Noise & Vibration Study
First Industrial Warehouse at
Harley Knox Boulevard & Redlands Avenue
City of Perris

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1.0 INTRODUCTION

The First Industrial Warehouse at Harley Knox Boulevard and Redlands Avenue (project) is being proposed within the Perris Valley Commerce Center Specific Plan (PVCCSP) planning area in the City of Perris. The project has the potential to generate changes in the existing noise environment. Under the California Environmental Quality Act (CEQA), projects of this type must undergo an environmental review to assess potential impacts. The following noise analysis has been prepared to support the Mitigated Negative Declaration (MND) for the project and to demonstrate consistency with all applicable federal, state, and local noise regulations.

The following noise study describes the project, provides information regarding noise fundamentals, describes the applicable federal, state, and local noise guidelines, characterizes the existing noise environment, provides the study methods and procedures used to perform the traffic noise analysis, and evaluates off-site traffic noise impacts, presents stationary-related noise impacts from loading and unloading activities and construction noise impacts near sensitive residential communities. The project must incorporate the recommended noise mitigation measures presented in the Perris Valley Commerce Center Specific Plan Environmental Impact Report (PVCC SP EIR, July 2011).

1.1 Project Location and Site Description

The Project site is located on approximately 9.34 gross acres on the northwest corner of Harley Knox Boulevard and Redlands Avenue in Perris, California. **Figure 1** depicts the project area in a regional context, while **Figure 2** presents the project site. The project applicant proposes the development of a non-refrigerated warehouse building, approximately 158,550 square feet in size. The warehouse building will feature approximately 26 dock doors on the northern side of the proposed building (**Figure 3 – Site Plan**).

The Project will be constructed as a speculative warehouse building; that is, there is not a specific tenant identified at this time. This analysis assumes the Project would be operated 24 hours per day, seven days per week, to present a conservative analysis or worst-case conditions.

1.2 Project Description

The approximately 9.3-gross acre Project site is located at the northwest corner of Harley Knox Boulevard and Redlands Avenue, within the PVCCSP area in the City of Perris, Riverside County, California (Assessor's parcel numbers (APNs): 302-100-017, and 302-100-029). The Project site is located within Section 5, Township 4 South, Range 3 West, San Bernardino Base and Meridian, on the Perris, 7.5-minute topographical quadrangle map.

The Project site is relatively flat undeveloped terrain and is situated at an elevation of approximately 1,450 feet above mean sea level. The Project site is currently composed of concrete pads from prior residential use), agricultural uses, and disturbed vegetation with generally flat undeveloped terrain that receives frequent weed abatement (i.e., chain flail mowing, disking).

The site is bounded on the north by Riverside County Flood Control Channel Line B, an unlined trapezoidal channel. Surrounding land uses consist of industrial development, disturbed open areas, and development infrastructure. The property west of the site is developed with residential uses.

The Project site has a City of Perris General Plan land use designation and zoning designation of PVCCSP – Perris Valley Commerce Center Specific Plan.

The proposed First Harley Knox Warehouse Project (herein collectively referred to as proposed Project or Project) involves the construction and operation of an approximately 154,250 square foot (SF) industrial, with 4,300 SF of mezzanine space for a total building size of 158,550 SF located on 9.3-acre (gross) site, of which 1.22 acres are located in the City of Moreno Valley and of which approximately 0.21 acres will be dedicated for streets leaving a net site area of 7.91 acres. In addition to the improvements on the Project site, the Project proponent proposes a 30 inch RCP offsite storm drain connection to convey all collected onsite flows towards the existing 48 inch RCP lateral D-3A located along Harley Knox Boulevard. The Project applicant will also be responsible for constructing a six-foot-wide sidewalk along the Project site frontage along the west side of Redlands and the north side of Harley Knox Boulevard. The speculative warehouse/distribution building is assumed to operate 24 hours a day, 7 days a week.

The warehouse building will feature approximately 26 truck dock doors on the north side of the proposed building. A total of 125 auto parking stalls will also be provided, including four handicapped-accessible stalls and 121 standard stalls. Further, four bicycle parking stalls are provided at the primary entrance to the building. Vehicle parking is located on the west, east, and south sides of the building, and the building frontages will be visible from Redlands Avenue and Harley Knox Boulevard. The Project is designed to include a 10-foot-high tubular steel fence along the north and west side of the Project site boundary. Truck loading docks will be enclosed on the east side by 14-foot-high concrete tilt-up screen wall. The Project also includes approximately 48,891 SF. of on-site landscaping along street frontages, tubular steel fencing on the west side of the property, and adjacent to the north, east, and south sides of the proposed building. Adjacent to the northeast corner of the proposed building, there will be a landscaped employee break area.

Access to the Project site will be from Redlands Avenue and Harley Knox Boulevard via three driveways; the northmost driveway on Redlands Avenue will have direct access to the truck yard. Truck yard access along Harley Knox Boulevard will be restricted for fire truck access only. Trucks would use the PVCCSP-designated truck route of Harley Knox Boulevard to travel to and from the Project site. Signage shall be posted on-site directing truck drivers to use existing City truck routes (S Redlands Street to Harley Knox Boulevard) to access Interstate 215 (I-215). The information on the signage will be coordinated with City Planning and the City's Traffic Engineer during the plan check process.

The PVCCSP Circulation Element designates Harley Knox Boulevard, adjacent to the southern Project site, as an Arterial Street and a designated truck route. The PVCCSP Circulation Element designates Redlands Avenue as a Secondary Street

The proposed Project would be constructed in a single phase. Construction is estimated to commence in September 2022 and is estimated to be completed in 2023. The proposed warehouse distribution facility is a permitted use consistent with the PVCCSP; therefore, no General Plan Amendment, Specific Plan Amendment, or zone change is required.

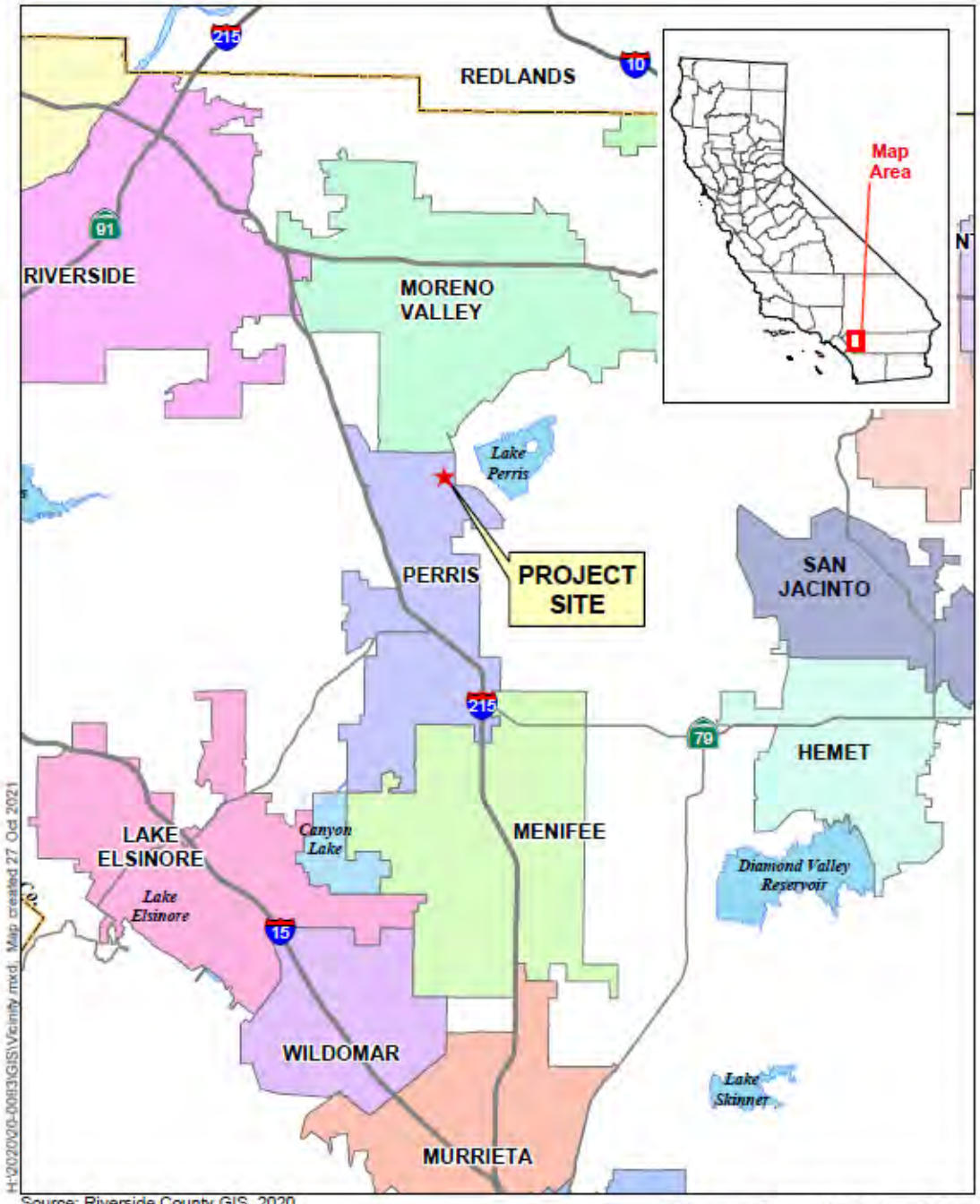
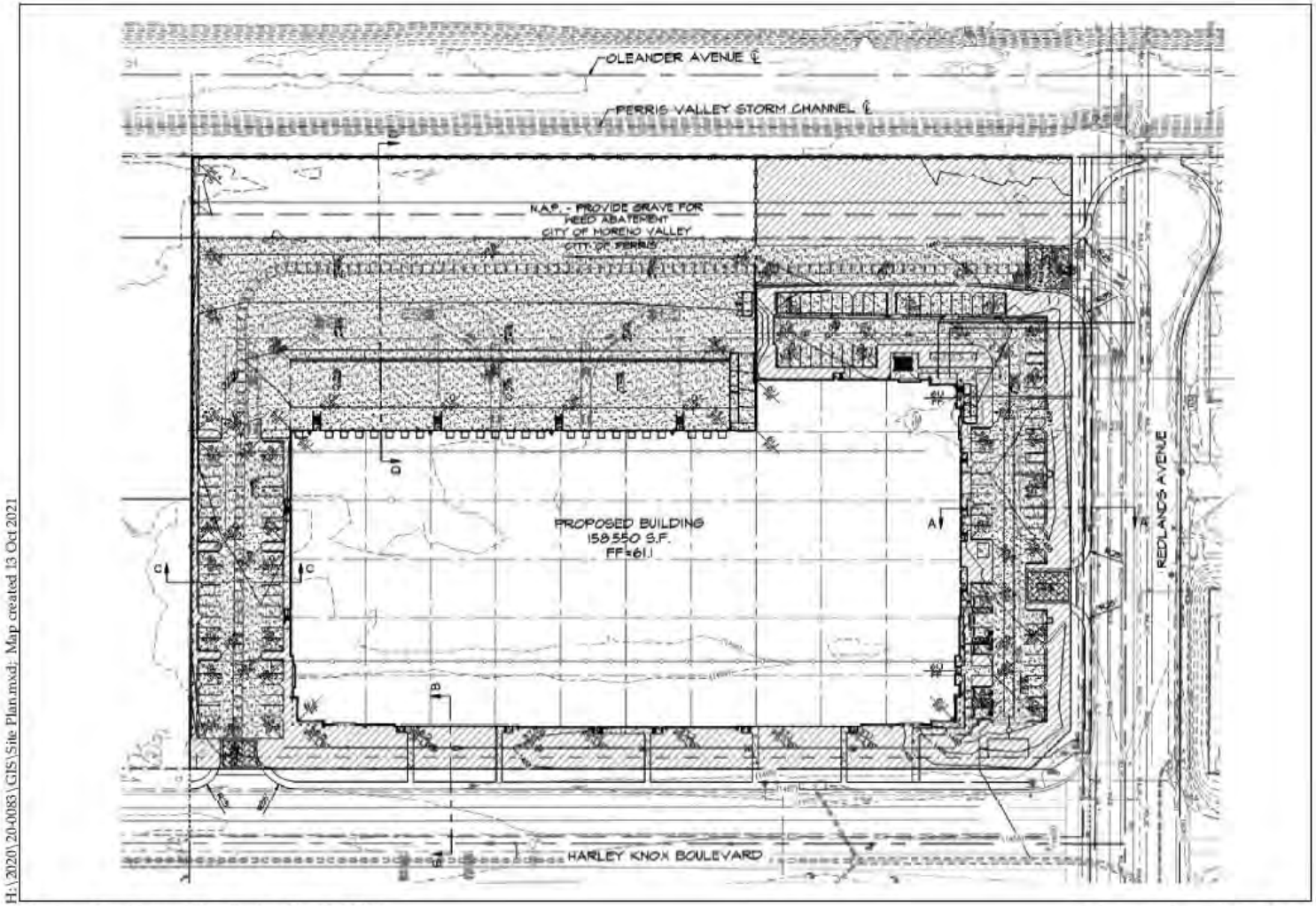


Figure 1 – Vicinity Map
First Industrial Harley Knox Warehouse Project

Sources: Riverside Co. GIS, 2021; RCIT, 2020.

Figure 2 - Aerial Map
First Industrial Harley Knox Warehouse Project



Sources:Development Plan Review No. 20-00014
Dated: 8/23/2021

Figure 3 - Site Plan
First Industrial Harley Knox Warehouse Project

2.0 FUNDAMENTALS OF SOUND

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air. Noise is generally defined as unwanted or excessive sound, which can vary in intensity by over one million times within the range of human hearing; therefore, a logarithmic scale, known as the decibel scale (dB), is used to quantify sound intensity. Community noise varies continuously over a period of time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. As such, background noise level changes throughout a typical day, corresponding with the addition and subtraction of distant noise sources such as traffic and single-event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual.

Because the noise environment is continually changing, average noise over a period of time is generally used to describe the community noise environment, which requires the measurement of noise over a period of time to accurately characterize a community noise environment. This time-varying characteristic of environmental noise is described using various noise descriptors, which are defined below:

L_{eq}: The L_{eq}, or equivalent sound level, is used to describe noise over a specified period of time in terms of a single numerical value; the L_{eq} of a time-varying signal and that of a steady signal are the same if they deliver the same acoustic energy over a given time. The L_{eq} may also be referred to as the average sound level.

L_{max}: The maximum instantaneous noise level experienced during a given period of time.

L_{min}: The minimum instantaneous noise level experienced during a given period of time.

L_x: The noise level exceeded a percentage of a specified time period. The "x" represents the percentage of time a noise level is exceeded. For instance, L_{50} and L_{90} represent the noise levels that are exceeded 50 percent and 90 percent of the time, respectively.

L_{dn}: Also termed the day-night average noise level (DNL), the L_{dn} is the average A-weighted noise level during a 24-hour day, obtained after the addition of 10 dBA to measured noise levels between the hours of 10:00 pm to 7:00 am to account for nighttime noise sensitivity.

CNEL: CNEL, or Community Noise Equivalent Level, is the average A-weighted noise level during a 24-hour day that is obtained after the addition of 5 dBA to measured noise levels between the hours of 7:00 pm to 10:00 pm and after the addition of 10 dBA to noise levels between the hours of 10:00 pm to 7:00 am to account for noise sensitivity in the evening and nighttime, respectively.

In addition, sound is characterized by both its amplitude and frequency (or pitch). The human ear does not hear all frequencies equally. In particular, the ear deemphasizes low and very high frequencies. To approximate the sensitivity of human hearing, the A-weighted decibel scale (dBA) is used. On this

scale, the human range of hearing extends from approximately 3 dBA to around 140 dBA. **Table 2-1** includes examples of A-weighted noise levels from common indoor and outdoor activities.

Table 2-1. Typical A-Weighted Noise Levels

Common Outdoor Noise	Noise Level (dBA)	Common Indoor Noise
	— 110 —	Rock band (noise to some, music to others)
Jet fly-over at 1000 feet		
	— 100 —	
Gas lawn mower at 3 feet		
	— 90 —	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	— 80 —	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower, 100 feet	— 70 —	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	— 60 —	
		Large business office
Quiet urban daytime	— 50 —	Dishwasher in a neighboring room
Quiet urban nighttime	— 40 —	Theater, large conference room (background)
Quiet suburban nighttime		
	— 30 —	Library
Quiet rural nighttime		Bedroom at night
	— 20 —	
		Broadcast/recording studio
	— 10 —	
Lowest threshold of human hearing	— 0 —	Lowest threshold of human hearing
SOURCE: Caltrans, 1998.		

Sound levels from two or more sources cannot be directly added together to determine the overall sound level using the decibel scale. Rather, the combination of two sounds at the same level yields an increase of 3 dBA. The smallest recognizable change in sound levels is approximately 1 dBA. A 3-dBA increase is generally considered perceptible, whereas a 5-dBA increase is readily perceptible. Most people judge a 10-dBA increase as an approximate doubling of the sound loudness.

Two of the primary factors that reduce levels of environmental sounds are increasing the distance between the sound source to the receiver and having intervening obstacles such as walls, buildings, or terrain features between the sound source and the receiver. Factors that act to increase the loudness of environmental sounds include moving the sound source closer to the receiver, sound enhancements caused by reflections, and focusing caused by various meteorological conditions.

2.1. Effects of Noise on People

Noise is generally loud, unpleasant, unexpected, or undesired sound that is typically associated with human activity that is a nuisance or disruptive. The effects of noise on people can be placed into four general categories:

- Subjective effects (e.g., dissatisfaction, annoyance)
- Interference effects (e.g., communication, sleep, and learning interference)
- Physiological effects (e.g., startle response)
- Physical effects (e.g., hearing loss)

Although exposure to high noise levels has been demonstrated to cause physical and physiological effects, the principal human responses to typical environmental noise exposure are related to subjective effects and interference with activities. Interference effects refer to interruption of daily activities and include interference with human communication activities, such as normal conversations, watching television, telephone conversations, and interference with sleep. Sleep interference effects can consist of both awakening and arousal to a lesser state of sleep. With regard to the subjective effects, the responses of individuals to similar noise events are diverse. They are influenced by many factors, including the type of noise, the perceived importance of the noise, the appropriateness of the noise to the setting, the duration of the noise, the time of day, and the type of activity during which the noise occurs, and individual noise sensitivity.

Overall, a wide variation of tolerance to noise exists, based on an individual's past experiences with sound. Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted (i.e., comparison to the ambient noise environment). In general, the more a new noise level exceeds the existing ambient noise level, the less acceptable the new noise level will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships generally occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived.
- A 3 dBA change in noise levels is considered a barely perceivable difference outside of the laboratory.
- A change in noise levels of 5 dBA is considered to be a readily perceivable difference.
- A change in noise levels of 10 dBA is subjectively heard as doubling of the perceived loudness.

These relationships occur in part because of the logarithmic nature of sound and the decibel system. The human ear perceives sound in a non-linear fashion; hence the decibel scale was developed.

Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion but rather logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.

2.2. Noise Attenuation

Stationary point noise sources, including stationary, mobile sources such as idling vehicles, attenuate (lessen) at a rate between 6 dBA for hard sites and 7.5 dBA for soft sites for each doubling of distance from the reference measurement. Hard sites are those with a reflective surface between the source and the receiver, such as asphalt or concrete surfaces or smooth bodies of water. No excess ground attenuation is assumed for hard sites, and the changes in noise levels with distance (drop-off rate) are simply the geometric spreading of the noise from the source. Soft sites have an absorptive ground surface such as soft dirt, grass, or scattered bushes and trees. In addition to geometric spreading, an excess ground attenuation value of 1.5 dBA (per doubling distance) is normally assumed for soft sites. Noise from line sources (such as traffic noise from vehicles) attenuates at a rate between 3 dBA for hard sites and 4.5 dBA for soft sites for each doubling of distance from the reference measurement (Caltrans 2013).

