Appendix H

LCI Wilson Warehouse Project
Noise Impact Analysis
Ganddini Group
September 12, 2022
Revised January 17, 2023

LCI WILSON WAREHOUSE PROJECT NOISE IMPACT ANALYSIS

City of Perris
September 12, 2022
(rev. April 18, 2023)

Traffic Engineering ● Transportation Planning ● Parking ● Noise & Vibration
Air Quality ● Global Climate Change ● Health Risk Assessment

LCI WILSON WAREHOUSE PROJECT
NOISE IMPACT ANALYSIS

September 12, 2022
(rev. April 18, 2023)
City of Perris

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Project No. 19515

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EXECUTIVE SUMMARY

The purpose of this report is to provide an assessment of the noise impacts associated with development and operation of the proposed LCI Wilson Warehouse project and to identify mitigation measures that may be necessary to reduce potentially significant impacts. The noise issues related to the proposed land use and development have been evaluated in light of applicable federal, state and local policies, including those of the City of Perris.

Although this is a technical report, effort has been made to write the report clearly and concisely. A list of acronyms and glossary are provided in Appendix A and Appendix B of this report to assist the reader with technical terms related to noise analysis.

Project Location

The approximately 4.75-acre project site is located north of Placentia Avenue and west of Wilson Street in the City of Perris, California. The project site is currently vacant and located within the Perris Valley Commerce Center Specific Plan (PVCCSP) planning area of the City of Perris. The project site and all of the adjacent properties have been designated in the PVCCSP for light industrial land uses.

Project Description

The proposed project involves construction and operation of a new 83,910-square-foot industrial warehousing building. The project includes one full access driveway for trucks only to Wilson Avenue near the northeast property boundary and one full access driveway for passenger vehicles only to Wilson Avenue near the southeast property boundary as shown on the project site plan (Figure 2). The entire western boundary will be fenced with a 14-foot-high concrete wall and the northern and southern boundaries will be fenced partially with a 14-foot-high concrete wall and partially fenced with an 8-foot-high tube steel fence.

As a specific tenant has not been identified, the *LCI Wilson Warehouse Project Transportation Study Screening Assessment* (Ganddini Group Inc., May 5, 2022) ["Transportation Study Screening Assessment"] prepared for the proposed project analyzed two potential alternative industrial land uses. These alternatives included Alternative 1 - Warehousing and Alternative 2- High-Cube Fulfillment Center Warehouse (Non-Sort). Based on the trip generation rates provided for these two alternatives, this noise analysis uses Alternative 1 – Warehousing to assess noise related impacts, as it provides a worst-case noise impact scenario due to a greater number of project generated truck trips.

Construction Impacts

Section 7.34.060 of the City's municipal code prohibits construction activity from exceeding 80 dBA L_{max} in residential zones within the City. All land uses adjacent to or near the project site are zoned light industrial uses. The nearest residential zone is located approximately 680 feet south of the project site. Assuming that the loudest piece of equipment (grader) is located at the project's southern property line, maximum noise levels at this location may reach up to 62.3 dBA Lmax and will not exceed the City's criteria of 80 dBA Lmax.

Construction activities associated with the proposed project would take place within the allowable hours identified in Section 7.34.060 of the City of Perris Municipal Code and would not exceed the City's standard of 80 dBA Lmax in a residential zone, and therefore, will not result in or generate 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. Impacts would be less than significant, and no mitigation is required.

In addition to adherence to the City of Perris Municipal Code which limits the construction hours of operation, construction related Best Management Practices listed in the Project Description Section of this report will minimize construction noise at nearby existing residential land uses.

Noise Impacts to Off-Site Receptors Due to Project Generated Trips

Existing and Existing Plus project noise levels along acoustically significant area roadways were modeled utilizing the FHWA Traffic Noise Prediction Model FHWA-RD-77-108 methodology in order to quantify the proposed project's contribution to increases in ambient noise levels.

Project generated vehicle traffic is anticipated to increase ambient noise levels by 0 to 1 dBA CNEL. Project generated increases in ambient noise levels would be less than 3 dBA CNEL and would be considered less than significant.

Noise Impacts to Off-Site Receptors Due to On-Site Operational Noise

Project operational noise is expected to range between 30 and 41 dBA CNEL at nearby receptors. Project operation would not exceed the City's General Plan land use compatibility criteria of 60 dBA CNEL at adjacent residential land uses.

Operational noise levels may reach up to 60 dBA L_{max} at the property line of the nearest sensitive receptor and would not exceed the daytime noise standard of 80 dBA L_{max} or the nighttime noise standard of 60 dBA L_{max}. This impact would be less than significant. No mitigation is required.

Groundborne Vibration Impacts

The closest off-site sensitive receptors are the residential uses located to the west and south, with associated structures located as close as approximately 438 feet to the west and 708 feet to the south of project property lines. At 438 feet, use of a vibratory roller would be expected to generate a PPV of 0.003 in/sec and a bulldozer would be expected to generate a PPV of 0.001 in/sec. Therefore, temporary vibration levels associated with project construction will not exceed the threshold for architectural damage to historic and some old buildings of 0.25 PPV in/sec. Impacts would be less than significant.

Annoyance - Groundborne vibration becomes severe to people in buildings at a PPV of 0.4 in/sec. Impacts related to annoyance would be considered significant if the groundborne vibration exceeded 0.4 in/sec., occurs outside of the allowed hours for construction activities per City Code 7.34.060, or affects the operation of sensitive equipment. Due to distance, construction activities would not cause severe vibration related annoyance at the closest sensitive receptors. Operation of equipment sensitive to low levels of groundborne vibration is unlikely. Further, the construction activities are anticipated to comply with the allowed hours for operation outlined in City Code 7.34.060. Impacts from vibration related annoyance would be less than significant.

1. INTRODUCTION

This section describes the purpose of this noise impact analysis, project location, proposed development, and study area. Figure 1 shows the project location map and Figure 2 illustrates the project site plan.

PURPOSE AND OBJECTIVES

The purpose of this report is to provide an assessment of the noise impacts resulting from development and operation of the proposed LCI Wilson Warehouse project and to identify mitigation measures that may be necessary to reduce potentially significant impacts. The noise issues related to the proposed land use and development have been evaluated in light of applicable federal, state and local policies, including those of the City of Perris.

Although this is a technical report, effort has been made to write the report clearly and concisely. A list of acronyms and glossary are provided in Appendix A and Appendix B of this report to assist the reader with technical terms related to noise analysis.

PROJECT LOCATION

The approximately 4.75-acre project site is located north of Placentia Avenue and west of Wilson Street in the City of Perris, California. The project site is currently vacant and located within the Perris Valley Commerce Center Specific Plan (PVCCSP) planning area of the City of Perris. A vicinity map showing the project location is provided on Figure 1.

PROJECT DESCRIPTION

The proposed project involves the construction and operation of a new 83,910-square-foot industrial warehousing building. The project includes one full access driveway for trucks only to Wilson Avenue near the northeast property boundary and one full access driveway for passenger vehicles only to Wilson Avenue near the southeast property boundary. Figure 2 illustrates the project site plan.

As a specific tenant has not been identified, the *LCI Wilson Warehouse Project Transportation Study Screening Assessment* (Ganddini Group Inc., May 5, 2022) ["Transportation Study Screening Assessment"] prepared for the proposed project analyzed two potential alternative industrial land uses. These alternatives included Alternative 1 - Warehousing and Alternative 2- High-Cube Fulfillment Center Warehouse (Non-Sort). Based on the trip generation rates provided for these two alternatives, this noise analysis uses Alternative 1 – Warehousing to assess noise related impacts, as it provides a worst-case noise impact scenario due to a greater number of project-generated truck trips.

The following best management practices will be implemented to minimize construction noise emanating from the proposed project:

1. All construction equipment whether fixed or mobile, will be equipped with properly operating and maintained mufflers, consistent with manufacturer standards.

2. All stationary construction equipment will be placed so that emitted noise is directed away from the noise sensitive receptors nearest the project site.

3. As applicable, shut off all equipment when not in use.

4. To the degree possible, equipment staging will be located in areas that create the greatest distance between construction-related noise and vibration sources and existing sensitive receptors.

5. Jackhammers, pneumatic equipment, and all other portable stationary noise sources will be directed away and shielded from existing residences in the vicinity of the project site. Either one-inch plywood or sound blankets can be utilized for this purpose. They should reach up from the ground and block the line of sight between equipment and existing residences. The shielding should be without holes and cracks.

6. No amplified music and/or voice will be allowed on the project site.

7. Haul truck deliveries will not occur outside of the hours presented as exempt for construction per Section 7.34.060 of the City of Perris' Municipal Code.

Figure 1
Project Location Map

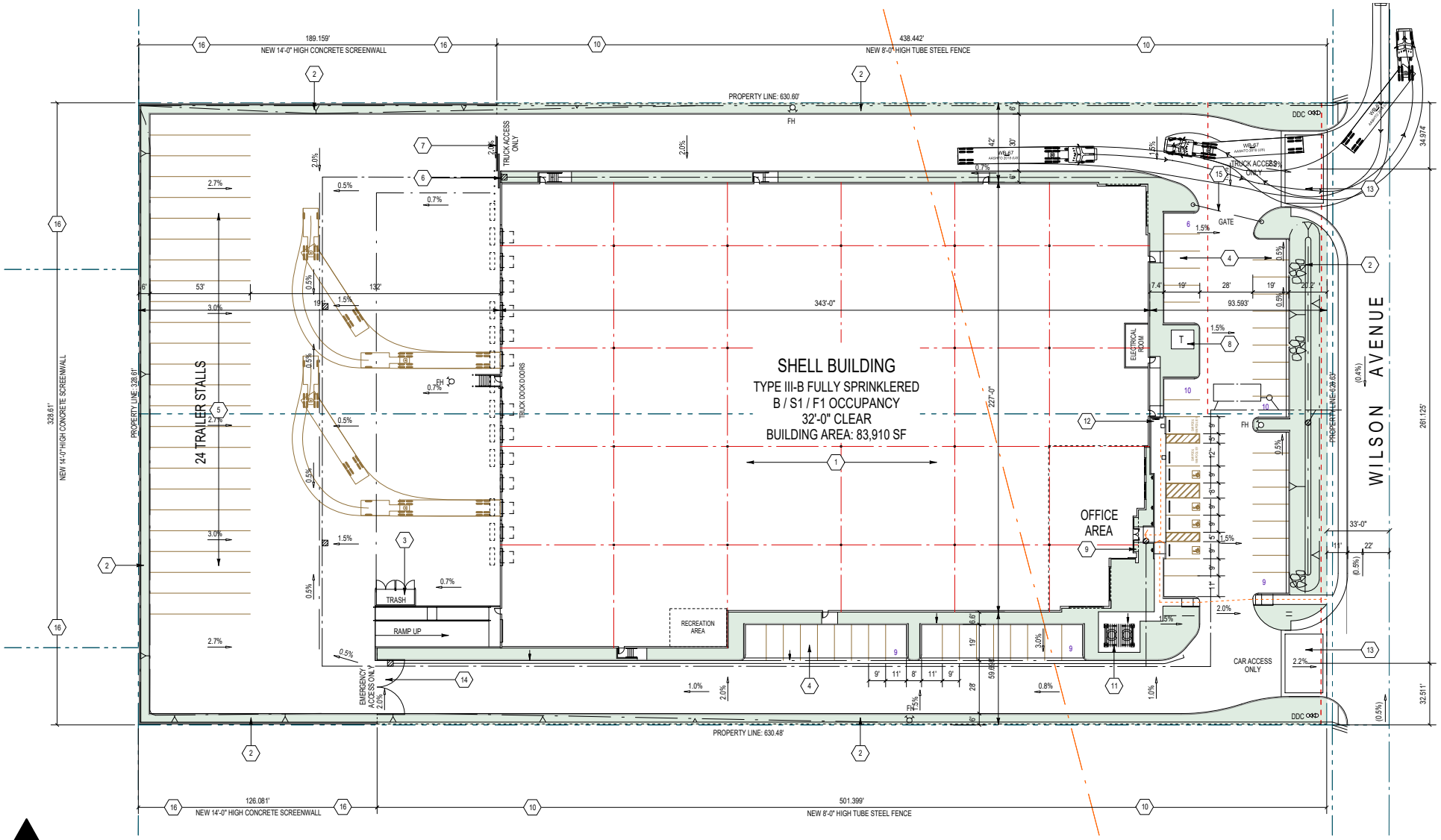


Figure 2
Site Plan

2. NOISE AND VIBRATION FUNDAMENTALS

NOISE FUNDAMENTALS

Sound is a pressure wave created by a moving or vibrating source that travels through an elastic medium such as air. Noise is defined as unwanted or objectionable sound. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and in extreme circumstances, hearing impairment.

Commonly used noise terms are presented in Appendix B. The unit of measurement used to describe a noise level is the decibel (dB). The human ear is not equally sensitive to all frequencies within the sound spectrum. Therefore, the "A-weighted" noise scale, which weights the frequencies to which humans are sensitive, is used for measurements. Noise levels using A-weighted measurements are written dB(A) or dBA.

From the noise source to the receiver, noise changes both in level and frequency spectrum. The most obvious is the decrease in noise as the distance from the source increases. The manner in which noise reduces with distance depends on whether the source is a point or line source as well as ground absorption, atmospheric effects and refraction, and shielding by natural and manmade features. Sound from point sources, such as air conditioning condensers, radiates uniformly outward as it travels away from the source in a spherical pattern. The noise drop-off rate associated with this geometric spreading is 6 dBA per each doubling of the distance (dBA/DD). Transportation noise sources such as roadways are typically analyzed as line sources, since at any given moment the receiver may be impacted by noise from multiple vehicles at various locations along the roadway. Because of the geometry of a line source, the noise drop-off rate associated with the geometric spreading of a line source is 3 dBA/DD.

Decibels are measured on a logarithmic scale, which quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Thus, a doubling of the energy of a noise source, such as a doubled traffic volume, would increase the noise levels by 3 dBA; halving of the energy would result in a 3 dBA decrease. Figure 3 shows the relationship of various noise levels to commonly experienced noise events.

Average noise levels over a period of minutes or hours are usually expressed as dBA L_{eq}, or the equivalent noise level for that period of time. For example, $L_{eq(3\text{-}hr)}$ would represent a 3-hour average. When no period is specified, a one-hour average is assumed.

Noise standards for land use compatibility are stated in terms of the Community Noise Equivalent Level (CNEL) and the Day-Night Average Noise Level (DNL). CNEL is a 24-hour weighted average measure of community noise. CNEL is obtained by adding five decibels to sound levels in the evening (7:00 PM to 10:00 PM), and by adding ten decibels to sound levels at night (10:00 PM to 7:00 AM). This weighting accounts for the increased human sensitivity to noise during the evening and nighttime hours. DNL is a very similar 24-hour average measure that weights only the nighttime hours.

It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA; that a change of 5 dBA is readily perceptible, and that an increase (decrease) of 10 dBA sounds twice (half) as loud. This definition is recommended by the California Department of Transportation's Technical Noise Supplement to the Traffic Noise Analysis Protocol (2013).

VIBRATION FUNDAMENTALS

The way in which vibration is transmitted through the earth is called propagation. Propagation of earthborn vibrations is complicated and difficult to predict because of the endless variations in the soil through which waves travel. There are three main types of vibration propagation: surface, compression and shear waves. Surface waves, or Rayleigh waves, travel along the ground's surface. These waves carry most of their energy along an expanding circular wave front, similar to ripples produced by throwing a rock into a pool of water.

Compression waves, or P-waves, are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal (i.e., in a "push-pull" fashion). P-waves are analogous to airborne sound waves. Shear waves, or S-waves, are also body waves that carry energy along an expanding spherical wave front. However, unlike P-waves, the particle motion is transverse or "side-to-side and perpendicular to the direction of propagation".

As vibration waves propagate from a source, the energy is spread over an ever-increasing area such that the energy level striking a given point is reduced with the distance from the energy source. This geometric spreading loss is inversely proportional to the square of the distance. Wave energy is also reduced with distance as a result of material damping in the form of internal friction, soil layering, and void spaces. The amount of attenuation provided by material damping varies with soil type and condition as well as the frequency of the wave.

Vibration amplitudes are usually expressed as either peak particle velocity (PPV) or the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous peak of the vibration signal in inches per second. The RMS of a signal is the average of the squared amplitude of the signal in vibration decibels (VdB), ref one micro-inch per second. The Federal Railroad Administration uses the abbreviation "VdB" for vibration decibels to reduce the potential for confusion with sound decibel.

PPV is appropriate for evaluating the potential of building damage and VdB is commonly used to evaluate human response. Decibel notation acts to compress the range of numbers required in measuring vibration. Similar to the noise descriptors, L_{eq} and L_{max} can be used to describe the average vibration and the maximum vibration level observed during a single vibration measurement interval. Figure 4 illustrates common vibration sources and the human and structural responses to ground-borne vibration. As shown in the figure, the threshold of perception for human response is approximately 65 VdB; however, human response to vibration is not usually substantial unless the vibration exceeds 70 VdB. Vibration tolerance limits for sensitive instruments such as magnetic resonance imaging (MRI) or electron microscopes could be much lower than the human vibration perception threshold.

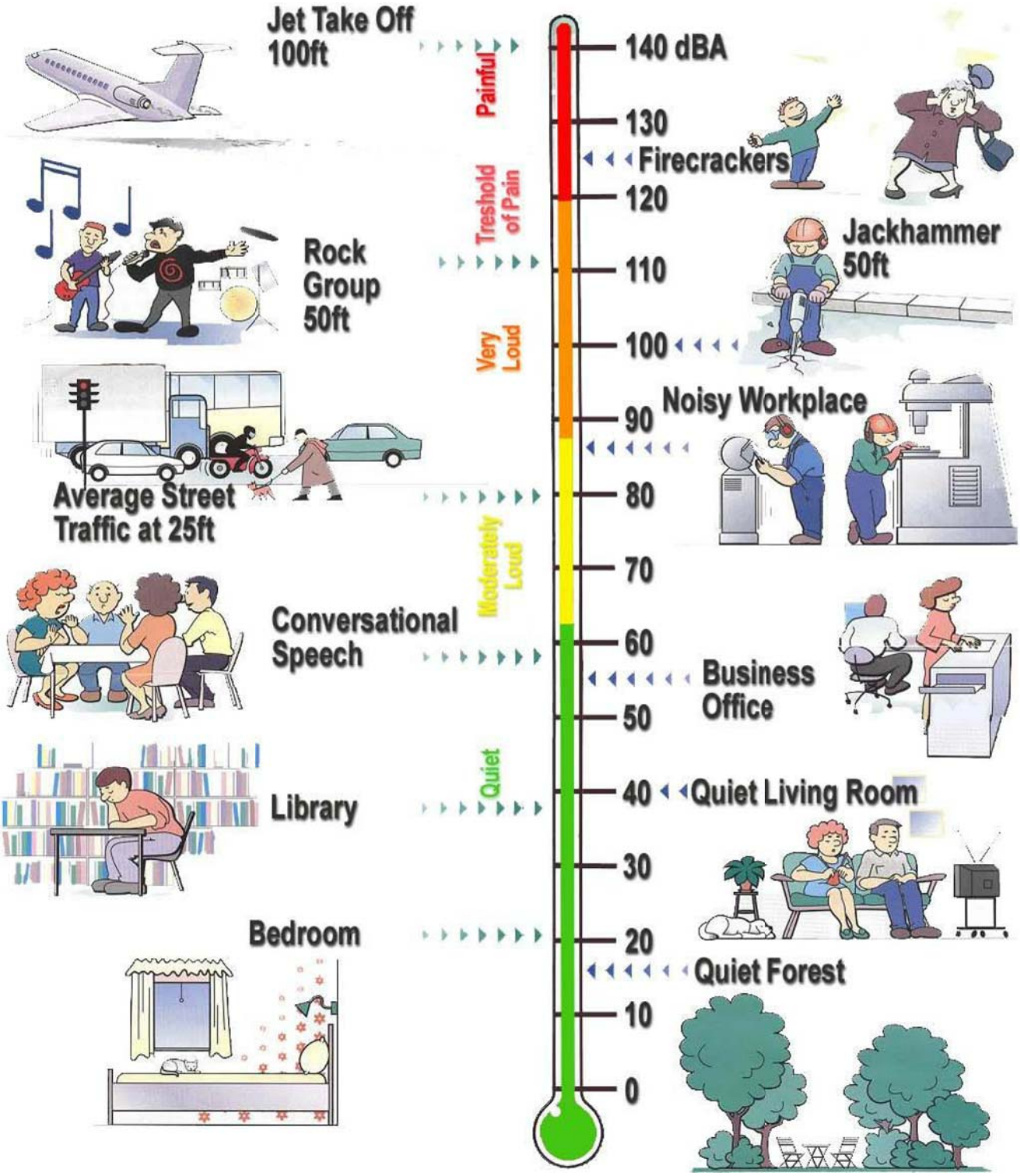
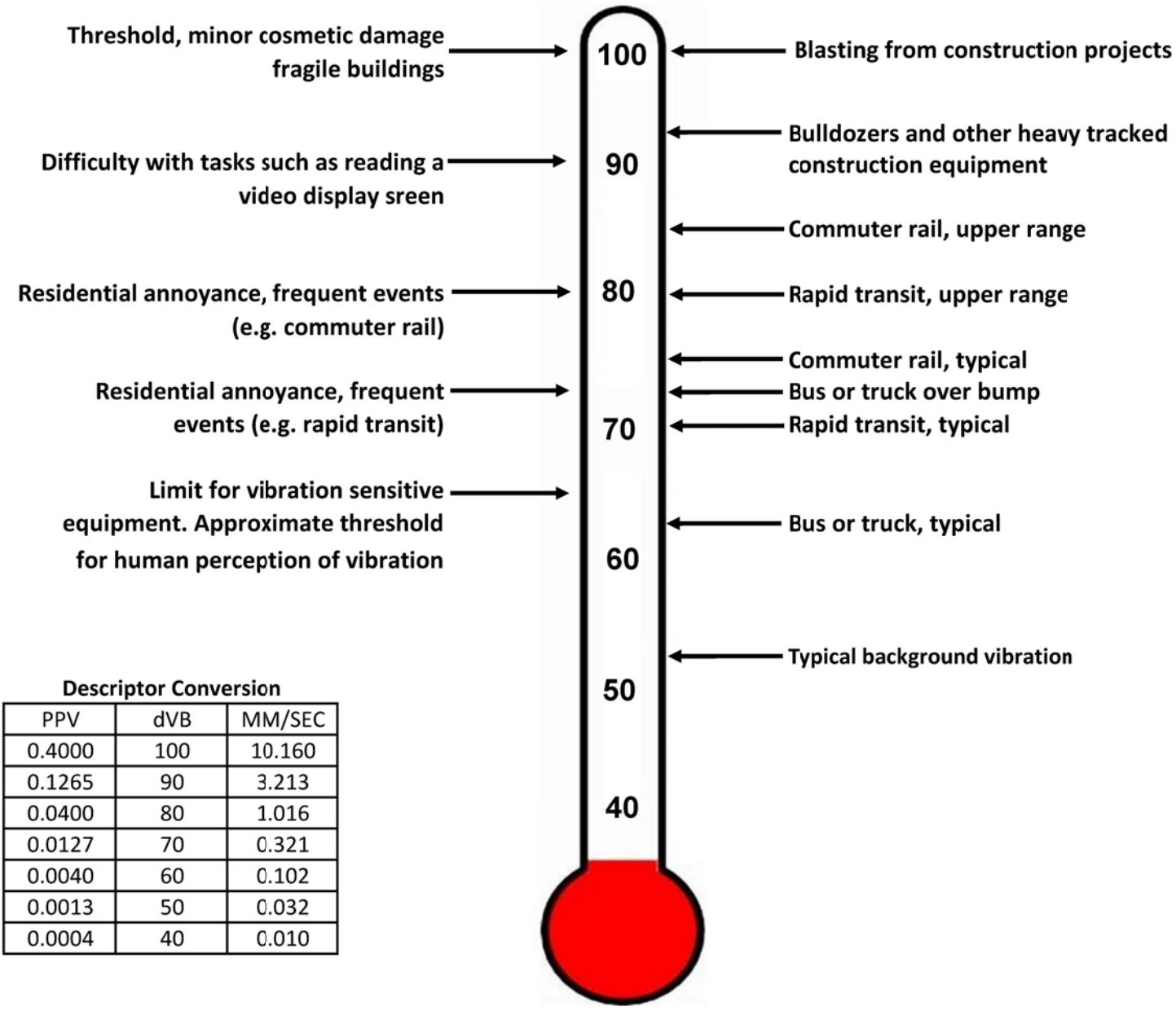


Figure 3
Weighted Sound Levels in Common Environments

Source: Bruel & Kjaer 2001



Descriptor Conversion

PPV	dVB	MM/SEC
0.4000	100	10.160
0.1265	90	3.213
0.0400	80	1.016
0.0127	70	0.321
0.0040	60	0.102
0.0013	50	0.032
0.0004	40	0.010

Source: FRA, 2012. Federal Railroad Administration High-Speed Ground Transportation Noise and Vibration Impact Assessment. Office of Railroad Policy Development, Washington, D.C. DOT/FRA/ORD-12/15. September.

Figure 4
Typical Levels of Groundborne Vibration

3. EXISTING NOISE ENVIRONMENT

EXISTING LAND USES AND SENSITIVE RECEPTORS

The project site is bordered by vacant land to the north, Wilson Avenue to the east, vacant land to the south, and single-family residential uses and vacant land to the west of the project site.

The State of California defines sensitive receptors as those land uses that require serenity or are otherwise adversely affected by noise events or conditions. Schools, libraries, churches, hospitals, single and multiple-family residential, including transient lodging, motels and hotel uses make up the majority of these areas. Existing sensitive land uses that may be affected by project noise include the single-family residential land uses with property lines located adjacent to the southwest corner of the site and as close as approximately 680 feet to the south, 1,026 feet to the west, and 1,694 feet to the east of the project site.

AMBIENT NOISE MEASUREMENTS

An American National Standards Institute (ANSI Section SI.4 2014, Class 1) Larson Davis model LxT sound level meter was used to document existing ambient noise levels. In order to document existing ambient noise levels in the project area, four (4) 15-minute daytime noise measurements were taken between 1:27 PM and 3:42 PM on May 24, 2022. In addition, one (1) long-term 24-hour noise measurement were also taken from May 25, 2022, to May 26, 2022. Field worksheets and noise measurement output data are included in Appendix C. As shown on Figure 5, existing ambient noise measurements were taken at the following locations:

- STNM1: represents the existing noise environment of the residential use located to the southwest of the project site along Redlands Avenue (2865 Redlands Avenue, Perris). The noise meter was placed near western property line of the residential use just east of Redlands Avenue.
- STNM2: represents the existing noise environment of the residential uses located along the eastern side of Lake View Drive to the west of the project site (2865 Lake View Drive, Perris). The noise meter was placed near the western property line of the residential use just east of Lake View Drive.
- STNM3: represents the existing noise environment of the residential uses located to the south of the project site along the southern side of Placentia Avenue (561 Placentia Avenue, Perris). The noise meter was placed near the northern property line of the residential use just south of Placentia Avenue.
- STNM4: represents the existing noise environment of the residential uses along the western side of Clapper Street to the east of the project site (3036 Clapper Street, Perris). The noise meter was placed near the eastern property line of the residential use just west of Clapper Street.
- LTNM1: represents the existing noise environment of the project site. The noise meter was placed near the northern property line of the project site.

Table 1 provides a summary of the short-term ambient noise data. Table 2 provides hourly interval ambient noise data from the long-term noise measurements. Measured short-term ambient noise levels ranged between 51.4 and 69.5 dBA L_{eq}. Long-term hourly noise measurement ambient noise levels ranged from 39.6 to 60.1 dBA L_{eq}. The dominant noise source in the project vicinity was vehicle traffic associated with Redlands Avenue, Placentia Avenue, Wilson Avenue, and other surrounding roadways.

Table 1
Short-Term Noise Measurement Summary (dBA)

Daytime Measurements[1,2]								
Site Location	Time Started	Leq	Lmax	Lmin	L(2)	L(8)	L(25)	L(50)
STNM1	1:27 PM	69.5	84.6	43.6	76.3	74.2	70.7	63.8
STNM2	2:09 PM	57.5	75.7	41.8	66.9	62.2	53.2	49.1
STNM3	2:38 PM	65.7	88.3	43.9	73.0	69.4	63.1	53.2
STNM4	3:27 PM	51.4	65.3	42.4	59.9	55.2	50.1	48.0

Notes:
(1) See Figure 5 for noise measurement locations. Each noise measurement was performed over a 15-minute duration.
(2) Noise measurements performed on May 24, 2022.

Table 2
Long-Term Noise Measurement Summary (LTNM1) (dBA)

24-Hour Ambient Noise[1,2]								
Hourly Measurements	Time Started	Leq	Lmax	Lmin	L(2)	L(8)	L(25)	L(50)
Overall Summary	1:00 PM	50.9	84.0	25.8	54.8	50.8	47.1	43.3
1	1:00 PM	51.9	71.4	25.8	56.9	53.9	51.9	50.1
2	2:00 PM	51.7	68.6	43.2	58.5	53.6	50.9	49.0
3	3:00 PM	50.1	61.9	42.8	54.6	52.7	50.9	49.4
4	4:00 PM	49.7	59.9	42.8	54.1	52.2	50.5	49.0
5	5:00 PM	48.7	60.8	39.5	54.5	51.7	49.2	47.4
6	6:00 PM	50.4	73.9	39.0	52.9	49.0	47.0	45.4
7	7:00 PM	53.9	74.0	38.8	64.0	53.0	47.1	44.7
8	8:00 PM	60.1	84.0	35.6	60.5	48.0	45.2	43.6
9	9:00 PM	54.3	75.5	36.5	64.9	54.0	45.2	42.9
10	10:00 PM	44.9	69.5	35.4	53.0	46.0	43.6	41.7
11	11:00 PM	47.7	71.8	32.9	50.4	45.1	42.3	40.3
12	12:00 AM	40.1	58.9	31.7	45.7	43.1	40.4	38.1
13	1:00 AM	39.6	50.3	32.6	44.8	42.7	40.2	38.5
14	2:00 AM	40.4	48.5	34.2	45.3	43.5	41.3	39.4
15	3:00 AM	40.4	55.6	33.6	44.9	43.2	41.2	39.5
16	4:00 AM	44.7	56.3	37.2	50.2	47.5	45.4	43.8
17	5:00 AM	45.7	63.3	39.3	49.7	47.6	46.0	44.7
18	6:00 AM	47.1	58.1	38.5	52.8	51.0	48.5	45.0
19	7:00 AM	45.1	57.7	37.2	52.2	49.1	45.4	42.5
20	8:00 AM	50.4	70.5	34.7	59.7	49.8	45.0	42.0
21	9:00 AM	52.0	76.8	34.0	58.6	48.9	42.6	39.3
22	10:00 AM	49.0	69.7	32.7	58.5	48.4	42.7	39.5
23	11:00 AM	49.3	72.3	33.6	54.6	46.8	43.1	40.4
24	12:00 PM	41.0	53.0	33.9	46.2	44.0	41.8	39.9
CNEL	55.5							

Notes:

(1) See Figure 5 for noise measurement locations. Noise measurement was performed over a 24-hour duration.

(2) Noise measurement performed from May 25, 2022 to May 26, 2022.

