APPENDIX I

NOISE REPORT

1100 EAST 5TH STREET PROJECT NOISE IMPACT ANALYSIS

City of Los Angeles

July 22, 2019

gandini

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

1100 EAST 5TH STREET PROJECT
NOISE IMPACT ANALYSIS

City of Los Angeles

July 22, 2019

prepared by

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EXECUTIVE SUMMARY

The purpose of this report is to provide an assessment of the noise impacts resulting from development of the proposed 1100 East 5th Street project and the Increased Commercial Option, and to identify mitigation measures that may be necessary to reduce those impacts. The noise issues related to the proposed land use and development have been evaluated in the context of the California Environmental Quality Act.

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

PROJECT LOCATION

The project site is located at 1100 East 5th Street and 506-530 South Seaton Street (southeast corner of E. 5th Street and Seaton Street) in the Central City North Community of the City of Los Angeles. The project site is currently developed with three vacant, single-story, industrial warehouses that occupy approximately 35,445 square feet of floor area, and an associated surface parking lot. A vicinity map showing the project location is provided on Figure 1.

PROJECT DESCRIPTION

The proposed project would involve the demolition of the existing warehouses and surface parking lot, and the construction of an up to 249,758 square foot mixed-use building including up to 220 live/work units, approximately 22,725 square feet of open space for residents, up to 46,548 square feet of commercial uses, and associated parking facilities. Eleven percent of the units (approximately 25 live/work units) would be deed-restricted for very low income households. The proposed building would be up to 110 feet (8 levels above-ground) tall plus 3 levels of subterranean parking and a lower quarter level for storage. The project has been designed to incorporate specific design standards the City has developed to address the Arts District's unique urban form and architectural characteristics.

The proposed commercial uses would be located on the ground and 2nd levels, fronting E. 5th Street and Seaton Street. The commercial uses would include general commercial, restaurant, retail, office, and art production-related uses. The commercial spaces on the second level would be accessible from the internal courtyard via elevators and stairs. The project proposes the sale and on-site consumption of alcoholic beverages at up to four establishments for a total of up to 19,609 square feet of floor area. The live/work component would be located on the 2nd through 8th levels. The average live/work unit size would be approximately 790 square feet. The project proposes a floor area ratio (FAR) of 4.75:1.

The project also proposes the ability to implement an increased commercial option that would provide the project the flexibility to increase the commercial square footage provided by the project within the same building parameters (i.e., 249,758 square foot, 110 foot tall building with 8 levels above-ground achieving a 4.75:1 FAR and three level subterranean parking structure and a lower quarter level for storage) and, in turn, reduce the overall amount of live/work units from 220 live/work units to 200 live/work units (Increased Commercial Option). Under the Increased Commercial Option, 20 units plus 150 square feet of the 39 live/work units on the 3rd floor would be replaced with approximately 17,765 square feet of commercial space for a total of approximately 64,313 square feet of commercial space. The increased commercial space would consist of office and art production-related uses. The average live/work unit size would be approximately 792 square feet. The amount of open space provided under the Increased Commercial Option would remain the same as the project without the Increased Commercial Option.

Implementation of the Increased Commercial Option would not affect the design or building envelope of the proposed building (e.g., location, type, building height, massing, and architectural features would remain identical) as compared to the project. In addition, the 3 level subterranean parking structure proposed for the

project would be able to facilitate the Los Angeles Municipal Code (LAMC)-required amounts of parking for the Increased Commercial Option. Furthermore, 11 percent of the live/work units under this option (approximately 22 live/work units) would be deed restricted for very low income households.

Figure 2 illustrates the proposed site plan.

PROJECT IMPACTS SUMMARY

Construction Impacts

Construction noise associated with the proposed project, the Increased Commercial Option, and cumulative conditions will result in temporary or periodic increases in ambient noise levels above the existing within the project vicinity. However, construction is anticipated to occur during the permissible hours according to the City's Municipal Code and is not expected to exceed 75 dBA under any of these scenarios. Measures to minimize less than significant construction noise impacts have been provided in Section 7 of this report.

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

Existing and Existing Plus project and Increased Commercial Option noise levels along acoustically significant area roadways were modeled utilizing the FHWA Traffic Noise Prediction Model FHWA-RD-77-108 in order to quantify the proposed project's contribution to increases in ambient noise levels. Neither alternative would result in increases greater than 0.2 dBA CNEL. Neither project alternative would result in substantial increases in ambient noise levels. No mitigation is required. Further, neither project alternative would result in increases in ambient noise levels that would be cumulatively considerable. Cumulative impacts would be less than significant. No mitigation is required.

Transportation Noise Impacts to the Proposed Project

Future vehicular noise associated with Alameda Street and noise associated with the truck wash and scales located immediately west of the project site, was modeled in order to determine if it has the potential to impact the proposed residential and commercial land uses. Based on SoundPLAN noise modeling, future traffic noise will result in noise levels reaching up to 64 dBA CNEL at the project site. The City of Los Angeles has identified exterior noise levels of up to 65 dBA CNEL as "normally acceptable" and 70 dBA CNEL as "conditionally acceptable" for multi-family attached residential land uses and up to 70 dBA CNEL as "normally acceptable" and up to 77 dBA CNEL as "conditionally acceptable" for commercial land uses. Therefore, future traffic noise will not cause inconsistencies with the Community Noise Exposure Thresholds at proposed land uses. This impact would be less than significant. No mitigation is required.

Operational Noise Impacts to On-Site Sensitive Receptors

Mixed use developments tend to have noise/land use conflicts associated with mechanical equipment, early morning delivery noise, loading and unloading of delivery vehicles, heavy truck backup beepers, and refrigeration equipment.

The project will be required to comply with Sections 113.01 of the City's Municipal Code which prohibits the operation of any refuse disposal truck, parking lot sweeper, or vacuum truck within 200 feet of any residential building between the hours of 9:00 PM and 6:00 AM of the following day, unless a permit therefore has been duly obtained beforehand from the Board of Police Commissioners.

The project will also be required to comply with Section 114.03 of the Municipal Code which prohibits loading or unloading any vehicle and operation of any dollies, carts, forklifts, or other wheeled equipment which causes any impulsive sound, raucous or unnecessary noise within 200 feet of any residential building between the hours of 10:00 PM and 7:00 AM of the following day.

Further, as per Title 24 California Building Code the project must comply with Section 1207 of the California Building Code (CBC) noise insulation standards.

Impacts related to operational noise will be less than significant with adherence to the above ordinances.

Groundborne Vibration Impacts

The building damage threshold for historic structures as 0.25 PPV for continuous/frequent sources. Individuals are distinctly annoyed at Groundborne levels of 0.04 PPV. The peak particle velocity (PPF) inch/second at the nearest sensitive receptor can be expected as high as 0.015. Therefore, the use of vibratory roller equipment and bulldozers at the project site would not result in architectural damage or annoyance to nearby sensitive receptors. No mitigation is required.

CONSTRUCTION NOISE MEASURES

In addition to adherence to the City of Los Angeles' policies found in the Noise Element of the City's General Plan and Municipal Code limiting the construction hours of operation, the following measures are recommended to reduce construction noise and vibrations emanating from the proposed project:

1. Demolition and construction activities shall be scheduled so as to avoid operating several pieces of equipment simultaneously, which causes high noise levels.

2. The project contractor shall use power construction equipment with state-of-the-art noise shielding and muffling devices.

3. Any stationary equipment such as cranes or generators shall be placed in the center of the project site when possible. Efforts shall be made to bring construction noise as far from residences as possible.

4. During all project site excavation and grading on-site, construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturer standards.

5. The contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the project site.

6. Equipment shall be shut off and not left to idle when not in use.

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 of the proposed 1100 East 5th Street project and to identify mitigation measures that may be necessary to reduce those impacts. The noise issues related to the proposed land use and development have been evaluated in the context of the California Environmental Quality Act.

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

PROJECT DESCRIPTION

The project would involve the demolition of the existing warehouses and surface parking lot, and the construction of an up to 249,758 square foot mixed-use building including up to 220 live/work units, approximately 22,725 square feet of open space for residents, up to 46,548 square feet of commercial uses, and associated parking facilities. Eleven percent of the units (approximately 25 live/work units) would be deed-restricted for very low income households. The proposed building would be up to 110 feet (8 levels above-ground) tall plus 3 levels of subterranean parking and a lower quarter level for storage. The project has been designed to incorporate specific design standards the City has developed to address the Arts District's unique urban form and architectural characteristics.

Project Development Summary			
Descriptor	Land Use	Units	Quantity
Live/Work Units	Studios - 1 bedrooms (Units < 1,000 square feet)	Dwelling Units	191
	2 bedrooms - 3 bedrooms (units > 1,000 square feet)	Dwelling Units	29
	Total Live/Work Units	Dwelling Units	220
Open Space	Private Open Space	Square Feet	900
	Outdoor Communal Space	Square Feet	18,719
	Indoor Communal Space	Square Feet	3,160
	Total Open Space	Square Feet	22,725
Commercial	Commercial and Art Production Space	Square Feet	46,548

The project's commercial uses would be located on the ground and 2nd levels, fronting E. 5th Street and Seaton Street. The commercial uses would include general commercial, restaurant, retail, office, and art production-related uses. The commercial spaces on the 2nd level would be accessible from the internal courtyard via elevators and stairs. The project proposes the sale and on-site consumption of alcoholic beverages at up to four establishments for a total of up to 19,609 square feet of floor area. The live/work component would be located on the 2nd through 8th levels. The average live/work unit size would be approximately 790 square feet. The project proposes a floor area ratio (FAR) of 4.75:1.