Physical barriers between the noise source and the receiving property are also useful in reducing noise levels. Effective noise barriers can lower noise levels by 10 to 15dBA. Depending on site geometry, a noise barrier is more effective when placed closest to the noise source or receiver. However, there is a limitation on the effectiveness of a noise barrier. Noise barriers must block the line of sight between the receiving property and the noise source. When this occurs, a noise barrier can achieve a 5-dBA noise level reduction. This may require the noise barrier to be sufficiently long and high enough to block the view of a road to reduce traffic noise.

2.3. Fundamentals of Vibration

Vibration is energy transmitted in waves through the ground or man-made structures. These energy waves generally dissipate with distance from the vibration source. Familiar sources of ground-borne vibration are trains, buses on rough roads, and construction activities such as blasting, pile-driving, and operation of heavy earth-moving equipment. As described in the Federal Transit Administration's (FTA) Transit Noise and Vibration Impact Assessment (FTA 2006), ground-borne vibration can be a serious concern for nearby neighbors of a transit system route or maintenance facility, causing buildings to shake and rumbling sounds to be heard.

Several different methods 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. The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (VdB) is commonly used to measure RMS. The relationship of PPV to RMS velocity is expressed in terms of the "crest factor," defined as the ratio of the PPV amplitude to the RMS amplitude. Peak particle velocity is typically a factor of 1.7 to 6 times greater than RMS vibration velocity (FTA 2006). The decibel notation acts to compress the range of numbers required to describe vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive

receptors for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and the sick), and vibration-sensitive equipment.

The effects of ground-borne vibration include movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, the vibration can cause damage to buildings. Building damage is not a factor for most projects, with the occasional exception of blasting and pile-driving during construction. Annoyance from vibration often occurs when the vibration levels exceed the threshold of perception by only a small margin. A vibration level that causes annoyance will be well below the damage threshold for normal buildings. The FTA measure of the threshold of architectural damage for conventional sensitive structures is 0.2 in/sec PPV (FTA 2006).

The background vibration velocity level in residential areas is usually around 50 VdB (approximately 0.0013 in/sec PPV). This level is well below the vibration velocity threshold of perception for humans, approximately 65 VdB. A vibration velocity level of 75 VdB is considered to be the approximate dividing line between barely perceptible and distinctly perceptible levels for many people (FTA 2006).

3.0 REGULATORY FRAMEWORK

The project's governing regulatory framework within the City of Perris includes federal, state, and local noise and vibration standards. These standards are summarized below.

3.1 Federal Regulations and Standards

There are no federal noise standards that directly regulate environmental noise related to the construction or operation of the project. With regard to noise exposure and workers, the Office of Safety and Health Administration (OSHA) regulations safeguard the hearing of workers exposed to occupational noise. Federal regulations also establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under 40 Code of Federal Regulations (CFR), Part 205, Subpart B. The federal truck pass-by noise standard is 80 dBA at 15 meters (approximately 50 feet) from the vehicle pathway centerline. These controls are implemented through regulatory restrictions on truck manufacturers.

3.2 Federal Transit Authority Vibration Standards

The City of Perris does not have vibration standards for evaluating building damage. In lieu of specific vibration criteria, FTA vibration criteria will be utilized as a guide. The FTA has adopted vibration standards to evaluate potential building damage impacts related to construction activities. The vibration damage criteria adopted by the FTA are shown in **Table 3-1**.

Table 3-1. Construction Vibration Damage Criteria

Building Category	PPV (in/sec)
I. Reinforced-concrete, steel, or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12
SOURCE: FTA, 2006.	

The FTA has also adopted the following standards for ground-borne vibration impacts related to human annoyance: Vibration Category 1 – High Sensitivity, Vibration Category 2 – Residential, and Vibration Category 3 – Institutional. The FTA defines Category 1 as buildings where vibration would interfere with operations, such as vibration-sensitive research and manufacturing facilities, hospitals with vibration-sensitive equipment, and research operations. Category 2 refers to all residential land uses and any buildings where people sleep, such as hotels and hospitals. Category 3 refers to

institutional land uses such as schools, churches, other institutions, and quiet offices that do not have vibration-sensitive equipment but still have the potential for activity interference. The vibration thresholds associated with human annoyance for these three land-use categories are shown in **Table 3-2**. No thresholds have been adopted or recommended for industrial, commercial, and office uses.

Table 3-2. Ground-borne Vibration Impact Criteria for General Assessment

Land Use Category	Frequent Events [a]	Occasional Events [b]	Infrequent Events [c]
Category 1: Buildings where vibration would interfere with interior operations.	65 VdB[d]	65 VdB[d]	65 VdB[d]
Category 2: Residences and buildings where people normally sleep.	72 VdB	75 VdB	80 VdB
Category 3: Institutional land uses with primarily daytime use.	75 VdB	78 VdB	83 VdB

[a] Frequent Events" is defined as more than 70 vibration events of the same source per day.

[b] Occasional Events" is defined as between 30 and 70 vibration events of the same source per day.

[c] Infrequent Events" is defined as fewer than 30 vibration events of the same kind per day.

[d] This criterion is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes.

SOURCE: FTA, 2006

3.2 State Regulations and Standards

Noise Standards

The California Department of Health Services has established guidelines for land use and noise exposure compatibility that are listed in **Table 3-3**. In addition, the California Government Code (Section 65302(g)) requires a noise element to be included in general plans and requires that the noise element: (1) identify and appraise noise problems in the community; (2) recognize Office of Noise Control guidelines; and (3) analyze and quantify current and projected noise levels.

Table 3-3. California Community Noise Exposure (Ldn or CNEL)

Land Use	Normally Acceptable[a]	Conditionally Acceptable[b]	Normally Unacceptable[c]	Clearly Unacceptable[d]
Single-family, Duplex, Mobile Homes	50 - 60	55 – 70	70 - 75	above 75
Multi-Family Homes	50 - 65	60 – 70	70 - 75	above 75
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 - 70	60 – 70	70 - 80	above 80
Transient Lodging – Motels, Hotels	50 - 65	60 – 70	70 - 80	above 75
Auditoriums, Concert Halls, Amphitheaters	---	50 – 70	---	above 70
Sports Arena, Outdoor Spectator Sports	---	50 – 75	---	above 75
Playgrounds, Neighborhood Parks	50 - 70	---	67 - 75	above 75
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 - 75	---	70 - 80	above 80
Office Buildings, Business, and Professional Commercial	50 - 70	67 – 77	above 75	---
Industrial, Manufacturing, Utilities, Agriculture	50 - 75	70 – 80	above 75	---

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

b Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.

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

d Clearly Unacceptable: New construction or development should generally not be undertaken.

SOURCE: FTA, 2006.

The State of California has noise limits for vehicles licensed to operate on public roads. For heavy trucks, the state pass-by standard is consistent with the federal limit of 80 dBA. The state pass-by standard for light trucks and passenger cars (less than 4.5 tons, gross vehicle rating) is also 80 dBA at 15 meters (50 feet) from the centerline. These standards are implemented through controls on vehicle manufacturers and by state and local law enforcement officials' legal sanctions.

3.3 Local Regulations and Standards

City of Perris Municipal Code

The City of Perris Municipal Code, Chapter 19.44 (Industrial Zones) Section 19.44.070 b(1) and b(2), outlines performance standards for Industrial uses as follows.

- Noise generated on-site shall be controlled for compatibility with surrounding land uses. Any proposed use that may generate noise during evening hours (7:00 pm to 7:00 am) must submit a detailed noise assessment and plan to mitigate potential noise impacts.
- Vibrations generated on-site shall not be detectable off-site. Any proposed use that may generate vibrations detectable off-site must submit a detailed vibration assessment and plan to address and mitigate potential impacts.

The City of Perris Municipal Code, under Chapter 7.34 (Noise Control), provides the local government ordinance relative to community noise level exposure, guidelines, and regulations.

The City of Perris Municipal Code, Chapter 7.34 *Noise Control*, Section 7.34.040, establishes the following permissible noise levels that may intrude into a neighbor's property from the use of sound-amplifying equipment. The maximum permissible noise level shall not exceed 60 dBA during the hours of 10:01 pm to 7:00 am, and 80 dBA between the house or 7:01 am to 10:00 pm at the property line of the affected residential land use

The Municipal Code exterior noise level criteria for residential properties affected by operational noise sources are included in Section 7.34.050 *General Prohibition*, which states that the Section 7.34.040 sound-amplifying equipment noise standards shall apply.

Construction Noise Levels Pursuant to Section 7.34.060 (Construction Noise), the construction, demolition, excavation, alteration, or repair of any building or structure in such a manner as to create disturbing, excessive, or offensive noise is prohibited between the hours of 7:00 pm, and 7:00 am, on Sundays, and a legal holiday. Construction activity shall not exceed 80 dBA Lmax in residential zones within the city.

City of Perris General Plan

The City of Perris General Plan Noise Element includes Land Use/Noise Compatibility Guidelines, as shown in **Figure 4** (on page 18), which generally establishes acceptable exterior noise levels for specified land uses.

Under Policy V.A, the City of Perris General Plan states that new large-scale commercial or industrial facilities within 160 feet of sensitive land uses shall mitigate noise impacts to attain an acceptable level as required by the State of California Noise/Land Use Compatibility Criteria. Under this policy, the City of Perris General Plan Noise Element lists Implementation Measure V.A.1. This implementation measure requires an acoustical impact analysis to be prepared for new industrial and

large-scale commercial facilities that are constructed within 160 feet of the property line of any existing noise-sensitive land use. This analysis shall document the nature of the commercial or industrial facility and all interior or exterior facility operations that would generate exterior noise. The analysis shall document the placement of any existing or proposed noise-sensitive land uses situated within the 160-foot distance. The analysis shall determine the potential noise levels that could be received at these sensitive land uses and specify specific measures to be employed by the large-scale commercial or industrial facility to ensure that these levels do not exceed 60 dBA CNEL at the property line of the adjoining sensitive land use. No development permits or approval of land use applications shall be issued until the acoustic analysis is received and approved by the City Staff.

This acoustical impact analysis satisfies Implementation Measure V.A.1 and provides documentation of compliance to all applicable noise standards.

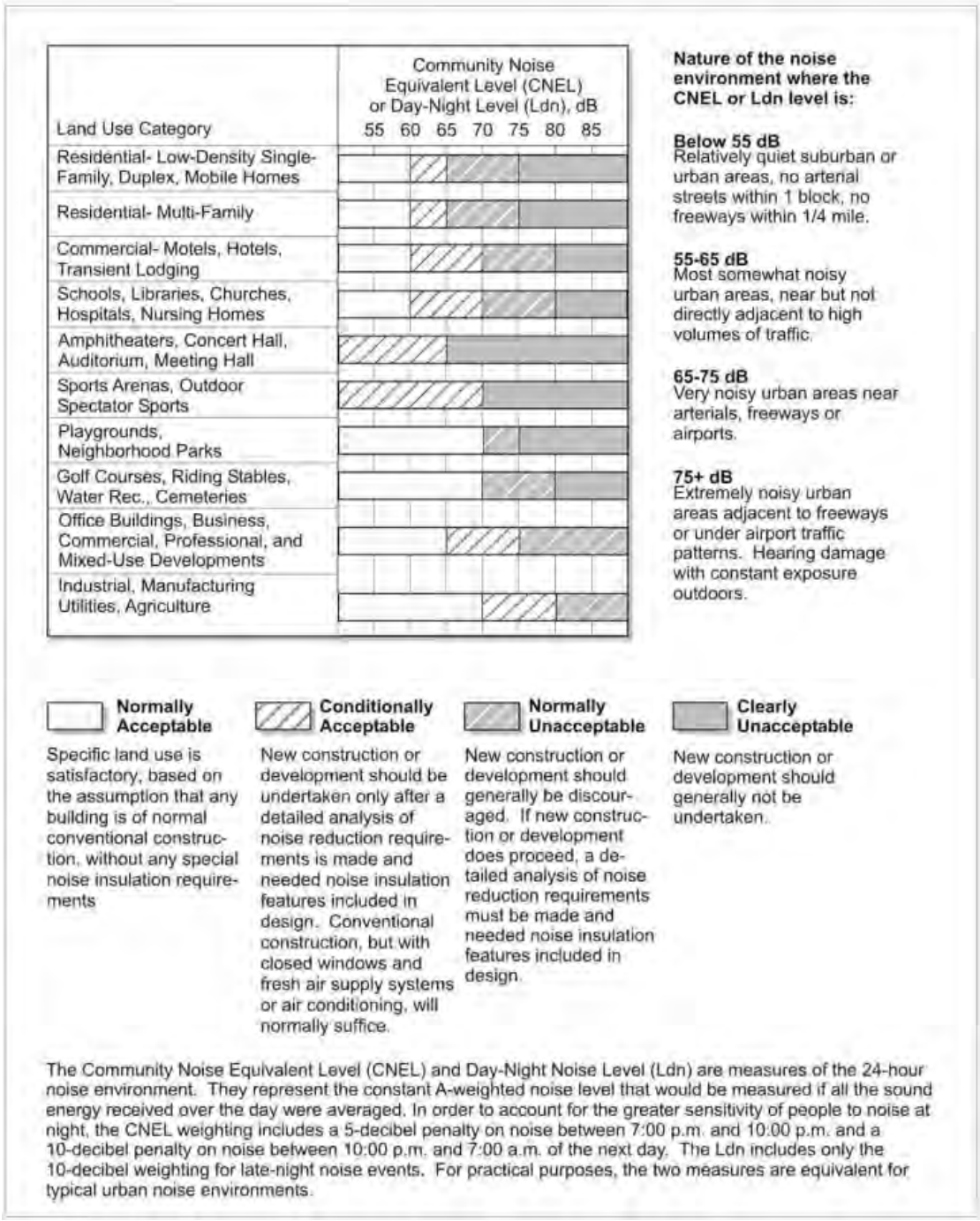


Figure 4-1. City of Perris Land Use Compatibility Guidelines

4.0 THRESHOLDS OF SIGNIFICANCE

Appendix G of the 2020 California Environmental Quality Act (CEQA) Guidelines states that a project could have a noise impact if any of the following would occur:

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. Perris Valley Commerce Center Specific Plan Thresholds

According to the PVCC SP Environmental Impact Report (EIR), there is no official "industry standard" for determining the significance of noise impacts. While the CEQA Guidelines and the City of Perris General Plan Guidelines provide direction on noise compatibility and establish noise standards by land-use type, CEQA thresholds are not defined for the levels at which increases are considered substantial. *However, a jurisdiction will typically identify either 3 dBA or 5 dBA increase as the threshold because these levels represent varying levels of perceived noise increases* (page 4.9-20, PVCC SP EIR, July 2011).

The PVCC SP EIR indicates that a 5-dBA noise level increase is considered *discernable to most people in an exterior environment* when the existing noise levels are below 60 dBA. Further, it identifies a 3-dBA increase threshold when the existing ambient noise levels already exceed 60 dBA (page 4.9-20, PVCC SP EIR, July 2011).

4.2. Operational and Construction Thresholds

Noise levels exceed CEQA thresholds if any of the following occur as a direct result of the due to the proposed development.

OFF-SITE TRAFFIC NOISE

Traffic noise impacts exceed the CEQA thresholds when the resulting noise levels at noise-sensitive land uses (e.g., residential, etc.):

- are less than 60 dBA CNEL and the project creates a 5 dBA CNEL or greater project-related noise level increase (PVCC SP EIR, Page 4.9-20); or
- exceed 60 dBA CNEL, and the project creates a 3 dBA CNEL or greater project-related noise level increase (PVCC SP EIR, Page 4.9-20).

OPERATIONAL NOISE AND VIBRATION

The noise CEQA threshold is exceeded if one of the following occurs:

- Project-related operational noise levels resulting from stationary sources, such as on-site noise such as idling trucks, delivery truck activities, backup alarms, loading and unloading, air conditioning units, and parking lot vehicle movements, exceed the 80 dBA L_{max} daytime or 60 dBA L_{max} nighttime noise level standards at the nearby sensitive receiver locations in the City of Perris (City of Perris Municipal Code, Section 7.34.040); or
- Project-related operational noise levels from industrial or commercial facilities located within 160 feet of the property line of the affected residential land use exceed 60 dBA CNEL: or
- Ambient noise levels at the nearby noise-sensitive receivers near the Project site:
  - are less than 60 dBA L_{eq} and the project creates a 5 dBA L_{eq} or greater project-related noise level increase (PVCC SP EIR, Page 4.9-20); or
  - exceed 60 dBA L_{eq}, and the project creates a 3 dBA Leq or greater project-related noise level increase (PVCC SP EIR, Page 4.9-20).

Although the City of Perris does not have any specified thresholds for vibration, the FTA vibration criteria, as referenced in the PVCC SP EIR pages 4.9-27 and 4.9-28, will be utilized to evaluate vibration impacts. If long-term project generated operational source vibration levels exceed the FTA maximum acceptable vibration standard of 80 vibration decibels (VdB) at noise-sensitive receiver locations, noise levels will exceed the vibration CEQA threshold.

CONSTRUCTION NOISE AND VIBRATION

If project-related construction activities create noise levels at sensitive receiver locations in the City of Perris above the construction noise level limit of 80 dBA L_{eq} (City of Perris Municipal Code7.34.060), noise levels will exceed the noise CEQA threshold. Although the City of Perris does not have any specified thresholds for vibration, the FTA vibration criteria, as referenced PVCC SP EIR pages 4.9-27 and 4.9-28, will be utilized to evaluate vibration impacts. If short-term project-generated construction source vibration levels exceed the FTA maximum acceptable vibration standard of 80 vibration decibels (VdB) at noise-sensitive receiver locations, noise levels will exceed the vibration CEQA threshold.

AIRPORT NOISE

The proposed Project site is approximately 1.5 miles east of the March Air Reserve Base/Inland Port Airport (MARB/IPA). It is subject to the March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan (MARB/IPA LUCP). The MARB/IPA LUCP divides the area close to the airport into zones based on proximity to the airport and perceived risks. The Riverside County Airport Land Use Commission adopted the March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan. This Plan provides noise contours for this airport to assist in setting policies for establishing new land uses and appropriate mitigation for properties that will continue to be exposed to higher noise levels. The proposed Project site is within Airport Overlay Zone D, as shown in **Figure 5 – MARB Compatibility Zones**. The proposed Project site is not located within a MARB/IPA Accident Potential Zone. For this zone, the noise contour is 60 CNEL. The project is consistent with the type of land use for this compatibility zone. Standard building construction is for the project is presumed to provide adequate sound attenuation where the difference between the exterior noise exposure and the

interior standard is 20 dB or less. Compliance with the land use type for this compatibility zone meets the CEQA threshold for airport noise.