Legend

NM 1 Noise Measurement Location

ST NM Short-Term Noise Measurement

LT NM Long-Term Noise Measurement

Figure 5
Noise Measurement Location Map

4. REGULATORY SETTING

FEDERAL REGULATION

Federal Noise Control Act of 1972

The U.S. Environmental Protection Agency (EPA) Office of Noise Abatement and Control was originally established to coordinate federal noise control activities. After its inception, EPA's Office of Noise Abatement and Control issued the Federal Noise Control Act of 1972, establishing programs and guidelines to identify and address the effects of noise on public health, welfare, and the environment. In response, the EPA published Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (Levels of Environmental Noise). The Levels of Environmental Noise recommended that the Ldn should not exceed 55 dBA outdoors or 45 dBA indoors to prevent significant activity interference and annoyance in noise-sensitive areas.

In addition, the Levels of Environmental Noise identified five (5) dBA as an "adequate margin of safety" for a noise level increase relative to a baseline noise exposure level of 55 dBA Ldn (i.e., there would not be a noticeable increase in adverse community reaction with an increase of five dBA or less from this baseline level). The EPA did not promote these findings as universal standards or regulatory goals with mandatory applicability to all communities, but rather as advisory exposure levels below which there would be no risk to a community from any health or welfare effect of noise.

In 1981, EPA administrators determined that subjective issues such as noise would be better addressed at lower levels of government. Consequently, in 1982 responsibilities for regulating noise control policies were transferred to State and local governments. However, noise control guidelines and regulations contained in EPA rulings in prior years remain in place by designated Federal agencies, allowing more individualized control for specific issues by designated Federal, State, and local government agencies.

STATE REGULATIONS

State of California General Plan Guidelines 2017

Though not adopted by law, the State of California General Plan Guidelines 2017, published by the California Governor's Office of Planning and Research (OPR) (OPR Guidelines), provides guidance for the compatibility of projects within areas of specific noise exposure. The OPR Guidelines identify the suitability of various types of construction relative to a range of outdoor noise levels and provide each local community some flexibility in setting local noise standards that allow for the variability in community preferences. Findings presented in the Levels of Environmental Noise Document (EPA 1974) influenced the recommendations of the OPR Guidelines, most importantly in the choice of noise exposure metrics (i.e., Ldn or CNEL) and in the upper limits for the normally acceptable outdoor exposure of noise-sensitive uses.

The OPR Guidelines include a Noise and Land Use Compatibility Matrix which identifies acceptable and unacceptable community noise exposure limits for various land use categories. Where the "normally acceptable" range is used, it is defined as the highest noise level that should be considered for the construction of the buildings which do not incorporate any special acoustical treatment or noise mitigation. The "conditionally acceptable" or "normally unacceptable" ranges include conditions calling for detailed acoustical study prior to the construction or operation of the proposed project. The City of Perris has adopted their own version of the State Land Use Compatibility Guidelines for land use planning and to assess potential transportation noise impacts to proposed land uses (see Table 3).

Department of Transportation (Caltrans)

The California Department of Transportation has published one of the seminal works for the analysis of ground-borne noise and vibration relating to transportation- and construction-induced vibrations and although the project is not subject to these regulations, it serves as useful tools to evaluate vibration impacts. These guidelines recommend that a standard of 0.25 inches per second (in/sec) PPV not be exceeded for the protection of historic and some old buildings (California Department of Transportation, 2020).

LOCAL REGULATIONS

City of Perris General Plan

Applicable policies and standards governing environmental noise in the City of Perris are set forth in the General Plan Noise Element. Those applicable to the proposed project are presented below:

Goals, Policies, and Implementation Measures

The City of Perris utilizes the following General Plan Noise Element goal, policies and implementation measures to assess evaluate the project's suitability in light of noise impacts.

Goal-1: Land Use Siting: Future land uses compatible with projected noise environments.

Policy I.A:
The State of California Noise/Land Use Compatibility Criteria shall be used in determining land use compatibility for new development.

Implementation Measures
I.A.1 All new development proposals will be evaluated with respect to the State Noise/Land Use Compatibility Criteria. Placement of noise sensitive uses will be discouraged within any area exposed to exterior noise levels that fall into the "Normally Unacceptable" range and prohibited within areas exposed to "Clearly Unacceptable" noise ranges.

Goal-V: Stationary Source Noise: Future non-residential land uses compatible with noise sensitive land uses.

Policy V.A:
New large scale commercial or industrial facilities located 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.

Implementation Measures
V.A.1 An acoustical impact analysis shall be prepared for new industrial and large-scale commercial facilities to be 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 as well as 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 of Perris Staff.

City of Perris Municipal Code

Chapter 7.34 of the City's Municipal Code establishes base ambient noise levels and establishes maximum noise level limits for stationary noise sources.

7.34.040 Sound Amplification

No person shall amplify sound using sound amplifying equipment contrary to any of the following:

1. The only amplified sound permitted shall be either music or the human voice, or both.

2. The volume of amplified sound shall not exceed the noise levels set forth in this subsection when measured outdoors at or beyond the property line of the property from which the sound emanates.

Time Period	Maximum Noise Level
10:01 PM – 7:00 AM	60 dBA
7:01 AM – 10:00 PM	80 dBA

7.34.050 General Prohibition

(a) It unlawful for any person to willfully make, cause or suffer, or permit to be made or caused, any loud excessive or offensive noises or sounds which unreasonably disturb the peace and quiet of any residential neighborhood or which are physically annoying to persons of ordinary sensitivity or which are so harsh, prolonged or unnatural or unusual in their use, time or place as to occasion physical discomfort to the inhabitants of the city, or any section thereof. The standards for dBA noise level in section 7.34.040 shall apply to this section. To the extent that the noise created causes the noise level at the property line to exceed the ambient noise level by more than 1.0 decibels, it shall be presumed that the noise being created also is in violation of this section.

(b) The characteristics and conditions which should be considered in determining whether a violation of the provisions of this section exists should include, but not be limited to, the following:

(1) The level of the noise;
(2) Whether the nature of the noise is usual or unusual;
(3) Whether the origin of the noise is natural or unnatural;
(4) The level of the ambient noise;
(5) The proximity of the noise to sleeping facilities;
(6) The nature and zoning of the area from which the noise emanates and the area where it is received;
(7) The time of day or night the noise occurs;
(8) The duration of the noise; and
(9) Whether the noise is recurrent, intermittent, or constant.

7.34.060 Hours of Construction

It is unlawful for any person between the hours of 7:00 PM of any day and 7:00 AM of the following day, or on a legal holiday, with the exception of Columbus Day and Washington's birthday, or on Sundays to erect, construct, demolish, excavate, alter or repair any building or structure in such a manner as to create disturbing, excessive or offensive noise. Construction activity shall not exceed 80 dBA L_{max} in residential zones in the City of Perris.

7.34.070 Refuse vehicles and parking lot sweepers

No person shall operate or permit to be operated a refuse compacting, processing or collection vehicle or parking lot sweeper between the hours of 7:00 PM to 7:00 AM in any residential area unless a permit has been applied for and granted by the city.

7.34.080 Disturbing, excessive, offensive noises; declaration of certain acts constituting.

The following activities, among others, are declared to cause loud, disturbing, excessive or offensive noises in violation of this section and are unlawful, namely:

(7) Leaf blowers
   a. The term "leaf blower" means any portable, hand-held or backpack, engine-powered device with a nozzle that creates a direct able airstream which is capable of and intended for moving leaves and light materials.
   b. No person shall operate a leaf blower in any residential zoned area between the hours of 7:00 PM and 8:00 AM on weekdays and 5:00 PM and 9:00 AM on weekends or on legal holidays.
   c. No person may operate any leaf blower at a sound level in excess of 80 decibels measured at a distance of 50 feet or greater from the point of noise origin.

Leaf blowers shall be equipped with functional mufflers and an approved sound limiting device required to ensure that the leaf blower is not capable of generating a sound level exceeding any limit prescribed in this section.

19.51.080 Noise

Chapter 19.51 of the City's Municipal Code establishes noise levels and regulations for land uses within the March ARB/IP Airport Overlay Zone (MAOZ).

Airport Related Noise. Noise compatibility standards are intended to prevent the establishment of noise-sensitive land uses in portions of the airport environ that are exposed to significant levels of aircraft noise. Where permitted within the Airport Overlay Zone (AOZ), the following noise-sensitive land uses shall comply with applicable noise exposure criteria:

1) All new residences, schools, libraries, museums, hotels and motels, hospitals and nursing homes, places of worship, and other noise-sensitive uses must have sound attenuation features incorporated into the structures sufficient to reduce interior noise levels from exterior aviation-related sources to no more than CNEL 40 dB. This requirement is intended to reduce the disruptiveness of loud individual aircraft noise events upon uses in this zone and represents a higher standard than the CNEL 45 dB standard set by state and local regulations and the Riverside County ALUC policy.

2) Office space must have sound attenuation features sufficient to reduce the exterior aviation-related noise level to no more than CNEL 45 dB. To ensure compliance with these criteria, an acoustical study shall be required to be completed for any development proposed to be situated where the aviation-related noise exposure is more than 20 dB above the interior standard (e.g., within the CNEL 60 dB contour where the interior standard is CNEL 40 dB).

3) Standard building construction is presumed to provide adequate sound attenuation where the difference between the exterior noise exposure and the interior standard is 20 dB or less.

Table 3
City of Perris Land Use Compatibility Guidelines for Noise

Land Use Category	Community Noise Equivalent Level (CNEL)						
	55	60	65	70	75	80	85
Residential: Low Density Single Family, Duplex, Mobile Homes							
Residential: Multi-Family							
Commercial: Hotels/Motels, Transient Lodging							
Schools, Libraries, Churches, Hospitals, Nursing Homes							
Auditoriums, Concert Halls, Amphitheatres, Meeting Halls							
Sports Arena, Outdoor Spectator Sports							
Playgrounds, Neighborhood Parks							
Golf Courses, Riding Stables, Water Recreation, Cemeteries							
Office Buildings, Business Commercial and Professional, and Mixed-Use Developments							
Industrial, Manufacturing Utilities, Agriculture							

Normally Acceptable:	Specific land use is satisfactory, based up the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
Conditionally Acceptable:	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed insulation features included in the design. Conventional constuction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
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 reduction features included in the design.
Clearly Unacceptable:	New construction or development should generally not be undertaken.

Source: California Governor's Office of Planning and Research, State of California General Plan Guidelines, Appendix C: Guidelines for the Preparation and Content of Noise Elements of the General Plan, February 1976 and City of Perris General Plan, 2005.

5. ANALYTICAL METHODOLOGY AND MODEL PARAMETERS

This section discusses the analysis methodologies used to assess noise impacts.

CONSTRUCTION NOISE MODELING

Construction noise associated with the proposed project was calculated at the sensitive receptor locations, utilizing methodology presented in the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (2018) together with several key construction parameters including: distance to each sensitive receiver, equipment usage, percent usage factor, and baseline parameters for the project site. Distances to receptors were based on the acoustical center of the project site for nearby non-conforming residential land uses and equipment distance from the site to the nearest residentially zoned property (south of the site) were measured from the project's southern property line. The equipment used to calculate the construction noise levels for each phase were based on the assumptions provided in the CalEEMod modeling in the Air Quality, Global Climate Change, HRA, and Energy Impact Analysis prepared for the proposed project (Ganddini Group, Inc., 2022). For construction noise purposes, the distance measured from the project site to sensitive receptors was assumed to be the acoustical center of the project site to the property line of residential properties with existing residential buildings. Sound emission levels associated with typical construction equipment as well as typical usage factors provided in Table 4 were utilized for modeling purposes. Construction noise worksheets are provided in Appendix D.

FEDERAL HIGHWAY ADMINISTRATION (FHWA) TRAFFIC NOISE PREDICTION MODEL

Increases in ambient noise levels associated with project generated vehicular traffic were modeled utilizing a computer program that replicates the FHWA Traffic Noise Prediction Model FHWA-RD-77-108. The FHWA Traffic Noise Prediction 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) Emissions Levels.[1] Adjustments are then made to the REMEL to account for: total average daily traffic volumes, roadway classification (i.e., collector, secondary, major or arterial), the roadway active width (i.e., distance between the center of the outermost travel lanes on each side of the roadway), travel speed, truck mix (i.e., percentage of automobiles, medium trucks, and heavy trucks in the traffic volume), roadway grade and site conditions (hard or soft ground surface relating to the absorption of the ground, pavement, or landscaping). Research conducted by Caltrans identifies that the use of soft site conditions is appropriate for the application of the FHWA traffic noise prediction model.[2] Therefore, surfaces adjacent to all modeled roadways were assumed to have a "soft site". Possible reductions in noise levels due to intervening topography and buildings were not accounted for in this analysis.

Existing average daily traffic volumes for all roadways, except for Wilson Avenue, were obtained from the Redlands Avenue East Industrial Project Traffic Impact Analysis, Ganddini Group Inc. (March 8, 2022). Existing average daily traffic volumes along Wilson Avenue were calculated from the PM peak hour intersection traffic counts provided in Appendix C of the Focused Traffic Impact Analysis for FIR Wilson 2 Warehouse Development on Wilson Avenue (May 11, 2021).[3] Project average daily traffic volumes, project trip distribution, and project vehicle mix were obtained from the LCI Wilson Warehouse Project Transportation Study Screening Assessment, Ganddini Group Inc. (Transportation Study Screening Assessment) (May 5, 2022). As stated previously, the Transportation Study Screening Assessment included two scenarios and, for purposes of this analysis, Alternative 1 has been utilized as it provides for a worst-case case scenario regarding

[1] California Department of Transportation Environmental Program, Office of Environmental Engineering. Use of California Vehicle Noise Reference Energy Mean Emission Levels (Calveno REMELs) in FHWA Highway Traffic Noise Prediction. September 1995. TAN 95-03.

[2] California Department of Transportation. Traffic Noise Attenuation as a Function of Ground and Vegetation Final Report. June 1995. FHWA/CA/TL-95/23.

[3] https://www.cityofperris.org/home/showpublisheddocument/14951/637781939223830000

off-site traffic noise level increases. Existing Plus Project vehicle mixes were calculated by adding the proposed project trips to existing conditions. FHWA spreadsheets are included in Appendix E.

SOUNDPLAN NOISE MODEL

The SoundPLAN acoustical modeling software was utilized to model worst-case stationary noise impacts associated with project operation at adjacent sensitive uses (e.g., residences). SoundPLAN is capable of evaluating stationary noise sources (e.g., parking lots, drive-thru menus, carwash equipment, vacuums, etc.). The SoundPLAN software utilizes algorithms (based on the inverse square law) to calculate noise level projections. The software allows the user to input specific noise sources, spectral content, sound barriers, building placement, topography, and sensitive receptor locations. In addition to the information provided below, noise modeling input and outputs assumptions are provided in Appendix F.

The CNEL as well as the expected maximum noise level associated with project operation was modeled utilizing representative sound levels in the SoundPLAN model. Modeled noise sources include vehicle movement/parking lot noise, loading and unloading areas, and HVAC equipment. All noise sources were modeled to be in full operation.

Parking Lot Noise

Parking lot noise was calculated using SoundPLAN methodology. Specifically, the traffic volume of the parking lot is entered with the number of moves per parking, the hour and the number of parking bays. The user defines whether the parking lots are for automobiles, motorcycles, or trucks, and the emission level of a parking lot is automatically adjusted accordingly. The values for the number of parking moves for each time slice is the number of parking moves per reference unit (most often per parking bay), averaged for the hour[4].

SoundPLAN utilizes parking lot noise emission levels from the 6th revised edition of the parking lot study "Recommendations for the Calculation of Sound Emissions of Parking Areas, Motorcar Centers and Bus Stations as well as of Multi-Story Car Parks and Underground Car Parks" published by the Bavarian Landesamt für Umwelt provides calculation methods to determine the emissions of parking lots.

The parking lot emission table documents the reference level (Lw, ref) from the parking lot study.

Lw, ref = Lw0 + KPA + KI + KD + KStrO + 10 log(B) [dB(A)]

With the following parameters:

Lw0 = Basic sound power, sound power level of one motion / per hour on P+R areas = 63 dB(A)
KPA = Surcharge parking lot type
KI = Surcharge for impulse character
KD = Surcharge for the traffic passaging and searching for parking bays in the driving lanes 2,5 * lg (f * B - 9)
f = Parking bays per unit of the reference value
B = Reference value
KStrO = Surcharge for the road surface

A maximum noise event associated with the maximum noise level for loading/unloading and release of air brakes (110 L_w)[5] was utilized to model maximum noise levels at nearby sensitive receptors. Horns, car alarms, trash trucks and trailers being hitched and unhitched would cause loud, but less loud noise events in the parking and truck loading/unloading areas.

[4] SoundPLAN Essential 4.0 Manual. SoundPLAN International, LLC. May 2016.
[5] SoundPLAN Noise Model Library Version 8.2. February 10, 2020.

Loading/Unloading

The proposed loading area was modeled using a sound reference level for loading/unloading of pallet/ramp with a sound power level of 92 dB per meter.

Mechanical Equipment (HVAC Units) Noise

A noise reference level of 67.7 dBA at 3 feet (sound power level of 78.7 dB) was utilized to represent rooftop 5 Ton Carrier HVAC units[6]. A rooftop HVAC plan is not available at the time of this analysis so the exact location and number of units per building were estimated. A total of 20 rooftop units were modeled on the proposed rooftops. The noise source height for each HVAC unit was assumed at 1 meter above the roof top. Roof top is assumed to be approximately 42 feet above grade.

[6] MD Acoustics, LLC Noise Measurement Data for RTU –Carrier 50TFQ0006 and car alarm.

Table 4 (1 of 2)
CA/T Equipment Noise Emissions and Acoustical Usage Factor Database

Equipment Description	Impact Device?	Acoustical Use Factor (%)	Spec. Lmax @ 50ft (dBA, slow)	Actual Measured Lmax @ 50ft (dBA, slow)	No. of Actual Data Samples (Count)
All Other Equipment > 5 HP	No	50	85	-N/A-	0
Auger Drill Rig	No	20	85	84	36
Backhoe	No	40	80	78	372
Bar Bender	No	20	80	-N/A-	0
Blasting	Yes	-N/A-	94	-N/A-	0
Boring Jack Power Unit	No	50	80	83	1
Chain Saw	No	20	85	84	46
Clam Shovel (dropping)	Yes	20	93	87	4
Compactor (ground)	No	20	80	83	57
Compressor (air)	No	40	80	78	18
Concrete Batch Plant	No	15	83	-N/A-	0
Concrete Mixer Truck	No	40	85	79	40
Concrete Pump Truck	No	20	82	81	30
Concrete Saw	No	20	90	90	55
Crane	No	16	85	81	405
Dozer	No	40	85	82	55
Drill Rig Truck	No	20	84	79	22
Drum Mixer	No	50	80	80	1
Dump Truck	No	40	84	76	31
Excavator	No	40	85	81	170
Flat Bed Truck	No	40	84	74	4
Forklift[2,3]	No	50	n/a	61	n/a
Front End Loader	No	40	80	79	96
Generator	No	50	82	81	19
Generator (<25KVA, VMS signs)	No	50	70	73	74
Gradall	No	40	85	83	70
Grader	No	40	85	-N/A-	0
Grapple (on backhoe)	No	40	85	87	1
Horizontal Boring Hydr. Jack	No	25	80	82	6
Hydra Break Ram	Yes	10	90	-N/A-	0
Impact Pile Driver	Yes	20	95	101	11
Jackhammer	Yes	20	85	89	133
Man Lift	No	20	85	75	23
Mounted Impact hammer (hoe ram)	Yes	20	90	90	212
Pavement Scarafier	No	20	85	90	2
Paver	No	50	85	77	9
Pickup Truck	No	50	85	77	9
Paving Equipment	No	50	85	77	9
Pneumatic Tools	No	50	85	85	90

Table 4 (2 of 2)
CA/T Equipment Noise Emissions and Acoustical Usage Factor Database

Equipment Description	Impact Device?	Acoustical Use Factor (%)	Spec. Lmax @ 50ft (dBA, slow)	Actual Measured Lmax @ 50ft (dBA, slow)	No. of Actual Data Samples (Count)
Pumps	No	50	77	81	17
Refrigerator Unit	No	100	82	73	3
Rivit Buster/chipping gun	Yes	20	85	79	19
Rock Drill	No	20	85	81	3
Roller	No	20	85	80	16
Sand Blasting (Single Nozzle)	No	20	85	96	9
Scraper	No	40	85	84	12
Shears (on backhoe)	No	40	85	96	5
Slurry Plant	No	100	78	78	1
Slurry Trenching Machine	No	50	82	80	75
Soil Mix Drill Rig	No	50	80	-N/A-	0
Tractor	No	40	84	-N/A-	0
Vacuum Excavator (Vac-truck)	No	40	85	85	149
Vacuum Street Sweeper	No	10	80	82	19
Ventilation Fan	No	100	85	79	13
Vibrating Hopper	No	50	85	87	1
Vibratory Concrete Mixer	No	20	80	80	1
Vibratory Pile Driver	No	20	95	101	44
Warning Horn	No	5	85	83	12
Welder/Torch	No	40	73	74	5

Notes:

(1) Source: FHWA Roadway Construction Noise Model User's Guide January 2006.

(2) Warehouse & Forklift Noise Exposure - NoiseTesting.info Carl Stautins, November 4, 2014 http://www.noisetesting.info/blog/carl-strautins/page-3/

(3) Data provided Leq as measured at the operator. Sound Level at 50 feet is calculated using Inverse Square Law.

6. IMPACT ANALYSIS

This impact discussion analyzes the potential for noise and/or groundborne vibration impacts to cause the exposure of a person to, or generation of, noise levels in excess of established City of Perris standards related to construction, operation, and transportation noise related impacts to, or from, the proposed project.

IMPACTS RELATED TO CONSTRUCTION NOISE

The construction phases for the proposed project are anticipated to include grading, building construction, paving and architectural coating. Assumptions for the phasing, duration, and required equipment for the construction of the proposed project were obtained from the project applicant. Construction activities are anticipated to begin no sooner than the beginning of April 2023 and be completed by the end of December 2023.

Construction noise will vary depending on the construction process, type of equipment involved, location of the construction site with respect to sensitive receptors, the schedule proposed to carry out each task (e.g., hours and days of the week) and the duration of the construction work. The existing non-conforming residential uses with property lines located adjacent to the southwest corner of the site and as close as approximately 680 feet to the south, 1,026 feet to the west, and 1,694 feet to the east of the project property lines may be affected by short-term noise impacts associated with construction noise.

Construction noise associated with the proposed project was calculated utilizing methodology presented in the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (2018) together with several key construction parameters including: distance to each sensitive receiver, equipment usage, percent usage factor, and baseline parameters for the project site. Distances to receptors were based on the acoustical center of the proposed construction activity. Construction noise levels were calculated for each phase. Anticipated noise levels during each construction phase are presented in Table 5. Worksheets for each phase are included as Appendix D.

Section 7.34.060 of the City's municipal code prohibits construction activity from exceeding 80 dBA L_{max} in residential zones within the City. All land uses adjacent to or near the project site are zoned light industrial uses. The nearest residential zone is located approximately 680 feet south of the project site. Assuming that the loudest piece of equipment (grader) is located at the project's southern property line, maximum noise levels at this location may reach up to 62.3 dBA Lmax and will not exceed the City's criteria of 80 dBA Lmax.

Although not protected by City Ordinance criteria, the equivalent of the average noise level (Leq) associated with simultaneous operation of all equipment associated with each construction phase was modeled at properties that have existing residential uses but are not zoned for residential uses (non-conforming residential land uses). Because most all construction equipment is expected to move around the project site, combined noise levels were modeled from the center of the site, as is industry standard. Construction noise levels are expected to reach up to 71 dBA Leq at the residential use located to the southwest of the project site (2865 Redlands Avenue), 63 dBA Leq at the residential property lines located to the south of the project site along Placentia Avenue (561 Placentia Avenue), 55 dBA Leq at the residential uses located to the east/northeast of the project site along Clapper Street (3036 Clapper Street), and up to 58 dBA Leq at the residential uses located to the west of the project site along Lake View Drive (2865 Lake View Drive). Best Management Practices listed in the Project Description Section of this report will be implemented in order to minimize noise levels at existing residential land uses.

Compliance with Section 7.34.060 of the City's Municipal Code which prohibits construction activities other than between the hours of 7:00 AM and 7:00 PM Monday through Saturday, and construction activities on legal holidays, with the exception of Columbus Day and Washington's Birthday. The project will comply with the City's allowed hours of construction and will avoid construction noise impacts during sensitive nighttime hours.

Construction activities associated with the proposed project would take place within the allowable hours identified in Section 7.34.060 of the City of Perris Municipal Code and would not exceed the City's standard of 80 dBA Lmax in a residential zone, and therefore, will not result in or generate 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.

Impacts would be less than significant, and no mitigation is required.

Off-Site Construction Noise

Construction truck trips would occur throughout the construction period. Given the project site's proximity to the 215 Freeway, it is anticipated that vendor and/or haul truck traffic would take the most direct route to the appropriate freeway ramps.

According to the FHWA, the traffic volumes need to be doubled in order to increase noise levels by 3 dBA CNEL.[7] The estimated existing average daily trips along Wilson Avenue in the vicinity of the project site are approximately 3,696 daily vehicle trips.[8] As shown in the CalEEMod output files provided in the Air Quality, Global Climate Change, HRA, and Energy Impact Analysis prepared for the proposed project (Ganddini Group, Inc., 2022), the greatest number of construction-related vehicle trips per day would be during building construction at up to 124 vehicle trips per day (89 for worker trips and 35 for vendor trips). Therefore, the addition of project vendor/haul trucks and worker vehicles per day along off-site roadway segments would not be anticipated to result in a doubling of traffic volumes. Off-site project generated construction vehicle trips would result in a negligible noise level increase and would not result in a substantial increase in ambient noise levels. Impacts would be less than significant. No mitigation measures are required.

NOISE IMPACTS TO OFF-SITE RECEPTORS DUE TO PROJECT GENERATED TRIPS

During operation, the proposed project is expected to generate approximately 143 average daily trips with 15 trips during the AM peak-hour and 15 trips during the PM peak-hour.[9] A project generated traffic noise level was modeled utilizing the FHWA Traffic Noise Prediction Model – FHWA-RD-77-108. Traffic noise levels were calculated at the right of way from the centerline of the analyzed roadway. The modeling is theoretical and does not take into account any existing barriers, structures, and/or topographical features that may further reduce noise levels. Therefore, the levels are shown for comparative purposes only to show the difference in with and without project conditions. Roadway input parameters including average daily traffic volumes (ADTs), speeds, and vehicle distribution data is shown in Table 6. The potential off-site noise impacts caused by an increase of traffic from operation of the proposed project on the nearby roadways were calculated for the following scenarios:

Existing Year (without Project): This scenario refers to existing year traffic noise conditions and is demonstrated in Table 6.

Existing Year (With Project): This scenario refers to existing year plus project traffic noise conditions and is demonstrated in Table 6.

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[7] Federal Highway Administration, Highway Noise Prediction Model, December 1978.

[8] Existing average daily traffic volumes along Wilson Avenue were calculated from the PM peak hour intersection traffic counts provided in Appendix C of the Focused Traffic Impact Analysis for FIR Wilson 2 Warehouse Development on Wilson Avenue (May 11, 2021). https://www.cityofperris.org/home/showpublisheddocument/14951/637781939223830000

[9] Alternative 1 provided in the LCI Wilson Warehouse Project Transportation Study Screening Assessment, Ganddini Group Inc. (May 5, 202) has been utilized in this analysis as it provides for a worst-case scenario in regard to off-site traffic noise levels due to a larger number of truck trips.

As shown in Table 7, modeled Existing traffic noise levels range between 63-74 dBA CNEL at the right-of-way of each modeled roadway segment; and the modeled Existing Plus Project traffic noise levels range between 63-74 dBA CNEL at the right-of-way of each modeled roadway segment.

Pursuant to the PVCCSP EIR, project roadway noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development.

When the resulting noise levels at noise-sensitive land uses (e.g., residential, etc.):

1. are less than 60 dBA CNEL and the project creates a 5 dBA CNEL or greater Project-related level increase: or

2. exceed 60 dBA CNEL and the project creates a 3 dBA CNEL or greater project-related noise level increase.

Project generated vehicle traffic is anticipated to increase the noise between approximately 0 to 1.43 dBA CNEL along affected road segments. Project generated increases in ambient noise levels would be less than 3 dBA CNEL and would be considered less than significant.

NOISE IMPACTS TO OFF-SITE RECEPTORS DUE TO ON-SITE OPERATIONAL NOISE

Existing sensitive land uses that may be affected by project noise include the existing residential uses with property lines located adjacent to the southwest corner of the site and approximately 680 feet to the south and 1,026 feet to the west of the project property lines. It should be noted that the residential receptor located adjacent to the southwestern corner of the project site is a non-conforming single-family residential land use.

Noise standards that apply to operational noise as discussed in Section 4 of this report are as follows:

- The project may result in a significant impact if it results in maximum noise events that exceed 80 dBA Lmax from 7:01 AM to 10:00 PM or 60 dBA Lmax from 10:01 PM and 7:00 AM at the property line of any residential neighborhood.

The SoundPLAN noise model was utilized to calculate the community noise equivalent noise level (CNEL) associated with project operational noise as well as the expected maximum noise level at the nearest sensitive receptors. The modeling effort was very conservative as it was assumed that peak hour operation would occur every hour of the 24-hour period. A description of each noise source and model parameters are discussed in Section 5 of this report.

Operational Noise Levels – CNEL

As shown on Figures 6 and 7 and in Table 8, project operational noise is expected to range between 30 and 41 dBA CNEL at nearby receptors. Project operation would not exceed the City's General Plan land use compatibility criteria of 60 dBA CNEL at adjacent residential land uses.

Operational Noise Levels – Lmax

As discussed previously, Section 7.34.040 of the City's Noise Ordinance prohibits the generation of amplified sound (music and/or human voice) beyond the property line of the property from which the sound emanates that exceeds 80 dBA L_{max} from 7:01 AM to 10:00 PM or 60 dBA L_{max} from 10:01 PM to 7:00 AM at the property line of the property from which the sound emanates. Section 7.34.050 applies these noise standards to any noise in a residential neighborhood. A point noise source representative of larger truck venting air brakes (110 L_w) was utilized to model a maximum noise event near a sensitive receptor.

As shown on Figure 8 and in Table 9, operational noise levels may reach up to 60 dBA L_{max} at the property line of the nearest sensitive receptor and would not exceed the daytime noise standard of 80 dBA L_{max} or the nighttime noise standard of 60 dBA L_{max}. This impact would be less than significant. No mitigation is required.

GROUNDBORNE VIBRATION IMPACTS

There are several types of construction equipment that can cause vibration levels high enough to annoy persons in the vicinity and/or result in architectural or structural damage to nearby structures and improvements. For example, as shown in Table 10, a vibratory roller could generate up to 0.21 PPV at a distance of 25 feet; and operation of a large bulldozer (0.089 PPV) at a distance of 25 feet (two of the most vibratory pieces of construction equipment). Groundborne vibration at sensitive receptors associated with this equipment would drop off as the equipment moves away. For example, as the vibratory roller moves further than 100 feet from the sensitive receptors, the vibration associated with it would drop below 0.0026 PPV. It should be noted that these vibration levels are reference levels and may vary slightly depending upon soil type and specific usage of each piece of equipment.

