance Rvcr - Reflector	**1.00 1.00**
Min. Distance Source - Reflector	**0.10**
Industrial (ISO 9613)	
Lateral Diffraction	**some Obj**
Obst. within Area Src do not shield	**On**
Screening	**Incl. Ground Att. over Barrier**
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	**3.0 20.0 0.0**
Temperature (#(Unit,TEMP))	**10**
rel. Humidity (%)	**70**
Ground Absorption G	**0.50**
Wind Speed for Dir. (#(Unit,SPEED))	**3.0**
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	47.6	-59.4	44.6	60.0	45.0	0.0				5.00	r	6319406.32	2201874.17	4893.45
RECEIVERS		R2	46.4	-60.5	43.4	60.0	45.0	0.0				5.00	r	6319191.16	2202152.32	4893.27
RECEIVERS		R3	46.5	-60.4	43.5	60.0	45.0	0.0				5.00	r	6323786.64	2203869.33	4954.58
RECEIVERS		R4	49.1	-57.8	46.1	60.0	45.0	0.0				5.00	r	6323792.29	2200811.17	4942.11
RECEIVERS		R5	50.5	-56.5	47.5	60.0	45.0	0.0				5.00	r	6323706.35	2200528.62	4955.79

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Operating Time			Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
SITEBOUNDARY		SITEBOUNDARY00001	122.6	15.6	15.6	67.9	-39.1	-39.1	PWL-Pt	115.6					8	r

Name	ID	Height				Coordinates			
		Begin		End		x	y	z	Ground
		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
SITEBOUNDARY	SITEBOUNDARY00001	8.00	r			6321013.20	2201943.07	4919.42	4911.42
						6323560.68	2201901.85	4945.66	4937.66
						6322040.46	2200354.57	4919.42	4911.42
						6321965.97	2200277.62	4919.42	4911.42
						6321890.85	2200201.29	4919.42	4911.42
						6321852.03	2200163.77	4919.42	4911.42
						6321811.59	2200128.00	4919.42	4911.42
						6321769.61	2200094.04	4919.42	4911.42
						6321726.18	2200061.97	4918.44	4910.44
						6321681.37	2200031.84	4917.21	4909.20

Name	ID	Height		Coordinates			
		Begin	End	x	y	z	Ground
		(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
				6321635.28	2200003.72	4916.14	4908.14
				6321588.00	2199977.66	4916.14	4908.14
				6321539.61	2199953.70	4916.14	4908.14
				6321490.22	2199931.91	4916.14	4908.14
				6321439.36	2199911.74	4915.32	4907.32
				6321387.70	2199893.73	4914.30	4906.30
				6321335.33	2199877.91	4913.34	4905.34
				6321282.34	2199864.30	4912.86	4904.85
				6321228.82	2199852.94	4912.86	4904.86
				6321174.88	2199843.83	4910.04	4902.04
				6321120.60	2199837.00	4909.57	4901.57
				6321066.08	2199832.46	4911.61	4903.61
				6321011.41	2199830.22	4912.86	4904.86

APPENDIX 10.2:

CADNAA CONCRETE POUR NOISE MODEL INPUTS

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14977 - Simpson Road Warehouse

CadnaA Noise Prediction Model: 14977-02_Pour.cna
Date: 28.11.23
Analyst: B. Lawson

Calculation Configuration

Configuration	
Parameter	**Value**
General	
Max. Error (dB)	**0.00**
Max. Search Radius (#(Unit,LEN))	**3048.00**
Min. Dist Src to Rcvr	**0.00**
Partition	
Raster Factor	**0.50**
Max. Length of Section (#(Unit,LEN))	**999.99**
Min. Length of Section (#(Unit,LEN))	**1.01**
Min. Length of Section (%)	**0.00**
Proj. Line Sources	**On**
Proj. Area Sources	**On**
Ref. Time	
Daytime Penalty (dB)	**0.00**
Recr. Time Penalty (dB)	**5.00**
Night-time Penalty (dB)	**10.00**
DTM	
Standard Height (m)	**0.00**
Model of Terrain	**Triangulation**
Reflection	
max. Order of Reflection	**1**
Search Radius Src	**100.00**
Search Radius Rcvr	**100.00**
Max. Distance Source - Rcvr	**1000.00 1000.00**
Min. Distance Rvcr - Reflector	**1.00 1.00**
Min. Distance Source - Reflector	**0.10**
Industrial (ISO 9613)	
Lateral Diffraction	**some Obj**
Obst. within Area Src do not shield	**On**
Screening	**Incl. Ground Att. over Barrier**
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	**3.0 20.0 0.0**
Temperature (#(Unit,TEMP))	**10**
rel. Humidity (%)	**70**
Ground Absorption G	**0.50**
Wind Speed for Dir. (#(Unit,SPEED))	**3.0**
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	32.3	-73.6	29.3	60.0	45.0	0.0				5.00	r	6319406.32	2201874.17	4893.45
RECEIVERS		R2	31.1	-74.5	28.1	60.0	45.0	0.0				5.00	r	6319191.16	2202152.32	4893.27
RECEIVERS		R3	31.2	-74.4	28.2	60.0	45.0	0.0				5.00	r	6323786.64	2203869.33	4954.58
RECEIVERS		R4	33.8	-72.4	30.8	60.0	45.0	0.0				5.00	r	6323792.29	2200811.17	4942.11
RECEIVERS		R5	35.2	-71.2	32.2	60.0	45.0	0.0				5.00	r	6323706.35	2200528.62	4955.79

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Operating Time			Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
SITEBOUNDARY		SITEBOUNDARY00001	107.3	0.3	0.3	52.6	-54.4	-54.4	PWL-Pt	100.3					8	r

Name	ID	Height				Coordinates			
		Begin		End		x	y	z	Ground
		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
SITEBOUNDARY	SITEBOUNDARY00001	8.00	r			6321013.20	2201943.07	4919.42	4911.42
						6323560.68	2201901.85	4945.66	4937.66
						6322040.46	2200354.57	4919.42	4911.42
						6321965.97	2200277.62	4919.42	4911.42
						6321890.85	2200201.29	4919.42	4911.42
						6321852.03	2200163.77	4919.42	4911.42
						6321811.59	2200128.00	4919.42	4911.42
						6321769.61	2200094.04	4919.42	4911.42
						6321726.18	2200061.97	4918.44	4910.44
						6321681.37	2200031.84	4917.21	4909.20

Name	ID	Height				Coordinates			
		Begin		End		x	y	z	Ground
		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
						6321635.28	2200003.72	4916.14	4908.14
						6321588.00	2199977.66	4916.14	4908.14
						6321539.61	2199953.70	4916.14	4908.14
						6321490.22	2199931.91	4916.14	4908.14
						6321439.36	2199911.74	4915.32	4907.32
						6321387.70	2199893.73	4914.30	4906.30
						6321335.33	2199877.91	4913.34	4905.34
						6321282.34	2199864.30	4912.86	4904.85
						6321228.82	2199852.94	4912.86	4904.86
						6321174.88	2199843.83	4910.04	4902.04
						6321120.60	2199837.00	4909.57	4901.57
						6321066.08	2199832.46	4911.61	4903.61
						6321011.41	2199830.22	4912.86	4904.86