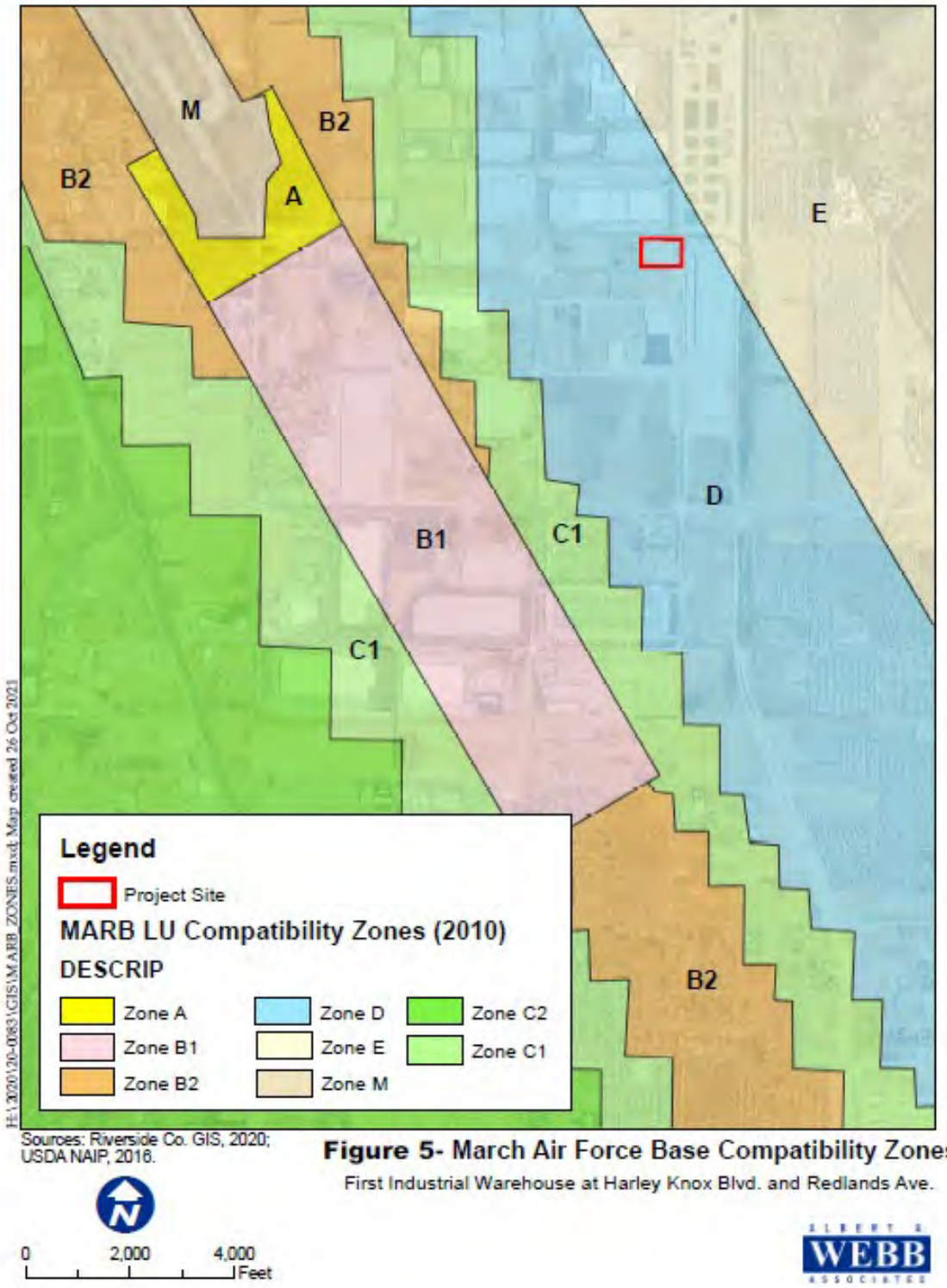


Figure 5- March Air Force Base Compatibility Zones

First Industrial Warehouse at Harley Knox Blvd. and Redlands Ave.

5.0 EXISTING NOISE MEASUREMENTS

The existing noise environment was characterized by collecting a field noise measurement at the property boundary of the project area. One long-term 24-hour measurement was taken at the project site on September 22 and September 23, 2021. **Table 5-1** presents the CNEL values and hourly day and night noise levels for the project site for the sensitive receivers identified in **Figure 6**. Appendix A includes the field monitoring data for this monitoring location.

5.1 Measurement Procedure and Criteria

Hourly noise levels were measured during typical weekday conditions over 24 hours to describe the existing noise environment, the daytime, nighttime hourly noise levels, and associated 24-hour CNEL. The 24-hour measurement provides the hourly noise levels to calculate the CNEL for the project area. The long-term noise measurement was taken using a Larson Davis Type 1 precision sound level meter. The noise meter was programmed in "slow" mode to record noise levels in the "A" weighted form. The sound level meter and microphone were mounted, five feet above the ground, and equipped with a windscreen during all measurements. The Larson Davis sound level meter was calibrated before the monitoring using a CAL200 calibrator. All noise level measurement equipment meets American National Standards Institute (ANSI) specifications for sound level meters (S1.4-1983 identified in Chapter 19.68.020.AA).

5.2 Noise Measurement Locations

Noise measurement location Site 1 is shown in **Figure 6**. **Table 5-1** identifies the hourly daytime (7:01 am to 10:00 pm) and nighttime (10:01 pm to 7:00 am) noise levels for the noise measurement location consistent with the City of Perris Municipal Code. Appendix A provides a summary of the existing hourly ambient noise levels as described below:

- Site 1 represents the noise levels adjacent to the northeast portion of the Project site boundary near E. Oleander Street and Redlands Avenue. The noise level measurements collected show an overall 24-hour exterior noise level of 64 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 56.7 dBA L_{eq} with an average nighttime noise level of 53.3 dBA L_{eq}.

Table 5-1. Existing (Ambient) Long-Term (24-hour) Noise Level Measurements[1]								
Noise Monitoring Location ID[2,3]	Description	Hourly Noise Levels (1hr-L_{eq})[4]						24-hour Noise Levels (CNEL)
		Daytime Minimum	Daytime Maximum	Average Daytime	Nighttime Minimum	Nighttime Maximum	Average Nighttime	
Site 1	Harley Knox & Redlands Avenue	52.5	60.3	56.7	47.7	63.3	53.3	64.0

[1] Noise measurement was taken on September 22, 2021, and September 23, 2021. See Appendix A for monitoring data.

[2] See Figure 6 for the location of the monitoring sites.

[3] Taken with Larson Davis Type 1 noise meter

[4] Daytime hours- 7:01am to 10:00pm, Nighttime hours-10:01pm to 7:00am

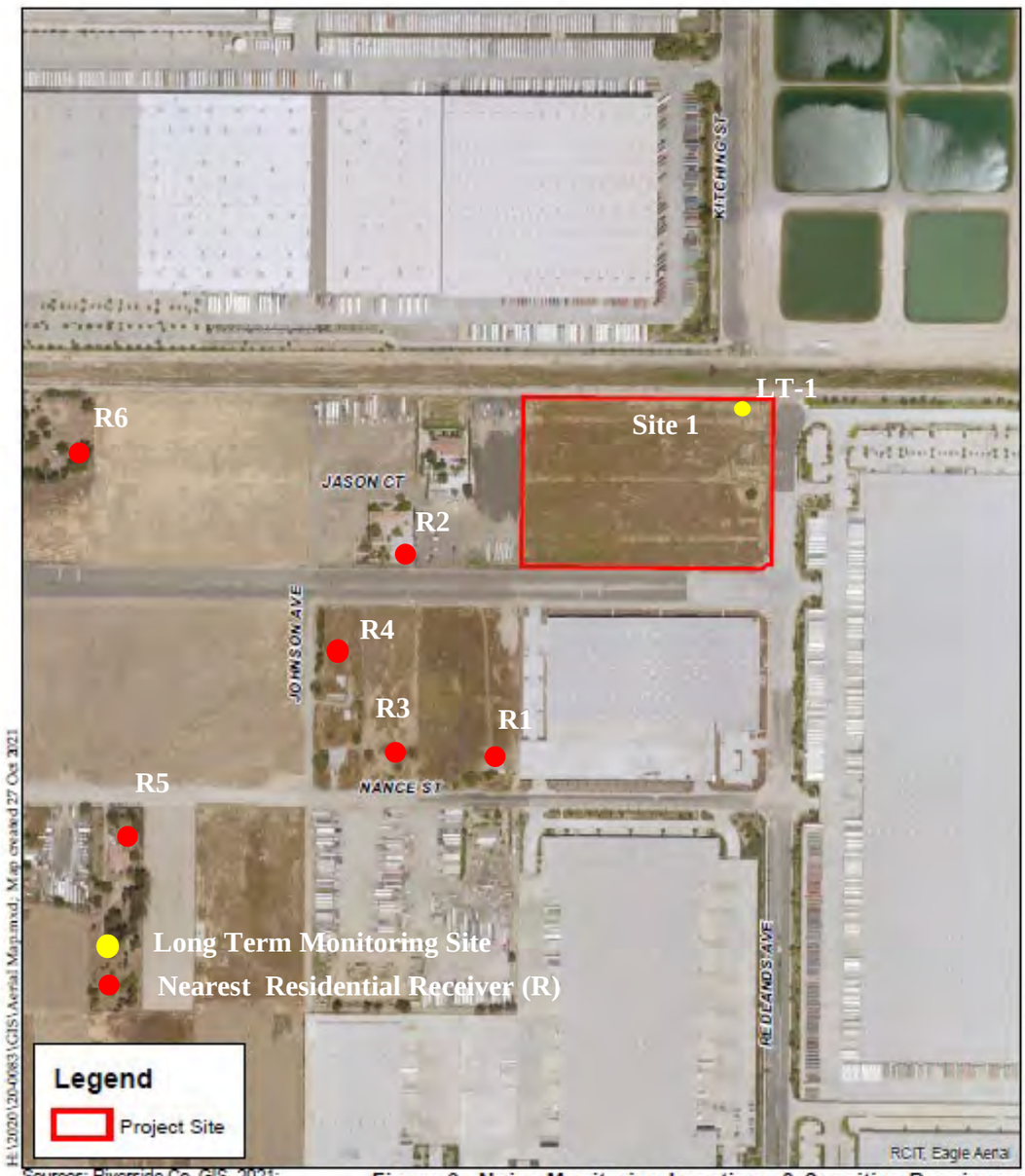


Figure 6 - Noise Monitoring Locations & Sensitive Receivers
First Industrial Harley Knox Warehouse Project

6.0 ANALYSIS METHODS AND PROCEDURES

The following section outlines the analysis methods utilized to predict future noise and vibration levels from the construction and operation of the project.

6.1 Construction

6.1.1 Noise Analysis Methods

The assessment of the construction noise impacts must be relatively general at this phase of the project because many of the decisions affecting noise will be at the contractor's discretion. However, an assessment based on the type of equipment expected to be used by the contractor can provide a reasonable estimate of potential noise impacts and the need for noise mitigation. A worst-case construction noise scenario was developed to estimate the loudest activities occurring at the project site. Pile driving and blasting activities are not anticipated; therefore, the loudest construction activities are centered around the movement of heavy construction equipment during grading operations and the erection of buildings. Noise levels were estimated based on a worst-case scenario, which assumed all pieces of equipment would be operating simultaneously during each construction phase. It was assumed that all construction activities would occur at the project site boundary to provide higher construction noise levels. However, in reality, construction equipment would operate at a variety of distances from the project boundary. The calculated noise level was then compared to the local noise regulation to determine if construction would exceed the City of Perris's exterior noise standard of 80 dBA L_{max} at nearby residential land uses. Construction of the project is expected to occur over nine months. Receiver distance to the construction activity and the equipment operating at the maximum load will have the greatest influence on construction noise levels experienced at residential land uses.

6.1.2 Vibration Analysis Methods

Ground-borne vibration levels resulting from construction activities within the project area were estimated using the FTA data in its Transit Noise and Vibration Impact Assessment Manual (FTA, 2018). Predicted construction vibration levels were identified at the nearest off-site residential land use R2 and compared to the FTA damage and human annoyance criteria, as shown previously in **Table 3-2**.

6.2 Operational Noise & Vibration Analysis

6.2.1 Operational Traffic Noise Analysis Methods

The expected roadway noise level increases from vehicular traffic were calculated using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108. (13) 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. (14) Adjustments are then made to the REMEL to account for: the roadway classification (e.g., collector, secondary, major, or arterial), the active roadway 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.

6.2.2 Operational Traffic Noise Analysis Inputs

Table 6-1 presents the roadway parameters used to assess the Project's off-site transportation noise impacts. As shown, Table 6-1 identifies the three study area roadway segments, the existing and project ADT volumes, the posted vehicle speeds, and the time of day (daytime, evening, and nighttime) vehicle splits. The ADT volumes used in this study are presented for the project were obtained from the Focused Traffic Study for Proposed Warehouse Project on Harley Knox Boulevard in the City of Perris (DPR 20-00014) prepared by Webb Associates (August 2021) for the following traffic scenarios: Existing with and without the project.

Table 6-1. Roadway Parameters and Vehicle Distribution					
Roadway	**Segment**	**LOS C ADT**	**Existing Plus Project ADT**	**Speed (MPH)**	**Site Conditions**
Harley Knox Blvd	Redlands Ave to Perris Blvd	43,100	43,513	45	Soft
Redlands Ave	Harley Knox Blvd to Ramona Expy	28,700	29,113	40	Soft
Perris Blvd	Harley Knox Blvd to Ramona Expy	43,100	43,513	45	Soft
Major Arterial Vehicle Distribution (Truck Mix)[2]					
Motor-Vehicle Type		**Daytime % (7AM to 7 PM)**	**Evening % (7 PM to 10 PM)**	**Night % (10 PM to 7 AM)**	**Total % of Traffic Flow**
Automobiles		75.5	14.0	10.4	92.00
Medium Trucks		48.0	2.0	50.0	3.00
Heavy Trucks		48.0	2.0	50.0	5.00
Secondary and Collector Vehicle Distribution (Truck Mix)[2]					
Motor-Vehicle Type		**Daytime % (7AM to 7 PM)**	**Evening % (7 PM to 10 PM)**	**Night % (10 PM to 7 AM)**	**Total % of Traffic Flow**
Automobiles		75.5	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

Notes:
[1] Maximum two-way traffic volume (ADT) with Level of Service C (LOS C) conditions of a major arterial roadways as outlined in the Riverside County Office of Industrial Hygiene Acoustical Modeling Parameters.
[2] Vehicle distribution data is based on Riverside County Mix data for collectors and secondary roadways.

6.2.3 Operational Traffic Vibration Analysis

As a conservative measure, the vibration vs. distance curve obtained from the Caltrans Transportation and Construction Vibration Guidance Manual will be used to represent worst-case vibration levels from truck traffic at the nearest receiver locations along Harley Knox Boulevard. This curve provides empirical data collected from several freeways and local roadways to determine auto and truck traffic vibration levels. This curve will qualitatively assess anticipated vibration levels at residential land uses along local roadways near the project site. These vibration levels will be compared to the Caltrans and FTA vibration criteria, as shown previously in **Tables 3-1 and 3-2**. These criteria will be utilized to evaluate the vibration effects of continuous auto and truck traffic.

6.2.4 Stationary Noise Analysis Method

The primary non-transportation noise sources associated with the project are HVAC equipment, on-site parking lot circulation, and the 26-bay loading dock. In order to evaluate these noise sources at the nearest residential noise-sensitive receptors, the reference noise level of similar operational activities was obtained from the SoundPlan library. **Table 6.2** provides the reference noise level measurements that were collected from similar existing operational noise sources. These reference noise levels were used to describe the anticipated operational noise levels generated from idling trucks, delivery truck activities, backup alarms, loading and unloading, air conditioning units, and parking lot vehicle movements.

The SoundPLAN noise prediction model was used to calculate noise levels at the noise-sensitive receptors located around the project site. Inputs to the SoundPLAN model included ground topography and ground type, noise source locations and heights, receiver locations, and sound power level data. These predictions are made in accordance with International Organization for Standardization (ISO) standard 9613-2:1996 (Acoustics – Attenuation of sound during propagation outdoors). It should be noted that sound power measures the total acoustic energy emitted by a noise source and is irrespective of the distance from the source. Sound power is input into the SoundPLAN model to represent the total acoustic energy emitted by a specific noise source. Sound power levels in this report are reported asA-weighted decibel levels, noted as "dBA, PWL" per industry standards. The model then corrects the many factors (i.e., distance, terrain shielding, atmospheric absorption, etc.) that affect sound propagation from the noise source to the receiver location.

Table 6-2. Reference Noise Levels				
Noise source[1]	**Source Type**	**# of Units**	**Reference Noise Level (dBA)[1]**	**Distance (ft)**
unloading/loading	Area	N/A	75	10
Back Up Alarm	Point	26	100	3
Parking lot circulation[2]	Area	127	-	-
Air conditioning units	Point	32	69	3

[1] Reference noise levels were obtained from the Sound Plan library.
[2] Based on the throughput of 3 cars per hour

7.0 OFF-SITE TRANSPORTATION NOISE IMPACTS

Roadway Noise

Implementation of the Project would generate increased traffic volumes along nearby roadway segments. According to the Focused Traffic Study for Proposed Warehouse Project on Harley Knox Boulevard in the City of Perris (DPR 20-00014) prepared by Webb Associates (August 2021), the proposed Project would generate 275 daily vehicle trips and a total of 25 AM peak hour vehicle trips and 29 PM peak hour vehicle trips. The Project's increase in traffic may result in noise increases on Project area roadways. In general, a traffic noise increase of 3 dBA is barely perceptible to people, while a 5-dBA increase is readily noticeable. Traffic volumes on Project area roadways would have to approximately double for the resulting traffic noise levels to increase by 3 dBA.

Off-site transportation CNEL noise level impacts from the proposed Project were predicted using the Focused Traffic Study for Proposed Warehouse Project on Harley Knox Boulevard in the City of Perris (DPR 20-00014)prepared by Webb Associates (August 2021). The CNEL noise levels are evaluated from the center of the roadway. Noise contours were developed for the following traffic scenarios:

- Existing Without Project: This scenario refers to the existing present-day noise conditions, without the proposed Project.

- Existing With Project: This scenario refers to the existing present-day noise conditions, with the proposed Project.

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 based on the PVCC SP EIR significance criteria. 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, 60, and 55 CNEL 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 do not reflect noise contributions from the surrounding stationary noise sources within the Project study area.

Tables 7-1 through 7-3 summarize the exterior traffic noise levels, without barrier attenuation, for the three study area roadway segments analyzed from the without Project to the with Project under existing conditions. Appendix B includes a summary of the traffic noise level contours for each of the two traffic scenarios.

Table 7-1 presents the Existing without and with Project condition CNEL noise levels. The Existing without Project exterior noise levels are expected to range from 69.9 to 72.9 dBA CNEL, without accounting for noise attenuation features such as noise barriers or topography. Table 7-2 shows the Existing with Project condition will range from 69.9 to 72.9 dBA CNEL. As shown in Table 7-3 the Project is not expected to generate an increase in exterior noise. Therefore CNEL noise levels will remain below the significance threshold of 3 dBA CNEL when the without Project noise levels already exceed 60 dBA CNEL. Thus, the off-site Project-related traffic noise level increase is considered a *less than significant* impact under Existing with Project conditions.

Table 7-1. Existing Without Project Exterior Noise Levels						
Roadway	Segment	CNEL at 50 Ft (dBA)	Distance to Contour (ft)			
			70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
Harley Knox Blvd	Redlands Ave to Perris Blvd	72.9	79	169	364	783
Redlands Ave	Harley Knox Blvd to Ramona Expy	69.9	49	106	228	490
Perris Blvd	Harley Knox Blvd to Ramona Expy	71.2	60	129	277	597

Table 7-2. Existing With Project Exterior Noise Levels						
Roadway	Segment	CNEL at 50 Ft (dBA)	Distance to Contour (Ft)			
			70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
Harley Knox Blvd	Redlands Ave to Perris Blvd	72.9	78	169	364	784
Redlands Ave	Harley Knox Blvd to Ramona Expy	69.9	50	107	230	495
Perris Blvd	Harley Knox Blvd to Ramona Expy	71.2	60	130	280	603

Table 7-3. Change in Existing Noise Levels as a Result of Project					
Roadway[1]	Segment	CNEL at 50 Feet dBA[2]			
		Existing Without Project	Existing With Project	Change in Noise Level	Potential Significant Impact
Harley Knox Blvd	Redlands Ave to Perris Blvd	72.9	72.9	0.0	No
Redlands Ave	Harley Knox Blvd to Ramona Expy	69.9	69.9	0.0	No
Perris Blvd	Harley Knox Blvd to Ramona Expy	71.2	71.2	0.0	No

Notes:
[1] Exterior noise levels calculated at 5 feet above ground level.
[2] Noise levels were calculated from the centerline of the subject roadway.

8.0 STATIONARY-RELATED NOISE IMPACTS

The project was evaluated for stationary noise impacts. The City of Perris Municipal Code, Section 7.34.040, requires operational noise levels not to exceed the 80 dBA L_{max} daytime or 60 dBA L_{max} nighttime noise level standards at the nearby sensitive receiver locations in the City of Perris. This noise study evaluates noise levels at residential zones surrounding the project site. There are several non-conforming residential homes located around the project site where impacts were evaluated. The residential noise standards were applied to these locations. Stationary-related noise impacts were evaluated utilizing the maximum noise levels assumptions outlined in section 6.2.4 for the HVAC equipment, on-site parking lot circulation, and the proposed 26-bay loading dock (including backup beeps and air brake releases).