Annoyance to Persons

The primary effect of perceptible vibration is often a concern. However, secondary effects, such as the rattling of a china cabinet, can also occur, even when vibration levels are well below perception. Any effect (primary perceptible vibration, secondary effects, or a combination of the two) can lead to annoyance. The degree to which a person is annoyed depends on the activity in which they are participating at the time of the disturbance. For example, someone sleeping, or reading will be more sensitive than someone who is running on a treadmill. Reoccurring primary and secondary vibration effects often lead people to believe that the vibration is damaging their home, although vibration levels are well below minimum thresholds for damage potential. (California Department of Transportation, 2020)

As shown in Table 11, in regard to annoyance, vibration becomes severe to people in buildings at a PPV of 0.4 in/sec. Impacts related to annoyance would be considered significant if the groundborne vibration exceeded a PPV of 0.4 in/sec., occurs outside of the allowed hours for construction activities per City Code 7.34.060, or affects the operation of sensitive equipment.

The closest off-site sensitive receptors are the residential uses located to the west and south, with associated structures located as close as approximately 438 feet to the west and 708 feet to the south of project property lines. At 438 feet, use of a vibratory roller would be expected to generate a PPV of 0.003 in/sec and a bulldozer would be expected to generate a PPV of 0.001 in/sec.

Construction activities would not cause severe vibration related annoyance at the closest sensitive receptors. Operation of equipment sensitive to low levels of groundborne vibration is unlikely. Further, the construction activities are anticipated to comply with the allowed hours for operation outlined in City Code 7.34.060. Impacts from vibration related annoyance would be less than significant. Vibration worksheets are provided in Appendix G.

Architectural Damage

Vibration generated by construction activity generally has the potential to damage structures. This damage could be structural damage, such as cracking of floor slabs, foundations, columns, beams, or wells, or cosmetic architectural damage, such as cracked plaster, stucco, or tile. (California Department of Transportation, 2020)

Table 12 identifies a PPV level of 0.25 in/sec as the threshold at which there is a risk to “architectural” damage to historic and some old buildings. The nearest off-site structures are the residential buildings located approximately 438 feet to the west and 708 feet to the south, the industrial building located approximately 223 feet to the northeast, and the commercial building located approximately 723 feet to the north of the

project's property lines. At 223 feet, use of a vibratory roller would be expected to generate a PPV of 0.008 in/sec and a bulldozer would be expected to generate a PPV of 0.003 in/sec. Temporary vibration levels at the nearest off-site structures associated with project construction would be less than significant. No mitigation is required. Vibration worksheets are provided in Appendix G.

Impact to Project from Airports

The closest airport to the project site is the March Air Reserve Base/Inland Port Airport located approximately 3.12 miles to the northwest of the project site. Per the March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan (ALUCP) (2014), the project site is located within Compatibility Zone C1 (Primary Approach/Departure Zone). Exhibit N-3 of the Noise Element of the City's General Plan shows that the project site is located just within the airport's 60 dBA CNEL noise contour. In addition, Figure 4-2 of the more recent Final Air Installations Compatible Use Zones Study for March Air Reserve Base (Air Force Reserve Command) (AICUZ 2018) shows that the project site is located outside of the airport's 60 dBA CNEL noise contour. The 2018 AICUZ noise contour map is provided on Figure 9.

Per the 2018 AICUZ the Air Force provides planning contours–noise contours based on reasonable projections of future missions and operations. AICUZ studies using planning contours provide a description of the long-term (5-10 year) aircraft noise environment for projected aircraft operations that is more consistent with the planning horizon used by State, tribal, regional and local planning bodies."

The proposed project is an 83,910 square foot industrial warehouse building. Neither the City of Perris Municipal Code nor the March Air Reserve Base Inland Port ALCUP establish airport noise criteria for industrial or warehouse land uses. Furthermore, as shown in Table MA-2, Basic Compatibility Criteria, of the March Air Reserve Base Inland Port ALCUP, industrial land uses are considered allowed uses within Zone C1.

The total square footage proposed by the project includes approximately 8,000 square feet of associated office use. Section 19.51.080 of the City's Municipal Code includes a requirement of 45 dBA CNEL for office space. Section 19.51.080 of the City's Code further states that standard building construction is presumed to provide adequate sound attenuation where the difference between the exterior noise exposure and the interior noise standard is 20 dB or less. Per the Final AICUZ (2018), the project site is located outside of the airport's 60 dBA CNEL noise contour. Therefore, with standard building construction, the associated office use would not be anticipated to have airport related noise levels exceeding 45 dBA CNEL.

The project would not expose people residing or working in the project area to excessive noise levels associated with airports. This impact would be less than significant. No mitigation is required.

Table 5
Construction Noise Levels (dBA L_{eq})

Phase	Receptor Location	Closest Measured Ambeint Noise Location[2]	Existing Measured Noise Levels (dBA, Leq)	Construction Noise Levels (dBA Leq)
Grading	Single-family Residential Use to Southwest (2865 Redlands Ave)	STNM1	69.5	70.7
	Single-family Residential Uses to South (561 Placentia Ave)	STNM3	65.7	62.8
	Single-family Residential Uses to East/Northeast (3036 Clapper Street)	STNM4	51.4	55.3
	Single-family Residential Uses to West (2865 Lake View Drive)	STNM2	57.5	57.8
Building Construction	Single-family Residential Use to Southwest (2865 Redlands Ave)	STNM1	69.5	70.5
	Single-family Residential Uses to South (561 Placentia Ave)	STNM3	65.7	62.5
	Single-family Residential Uses to East/Northeast (3036 Clapper Street)	STNM4	51.4	55.1
	Single-family Residential Uses to West (2865 Lake View Drive)	STNM2	57.5	57.6
Paving	Single-family Residential Use to Southwest (2865 Redlands Ave)	STNM1	69.5	67.9
	Single-family Residential Uses to South (561 Placentia Ave)	STNM3	65.7	59.9
	Single-family Residential Uses to East/Northeast (3036 Clapper Street)	STNM4	51.4	52.4
	Single-family Residential Uses to West (2865 Lake View Drive)	STNM2	57.5	54.9
Architectural Coating	Single-family Residential Use to Southwest (2865 Redlands Ave)	STNM1	69.5	57.4
	Single-family Residential Uses to South (561 Placentia Ave)	STNM3	65.7	49.4
	Single-family Residential Uses to East/Northeast (3036 Clapper Street)	STNM4	51.4	42
	Single-family Residential Uses to West (2865 Lake View Drive)	STNM2	57.5	44.5

Notes:
(1) Construction noise worksheets are provided in Appendix D.
(2) Nearest noise measurement as shown in Figure 5 and Table 1.

Table 6
Project Average Daily Traffic Volumes and Roadway Parameters

Roadway	Segment	Average Daily Traffic Volume[1]		Posted Travel Speeds (MPH)	Site Conditions
		Existing	Existing Plus Project		
Rider Street	West of Redlands Avenue	9,200	9,205	45	Soft
	Redlands Avenue to Wilson Avenue	11,000	11,055	45	Soft
	East of Wilson Avenue	11,000	11,014	45	Soft
Placentia Avenue	West of Redlands Avenue	3,500	3,551	40	Soft
	Redlands Avenue to Wilson Avenue	2,100	2,165	25	Soft
Redlands Avenue	North of Rider Street	1,700	1,750	40	Soft
	South of Placentia Avenue	4,800	4,814	40	Soft
Wilson Avenue	Rider Street to Project Site	3,696	3,765	35	Soft
	Project Site to Placentia Avenue	3,696	3,770	35	Soft
	South of Placentia Avenue	3,696	3,705	35	Soft

Vehicle Distribution (Light Mix)[2]			
Motor-Vehicle Type	Daytime % (7 AM-7 PM)	Evening % (7 PM-10 PM)	Night % (10 PM-7 AM)
Automobiles	75.56	13.96	10.49
Medium Trucks	48.91	2.17	48.91
Heavy Trucks	47.30	5.41	47.30

Vehicle Distribution (Heavy Mix)[2]			
Motor-Vehicle Type	Daytime % (7 AM-7 PM)	Evening % (7 PM-10 PM)	Night % (10 PM-7 AM)
Automobiles	75.54	14.02	10.43
Medium Trucks	48.00	2.00	50.00
Heavy Trucks	48.00	2.00	50.00

Notes:

(1) Existing average daily traffic volumes for all roadways, except for Wilson Avenue, were obtained from the Redlands Avenue East Industrial Project Traffic Impact Analysis, Ganddini Group Inc. (March 8, 2022). Existing average daily traffic volumes along Wilson Avenue were calculated from the PM peak hour intersection traffic counts provided in Appendix C of the Focused Traffic Impact Analysis for FIR Wilson 2 Warehouse Development on Wilson Avenue (May 11, 2021) obtained from https://www.cityofperris.org/home/showpublisheddocument/14951/637781939223830000. Project average daily traffic volumes, project trip distribution, and project vehicle mix obtained from the LCI Wilson Warehouse Project Transportation Study Screening Assessment, Ganddini Group Inc. (May 5, 2022) for the Alternative 1 scenario.

(2) Existing vehicle percentages are based on the Riverside County Industrial Hygiene Letter for Traffic Noise.

Table 7
Change in Existing Noise Levels Due to Project Genreated Vehicle Traffic (dBA CNEL)

Roadway	Segment	Distance from roadway centerline to right-of-way (feet)[2]	Modeled Noise Levels (dBA CNEL)[1]			
			Existing Without Project at right-of-way	Existing Plus Project at right-of-way	Change in Noise Level	Increase of 3 dB or More?
Rider Street	West of Redlands Avenue	44	73.10	73.10	0.00	No
	Redlands Avenue to Wilson Avenue	44	73.88	74.06	0.18	No
	East of Wilson Avenue	44	73.88	73.88	0.00	No
Placentia Avenue	West of Redlands Avenue	44	68.16	68.18	0.02	No
	Redlands Avenue to Wilson Avenue	44	63.32	63.34	0.02	No
Redlands Avenue	North of Rider Street	44	65.03	66.15	1.12	No
	South of Placentia Avenue	44	69.54	69.54	0.00	No
Wilson Avenue	Rider Street to Project Site	32	64.5	65.9	1.43	No
	Project Site to Placentia Avenue	32	64.5	64.6	0.04	No
	South of Placentia Avenue	32	64.5	64.5	0.00	No

Notes:
(1) Exterior noise levels calculated 5 feet above pad elevation, perpendicular to subject roadway.
(2) Right of way per the City of Perris General Plan Circulation Element.

Table 8
Project Operational Noise Levels (dBA CNEL)

Receptor Location[2]	Closest Measured Ambeint Noise Location[1]	Existing Measured Noise Levels (dBA CNEL)	Project Operational Noise Levels (dBA CNEL)	Project Exceeds Daytime 60 dBA CNEL Standard (Y/N)
Residential property line adjacent to southwest corner of the project site (R1)	LTNM1	55.5	41.0	No
Residential property line to west of the project site (R2)	STNM2	57.5	30.0	No
Residential property line to south of the project site (R3)	STNM3	65.7	38.0	No
Residence west of the project site (R4)	LTNM1	57.5	38.0	No

Notes:
(1) Estimated using short-term and long term noise measurements Figure 5 and Tables 1 and 2.

Table 9
Project Operational Noise Levels (dBA Lmax)

Receptor Location	Closest Measured Ambient Noise Location[1]	Existing Measured Noise Levels (dBA Lmax)	Project Operational Noise Levels (dBA Lmax)	Project Exceeds Daytime 80 dBA Lmax Standard or Nighttime 60 dBA Lmax Standard (Y/N)
Residential property line adjacent to southwest corner of the project site (R1)	LTNM1	84.0	60.0	No
Residential property line to west of the project site (R2)	STNM2	75.7	43.0	No
Residential property line to south of the project site (R3)	STNM3	88.3	43.0	No
Residence west of the project site and east of Redlands Avenue (R4)	LTNM1	84.0	50.0	No

Notes:
(1) Nearest noise measurement as shown in Figure 5 and Tables 1 and 2.

Table 10
Construction Equipment Vibration Source Levels

Equipment		PPV at 25 ft, in/sec	Approximate Lv* at 25 ft
Pile Driver (impact)	upper range	1.518	112
	typical	0.644	104
Pile Driver (sonic)	upper range	0.734	105
	typical	0.170	93
clam shovel drop (slurry wall)		0.202	94
Hydromill (slurry wall)	in soil	0.008	66
	in rock	0.017	75
Vibratory Roller		0.210	94
Hoe Ram		0.089	87
Large Bulldozer		0.089	87
Caisson Drilling		0.089	87
Loaded Trucks		0.076	86
Jackhammer		0.035	79
Small Bulldozer		0.003	58

Source: Federal Transit Administration: Transit Noise and Vibration Impact Assessment Manual, 2018.
*RMS velocity in decibels, VdB re 1 micro-in/sec

Table 11
Guideline Vibration Annoyance Potential Criteria

Human Response	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Source: California Department of Transportation. Transportation and Construction Vibration Guidance Manual, Chapter 7 Table 20, April 2020.

Notes:

(1) Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

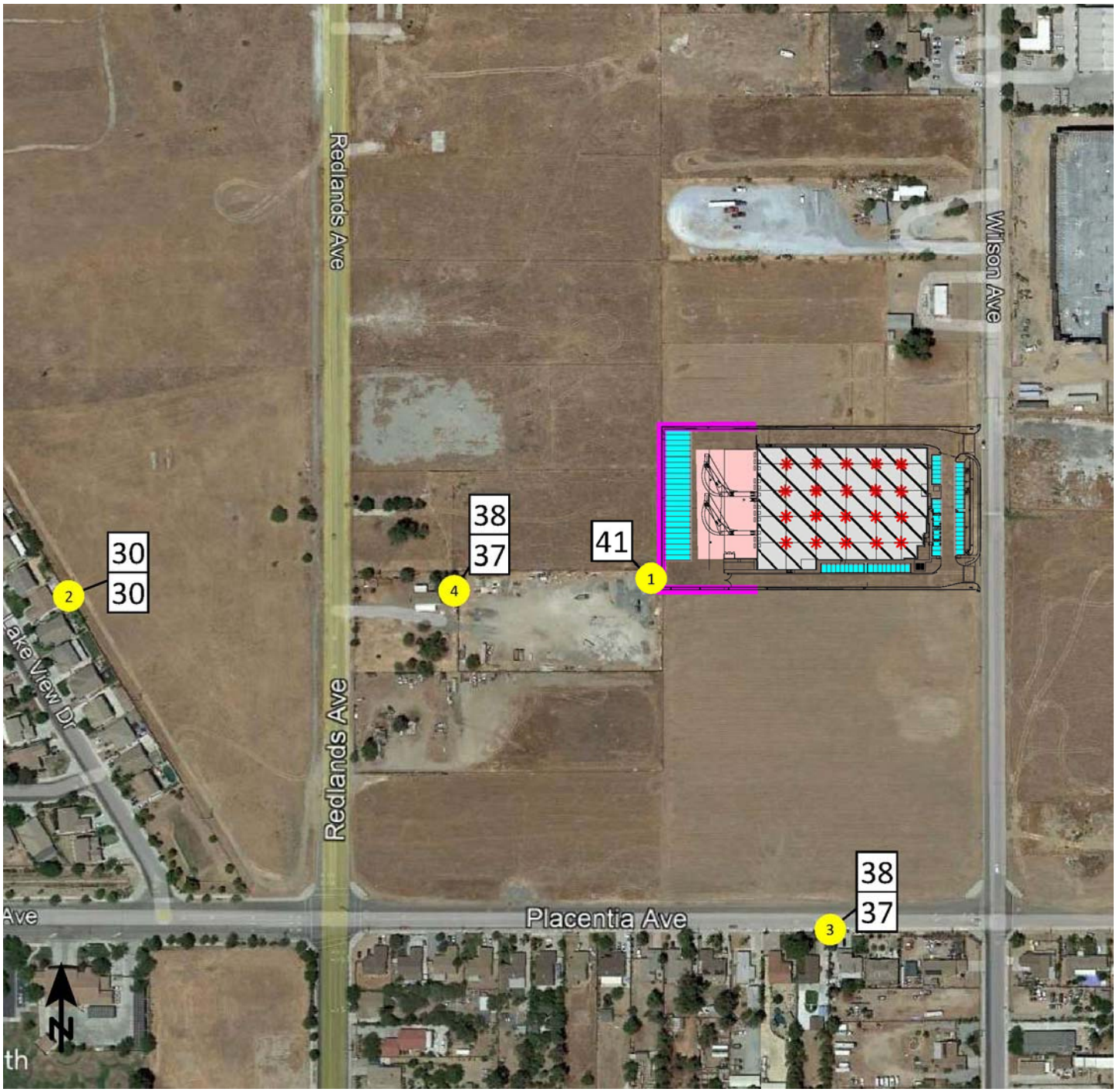
Table 12
Guideline Vibration Damage Potential Threshold Criteria

Structure Condition	Maximum PPV (in/sec)	
	Transient Sources[1]	Continuous/Frequent Intermittent Sources[1]
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Source: California Department of Transportation. Transportation and Construction Vibration Guidance Manual, Chapter 7 Table 19, April 2020.

Notes:

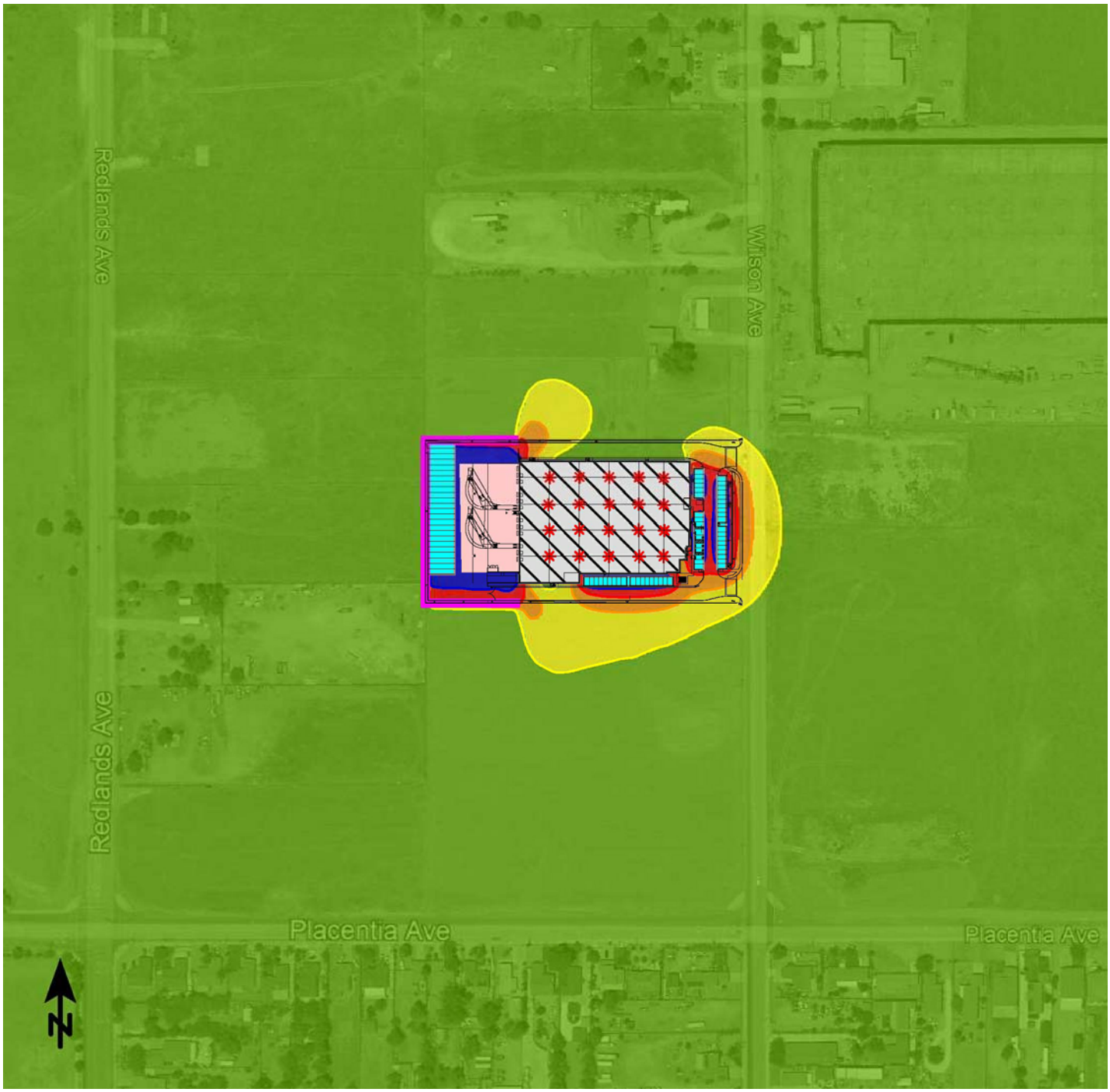
(1) Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.



Signs and symbols

- Proposed Project
- Proposed 14-Foot Concrete Wall
- Proposed Building
- Receiver
- HVAC
- Loading/Unloading
- Parking Lot
- Noise Level Tables (1st Fl/2nd Fl)

Figure 6
Operational Noise Levels (dBA, CNEL)



Signs and symbols

- Proposed Project
- Proposed 14-Foot Concrete Wall
- Proposed Building
- HVAC
- Loading/Unloading
- Parking Lot

Levels in dB(A)

- < 45
- 45 - 50
- 50 - 55
- 55 - 60
- >= 60

Figure 7
Operational Noise Contours (dBA, CNEL)

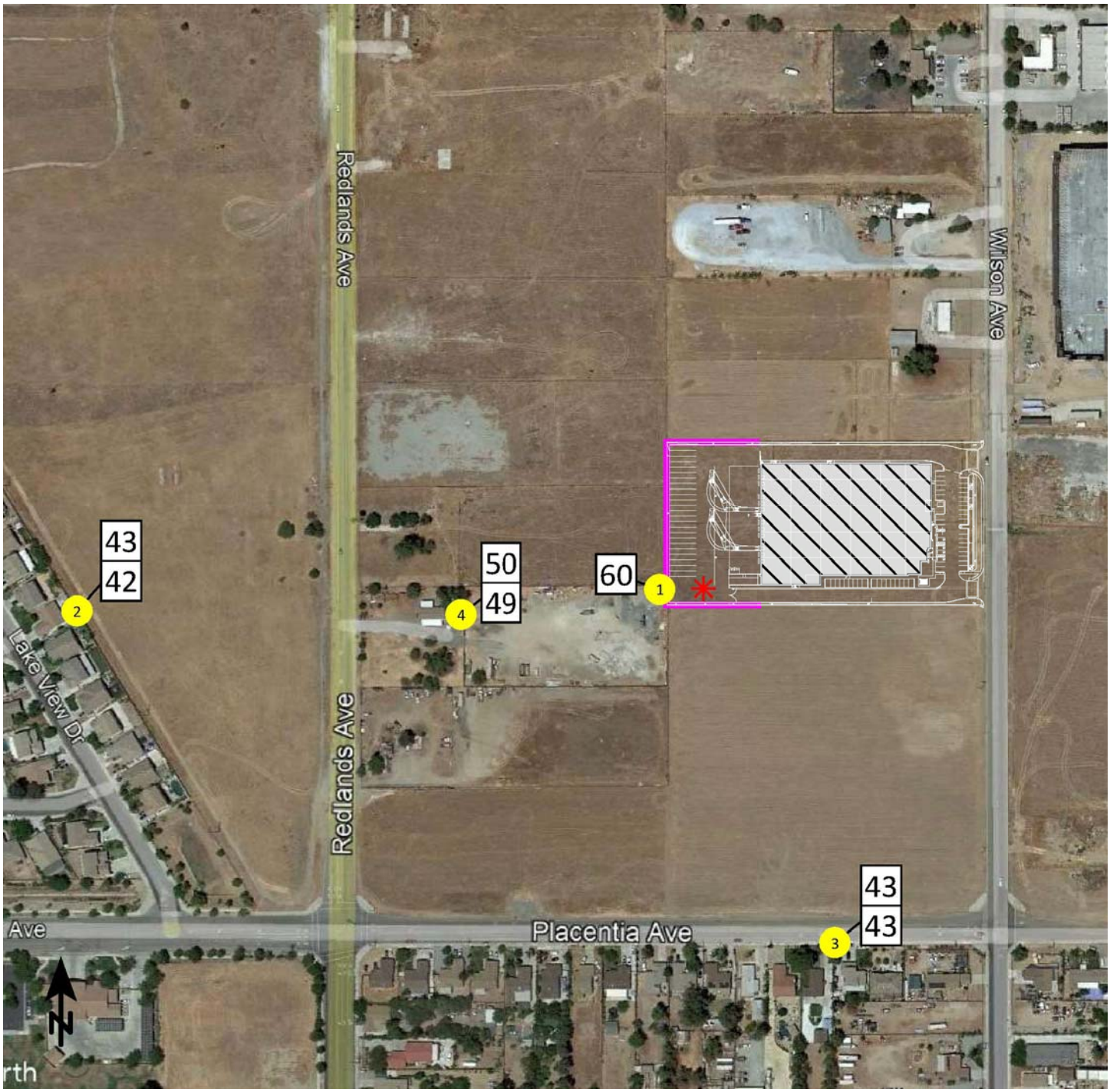
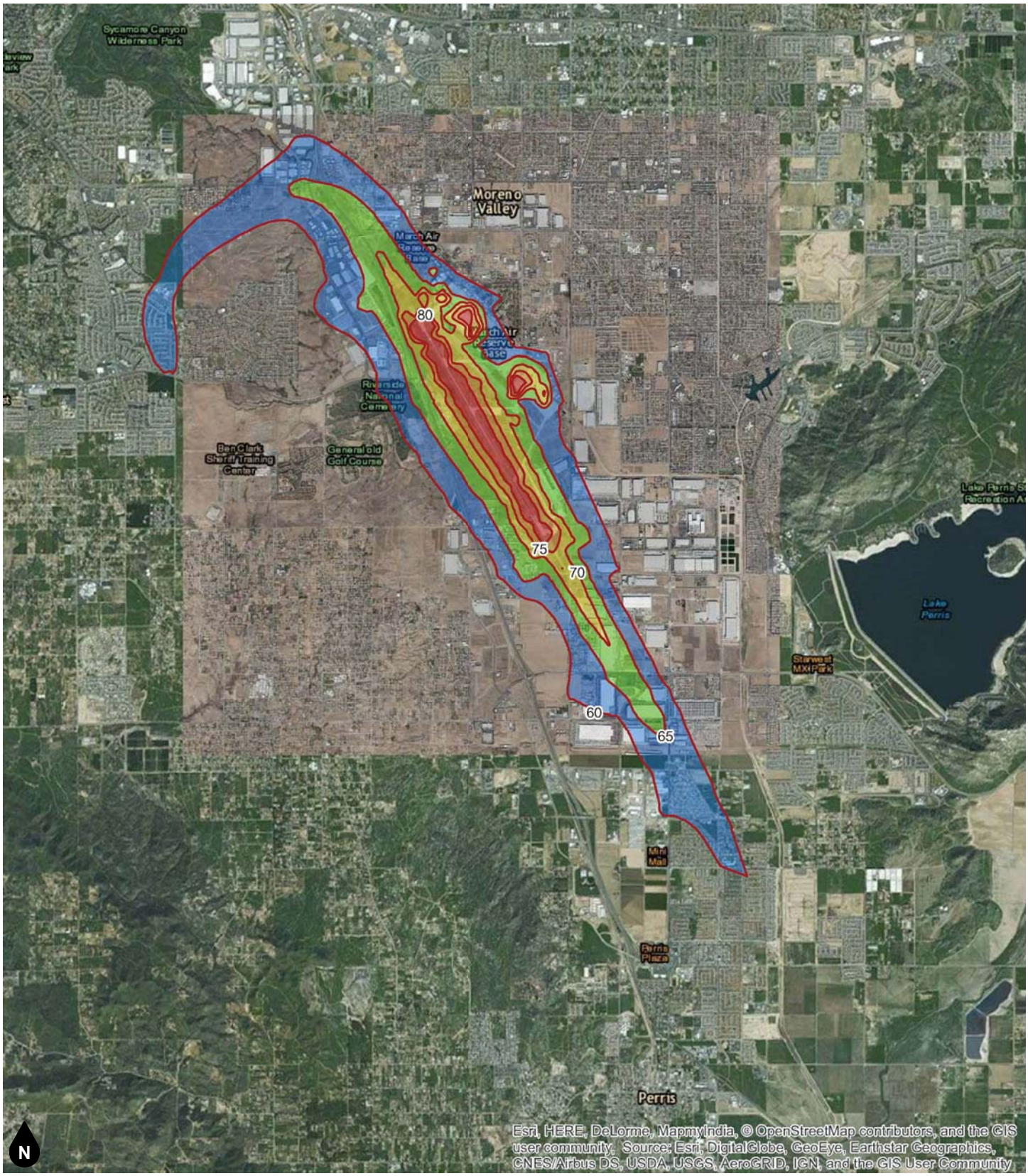


Figure 8
Operational Noise Levels (dBA, Lmax)



Legend

March ARB 2018 Noise Contours

Noise Contour Levels (CNEL)

60dB 65dB 70dB 75dB 80dB

Figure 9
March ARB 2018 AICUZ Noise Contours

7. IMPACTS – CEQA THRESHOLDS

CALIFORNIA ENVIRONMENTAL QUALITY ACT THRESHOLDS

The California Environmental Quality Act Guidelines (Appendix G) establishes thresholds for noise impact analysis. This noise study includes analysis of noise and vibration impacts necessary to assess the project in light of the following Appendix G Checklist Thresholds.

Would the project result in:

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?

Substantial increases in ambient noise levels are usually associated with project construction noise (temporary) and project operational noise (permanent).

Project Construction Noise (temporary): Construction noise sources are regulated within the City of Perris under Section 7.34.060 of the City's Municipal Code which prohibits construction activities other than between the hours of 7:00 AM and 7:00 PM. Construction activities are not permitted on a legal holiday, with the exception of Columbus Day and Washington's Birthday, or on Sundays. Section 7.34.060 also prohibits construction activity from exceeding 80 dBA L_{max} in residential zones within the City.

Project Operational Noise (permanent):

On-site:
Noise standards that apply to on-site operational noise as discussed in Section 4 of this report are as follows:

- The project may result in a significant impact if it results in maximum noise events that exceed 80 dBA Lmax from 7:01 AM to 10:00 PM or 60 dBA L_{max} from 10:01 PM to 7:00 AM at the property line of any residential neighborhood (City of Perris Ordinance 7.34.040.)

Off-site:
For off-site project generated noise, increases in ambient noise could occur along affected roadways due to project generated vehicle traffic. The proposed project site is located within the PVCCSP planning area of the City of Perris. The PVCCSP was adopted by the City of Perris on January 12, 2012 (Ordinance No. 1284). Environmental impacts resulting from implementation of allowed development under the PVCCSP have been evaluated in the Perris Valley Commerce Center Specific Plan Final Environmental Impact Report (PVCCSP EIR) (State Clearinghouse No. 2009081086), which was certified by the City of Perris in January 2012. The PVCCSP EIR is a program EIR and project-specific evaluations in later-tier environmental documents for individual development projects within the Specific Plan area was anticipated.

Pursuant to the PVCCSP EIR, project roadway noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development.