The project Applicant is requesting a General Plan Amendment, Vesting Zone Change, and Height District Change to construct and operate the project. The General Plan Amendment would change the current land use designation from Heavy Industrial to Regional Center Commercial, which would permit the mix of commercial and live/work uses being proposed. The Vesting Zone Change would change the current zone from M3 to C2, which would allow for the proposed range of commercial, art production-related, and

live/work uses. The Height District Change from Height District No. 1 to Height District No. 2 would permit an increased FAR, from 1.5:1 to 6:1 (the project building would result in a 4.75:1 FAR). See the Discretionary Actions and Approvals discussion below for more information regarding the discretionary requests that are part of the project.

The project also proposes the ability to implement an increased commercial option that would provide the project the flexibility to increase the commercial square footage provided by the project within the same building parameters (i.e., 249,758 square foot, 110 foot tall building with 8 levels above-ground achieving a 4.75:1 FAR and 3 level subterranean parking structure and a lower quarter level for storage) and, in turn, reduce the overall amount of live/work units from 220 live/work units to 200 live/work units (Increased Commercial Option). Under the Increased Commercial Option, 20 units plus 150 square feet of the 39 live/work units on the 3rd floor would be replaced with approximately 17,765 square feet of commercial space for a total of approximately 64,313 square feet of commercial space. The increased commercial space would consist of office and art production-related uses. The average live/work unit size would be approximately 792 square feet. The amount of open space provided under the Increased Commercial Option would remain the same as the project without the Increased Commercial Option.

Development Summary with Increased Commercial Option					
Descriptor	Land Use	Units	Quantity	Project Under Flex Option (Quantity)	Change (Quantity)
Live/Work Units	Studios - 1 bedrooms (Units < 1,000 square feet)	Dwelling Units	191	173	-18
	2 bedrooms - 3 bedrooms (units > 1,000 square feet)	Dwelling Units	29	27	-2
	Total Live/Work Units	Dwelling Units	220	200	-20
Open Space	Private Open Space	Square Feet	900	900	0
	Outdoor Communal Space	Square Feet	18,719	18,719	0
	Indoor Communal Space	Square Feet	3,160	3,160	0
	Total Open Space	Square Feet	22,725	22,275	0
Commercial	Commercial and Art Production Space	Square Feet	46,548	64,313	17,765

Implementation of the Increased Commercial Option would not affect the design or building envelope of the proposed building (e.g., location, type, building height, massing, and architectural features would remain identical) as compared to the project. In addition, the 3 level subterranean parking structure proposed for the project would be able to facilitate the LAMC-required amounts of parking for the Increased Commercial Option as discussed below under the Access, Circulation, and Parking subheading. Furthermore, 11 percent of the live/work units under this option (approximately 22 live/work units) would be deed restricted for very low income households.

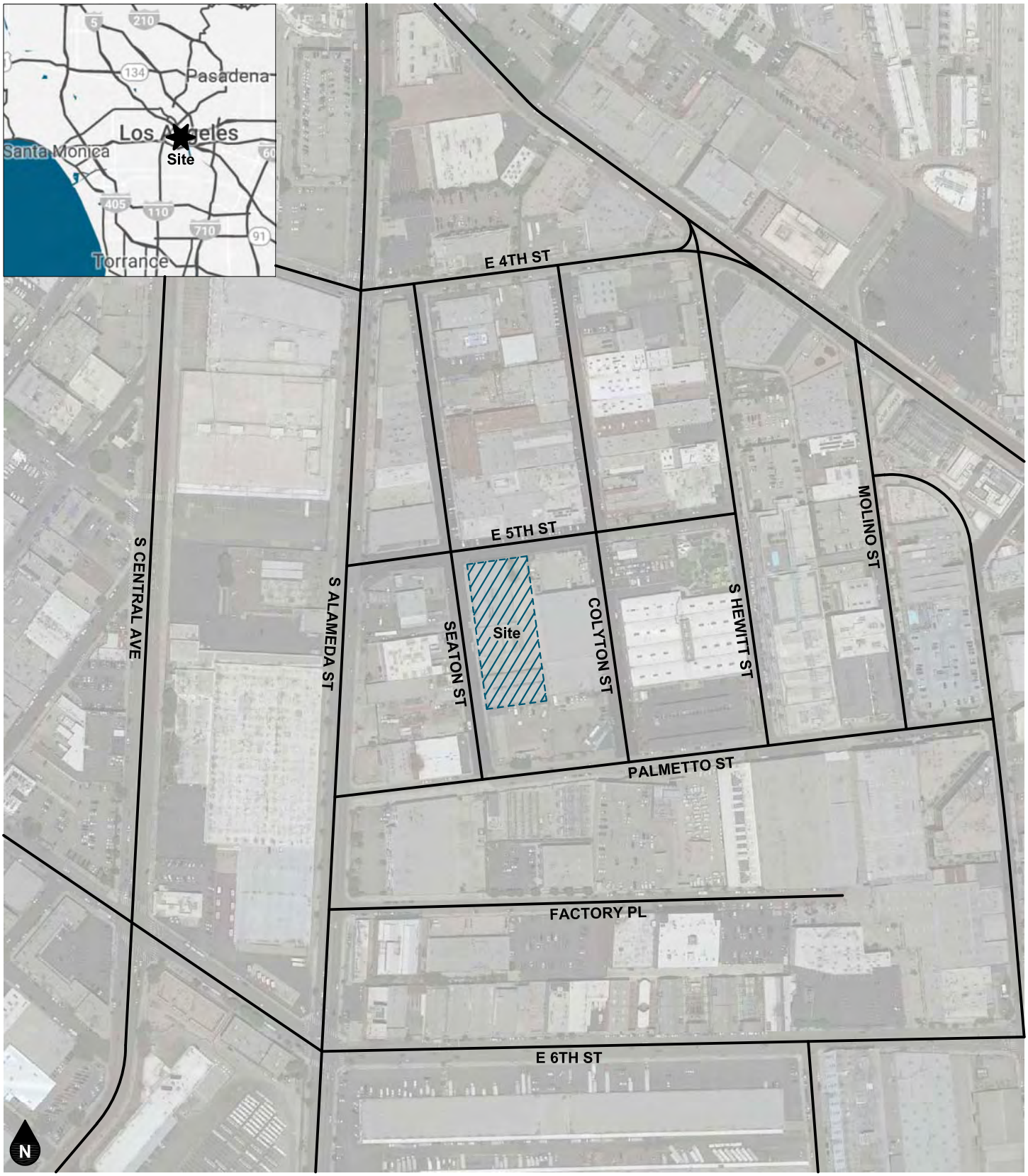


Figure 1
Project Location Map

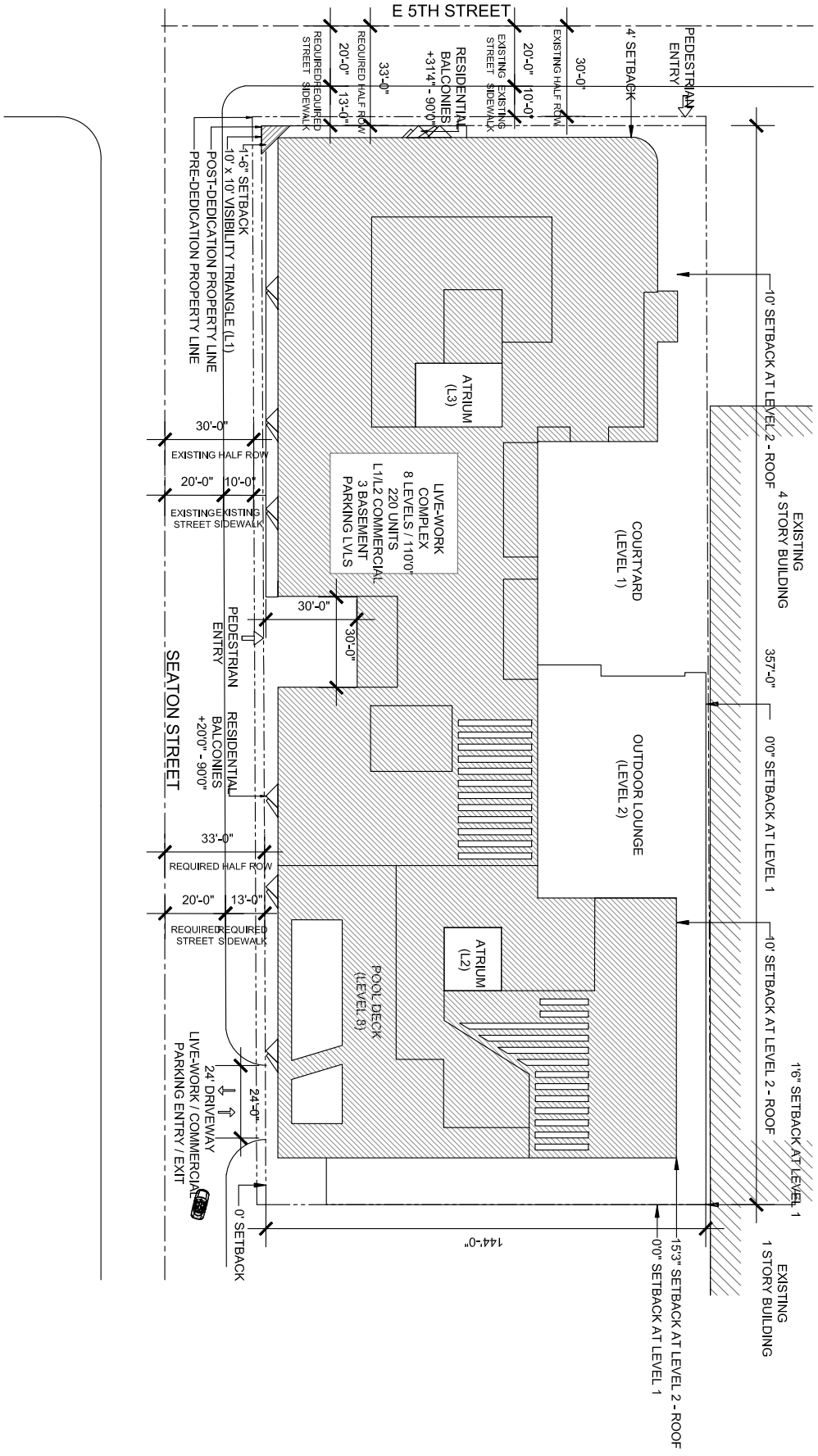


Figure 2
Site Plan

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, $L_{eq(3)}$ would represent a 3-hour average. When no period is specified, a 1-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 Raleigh 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 on Figure 4, 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.