Table 8-1 provides a listing of the sensitive residential receiver locations near the project site. Distances were measured from the sensitive receiver location to the project site boundary for receivers R1 through R6.

The reference noise levels for various operational noise sources provided in **Table 6.1** were utilized to calculate the predicted operational source noise levels at residential receiving properties, R1 through R6. The combined project operational noise levels at receivers R1 through R6 range from 34 to 47 dBA L_{max}, as shown in Table 8-1. Table 8-2 shows the combined operational CNEL values range from 31 to 39. Therefore, operational noise levels associated with the project will satisfy the City of Perris Municipal Code exterior noise level standards of 80 dBA L_{max} daytime and 60 dBA L_{max} nighttime and the General Plan Standard of 60 CNEL.

Table 8-1. Project Only Operational Noise levels (dBA L_{max})

Receiver Location[1]	Distance	Combined Project Only Operational Noise Level (dBA L_{max})	Daytime Standard 80 dBA L_{max} Exceeded	Nighttime Standard 60 dBA L_{max} Exceeded
R1	610	41	No	No
R2	325	47		
R3	618	38		
R4	632	41		
R5	1,250	34		
R6	1,341	35		

[1] Figure 6 shows the receiver locations.

Table 8-2. Project Only Operational Noise levels (dBA L_{eq}) & CNEL

Receiver Location[1]	Distance	Combined Project Only Operational Noise Level (dBA L_{eq})[3]	CNEL	60 CNEL Standard Exceeded
R1	610	27.7	33	No
R2	325	35.5	39	No
R3	618	25.5	31	No
R4	632	27.1	32	No
R5	1,250	22.9	27	No
R6	1,341	32.9	33	No

[1] Figure 6 shows the receiver locations.

As shown in **Tables 8-3 and 8-4,** the combined project only operational noise levels provided in **Table 8.2** were added to the average measured ambient noise level to determine the total combined operational noise level and the increase over existing ambient noise levels.

Table 8-3. Operational Daytime Operational Noise levels (dBA L_{eq})					
Receiver Location[1]	**Combined Operational Noise Level (dBA L_{eq}) [2]**	**Measurement Location[3]**	**Average Measured Ambient Noise Level (dBA L_{eq})[3]**	**Combined Noise level (dBA L_{eq})[4]**	**Project Increase**
R1	27.7	Site 1	56.7	56.7	0.0
R2	35.5		56.7	56.7	0.0
R3	25.5		56.7	56.7	0.0
R4	27.1		56.7	56.7	0.0
R5	22.9		56.7	56.7	0.0
R6	32.9		56.7	56.7	0.0

[1] Figure 6 shows the receiver locations.

[2] Combined Noise Level from Table 8-2.

[3] Site 1 average measured daytime noise level was used for long-term measurement.

Table 8-4. Operational Nighttime Operational Noise levels (dBA L_{eq})					
Receiver Location[1]	**Combined Operational Noise Level (dBA L_{eq})[2]**	**Measurement Location[3]**	**Measured Ambient Noise Level (dBA L_{eq})[3]**	**Combined Noise level (dBA L_{eq}) [4]**	**Project Increase**
R1	27.7	Site 1	53.3	53.3	0.0
R2	35.5		53.3	53.3	0.0
R3	25.5		53.3	53.3	0.0
R4	27.1		53.3	53.3	0.0
R5	22.9		53.3	53.3	0.0
R6	32.9		53.3	53.3	0.0

[1] Figure 6 shows the receiver locations.

[2] Combined Noise Level from Table 8-2.

[3] Site 1 average measured nighttime noise level was used for long-term measurement.

The project daytime and nighttime operational noise levels will not increase above existing levels at the nearest sensitive residential receiver locations. The project-related operational noise level contributions would not exceed the CEQA threshold of 5-dBA L_{eq} when the without project noise levels are below 60 dBA or a 3-dBA increase when the project noise levels are above 60 dBA as discussed in Section 4. Therefore, the increases at the sensitive residential receiver locations will not exceed the CEQA threshold.

9.0 OPERATIONAL VIBRATION ANALYSIS

The operation of the project will increase auto and truck traffic within the project area. Per the Caltrans Transportation Noise and Vibration Manual, traffic, auto, and heavy trucks traveling on roadways rarely generate vibration amplitudes high enough to cause structural or cosmetic damage. However, a qualitative analysis was provided in this study to evaluate the likelihood of vibration impacts from the project utilizing the empirical vibration curve developed by Caltrans.

The Caltrans Noise and Vibration Manual provides a collection of measured vibration data for truck pass-bys. This data demonstrates that truck pass-bys can be characterized by a peak in vibration that is considerably higher than those generated by automobiles for a few seconds. Vibration from these trucks drops off dramatically with distance. As truck volumes increases, more peaks will occur but not necessarily higher peaks. Vibration wavefronts emanating from several trucks closely together may either cancel or partially cancel (destructive interference) or reinforce or partially reinforce (constructive interference) each other, depending on their phases and frequencies. Since traffic vibrations can be considered random, the probabilities of total destructive or constructive interference are minimal. Coupled with the fact that two trucks cannot occupy the same space and the rapid drop-off rates, it is understandable that two or more trucks normally do not contribute significantly to each other's peaks.

In order to predict the maximum truck traffic vibrations from the project, the Caltrans empirical curve, as shown in **Figure 7,** was obtained from the Caltrans Noise and Vibration Manual (Caltrans, 2013). This curve was used to predict operational vibration impacts. **Figure 7** shows a graph of measured vibration data collected from truck traffic traveling on freeways and local roadways plotted by truck traffic vibrations vs. distance from the nearest travel lane's centerline. The graph indicates that the highest traffic-generated vibrations measured on freeway shoulders (5 m from the centerline of the nearest lane) have never exceeded 2.0 mm/s or (0.08 in/sec) with the worst combinations of heavy trucks. This amplitude coincides with the maximum recommended "safe amplitude" for historical buildings. The graph illustrates the rapid attenuation of vibration amplitudes, which dips below the perception threshold for most people at about 45 m (150 ft). Caltrans states that sensitive receivers adjacent to local roadways, within 15 m(50 feet) of the nearest travel lane's centerline will have maximum worse-case vibration levels near 0.08 mm/s or (0.0032 in/sec or 70 VdB).

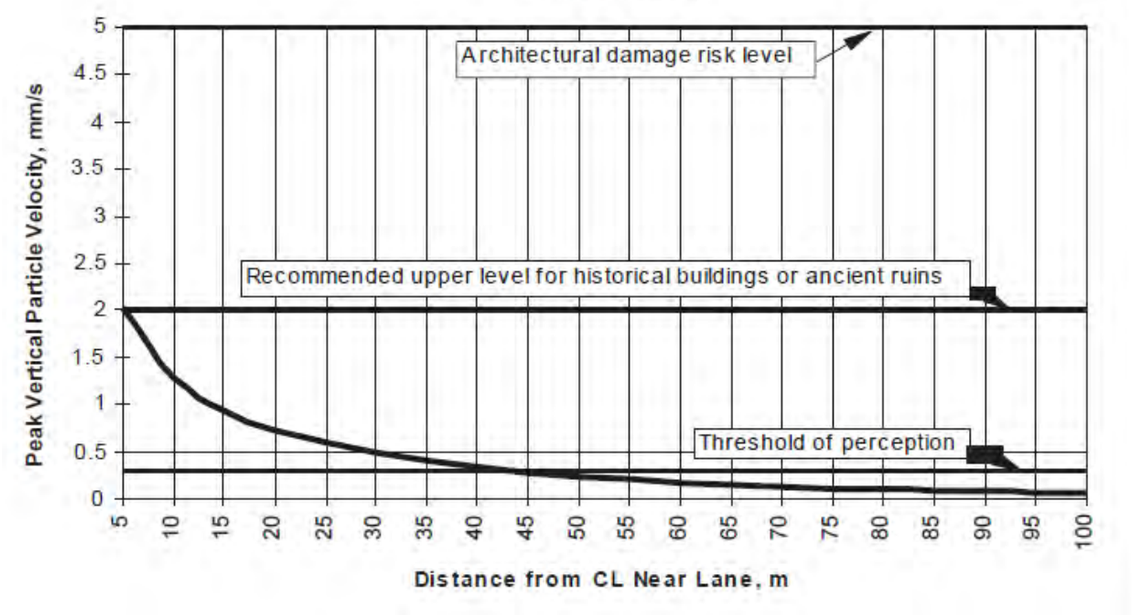


Figure 7. Maximum Truck Traffic Vibration Levels vs. Distance

Caltrans and FTA provide a range of perceptible annoyance levels, and this predicted vibration level falls well below the distinctly perceptible level of 0.08 PPV (in/sec), below the FTA damage criteria of 0.3 PPV (in/sec) and the human annoyance level of 80 VdB. Further, this worst-case vibration level from truck traffic would not exceed the Caltrans threshold of 0.2 PPV (in/sec). It is expected that actual vibration levels within the project area from truck traffic will be lower than this worst-case level when soil type and pavement conditions are considered. On this basis, the potential for the Project to result in the exposure of persons to, or generation of, excessive ground-borne vibration is determined to be below the 80 VdB FTA vibration threshold.

10.0 SHORT-TERM CONSTRUCTION NOISE & VIBRATION IMPACTS

Construction noise represents a temporary impact on ambient noise levels. Construction noise is primarily caused by diesel engines (trucks, dozers, backhoes), impacts (jackhammers, pile drivers, hoe rams), and backup alarms. Construction equipment can be stationary or mobile. Stationary equipment operates in one location for hours or days in a constant mode (generators, compressors) or generates variable noise operations (pile drivers, jackhammers), producing constant noise for a period of time. Mobile equipment moves around the site and is characterized by variations in power and location, resulting in significant variations in noise levels over time. Grading activities and rock blasting typically generate the greatest noise impacts during construction. This section assesses the potential noise impacts to the existing sensitive residential land uses during construction.

10.1 Noise Sensitive Uses and Construction Noise Standards

Pursuant to the City of Perris Municipal Code Section 7.34.060 (Construction Noise), the following construction activities such as demolition, excavation, alteration, or repair of any building or structure are prohibited from creating disturbing, excessive, or offensive noise between the hours of 7:00 pm and 7:00 am, on Sundays, and on a legal holiday. Construction activities within the City of Perris shall not exceed 80 dBA in residential zones within the city. Although the surrounding land uses are not residential zones, several non-conforming residential homes are located around the project site; therefore, these standards will be utilized to evaluate construction noise impacts.

10.2 Construction Schedule

The construction schedule for the project is described below.

As shown in **Table 10-1**, the estimated construction period for the project is approximately nine months. Construction is anticipated to begin with grading in September 2022 and end with architectural coatings (painting) starting in April 2023, as shown in **Table 10-1**.

Table 10-1. Construction Schedule

Construction Activity	Start Date	End Date	Total Working Days
Grading	09/1/2022	09/28/2022	20
Building Construction	09/29/2022	05/15/2023	163
Paving	04/18/2023	5/15/2023	20
Painting	04/18/2023	5/15/2023	20

Table 10-2 presents the equipment for each construction activity based on engineering estimates and the Applicant.

Table 10-2. Equipment by Construction Activity

Construction Activity	Off-Road Equipment	Unit Amount
Grading	Excavator	1
	Rubber Tired Dozers	1
	Tractors/Loaders/Backhoes	3
	Grader	1
Building Construction	Crane	1
	Forklifts	3
	Generator Sets	1
	Tractors/Loaders/Backhoes	3
	Welders	1
Paving	Pavers	2
	Paving Equipment	2
	Rollers	2
Architectural Coating	Air Compressors	1

10.3 Construction Noise Levels

The RCNM model was used to determine which phase of construction activity for the project would generate the greatest construction noise level. It was assumed that each construction activity would occur within a distance of 325 feet of the nearest residential receiver, R_2. The receiver distance was measured from the project boundary to the closest adjacent property line of the affected residential land use (R2) to the west of the project site. **Table 10-3** presents the noise levels in L_{max} for each construction phase. As shown in **Table 10-3**, the highest noise level experienced at R2 is 68.7 dBA L_{max} during Grading activities. This noise level is less than Perris's noise standard of 80 dBA Lmax within residential zones.

Table 10-3. Construction Noise Levels by Construction Phase

Construction Phases	Construction dBA, L_{max}[1]
Grading	68.7
Building	67.7
Paving	63.7
Painting	61.4

[1]Worst-case construction noise levels evaluated at the property line of receiver R2, the closest receivers to the project site.

10.4 Construction Vibration

Ground-borne vibration levels resulting from construction activities occurring within the project site were estimated using the FTA data. Construction activities that would occur within the project site include grading, building construction, paving, and painting. These activities have the potential to generate low levels of ground-borne vibration.

Using the vibration source level of construction equipment provided in Table 7-4 of the FTA Noise and Vibration Manual and the FTA's construction vibration assessment methodology, it is possible to estimate project vibration impacts. **Table 10-4** presents the expected project-related vibration levels at 325 feet at the nearest residential land use, R2. The receiver distance was measured from the project site property to the adjacent property line of the affected residential land use to the west of the project site.

Table 10-4. Construction Equipment Vibration Levels

NoisR2e Receiver	Distance to Property Line[1]	Large Bulldozer Reference Vibration Level PPV_{ref} (VdB) at 25ft	Peak Vibration PPV (VdB) at 185 ft	Exceed Threshold? (Below 80 VdB)
R2	325 feet	87VdB	54VdB	No

[1] Reference noise level obtained from the FTA Noise and Vibration Manual, Table 7-4. (FTA, 2018)

Based on the FTA's reference vibration levels, a large bulldozer represents the peak vibration source with a reference level of 87 VdB at a distance of 25 feet. At 325 feet, construction vibration levels are expected to approach 54VdB. Using the construction vibration assessment annoyance criteria provided by the FTA for infrequent events, as shown in **Table 3-2**, the construction of the project site will not result in a perceptible human response (annoyance). Impacts at the closest sensitive receptor site are unlikely to be sustained during the entire construction period. Moreover, construction at the project site will be restricted to daytime hours, thereby eliminating potential vibration impacts during sensitive nighttime hours. Further, the predicted construction noise level is below the PVCC SP vibration threshold of 80 VdB.

10.5 Construction Mitigation Measures

As discussed previously, the project site is located within the PVCCSP planning area of the City of Perris. Although the project's construction noise and vibration impacts will be below City standards and CEQA thresholds, the project is subject to all applicable mitigation measures from the PVCCSP EIR. The PVCCSP EIR mitigation measures that apply to the project are as follows:

- **PVCCSP EIR MM Noise 1**: During all project site excavation and grading on-site, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and

maintained mufflers, consistent with the manufacturers' standards. The construction contractors shall place all stationary construction equipment so that emitted noise is directed away from the noise-sensitive receptors nearest the project site.

- **PVCCSP EIR MM Noise 2**: During construction, stationary construction equipment, stockpiling, and vehicle staging areas will be placed a minimum of 446 feet away from the closet sensitive receptor.

- **PVCCSP EIR MM Noise 3**: No combustion-powered equipment, such as pumps or generators, shall be allowed to operate within 446 feet of any occupied residence unless a noise protection barrier surrounds the equipment.

- **PVCCSP EIR MM Noise 4:** Construction contractors implementing development projects shall limit haul truck deliveries to the same hours specified for construction equipment. To the extent feasible, haul routes shall not pass sensitive land uses or residential dwellings.

11.0 REFERENCES

California Department of Transportation's (Caltrans). 2013. *Transportation- and Construction-Vibration Guidance Manual*.

California Department of Transportation (Caltrans). 2013. Technical Noise Supplement (TeNS), A Technical Supplement to the Traffic Noise Analysis Protocol. http://www.dot.ca.gov/hq/env/noise/pub/TeNS_Sept_2013B.pdf

City of Perris General Plan Circulation Element August 26, 2008

Federal Highway Administration (FHWA) Construction Noise Handbook Section 9.0. Accessed at: https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook09.cfm

Federal Highway Administration (FHWA) Construction Noise Handbook Section 8.0. Accessed at: https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook08.cfm

Federal Highway Administration (FHWA), Roadway Construction Noise Model (RCNM) (2008).

Federal Transit Administration (FTA). 2018. Transit Noise and Vibration Impact Assessment. https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/fta-noise-and-vibration-impact-assessment

March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan Mead Hunt, November 13, 2014

Perris Valley Commerce Center Specific Plan Draft Environmental Impact Report (PVCC SP EIR), July 2011. http://www.cityofperris.org/city-hall/specific-plans/PVCC/PVCC-DEIR%2007-20-11.pdf

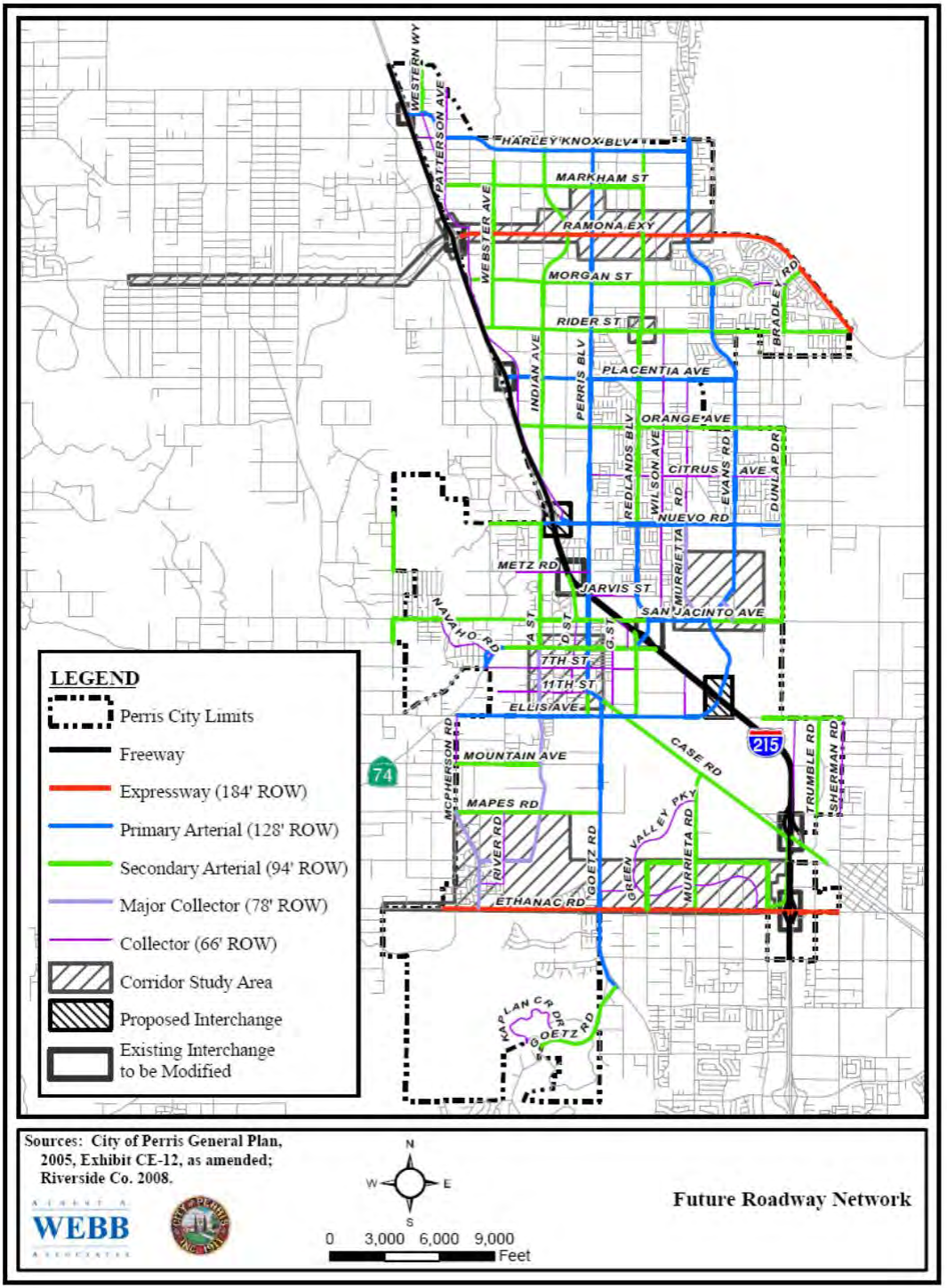
Webb Associates (2021) Focused Traffic Study for Proposed Warehouse Project on Harley Knox Boulevard in the City of Perris (DPR 20-00014)prepared by Webb Associates (August 2021).