When the resulting noise levels at noise-sensitive land uses (e.g., residential, etc.):

1. are less than 60 dBA CNEL and the project creates a 5 dBA CNEL or greater Project-related level increase: or

2. exceed 60 dBA CNEL and the project creates a 3 dBA CNEL or greater project-related noise level increase.

b) Generate excessive groundborne vibration or groundborne noise levels?

As shown in Table 12, the threshold at which there is a risk to "architectural" damage to historic and some older buildings is a peak particle velocity (PPV) of 0.25 in/sec, at older residential structures a PPV of 0.3 in/sec, and at new residential structures a PPV of 0.5 in/sec. Table 11 shows that, in regards to vibrational annoyance, groundborne vibration becomes distinctly perceptible at a PPV of 0.04 in/sec, strongly perceptible at a PPV of 0.1 in/sec, and severe at a PPV of 0.4 in/sec. Impacts would be significant if construction activities result in groundborne vibration of 0.25 in/sec PPV or higher at a sensitive receptor. Impacts related to annoyance would be considered significant if the groundborne vibration exceeded 0.4 in/sec., occurs outside of the allowed hours for construction activities, per City Code 7.34.060, or affects the operation of sensitive equipment.

IMPACT ANALYSIS

Will the project result in the:

7) *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?*

Less Than Significant Impact:

Construction noise will vary depending on the construction process, type of equipment involved, location of the construction site with respect to sensitive receptors, the schedule proposed to carry out each task (e.g., hours and days of the week) and the duration of the construction work. Construction activities will occur in phases including grading, building construction, paving, and architectural coating. Assumptions for the phasing, duration, and required equipment for the construction of the proposed project were obtained from the project applicant. Construction activities are anticipated to begin no sooner than the beginning of April 2023 and be completed by the end of December 2023.

Construction noise associated with each phase of project construction associated with the proposed project was calculated utilizing methodology presented in the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (2018) together with several key construction parameters including: distance to each sensitive receiver, equipment usage, percent usage factor, and baseline parameters for the project site.

Section 7.34.060 of the City's municipal code prohibits construction activity from exceeding 80 dBA L_{max} in residential zones within the City. All land uses adjacent to or near the project site are zoned light industrial uses. The nearest residential zone is located approximately 680 feet south of the project site. Assuming that the loudest piece of equipment (grader) is located at the project's southern property line, maximum noise levels at this location may reach up to 62.3 dBA Lmax and will not exceed the City's criteria of 80 dBA Lmax.

Although not protected by City Ordinance criteria, the equivalent of the average noise level (Leq) associated with simultaneous operation of all equipment associated with each construction phase was modeled at properties that have existing residential uses but are not zoned for residential uses (non-conforming residential land uses). Because most all construction equipment is expected to move around the project site, combined noise levels were modeled from the center of the site, as is industry standard. Construction noise levels are expected to reach up to 71 dBA Leq at the residential use located to the southwest of the project site (2865 Redlands Avenue), 63 dBA Leq at the residential property lines located to the south of the project site along Placentia Avenue (561 Placentia Avenue), 55 dBA Leq at the residential uses located to the east/northeast of the project site along Clapper Street (3036 Clapper Street), and up to 58 dBA Leq at the residential uses located to the west of the project site along Lake View Drive (2865 Lake View Drive). Best Management

Practices listed in the Project Description Section of this report will be implemented in order to minimize noise levels at existing residential land uses.
Construction activities associated with the proposed project would take place within the allowable hours identified in Section 7.34.060 of the City of Perris Municipal Code and would not exceed the City's standard of 80 dBA Lmax in residential zone, and therefore, will not result in or generate 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.

Impacts would be less than significant, and no mitigation is required.

In addition to adherence to the City of Perris Municipal Code which limits the construction hours of operation, best management practices listed in the Project Description Section of this report will be implemented to minimize construction noise at nearby non-conforming residential land uses.

Off-Site Construction Noise

Construction truck trips would occur throughout the construction period. According to the FHWA, the traffic volumes need to be doubled in order to increase noise levels by 3 dBA CNEL.[10] The estimated existing average daily trips along Wilson Avenue in the vicinity of the project site are approximately 3,696 daily vehicle trips.[11] As shown in the CalEEMod output files provided in the Air Quality, Global Climate Change, HRA, and Energy Impact Analysis prepared for the proposed project (Ganddini Group, Inc., 2022), the greatest number of construction-related vehicle trips per day would be during building construction at up to 124 vehicle trips per day (89 for worker trips and 35 for vendor trips). Given the project site's proximity to the 215 Freeway, it is anticipated that vendor and/or haul truck traffic would take the most direct route to the appropriate freeway ramps. Therefore, the addition of project vendor/haul trucks and worker vehicles per day along off-site roadway segments would not be anticipated to result in a doubling of traffic volumes. Off-site project generated construction vehicle trips would result in a negligible noise level increase and would not result in a substantial increase in ambient noise levels. Impacts would be less than significant. No mitigation measures are required.

On-Site Operational Noise

Operational Noise Levels - CNEL

As shown on Figures 6 and 7 and in Table 8, project operational noise is expected to range between 30 and 41 dBA CNEL at nearby receptors. Project operation would not exceed the City's General Plan land use compatibility criteria of 60 dBA CNEL at adjacent residential land uses.
This impact would be less than significant. No mitigation is required.

Operational Noise Levels - Lmax

As discussed previously, Section 7.34.040 of the City's Noise Ordinance prohibits the generation of amplified sound (music and/or human voice) beyond the property line of the property from which the sound emanates that exceeds 80 dBA L_{max} from 7:01 AM to 10:00 PM or 60 dBA L_{max} from 10:01 PM to 7:00 AM at the property line of the property from which the sound emanates. Section 7.34.050 applies these noise standards to any noise in a residential neighborhood. A point noise source representative of larger truck venting air brakes (110 L_w) was utilized to model a maximum noise event near a sensitive receptor.

[10] Federal Highway Administration, Highway Noise Prediction Model, December 1978.

[11] Existing average daily traffic volumes along Wilson Avenue were calculated from the PM peak hour intersection traffic counts provided in Appendix C of the Focused Traffic Impact Analysis for FIR Wilson 2 Warehouse Development on Wilson Avenue (May 11, 2021). https://www.cityofperris.org/home/showpublisheddocument/14951/637781939223830000

As shown on Figure 8 and in Table 9, operational noise levels may reach up to 60 dBA L_{max} at the property line of the nearest sensitive receptor and would not exceed the daytime noise standard of 80 dBA L_{max} or the nighttime noise standard of 60 dBA L_{max}. As shown in Figure 8 and Table 9 project operational maximum noise events will not exceed existing measured maximum noise events. No mitigation is required.

During operation, the proposed project is expected to generate approximately 143 average daily trips with 15 trips during the AM peak-hour and 15 trips during the PM peak-hour.[13] Project generated vehicle noise along affected roadways was modeled utilizing a computer program that replicates the FHWA Traffic Noise Prediction Model FHWA-RD-77-108. Project generated vehicle trips are anticipated to increase noise levels between approximately 0 to 1.43 dB and would not result in significant increases in ambient noise levels. The impact would be less than significant. No mitigation is required.

b) Generation of excessive groundborne vibration of groundborne noise levels?

Less Than Significant Impact:

There are several types of construction equipment that can cause vibration levels high enough to cause architectural damage and/or annoyance to persons in the vicinity. For example, as shown in Table 10, a vibratory roller could generate up to 0.21 PPV at a distance of 25 feet; and operation of a large bulldozer (0.089 PPV) at a distance of 25 feet (two of the most vibratory pieces of construction equipment).

The Caltrans Transportation and Construction Vibration Guidance Manual (2020) provides a comprehensive discussion regarding groundborne vibration and the appropriate thresholds to use to assess the potential for damage. As shown in Table 12, the threshold at which there is a risk of "architectural" damage to historic structures is a peak particle velocity (PPV) of 0.25 in/sec, and a PPV of 0.3 in/sec at older residential structures. There is a risk of architectural damage at newer residential structures and modern commercial/industrial buildings at a PPV of 0.5 in/sec. In addition, the Caltrans Noise and Vibration Manual identifies a PPV of 0.4 in./sec. as the level that is "severe" (Table 11).

The closest off-site sensitive receptors are the residential uses located to the west and south, with associated structures located as close as approximately 438 feet to the west and 708 feet to the south of project property lines. At 438 feet, use of a vibratory roller would be expected to generate a PPV of 0.003 in/sec and a bulldozer would be expected to generate a PPV of 0.001 in/sec. Therefore, temporary vibration levels associated with project construction will not exceed the threshold for architectural damage to historic and some old buildings of 0.25 PPV in/sec. Impacts would be less than significant.

As shown in Table 11, in regard to annoyance, vibration becomes severe to people in buildings at a PPV of 0.4 in/sec. Impacts related to annoyance would be considered significant if the groundborne vibration exceeded 0.4 in/sec., occurs outside of the allowed hours for construction activities per City Code 7.34.060 or affects the operation of sensitive equipment. Construction activities would not cause severe vibration related annoyance at the closest sensitive receptors. Operation of equipment sensitive to low levels of groundborne vibration is unlikely in residential areas. Further, the construction activities are anticipated to comply with the allowed hours for operation outlined in City Code 7.34.060. Impacts from vibration related annoyance would be less than significant.

Operation of the proposed project will involve the movement of passenger vehicles and trucks. Driving surfaces associated with the project will be paved and will generally be smooth. Loaded trucks generally have a PPV of 0.076 at a distance of 25 feet (Caltrans 2020). Groundborne vibration levels associated with passenger vehicles is much lower. The movement of vehicles on the project site would not result in the

[13] Alternative 1 provided in the *LCI Wilson Warehouse Project Transportation Study Screening Assessment* (Ganddini Group Inc., May 5, 2022) has been utilized in this analysis as it provides for a worst-case scenario in regard to off-site traffic noise levels due to a larger number of truck trips.

generation of excessive groundborne vibration or groundborne noise. Impacts would be less than significant. No mitigation is required.

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 area to excessive noise levels?*

Less than Significant Impact:

The closest airport to the project site is the March Air Reserve Base/Inland Port Airport located approximately 3.12 miles to the northwest of the project site. Per the March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan (ALUCP) (2014), the project site is located within Compatibility Zone C1 (Primary Approach/Departure Zone). Exhibit N-3 of the Noise Element of the City's General Plan shows that the project site is located just within the airport's 60 dBA CNEL noise contour. In addition, Figure 4-2 of the more recent Final Air Installations Compatible Use Zones Study for March Air Reserve Base (Air Force Reserve Command) (AICUZ 2018) shows that the project site is located outside of the airport's 60 dBA CNEL noise contour. The 2018 AICUZ noise contour map is provided on Figure 9.

Per the 2018 AICUZ the Air Force provides planning contours–noise contours based on reasonable projections of future missions and operations. AICUZ studies using planning contours provide a description of the long-term (5-10 year) aircraft noise environment for projected aircraft operations that is more consistent with the planning horizon used by State, tribal, regional and local planning bodies."

The proposed project is an 83,910 square foot industrial warehouse building. Neither the City of Perris Municipal Code nor the March Air Reserve Base Inland Port ALCUP establish airport noise criteria for industrial or warehouse land uses. Furthermore, as shown in Table MA-2, Basic Compatibility Criteria, of the March Air Reserve Base Inland Port ALCUP, industrial land uses are considered allowed uses within Zone C1.

The total square footage proposed by the project includes approximately 8,000 square feet of associated office use. Section 19.51.080 of the City's Municipal Code includes a requirement of 45 dBA CNEL for office space. Section 19.51.080 of the City's Code further states that standard building construction is presumed to provide adequate sound attenuation where the difference between the exterior noise exposure and the interior noise standard is 20 dB or less. Per the Final AICUZ (2018), the project site is located outside of the airport's 60 dBA CNEL noise contour. Therefore, with standard building construction, the associated office use would not be anticipated to have airport related noise levels exceeding 45 dBA CNEL.

The project would not expose people residing or working in the project area to excessive noise levels associated with airports. This impact would be less than significant. No mitigation is required.

8. REFERENCES

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2020 Transportation and Construction Vibration Guidance Manual. April.

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2019 Chapter 12, Section 1206.4 Allowable Interior Noise Levels

Environmental Protection Agency
1974 "Information on Levels of Environmental Noise Requisite to Protect Public Health And Welfare with an Adequate Margin of Safety," EPA/ONAC 550/9-74-004, March 1974.

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2006 FHWA Roadway Construction Noise Model User's Guide. January.

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APPENDICES

Appendix A List of Acronyms
Appendix B Glossary
Appendix C Noise Measurement Field Worksheets
Appendix D Construction Noise Modeling
Appendix E FHWA Worksheets
Appendix F SoundPLAN Input and Output
Appendix G Vibration Worksheets

APPENDIX A

LIST OF ACRONYMS

Term	Definition
ADT	Average Daily Traffic
ANSI	American National Standard Institute
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
D/E/N	Day / Evening / Night
dB	Decibel
dBA or dB(A)	Decibel "A-Weighted"
dBA/DD	Decibel per Double Distance
dBA L_{eq}	Average Noise Level over a Period of Time
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
L_{02},L_{08},L_{50},L_{90}	A-weighted Noise Levels at 2 percent, 8 percent, 50 percent, and 90 percent, respectively, of the time period
DNL	Day-Night Average Noise Level
$L_{eq(x)}$	Equivalent Noise Level for '"x" period of time
L_{eq}	Equivalent Noise Level
L_{max}	Maximum Level of Noise (measured using a sound level meter)
L_{min}	Minimum Level of Noise (measured using a sound level meter)
Lp	Sound pressure level
LOS C	Level of Service C
Lw	Sound Power Level
OPR	California Governor's Office of Planning and Research
PPV	Peak Particle Velocities
RCNM	Road Construction Noise Model
REMEL	Reference Energy Mean Emission Level
RMS	Root Mean Square

APPENDIX B

GLOSSARY

Term	Definition
Ambient Noise Level	The all-encompassing noise environment associated with a given environment, at a specified time, usually a composite of sound from many sources, at many directions, near and far, in which usually no particular sound is dominant.
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear.
CNEL	Community Noise Equivalent Level. CNEL is a weighted 24-hour noise level that is obtained by adding five decibels to sound levels in the evening (7:00 PM to 10:00 PM), and by adding ten decibels to sound levels at night (10:00 PM to 7:00 AM). This weighting accounts for the increased human sensitivity to noise during the evening and nighttime hours.
Decibel, dB	A logarithmic unit of noise level measurement that relates the energy of a noise source to that of a constant reference level; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
DNL, Ldn	Day Night Level. The DNL, or Ldn is a weighted 24-hour noise level that is obtained by adding ten decibels to sound levels at night (10:00 PM to 7:00 AM). This weighting accounts for the increased human sensitivity to noise during the nighttime hours.
Equivalent Continuous Noise Level, L_{eq}	A level of steady state sound that in a stated time period, and a stated location, has the same A-weighted sound energy as the time-varying sound.
Fast/Slow Meter Response	The fast and slow meter responses are different settings on a sound level meter. The fast response setting takes a measurement every 100 milliseconds, while a slow setting takes one every second.
Frequency, Hertz	In a function periodic in time, the number of times that the quantity repeats itself in one second (i.e., the number of cycles per second).
L_{02}, L_{08}, L_{50}, L_{90}	The A-weighted noise levels that are equaled or exceeded by a fluctuating sound level, 2 percent, 8 percent, 50 percent, and 90 percent of a stated time period, respectively.
L_{max}, L_{min}	Lmax is the RMS (root mean squared) maximum level of a noise source or environment measured on a sound level meter, during a designated time interval, using fast meter response. Lmin is the minimum level.
Offensive/ Offending/Intrusive Noise	The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of sound depends on its amplitude, duration, frequency, and time of occurrence, and tonal information content as well as the prevailing ambient noise level.
Root Mean Square (RMS)	A measure of the magnitude of a varying noise source quantity. The name derives from the calculation of the square root of the mean of the squares of the values. It can be calculated from either a series of lone values or a continuous varying function.

APPENDIX C

NOISE MEASUREMENT FIELD WORKSHEETS

Noise Measurement
Field Data

Project Name: LCI Wilson Warehouse, City of Perris. **Date:** May 24, 2022

Project #: 19515

Noise Measurement #: STNM1 Run Time: 15 minutes (1 x 15 minutess) **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 2865 Redlands Ave, Perris, CA 92571

Site Description (Type of Existing Land Use and any other notable features): Project Site: Empty lot bordered by Wilson Ave to east, vacant land to north, south, & west, and a single-family use to west. Noise Measurement Site: Redlands Ave to west, vacant land to north, single-family residential to east/southeast.

Weather: Clear skies, sunny. **Settings:** SLOW FAST

Temperature: 87 deg F **Wind:** 10 mph **Humidity:** 28% **Terrain:** Flat

Start Time: 1:27 PM **End Time:** 1:42 PM **Run Time:**

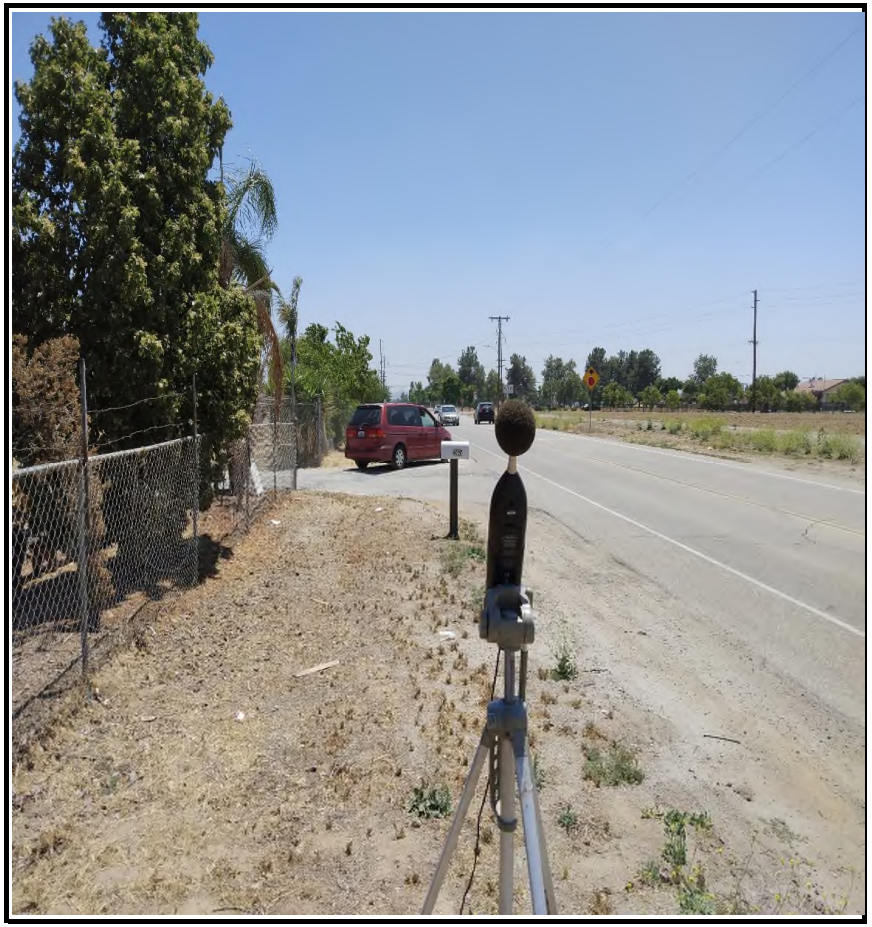
Leq:	69.5 dB	**Primary Noise Source:**	Traffic noise from the 126 vehicles traveling along Redlands Avenue.
Lmax	84.6 dB		Traffic ambiance from other roads
L2	76.3 dB	**Secondary Noise Sources:**	Leaf rustle from 10 mph breeze. Some residential ambiance.
L8	74.2 dB		Occasional overhead air traffic. March ARB to NNW.
L25	70.7 dB		
L50	63.8 dB		

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CA 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CA 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	11/17/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	5/24/2022		

Noise Measurement
Field Data

PHOTOS:

STNM1 looking ESE towards frontyard of residence 2865 Redlands Avenue, Perris.



STNM1 looking SSW along Redlands Avenue towards intersection with Placentia Ave. Residence 28645 Redlands Avenue, Perris on the left of image.

Summary	
File Name on Meter	LxT_Data.047.s
File Name on PC	LxT_0003099-20220524 132749-LxT_Data.047.ldbi
Serial Number	0003099
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	STNM1 33°49'29.31"N 117°13'2.08"W
Job Description	15 minute noise measurement (1 x 15 minutes)
Note	Ganddini 19515 LCI Wilson Warehouse , City of Perris

Measurement	
Description	
Start	2022-05-24 13:27:49
Stop	2022-05-24 13:42:49
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2022-05-24 13:27:32
Post-Calibration	None

Overall Settings	
RMS Weight	A Weighting
Peak Weight	Z Weighting
Detector	Slow
Preamplifier	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	Z Weighting
OBA Max Spectrum	Bin Max
Overload	125.3 dB

Results			
LAeq		69.5	
LAE		99.0	
EA		892.041	µPa²h
EA8		28.545	mPa²h
EA40		142.727	mPa²h
LZpeak (max)	2022-05-24 13:37:37	109.6	dB
LASmax	2022-05-24 13:32:05	84.6	dB
LASmin	2022-05-24 13:40:44	43.6	dB

		Statistics	
LCeq	75.0 dB	**LA2.00**	76.3 dB
LAeq	69.5 dB	**LA8.00**	74.2 dB
LCeq - LAeq	5.5 dB	**LA25.00**	70.7 dB
LAIeq	72.5 dB	**LA50.00**	63.8 dB
LAeq	69.5 dB	**LA66.60**	56.9 dB
LAIeq - LAeq	3.0 dB	**LA90.00**	46.3 dB
Overload Count	0		

Measurement Report

Report Summary

Meter's File Name	LxT_Data.047.s	Computer's File Name	LxT_0003099-20220524 132749-LxT_Data.047.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM1 33°49'29.31"N 117°13'2.08"W
Job Description	15 minute noise measurement (1 x 15 minutes)		
Note	Ganddini 19515 LCI Wilson Warehouse , City of Perris		
Start Time	2022-05-24 13:27:49	Duration	0:15:00.0
End Time	2022-05-24 13:42:49	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	69.5 dB		
LAE	99.0 dB	SEA	--- dB
EA	892.0 µPa²h	LAFTM5	75.6 dB
EA8	28.5 mPa²h		
EA40	142.7 mPa²h		
LZ_{peak}	109.6 dB	2022-05-24 13:37:37	
LAS_{max}	84.6 dB	2022-05-24 13:32:05	
LAS_{min}	43.6 dB	2022-05-24 13:40:44	
LA_{eq}	69.5 dB		
LC_{eq}	75.0 dB	LC_{eq} - LA_{eq}	5.5 dB
LAI_{eq}	72.5 dB	LAI_{eq} - LA_{eq}	3.0 dB

Exceedances	Count	Duration
LAS > 65.0 dB	50	0:07:40.2
LAS > 85.0 dB	0	0:00:00.0
LZpeak > 135.0 dB	0	0:00:00.0
LZpeak > 137.0 dB	0	0:00:00.0
LZpeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	--- dB	--- dB	0.0 dB

	LDEN	LDay	LEve	LNight
	--- dB	--- dB	--- dB	--- dB

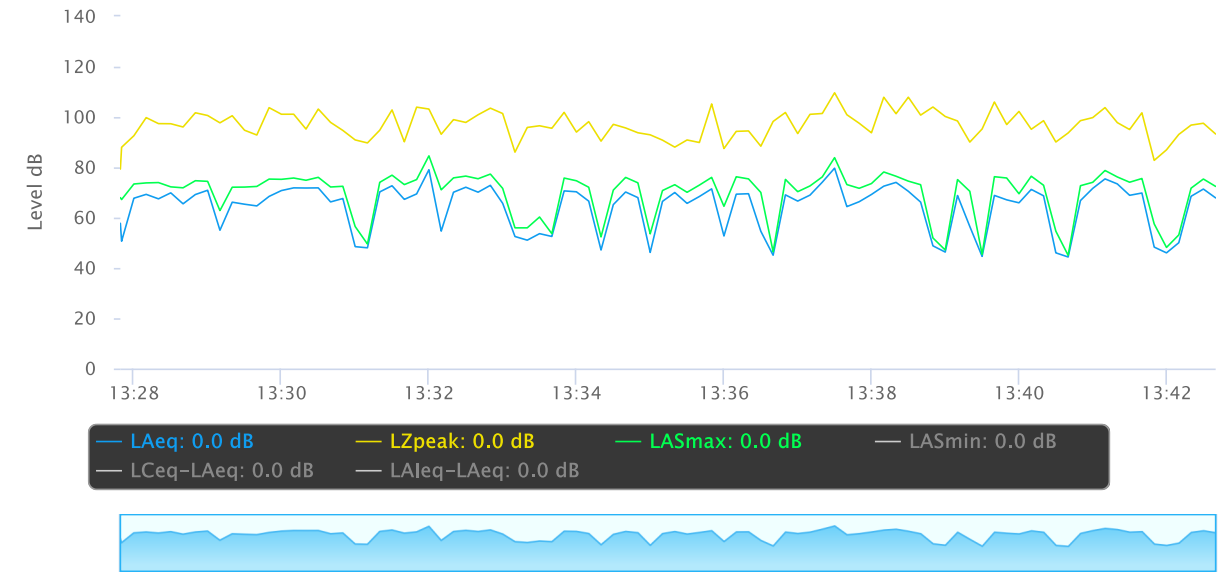
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	69.5 dB		75.0 dB		--- dB	
$L_{S(max)}$	84.6 dB	2022-05-24 13:32:05	--- dB		--- dB	
$L_{S(min)}$	43.6 dB	2022-05-24 13:40:44	--- dB		--- dB	
$L_{Peak(max)}$	--- dB		--- dB		109.6 dB	2022-05-24 13:37:37

Overloads	Count	Duration	OBA Count	OBA Duration
	0	0:00:00.0	0	0:00:00.0

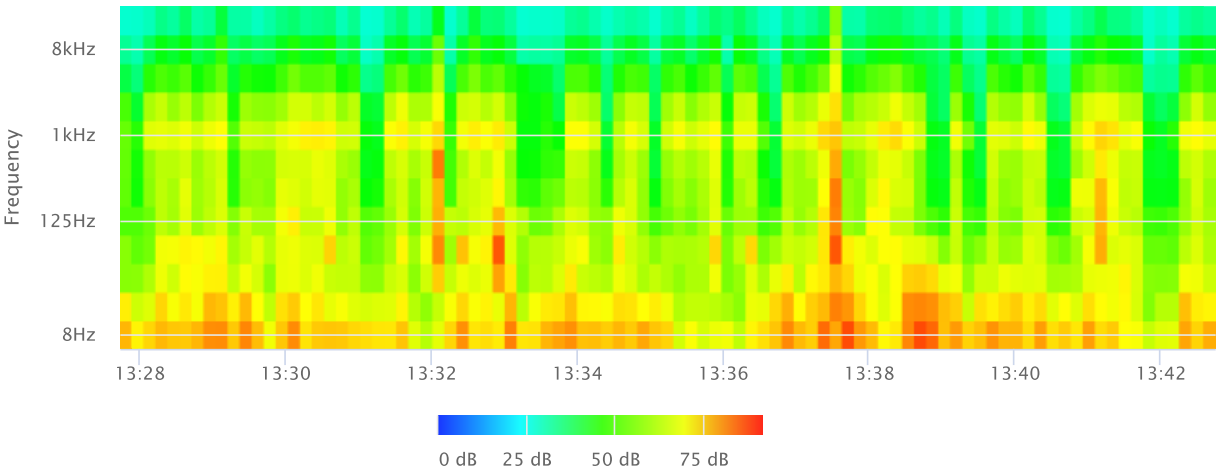
Statistics

LAS 2.0	76.3 dB
LAS 8.0	74.2 dB
LAS 25.0	70.7 dB
LAS 50.0	63.8 dB
LAS 66.6	56.9 dB
LAS 90.0	46.3 dB