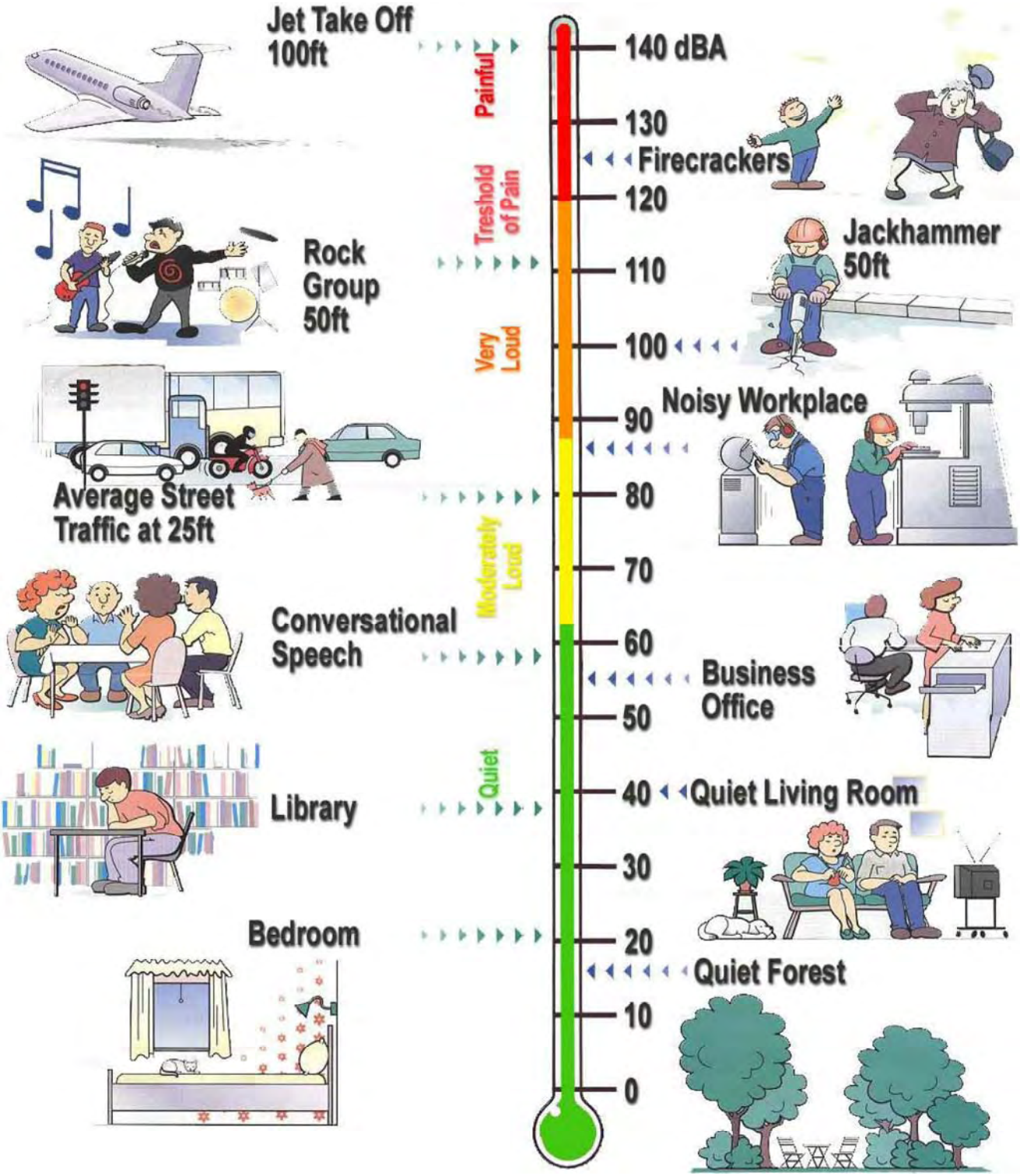
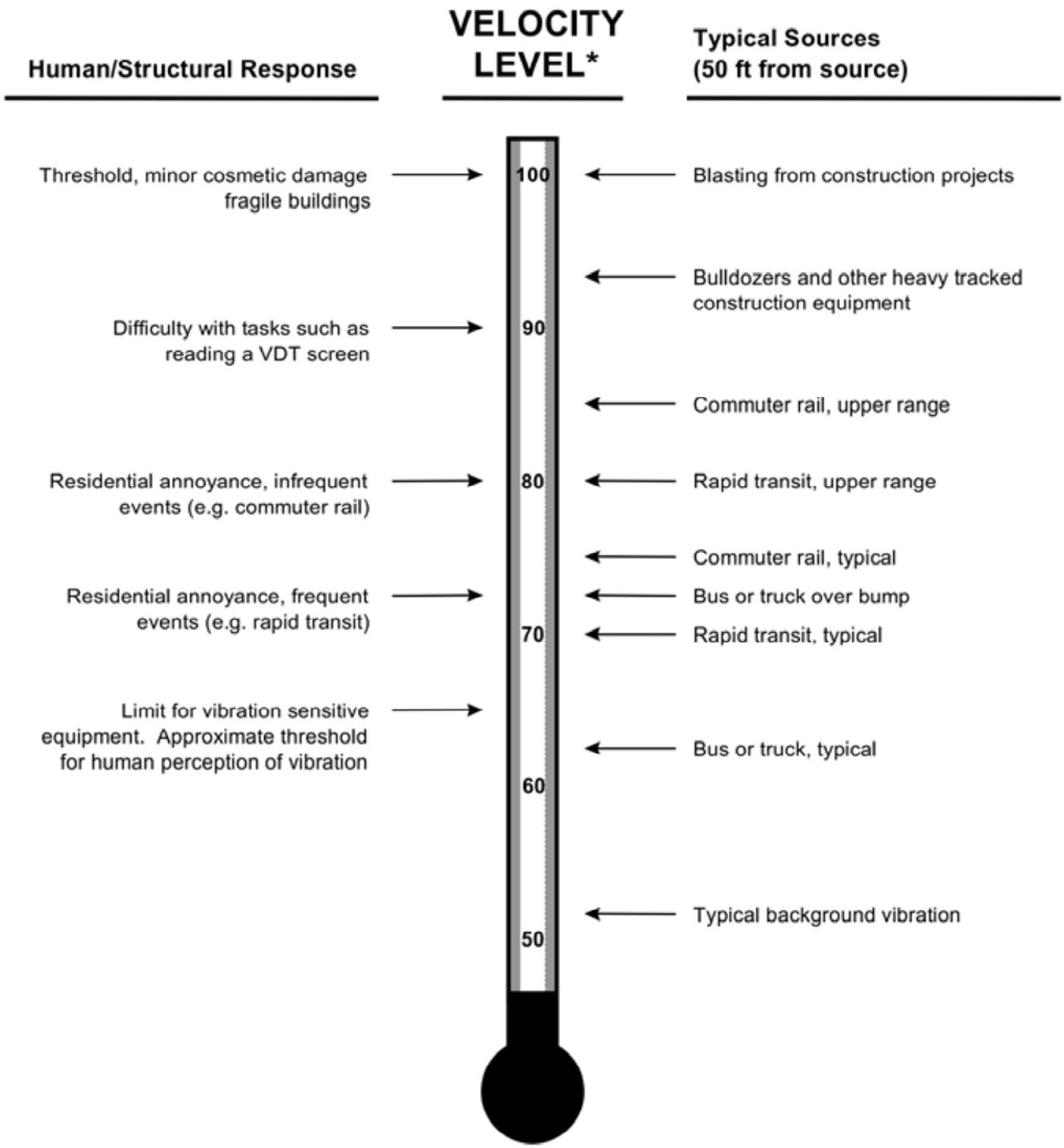


Figure 3
Weighted Sound Levels and Human Response

Source: Bruel & Kjaer 2001



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 E. 5th Street to the north, Seaton Street to the west, paved surface parking lot to the south, and one- and four-story warehouse buildings and a surface parking lot located to the east.

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-family detached and multi-family attached residential, including transient lodging, motels and hotel uses make up the majority of these areas. Existing sensitive receptors that may be affected by project generated noise include the multi-family live/work units located approximately 55 feet north (across E. 5th Street), the Arts District Park located approximately 365 feet east, and the multi-family attached residential uses located approximately 560 feet to the east of the project site.

Currently proposed land uses that could become sensitive receptors include a 12 story, 148 foot tall mixed-use building with 310 dwelling units proposed for the parking area immediately south of the project site; and a 12 story, 148 foot tall mixed-use building with 129 live/work units proposed for the property north of the project site directly across E. 5th Street.

AMBIENT NOISE MEASUREMENTS

An American National Standards Institute (ANSI Section SI4 1979, Type 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 (3) 10-minute daytime noise measurements were taken between 3:07 PM and 4:15 PM on March 12, 2019, one (1) 1-hour noise measurement was taken on July 19, 2019, and one 24-hour noise measurement was taken between 6:00 PM on March 12, 2019 and 6:00 PM on March 13, 2019. Field worksheets and noise measurement output data are included in Appendix C.