Appendix A Noise Monitoring Data

Site 1 - CNEL Values, November 22, 2019					
Background Leq and Hour Averaging DNL					
Hour	**Background L_{eq}**	**Penalty**	**L_{eq} DNL (L_{eq} + 10)**		**L_{eq} DNL (10^(D/10))**
0	63.3	10	73.3	DNL	21379620.9
1	52	10	62	DNL	1584893.192
2	47.7	10	57.7	DNL	588843.6554
3	50.8	10	60.8	DNL	1202264.435
4	52.1	10	62.1	DNL	1621810.097
5	53.2	10	63.2	DNL	2089296.131
6	56	10	66	DNL	3981071.706
7	60.3		60.3		1071519.305
8	54.5		54.5		281838.2931
9	53.4		53.4		218776.1624
10	56.9		56.9		489778.8194
11	65.1		65.1		3235936.569
12	55.9		55.9		389045.145
13	56.4		56.4		436515.8322
14	55.2		55.2		331131.1215
15	54.8		54.8		301995.172
16	59.2		59.2		831763.7711
17	55.9		55.9		389045.145
18	60		60		1000000
19	60.8	5	65.8	CNEL	3801893.963
20	60.6	5	65.6	CNEL	3630780.548
21	60.1	5	65.1	CNEL	3235936.569
22	50.9	10	60.9	DNL	1230268.771
23	58.8	10	68.8	DNL	7585775.75
(Hour 23 is 23:00 to 23:59)				Average=	2537908.377
	10LOG10 of (Average=)				**64.0**

Appendix B Traffic Noise Model Data

Exhibit CE-4: City of Perris Existing Roadway Network



Sources: City of Perris General Plan, 2005, Exhibit CE-12, as amended; Riverside Co. 2008.

N
W E
S

0 3,000 6,000 9,000 Feet

Future Roadway Network

Table CE-2: Perris Roadway Capacity / Level of Service [1]

Roadway Classification	*Number of Lanes*	*Maximum Two-Way Average Daily Traffic (ADT)* [2]				
		LOS A	*LOS B*	*LOS C*	*LOS D*	*LOS E*
Collector	2	7,800	9,100	10,400	11,700	13,000
Collector	4	15,540	18,130	20,700	23,300	25,900
Arterial	2	10,800	12,600	14,400	16,200	18,000
Arterial	4	21,540	25,130	28,700	32,300	35,900
Arterial	6	32,340	37,730	43,100	48,500	53,900
Expressway	4	24,540	28,630	32,700	36,800	40,900
Expressway	6	36,780	42,910	49,000	55,200	61,300
Expressway	8	49,020	57,190	65,400	73,500	81,700
Freeway	4	45,900	53,550	61,200	68,900	76,500
Freeway	6	70,500	82,250	94,000	105,800	117,500
Freeway	8	96,300	112,350	128,400	144,500	160,500
Freeway	10	120,360	140,420	160,500	180,500	200,600

[1] All Capacity Exhibits are based on optimum conditions and are intended as guidelines for planning purposes only.

[2] Maximum two-way ADT values are based on the 1999 Modified Highway Capacity Manual Level of Service Tables.

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

PROJECT: First Industrial Warehouse
ROADWAY: Harley Knox -LosC
LOCATION: Warehouse Façade

JOB #: 0889-21-03
DATE: 27-Oct-21
ENGINEER: R.Pearson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	43,100	
SPEED =	45	
PK HR % =	10	
NEAR LANE/FAR LANE DIS	0	
ROAD ELEVATION =	0.0	
GRADE =	1.0	%
PK HR VOL =	4,310	

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5.0
WALL DISTANCE FROM RECEIVER		50
PAD ELEVATION =		0.5
ROADWAY VIEW:	LF ANGLE=	-90
	RT ANGLE=	90
	DF ANGLE=	180

SITE CONDITIONS

AUTOMOBILES =	15	
MEDIUM TRUCKS =	15	(10 = HARD SITE, 15 = SOFT SITE)
HEAVY TRUCKS =	15	

WALL INFORMATION

HTH WALL	0.0	
AMBIENT=	0.0	
BARRIER =	0	(0 = WALL, 1 = BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVENING	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCK	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES	2.0	50.12	- -
MEDIUM TRUCKS	4.0	50.02	- -
HEAVY TRUCKS	8.0	50.06	0.00

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	72.4	70.5	68.8	62.7	71.3	71.9
MEDIUM TRUCKS	63.5	62.0	55.6	54.1	62.5	62.8
HEAVY TRUCKS	64.0	62.6	53.6	54.8	63.2	63.3
NOISE LEVELS (dBA)	73.5	71.7	69.1	63.8	72.4	72.9

NOISE IMPACTS (WITH TOPO AND BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	72.4	70.5	68.8	62.7	71.3	71.9
MEDIUM TRUCKS	63.5	62.0	55.6	54.1	62.5	62.8
HEAVY TRUCKS	64.0	62.6	53.6	54.8	63.2	63.3
NOISE LEVELS (dBA)	73.5	71.7	69.1	63.8	72.4	72.9

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	78	169	364	783
LDN	72	156	336	724

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

PROJECT:	First Industrial Warehouse	JOB #:	0889-21-03
ROADWAY:	Harley Knox -LosC+P	DATE:	27-Oct-21
LOCATION:	Warehouse Façade	ENGINEER:	R.Pearson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	43,153	
SPEED =	45	
PK HR % =	10	
NEAR LANE/FAR LANE DIS	0	
ROAD ELEVATION =	0.0	
GRADE =	1.0	%
PK HR VOL =	4,315	

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5.0
WALL DISTANCE FROM RECEIVER		50
PAD ELEVATION =		0.5
ROADWAY VIEW:	LF ANGLE=	-90
	RT ANGLE=	90
	DF ANGLE=	180

SITE CONDITIONS

AUTOMOBILES =	15	
MEDIUM TRUCKS =	15	(10 = HARD SITE, 15 = SOFT SITE)
HEAVY TRUCKS =	15	

WALL INFORMATION

HTH WALL	0.0	
AMBIENT=	0.0	
BARRIER =	0	(0 = WALL, 1 = BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVENING	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCK	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES	2.0	50.12	- -
MEDIUM TRUCKS	4.0	50.02	- -
HEAVY TRUCKS	8.0	50.06	0.00

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	72.4	70.5	68.8	62.7	71.3	71.9
MEDIUM TRUCKS	63.5	62.0	55.6	54.1	62.5	62.8
HEAVY TRUCKS	64.0	62.6	53.6	54.8	63.2	63.3
NOISE LEVELS (dBA)	73.5	71.7	69.1	63.8	72.4	72.9

NOISE IMPACTS (WITH TOPO AND BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	72.4	70.5	68.8	62.7	71.3	71.9
MEDIUM TRUCKS	63.5	62.0	55.6	54.1	62.5	62.8
HEAVY TRUCKS	64.0	62.6	53.6	54.8	63.2	63.3
NOISE LEVELS (dBA)	73.5	71.7	69.1	63.8	72.4	72.9

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	78	169	364	784
LDN	72	156	336	724

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

PROJECT:	First Industrial Warehouse	JOB #:	0889-21-03
ROADWAY:	Peris Ave -LosC	DATE:	27-Oct-21
LOCATION:	Warehouse Façade	ENGINEER:	R.Pearson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	28,700	
SPEED =	45	
PK HR % =	10	
NEAR LANE/FAR LANE DIS	0	
ROAD ELEVATION =	0.0	
GRADE =	1.0	%
PK HR VOL =	2,870	

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5.0
WALL DISTANCE FROM RECEIVER		50
PAD ELEVATION =		0.5
ROADWAY VIEW:	LF ANGLE=	-90
	RT ANGLE=	90
	DF ANGLE=	180

SITE CONDITIONS

AUTOMOBILES =	15	
MEDIUM TRUCKS =	15	(10 = HARD SITE, 15 = SOFT SITE)
HEAVY TRUCKS =	15	

WALL INFORMATION

HTH WALL	0.0	
AMBIENT=	0.0	
BARRIER =	0	(0 = WALL, 1 = BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVENING	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCK	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES	2.0	50.12	- -
MEDIUM TRUCKS	4.0	50.02	- -
HEAVY TRUCKS	8.0	50.06	0.00

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	70.7	68.8	67.0	60.9	69.6	70.2
MEDIUM TRUCKS	61.7	60.2	53.8	52.3	60.8	61.0
HEAVY TRUCKS	62.3	60.8	51.8	53.1	61.4	61.5
NOISE LEVELS (dBA)	71.7	69.9	67.3	62.1	70.6	71.2

NOISE IMPACTS (WITH TOPO AND BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	70.7	68.8	67.0	60.9	69.6	70.2
MEDIUM TRUCKS	61.7	60.2	53.8	52.3	60.8	61.0
HEAVY TRUCKS	62.3	60.8	51.8	53.1	61.4	61.5
NOISE LEVELS (dBA)	71.7	69.9	67.3	62.1	70.6	71.2

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	60	129	277	597
LDN	55	119	256	552

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

PROJECT:	First Industrial Warehouse	JOB #:	0889-21-03
ROADWAY:	Peris Ave -LosC+P	DATE:	27-Oct-21
LOCATION:	Warehouse Façade	ENGINEER:	R.Pearson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	29,113	
SPEED =	45	
PK HR % =	10	
NEAR LANE/FAR LANE DIS	0	
ROAD ELEVATION =	0.0	
GRADE =	1.0	%
PK HR VOL =	2,911	

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5.0
WALL DISTANCE FROM RECEIVER		50
PAD ELEVATION =		0.5
ROADWAY VIEW:	LF ANGLE=	-90
	RT ANGLE=	90
	DF ANGLE=	180

SITE CONDITIONS

AUTOMOBILES =	15	
MEDIUM TRUCKS =	15	(10 = HARD SITE, 15 = SOFT SITE)
HEAVY TRUCKS =	15	

WALL INFORMATION

HTH WALL	0.0	
AMBIENT=	0.0	
BARRIER =	0	(0 = WALL, 1 = BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVENING	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCK	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES	2.0	50.12	- -
MEDIUM TRUCKS	4.0	50.02	- -
HEAVY TRUCKS	8.0	50.06	0.00

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	70.7	68.8	67.0	61.0	69.6	70.2
MEDIUM TRUCKS	61.8	60.3	53.9	52.4	60.8	61.0
HEAVY TRUCKS	62.3	60.9	51.9	53.1	61.5	61.6
NOISE LEVELS (dBA)	71.8	70.0	67.4	62.1	70.7	71.2

NOISE IMPACTS (WITH TOPO AND BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	70.7	68.8	67.0	61.0	69.6	70.2
MEDIUM TRUCKS	61.8	60.3	53.9	52.4	60.8	61.0
HEAVY TRUCKS	62.3	60.9	51.9	53.1	61.5	61.6
NOISE LEVELS (dBA)	71.8	70.0	67.4	62.1	70.7	71.2

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	60	130	280	603
LDN	56	120	259	557

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

PROJECT:	First Industrial Warehouse	JOB #:	0889-21-03
ROADWAY:	Redlands Ave -LosC	DATE:	27-Oct-21
LOCATION:	Warehouse Façade	ENGINEER:	R.Pearson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	28,700	
SPEED =	40	
PK HR % =	10	
NEAR LANE/FAR LANE DIS	0	
ROAD ELEVATION =	0.0	
GRADE =	1.0	%
PK HR VOL =	2,870	

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5.0
WALL DISTANCE FROM RECEIVER		50
PAD ELEVATION =		0.5
ROADWAY VIEW:	LF ANGLE=	-90
	RT ANGLE=	90
	DF ANGLE=	180

SITE CONDITIONS

AUTOMOBILES =	15	
MEDIUM TRUCKS =	15	(10 = HARD SITE, 15 = SOFT SITE)
HEAVY TRUCKS =	15	

WALL INFORMATION

HTH WALL	0.0	
AMBIENT=	0.0	
BARRIER =	0	(0 = WALL, 1 = BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVENING	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCK	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES	2.0	50.12	- -
MEDIUM TRUCKS	4.0	50.02	- -
HEAVY TRUCKS	8.0	50.06	0.00

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	69.2	67.3	65.5	59.5	68.1	68.7
MEDIUM TRUCKS	60.9	59.4	53.0	51.5	60.0	60.2
HEAVY TRUCKS	61.8	60.4	51.3	52.6	60.9	61.1
NOISE LEVELS (dBA)	70.4	68.6	65.9	60.8	69.4	69.9

NOISE IMPACTS (WITH TOPO AND BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	69.2	67.3	65.5	59.5	68.1	68.7
MEDIUM TRUCKS	60.9	59.4	53.0	51.5	60.0	60.2
HEAVY TRUCKS	61.8	60.4	51.3	52.6	60.9	61.1
NOISE LEVELS (dBA)	70.4	68.6	65.9	60.8	69.4	69.9

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	49	106	228	490
LDN	45	98	211	454

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

PROJECT:	First Industrial Warehouse	JOB #:	0889-21-03
ROADWAY:	Redlands Ave -LosC+P	DATE:	27-Oct-21
LOCATION:	Warehouse Façade	ENGINEER:	R.Pearson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	29,113	
SPEED =	40	
PK HR % =	10	
NEAR LANE/FAR LANE DIS	0	
ROAD ELEVATION =	0.0	
GRADE =	1.0	%
PK HR VOL =	2,911	

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5.0
WALL DISTANCE FROM RECEIVER		50
PAD ELEVATION =		0.5
ROADWAY VIEW:	LF ANGLE=	-90
	RT ANGLE=	90
	DF ANGLE=	180

SITE CONDITIONS

AUTOMOBILES =	15	
MEDIUM TRUCKS =	15	(10 = HARD SITE, 15 = SOFT SITE)
HEAVY TRUCKS =	15	

WALL INFORMATION

HTH WALL	0.0	
AMBIENT=	0.0	
BARRIER =	0	(0 = WALL, 1 = BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVENING	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCK	0.848	0.049	0.103	0.0184
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MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES	2.0	50.12	- -
MEDIUM TRUCKS	4.0	50.02	- -
HEAVY TRUCKS	8.0	50.06	0.00

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	69.2	67.3	65.6	59.5	68.1	68.7
MEDIUM TRUCKS	61.0	59.5	53.1	51.6	60.0	60.2
HEAVY TRUCKS	61.9	60.4	51.4	52.6	61.0	61.1
NOISE LEVELS (dBA)	70.5	68.7	66.0	60.9	69.4	69.9

NOISE IMPACTS (WITH TOPO AND BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	69.2	67.3	65.6	59.5	68.1	68.7
MEDIUM TRUCKS	61.0	59.5	53.1	51.6	60.0	60.2
HEAVY TRUCKS	61.9	60.4	51.4	52.6	61.0	61.1
NOISE LEVELS (dBA)	70.5	68.7	66.0	60.9	69.4	69.9

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	50	107	230	495
LDN	46	99	213	459

Appendix C Stationary Noise Model Data

Project:	Sound Library
Job Number:	0000-2020-02
Site Address/Location:	Gilbert, AZ
Date:	09/18/2018
Field Tech/Engineer:	Robert Pearson
Source/System:	Carrier 50TFQ0006 - 5 Ton
General Location:	Measured @ 3'
Sound Meter:	NTi XL2 **SN:** A2A-05967-E0
Settings:	A-weighted, slow, 1-sec, 10-sec duration
Meteorological Cond.:	90 degrees, 0 mph wind

Site Observations:

Clear sky, measurements were performed at 3ft from source.

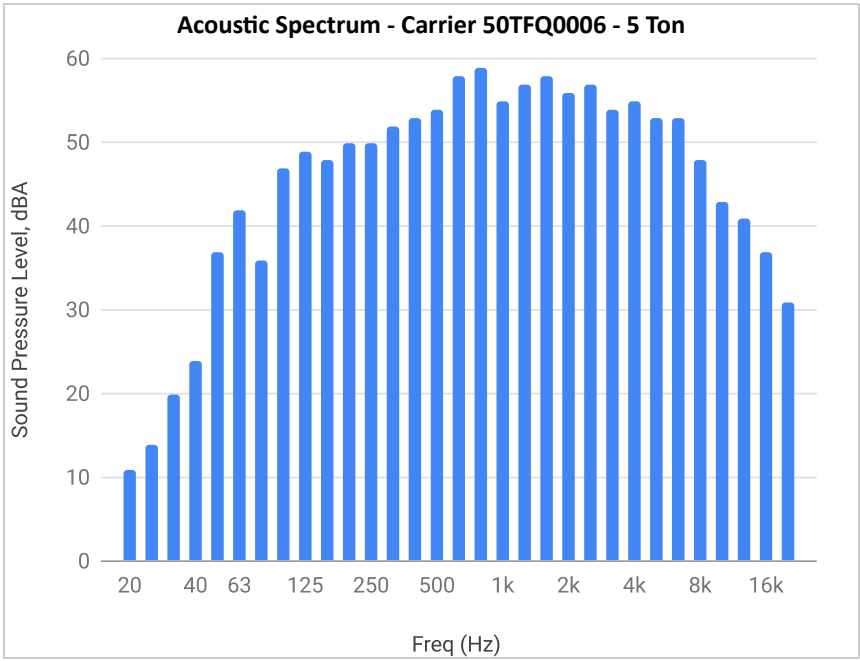
Leq	Lmin	Lmax
67.5	66.9	68.5

Ln 2	Ln 8	Ln 25	Ln 50	Ln 90	Ln 99
0.0	0.0	0.0	0.0	0.0	0.0

Table 1: Summary Measurement Data

Source/System	Overall Source	Overall dB(A)	3rd Octave Band Data (dBA)																														
			20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	500	630	800	1k	12.5k	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k	12.5k	16k	20k
Carrier 50TFQ0006 - 5 Ton	Commercial Air	67.7	11.0	14.0	20.0	24.0	37.0	42.0	36.0	47.0	49.0	48.0	50.0	50.0	52.0	53.0	54.0	58.0	59.0	55.0	57.0	58.0	56.0	57.0	54.0	55.0	53.0	53.0	48.0	43.0	41.0	37.0	31.0

Figure 1: Commercial Air Conditioner - Carrier 50TFQ0006 - 5 Ton



Project: Nance and Arrow Warehouse

Job Number: 0551-2020-16

Site Address/Location: 170 S William Dillard Dr, Ste A105, Gilbert, AZ 85233

Date: 08/11/2020

Field Tech/Engineer: Shon Baldwin

Source/System: Idling Semi-Truck

General Location: Loading Docks - 10ft from source

Sound Meter: NTi XL2 **SN:** A2A-05967-E0

Settings: A-weighted, slow, 1-sec, 30-sec duration

Meteorological Cond.: 95 degrees F, no wind

Site Observations:

SLM was placed 10-ft from idiling semi-truck

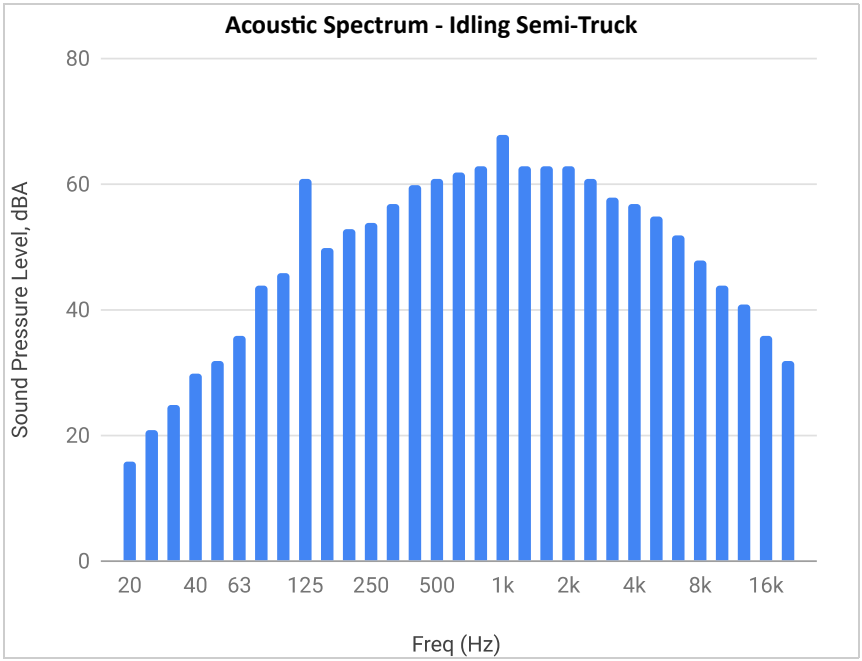
Leq	Lmin	Lmax
73.8	73.0	74.9

Ln 2	Ln 8	Ln 25	Ln 50	Ln 90	Ln 99
74.2	74.1	73.9	73.8	73.5	73.4

Table 1: Summary Measurement Data

Source/System	Overall Source	Overall dB(A)	3rd Octave Band Data (dBA)																														
			20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	500	630	800	1k	12.5k	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k	12.5k	16k	20k
Idling Semi-Truck	Semi-Truck	73.8	16.0	21.0	25.0	30.0	32.0	36.0	44.0	46.0	61.0	50.0	53.0	54.0	57.0	60.0	61.0	62.0	63.0	68.0	63.0	63.0	63.0	61.0	58.0	57.0	55.0	52.0	48.0	44.0	41.0	36.0	32.0

Figure 1: Idling Semi-Truck



First Industrial
Input data parking lots - 001: Outdoor SP

Parking lot	PLT	f	Unit B0	rence val	Sep.Mtd.	NRT	KPA dB	KI dB	KD dB	KStrO	he hist.
Parking 1: 10 Spaces	Visitors and staff	1.0	1 parking bay	10			0.0	4.0	0.0	0.0	1
Parking 2: 3 Spaces	Visitors and staff	1.0	1 parking bay	3			0.0	4.0	0.0	0.0	1
Parking 3: 5 Spaces	Visitors and staff	1.0	1 parking bay	5			0.0	4.0	0.0	0.0	1
Parking 4: 10 Spaces	Visitors and staff	1.0	1 parking bay	10			0.0	4.0	0.0	0.0	1
Parking 5: 9 Spaces	Visitors and staff	1.0	1 parking bay	9			0.0	4.0	0.0	0.0	1
Parking 6: 8 Spaces	Visitors and staff	1.0	1 parking bay	8			0.0	4.0	0.0	0.0	1
Parking 7: 3 Spaces	Visitors and staff	1.0	1 parking bay	3			0.0	4.0	0.0	0.0	1
Parking 8: 10 Spaces	Visitors and staff	1.0	1 parking bay	10			0.0	4.0	0.0	0.0	1
Parking 9: 10 Spaces	Visitors and staff	1.0	1 parking bay	10			0.0	4.0	0.0	0.0	1
Parking 10: 9 Spaces	Visitors and staff	1.0	1 parking bay	9			0.0	4.0	0.0	0.0	1
Parking 11: 9 Spaces	Visitors and staff	1.0	1 parking bay	9			0.0	4.0	0.0	0.0	1
Parking 12: 9 Spaces	Visitors and staff	1.0	1 parking bay	9			0.0	4.0	0.0	0.0	1
Parking 13: 7 Spaces	Visitors and staff	1.0	1 parking bay	7			0.0	4.0	0.0	0.0	1
Parking 14: 9 Spaces	Visitors and staff	1.0	1 parking bay	9			0.0	4.0	0.0	0.0	1
Parking 15: 9 Spaces	Visitors and staff	1.0	1 parking bay	9			0.0	4.0	0.0	0.0	1
Parking 16: 7 Spaces	Visitors and staff	1.0	1 parking bay	7			0.0	4.0	0.0	0.0	1

First Industrial
Assessed receiver levels
001: Outdoor SP CNEL & Leq

Receiver	Usage	Fl	Dir		Lr,lim	CNEL	Leq	CNEL,diff	Leq,diff
				dB(A)	dB(A)	dB(A)	dB(A)	dB	dB
R1	SCR	G				33.1	27.7		
R2	SCR	G				38.8	35.5		
R3	SCR	G				30.7	25.5		
R4	SCR	G				32.0	27.1		
R5	SCR	G				26.8	22.9		
R6	SCR	G				33.4	32.9		

First Industrial
Octave spectra of the sources in dB(A) - 001: Outdoor SP

Name	Source type	l or A	Li	R'w	L'w	Lw	KI	KT	LwMax	DO-Wall	Time histogram	Emission spectrum	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	16kHz
		m,m²	dB(A)	dB	dB(A)	dB(A)	dB	dB	dB(A)	dB			dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
	Area	645.71			62.6	90.7	0.0	0.0	91.8	0	Back up Alarm	Idiling Semi-Truck	43.8	55.1	78.2	74.4	81.4	87.0	84.8	80.8	73.8
Back up Beeper 1	Point				103.0	103.0	0.0	0.0	103.0	0	Back up Alarm	Truck: backout alerter Lmax	70.0	80.0	87.1	93.1	96.0	97.0	97.1	95.0	
Back up Beeper 2	Point				103.0	103.0	0.0	0.0	103.0	0	Back up Alarm	Truck: backout alerter Lmax	70.0	80.0	87.1	93.1	96.0	97.0	97.1	95.0	
Back up Beeper 3	Point				103.0	103.0	0.0	0.0	103.0	0	Back up Alarm	Truck: backout alerter Lmax	70.0	80.0	87.1	93.1	96.0	97.0	97.1	95.0	
Back up Beeper 4	Point				103.0	103.0	0.0	0.0	103.0	0	Back up Alarm	Truck: backout alerter Lmax	70.0	80.0	87.1	93.1	96.0	97.0	97.1	95.0	
Back up Beeper 5	Point				103.0	103.0	0.0	0.0	103.0	0	Back up Alarm	Truck: backout alerter Lmax	70.0	80.0	87.1	93.1	96.0	97.0	97.1	95.0	
Back up Beeper 6	Point				103.0	103.0	0.0	0.0	103.0	0	Back up Alarm	Truck: backout alerter Lmax	70.0	80.0	87.1	93.1	96.0	97.0	97.1	95.0	
Back up Beeper 7	Point				103.0	103.0	0.0	0.0	103.0	0	Back up Alarm	Truck: backout alerter Lmax	70.0	80.0	87.1	93.1	96.0	97.0	97.1	95.0	
Back up Beeper 8	Point				103.0	103.0	0.0	0.0	103.0	0	Back up Alarm	Truck: backout alerter Lmax	70.0	80.0	87.1	93.1	96.0	97.0	97.1	95.0	
Back up Beeper 9	Point				103.0	103.0	0.0	0.0	103.0	0	Back up Alarm	Truck: backout alerter Lmax	70.0	80.0	87.1	93.1	96.0	97.0	97.1	95.0	
Back up Beeper 10	Point				103.0	103.0	0.0	0.0	103.0	0	Back up Alarm	Truck: backout alerter Lmax	70.0	80.0	87.1	93.1	96.0	97.0	97.1	95.0	
Back up Beeper 11	Point				103.0	103.0	0.0	0.0	103.0	0	Back up Alarm	Truck: backout alerter Lmax	70.0	80.0	87.1	93.1	96.0	97.0	97.1	95.0	
Back up Beeper 12	Point				103.0	103.0	0.0	0.0	103.0	0	Back up Alarm	Truck: backout alerter Lmax	70.0	80.0	87.1	93.1	96.0	97.0	97.1	95.0	
Back up Beeper 13	Point				103.0	103.0	0.0	0.0	103.0	0	Back up Alarm	Truck: backout alerter Lmax	70.0	80.0	87.1	93.1	96.0	97.0	97.1	95.0	
Back up Beeper 14	Point				103.0	103.0	0.0	0.0	103.0	0	Back up Alarm	Truck: backout alerter Lmax	70.0	80.0	87.1	93.1	96.0	97.0	97.1	95.0	
Back up Beeper 15	Point				103.0	103.0	0.0	0.0	103.0	0	Back up Alarm	Truck: backout alerter Lmax	70.0	80.0	87.1	93.1	96.0	97.0	97.1	95.0	

First Industrial
Octave spectra of the sources in dB(A) - 001: Outdoor SP

Name	Source type	l or A	Li	R'w	L'w	Lw	KI	KT	LwMax	DO-Wall	Time histogram	Emission spectrum	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	16kHz
		m,m²	dB(A)	dB	dB(A)	dB(A)	dB	dB	dB(A)	dB			dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
Back up Beeper 16	Point				103.0	103.0	0.0	0.0	103.0	0	Back up Alarm	Truck: backout alerter Lmax	70.0	80.0	87.1	93.1	96.0	97.0	97.1	95.0	
Back up Beeper 17	Point				103.0	103.0	0.0	0.0	103.0	0	Back up Alarm	Truck: backout alerter Lmax	70.0	80.0	87.1	93.1	96.0	97.0	97.1	95.0	
Back up Beeper 18	Point				103.0	103.0	0.0	0.0	103.0	0	Back up Alarm	Truck: backout alerter Lmax	70.0	80.0	87.1	93.1	96.0	97.0	97.1	95.0	
Back up Beeper 19	Point				103.0	103.0	0.0	0.0	103.0	0	Back up Alarm	Truck: backout alerter Lmax	70.0	80.0	87.1	93.1	96.0	97.0	97.1	95.0	
Back up Beeper 20	Point				103.0	103.0	0.0	0.0	103.0	0	Back up Alarm	Truck: backout alerter Lmax	70.0	80.0	87.1	93.1	96.0	97.0	97.1	95.0	
Back up Beeper 21	Point				103.0	103.0	0.0	0.0	103.0	0	Back up Alarm	Truck: backout alerter Lmax	70.0	80.0	87.1	93.1	96.0	97.0	97.1	95.0	
Back up Beeper 22	Point				103.0	103.0	0.0	0.0	103.0	0	Back up Alarm	Truck: backout alerter Lmax	70.0	80.0	87.1	93.1	96.0	97.0	97.1	95.0	
Back up Beeper 23	Point				103.0	103.0	0.0	0.0	103.0	0	Back up Alarm	Truck: backout alerter Lmax	70.0	80.0	87.1	93.1	96.0	97.0	97.1	95.0	
Back up Beeper 24	Point				103.0	103.0	0.0	0.0	103.0	0	Back up Alarm	Truck: backout alerter Lmax	70.0	80.0	87.1	93.1	96.0	97.0	97.1	95.0	
HVAC 1	Point				74.8	74.8	0.0	0.0	75.7	0	100%/24h	Carrier 50TFQ0006 - 5 Ton	51.1	57.7	62.7	67.5	69.2	69.0	66.0	61.7	49.9
HVAC 2	Point				74.8	74.8	0.0	0.0	75.7	0	100%/24h	Carrier 50TFQ0006 - 5 Ton	51.1	57.7	62.7	67.5	69.2	69.0	66.0	61.7	49.9
HVAC 3	Point				74.8	74.8	0.0	0.0	75.7	0	100%/24h	Carrier 50TFQ0006 - 5 Ton	51.1	57.7	62.7	67.5	69.2	69.0	66.0	61.7	49.9
HVAC 4	Point				74.8	74.8	0.0	0.0	75.7	0	100%/24h	Carrier 50TFQ0006 - 5 Ton	51.1	57.7	62.7	67.5	69.2	69.0	66.0	61.7	49.9
HVAC 5	Point				74.8	74.8	0.0	0.0	75.7	0	100%/24h	Carrier 50TFQ0006 - 5 Ton	51.1	57.7	62.7	67.5	69.2	69.0	66.0	61.7	49.9
HVAC 6	Point				74.8	74.8	0.0	0.0	75.7	0	100%/24h	Carrier 50TFQ0006 - 5 Ton	51.1	57.7	62.7	67.5	69.2	69.0	66.0	61.7	49.9
HVAC 7	Point				74.8	74.8	0.0	0.0	75.7	0	100%/24h	Carrier 50TFQ0006 - 5 Ton	51.1	57.7	62.7	67.5	69.2	69.0	66.0	61.7	49.9
HVAC 8	Point				74.8	74.8	0.0	0.0	75.7	0	100%/24h	Carrier 50TFQ0006 - 5 Ton	51.1	57.7	62.7	67.5	69.2	69.0	66.0	61.7	49.9
HVAC 9	Point				74.8	74.8	0.0	0.0	75.7	0	100%/24h	Carrier 50TFQ0006 - 5 Ton	51.1	57.7	62.7	67.5	69.2	69.0	66.0	61.7	49.9
HVAC 10	Point				74.8	74.8	0.0	0.0	75.7	0	100%/24h	Carrier 50TFQ0006 - 5 Ton	51.1	57.7	62.7	67.5	69.2	69.0	66.0	61.7	49.9
HVAC 11	Point				74.8	74.8	0.0	0.0	75.7	0	100%/24h	Carrier 50TFQ0006 - 5 Ton	51.1	57.7	62.7	67.5	69.2	69.0	66.0	61.7	49.9
HVAC 12	Point				74.8	74.8	0.0	0.0	75.7	0	100%/24h	Carrier 50TFQ0006 - 5 Ton	51.1	57.7	62.7	67.5	69.2	69.0	66.0	61.7	49.9
HVAC 13	Point				74.8	74.8	0.0	0.0	75.7	0	100%/24h	Carrier 50TFQ0006 - 5 Ton	51.1	57.7	62.7	67.5	69.2	69.0	66.0	61.7	49.9

First Industrial
Octave spectra of the sources in dB(A) - 001: Outdoor SP

Name	Source type	l or A	Li	R'w	L'w	Lw	KI	KT	LwMax	DO-Wall	Time histogram	Emission spectrum	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	16kHz
		m,m²	dB(A)	dB	dB(A)	dB(A)	dB	dB	dB(A)	dB			dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
HVAC 14	Point				74.8	74.8	0.0	0.0	75.7	0	100%/24h	Carrier 50TFQ0006 - 5 Ton	51.1	57.7	62.7	67.5	69.2	69.0	66.0	61.7	49.9
HVAC 15	Point				74.8	74.8	0.0	0.0	75.7	0	100%/24h	Carrier 50TFQ0006 - 5 Ton	51.1	57.7	62.7	67.5	69.2	69.0	66.0	61.7	49.9
HVAC 16	Point				74.8	74.8	0.0	0.0	75.7	0	100%/24h	Carrier 50TFQ0006 - 5 Ton	51.1	57.7	62.7	67.5	69.2	69.0	66.0	61.7	49.9
HVAC 17	Point				74.8	74.8	0.0	0.0	75.7	0	100%/24h	Carrier 50TFQ0006 - 5 Ton	51.1	57.7	62.7	67.5	69.2	69.0	66.0	61.7	49.9
HVAC 18	Point				74.8	74.8	0.0	0.0	75.7	0	100%/24h	Carrier 50TFQ0006 - 5 Ton	51.1	57.7	62.7	67.5	69.2	69.0	66.0	61.7	49.9
HVAC 19	Point				74.8	74.8	0.0	0.0	75.7	0	100%/24h	Carrier 50TFQ0006 - 5 Ton	51.1	57.7	62.7	67.5	69.2	69.0	66.0	61.7	49.9
HVAC 20	Point				74.8	74.8	0.0	0.0	75.7	0	100%/24h	Carrier 50TFQ0006 - 5 Ton	51.1	57.7	62.7	67.5	69.2	69.0	66.0	61.7	49.9
HVAC 21	Point				74.8	74.8	0.0	0.0	75.7	0	100%/24h	Carrier 50TFQ0006 - 5 Ton	51.1	57.7	62.7	67.5	69.2	69.0	66.0	61.7	49.9
HVAC 22	Point				74.8	74.8	0.0	0.0	75.7	0	100%/24h	Carrier 50TFQ0006 - 5 Ton	51.1	57.7	62.7	67.5	69.2	69.0	66.0	61.7	49.9
HVAC 23	Point				74.8	74.8	0.0	0.0	75.7	0	100%/24h	Carrier 50TFQ0006 - 5 Ton	51.1	57.7	62.7	67.5	69.2	69.0	66.0	61.7	49.9
HVAC 24	Point				74.8	74.8	0.0	0.0	75.7	0	100%/24h	Carrier 50TFQ0006 - 5 Ton	51.1	57.7	62.7	67.5	69.2	69.0	66.0	61.7	49.9
HVAC 25	Point				74.8	74.8	0.0	0.0	75.7	0	100%/24h	Carrier 50TFQ0006 - 5 Ton	51.1	57.7	62.7	67.5	69.2	69.0	66.0	61.7	49.9
HVAC 26	Point				74.8	74.8	0.0	0.0	75.7	0	100%/24h	Carrier 50TFQ0006 - 5 Ton	51.1	57.7	62.7	67.5	69.2	69.0	66.0	61.7	49.9
HVAC 27	Point				74.8	74.8	0.0	0.0	75.7	0	100%/24h	Carrier 50TFQ0006 - 5 Ton	51.1	57.7	62.7	67.5	69.2	69.0	66.0	61.7	49.9
HVAC 28	Point				74.8	74.8	0.0	0.0	75.7	0	100%/24h	Carrier 50TFQ0006 - 5 Ton	51.1	57.7	62.7	67.5	69.2	69.0	66.0	61.7	49.9
HVAC 29	Point				74.8	74.8	0.0	0.0	75.7	0	100%/24h	Carrier 50TFQ0006 - 5 Ton	51.1	57.7	62.7	67.5	69.2	69.0	66.0	61.7	49.9
HVAC 30	Point				74.8	74.8	0.0	0.0	75.7	0	100%/24h	Carrier 50TFQ0006 - 5 Ton	51.1	57.7	62.7	67.5	69.2	69.0	66.0	61.7	49.9
HVAC 31	Point				74.8	74.8	0.0	0.0	75.7	0	100%/24h	Carrier 50TFQ0006 - 5 Ton	51.1	57.7	62.7	67.5	69.2	69.0	66.0	61.7	49.9
HVAC 32	Point				74.8	74.8	0.0	0.0	75.7	0	100%/24h	Carrier 50TFQ0006 - 5 Ton	51.1	57.7	62.7	67.5	69.2	69.0	66.0	61.7	49.9
Parking 1: 10 Spaces	PLot	176.55			54.5	77.0	0.0	0.0	98.5	0	Truck Stop	Typical spectrum	60.3	71.9	64.4	68.9	69.0	69.4	66.7	60.5	47.7
Parking 2: 3 Spaces	PLot	40.69			55.7	71.8	0.0	0.0	98.5	0	Truck Stop	Typical spectrum	55.1	66.7	59.2	63.7	63.8	64.2	61.5	55.3	42.5
Parking 3: 5 Spaces	PLot	98.93			54.0	74.0	0.0	0.0	98.5	0	Truck Stop	Typical spectrum	57.3	68.9	61.4	65.9	66.0	66.4	63.7	57.5	44.7
Parking 4: 10 Spaces	PLot	166.99			54.8	77.0	0.0	0.0	98.5	0	Truck Stop	Typical spectrum	60.3	71.9	64.4	68.9	69.0	69.4	66.7	60.5	47.7
Parking 5: 9 Spaces	PLot	161.33			54.5	76.5	0.0	0.0	98.5	0	Truck Stop	Typical spectrum	59.9	71.5	64.0	68.5	68.6	69.0	66.3	60.1	47.3
Parking 6: 8 Spaces	PLot	135.73			54.7	76.0	0.0	0.0	98.5	0	Truck Stop	Typical spectrum	59.4	71.0	63.5	68.0	68.1	68.5	65.8	59.6	46.8
Parking 7: 3 Spaces	PLot	45.07			55.2	71.8	0.0	0.0	98.5	0	Truck Stop	Typical spectrum	55.1	66.7	59.2	63.7	63.8	64.2	61.5	55.3	42.5
Parking 8: 10 Spaces	PLot	181.18			54.4	77.0	0.0	0.0	98.5	0	Truck Stop	Typical spectrum	60.3	71.9	64.4	68.9	69.0	69.4	66.7	60.5	47.7
Parking 9: 10 Spaces	PLot	171.52			54.7	77.0	0.0	0.0	98.5	0	Truck Stop	Typical spectrum	60.3	71.9	64.4	68.9	69.0	69.4	66.7	60.5	47.7
Parking 10: 9 Spaces	PLot	158.69			54.5	76.5	0.0	0.0	98.5	0	Truck Stop	Typical spectrum	59.9	71.5	64.0	68.5	68.6	69.0	66.3	60.1	47.3
Parking 11: 9 Spaces	PLot	157.46			54.6	76.5	0.0	0.0	98.5	0	Truck Stop	Typical spectrum	59.9	71.5	64.0	68.5	68.6	69.0	66.3	60.1	47.3