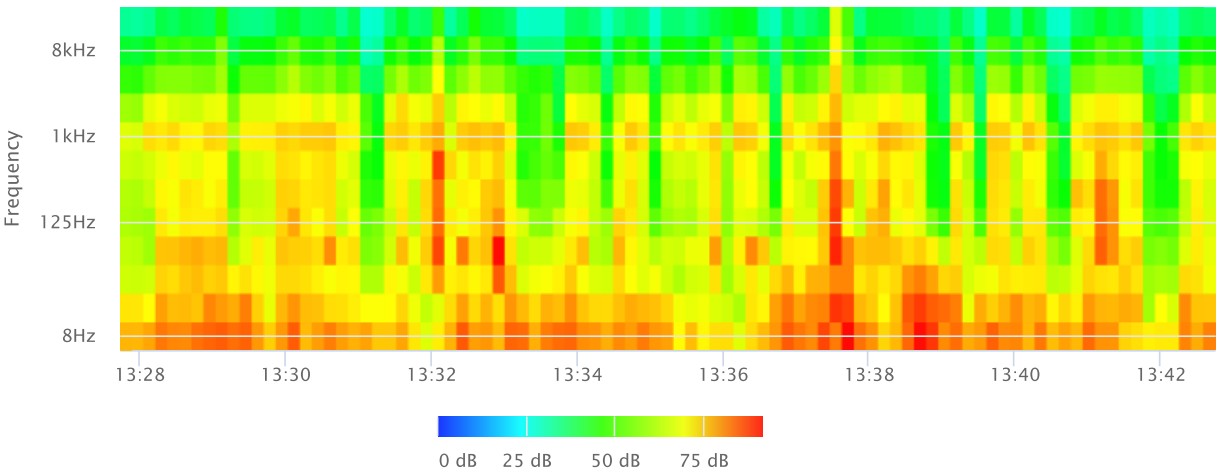
Time History



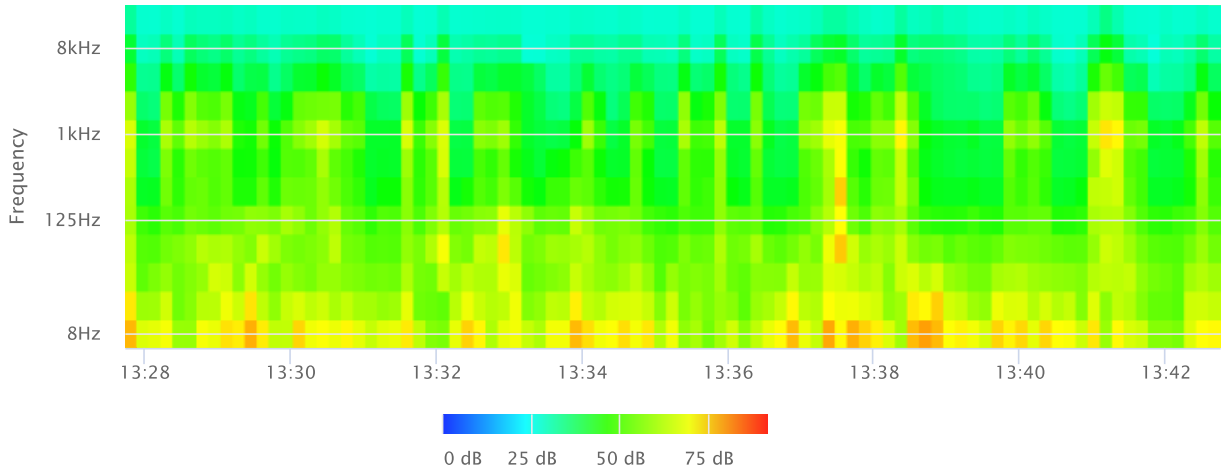
OBA 1/1 Leq



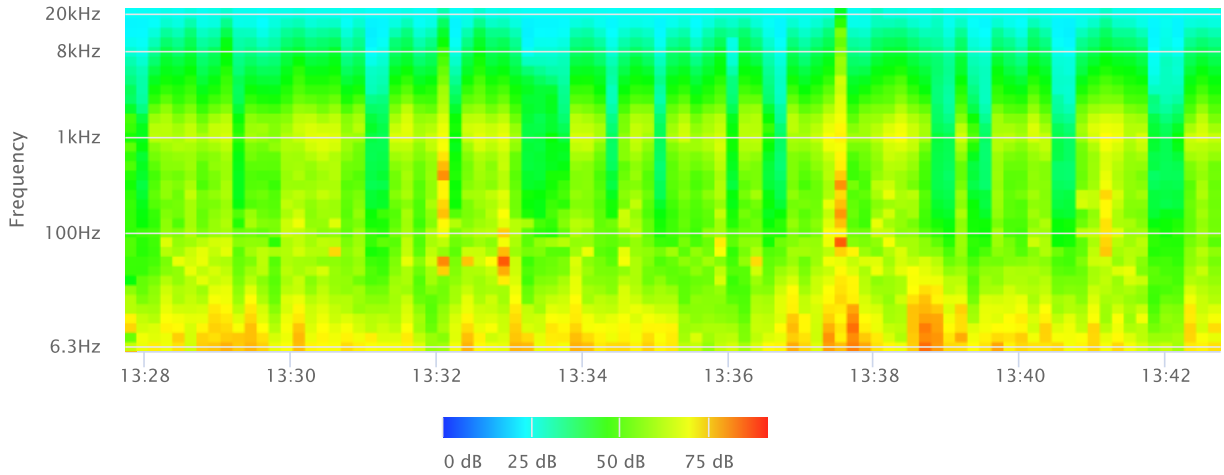
OBA 1/1 Lmax



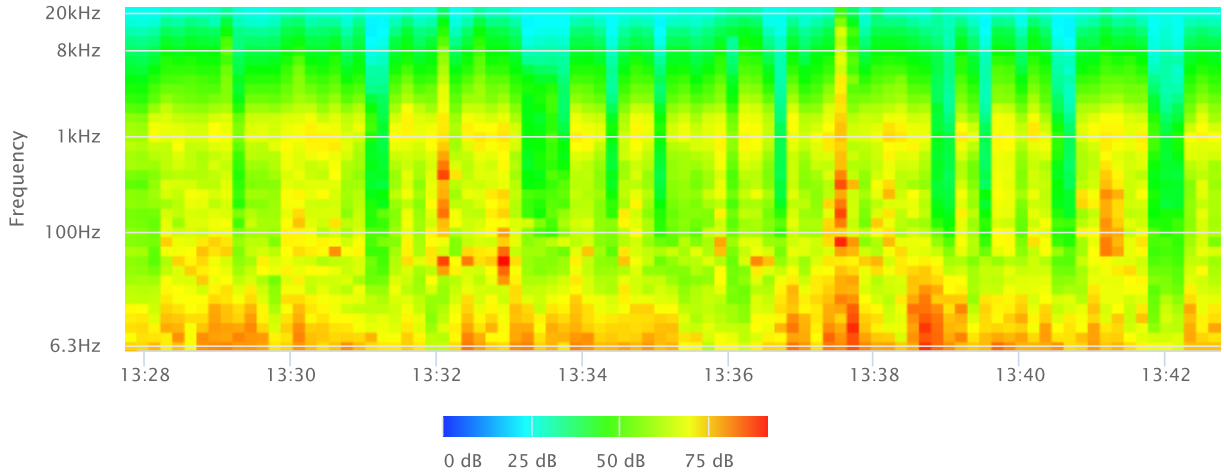
OBA 1/1 Lmin



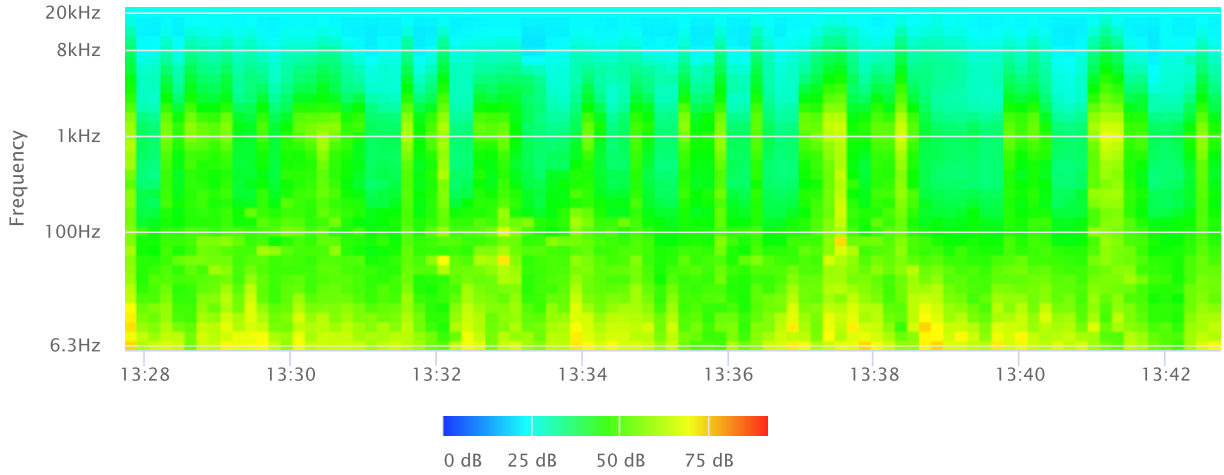
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
13:28
13:30
13:32
13:34
13:36
13:38
13:40
13:42
0 dB
25 dB
50 dB
75 dB

Noise Measurement
Field Data

Project Name: LCI Wilson Warehouse, City of Perris. **Date:** May 24, 2022

Project #: 19515

Noise Measurement #: STNM2 Run Time: 15 minutes (1 x 15 minutess) **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 2865 Lake View Drive, Perris, CA 92571

Site Description (Type of Existing Land Use and any other notable features): Project Site: Empty lot bordered by Wilson Ave to east, vacant land to north, south, & west, and a single-family use to west. Noise Measurement Site: Lake View Drive to West with single-family residential neighborhood surrouding.

Weather: Clear skies, sunny. **Settings:** SLOW FAST

Temperature: 87 deg F **Wind:** 10 mph **Humidity:** 28% **Terrain:** Flat

Start Time: 2:09 PM **End Time:** 2:24 PM **Run Time:**

Leq: 57.5 dB
Lmax 75.7 dB
L2 66.9 dB
L8 62.2 dB
L25 53.2 dB
L50 49.1 dB

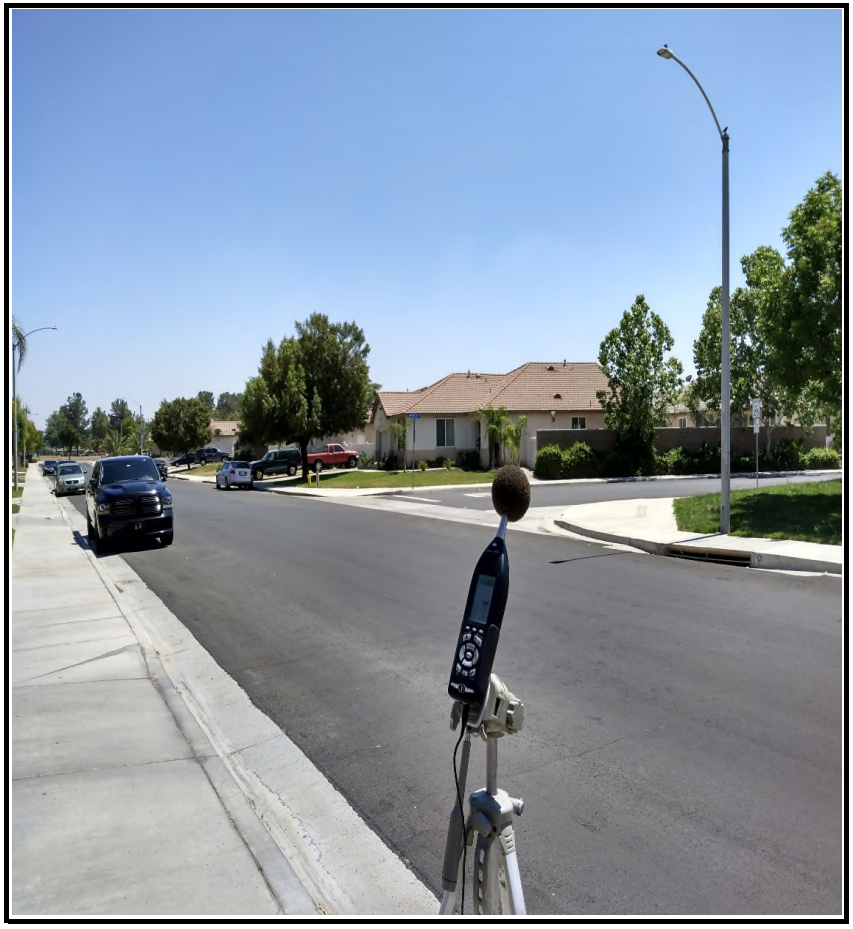
Primary Noise Source: Traffic noise from the 56 vehicles traveling along Placentia Avenue. Traffic ambiance from other roads.

Secondary Noise Sources: Leaf rustle from 10 mph breeze. Some residential ambiance. Bird song. Occasional overhead air traffic. March ARB to NNW.

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CA 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CA 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	11/17/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	5/24/2022		

Noise Measurement
Field Data

PHOTOS:



STNM2 looking S across Lake View Drive towards Sparkler Lane intersection.

STNM2 looking NE towards frontyard of residence 2865 Lake View Drive, Perris.

Summary	
File Name on Meter	LxT_Data.048.s
File Name on PC	LxT_0003099-20220524 140957-LxT_Data.04
Serial Number	3099
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	STNM2 33°49'29.19"N 117°13'10.51"W
Job Description	15 minute noise measurement (1 x 15 minutes)
Note	Ganddini 19515 LCI Wilson Warehouse , City of Perris

Measurement	
Start	2022-05-24 14:09:57
Stop	2022-05-24 14:24:57
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2022-05-24 14:09:44
Post-Calibration	None

Overall Settings	
RMS Weight	A Weighting
Peak Weight	Z Weighting
Detector	Slow
Preamplifier	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	Z Weighting
OBA Max Spectrum	Bin Max
Overload	123.2 dB

Results			
LAeq	57.5		
LAE	87.1		
EA	56.8785	µPa²h	
EA8	1.820112	mPa²h	
EA40	9.100559	mPa²h	
LZpeak (max)	2022-05-24 14:13:17	106.5	dB
LASmax	2022-05-24 14:13:19	75.7	dB
LASmin	2022-05-24 14:24:06	41.8	dB

			Statistics		
LCeq	70.7	dB	**LA2.00**	66.9	dB
LAeq	57.5	dB	**LA8.00**	62.2	dB
LCeq - LAeq	13.2	dB	**LA25.00**	53.2	dB
LAleq	60.4	dB	**LA50.00**	49.1	dB
LAeq	57.5	dB	**LA66.60**	47.2	dB
LAleq - LAeq	2.8	dB	**LA90.00**	45.3	dB
Overload Count	0				

Measurement Report

Report Summary

Meter's File Name	LxT_Data.048.s	Computer's File Name	LxT_0003099-20220524 140957-LxT_Data.048.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM2 33°49'29.19"N 117°13'10.51"W
Job Description	15 minute noise measurement (1 x 15 minutes)		
Note	Ganddini 19515 LCI Wilson Warehouse , City of Perris		
Start Time	2022-05-24 14:09:57	Duration	0:15:00.0
End Time	2022-05-24 14:24:57	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	57.5 dB		
LAE	87.1 dB	SEA	--- dB
EA	56.9 µPa²h	LAFTM5	63.6 dB
EA8	1.8 mPa²h		
EA40	9.1 mPa²h		
LZ_{peak}	106.5 dB	2022-05-24 14:13:17	
LAS_{max}	75.7 dB	2022-05-24 14:13:19	
LAS_{min}	41.8 dB	2022-05-24 14:24:06	
LA_{eq}	57.5 dB		
LC_{eq}	70.7 dB	LC_{eq} - LA_{eq}	13.2 dB
LAI_{eq}	60.4 dB	LAI_{eq} - LA_{eq}	2.8 dB

Exceedances	Count	Duration
LAS > 65.0 dB	15	0:00:51.7
LAS > 85.0 dB	0	0:00:00.0
LZpeak > 135.0 dB	0	0:00:00.0
LZpeak > 137.0 dB	0	0:00:00.0
LZpeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	--- dB	--- dB	0.0 dB

	LDEN	LDay	LEve	LNight
	--- dB	--- dB	--- dB	--- dB

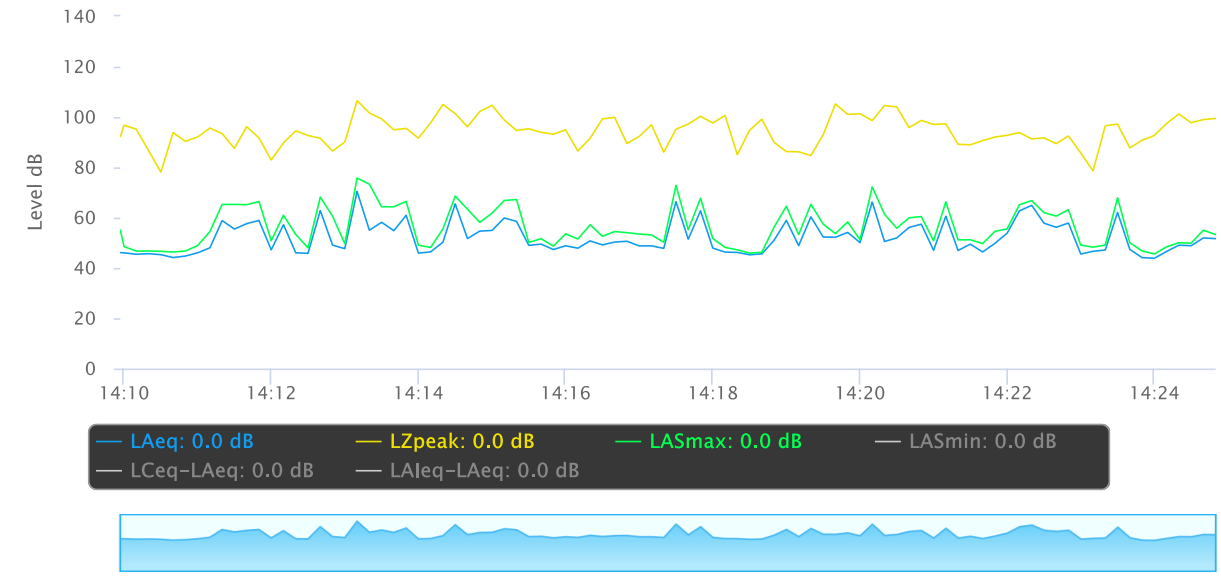
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	57.5 dB		70.7 dB		--- dB	
$L_{S(max)}$	75.7 dB	2022-05-24 14:13:19	--- dB		--- dB	
$L_{S(min)}$	41.8 dB	2022-05-24 14:24:06	--- dB		--- dB	
$L_{Peak(max)}$	--- dB		--- dB		106.5 dB	2022-05-24 14:13:17

Overloads	Count	Duration	OBA Count	OBA Duration
	0	0:00:00.0	0	0:00:00.0

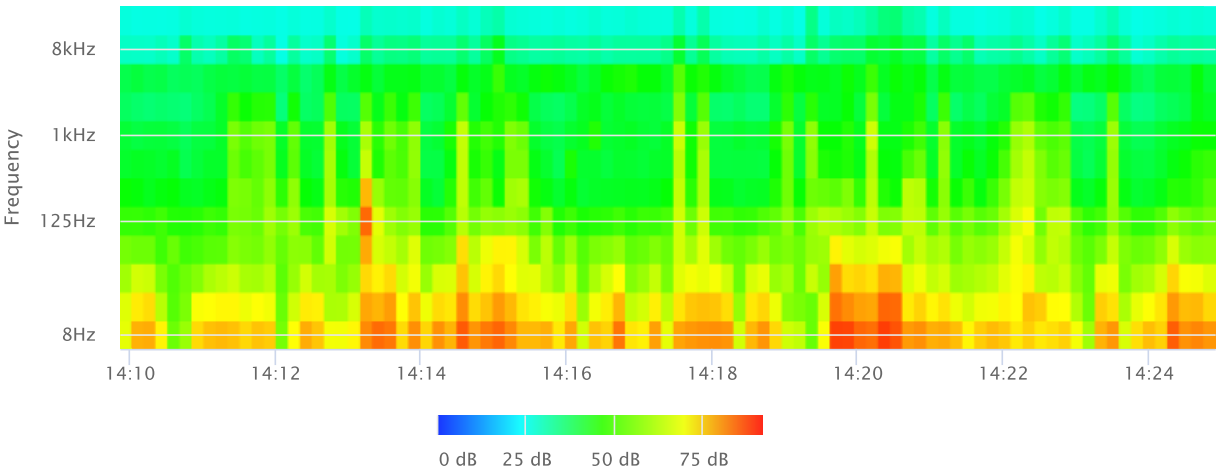
Statistics

LAS 2.0	66.9 dB
LAS 8.0	62.2 dB
LAS 25.0	53.2 dB
LAS 50.0	49.1 dB
LAS 66.6	47.2 dB
LAS 90.0	45.3 dB

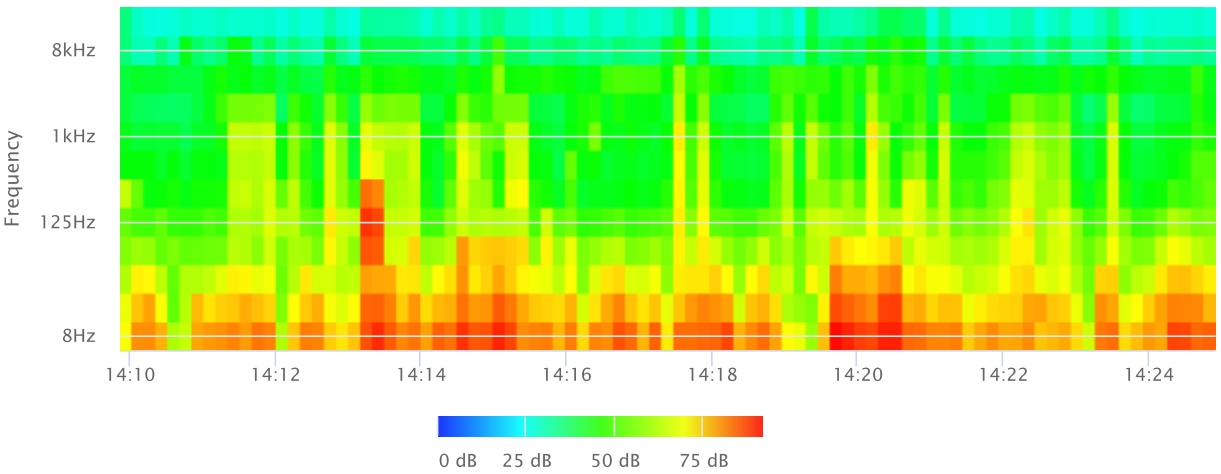
Time History



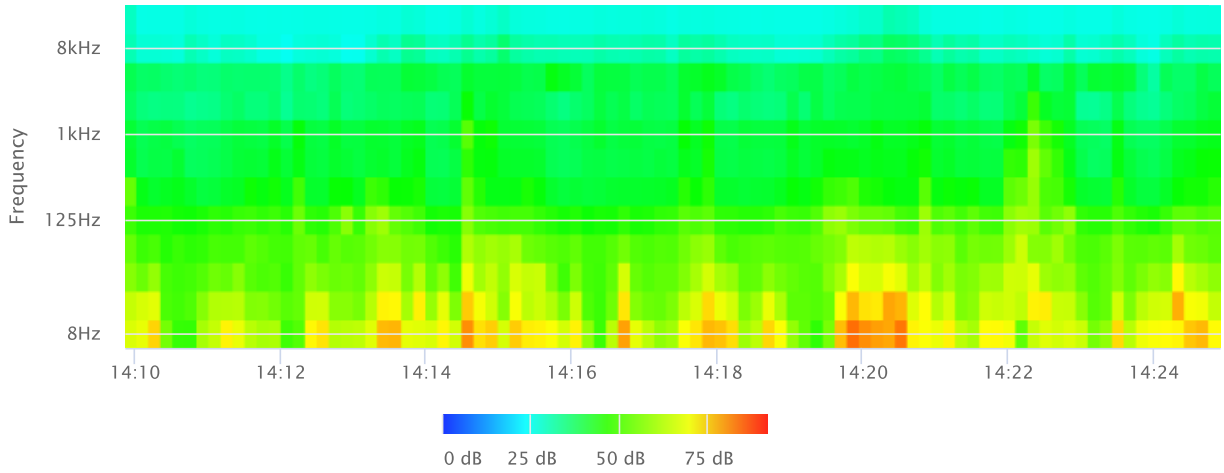
OBA 1/1 Leq



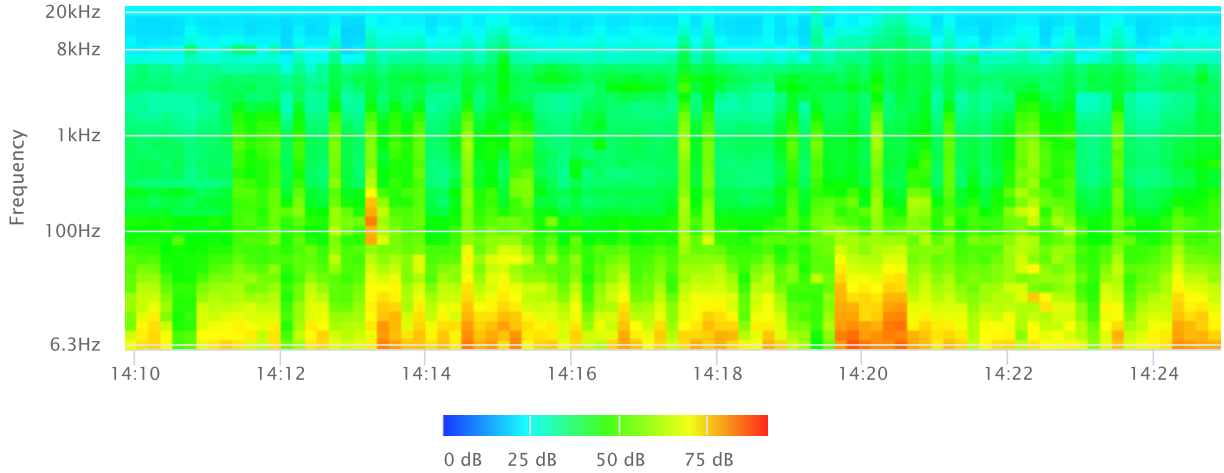
OBA 1/1 Lmax



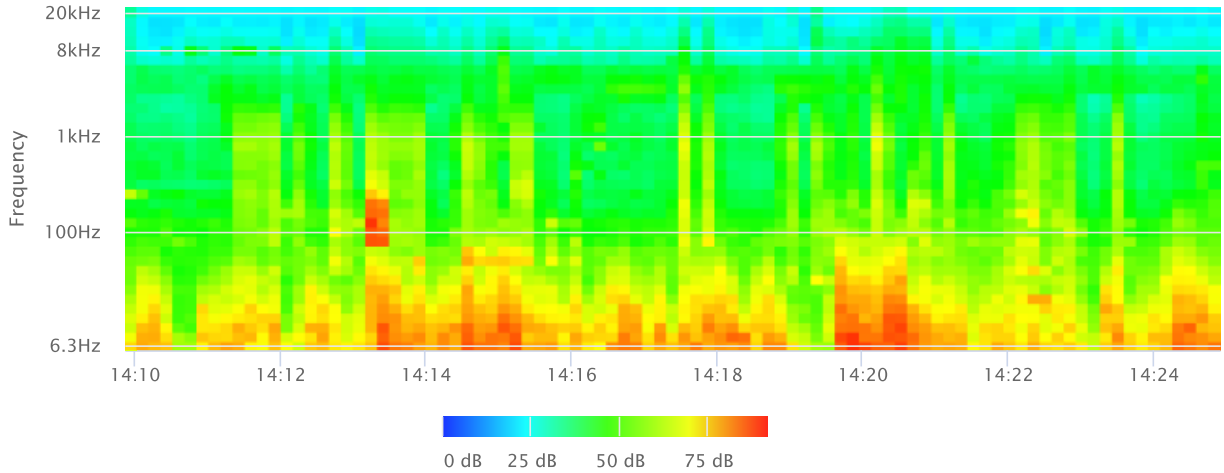
OBA 1/1 Lmin



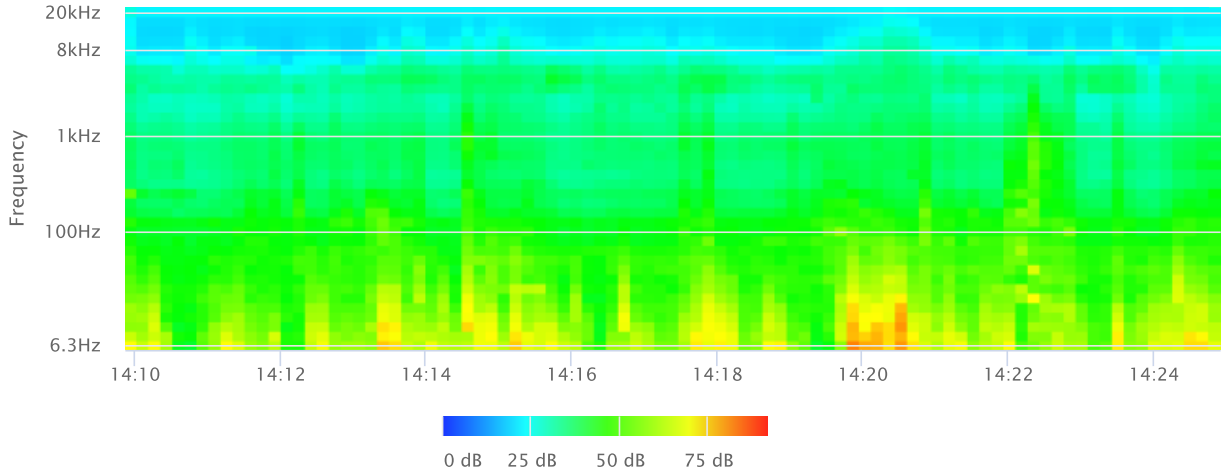
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
14:10
14:12
14:14
14:16
14:18
14:20
14:22
14:24
0 dB
25 dB
50 dB
75 dB

Noise Measurement
Field Data

Project Name: LCI Wilson Warehouse, City of Perris. **Date:** May 24, 2022

Project #: 19515

Noise Measurement #: STNM3 Run Time: 15 minutes (1 x 15 minutess) **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 561 Placentia Avenue, Perris, CA 92571

Site Description (Type of Existing Land Use and any other notable features): Project Site: Empty lot bordered by Wilson Ave to east, vacant land to north, south, & west, and a single-family use to west. Noise Measurement Site: Placentia Ave to north w/ vacant land further north & single-family residential to south.

Weather: Clear skies, sunny. **Settings:** SLOW FAST

Temperature: 87 deg F **Wind:** 10 mph **Humidity:** 28% **Terrain:** Flat

Start Time: 2:38 PM **End Time:** 2:53 PM **Run Time:**

Leq: 65.7 dB

Lmax 88.3 dB

L2 73.0 dB

L8 69.4 dB

L25 63.1 dB

L50 53.2 dB

Primary Noise Source: Traffic noise from the 56 vehicles traveling along Placentia Avenue. Traffic ambiance from other roads.

Secondary Noise Sources: Leaf rustle from 10 mph breeze. Some residential ambiance. Bird song. Occasional overhead air traffic. March ARB to NNW.

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CA 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CA 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	11/17/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	5/24/2022		

Noise Measurement
Field Data

PHOTOS:

STNM3 looking ENE along Pacentia Avenue towards Wilson Avenue.