As shown on Figure 5, the short-term noise measurements were taken at the mixed-use commercial/residential building located to the north of the project site (along E. 5th Street) (NM1), near the northwestern project boundary near the gas station/truck wash to the west of the project site (along Seaton Street) (NM2), near the truck wash located west of the project site (along Seaton Street) (NM3), at the northern boundary of the Arts District Park (along E. 5th Street) (NM4), and along the eastern project boundary near adjacent parking/loading areas to the east (LTNM1). Table 1 provides a summary of the short-term ambient noise data. A summary of the long-term ambient noise data is presented in Table 2. Short-term ambient noise levels were measured between 59.5 and 72.0 dBA L_{eq}. Long-term hourly noise measurement ambient noise levels ranged from 54.7 to 64.5 dBA L_{eq}. The dominant noise source in the project area is vehicle noise from the surrounding roadways (i.e., E. 5th Street, Seaton Street, Alameda Street, Hewitt Street, etc.), a parked truck with engine running, and a locking car horn alarm.

Table 1
Short-Term Noise Measurement Summary (dBA)[1,2]

Daytime							
Site Location		Leq	Lmax	L(2)	L(8)	L(25)	L(50)
NM1	3:07 PM	62.3	74.4	71.7	65.5	61.3	59.1
NM2[3]	1:50 PM	72.0	101.3	72.6	68.7	65.8	63.8
NM3	3:42 PM	62.1	77.7	71.1	66.3	59.7	58.0
NM4	4:05 PM	59.5	81.7	65.1	62.7	57.9	55.8

Notes:

(1) See Figure 5 for noise measurement locations. Each noise measurement was performed over a 10-minute duration.

(2) Noise measurements performed on March 12, 2019 and July 19, 2019.

(3) Noise measurement 2 was one-hour in duration in order to capture truck wash and scale noise levels.

Table 2
Long-Term Noise Measurement Summary (dBA)[1,2]

24-Hour Ambient Noise								
Hourly Measurements	Time Started	Leq	Lmax	Lmin	L(2)	L(8)	L(25)	L(50)
Overall Summary	6:00 PM	59.4	90.6	46.0	66.6	62.0	57.7	55.7
1	6:00 PM	59.1	76.8	54.7	65.8	61.8	58.1	57.0
2	7:00 PM	59.2	78.0	53.4	66.9	60.8	57.0	55.9
3	8:00 PM	62.4	86.0	52.4	70.3	62.5	57.5	55.9
4	9:00 PM	63.5	90.6	53.3	68.8	61.6	56.8	55.5
5	10:00 PM	59.5	78.2	53.0	67.9	61.6	56.2	55.4
6	11:00 PM	58.6	83.4	52.0	65.8	58.7	55.8	54.7
7	12:00 AM	56.4	79.4	52.1	61.3	56.8	54.4	53.8
8	1:00 AM	56.2	72.4	49.7	64.3	57.5	54.5	53.2
9	2:00 AM	54.7	66.2	51.7	58.8	57.1	54.5	53.9
10	3:00 AM	55.1	69.9	50.9	60.8	57.5	54.8	53.8
11	4:00 AM	55.2	65.0	51.9	59.5	57.6	55.3	54.3
12	5:00 AM	57.3	70.2	51.9	64.8	59.3	57.0	55.4
13	6:00 AM	58.7	71.5	55.5	64.5	60.6	58.7	57.4
14	7:00 AM	58.6	73.4	53.2	65.3	61.1	58.7	57.0
15	8:00 AM	59.4	76.1	51.3	66.9	63.1	58.7	56.2
16	9:00 AM	59.8	83.5	51.5	65.6	62.3	59.4	55.8
17	10:00 AM	60.1	81.4	52.0	68.1	62.7	59.1	56.4
18	11:00 AM	58.0	75.5	52.7	64.5	60.9	58.0	56.1
19	12:00 PM	64.5	86.1	50.6	69.8	67.1	66.0	61.6
20	1:00 PM	58.7	76.6	47.5	66.2	63.6	57.9	54.9
21	2:00 PM	57.5	73.6	46.0	63.7	60.7	57.7	54.8
22	3:00 PM	59.4	75.8	52.5	67.0	62.7	59.3	56.8
23	4:00 PM	58.3	71.6	51.6	65.1	61.6	58.1	56.4
24	5:00 PM	57.9	70.1	52.6	64.1	61.3	57.8	56.0

Notes:

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

(2) Noise measurement performed from March 12, 2019 to March 13, 2019.

Legend

⊕ Noise Measurement Location

NM 1

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), provide 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 identifies acceptable and unacceptable community noise exposure limits for various land use categories. The City of Los Angeles has adopted a version of this matrix.

LOCAL REGULATIONS

City of Los Angeles General Plan

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

Goals, Objectives, and Policies

The Noise Element of the City of Los Angeles General Plan describes the citywide noise environment (including ambient noise levels and noise sources), projects future noise levels, and recommends noise mitigation and strategies. The City has adopted the following objectives and policies as tools to achieve and maintain the City's goal of having "a city where noise does not reduce the quality of urban life."

Goal	A city where noise does not reduce the quality of urban life.
Objective 2	Reduce or eliminate non-airport related intrusive noise, especially relative to noise sensitive uses.
Policy 2.2	Enforce and/or implement applicable city, state and federal regulations intended to mitigate proposed noise producing activities, reduce intrusive noise and alleviate noise that is deemed a public nuisance.
Objective 3	Reduce or eliminate noise impacts associated with proposed development of land and changes in land use.
Policy 3.1:	Develop land use policies and programs that will reduce or eliminate potential and existing noise impacts.

Implementation:
For a proposed development project that is deemed to have a potentially significant noise impact on noise sensitive uses, as defined by this chapter, require mitigation measures, as appropriate, in accordance with California Environmental Quality Act and city procedures.

In addition to the above listed objectives and policies, the City of Los Angeles has adopted local guidelines based, in part, on the State Department of Health services noise compatibility guidelines, which are used for planning purposes (i.e., they have no regulatory enforcement). These guidelines, contained in the Los Angeles CEQA Thresholds Guide adopted in 2006, are intended to assist in land use siting decisions in relation to existing and future exterior noise levels.

City of Los Angeles Municipal Code

The City of Los Angeles has several ordinances and enforcement practices that apply to intrusive noise as well as ones that regulate construction activity. The noise ordinance has been reviewed and various sections have been outlined which would apply to the project.

Chapter XI - Noise Regulation

Noise Impacts to Adjacent Properties

The City has established exterior noise level limits that are not to be exceeded at the property line. Exterior noise level limits are based on a presumed ambient noise level and then additional noise level restrictions based on the type of noise source (e.g., construction, HVAC, Radios, etc.) may be applied. Presumed ambient noise levels are shown in Table 3. Where the ambient noise level is less than the presumed ambient noise level, the presumed ambient noise level shall be deemed to be the minimum ambient noise level. At the boundary line between two zones, the presumed ambient noise level of the quieter zone shall be used.

The project will be required to comply with Section 113.01 of the Municipal Code which prohibits the operation of any refuse disposal truck, parking lot sweeper, or vacuum truck within 200 feet of any residential building between the hours of 9:00 PM and 6:00 AM of the following day, unless a permit therefore has been duly obtained beforehand from the Board of Police Commissioners.

The project will be required to comply with Section of the Municipal Code 114.03 which prohibits loading or unloading any vehicle and operation of any dollies, carts, forklifts, or other wheeled equipment which causes any impulsive sound, raucous or unnecessary noise within 200 feet of any residential building between the hours of 10:00 PM and 7:00 AM of the following day.

Construction Related Noise

Section 41.40 of the LAMC prohibits construction activity (including demolition) and repair work, where the use of any power tool, device, or equipment would disturb persons occupying sleeping quarters in any dwelling hotel, apartment, or other place of residence, between the hours of 9:00 PM and 7:00 AM Monday through Friday, and between 6:00 PM and 8:00 AM on Saturday. All such activities are also prohibited on Sundays and all federal holidays.

Section 112.05 of the LAMC also prohibits operation of any powered equipment or powered hand tool that exceeds the following noise limits at a distance of 50 feet between the hours of 7:00 AM and 10:00 PM:

(a) 75 dBA for construction, industrial, and agricultural machinery including crawler-tractors, dozers, rotary drills and augers, loaders, power shovels, cranes, derricks, motor graders, paving machines, off-highway trucks, ditchers, trenchers, compactors, scrapers, wagons, pavement breakers, compressors and pneumatic or other powered equipment.

The above noise level limitations do not apply where compliance is deemed to be technically infeasible, which means that said noise limitations cannot be met despite the use of mufflers, shields, sound barriers, and/or other noise reduction device or techniques during the operation of the equipment.

Los Angeles CEQA Threshold Guide

The Los Angeles Threshold Guide provides screening criteria and significance thresholds that are applicable project construction noise, stationary noise, and project generated vehicle noise. Applicable thresholds are presented below. It is important to note that the Los Angeles CEQA Thresholds Guide is a guidance document and intended to provide flexibility so that the most appropriate criteria for any particular project can be utilized (Declaration of Nicholas Hendricks, City of Los Angles Senior City Planner, October 16, 2018).

Construction Noise Significance Thresholds

As stated above, City staff members have made it clear that the CEQA Thresholds Guide is a guidance document and intended to provide flexibility to use the most appropriate criteria for a particular project (Hendricks 2018). For urban infill projects, the City of Los Angeles planning staff have been requesting that the noise ordinance discussed above, (Section 112.05 of the LAMC) be utilized as the threshold or design parameter to avoid significant construction noise impacts. Section 112.05 prohibits operation of any powered equipment or powered hand tool that exceeds 75.0 dBA at a distance of 50 feet between the hours of 7:00 AM and 10:00 PM.