First Industrial
Octave spectra of the sources in dB(A) - 001: Outdoor SP

Name	Source type	l or A	Li	R'w	L'w	Lw	KI	KT	LwMax	DO-Wall	Time histogram	Emission spectrum	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	16kHz
		m,m²	dB(A)	dB	dB(A)	dB(A)	dB	dB	dB(A)	dB			dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
Parking 12: 9 Spaces	PLot	156.89			54.6	76.5	0.0	0.0	98.5	0	Truck Stop	Typical spectrum	59.9	71.5	64.0	68.5	68.6	69.0	66.3	60.1	47.3
Parking 13: 7 Spaces	PLot	124.82			54.5	75.5	0.0	0.0	98.5	0	Truck Stop	Typical spectrum	58.8	70.4	62.9	67.4	67.5	67.9	65.2	59.0	46.2
Parking 14: 9 Spaces	PLot	157.80			54.6	76.5	0.0	0.0	98.5	0	Truck Stop	Typical spectrum	59.9	71.5	64.0	68.5	68.6	69.0	66.3	60.1	47.3
Parking 15: 9 Spaces	PLot	148.41			54.8	76.5	0.0	0.0	98.5	0	Truck Stop	Typical spectrum	59.9	71.5	64.0	68.5	68.6	69.0	66.3	60.1	47.3
Parking 16: 7 Spaces	PLot	123.69			54.5	75.5	0.0	0.0	98.5	0	Truck Stop	Typical spectrum	58.8	70.4	62.9	67.4	67.5	67.9	65.2	59.0	46.2

First Industrial
Contribution level - 001: Outdoor SP

Source	Source group	Source ty	Tr. lane	Lmax dB(A)	A dB	
Receiver -755,238 Fl G Lmax,lim dB(A) Lmax 40.9 dB(A)						
Parking 1: 10 Spaces	Default parking lot noise	PLot		36.0	0.0	
Parking 2: 3 Spaces	Default parking lot noise	PLot		36.3	0.0	
Parking 3: 5 Spaces	Default parking lot noise	PLot		24.8	0.0	
Parking 4: 10 Spaces	Default parking lot noise	PLot		23.0	0.0	
Parking 5: 9 Spaces	Default parking lot noise	PLot		27.0	0.0	
Parking 6: 8 Spaces	Default parking lot noise	PLot		26.2	0.0	
Parking 7: 3 Spaces	Default parking lot noise	PLot		25.9	0.0	
Parking 8: 10 Spaces	Default parking lot noise	PLot		24.4	0.0	
Parking 9: 10 Spaces	Default parking lot noise	PLot		26.5	0.0	
Parking 10: 9 Spaces	Default parking lot noise	PLot		21.0	0.0	
Parking 11: 9 Spaces	Default parking lot noise	PLot		38.0	0.0	
Parking 12: 9 Spaces	Default parking lot noise	PLot		39.2	0.0	
Parking 13: 7 Spaces	Default parking lot noise	PLot		40.3	0.0	
Parking 14: 9 Spaces	Default parking lot noise	PLot		39.3	0.0	
Parking 15: 9 Spaces	Default parking lot noise	PLot		40.4	0.0	
Parking 16: 7 Spaces	Default parking lot noise	PLot		40.9	0.0	
Back up Beeper 1	Default industrial noise	Point		19.6	0.0	
Back up Beeper 2	Default industrial noise	Point		18.7	0.0	
Back up Beeper 3	Default industrial noise	Point		18.3	0.0	
Back up Beeper 4	Default industrial noise	Point		18.1	0.0	
Back up Beeper 5	Default industrial noise	Point		18.0	0.0	
Back up Beeper 6	Default industrial noise	Point		17.8	0.0	
Back up Beeper 7	Default industrial noise	Point		17.7	0.0	
Back up Beeper 8	Default industrial noise	Point		17.6	0.0	
Back up Beeper 9	Default industrial noise	Point		17.5	0.0	
Back up Beeper 10	Default industrial noise	Point		17.5	0.0	
Back up Beeper 11	Default industrial noise	Point		17.4	0.0	
Back up Beeper 12	Default industrial noise	Point		17.4	0.0	
Back up Beeper 13	Default industrial noise	Point		17.3	0.0	
Back up Beeper 14	Default industrial noise	Point		17.3	0.0	
Back up Beeper 15	Default industrial noise	Point		17.2	0.0	
Back up Beeper 16	Default industrial noise	Point		17.2	0.0	
Back up Beeper 17	Default industrial noise	Point		17.1	0.0	
Back up Beeper 18	Default industrial noise	Point		17.1	0.0	
Back up Beeper 19	Default industrial noise	Point		17.0	0.0	
Back up Beeper 20	Default industrial noise	Point		17.0	0.0	
Back up Beeper 21	Default industrial noise	Point		16.9	0.0	
Back up Beeper 22	Default industrial noise	Point		16.8	0.0	
Back up Beeper 23	Default industrial noise	Point		16.8	0.0	
Back up Beeper 24	Default industrial noise	Point		16.7	0.0	
HVAC 1	Default industrial noise	Point		9.3	0.0	
HVAC 2	Default industrial noise	Point		9.1	0.0	
HVAC 3	Default industrial noise	Point		8.9	0.0	
HVAC 4	Default industrial noise	Point		8.6	0.0	

Source	Source group	Source ty	Tr. lane	Lmax dB(A)	A dB	
HVAC 5	Default industrial noise	Point		8.3	0.0	
HVAC 6	Default industrial noise	Point		8.0	0.0	
HVAC 7	Default industrial noise	Point		7.6	0.0	
HVAC 8	Default industrial noise	Point		7.2	0.0	
HVAC 9	Default industrial noise	Point		10.1	0.0	
HVAC 10	Default industrial noise	Point		10.0	0.0	
HVAC 11	Default industrial noise	Point		9.7	0.0	
HVAC 12	Default industrial noise	Point		9.3	0.0	
HVAC 13	Default industrial noise	Point		9.0	0.0	
HVAC 14	Default industrial noise	Point		8.6	0.0	
HVAC 15	Default industrial noise	Point		8.2	0.0	
HVAC 16	Default industrial noise	Point		7.8	0.0	
HVAC 17	Default industrial noise	Point		11.0	0.0	
HVAC 18	Default industrial noise	Point		10.8	0.0	
HVAC 19	Default industrial noise	Point		10.4	0.0	
HVAC 20	Default industrial noise	Point		10.1	0.0	
HVAC 21	Default industrial noise	Point		9.7	0.0	
HVAC 22	Default industrial noise	Point		9.2	0.0	
HVAC 23	Default industrial noise	Point		8.8	0.0	
HVAC 24	Default industrial noise	Point		8.3	0.0	
HVAC 25	Default industrial noise	Point		11.9	0.0	
HVAC 26	Default industrial noise	Point		11.7	0.0	
HVAC 27	Default industrial noise	Point		11.3	0.0	
HVAC 28	Default industrial noise	Point		10.9	0.0	
HVAC 29	Default industrial noise	Point		10.4	0.0	
HVAC 30	Default industrial noise	Point		9.9	0.0	
HVAC 31	Default industrial noise	Point		9.4	0.0	
HVAC 32	Default industrial noise	Point		8.9	0.0	
73	Default industrial noise	Area		4.2	0.0	
Receiver -849,441 Fl G Lmax,lim dB(A) Lmax 46.8 dB(A)						
Parking 1: 10 Spaces	Default parking lot noise	PLot		29.0	0.0	
Parking 2: 3 Spaces	Default parking lot noise	PLot		26.4	0.0	
Parking 3: 5 Spaces	Default parking lot noise	PLot		21.3	0.0	
Parking 4: 10 Spaces	Default parking lot noise	PLot		21.0	0.0	
Parking 5: 9 Spaces	Default parking lot noise	PLot		24.0	0.0	
Parking 6: 8 Spaces	Default parking lot noise	PLot		24.0	0.0	
Parking 7: 3 Spaces	Default parking lot noise	PLot		26.5	0.0	
Parking 8: 10 Spaces	Default parking lot noise	PLot		29.8	0.0	
Parking 9: 10 Spaces	Default parking lot noise	PLot		30.6	0.0	
Parking 10: 9 Spaces	Default parking lot noise	PLot		29.5	0.0	
Parking 11: 9 Spaces	Default parking lot noise	PLot		45.9	0.0	
Parking 12: 9 Spaces	Default parking lot noise	PLot		46.6	0.0	
Parking 13: 7 Spaces	Default parking lot noise	PLot		46.8	0.0	
Parking 14: 9 Spaces	Default parking lot noise	PLot		46.1	0.0	
Parking 15: 9 Spaces	Default parking lot noise	PLot		46.6	0.0	

Source	Source group	Source ty	Tr. lane	Lmax dB(A)	A dB	
Parking 16: 7 Spaces	Default parking lot noise	PLot		46.8	0.0	
Back up Beeper 1	Default industrial noise	Point		44.8	0.0	
Back up Beeper 2	Default industrial noise	Point		40.0	0.0	
Back up Beeper 3	Default industrial noise	Point		34.1	0.0	
Back up Beeper 4	Default industrial noise	Point		30.8	0.0	
Back up Beeper 5	Default industrial noise	Point		28.9	0.0	
Back up Beeper 6	Default industrial noise	Point		27.7	0.0	
Back up Beeper 7	Default industrial noise	Point		26.9	0.0	
Back up Beeper 8	Default industrial noise	Point		25.9	0.0	
Back up Beeper 9	Default industrial noise	Point		25.6	0.0	
Back up Beeper 10	Default industrial noise	Point		25.2	0.0	
Back up Beeper 11	Default industrial noise	Point		25.0	0.0	
Back up Beeper 12	Default industrial noise	Point		24.8	0.0	
Back up Beeper 13	Default industrial noise	Point		24.6	0.0	
Back up Beeper 14	Default industrial noise	Point		24.4	0.0	
Back up Beeper 15	Default industrial noise	Point		24.1	0.0	
Back up Beeper 16	Default industrial noise	Point		23.9	0.0	
Back up Beeper 17	Default industrial noise	Point		23.8	0.0	
Back up Beeper 18	Default industrial noise	Point		23.6	0.0	
Back up Beeper 19	Default industrial noise	Point		23.5	0.0	
Back up Beeper 20	Default industrial noise	Point		23.4	0.0	
Back up Beeper 21	Default industrial noise	Point		23.3	0.0	
Back up Beeper 22	Default industrial noise	Point		24.8	0.0	
Back up Beeper 23	Default industrial noise	Point		25.0	0.0	
Back up Beeper 24	Default industrial noise	Point		25.0	0.0	
HVAC 1	Default industrial noise	Point		14.8	0.0	
HVAC 2	Default industrial noise	Point		13.5	0.0	
HVAC 3	Default industrial noise	Point		12.4	0.0	
HVAC 4	Default industrial noise	Point		11.4	0.0	
HVAC 5	Default industrial noise	Point		10.5	0.0	
HVAC 6	Default industrial noise	Point		9.7	0.0	
HVAC 7	Default industrial noise	Point		9.0	0.0	
HVAC 8	Default industrial noise	Point		8.3	0.0	
HVAC 9	Default industrial noise	Point		15.4	0.0	
HVAC 10	Default industrial noise	Point		13.9	0.0	
HVAC 11	Default industrial noise	Point		12.7	0.0	
HVAC 12	Default industrial noise	Point		11.7	0.0	
HVAC 13	Default industrial noise	Point		10.8	0.0	
HVAC 14	Default industrial noise	Point		10.0	0.0	
HVAC 15	Default industrial noise	Point		9.2	0.0	
HVAC 16	Default industrial noise	Point		8.5	0.0	
HVAC 17	Default industrial noise	Point		15.8	0.0	
HVAC 18	Default industrial noise	Point		14.3	0.0	
HVAC 19	Default industrial noise	Point		13.0	0.0	
HVAC 20	Default industrial noise	Point		12.0	0.0	

Source	Source group	Source ty	Tr. lane	Lmax dB(A)	A dB	
HVAC 21	Default industrial noise	Point		11.0	0.0	
HVAC 22	Default industrial noise	Point		10.2	0.0	
HVAC 23	Default industrial noise	Point		9.2	0.0	
HVAC 24	Default industrial noise	Point		8.5	0.0	
HVAC 25	Default industrial noise	Point		16.0	0.0	
HVAC 26	Default industrial noise	Point		14.4	0.0	
HVAC 27	Default industrial noise	Point		13.1	0.0	
HVAC 28	Default industrial noise	Point		11.9	0.0	
HVAC 29	Default industrial noise	Point		11.0	0.0	
HVAC 30	Default industrial noise	Point		10.1	0.0	
HVAC 31	Default industrial noise	Point		9.4	0.0	
HVAC 32	Default industrial noise	Point		8.6	0.0	
73	Default industrial noise	Area		18.1	0.0	
Receiver -905,235 Fl G Lmax,lim dB(A) Lmax 38.4 dB(A)						
Parking 1: 10 Spaces	Default parking lot noise	PLot		32.3	0.0	
Parking 2: 3 Spaces	Default parking lot noise	PLot		32.6	0.0	
Parking 3: 5 Spaces	Default parking lot noise	PLot		20.7	0.0	
Parking 4: 10 Spaces	Default parking lot noise	PLot		19.7	0.0	
Parking 5: 9 Spaces	Default parking lot noise	PLot		23.9	0.0	
Parking 6: 8 Spaces	Default parking lot noise	PLot		23.4	0.0	
Parking 7: 3 Spaces	Default parking lot noise	PLot		23.2	0.0	
Parking 8: 10 Spaces	Default parking lot noise	PLot		24.1	0.0	
Parking 9: 10 Spaces	Default parking lot noise	PLot		26.0	0.0	
Parking 10: 9 Spaces	Default parking lot noise	PLot		24.5	0.0	
Parking 11: 9 Spaces	Default parking lot noise	PLot		36.2	0.0	
Parking 12: 9 Spaces	Default parking lot noise	PLot		37.9	0.0	
Parking 13: 7 Spaces	Default parking lot noise	PLot		37.7	0.0	
Parking 14: 9 Spaces	Default parking lot noise	PLot		37.1	0.0	
Parking 15: 9 Spaces	Default parking lot noise	PLot		37.9	0.0	
Parking 16: 7 Spaces	Default parking lot noise	PLot		38.4	0.0	
Back up Beeper 1	Default industrial noise	Point		22.4	0.0	
Back up Beeper 2	Default industrial noise	Point		19.7	0.0	
Back up Beeper 3	Default industrial noise	Point		18.6	0.0	
Back up Beeper 4	Default industrial noise	Point		18.0	0.0	
Back up Beeper 5	Default industrial noise	Point		17.6	0.0	
Back up Beeper 6	Default industrial noise	Point		17.3	0.0	
Back up Beeper 7	Default industrial noise	Point		17.1	0.0	
Back up Beeper 8	Default industrial noise	Point		16.8	0.0	
Back up Beeper 9	Default industrial noise	Point		16.7	0.0	
Back up Beeper 10	Default industrial noise	Point		16.6	0.0	
Back up Beeper 11	Default industrial noise	Point		16.5	0.0	
Back up Beeper 12	Default industrial noise	Point		16.4	0.0	
Back up Beeper 13	Default industrial noise	Point		16.3	0.0	
Back up Beeper 14	Default industrial noise	Point		16.2	0.0	
Back up Beeper 15	Default industrial noise	Point		16.1	0.0	

Source	Source group	Source ty	Tr. lane	Lmax dB(A)	A dB	
Back up Beeper 16	Default industrial noise	Point		16.0	0.0	
Back up Beeper 17	Default industrial noise	Point		15.9	0.0	
Back up Beeper 18	Default industrial noise	Point		15.9	0.0	
Back up Beeper 19	Default industrial noise	Point		15.8	0.0	
Back up Beeper 20	Default industrial noise	Point		15.8	0.0	
Back up Beeper 21	Default industrial noise	Point		15.8	0.0	
Back up Beeper 22	Default industrial noise	Point		15.7	0.0	
Back up Beeper 23	Default industrial noise	Point		15.6	0.0	
Back up Beeper 24	Default industrial noise	Point		15.6	0.0	
HVAC 1	Default industrial noise	Point		7.4	0.0	
HVAC 2	Default industrial noise	Point		7.1	0.0	
HVAC 3	Default industrial noise	Point		6.6	0.0	
HVAC 4	Default industrial noise	Point		6.2	0.0	
HVAC 5	Default industrial noise	Point		5.9	0.0	
HVAC 6	Default industrial noise	Point		5.4	0.0	
HVAC 7	Default industrial noise	Point		5.0	0.0	
HVAC 8	Default industrial noise	Point		4.5	0.0	
HVAC 9	Default industrial noise	Point		8.0	0.0	
HVAC 10	Default industrial noise	Point		7.5	0.0	
HVAC 11	Default industrial noise	Point		7.1	0.0	
HVAC 12	Default industrial noise	Point		6.7	0.0	
HVAC 13	Default industrial noise	Point		6.2	0.0	
HVAC 14	Default industrial noise	Point		5.7	0.0	
HVAC 15	Default industrial noise	Point		5.3	0.0	
HVAC 16	Default industrial noise	Point		4.8	0.0	
HVAC 17	Default industrial noise	Point		8.6	0.0	
HVAC 18	Default industrial noise	Point		8.0	0.0	
HVAC 19	Default industrial noise	Point		7.6	0.0	
HVAC 20	Default industrial noise	Point		7.1	0.0	
HVAC 21	Default industrial noise	Point		6.6	0.0	
HVAC 22	Default industrial noise	Point		6.1	0.0	
HVAC 23	Default industrial noise	Point		5.6	0.0	
HVAC 24	Default industrial noise	Point		5.1	0.0	
HVAC 25	Default industrial noise	Point		9.1	0.0	
HVAC 26	Default industrial noise	Point		8.6	0.0	
HVAC 27	Default industrial noise	Point		8.0	0.0	
HVAC 28	Default industrial noise	Point		7.5	0.0	
HVAC 29	Default industrial noise	Point		7.0	0.0	
HVAC 30	Default industrial noise	Point		6.5	0.0	
HVAC 31	Default industrial noise	Point		5.9	0.0	
HVAC 32	Default industrial noise	Point		5.5	0.0	
73	Default industrial noise	Area		2.1	0.0	
Receiver -917,297 Fl G Lmax,lim dB(A) Lmax 40.6 dB(A)						
Parking 1: 10 Spaces	Default parking lot noise	PLot		32.7	0.0	
Parking 2: 3 Spaces	Default parking lot noise	PLot		33.0	0.0	