STNM3 looking SW towards frontyard of residence 561 Placentia Avenue, Perris,

Summary	
File Name on Meter	LxT_Data.049.s
File Name on PC	LxT_0003099-20220524 143859-LxT_Data.049
Serial Number	3099
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	STNM3 33°49'22.39"N 117°12'50.14"W
Job Description	15 minute noise measurement (1 x 15 minutes)
Note	Ganddini 19515 LCI Wilson Warehouse , City of Perris

Measurement	
Start	2022-05-24 14:38:59
Stop	2022-05-24 14:53:59
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2022-05-24 14:38:34
Post-Calibration	None

Overall Settings	
RMS Weight	A Weighting
Peak Weight	Z Weighting
Detector	Slow
Preamplifier	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	Z Weighting
OBA Max Spectrum	Bin Max
Overload	123.2 dB

Results			
LA_{eq}		65.7	
LAE		95.3	
EA		373.4793	µPa²h
EA8		11.95134	mPa²h
EA40		59.75669	mPa²h
$LZ_{peak\ (max)}$	2022-05-24 14:52:10	111.9	dB
LAS_{max}	2022-05-24 14:50:06	88.3	dB
LAS_{min}	2022-05-24 14:46:55	43.9	dB

			Statistics	
LC_{eq}	75.2	dB	**LA2.00**	73.0 dB
LA_{eq}	65.7	dB	**LA8.00**	69.4 dB
LC_{eq} - LA_{eq}	9.5	dB	**LA25.00**	63.1 dB
LAI_{eq}	68.6	dB	**LA50.00**	53.2 dB
LA_{eq}	65.7	dB	**LA66.60**	50.6 dB
LAI_{eq} - LA_{eq}	2.9	dB	**LA90.00**	48.4 dB
Overload Count	0			

Measurement Report

Report Summary

Meter's File Name	LxT_Data.049.s	Computer's File Name	LxT_0003099-20220524 143859-LxT_Data.049.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM3 33°49'22.39"N 117°12'50.14"W
Job Description	15 minute noise measurement (1 x 15 minutes)		
Note	Ganddini 19515 LCI Wilson Warehouse , City of Perris		
Start Time	2022-05-24 14:38:59	Duration	0:15:00.0
End Time	2022-05-24 14:53:59	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	65.7 dB		
LAE	95.3 dB	SEA	--- dB
EA	373.5 µPa²h	LAFTM5	72.3 dB
EA8	12.0 mPa²h		
EA40	59.8 mPa²h		
LZ_{peak}	111.9 dB	2022-05-24 14:52:10	
LAS_{max}	88.3 dB	2022-05-24 14:50:06	
LAS_{min}	43.9 dB	2022-05-24 14:46:55	
LA_{eq}	65.7 dB		
LC_{eq}	75.2 dB	LC_{eq} - LA_{eq}	9.5 dB
LAI_{eq}	68.6 dB	LAI_{eq} - LA_{eq}	2.9 dB

Exceedances	Count	Duration
LAS > 65.0 dB	31	0:03:35.3
LAS > 85.0 dB	1	0:00:02.7
LZpeak > 135.0 dB	0	0:00:00.0
LZpeak > 137.0 dB	0	0:00:00.0
LZpeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	--- dB	--- dB	0.0 dB

	LDEN	LDay	LEve	LNight
	--- dB	--- dB	--- dB	--- dB

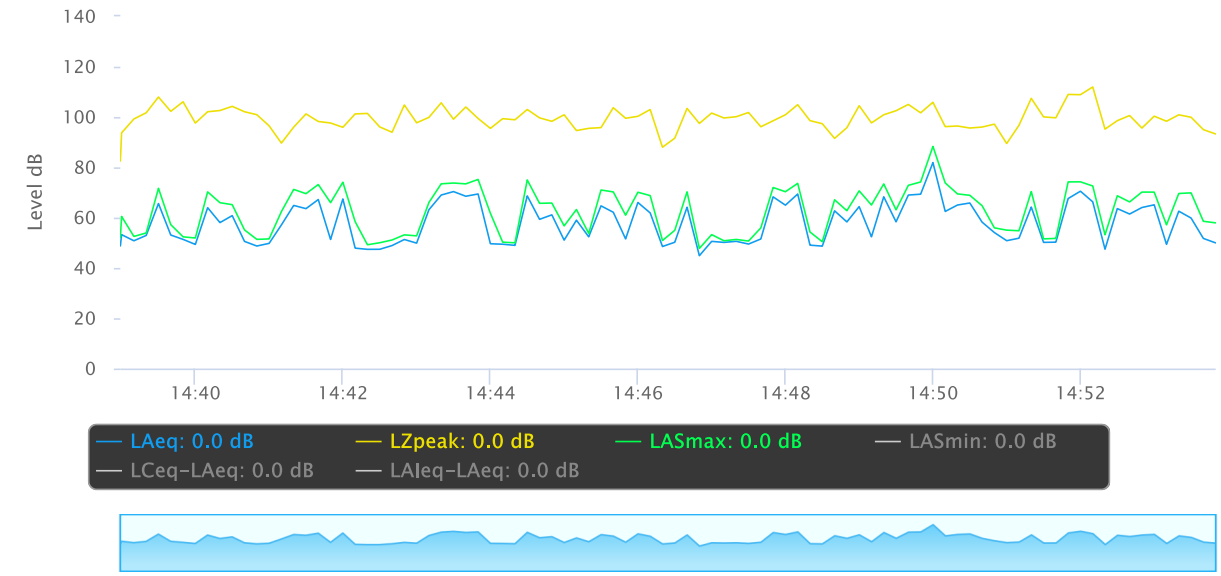
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	65.7 dB		75.2 dB		--- dB	
$L_{S(max)}$	88.3 dB	2022-05-24 14:50:06	--- dB		--- dB	
$L_{S(min)}$	43.9 dB	2022-05-24 14:46:55	--- dB		--- dB	
$L_{Peak(max)}$	--- dB		--- dB		111.9 dB	2022-05-24 14:52:10

Overloads	Count	Duration	OBA Count	OBA Duration
	0	0:00:00.0	0	0:00:00.0

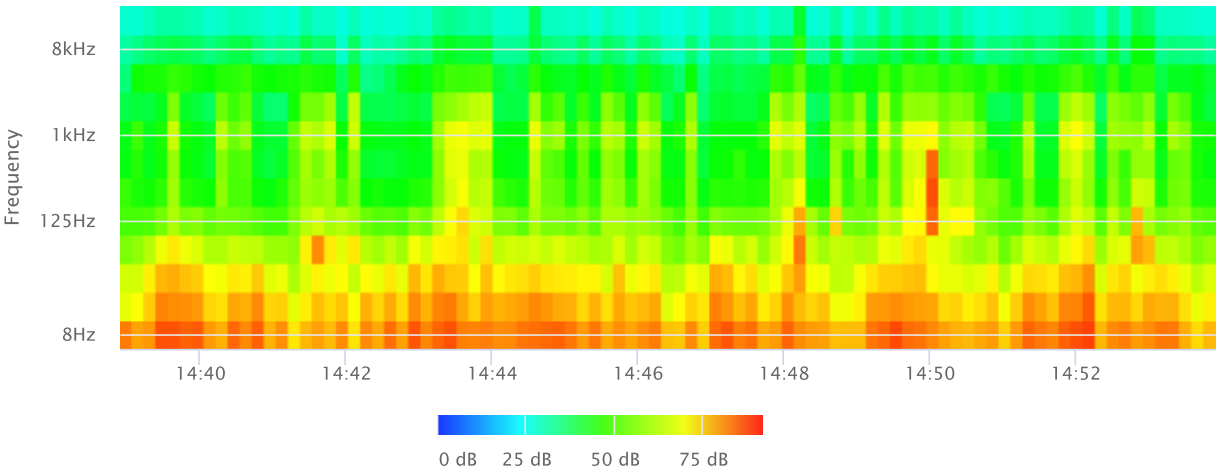
Statistics

LAS 2.0	73.0 dB
LAS 8.0	69.4 dB
LAS 25.0	63.1 dB
LAS 50.0	53.2 dB
LAS 66.6	50.6 dB
LAS 90.0	48.4 dB

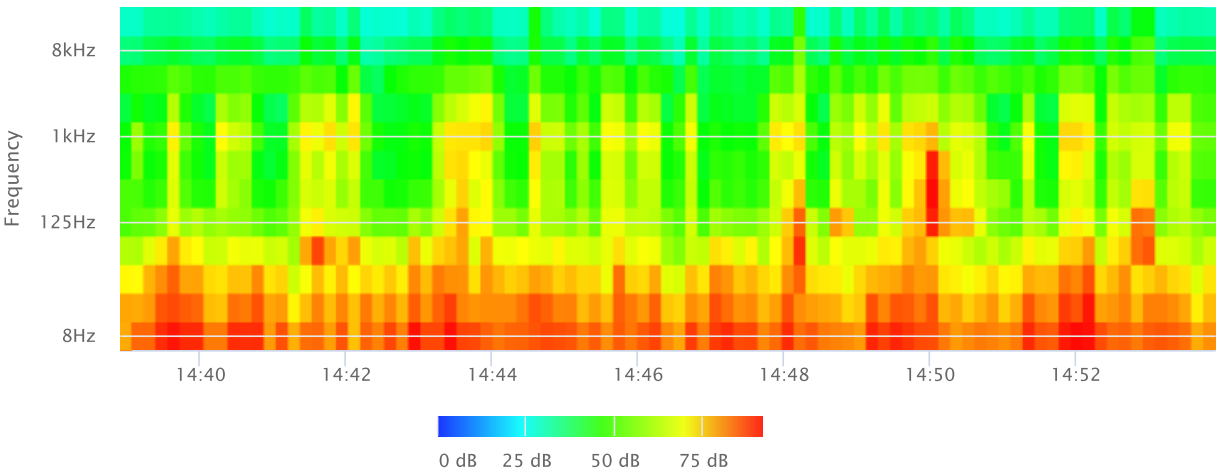
Time History



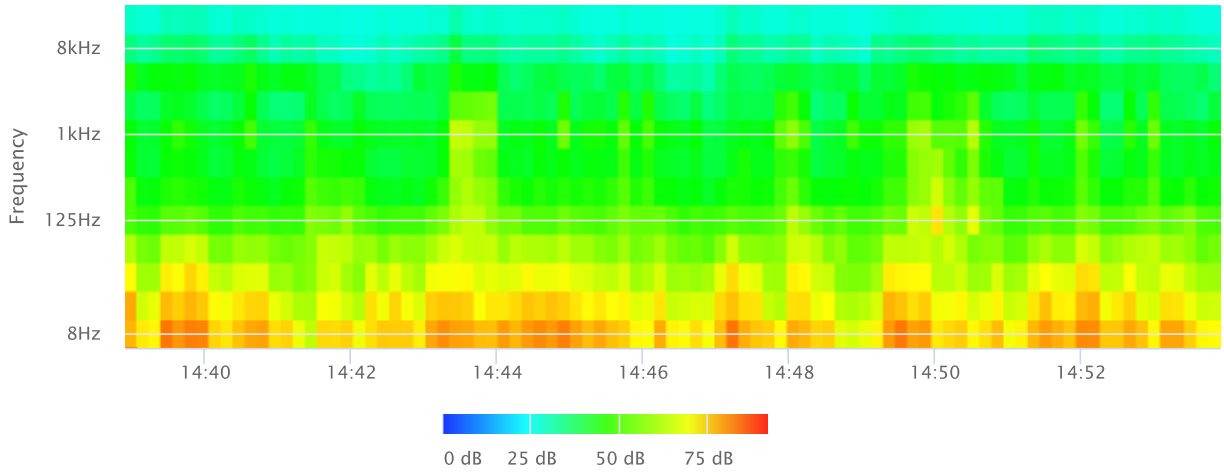
OBA 1/1 Leq



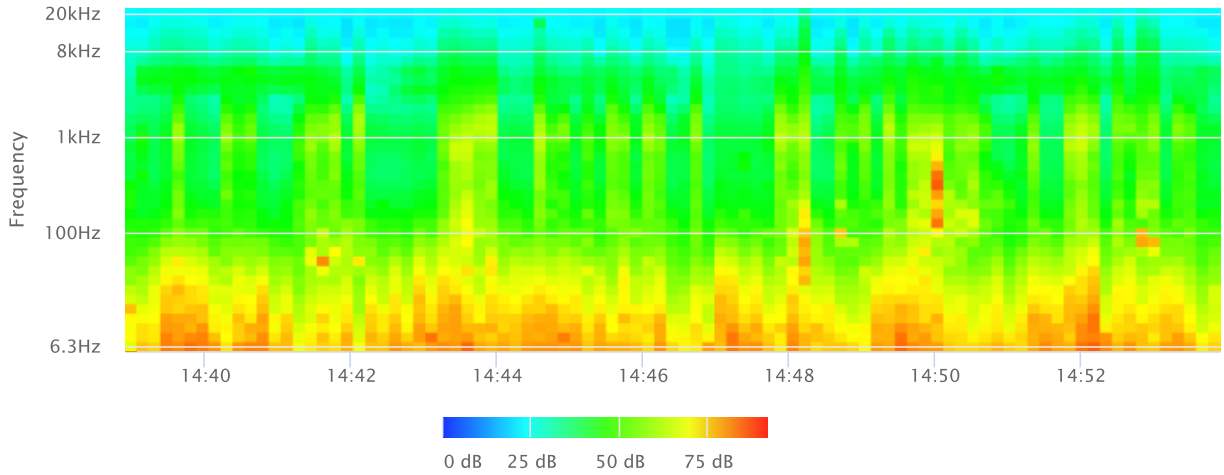
OBA 1/1 Lmax



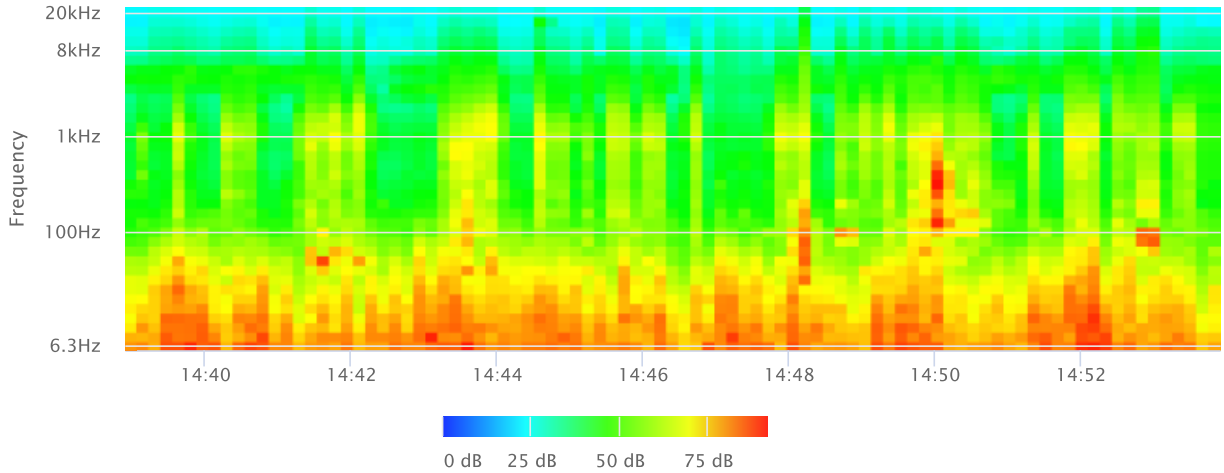
OBA 1/1 Lmin



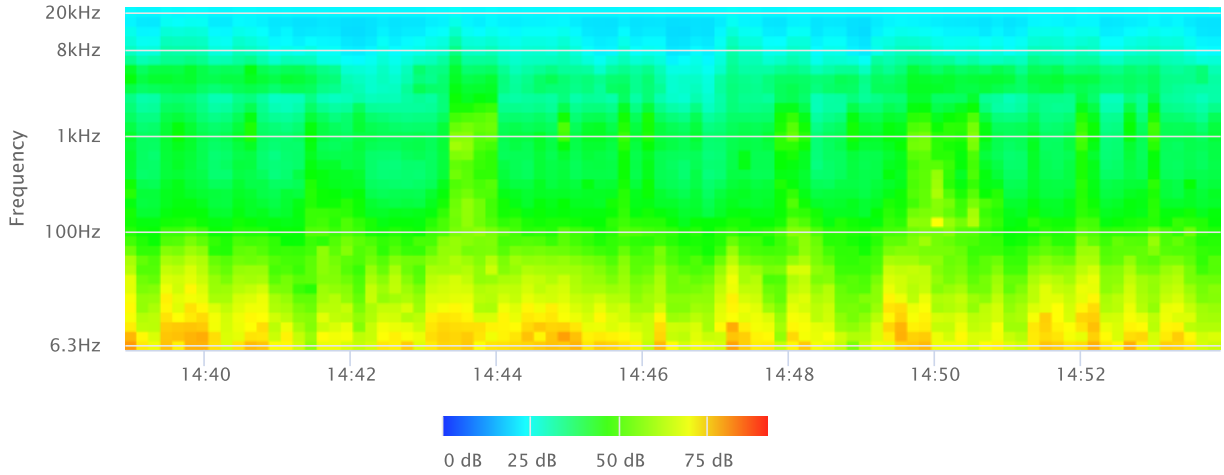
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
14:40
14:42
14:44
14:46
14:48
14:50
14:52
0 dB
25 dB
50 dB
75 dB

Noise Measurement
Field Data

Project Name: LCI Wilson Warehouse, City of Perris. **Date:** May 24, 2022

Project #: 19515

Noise Measurement #: STNM4 Run Time: 15 minutes (1 x 15 minutess) **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 3036 Clapper Street, Perris, CA 92571

Site Description (Type of Existing Land Use and any other notable features): Project Site: Empty lot bordered by Wilson Ave to east, vacant land to north, south, & west, and a single-family use to west. Noise Measurement Site: Clapper Street to east with single-family residential neighborhood surrounding.

Weather: Clear skies, sunny. **Settings:** SLOW FAST

Temperature: 87 deg F **Wind:** 10 mph **Humidity:** 28% **Terrain:** Flat

Start Time: 3:27 PM **End Time:** 3:42 PM **Run Time:**

Leq: 51.4 dB **Primary Noise Source:** Traffic ambiance from surrounding roads.

Lmax 65.3 dB

L2 59.9 dB **Secondary Noise Sources:** Leaf rustle from 10 mph breeze. Some residential ambiance. Bird song.

L8 55.2 dB Occasional overhead air traffic. March ARB to NNW.

L25 50.1 dB

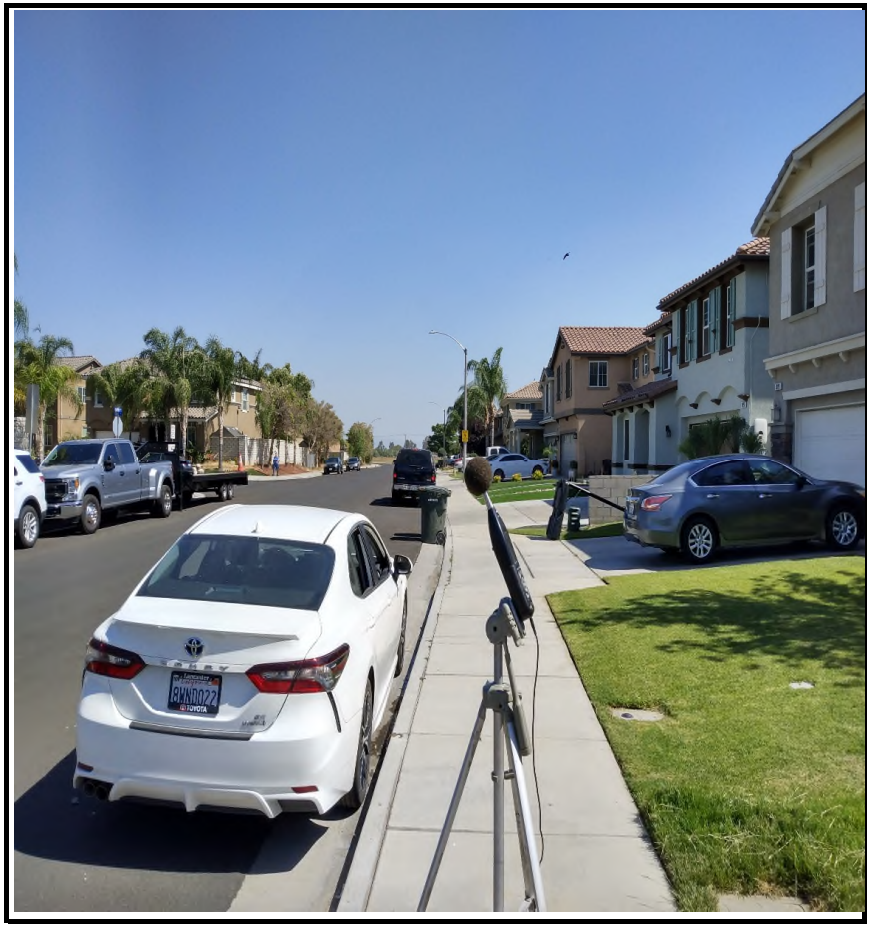
L50 48.0 dB

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CA 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CA 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	11/17/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	5/24/2022		

Noise Measurement
Field Data

PHOTOS:

STNM4 looking W towards frontyard of residence 3036 Clapper Street, Perris.



STNM4 looking S down Clapper St towards Towhee Lane intersection.

Summary	
File Name on Meter	LxT_Data.050.s
File Name on PC	LxT_0003099-20220524 152736-LxT_Data.050.ldb
Serial Number	3099
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	STNM4 33°49'34.36"N 117°12'26.44"W
Job Description	15 minute noise measurement (1 x 15 minutes)
Note	Ganddini 19515 LCI Wilson Warehouse , City of Perris

Measurement	
Start	2022-05-24 15:27:36
Stop	2022-05-24 15:42:36
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2022-05-24 15:27:20
Post-Calibration	None

Overall Settings	
RMS Weight	A Weighting
Peak Weight	Z Weighting
Detector	Slow
Preamplifier	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	Z Weighting
OBA Max Spectrum	Bin Max
Overload	123.1 dB

Results			
LA_{eq}	51.4		
LAE	81.0		
EA	13.89562	µPa²h	
EA8	444.6599	µPa²h	
EA40	2.2233	mPa²h	
$LZ_{peak\ (max)}$	2022-05-24 15:30:17	103.9	dB
LAS_{max}	2022-05-24 15:31:27	65.3	dB
LAS_{min}	2022-05-24 15:40:33	42.4	dB

			Statistics	
LC_{eq}	65.2	dB	**LA2.00**	59.9 dB
LA_{eq}	51.4	dB	**LA8.00**	55.2 dB
LC_{eq} - LA_{eq}	13.8	dB	**LA25.00**	50.1 dB
LAI_{eq}	56.0	dB	**LA50.00**	48.0 dB
LA_{eq}	51.4	dB	**LA66.60**	47.1 dB
LAI_{eq} - LA_{eq}	4.5	dB	**LA90.00**	45.5 dB
Overload Count	0			

Measurement Report

Report Summary

Meter's File Name	LxT_Data.050.s	Computer's File Name	LxT_0003099-20220524 152736-LxT_Data.050.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM4 33°49'34.36"N 117°12'26.44"W
Job Description	15 minute noise measurement (1 x 15 minutes)		
Note	Ganddini 19515 LCI Wilson Warehouse , City of Perris		
Start Time	2022-05-24 15:27:36	Duration	0:15:00.0
End Time	2022-05-24 15:42:36	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	51.4 dB		
LAE	81.0 dB	SEA	--- dB
EA	13.9 µPa²h	LAFTM5	57.2 dB
EA8	444.7 µPa²h		
EA40	2.2 mPa²h		
LZ_{peak}	103.9 dB	2022-05-24 15:30:17	
LAS_{max}	65.3 dB	2022-05-24 15:31:27	
LAS_{min}	42.4 dB	2022-05-24 15:40:33	
LA_{eq}	51.4 dB		
LC_{eq}	65.2 dB	LC_{eq} - LA_{eq}	13.8 dB
LAI_{eq}	56.0 dB	LAI_{eq} - LA_{eq}	4.5 dB

Exceedances	Count	Duration
LAS > 65.0 dB	1	0:00:02.0
LAS > 85.0 dB	0	0:00:00.0
LZpeak > 135.0 dB	0	0:00:00.0
LZpeak > 137.0 dB	0	0:00:00.0
LZpeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	--- dB	--- dB	0.0 dB

	LDEN	LDay	LEve	LNight
	--- dB	--- dB	--- dB	--- dB

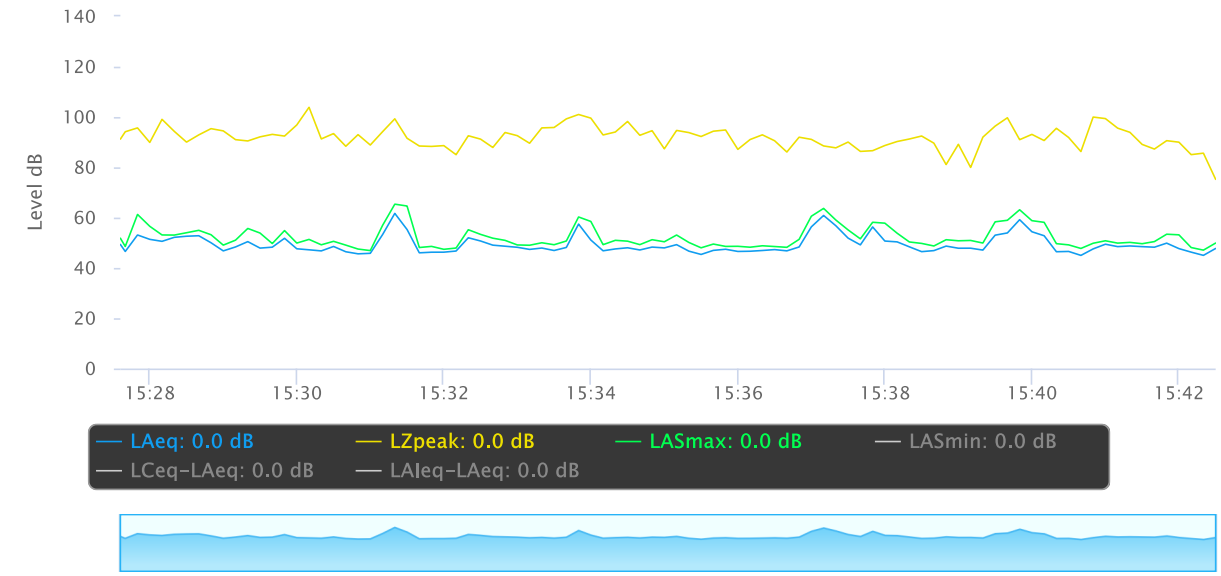
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	51.4 dB		65.2 dB		--- dB	
$L_{S(max)}$	65.3 dB	2022-05-24 15:31:27	--- dB		--- dB	
$L_{S(min)}$	42.4 dB	2022-05-24 15:40:33	--- dB		--- dB	
$L_{Peak(max)}$	--- dB		--- dB		103.9 dB	2022-05-24 15:30:17

Overloads	Count	Duration	OBA Count	OBA Duration
	0	0:00:00.0	0	0:00:00.0

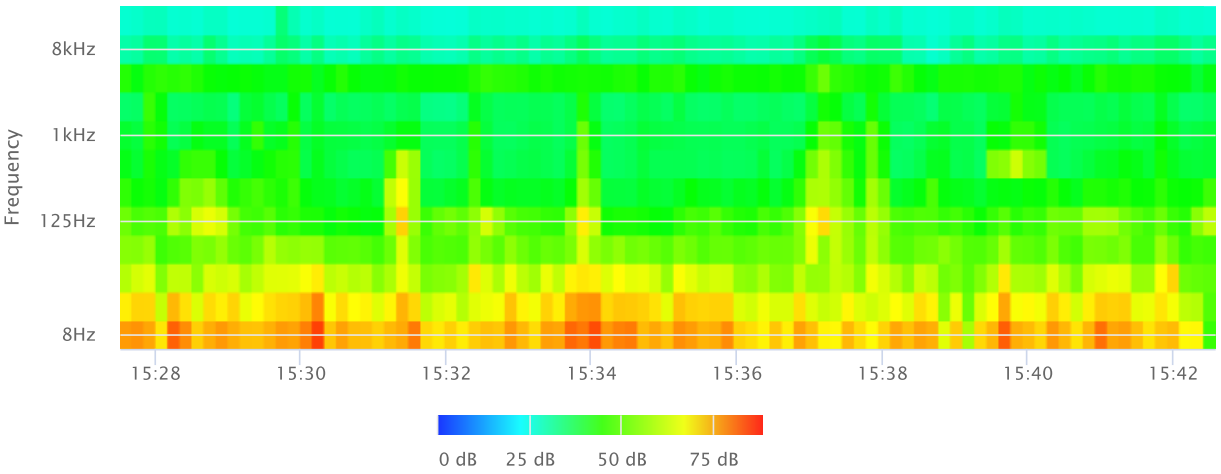
Statistics

LAS 2.0	59.9 dB
LAS 8.0	55.2 dB
LAS 25.0	50.1 dB
LAS 50.0	48.0 dB
LAS 66.6	47.1 dB
LAS 90.0	45.5 dB

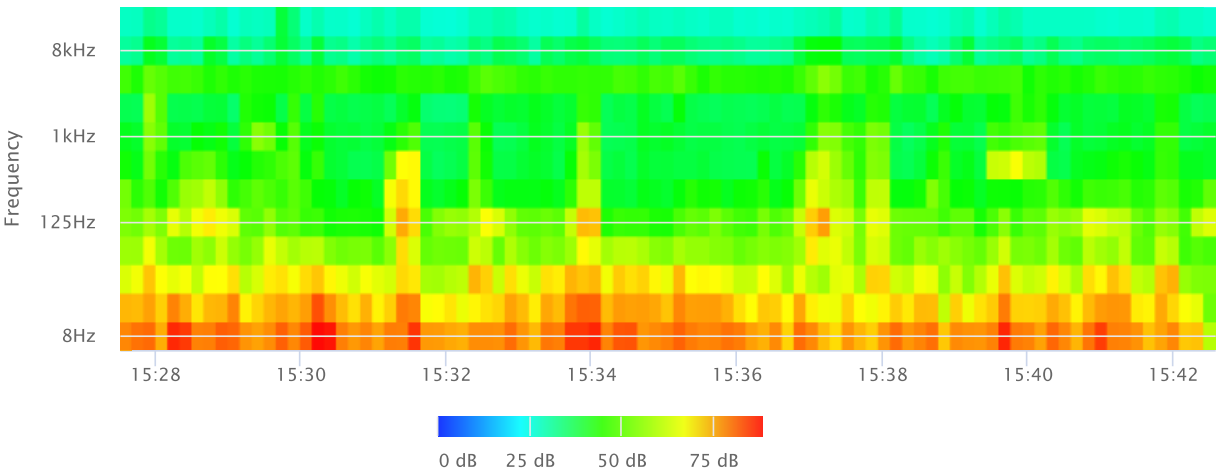
Time History



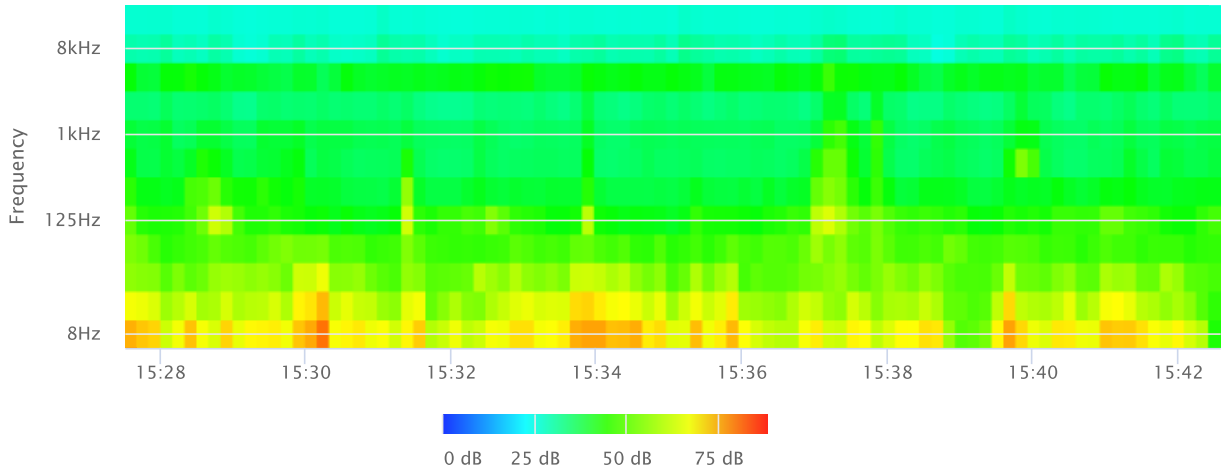
OBA 1/1 Leq



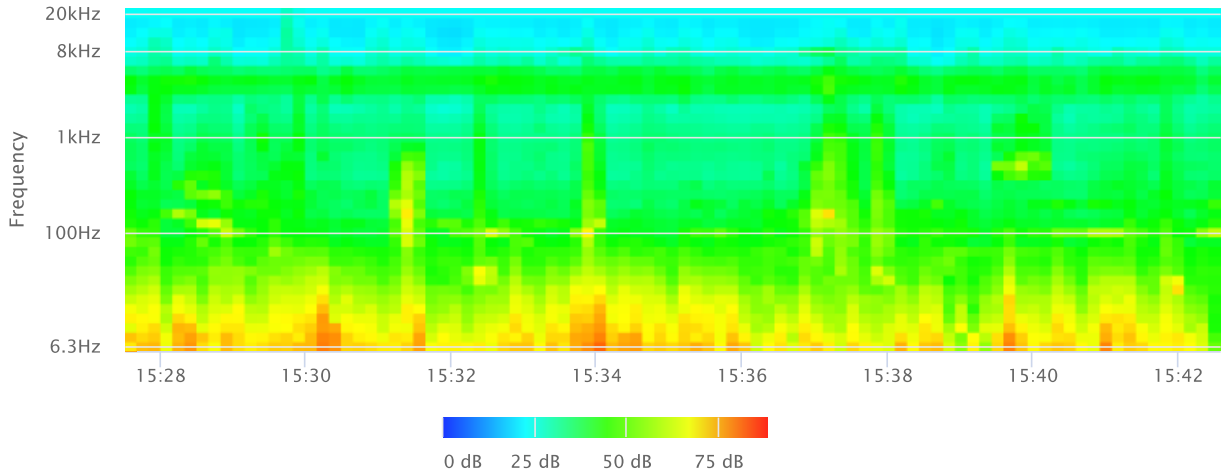
OBA 1/1 Lmax



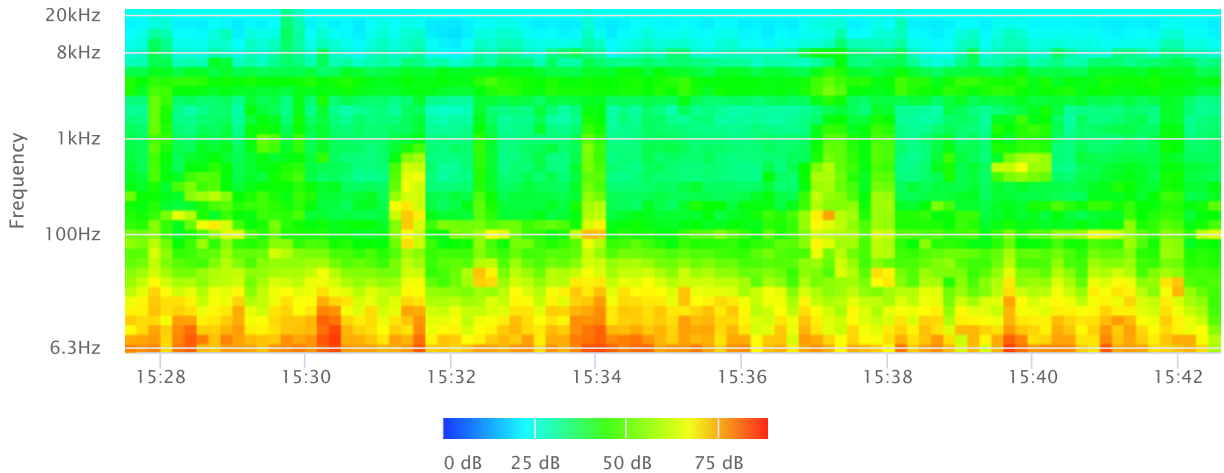
OBA 1/1 Lmin



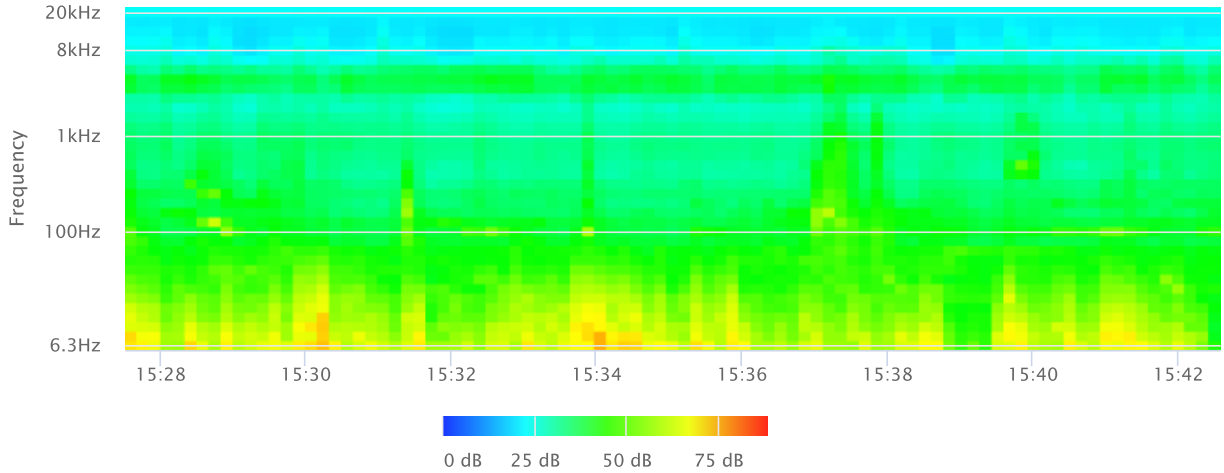
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
15:28
15:30
15:32
15:34
15:36
15:38
15:40
15:42
0 dB
25 dB
50 dB
75 dB