Operational Noise Significance Thresholds

- A project would normally have a significant impact on noise levels from project operations if the project causes the ambient noise level measured at the property line of affected uses to increase by 3 dBA in CNEL to or within the "normally unacceptable" or "clearly unacceptable" category (see Table 4), or any 5 dBA or greater noise increase.

Table 3
Presumed Ambient Noise Level[1]

Zone	Presumed Ambient Noise Level (dB(A))	
	Day	Night
A1, A2, RA, RE, RS, RD, RW1, RW2, R1, R2, R3, R4, and R5	50	40
P, PB, CR, C1, C1.5, C2, C4, C5, and CM	60	55
M1, MR1, and MR2	60	55
M2 and M3	65	65

Notes:
(1) Source: City of Los Angeles Municipal Code, Chapter XI, Table 2.

Table 4
Community Noise Exposure Thresholds[1]

Land Use	Community Noise Exposure CNEL, db			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Single Family, Duplex, Mobile Homes	50 - 60	55 - 70	70 - 75	above 70
Multi-Family Homes	50 - 65	60 - 70	70 - 75	above 70
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 - 70	60 - 70	70 - 80	above 80
Transient Lodging - Motels, Hotels	50 - 65	60 - 70	70 - 80	above 80
Auditoriums, Concert Halls, Amphitheaters		50 - 70		above 65
Sports Arena, Outdoor Spectator Sports		50 - 75		above 70
Playgrounds, Neighborhood Parks	50 - 70		67 - 75	above 72
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 - 75		70 - 80	above 80
Office Buildings, Business and Professional Commercial	50 - 70	67 - 77	above 75	
Industrial, Manufacturing, Utilities, Agriculture	50 - 75	70 - 80	above 75	
Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.				
Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.				
Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.				
Clearly Unacceptable: New construction or development should generally not be undertaken.				

Notes:

(1) Source: California Department of Health Services (DHS).

5. ANALYTICAL METHODOLOGY AND MODEL PARAMETERS

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

NOISE MODELING AND INPUT

Construction Noise Modeling

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. Construction noise levels were calculated for each phase. Construction worksheets are included in Appendix D.

Federal Highway Administration (FHWA) Traffic Noise Prediction Model

Existing and Existing Plus Project noise levels were modeled for roadways affected by project generated trips utilizing the FHWA Traffic Noise Prediction Model FHWA-RD-77-108 in order to quantify the proposed project's contribution to increases in ambient noise levels.

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). Adjustments are then made to the REMEL to account for: total ADT volumes, roadway classification, width, speed and truck mix, roadway grade and site conditions (hard or soft ground surface). Surfaces adjacent to all modeled roadways were assumed to have a "hard site" to predict worst-case, conservative noise levels. A hard site, such as pavement, is highly reflective and does not attenuate noise as quickly as grass or other soft sites. Possible reductions in noise levels due to intervening topography and buildings were not accounted for in this analysis.

Existing and Existing Plus project ADTs were calculated from the existing and project traffic volumes and project trip distribution in the project's Traffic Impact Study (Linscott, Law, & Greenspan Engineers, April 2019). Neither the City of Los Angeles nor the County of Los Angeles have vehicle mix data published for use in noise studies, so vehicle/truck mixes and D/E/N splits for use in acoustical studies published by the Riverside County Department of Industrial Hygiene were utilized for noise modeling. Existing Plus project vehicle mixes were calculated by adding the proposed project trips to existing conditions. FHWA spreadsheets are included in Appendix E.

SoundPLAN

The SoundPLAN noise model was utilized to model vehicular noise associated with Alameda Street to determine if noise levels would adversely affect the proposed project. E. 5th Street and Seaton Street are not an acoustically significant roadways. Therefore, vehicular noise modeling was not conducted for these roadways.

The SoundPLAN model is a three-dimensional noise model that is capable of evaluating mobile and stationary noise sources. 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.

Roadway parameters utilized for modeling future traffic noise levels associated with Alameda Street at the project site, include location, traffic volume, speed and vehicle mix (autos, medium trucks, and heavy trucks). The traffic study prepared for the project (Linscott, Law & Greenspan 2019) identifies Alameda Street as a Major Highway/Class II Avenue. The posted speed for Alameda Street is 35 miles per hour (mph). Future ADTs associated with Alameda Street were modeled using Future Cumulative with Project ADTs were

calculated utilizing turning movement data found in the traffic study prepared for the project (Linscott, Law & Greenspan 2019). The turning movements were multiplied by a factor of 10 to find the ADTs. Based on these calculations, traffic volumes between 4th Street and 6th Street may reach up to 30,800 ADT. A conservative vehicle mix of 92.0 percent automobiles, 3.0 percent medium trucks, and 5.0 percent heavy trucks was utilized.

Noise associated with the Truck Wash and Scales located immediately west of the project site in-between Alameda Street and Seaton Street was also included in the noise model. A representative noise measurement was taken at the car wash/scales (See Section 3 of this report). This measurement was utilized to calibrate the model, and then transferred into the model to calculate the combined roadway/truck wash/scales CNEL. SoundPLAN input and output is included in Appendix F.

6. IMPACT ANALYSIS

This impact discussion analyzes the potential for project construction noise and operational noise to cause an exposure of person to or generation of noise levels in excess of established City of Los Angeles noise standards related to construction noise and transportation noise related impacts to, or from, the proposed project.

CONSTRUCTION NOISE

Impact Analysis/Modeling Results

As discussed in Section 1. Project Description, this noise analysis includes the proposed project as well as an Increased Commercial Option.

Construction and demolition 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. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. A summary of noise level data for a variety of construction equipment compiled by the Federal Transit Administration (FTA) is presented in Table 5.

Construction noise associated with the proposed project/Increased Commercial Option were 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 of the proposed project. Anticipated project generated construction noise levels during each construction phase are presented in Tables 6 and 7, and worksheets are included as Appendix D. Construction noise impacts associated with the Increased Commercial Option are the same as those that are associated with the proposed project. The Increased Commercial Option design is not different enough to warrant additional construction noise modeling.

In addition to the proposed project, there are two other construction projects proposed in close proximity. The first is a Palmetto Mixed-Use project located adjacent to the south of the proposed project site at 527 S. Colyton Street and 1147 E. Palmetto Street and the second is the Arts District Project located north of the project site (across E 5th Street) at 1101-1129 E. 5th Street and 445 S. Colyton Street. All other related projects in the project vicinity would not contribute to potential cumulatively considerable impacts due to distance and intervening buildings.

A worst-case cumulative construction noise scenario assumes construction of two of the three projects mentioned above (including the proposed project) while the third project is occupied. For the purposes of this discussion, it is assumed that the mixed use project located at 1101-1129 E. 5th Street and 445 S. Colyton Street will be occupied while the other two projects are under construction. Assuming that both projects are actively being paved, and there is no mitigation implemented and no intervening structures, the noisiest construction activity, the cumulative noise level at the occupied residential units at 1101-1129 E. 5th Street and 445 S. Colyton Street could reach up to 75.0 dBA L_{eq}. Cumulative construction noise calculations are included in Appendix D.

City of Los Angeles Municipal Code

A project would normally have a significant impact on noise levels from construction if:

- Construction activity (including demolition) or repair work, where the use of any power tool, device, or equipment would disturb persons occupying sleeping quarters in any dwelling hotel, apartment, or other

place of residence, occurs between the hours of 9:00 PM and 7:00 AM Monday through Friday, or between 6:00 PM and 8:00 AM on Saturday; or if they occur anytime on Sundays or on a federal holiday.
- Construction equipment is operated in a manner that causes it to exceed 75 dBA at a distance of 50 feet, between the hours of 7:00 AM and 10:00 PM.

The above noise level limitations do not apply where compliance is deemed to be technically infeasible, which means that said noise limitations cannot be met despite the use of mufflers, shields, sound barriers, and/or other noise reduction device or techniques during the operation of the equipment.

Project construction noise and cumulative project construction noise at adjacent/nearby sensitive receptors was calculated. The results for project generated construction noise are presented by construction phase, in Tables 6 and 7. Construction noise levels at sensitive receptors located north and south of the project site may reach up to 72.6 dBA L_{eq} and construction noise at sensitive receptors located east of the project site may reach up to 65.0 dBA. Under a worst-case scenario, cumulative construction noise levels at sensitive receptors may reach up to 75.0 dBA Leq at the nearest sensitive receptor. Neither project construction nor cumulative project construction noise would exceed the applicable standard of 75 dBA L_{eq} at sensitive receptors. Construction noise impacts associated with the Increased Commercial Option are the same as those that are associated with the proposed project. Impacts would be less than significant. Measures to minimize these less than significant impacts are presented in Section 7.0 of this report.

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

Impact Analysis/Modeling Results

As discussed in Section 1. Project Description, this noise analysis includes the proposed project as well as an Increased Commercial Option. Per the Traffic Impact Study, the proposed project with incorporation of the Traffic Demand Management program (TDM), is projected to generate a net total of 2,285 vehicle trips per day and the Increased Commercial Option, with incorporation of the TDM, is projected to generate a net total of 2,299 vehicle trips per day. The Increased Commercial Option would result in 14 additional ADTs that would be distributed over affected road segments. Off-site project generated vehicle traffic impacts were modeled for both the proposed project and the Increased Commercial Option. The addition of 14 ADTs may result in a 0.1 dB increase along two road segments over the proposed project, which would not be noticeable. The Increased Commercial Option would not increase noise levels over proposed project conditions. Impacts associated with each alternative would be the same.