Source	Source group	Source ty	Tr. lane	Lmax dB(A)	A dB	
Parking 3: 5 Spaces	Default parking lot noise	PLot		20.4	0.0	
Parking 4: 10 Spaces	Default parking lot noise	PLot		19.6	0.0	
Parking 5: 9 Spaces	Default parking lot noise	PLot		23.6	0.0	
Parking 6: 8 Spaces	Default parking lot noise	PLot		23.1	0.0	
Parking 7: 3 Spaces	Default parking lot noise	PLot		23.2	0.0	
Parking 8: 10 Spaces	Default parking lot noise	PLot		24.7	0.0	
Parking 9: 10 Spaces	Default parking lot noise	PLot		26.8	0.0	
Parking 10: 9 Spaces	Default parking lot noise	PLot		25.4	0.0	
Parking 11: 9 Spaces	Default parking lot noise	PLot		37.7	0.0	
Parking 12: 9 Spaces	Default parking lot noise	PLot		39.5	0.0	
Parking 13: 7 Spaces	Default parking lot noise	PLot		39.7	0.0	
Parking 14: 9 Spaces	Default parking lot noise	PLot		38.5	0.0	
Parking 15: 9 Spaces	Default parking lot noise	PLot		40.2	0.0	
Parking 16: 7 Spaces	Default parking lot noise	PLot		40.6	0.0	
Back up Beeper 1	Default industrial noise	Point		27.6	0.0	
Back up Beeper 2	Default industrial noise	Point		23.0	0.0	
Back up Beeper 3	Default industrial noise	Point		21.2	0.0	
Back up Beeper 4	Default industrial noise	Point		20.3	0.0	
Back up Beeper 5	Default industrial noise	Point		19.6	0.0	
Back up Beeper 6	Default industrial noise	Point		19.2	0.0	
Back up Beeper 7	Default industrial noise	Point		18.9	0.0	
Back up Beeper 8	Default industrial noise	Point		18.5	0.0	
Back up Beeper 9	Default industrial noise	Point		18.4	0.0	
Back up Beeper 10	Default industrial noise	Point		18.2	0.0	
Back up Beeper 11	Default industrial noise	Point		18.1	0.0	
Back up Beeper 12	Default industrial noise	Point		18.0	0.0	
Back up Beeper 13	Default industrial noise	Point		17.9	0.0	
Back up Beeper 14	Default industrial noise	Point		17.8	0.0	
Back up Beeper 15	Default industrial noise	Point		17.6	0.0	
Back up Beeper 16	Default industrial noise	Point		17.6	0.0	
Back up Beeper 17	Default industrial noise	Point		17.5	0.0	
Back up Beeper 18	Default industrial noise	Point		17.4	0.0	
Back up Beeper 19	Default industrial noise	Point		17.3	0.0	
Back up Beeper 20	Default industrial noise	Point		17.3	0.0	
Back up Beeper 21	Default industrial noise	Point		17.2	0.0	
Back up Beeper 22	Default industrial noise	Point		17.1	0.0	
Back up Beeper 23	Default industrial noise	Point		17.0	0.0	
Back up Beeper 24	Default industrial noise	Point		19.1	0.0	
HVAC 1	Default industrial noise	Point		8.6	0.0	
HVAC 2	Default industrial noise	Point		8.1	0.0	
HVAC 3	Default industrial noise	Point		7.7	0.0	
HVAC 4	Default industrial noise	Point		7.1	0.0	
HVAC 5	Default industrial noise	Point		6.6	0.0	
HVAC 6	Default industrial noise	Point		6.1	0.0	
HVAC 7	Default industrial noise	Point		5.8	0.0	

Source	Source group	Source ty	Tr. lane	Lmax dB(A)	A dB	
HVAC 8	Default industrial noise	Point		5.2	0.0	
HVAC 9	Default industrial noise	Point		9.2	0.0	
HVAC 10	Default industrial noise	Point		8.7	0.0	
HVAC 11	Default industrial noise	Point		8.0	0.0	
HVAC 12	Default industrial noise	Point		7.5	0.0	
HVAC 13	Default industrial noise	Point		6.9	0.0	
HVAC 14	Default industrial noise	Point		6.5	0.0	
HVAC 15	Default industrial noise	Point		5.9	0.0	
HVAC 16	Default industrial noise	Point		5.4	0.0	
HVAC 17	Default industrial noise	Point		9.7	0.0	
HVAC 18	Default industrial noise	Point		9.1	0.0	
HVAC 19	Default industrial noise	Point		8.5	0.0	
HVAC 20	Default industrial noise	Point		8.0	0.0	
HVAC 21	Default industrial noise	Point		7.3	0.0	
HVAC 22	Default industrial noise	Point		6.7	0.0	
HVAC 23	Default industrial noise	Point		6.2	0.0	
HVAC 24	Default industrial noise	Point		5.6	0.0	
HVAC 25	Default industrial noise	Point		10.2	0.0	
HVAC 26	Default industrial noise	Point		9.6	0.0	
HVAC 27	Default industrial noise	Point		8.9	0.0	
HVAC 28	Default industrial noise	Point		8.2	0.0	
HVAC 29	Default industrial noise	Point		7.6	0.0	
HVAC 30	Default industrial noise	Point		7.0	0.0	
HVAC 31	Default industrial noise	Point		6.4	0.0	
HVAC 32	Default industrial noise	Point		5.9	0.0	
73	Default industrial noise	Area		4.5	0.0	
Receiver -1114,189 Fl G Lmax,lim dB(A) Lmax 33.7 dB(A)						
Parking 1: 10 Spaces	Default parking lot noise	PLot		27.8	0.0	
Parking 2: 3 Spaces	Default parking lot noise	PLot		28.0	0.0	
Parking 3: 5 Spaces	Default parking lot noise	PLot		17.4	0.0	
Parking 4: 10 Spaces	Default parking lot noise	PLot		16.8	0.0	
Parking 5: 9 Spaces	Default parking lot noise	PLot		21.3	0.0	
Parking 6: 8 Spaces	Default parking lot noise	PLot		21.1	0.0	
Parking 7: 3 Spaces	Default parking lot noise	PLot		21.3	0.0	
Parking 8: 10 Spaces	Default parking lot noise	PLot		22.8	0.0	
Parking 9: 10 Spaces	Default parking lot noise	PLot		24.2	0.0	
Parking 10: 9 Spaces	Default parking lot noise	PLot		23.3	0.0	
Parking 11: 9 Spaces	Default parking lot noise	PLot		32.3	0.0	
Parking 12: 9 Spaces	Default parking lot noise	PLot		32.7	0.0	
Parking 13: 7 Spaces	Default parking lot noise	PLot		32.8	0.0	
Parking 14: 9 Spaces	Default parking lot noise	PLot		33.0	0.0	
Parking 15: 9 Spaces	Default parking lot noise	PLot		33.4	0.0	
Parking 16: 7 Spaces	Default parking lot noise	PLot		33.7	0.0	
Back up Beeper 1	Default industrial noise	Point		31.8	0.0	
Back up Beeper 2	Default industrial noise	Point		21.3	0.0	

Source	Source group	Source ty	Tr. lane	Lmax dB(A)	A dB	
Back up Beeper 3	Default industrial noise	Point		18.5	0.0	
Back up Beeper 4	Default industrial noise	Point		17.2	0.0	
Back up Beeper 5	Default industrial noise	Point		16.5	0.0	
Back up Beeper 6	Default industrial noise	Point		16.0	0.0	
Back up Beeper 7	Default industrial noise	Point		15.7	0.0	
Back up Beeper 8	Default industrial noise	Point		15.3	0.0	
Back up Beeper 9	Default industrial noise	Point		15.2	0.0	
Back up Beeper 10	Default industrial noise	Point		15.0	0.0	
Back up Beeper 11	Default industrial noise	Point		14.9	0.0	
Back up Beeper 12	Default industrial noise	Point		14.8	0.0	
Back up Beeper 13	Default industrial noise	Point		14.8	0.0	
Back up Beeper 14	Default industrial noise	Point		14.7	0.0	
Back up Beeper 15	Default industrial noise	Point		14.6	0.0	
Back up Beeper 16	Default industrial noise	Point		14.5	0.0	
Back up Beeper 17	Default industrial noise	Point		14.4	0.0	
Back up Beeper 18	Default industrial noise	Point		14.4	0.0	
Back up Beeper 19	Default industrial noise	Point		14.3	0.0	
Back up Beeper 20	Default industrial noise	Point		14.3	0.0	
Back up Beeper 21	Default industrial noise	Point		14.3	0.0	
Back up Beeper 22	Default industrial noise	Point		14.2	0.0	
Back up Beeper 23	Default industrial noise	Point		14.1	0.0	
Back up Beeper 24	Default industrial noise	Point		16.3	0.0	
HVAC 1	Default industrial noise	Point		3.2	0.0	
HVAC 2	Default industrial noise	Point		2.8	0.0	
HVAC 3	Default industrial noise	Point		2.5	0.0	
HVAC 4	Default industrial noise	Point		2.2	0.0	
HVAC 5	Default industrial noise	Point		1.7	0.0	
HVAC 6	Default industrial noise	Point		1.4	0.0	
HVAC 7	Default industrial noise	Point		1.0	0.0	
HVAC 8	Default industrial noise	Point		0.8	0.0	
HVAC 9	Default industrial noise	Point		3.5	0.0	
HVAC 10	Default industrial noise	Point		3.1	0.0	
HVAC 11	Default industrial noise	Point		2.7	0.0	
HVAC 12	Default industrial noise	Point		2.3	0.0	
HVAC 13	Default industrial noise	Point		1.9	0.0	
HVAC 14	Default industrial noise	Point		1.7	0.0	
HVAC 15	Default industrial noise	Point		1.3	0.0	
HVAC 16	Default industrial noise	Point		0.9	0.0	
HVAC 17	Default industrial noise	Point		3.8	0.0	
HVAC 18	Default industrial noise	Point		3.3	0.0	
HVAC 19	Default industrial noise	Point		2.9	0.0	
HVAC 20	Default industrial noise	Point		2.5	0.0	
HVAC 21	Default industrial noise	Point		2.2	0.0	
HVAC 22	Default industrial noise	Point		1.8	0.0	
HVAC 23	Default industrial noise	Point		1.4	0.0	

Source	Source group	Source ty	Tr. lane	Lmax dB(A)	A dB	
HVAC 24	Default industrial noise	Point		1.1	0.0	
HVAC 25	Default industrial noise	Point		4.0	0.0	
HVAC 26	Default industrial noise	Point		3.6	0.0	
HVAC 27	Default industrial noise	Point		3.2	0.0	
HVAC 28	Default industrial noise	Point		2.8	0.0	
HVAC 29	Default industrial noise	Point		2.4	0.0	
HVAC 30	Default industrial noise	Point		2.0	0.0	
HVAC 31	Default industrial noise	Point		1.6	0.0	
HVAC 32	Default industrial noise	Point		1.3	0.0	
73	Default industrial noise	Area		1.3	0.0	
Receiver -1148,581 Fl G Lmax,lim dB(A) Lmax 34.7 dB(A)						
Parking 1: 10 Spaces	Default parking lot noise	PLot		20.8	0.0	
Parking 2: 3 Spaces	Default parking lot noise	PLot		16.3	0.0	
Parking 3: 5 Spaces	Default parking lot noise	PLot		16.3	0.0	
Parking 4: 10 Spaces	Default parking lot noise	PLot		17.6	0.0	
Parking 5: 9 Spaces	Default parking lot noise	PLot		21.1	0.0	
Parking 6: 8 Spaces	Default parking lot noise	PLot		28.1	0.0	
Parking 7: 3 Spaces	Default parking lot noise	PLot		28.2	0.0	
Parking 8: 10 Spaces	Default parking lot noise	PLot		28.8	0.0	
Parking 9: 10 Spaces	Default parking lot noise	PLot		29.4	0.0	
Parking 10: 9 Spaces	Default parking lot noise	PLot		29.4	0.0	
Parking 11: 9 Spaces	Default parking lot noise	PLot		34.0	0.0	
Parking 12: 9 Spaces	Default parking lot noise	PLot		33.9	0.0	
Parking 13: 7 Spaces	Default parking lot noise	PLot		33.7	0.0	
Parking 14: 9 Spaces	Default parking lot noise	PLot		34.7	0.0	
Parking 15: 9 Spaces	Default parking lot noise	PLot		34.5	0.0	
Parking 16: 7 Spaces	Default parking lot noise	PLot		34.4	0.0	
Back up Beeper 1	Default industrial noise	Point		33.9	0.0	
Back up Beeper 2	Default industrial noise	Point		33.8	0.0	
Back up Beeper 3	Default industrial noise	Point		33.7	0.0	
Back up Beeper 4	Default industrial noise	Point		33.6	0.0	
Back up Beeper 5	Default industrial noise	Point		33.5	0.0	
Back up Beeper 6	Default industrial noise	Point		33.4	0.0	
Back up Beeper 7	Default industrial noise	Point		33.3	0.0	
Back up Beeper 8	Default industrial noise	Point		33.1	0.0	
Back up Beeper 9	Default industrial noise	Point		33.0	0.0	
Back up Beeper 10	Default industrial noise	Point		32.9	0.0	
Back up Beeper 11	Default industrial noise	Point		32.8	0.0	
Back up Beeper 12	Default industrial noise	Point		32.7	0.0	
Back up Beeper 13	Default industrial noise	Point		32.6	0.0	
Back up Beeper 14	Default industrial noise	Point		32.5	0.0	
Back up Beeper 15	Default industrial noise	Point		33.9	0.0	
Back up Beeper 16	Default industrial noise	Point		33.9	0.0	
Back up Beeper 17	Default industrial noise	Point		33.8	0.0	
Back up Beeper 18	Default industrial noise	Point		33.8	0.0	

Source	Source group	Source ty	Tr. lane	Lmax dB(A)	A dB	
Back up Beeper 19	Default industrial noise	Point		33.8	0.0	
Back up Beeper 20	Default industrial noise	Point		33.7	0.0	
Back up Beeper 21	Default industrial noise	Point		33.8	0.0	
Back up Beeper 22	Default industrial noise	Point		33.7	0.0	
Back up Beeper 23	Default industrial noise	Point		33.7	0.0	
Back up Beeper 24	Default industrial noise	Point		33.7	0.0	
HVAC 1	Default industrial noise	Point		4.9	0.0	
HVAC 2	Default industrial noise	Point		4.3	0.0	
HVAC 3	Default industrial noise	Point		3.8	0.0	
HVAC 4	Default industrial noise	Point		4.1	0.0	
HVAC 5	Default industrial noise	Point		2.9	0.0	
HVAC 6	Default industrial noise	Point		2.4	0.0	
HVAC 7	Default industrial noise	Point		2.0	0.0	
HVAC 8	Default industrial noise	Point		1.6	0.0	
HVAC 9	Default industrial noise	Point		4.8	0.0	
HVAC 10	Default industrial noise	Point		4.3	0.0	
HVAC 11	Default industrial noise	Point		3.8	0.0	
HVAC 12	Default industrial noise	Point		3.3	0.0	
HVAC 13	Default industrial noise	Point		2.8	0.0	
HVAC 14	Default industrial noise	Point		2.4	0.0	
HVAC 15	Default industrial noise	Point		2.0	0.0	
HVAC 16	Default industrial noise	Point		1.6	0.0	
HVAC 17	Default industrial noise	Point		4.7	0.0	
HVAC 18	Default industrial noise	Point		4.2	0.0	
HVAC 19	Default industrial noise	Point		3.7	0.0	
HVAC 20	Default industrial noise	Point		3.2	0.0	
HVAC 21	Default industrial noise	Point		2.8	0.0	
HVAC 22	Default industrial noise	Point		2.4	0.0	
HVAC 23	Default industrial noise	Point		2.0	0.0	
HVAC 24	Default industrial noise	Point		1.6	0.0	
HVAC 25	Default industrial noise	Point		4.5	0.0	
HVAC 26	Default industrial noise	Point		4.0	0.0	
HVAC 27	Default industrial noise	Point		3.5	0.0	
HVAC 28	Default industrial noise	Point		3.1	0.0	
HVAC 29	Default industrial noise	Point		2.6	0.0	
HVAC 30	Default industrial noise	Point		2.2	0.0	
HVAC 31	Default industrial noise	Point		1.8	0.0	
HVAC 32	Default industrial noise	Point		1.4	0.0	
73	Default industrial noise	Area		23.0	0.0	

Appendix D RCNM Runs

Roadway Construction Noise Model (RCNM),Version 1.1

Report date 10/27/2021
Case Descri Grading

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
R1	Commercial	53.3	57.8	56.7

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	325	0
Grader	No	40	85		325	0
Rubber Tire Dozer	No	40		81.7	325	0
Tractors/Loaders/Backhc	No	40		77.6	325	0
Tractors/Loaders/Backhc	No	40		77.6	325	0
Tractors/Loaders/Backhc	No	40		77.6	325	0

	Results Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night
Equipment	*Lmax	L10	Lmax	L10	Lmax	L10	Lmax
Excavator	64.5	63.5	N/A	N/A	N/A	N/A	N/A
Grader	68.7	67.8	N/A	N/A	N/A	N/A	N/A
Rubber Tire Dozer	65.4	64.5	N/A	N/A	N/A	N/A	N/A
Tractors/Loaders/Backhc	61.3	60.4	N/A	N/A	N/A	N/A	N/A
Tractors/Loaders/Backhc	61.3	60.4	N/A	N/A	N/A	N/A	N/A
Tractors/Loaders/Backhc	61.3	60.4	N/A	N/A	N/A	N/A	N/A
Total	68.7	71.5	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

		Noise Limit Exceedance (dBA)				
	Day		Evening		Night	
L10	Lmax	L10	Lmax	L10	Lmax	L10
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date 10/27/2021
Case Descri Building Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
R1	Commercial	53.3	57.8	56.7

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	325	0
Forklift	No	20		74.7	325	0
Forklift	No	20		74.7	325	0
Forklift	No	20		74.7	325	0
Generator	No	50		80.6	325	0
Tractor	No	40	84		325	0
Tractor	No	40	84		325	0
Tractor	No	40	84		325	0
Welder / Torch	No	40		74	325	0

Equipment	Calculated (dBA) *Lmax	L10	Results Day Lmax	Noise Limits (dBA) Day L10	Evening Lmax	Evening L10	Night Lmax
Crane	64.3	59.3	N/A	N/A	N/A	N/A	N/A
Forklift	58.4	54.5	N/A	N/A	N/A	N/A	N/A
Forklift	58.4	54.5	N/A	N/A	N/A	N/A	N/A
Forklift	58.4	54.5	N/A	N/A	N/A	N/A	N/A
Generator	64.4	64.4	N/A	N/A	N/A	N/A	N/A
Tractor	67.7	66.8	N/A	N/A	N/A	N/A	N/A
Tractor	67.7	66.8	N/A	N/A	N/A	N/A	N/A
Tractor	67.7	66.8	N/A	N/A	N/A	N/A	N/A
Welder / Torch	57.7	56.8	N/A	N/A	N/A	N/A	N/A
Total	67.7	72.8	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

		Noise Limit Exceedance (dBA)				
	Day		Evening		Night	
L10	Lmax	L10	Lmax	L10	Lmax	L10
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date 10/27/2021
Case Descri Architectural

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
R1	Commercial	53.3	57.8	56.7

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	325	0

Equipment	Calculated (dBA) *Lmax	L10	Results Day Lmax	Noise Limits (dBA) Day L10	Evening Lmax	Evening L10	Night Lmax
Compressor (air)	61.4	60.4	N/A	N/A	N/A	N/A	N/A
Total	61.4	60.4	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

		Noise Limit Exceedance (dBA)				
	Day		Evening		Night	
L10	Lmax	L10	Lmax	L10	Lmax	L10
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date 10/27/2021
Case Descri Paving

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
R1	Commercial	53.3	57.8	56.7

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	325	0
Paver	No	50		77.2	325	0
Paver Equipment	No	50		77.2	325	0
Paver Equipment	No	50		77.2	325	0
Roller	No	20		80	325	0
Roller	No	20		80	325	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	L10	Lmax	L10	Lmax	L10	Lmax
Paver	61	61	N/A	N/A	N/A	N/A	N/A
Paver	61	61	N/A	N/A	N/A	N/A	N/A
Paver Equipment	60.9	60.9	N/A	N/A	N/A	N/A	N/A
Paver Equipment	60.9	60.9	N/A	N/A	N/A	N/A	N/A
Roller	63.7	59.8	N/A	N/A	N/A	N/A	N/A
Roller	63.7	59.8	N/A	N/A	N/A	N/A	N/A
Total	63.7	68.4	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

		Noise Limit Exceedance (dBA)				
	Day		Evening		Night	
L10	Lmax	L10	Lmax	L10	Lmax	L10
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A