Noise Measurement
Field Data

Project Name: LCI Wilson Warehouse, City of Perris. **Date:** May 25 to 26, 2022

Project #: 19515

Noise Measurement #: LTNM1 Run Time: 24 hours (24 x 1 hours) **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 3125 Wilson Ave, Perris, CA 92571

Site Description (Type of Existing Land Use and any other notable features): Project Site: Empty lot bordered by Wilson Ave to east, vacant land to north, south, & west, and a single-family use to west. Noise Measurement Site: Vacant land to north, south, east and west with Wilson Ave further east and an industrial use to NE (across Wilson Ave).

Weather: Clear skies, sunnrise/set: 5:42AM/7:50PM **Settings:** SLOW FAST

Temperature: 62 -90 deg F **Wind:** 0-10 mph **Humidity:** 10-35% **Terrain:** Flat

Start Time: 1:00 PM **End Time:** 1:00 PM **Run Time:**

Leq: 50.9 dB **Primary Noise Source:** Vehicles traveling along Wilon Avenue, traffic ambiance from other roads.

Lmax 84 dB

L2 54.8 dB **Secondary Noise Sources:** Leaf rustle from 8 mph breeze. Bird song by day, crickets at night.

L8 50.8 dB Occasional overhead air traffic. March ARB to NNW.

L25 47.1 dB

L50 43.3 dB

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CA 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CA 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	11/17/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	5/25/2022		

Noise Measurement
Field Data

PHOTOS:

LTNM1 looking ENE towards Wilson Ave and building 3125 Wilson Ave.

LTNM1 aerial view showing location of microphone in relation to surrounding area.

Summary	
File Name on Meter	LxT_Data.051.s
File Name on PC	LxT_0003099-20220525 130000-LxT_Data.051.ldbi
Serial Number	0003099
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	33°49'32.14"N 117°12'52.19"W
Job Description	24 hour noise measurement (24 x 1 hours)
Note	Ganddini 19515 LCI Wilson Warehouse , City of Perris

Measurement	
Start	2022-05-25 13:00:00
Stop	2022-05-26 13:00:00
Duration	24:00:00.0
Run Time	24:00:00.0
Pause	00:00:00.0
Pre-Calibration	2022-05-25 12:43:54
Post-Calibration	None

Overall Settings	
RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	A Weighting
OBA Max Spectrum	Bin Max
Overload	122.9 dB

Results			
LA_{eq}	50.9		
LAE	100.3		
EA	1.177	mPa^2h	
EA8	392.384	μPa^2h	
EA40	1.962	mPa^2h	
$LA_{peak\ (max)}$	2022-05-25 20:21:02	102.5	dB
LAS_{max}	2022-05-25 20:21:04	84.0	dB
LAS_{min}	2022-05-25 13:32:00	25.8	dB

			Statistics		
LC_{eq}	66.2	dB	**LA2.00**	54.8	dB
LA_{eq}	50.9	dB	**LA8.00**	50.8	dB
LC_{eq} - LA_{eq}	15.3	dB	**LA25.00**	47.1	dB
LAI_{eq}	53.4	dB	**LA50.00**	43.3	dB
LA_{eq}	50.9	dB	**LA90.00**	37.5	dB
LAI_{eq} - LA_{eq}	2.5	dB	**LA99.00**	34.5	dB
Overload Count	0				

Record #	Date	Time	Run Duration	Run Time	Pause	LAeq	LASmin	LASmin Time	LASmax	LASmax Time	LAS2.00	LAS8.00	LAS25.00	LAS50.00	LAS90.00	LAS99.00
1	2022-05-25	13:00:00	01:00:00.0	01:00:00.0	00:00:00.0	51.9	25.8	13:32:00	71.4	13:06:36	56.9	53.9	51.9	50.1	47.3	45.3
2	2022-05-25	14:00:00	01:00:00.0	01:00:00.0	00:00:00.0	51.7	43.2	14:27:50	68.6	14:30:41	58.5	53.6	50.9	49.0	46.3	44.5
3	2022-05-25	15:00:00	01:00:00.0	01:00:00.0	00:00:00.0	50.1	42.8	15:56:15	61.9	15:59:43	54.6	52.7	50.9	49.4	46.8	44.5
4	2022-05-25	16:00:00	01:00:00.0	01:00:00.0	00:00:00.0	49.7	42.8	16:58:34	59.9	16:23:09	54.1	52.2	50.5	49.0	46.4	44.6
5	2022-05-25	17:00:00	01:00:00.0	01:00:00.0	00:00:00.0	48.7	39.5	17:55:00	60.8	17:46:33	54.5	51.7	49.2	47.4	44.3	42.0
6	2022-05-25	18:00:00	01:00:00.0	01:00:00.0	00:00:00.0	50.4	39.0	18:39:11	73.9	18:57:56	52.9	49.0	47.0	45.4	42.9	41.1
7	2022-05-25	19:00:00	01:00:00.0	01:00:00.0	00:00:00.0	53.9	38.8	19:59:15	74.0	19:23:51	64.0	53.0	47.1	44.7	41.7	39.9
8	2022-05-25	20:00:00	01:00:00.0	01:00:00.0	00:00:00.0	60.1	35.6	20:38:20	84.0	20:21:04	60.5	48.0	45.2	43.6	40.7	38.8
9	2022-05-25	21:00:00	01:00:00.0	01:00:00.0	00:00:00.0	54.3	36.5	21:28:18	75.5	21:41:07	64.9	54.0	45.2	42.9	40.0	38.2
10	2022-05-25	22:00:00	01:00:00.0	01:00:00.0	00:00:00.0	44.9	35.4	22:24:19	69.5	22:28:37	53.0	46.0	43.6	41.7	38.6	37.0
11	2022-05-25	23:00:00	01:00:00.0	01:00:00.0	00:00:00.0	47.7	32.9	23:56:31	71.8	23:01:07	50.4	45.1	42.3	40.3	36.7	34.1
12	2022-05-26	00:00:00	01:00:00.0	01:00:00.0	00:00:00.0	40.1	31.7	00:43:12	58.9	00:23:33	45.7	43.1	40.4	38.1	34.5	32.7
13	2022-05-26	01:00:00	01:00:00.0	01:00:00.0	00:00:00.0	39.6	32.6	01:00:22	50.3	01:06:16	44.8	42.7	40.2	38.5	35.9	33.8
14	2022-05-26	02:00:00	01:00:00.0	01:00:00.0	00:00:00.0	40.4	34.2	02:05:18	48.5	02:19:18	45.3	43.5	41.3	39.4	36.3	35.0
15	2022-05-26	03:00:00	01:00:00.0	01:00:00.0	00:00:00.0	40.4	33.6	03:29:00	55.6	03:44:43	44.9	43.2	41.2	39.5	36.4	34.4
16	2022-05-26	04:00:00	01:00:00.0	01:00:00.0	00:00:00.0	44.7	37.2	04:03:39	56.3	04:08:44	50.2	47.5	45.4	43.8	40.2	38.1
17	2022-05-26	05:00:00	01:00:00.0	01:00:00.0	00:00:00.0	45.7	39.3	05:26:41	63.3	05:09:57	49.7	47.6	46.0	44.7	42.5	40.8
18	2022-05-26	06:00:00	01:00:00.0	01:00:00.0	00:00:00.0	47.1	38.5	06:55:55	58.1	06:53:53	52.8	51.0	48.5	45.0	41.3	39.6
19	2022-05-26	07:00:00	01:00:00.0	01:00:00.0	00:00:00.0	45.1	37.2	07:53:39	57.7	07:19:40	52.2	49.1	45.4	42.5	39.5	38.3
20	2022-05-26	08:00:00	01:00:00.0	01:00:00.0	00:00:00.0	50.4	34.7	08:52:28	70.5	08:55:02	59.7	49.8	45.0	42.0	37.3	35.3
21	2022-05-26	09:00:00	01:00:00.0	01:00:00.0	00:00:00.0	52.0	34.0	09:51:56	76.8	09:42:18	58.6	48.9	42.6	39.3	36.0	34.7
22	2022-05-26	10:00:00	01:00:00.0	01:00:00.0	00:00:00.0	49.0	32.7	10:15:25	69.7	10:17:40	58.5	48.4	42.7	39.5	35.2	33.5
23	2022-05-26	11:00:00	01:00:00.0	01:00:00.0	00:00:00.0	49.3	33.6	11:56:42	72.3	11:23:15	54.6	46.8	43.1	40.4	36.6	34.4
24	2022-05-26	12:00:00	01:00:00.0	01:00:00.0	00:00:00.0	41.0	33.9	12:10:22	53.0	12:57:35	46.2	44.0	41.8	39.9	36.8	35.0

Measurement Report

Report Summary

Meter's File Name	LxT_Data.051.s	Computer's File Name	LxT_0003099-20220525 130000-LxT_Data.051.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	LTNM1 33°49'32.14"N 117°12'52.19"W
Job Description	24 hour noise measurement (24 x 1 hours)		
Note	Ganddini 19515 LCI Wilson Warehouse , City of Perris		
Start Time	2022-05-25 13:00:00	Duration	24:00:00.0
End Time	2022-05-26 13:00:00	Run Time	24:00:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	50.9 dB		
LAE	100.3 dB	SEA	--- dB
EA	1.2 mPa²h	LAFTM5	55.0 dB
EA8	392.4 µPa²h		
EA40	2.0 mPa²h		
LA_{peak}	102.5 dB	2022-05-25 20:21:02	
LAS_{max}	84.0 dB	2022-05-25 20:21:04	
LAS_{min}	25.8 dB	2022-05-25 13:32:00	
LA_{eq}	50.9 dB		
LC_{eq}	66.2 dB	LC_{eq} - LA_{eq}	15.3 dB
LAI_{eq}	53.4 dB	LAI_{eq} - LA_{eq}	2.5 dB

Exceedances

	Count	Duration
LAS > 65.0 dB	35	0:07:49.0
LAS > 85.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB

LDEN	LDay	LEve	LNight
--- dB	--- dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	50.9 dB		66.2 dB		--- dB	
$L_{S(max)}$	84.0 dB	2022-05-25 20:21:04	--- dB		--- dB	
$L_{S(min)}$	25.8 dB	2022-05-25 13:32:00	--- dB		--- dB	
$L_{Peak(max)}$	102.5 dB	2022-05-25 20:21:02	--- dB		--- dB	

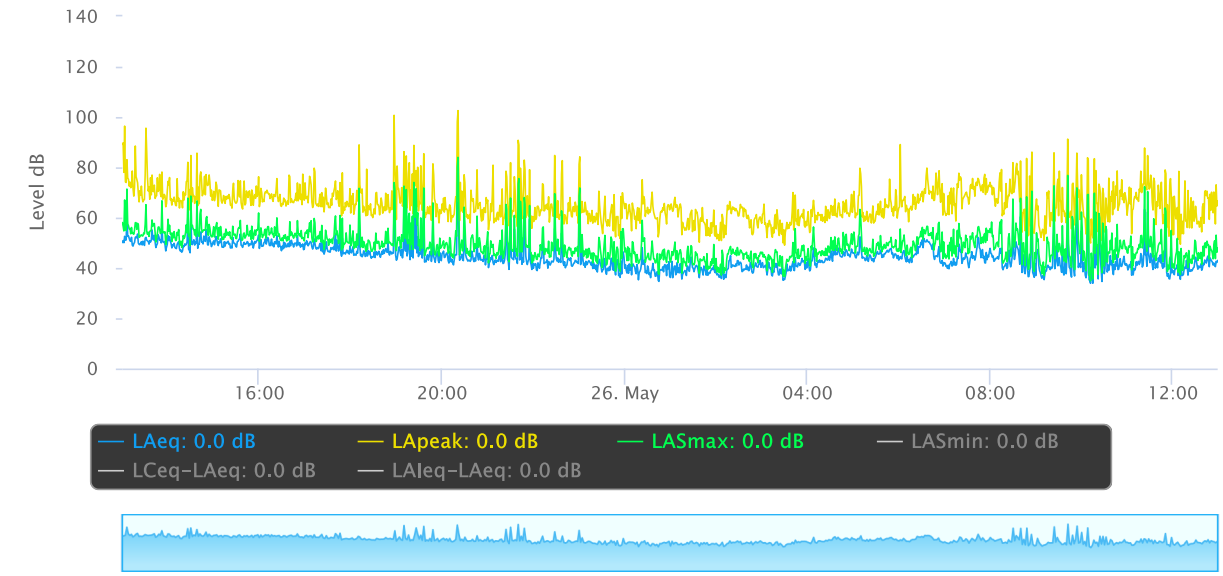
Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

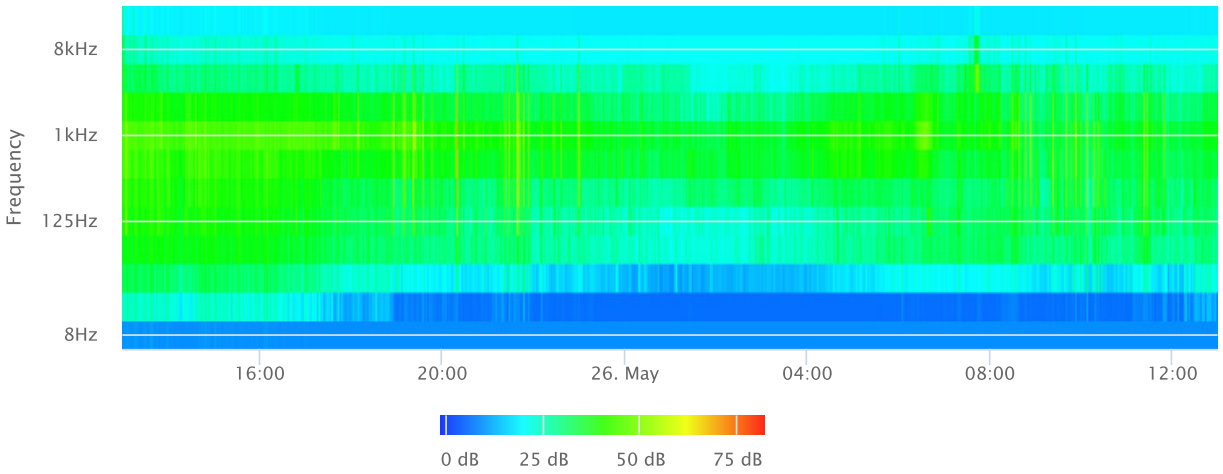
Statistics

LAS 2.0	54.8 dB
LAS 8.0	50.8 dB
LAS 25.0	47.1 dB
LAS 50.0	43.3 dB
LAS 90.0	37.5 dB
LAS 99.0	34.5 dB

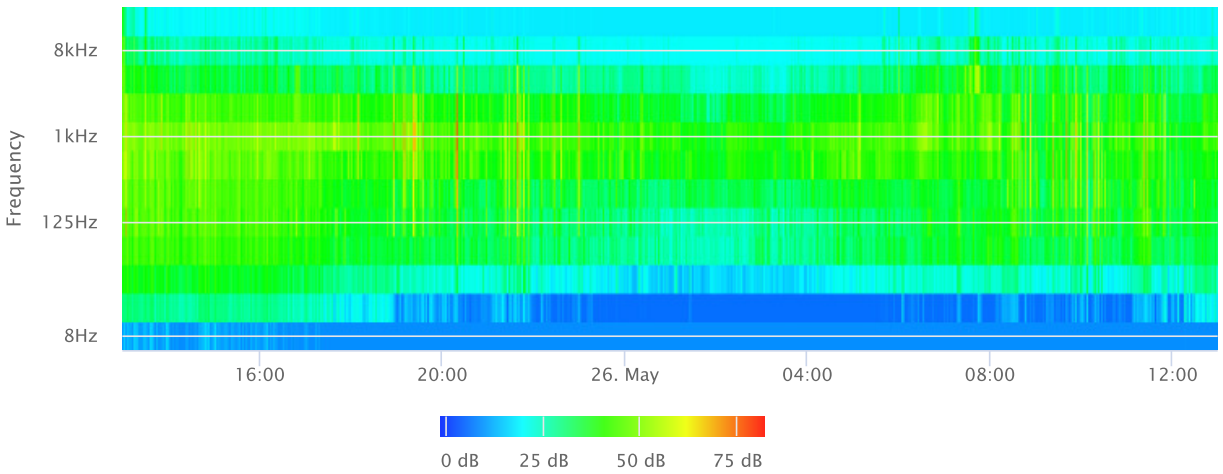
Time History



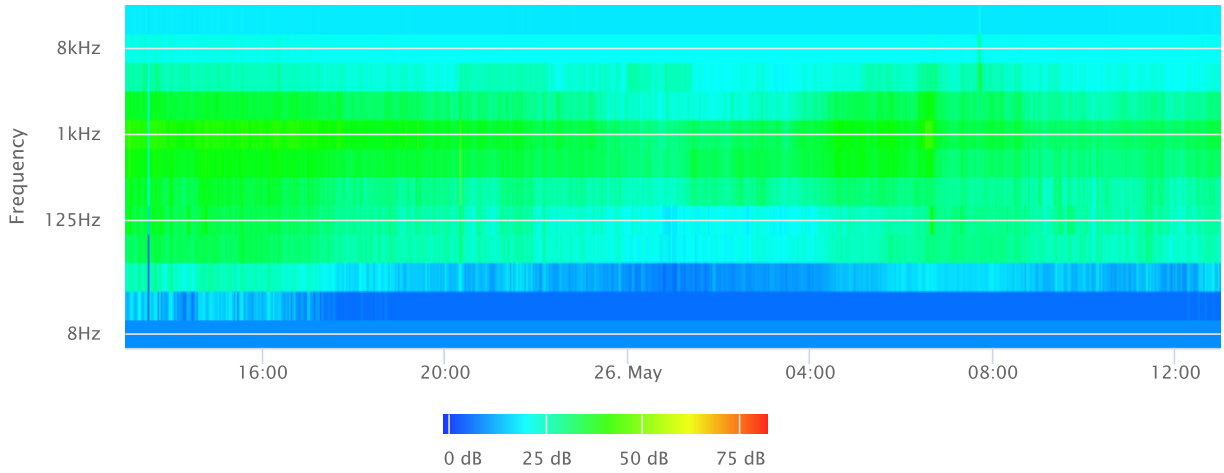
OBA 1/1 Leq



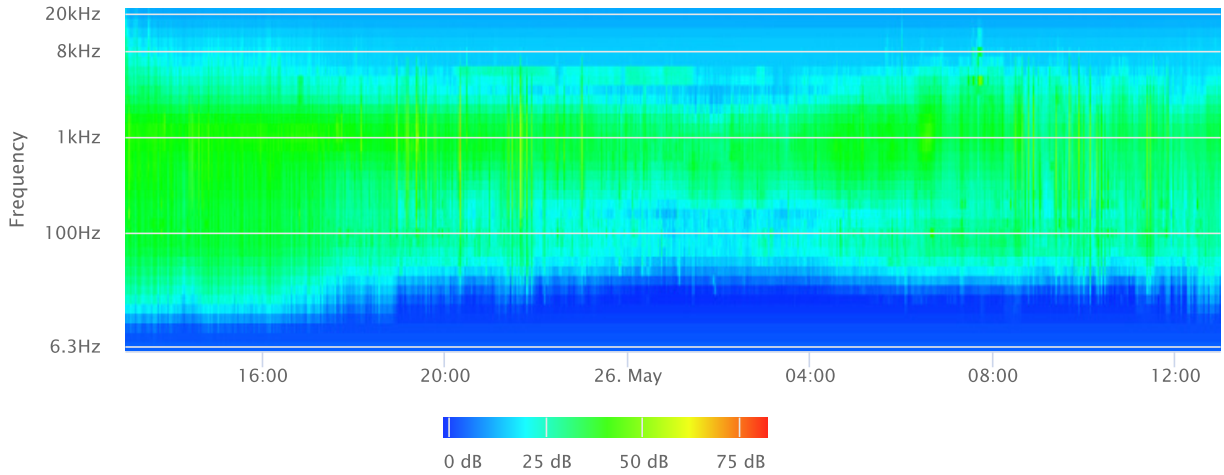
OBA 1/1 Lmax



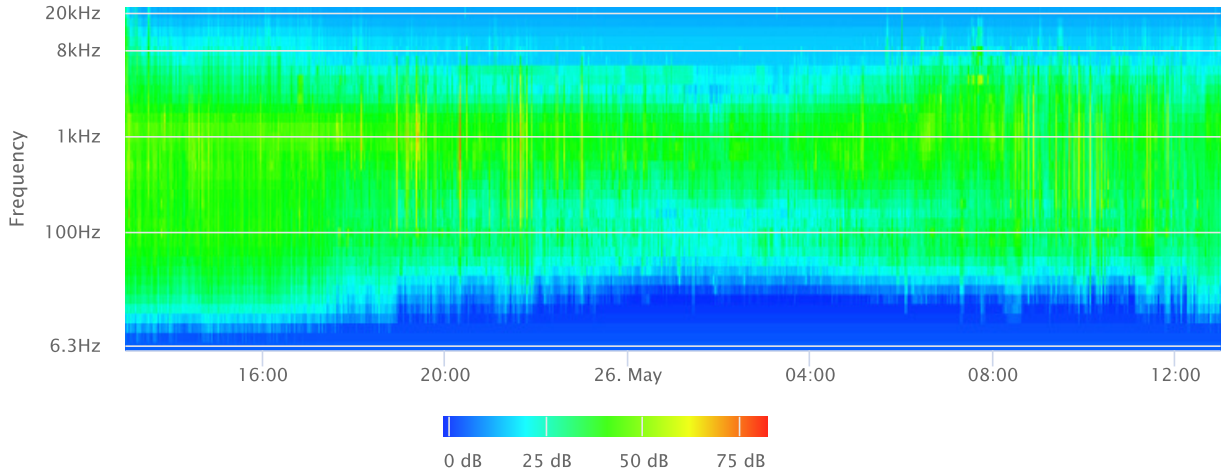
OBA 1/1 Lmin



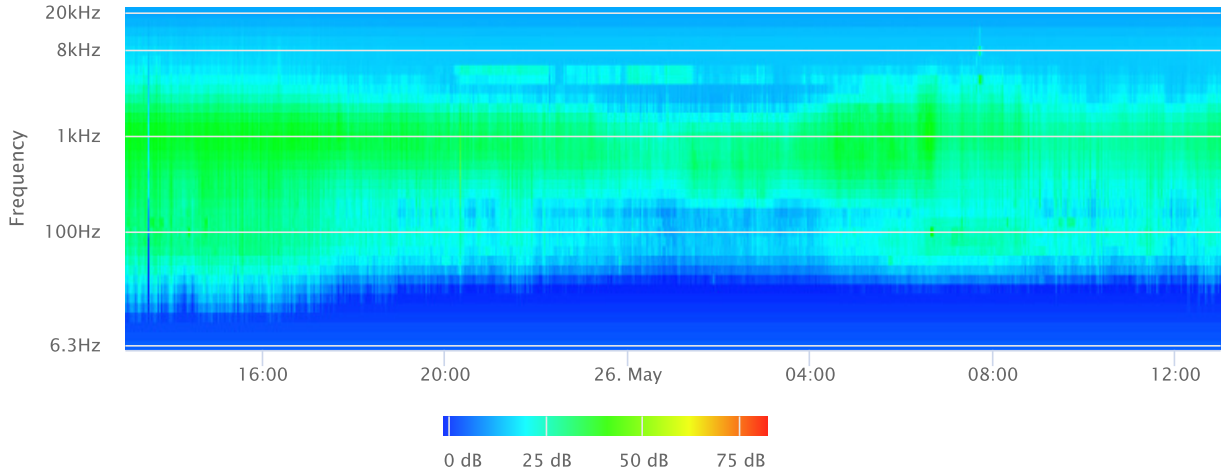
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
16:00
20:00
26. May
04:00
08:00
12:00

0 dB
25 dB
50 dB
75 dB

APPENDIX D

CONSTRUCTION NOISE MODELING

Receptor - Single-family Residential Use to Southwest (2865 Redlands Ave)

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Grading									
Excavator	1	81	338	40	0.40	-16.6	-4.0	64.4	60.4
Rubber Tired Dozers	1	82	338	40	0.40	-16.6	-4.0	65.4	61.4
Tractors/Loaders/Backhoes	3	84	338	40	1.20	-16.6	0.8	67.4	68.2
Graders	1	85	338	40	0.40	-16.6	-4.0	68.4	64.4
								Log Sum	70.7
Building Construction									
Cranes	2	81	338	16	0.32	-16.6	-4.9	64.4	59.5
Forklifts[2]	3	48	338	40	1.20	-16.6	0.8	31.4	32.2
Generator Sets	1	81	338	50	0.50	-16.6	-3.0	64.4	61.4
Welders	1	74	338	40	0.40	-16.6	-4.0	57.4	53.4
Tractors/Loaders/Backhoes	4	84	338	40	1.60	-16.6	2.0	67.4	69.4
								Log Sum	70.5
Paving									
Cement and Mortar Mixers	2	79	338	40	0.80	-16.6	-1.0	62.4	61.4
Pavers	1	77	338	50	0.50	-16.6	-3.0	60.4	57.4
Paving Equipment	2	77	338	50	1.00	-16.6	0.0	60.4	60.4
Rollers	2	80	338	20	0.40	-16.6	-4.0	63.4	59.4
Tractors/Loaders/Backhoes	1	84	338	40	0.40	-16.6	-4.0	67.4	63.4
								Log Sum	67.9
Architectural Coating									
Air Compressors	1	78	338	40	0.40	-16.6	-4.0	61.4	57.4
								Log Sum	57.4

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construciton Noise Model User's Guide (January 2006)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest sensitive use (property line).

Receptor - Single-family Residential Uses to South (561 Placentia Ave)

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Grading									
Excavator	1	81	847	40	0.40	-24.6	-4.0	56.4	52.4
Rubber Tired Dozers	1	82	847	40	0.40	-24.6	-4.0	57.4	53.4
Tractors/Loaders/Backhoes	3	84	847	40	1.20	-24.6	0.8	59.4	60.2
Graders	1	85	847	40	0.40	-24.6	-4.0	60.4	56.4
								Log Sum	62.8
Building Construction									
Cranes	2	81	847	16	0.32	-24.6	-4.9	56.4	51.5
Forklifts[2]	3	48	847	40	1.20	-24.6	0.8	23.4	24.2
Generator Sets	1	81	847	50	0.50	-24.6	-3.0	56.4	53.4
Welders	1	74	847	40	0.40	-24.6	-4.0	49.4	45.4
Tractors/Loaders/Backhoes	4	84	847	40	1.60	-24.6	2.0	59.4	61.5
								Log Sum	62.5
Paving									
Cement and Mortar Mixers	2	79	847	40	0.80	-24.6	-1.0	54.4	53.5
Pavers	1	77	847	50	0.50	-24.6	-3.0	52.4	49.4
Paving Equipment	2	77	847	50	1.00	-24.6	0.0	52.4	52.4
Rollers	2	80	847	20	0.40	-24.6	-4.0	55.4	51.4
Tractors/Loaders/Backhoes	1	84	847	40	0.40	-24.6	-4.0	59.4	55.4
								Log Sum	59.9
Architectural Coating									
Air Compressors	1	78	847	40	0.40	-24.6	-4.0	53.4	49.4
								Log Sum	49.4

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construciton Noise Model User's Guide (January 2006)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest sensitive use (property line).