Existing and project-generated trips noise levels were modeled utilizing the FHWA Traffic Noise Prediction Model - FHWA-RD-77-108 at the right-of-way of each analyzed roadway for both project alternatives. The FHWA worksheets are included in Appendix E. 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 ADTs, speeds, and vehicle distribution data are shown in Tables 8 and 10. The potential off-site noise impacts caused by an increase of traffic volumes from operation of the proposed project on the nearby roadways were calculated for both the proposed project and the Increased Commercial Option. The change in noise levels due to implementation of either project alternative is shown in Tables 9 and 11. Project generated vehicle traffic noise would result in negligible increases in ambient noise levels under both scenarios.

City of Los Angeles CEQA Threshold

- A project would normally have a significant impact on noise levels from operations if the ambient noise level measured at the property line of affected uses were to increase by 3 dBA in CNEL to within the "normally unacceptable" or clearly unacceptable" category (as shown in Table 4), or any 5 dBA or greater noise increase.

As shown in Tables 9 and 11, project generated vehicle traffic noise would result in negligible increases in ambient noise levels under either the proposed project or the Increased Commercial Option. Cumulative impacts associated with development of either scenario would not be cumulatively considerable. This impact would be less than significant. No mitigation is required.

TRAFFIC NOISE IMPACTS TO THE PROPOSED PROJECT

Future vehicular noise associated with Alameda Street and noise associated with the truck wash and scales located immediately west of the project site, was modeled in order to determine if it has the potential to impact the proposed residential and commercial land uses. Based on SoundPLAN noise modeling, future traffic noise will result in noise levels reaching up to 64 dBA CNEL at the project site.

City of Los Angeles CEQA Thresholds

- Is the project consistent with Community Noise Exposure Thresholds shown in Table 4?

  Future traffic noise will result in noise levels reaching up to 64 dBA CNEL at the proposed multi-family attached residential dwelling units and commercial land uses; and will fall into the "normally acceptable" category for multiple family residential uses; and the "normally acceptable" category of 70 dBA CNEL for commercial land uses. According to the footnotes in the City's Community Noise Threshold Table (Table 4), proposed land uses that fall into the "normally acceptable" category are satisfactory, based upon the assumption that any buildings involved are of normal conventional construction and do not require any special noise insulation requirements. Impacts would be less than significant. No mitigation is required.

OPERATIONAL NOISE IMPACTS TO ON-SITE SENSITIVE RECEPTORS

Mixed use developments tend to have noise/land use conflicts associated with mechanical equipment, early morning delivery noise, loading and unloading of delivery vehicles, heavy truck backup beepers, and refrigeration equipment. Other noise sources may include:

- Noise from gas powered leaf blowers, especially when operated in the early morning
- Back up beepers on delivery trucks and garbage trucks
- Automobile car alarms
- Idling cars/trucks, trucks, doors closing, and starting engine noise
- Loud activities (i.e., loud music, banging, etc. associated with retail uses).
- Exterior restaurant/bar patron conversations that occur on outdoor patios.

Sensitive receptors that may be affected by project operational noise include the proposed residential units as well as the existing multi-family attached residential dwelling units to the north and east of the project.

The project will be required to comply with Section 113.01 of the City's Municipal Code which prohibits the operation of any refuse disposal truck, parking lot sweeper, or vacuum truck within 200 feet of any residential building between the hours of 9:00 PM and 6:00 AM of the following day, unless a permit therefore has been duly obtained beforehand from the Board of Police Commissioners.

The project will also be required to comply with Section 114.03 of the Municipal Code which prohibits loading or unloading any vehicle and operation of any dollies, carts, forklifts, or other wheeled equipment which causes any impulsive sound, raucous or unnecessary noise within 200 feet of any residential building between the hours of 10:00 PM and 7:00 AM of the following day.

Further, as per Title 24 California Building Code the project must comply with Section 1207 of the California Building Code (CBC) noise insulation standards. The following outlines the minimum building requirements for multi-family attached residential dwelling units as it relates to noise isolation for common separating assemblies:

1. Walls, partitions, and floor/ceiling assembly designs must provide a minimum STC of 50, based on lab tests. Field tested assemblies must provide a minimum noise isolation class (NIC) of 45.
2. Floor/ceiling assembly designs must provide for a minimum impact insulation class (IIC) of 50, based on lab tests. Field tested assemblies must provide a minimum FIIC of 45.
3. Penetrations or openings in sound rated assemblies must be sealed, lined, insulated, or otherwise treated to maintain required ratings.
4. Interior noise levels due to exterior sources must not exceed a community noise equivalent level (CNEL) or a day-night level (LDN) of 45 dBA, in any habitable room.

Thus, the design of party walls and floor/ceiling assemblies for multi-family attached residential dwelling units must be based on laboratory tested assemblies which test at a sound transmission class of 50 STC, or better.

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, 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. 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.

As shown in Table 10, vibration is distinctly perceptible at a peak particle velocity (PPV) of 0.25 during transient vibratory events and at 0.04 during continuous/frequent events. Equipment to be utilized for site demolition and construction is considered to be continuous/intermittent equipment.

The nearest off-site building is located approximately 0.5 feet from the eastern property line. This building is that of an industrial use. Per the FTA Transportation and Construction Vibration Guidance Manual (September 2013), land uses sensitive to vibration include: buildings where people normally sleep, such as dwelling units, hotels, and hospitals; research and manufacturing facilities that are vibration-sensitive such as hospitals with vibration-sensitive equipment and universities conducting physical research operations; and institutions and offices that have vibration-sensitive equipment and have the potential for activity interference such as schools, churches, doctors' offices. Further, the FTA states that commercial or industrial locations including office buildings are not included in this category, unless there is vibration-sensitive activity or equipment within the building. Therefore, vibration impacts to the industrial building adjacent to the east of the project site would be considered less than significant and no further analysis is warranted.

At a distance of 55 feet, which is the distance to the closest off-site residential building, use of a vibratory roller would be expected to generate a PPV of 0.015 and a bulldozer would be expected to generate a PPV of 0.006. Use of either a vibratory roller or a bulldozer would not be anticipated to be annoying to nearby sensitive receptors. Furthermore, annoyance is expected to be short-term, occurring only during site grading

and preparation. Mitigation measures to reduce potential impacts to residential dwelling units are presented in Section 7 of this report. 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.

Table 11 identifies the building damage threshold for historic structures as 0.25 PPV for continuous/frequent sources. As stated above, the PPV level at the nearest sensitive receptor can be expected as high as 0.015. Therefore, the use of vibratory roller equipment and bulldozers at the project site would not result in architectural damage to the nearest sensitive receptors. No mitigation is required. Vibration worksheets are provided in Appendix G.

Table 5
Typical Construction Equipment Noise Emission Levels[1]

Equpiment	Typical Noise Level 50 feet from Source, dBA
Air Compressor	80
Backhoe	80
Ballast Equalizer	82
Ballast Tamper	83
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Concrete Vibrator	76
Crane, Derrick	88
Crane, Mobile	83
Dozer	85
Generator	82
Grader	85
Impact Wrench	85
Jack Hammer	88
Loader	80
Paver	85
Pile-driver (Impact)	101
Pile-driver (Sonic)	95
Pneumatic Tool	85
Pump	77
Rail Saw	90
Rock Drill	95
Roller	85
Saw	76
Scarifier	83
Scraper	85
Shovel	82
Spike Driver	77
Tie Cutter	84
Tie Handler	80
Tie Inserter	85
Truck	84

Notes:

(1) Source: Federal Transit Administration, 2018

Table 6
Construction Noise by Phase - Receptors North and South of the Project Site

A	B	C	D	E	J
Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1, 2]	Distance to Receptor[3]	Item Usage Percent	Receptor Item Leq, dBA
Demolition					
Concrete/Industrial Saw	1	76	238	20	55.5
Rubber Tired Dozers	1	85	238	40	67.5
Tractors/Loaders/Backhoes	3	80	238	40	67.2
					70.5
Site Preparation					
Tractors/Loaders/Backhoes	1	80	238	40	62.5
					62.5
Grading					
Graders	1	85	238	40	67.5
Rubber Tired Dozers	1	85	238	40	67.5
Tractors/Loaders/Backhoes	1	80	238	40	62.5
					71.1
Building Construction					
Cranes	1	83	238	16	61.5
Forklifts	2	64	238	50	50.4
Generator Sets	1	82	238	40	64.5
Welders	3	64	238	40	51.2
Tractors/Loaders/Backhoes	1	80	238	40	62.5
					65.2
Paving					
Cement and Mortar Mixers	1	85	238	40	67.5
Pavers	1	85	238	50	68.4
Paving Equipment	1	85	238	20	64.5
Tractors/Loaders/Backhoes	1	80	238	40	62.5
Rollers	1	85	238	20	64.5
					72.6
Architectural Coating					
Air Compressors	1	80	238	40	62.5
					62.5

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018).

(2) Source: https://www.google.com/url?q=http://www.noisetesting.info/blog/warehouse-forklift-workplace-noise-levels/&sa=D&source=hangouts&ust=1545259247311000&usg=AFQjCNHFcKKoEKUjv5VZMOtw_KO977Em1A

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

Table 7
Construction Noise by Phase - Receptors East of the Project Site

A	B	C	D	E	J
Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1, 2]	Distance to Receptor[3]	Item Usage Percent	Receptor Item Leq, dBA
Demolition					
Concrete/Industrial Saw	1	76	636	20	46.9
Rubber Tired Dozers	1	85	636	40	58.9
Tractors/Loaders/Backhoes	3	80	636	40	58.7
					62.0
Site Preparation					
Tractors/Loaders/Backhoes	1	80	636	40	53.9
					53.9
Grading					
Graders	1	85	636	40	58.9
Rubber Tired Dozers	1	85	636	40	58.9
Tractors/Loaders/Backhoes	1	80	636	40	53.9
					62.6
Building Construction					
Cranes	1	83	636	16	53.0
Forklifts	2	64	636	50	41.9
Generator Sets	1	82	636	40	55.9
Welders	3	64	636	40	42.7
Tractors/Loaders/Backhoes	1	80	636	40	53.9
					56.6
Paving					
Cement and Mortar Mixers	1	85	636	40	58.9
Pavers	1	85	636	50	59.9
Paving Equipment	1	85	636	20	55.9
Tractors/Loaders/Backhoes	1	80	636	40	53.9
Rollers	1	85	636	20	55.9
					64.0
Architectural Coating					
Air Compressors	1	80	636	40	53.9
					53.9

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018).

(2) Source: https://www.google.com/url?q=http://www.noisetesting.info/blog/warehouse-forklift-workplace-noise-levels/&sa=D&source=hangouts&ust=1545259247311000&usg=AFQjCNHFcKKoEKUjv5VZMOtw_KO977Em1A

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

Table 8
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		
3rd Street/4th Place/4th Street	West of Central Avenue	14,500	14,600	25	Hard
	Central Avenue to Alameda Street	13,100	13,300	25	Hard
	East of Alameda Street	6,800	6,900	25	Hard
	West of Merrick Street	22,100	22,300	25	Hard
	East of Merrick Street	22,100	22,300	25	Hard
4th Street	West of Central Avenue	16,900	17,000	35	Hard
	Central Avenue to Alameda Street	18,700	18,800	35	Hard
	Alameda Street to Seaton Street[2]	5,900	6,000	35	Hard
	Seaton Street to 4th Place/4th Street[2]	5,900	6,100	35	Hard
6th Street	West of Central Avenue	11,800	12,000	35	Hard
	Central Avenue to Alameda Street	14,500	14,700	35	Hard
	Alameda Street to Mateo Street	12,600	12,800	35	Hard
	East of Mateo Street	11,000	11,300	35	Hard
7th Street	West of Central Avenue	15,800	15,900	35	Hard
	Central Avenue to Alameda Street	16,300	16,400	35	Hard
	Alameda Street to Mateo Street	16,200	16,300	35	Hard
	East of Mateo Street	14,000	14,100	35	Hard
Central Avenue	North of 3rd Street	13,100	13,200	35	Hard
	3rd Street to 4th Street	15,000	15,300	35	Hard
	6th Street to 7th Street	16,300	16,700	35	Hard
	South of 7th Street	17,400	18,000	35	Hard
Alameda Street	North of 2nd Street	19,700	20,400	35	Hard
	2nd Street to 3rd Street/4th Place	20,100	21,000	35	Hard
	3rd Street/4th Place to 4th Street	21,500	22,100	35	Hard
	South of 4th Street	18,100	18,400	35	Hard
	North of 6th Street	18,800	18,900	35	Hard
	6th Street to 7th Street	18,600	18,700	35	Hard
	South of 7th Street	19,100	19,200	35	Hard
Mateo Street	North of 6th Street	4,100	4,200	25	Hard
	6th Street to 7th Street	4,600	4,700	25	Hard
	South of 7th Street	5,600	5,700	25	Hard

Vehicle Distribution (Light Mix)[3]			
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)[3]			
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 and project average daily traffic volumes calculated from the traffic volumes obtained from the 1100 East 5th Street Traffic Impact Study, Lincsott Law & Greenspan Engineers (April 2019).

(2) Existing average daily traffic volumes calculated per the measured ambient noise levels and project average daily traffic volumes calculated per the project trip distribuiton obtained from the 1100 East 5th Street Traffic Impact Study, Linscott, Law, & Greenspan Engineers (April 2019).

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

Table 9

Change in Existing Noise Levels Along Roadways as a Result of Project (dBA CNEL) - Proposed Project

Roadway	Segment	Distance from roadway centerline to right-of-way (feet)[2]	Modeled Noise Levels (dBA CNEL)				
			Existing Without Project at right-of-way	Existing Plus Project at right-of-way	Change in Noise Level	Exceeds Standards[3]	Increase of 3 dB or More
3rd Street/4th Place/4th Street	West of Central Avenue	43	66.4	66.4	0.0	Yes	No
	Central Avenue to Alameda Street	43	65.9	66.0	0.1	Yes	No
	East of Alameda Street	43	63.1	63.1	0.0	Yes	No
	West of Merrick Street	43	68.2	68.2	0.0	Yes	No
	East of Merrick Street	43	68.2	68.2	0.0	Yes	No
4th Street	West of Central Avenue	43	69.8	69.9	0.1	Yes	No
	Central Avenue to Alameda Street	43	70.3	70.3	0.0	Yes	No
6th Street	West of Central Avenue	43	68.3	68.3	0.0	Yes	No
	Central Avenue to Alameda Street	43	69.2	69.2	0.0	Yes	No
	Alameda Street to Mateo Street	43	68.6	68.6	0.0	Yes	No
	East of Mateo Street	43	68.0	68.0	0.0	Yes	No
7th Street	West of Central Avenue	43	69.5	69.6	0.1	Yes	No
	Central Avenue to Alameda Street	43	69.7	69.7	0.0	Yes	No
	Alameda Street to Mateo Street	43	69.6	69.7	0.1	Yes	No
	East of Mateo Street	43	69.0	69.0	0.0	Yes	No
Central Avenue	North of 3rd Street	50	72.5	72.6	0.1	Yes	No
	6th Street to 7th Street	50	73.5	73.5	0.0	Yes	No
	South of 7th Street	50	73.8	73.8	0.0	Yes	No
Alameda Street	North of 2nd Street	50	74.3	74.4	0.1	Yes	No
	2nd Street to 3rd Street/4th Place	50	74.4	74.5	0.1	Yes	No
	3rd Street/4th Place to 4th Street	50	74.7	74.8	0.1	Yes	No
	South of 4th Street	50	74.0	74.1	0.1	Yes	No
	North of 6th Street	50	74.1	74.3	0.2	Yes	No
	6th Street to 7th Street	50	74.1	74.2	0.1	Yes	No
	South of 7th Street	50	74.2	74.3	0.1	Yes	No
Mateo Street	North of 6th Street	36	61.7	61.8	0.1	Yes	No
	6th Street to 7th Street	36	62.2	62.2	0.0	Yes	No
	South of 7th Street	36	63.0	63.1	0.1	Yes	No

Notes:

(1) Exterior noise levels calculated 5-feet above pad elevation, perpendicular to subject roadway.

(2) Right-of-way per the City of Los Angeles Mobility Plan 2035 (September 2016).

(3) Per California Department of Health Services (DHS) normally acceptable standard of 60 dBA CNEL for single-family detached residential (see Table 4).

Table 10
Increased Commercial Option Average Daily Traffic Volumes and Roadway Parameters

Roadway	Segment	Average Daily Traffic Volume[1]		Posted Travel Speeds (MPH)	Site Conditions
		Existing	Existing Plus Project		
3rd Street/4th Place/4th Street	West of Central Avenue	14,500	14,614	25	Hard
	Central Avenue to Alameda Street	13,100	13,314	25	Hard
	East of Alameda Street	6,800	6,914	25	Hard
	West of Merrick Street	22,100	22,314	25	Hard
	East of Merrick Street	22,100	22,314	25	Hard
4th Street	West of Central Avenue	16,900	17,014	35	Hard
	Central Avenue to Alameda Street	18,700	18,814	35	Hard
	Alameda Street to Seaton Street[2]	5,900	6,014	35	Hard
	Seaton Street to 4th Place/4th Street[2]	5,900	6,114	35	Hard
6th Street	West of Central Avenue	11,800	12,014	35	Hard
	Central Avenue to Alameda Street	14,500	14,714	35	Hard
	Alameda Street to Mateo Street	12,600	12,814	35	Hard
	East of Mateo Street	11,000	11,314	35	Hard
7th Street	West of Central Avenue	15,800	15,914	35	Hard
	Central Avenue to Alameda Street	16,300	16,414	35	Hard
	Alameda Street to Mateo Street	16,200	16,314	35	Hard
	East of Mateo Street	14,000	14,114	35	Hard
Central Avenue	North of 3rd Street	13,100	13,214	35	Hard
	3rd Street to 4th Street	15,000	15,314	35	Hard
	6th Street to 7th Street	16,300	16,441	35	Hard
	South of 7th Street	17,400	18,014	35	Hard
Alameda Street	North of 2nd Street	19,700	20,414	35	Hard
	2nd Street to 3rd Street/4th Place	20,100	21,014	35	Hard
	3rd Street/4th Place to 4th Street	21,500	22,114	35	Hard
	South of 4th Street	18,100	18,414	35	Hard
	North of 6th Street	18,800	18,914	35	Hard
	6th Street to 7th Street	18,600	18,714	35	Hard
	South of 7th Street	19,100	19,214	35	Hard
Mateo Street	North of 6th Street	4,100	4,214	25	Hard
	6th Street to 7th Street	4,600	4,714	25	Hard
	South of 7th Street	5,600	5,714	25	Hard

Vehicle Distribution (Light Mix)[3]			
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)[3]			
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 and project average daily traffic volumes calculated from the traffic volumes obtained from the 1100 East 5th Street Traffic Impact Study, Lincsott Law & Greenspan Engineers (April 2019).

(2) Existing average daily traffic volumes calculated per the measured ambient noise levels and project average daily traffic volumes calculated per the project trip distribuiton obtained from the 1100 East 5th Street Traffic Impact Study, Linscott, Law, & Greenspan Engineers (April 2019).