Receptor - Single-family Residential Uses to East/Northeast (3036 Clapper Street)

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Grading									
Excavator	1	81	2004	40	0.40	-32.1	-4.0	48.9	45.0
Rubber Tired Dozers	1	82	2004	40	0.40	-32.1	-4.0	49.9	46.0
Tractors/Loaders/Backhoes	3	84	2004	40	1.20	-32.1	0.8	51.9	52.7
Graders	1	85	2004	40	0.40	-32.1	-4.0	52.9	49.0
								Log Sum	55.3
Building Construction									
Cranes	2	81	2004	16	0.32	-32.1	-4.9	48.9	44.0
Forklifts[2]	3	48	2004	40	1.20	-32.1	0.8	15.9	16.7
Generator Sets	1	81	2004	50	0.50	-32.1	-3.0	48.9	45.9
Welders	1	74	2004	40	0.40	-32.1	-4.0	41.9	38.0
Tractors/Loaders/Backhoes	4	84	2004	40	1.60	-32.1	2.0	51.9	54.0
								Log Sum	55.1
Paving									
Cement and Mortar Mixers	2	79	2004	40	0.80	-32.1	-1.0	46.9	46.0
Pavers	1	77	2004	50	0.50	-32.1	-3.0	44.9	41.9
Paving Equipment	2	77	2004	50	1.00	-32.1	0.0	44.9	44.9
Rollers	2	80	2004	20	0.40	-32.1	-4.0	47.9	44.0
Tractors/Loaders/Backhoes	1	84	2004	40	0.40	-32.1	-4.0	51.9	48.0
								Log Sum	52.4
Architectural Coating									
Air Compressors	1	78	2004	40	0.40	-32.1	-4.0	45.9	42.0
								Log Sum	42.0

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construciton Noise Model User's Guide (January 2006)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest sensitive use (property line).

Receptor - Single-family Residential Uses to West (2865 Lake View Drive)

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Grading									
Excavator	1	81	1503	40	0.40	-29.6	-4.0	51.4	47.5
Rubber Tired Dozers	1	82	1503	40	0.40	-29.6	-4.0	52.4	48.5
Tractors/Loaders/Backhoes	3	84	1503	40	1.20	-29.6	0.8	54.4	55.2
Graders	1	85	1503	40	0.40	-29.6	-4.0	55.4	51.5
								Log Sum	57.8
Building Construction									
Cranes	2	81	1503	16	0.32	-29.6	-4.9	51.4	46.5
Forklifts[2]	3	48	1503	40	1.20	-29.6	0.8	18.4	19.2
Generator Sets	1	81	1503	50	0.50	-29.6	-3.0	51.4	48.4
Welders	1	74	1503	40	0.40	-29.6	-4.0	44.4	40.5
Tractors/Loaders/Backhoes	4	84	1503	40	1.60	-29.6	2.0	54.4	56.5
								Log Sum	57.6
Paving									
Cement and Mortar Mixers	2	79	1503	40	0.80	-29.6	-1.0	49.4	48.5
Pavers	1	77	1503	50	0.50	-29.6	-3.0	47.4	44.4
Paving Equipment	2	77	1503	50	1.00	-29.6	0.0	47.4	47.4
Rollers	2	80	1503	20	0.40	-29.6	-4.0	50.4	46.5
Tractors/Loaders/Backhoes	1	84	1503	40	0.40	-29.6	-4.0	54.4	50.5
								Log Sum	54.9
Architectural Coating									
Air Compressors	1	78	1503	40	0.40	-29.6	-4.0	48.4	44.5
								Log Sum	44.5

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construciton Noise Model User's Guide (January 2006)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest sensitive use (property line).

APPENDIX E

FHWA WORKSHEETS

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Traffic Noise

Project: **19515 LCI Wilson Warehouse**

Road: **Rider Street**

Segment: **West of Redlands Avenue**

	DAYTIME			EVENING			NIGHTTIME			ADT	9200.00
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	45.00
										DISTANCE	44.00
INPUT PARAMETERS											
Vehicles per hour	532.83	11.04	18.40	395.60	1.84	3.07	98.13	15.33	25.56	% A	92
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00		
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00		
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	% MT	3
NOISE CALCULATIONS											
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14	% HT	5
ADJUSTMENTS											
Flow	20.43	3.59	5.81	19.13	-4.19	-1.97	13.08	5.02	7.24		
Distance	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CNEL	73.10
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	67.80
LEQ	65.26	56.70	63.44	63.96	48.92	55.66	57.91	58.13	64.86	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	67.80		EVENING LEQ	64.68		NIGHT LEQ	66.37		Use hour?	no
										GRADE dB	0.00
		CNEL	**73.10**								

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Plus Project Traffic Noise

Project: **19515 LCI Wilson Warehouse**

Road: **Rider Street**

Segment: **West of Redlands Avenue**

	DAYTIME			EVENING			NIGHTTIME			ADT	9205.00
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	45.00
										DISTANCE	44.00
INPUT PARAMETERS											
Vehicles per hour	533.15	11.04	18.40	395.83	1.84	3.07	98.19	15.33	25.56	% A	92.00
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00		
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00		
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	% MT	3.00
NOISE CALCULATIONS											
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14	% HT	5.00
ADJUSTMENTS											
Flow	20.43	3.59	5.81	19.14	-4.19	-1.97	13.08	5.02	7.24		
Distance	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CNEL	73.10
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	67.80
LEQ	65.26	56.70	63.44	63.97	48.92	55.66	57.91	58.13	64.86	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	67.80		EVENING LEQ	64.68		NIGHT LEQ	66.37		Use hour?	no
										GRADE dB	0.00
		CNEL	**73.10**								

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Traffic Noise

Project: **19515 LCI Wilson Warehouse**

Road: **Rider Street**

Segment: **Redlands Avenue to Wilson Avenue**

	DAYTIME			EVENING			NIGHTTIME			ADT	11000.00
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	45.00
										DISTANCE	44.00
INPUT PARAMETERS											
Vehicles per hour	637.08	13.20	22.00	473.00	2.20	3.67	117.33	18.33	30.56	% A	92
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00		
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00		
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	% MT	3
NOISE CALCULATIONS											
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14	% HT	5
ADJUSTMENTS											
Flow	21.20	4.37	6.59	19.91	-3.41	-1.20	13.86	5.79	8.01		
Distance	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CNEL	73.88
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	68.58
LEQ	66.03	57.48	64.21	64.74	49.69	56.43	58.69	58.90	65.64	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	68.58		EVENING LEQ	65.46		NIGHT LEQ	67.14		Use hour?	no
										GRADE dB	0.00
		CNEL	**73.88**								

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Plus Project Traffic Noise

Project: **19515 LCI Wilson Warehouse**

Road: **Rider Street**

Segment: **Redlands Avenue to Wilson Avenue**

	DAYTIME			EVENING			NIGHTTIME			ADT	11055.00
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	45.00
										DISTANCE	44.00
INPUT PARAMETERS											
Vehicles per hour	637.40	13.92	23.28	473.23	2.32	3.88	117.39	19.33	32.33	% A	91.59
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00		
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00		
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	% MT	3.15
NOISE CALCULATIONS											
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14	% HT	5.26
ADJUSTMENTS											
Flow	21.21	4.60	6.83	19.91	-3.18	-0.95	13.86	6.03	8.26		
Distance	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CNEL	74.06
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	68.69
LEQ	66.04	57.71	64.46	64.74	49.92	56.68	58.69	59.13	65.89	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	68.69		EVENING LEQ	65.49		NIGHT LEQ	67.35		Use hour?	no
										GRADE dB	0.00
		CNEL	**74.06**								

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Traffic Noise

Project: **19515 LCI Wilson Warehouse**

Road: **Rider Street**

Segment: **East of Wilson Avenue**

	DAYTIME			EVENING			NIGHTTIME			ADT	11000.00
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	45.00
										DISTANCE	44.00
INPUT PARAMETERS											
Vehicles per hour	637.08	13.20	22.00	473.00	2.20	3.67	117.33	18.33	30.56	% A	92
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00		
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00		
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	% MT	3
NOISE CALCULATIONS											
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14	% HT	5
ADJUSTMENTS											
Flow	21.20	4.37	6.59	19.91	-3.41	-1.20	13.86	5.79	8.01		
Distance	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CNEL	73.88
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	68.58
LEQ	66.03	57.48	64.21	64.74	49.69	56.43	58.69	58.90	65.64	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	68.58		EVENING LEQ	65.46		NIGHT LEQ	67.14		Use hour?	no
										GRADE dB	0.00
		CNEL	**73.88**								

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Plus Project Traffic Noise

Project: **19515 LCI Wilson Warehouse**

Road: **Rider Street**

Segment: **East of Wilson Avenue**

	DAYTIME			EVENING			NIGHTTIME			ADT	11014.00
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	45.00
										DISTANCE	44.00
INPUT PARAMETERS											
Vehicles per hour	637.96	13.20	22.00	473.65	2.20	3.67	117.50	18.33	30.56	% A	92.01
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00		
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00		
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	% MT	3.00
NOISE CALCULATIONS											
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14	% HT	4.99
ADJUSTMENTS											
Flow	21.21	4.37	6.59	19.92	-3.41	-1.20	13.86	5.79	8.01		
Distance	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CNEL	73.88
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	68.58
LEQ	66.04	57.48	64.21	64.75	49.69	56.43	58.69	58.90	65.64	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	68.58		EVENING LEQ	65.46		NIGHT LEQ	67.14		Use hour?	no
										GRADE dB	0.00
		CNEL	**73.88**								

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Traffic Noise

Project: **19515 LCI Wilson Warehouse**

Road: **Placentia Avenue**

Segment: **West of Redlands Avenue**

	DAYTIME			EVENING			NIGHTTIME			ADT	3500.00
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	40.00
										DISTANCE	44.00
INPUT PARAMETERS											
Vehicles per hour	202.71	4.20	7.00	150.50	0.70	1.17	37.33	5.83	9.72	% A	92
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00		
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00		
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	% MT	3
NOISE CALCULATIONS											
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16	% HT	5
ADJUSTMENTS											
Flow	16.74	-0.09	2.12	15.45	-7.88	-5.66	9.39	1.33	3.55		
Distance	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CNEL	68.16
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	62.58
LEQ	59.59	51.70	58.77	58.29	43.92	50.99	52.24	53.13	60.20	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	62.58		EVENING LEQ	59.17		NIGHT LEQ	61.52		Use hour?	no
										GRADE dB	0.00
		CNEL	**68.16**								

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Plus Project Traffic Noise

Project: **19515 LCI Wilson Warehouse**

Road: **Placentia Avenue**

Segment: **West of Redlands Avenue**

	DAYTIME			EVENING			NIGHTTIME			ADT	3551.00
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	40.00
										DISTANCE	44.00
INPUT PARAMETERS											
Vehicles per hour	205.92	4.20	7.00	152.88	0.70	1.17	37.92	5.83	9.72	% A	92.11
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00		
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00		
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	% MT	2.96
NOISE CALCULATIONS											
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16	% HT	4.93
ADJUSTMENTS											
Flow	16.81	-0.09	2.12	15.52	-7.88	-5.66	9.46	1.33	3.55		
Distance	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CNEL	68.18
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	62.61
LEQ	59.66	51.70	58.77	58.36	43.92	50.99	52.31	53.13	60.20	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	62.61		EVENING LEQ	59.22		NIGHT LEQ	61.53		Use hour?	no
										GRADE dB	0.00
		CNEL	**68.18**								

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Traffic Noise

Project: **19515 LCI Wilson Warehouse**

Road: **Placentia Avenue**

Segment: **Redlands Avenue to Wilson Avenue**

	DAYTIME			EVENING			NIGHTTIME			ADT	2100.00
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	25.00
										DISTANCE	44.00
INPUT PARAMETERS											
Vehicles per hour	121.63	2.52	4.20	90.30	0.42	0.70	22.40	3.50	5.83	% A	92
Speed in MPH	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00		
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00		
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	% MT	3
NOISE CALCULATIONS											
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24	% HT	5
ADJUSTMENTS											
Flow	16.56	-0.27	1.95	15.27	-8.05	-5.83	9.22	1.16	3.37		
Distance	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CNEL	63.32
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	56.78
LEQ	51.49	46.30	54.67	50.20	38.52	46.89	44.14	47.73	56.10	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	56.78		EVENING LEQ	52.06		NIGHT LEQ	56.92		Use hour?	no
										GRADE dB	0.00
		CNEL	**63.32**								

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Plus Project Traffic Noise

Project: **19515 LCI Wilson Warehouse**

Road: **Placentia Avenue**

Segment: **Redlands Avenue to Wilson Avenue**

	DAYTIME			EVENING			NIGHTTIME			ADT	2165.00
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	25.00
										DISTANCE	44.00
INPUT PARAMETERS											
Vehicles per hour	125.72	2.52	4.20	93.34	0.42	0.70	23.15	3.50	5.83	% A	92.24
Speed in MPH	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00		
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00		
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	% MT	2.91
NOISE CALCULATIONS											
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24	% HT	4.85
ADJUSTMENTS											
Flow	16.71	-0.27	1.95	15.42	-8.05	-5.83	9.36	1.16	3.37		
Distance	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CNEL	63.34
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	56.83
LEQ	51.63	46.30	54.67	50.34	38.52	46.89	44.29	47.73	56.10	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	56.83		EVENING LEQ	52.15		NIGHT LEQ	56.93		Use hour?	no
										GRADE dB	0.00
		CNEL	**63.34**								

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Traffic Noise

Project: **19515 LCI Wilson Warehouse**

Road: **Redlands Avenue**

Segment: **North of Rider Street**

	DAYTIME			EVENING			NIGHTTIME			ADT	1700.00
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	40.00
										DISTANCE	44.00
INPUT PARAMETERS											
Vehicles per hour	98.46	2.04	3.40	73.10	0.34	0.57	18.13	2.83	4.72	% A	92
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00		
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00		
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	% MT	3
NOISE CALCULATIONS											
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16	% HT	5
ADJUSTMENTS											
Flow	13.61	-3.23	-1.01	12.31	-11.01	-8.79	6.26	-1.80	0.42		
Distance	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CNEL	65.03
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	59.44
LEQ	56.45	48.57	55.63	55.16	40.79	47.85	49.10	49.99	57.06	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	59.44		EVENING LEQ	56.03		NIGHT LEQ	58.38		Use hour?	no
										GRADE dB	0.00
		CNEL	**65.03**								

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Plus Project Traffic Noise

Project: **19515 LCI Wilson Warehouse**

Road: **Redlands Avenue**

Segment: **North of Rider Street**

	DAYTIME			EVENING			NIGHTTIME			ADT	1750.00
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	40.00
										DISTANCE	44.00
INPUT PARAMETERS											
Vehicles per hour	98.46	2.76	4.68	73.10	0.46	0.78	18.13	3.83	6.50	% A	89.37
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00		
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00		
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	% MT	3.94
NOISE CALCULATIONS											
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16	% HT	6.69
ADJUSTMENTS											
Flow	13.61	-1.92	0.38	12.31	-9.70	-7.41	6.26	-0.49	1.80		
Distance	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CNEL	66.15
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	60.18
LEQ	56.45	49.88	57.02	55.16	42.10	49.24	49.10	51.31	58.45	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	60.18		EVENING LEQ	56.32		NIGHT LEQ	59.62		Use hour?	no
										GRADE dB	0.00
		CNEL	**66.15**								

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Traffic Noise

Project: **19515 LCI Wilson Warehouse**

Road: **Redlands Avenue**

Segment: **South of Placentia Avenue**

	DAYTIME			EVENING			NIGHTTIME			ADT	4800.00
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	40.00
										DISTANCE	44.00
INPUT PARAMETERS											
Vehicles per hour	278.00	5.76	9.60	206.40	0.96	1.60	51.20	8.00	13.33	% A	92
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00		
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00		
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	% MT	3
NOISE CALCULATIONS											
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16	% HT	5
ADJUSTMENTS											
Flow	18.11	1.28	3.50	16.82	-6.50	-4.29	10.77	2.70	4.92		
Distance	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CNEL	69.54
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	63.95
LEQ	60.96	53.08	60.14	59.67	45.29	52.36	53.61	54.50	61.57	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	63.95		EVENING LEQ	60.54		NIGHT LEQ	62.89		Use hour?	no
										GRADE dB	0.00
		CNEL	**69.54**								

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Plus Project Traffic Noise

Project: **19515 LCI Wilson Warehouse**

Road: **Redlands Avenue**

Segment: **South of Placentia Avenue**

	DAYTIME			EVENING			NIGHTTIME			ADT	4814.00
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	40.00
										DISTANCE	44.00
INPUT PARAMETERS											
Vehicles per hour	278.88	5.76	9.60	207.05	0.96	1.60	51.36	8.00	13.33	% A	92.02
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00		
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00		
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	% MT	2.99
NOISE CALCULATIONS											
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16	% HT	4.99
ADJUSTMENTS											
Flow	18.13	1.28	3.50	16.83	-6.50	-4.29	10.78	2.70	4.92		
Distance	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CNEL	69.54
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	63.96
LEQ	60.97	53.08	60.14	59.68	45.29	52.36	53.63	54.50	61.57	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	63.96		EVENING LEQ	60.55		NIGHT LEQ	62.89		Use hour?	no
										GRADE dB	0.00
		CNEL	**69.54**								

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Traffic Noise

Project: **19515 LCI Wilson Warehouse Project**

Road: **Wilson Avenue**

Segment: **Rider Street to Project Site**

	DAYTIME			EVENING			NIGHTTIME			ADT	3696.00
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	35.00
										DISTANCE	32.00
INPUT PARAMETERS											
Vehicles per hour	226.67	2.77	1.08	167.52	0.49	0.49	41.96	3.70	1.44	% A	97.4
Speed in MPH	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00		
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00		
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	% MT	1.84
NOISE CALCULATIONS											
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05	% HT	0.74
ADJUSTMENTS											
Flow	17.81	-1.32	-5.42	16.49	-8.83	-8.82	10.48	-0.07	-4.17		
Distance	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CNEL	64.51
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	60.80
LEQ	59.79	50.38	51.49	58.47	42.87	48.10	52.46	51.63	52.74	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	60.80		EVENING LEQ	58.96		NIGHT LEQ	57.07		Use hour?	no
										GRADE dB	0.00
		CNEL	**64.51**								

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Plus Project Traffic Noise

Project: **19515 LCI Wilson Warehouse Project**

Road: **Wilson Avenue**

Segment: **Rider Street to Project Site**

	DAYTIME			EVENING			NIGHTTIME			ADT	3765.00
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	35.00
										DISTANCE	32.00
INPUT PARAMETERS											
Vehicles per hour	227.87	3.51	2.34	168.40	0.62	1.07	42.18	4.67	3.12	% A	96.12
Speed in MPH	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00		
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00		
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	% MT	2.28
NOISE CALCULATIONS											
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05	% HT	1.58
ADJUSTMENTS											
Flow	17.83	-0.30	-2.06	16.52	-7.81	-5.45	10.50	0.95	-0.81		
Distance	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CNEL	65.94
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	61.46
LEQ	59.81	51.40	54.86	58.49	43.89	51.46	52.48	52.65	56.11	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	61.46		EVENING LEQ	59.40		NIGHT LEQ	58.86		Use hour?	no
										GRADE dB	0.00
		CNEL	**65.94**								

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Traffic Noise

Project: **19515 LCI Wilson Warehouse Project**

Road: **Wilson Avenue**

Segment: **Project Site to Placentia Avenue**

	DAYTIME			EVENING			NIGHTTIME			ADT	3696.00
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	35.00
										DISTANCE	32.00
INPUT PARAMETERS											
Vehicles per hour	226.67	2.77	1.08	167.52	0.49	0.49	41.96	3.70	1.44	% A	97.4
Speed in MPH	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00		
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00		
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	% MT	1.84
NOISE CALCULATIONS											
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05	% HT	0.74
ADJUSTMENTS											
Flow	17.81	-1.32	-5.42	16.49	-8.83	-8.82	10.48	-0.07	-4.17		
Distance	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CNEL	64.51
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	60.80
LEQ	59.79	50.38	51.49	58.47	42.87	48.10	52.46	51.63	52.74	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	60.80		EVENING LEQ	58.96		NIGHT LEQ	57.07		Use hour?	no
										GRADE dB	0.00
		CNEL	**64.51**								

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Plus Project Traffic Noise

Project: **19515 LCI Wilson Warehouse Project**

Road: **Wilson Avenue**

Segment: **Project Site to Placentia Avenue**

	DAYTIME			EVENING			NIGHTTIME			ADT	3770.00
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	35.00
										DISTANCE	32.00
INPUT PARAMETERS											
Vehicles per hour	231.33	2.77	1.08	170.96	0.49	0.49	42.82	3.70	1.44	% A	97.45
Speed in MPH	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00		
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00		
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	% MT	1.80
NOISE CALCULATIONS											
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05	% HT	0.73
ADJUSTMENTS											
Flow	17.90	-1.32	-5.42	16.58	-8.83	-8.82	10.57	-0.07	-4.17		
Distance	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CNEL	64.55
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	60.87
LEQ	59.87	50.38	51.49	58.56	42.87	48.10	52.55	51.63	52.74	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	60.87		EVENING LEQ	59.04		NIGHT LEQ	57.10		Use hour?	no
										GRADE dB	0.00
		CNEL	**64.55**								

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Traffic Noise

Project: **19515 LCI Wilson Warehouse Project**

Road: **Wilson Avenue**

Segment: **South of Placentia Avenue**

	DAYTIME			EVENING			NIGHTTIME			ADT	3696.00
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	35.00
										DISTANCE	32.00
INPUT PARAMETERS											
Vehicles per hour	226.67	2.77	1.08	167.52	0.49	0.49	41.96	3.70	1.44	% A	97.4
Speed in MPH	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00		
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00		
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	% MT	1.84
NOISE CALCULATIONS											
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05	% HT	0.74
ADJUSTMENTS											
Flow	17.81	-1.32	-5.42	16.49	-8.83	-8.82	10.48	-0.07	-4.17		
Distance	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CNEL	64.51
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	60.80
LEQ	59.79	50.38	51.49	58.47	42.87	48.10	52.46	51.63	52.74	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	60.80		EVENING LEQ	58.96		NIGHT LEQ	57.07		Use hour?	no
										GRADE dB	0.00
		CNEL	**64.51**								

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Plus Project Traffic Noise

Project: **19515 LCI Wilson Warehouse Project**

Road: **Wilson Avenue**

Segment: **South of Placentia Avenue**

	DAYTIME			EVENING			NIGHTTIME			ADT	3705.00
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	35.00
										DISTANCE	32.00
INPUT PARAMETERS											
Vehicles per hour	227.24	2.77	1.08	167.93	0.49	0.49	42.06	3.70	1.44	% A	97.41
Speed in MPH	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00		
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00		
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	% MT	1.84
NOISE CALCULATIONS											
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05	% HT	0.74
ADJUSTMENTS											
Flow	17.82	-1.32	-5.42	16.50	-8.83	-8.82	10.49	-0.07	-4.17		
Distance	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CNEL	64.51
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	60.81
LEQ	59.80	50.38	51.49	58.48	42.87	48.10	52.47	51.63	52.74	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	60.81		EVENING LEQ	58.97		NIGHT LEQ	57.08		Use hour?	no
										GRADE dB	0.00
		CNEL	**64.51**								

EXISTING ADT'S BY LEG (for Wilson Avenue)

FACTOR= 12.0 Use 10 (LA County), 12 (Riverside), or 11.5 (SB)

														NORTH	SOUTH	EAST	WEST
Intersection	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	LEG	LEG	LEG	LEG
Existing																	
Wilson Ave (NS) / Rider St (EW)	25	0	93	0	0	0	0	618	35	155	336	0	1,262	-	3,696	14,424	12,168
													-	-	-	-	-

PM peak hour turning movements obtained from the traffic counts provided in Appendix C of the F*ocused Traffic Impact Analsis for FIR Wilson 2 Warehouse Development on Wilson Avenue* (May 11, 2021). https://www.cityofperris.org/home/showpublisheddocument/14951/637781939223830000

APPENDIX F

SOUNDPLAN INPUT AND OUTPUT

Noise emissions of industry sources

Source name	Reference	Level		Frequency spectrum [dB(A)]								Corrections		
				63	125	250	500	1	2	4	8	Cwall	CI	CT
			dB(A)	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz	dB	dB	dB
Loading/Unloading	Lw/unit	Day	92.0	59.0	69.0	76.1	82.1	85.0	86.0	86.1	84.0	-	-	-
HVAC	Lw/unit	Day	80.0	47.0	57.0	64.1	70.1	73.0	74.0	74.1	72.0	-	-	-
HVAC1	Lw/unit	Day	80.0	47.0	57.0	64.1	70.1	73.0	74.0	74.1	72.0	-	-	-
HVAC3	Lw/unit	Day	80.0	47.0	57.0	64.1	70.1	73.0	74.0	74.1	72.0	-	-	-
HVAC4	Lw/unit	Day	80.0	47.0	57.0	64.1	70.1	73.0	74.0	74.1	72.0	-	-	-
HVAC5	Lw/unit	Day	80.0	47.0	57.0	64.1	70.1	73.0	74.0	74.1	72.0	-	-	-
HVAC6	Lw/unit	Day	80.0	47.0	57.0	64.1	70.1	73.0	74.0	74.1	72.0	-	-	-
HVAC7	Lw/unit	Day	80.0	47.0	57.0	64.1	70.1	73.0	74.0	74.1	72.0	-	-	-
HVAC8	Lw/unit	Day	80.0	47.0	57.0	64.1	70.1	73.0	74.0	74.1	72.0	-	-	-
HVAC9	Lw/unit	Day	80.0	47.0	57.0	64.1	70.1	73.0	74.0	74.1	72.0	-	-	-
HVAC10	Lw/unit	Day	80.0	47.0	57.0	64.1	70.1	73.0	74.0	74.1	72.0	-	-	-
HVAC11	Lw/unit	Day	80.0	47.0	57.0	64.1	70.1	73.0	74.0	74.1	72.0	-	-	-
HVAC12	Lw/unit	Day	80.0	47.0	57.0	64.1	70.1	73.0	74.0	74.1	72.0	-	-	-
HVAC13	Lw/unit	Day	80.0	47.0	57.0	64.1	70.1	73.0	74.0	74.1	72.0	-	-	-
HVAC14	Lw/unit	Day	80.0	47.0	57.0	64.1	70.1	73.0	74.0	74.1	72.0	-	-	-
HVAC15	Lw/unit	Day	80.0	47.0	57.0	64.1	70.1	73.0	74.0	74.1	72.0	-	-	-
HVAC16	Lw/unit	Day	80.0	47.0	57.0	64.1	70.1	73.0	74.0	74.1	72.0	-	-	-
HVAC17	Lw/unit	Day	80.0	47.0	57.0	64.1	70.1	73.0	74.0	74.1	72.0	-	-	-
HVAC18	Lw/unit	Day	80.0	47.0	57.0	64.1	70.1	73.0	74.0	74.1	72.0	-	-	-
HVAC19	Lw/unit	Day	80.0	47.0	57.0	64.1	70.1	73.0	74.0	74.1	72.0	-	-	-
HVAC20	Lw/unit	Day	80.0	47.0	57.0	64.1	70.1	73.0	74.0	74.1	72.0	-	-	-

Noise emissions of parking lot traffic

Name	Parking bays	Movements			Corrections		Level	
		Day	Evening	Night	Parking lot type	dB(A)	Day dB(A)	Evening dB(A)
P1	24.0	0.100	0.100	0.000		10.0	50.8	50.8
P2	18.0	0.200	0.200	0.000		0.0	42.6	42.6
P3	6.0	0.200	0.200	0.000		0.0	37.8	37.8
P4	10.0	0.200	0.200	0.000		0.0	40.0	40.0
P5	19.0	0.200	0.200	0.000		0.0	42.8	42.8

Receiver list

No.	Receiver name	Building side	Floor	Limit Lden dB(A)	Level Lden dB(A)	Conflict Lden dB
1	R1	-	EG	-	40.6	-
2	R2	-	EG	-	30.2	-
			1.OG	-	30.5	-
3	R3	-	EG	-	37.1	-
			1.OG	-	37.6	-
4	R4	-	EG	-	36.8	-
			1.OG	-	37.8	-

Noise emissions of industry sources

Source name	Reference	Level Day dB(A)	Corrections Cwall dB	CI dB	CT dB
Air Brake Vent	Lw/	110.0	-	-	-

Receiver list

No.	Receiver name	Building side	Floor	Limit Day dB(A)	Level Day dB(A)	Conflict Day dB
1	R1	-	EG	-	60.2	-
2	R2	-	EG	-	42.3	-
			1.OG	-	42.6	-
3	R3	-	EG	-	42.9	-
			1.OG	-	43.2	-
4	R4	-	EG	-	49.1	-
			1.OG	-	50.0	-

APPENDIX G

VIBRATION WORKSHEETS

GROUNDBORNE VIBRATION ANALYSIS

Project:	19515 LCI Wilson Warehouse Project	Date:	5/9/22
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Residential to West		
Address:			

PPV = PPVref(25/D)^n (in/sec)

INPUT

Equipment = Type	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	438.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

RESULTS

PPV =	0.003	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	19515 LCI Wilson Warehouse Project	Date:	5/9/22
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Residential to West		
Address:			

PPV = PPVref(25/D)^n (in/sec)

INPUT

Equipment Type =	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	438.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

RESULTS

PPV =	0.001	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	19515 LCI Wilson Warehouse Project	Date:	5/9/22
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Residential to South		
Address:			

PPV = PPVref(25/D)^n (in/sec)

INPUT

Equipment = Type	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	708.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

RESULTS

PPV =	0.001	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	19515 LCI Wilson Warehouse Project	Date:	5/9/22
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Residential to South		
Address:			

PPV = PPVref(25/D)^n (in/sec)

INPUT

Equipment Type	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	708.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

RESULTS

PPV =	0.001	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	19515 LCI Wilson Warehouse Project	Date:	5/9/22
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Industrial to Northeast		
Address:			

PPV = PPVref(25/D)^n (in/sec)

INPUT

Equipment Type =	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	223.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

RESULTS

PPV =	0.008	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19515 LCI Wilson Warehouse Project		Date: 5/9/22
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Industrial to Northeast		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment = Type	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	223.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.003	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	19515 LCI Wilson Warehouse Project	Date:	5/9/22
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Commercial to North		
Address:			

PPV = PPVref(25/D)^n (in/sec)

INPUT

Equipment Type =	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	723.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

RESULTS

PPV =	0.001	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	19515 LCI Wilson Warehouse Project	Date:	5/9/22
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Commercial to North		
Address:			

PPV = PPVref(25/D)^n (in/sec)

INPUT

Equipment = Type	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	723.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

RESULTS

PPV =	0.001	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19515 LCI Wilson Warehouse Project		Date: 5/9/22
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Annoyance Threshold		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment = Type	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	17.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.375	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19515 LCI Wilson Warehouse Project		Date: 5/9/22
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Annoyance Threshold		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment Type =	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	10.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.352	IN/SEC	OUTPUT IN BLUE

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