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

Table 11
Change in Existing Noise Levels Along Roadways as a Result of Project (dBA CNEL) - Increased Commercial Option

Roadway	Segment	Distance from roadway centerline to right-of-way (feet)[2]	Modeled Noise Levels (dBA CNEL)				
			Existing Without Project at right-of-way	Existing Plus Project at right-of-way	Change in Noise Level	Exceeds Standards[3]	Increase of 3 dB or More
3rd Street/4th Place/4th Street	West of Central Avenue	43	66.4	66.4	0.0	Yes	No
	Central Avenue to Alameda Street	43	65.9	66.0	0.1	Yes	No
	East of Alameda Street	43	63.1	63.1	0.0	Yes	No
	West of Merrick Street	43	68.2	68.2	0.0	Yes	No
	East of Merrick Street	43	68.2	68.2	0.0	Yes	No
4th Street	West of Central Avenue	43	69.8	69.9	0.1	Yes	No
	Central Avenue to Alameda Street	43	70.3	70.3	0.0	Yes	No
6th Street	West of Central Avenue	43	68.3	68.3	0.0	Yes	No
	Central Avenue to Alameda Street	43	69.2	69.2	0.0	Yes	No
	Alameda Street to Mateo Street	43	68.6	68.6	0.0	Yes	No
	East of Mateo Street	43	68.0	68.0	0.0	Yes	No
7th Street	West of Central Avenue	43	69.5	69.6	0.1	Yes	No
	Central Avenue to Alameda Street	43	69.7	69.7	0.0	Yes	No
	Alameda Street to Mateo Street	43	69.6	69.7	0.1	Yes	No
	East of Mateo Street	43	69.0	69.0	0.0	Yes	No
Central Avenue	North of 3rd Street	50	72.5	72.6	0.1	Yes	No
	6th Street to 7th Street	50	73.5	73.5	0.0	Yes	No
	South of 7th Street	50	73.8	73.8	0.0	Yes	No
Alameda Street	North of 2nd Street	50	74.3	74.4	0.1	Yes	No
	2nd Street to 3rd Street/4th Place	50	74.4	74.5	0.1	Yes	No
	3rd Street/4th Place to 4th Street	50	74.7	74.8	0.1	Yes	No
	South of 4th Street	50	74.0	74.1	0.1	Yes	No
	North of 6th Street	50	74.1	74.3	0.2	Yes	No
	6th Street to 7th Street	50	74.1	74.2	0.1	Yes	No
	South of 7th Street	50	74.2	74.3	0.1	Yes	No
Mateo Street	North of 6th Street	36	61.7	61.8	0.1	Yes	No
	6th Street to 7th Street	36	62.2	62.2	0.0	Yes	No
	South of 7th Street	36	63.0	63.1	0.1	Yes	No

Notes:

(1) Exterior noise levels calculated 5-feet above pad elevation, perpendicular to subject roadway.

(2) Right-of-way per the City of Los Angeles Mobility Plan 2035 (September 2016).

(3) Per California Department of Health Services (DHS) normally acceptable standard of 60 dBA CNEL for single-family detached residential (see Table 4).

Table 12
Construction Equipment Vibration Source Levels

Equipment	Peak Partical Velocity in inches per second[2]		
	at 25 feet	at 50 feet	at 100 feet
Clam Shovel Drop (slurry wall)	**0.202**	0.071	0.025
Vibratory Roller	**0.210**	0.074	0.026
Hoe Ram	**0.089**	0.031	0.011
Large Bulldozer	**0.089**	0.031	0.011
Caisson Drilling	**0.089**	0.031	0.011
Loaded Trucks	0.076	0.027	0.010
Jackhammer	0.035	0.012	0.004
Small Bulldozer	0.003	0.001	0.0004

Notes:

(1) Source: Federal Transit Administration: Transit Noise and Vibration Impact Assessment, 2006.

(2) Bold values are considered annoying to people.

Table 13
Summary of Construction Equipment Vibration Levels and Effects on Humans and Buildings [1]

Effects	Peak Particle Velocity (in/sec)	
	Transient Sources[2]	Continuous/Frequent Intermittent Sources[3]
Potentially Damaged Structure Type		
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.20	0.10
Historic and some old buildings	0.50	0.25
Older residential structures	0.50	0.30
New residential structures	1.00	0.50
Modern industrial/commercial buildings	2.00	0.50
Human Response		
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.90	0.10
Severe	2.00	0.40

Notes:

(1) Source: California Department of Transportation, 2004.

(2) Transient sources create a single isolated vibration event, such as blasting and drop balls.

(3) Continuous/frequent intermittent sources include impact pile drivers, vibratory pile drivers, and vibratory compaction equipment.

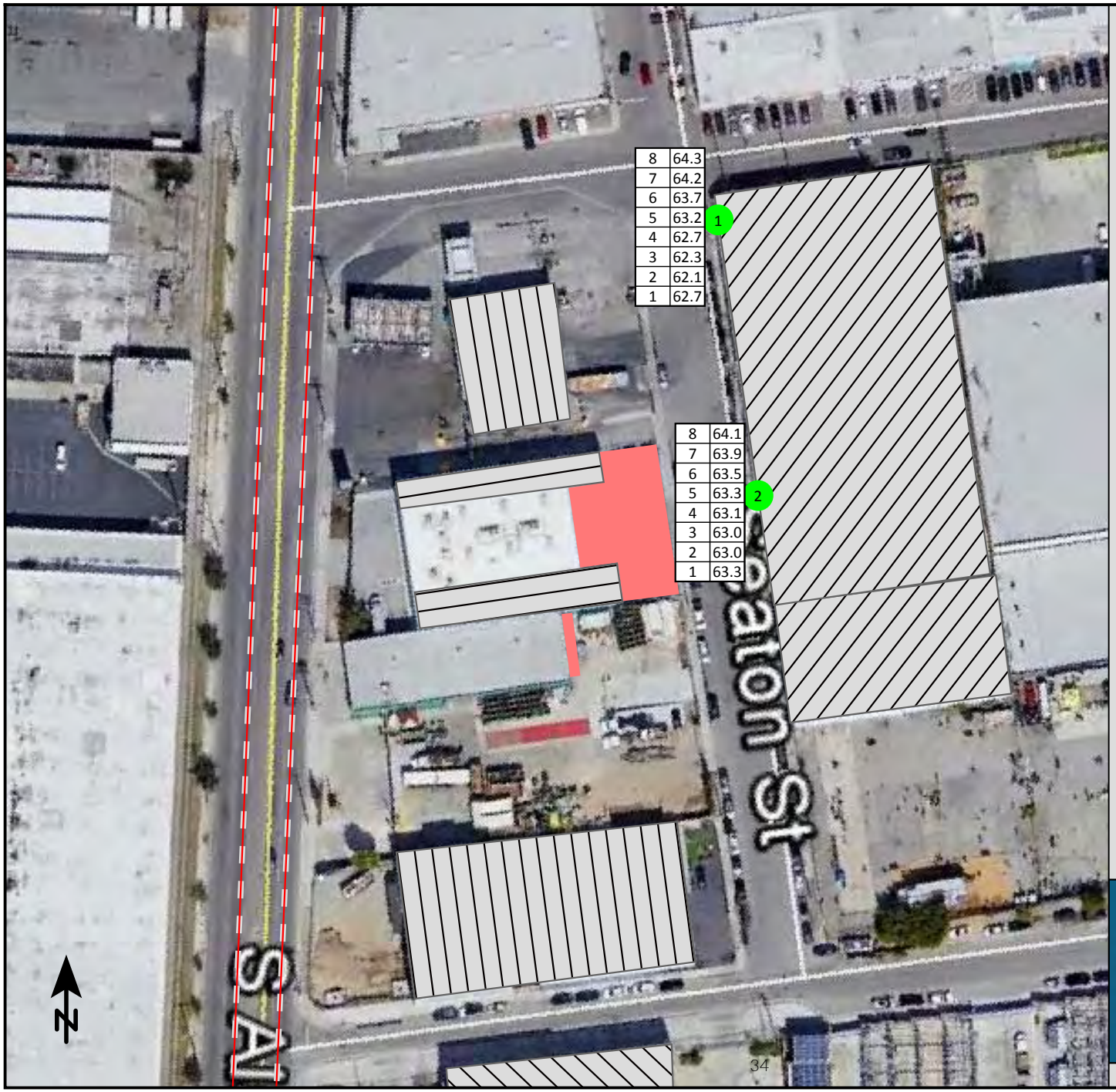


Figure 6

Transportation Noise Levels at the Project Site (CNEL)

Signs and symbols

- Receiver at building
- Roadway Emission line (Alameda Street)
- Area source (truck wash/scales)
- Level tables

1 : 100

0 25 50 100 150 200 feet

ganddini

7. MEASURES TO REDUCE IMPACTS

CONSTRUCTION NOISE MEASURES

In addition to adherence to the City of Los Angeles' policies found in the Noise Element of the General Plan and Municipal Code limiting the construction hours of operation, the following measures are recommended to reduce construction noise and vibrations emanating from the proposed project:

1. Demolition and construction activities shall be scheduled so as to avoid operating several pieces of equipment simultaneously, which causes high noise levels.

2. The project contractor shall use power construction equipment with state-of-the-art noise shielding and muffling devices.

3. Any stationary equipment such as cranes or generators shall be placed in the center of the project site when possible. Efforts shall be made to bring construction noise as far from residences as possible.

4. During all project site excavation and grading on-site, construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturer standards.

5. The contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the project site.

6. Equipment shall be shut off and not left to idle when not in use.

8. REFERENCES

Bolt, Beranek & Newman

1987 Noise Control for Buildings and Manufacturing Plants.

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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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Harris, Cyril M.

1991 Handbook of Acoustical Measurement and Noise Control. Acoustical Society of America. Woodbury, N.Y.

Hendrix, Nicholas, City of Los Angeles. Senior Planner

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Linscott, Law & Greenspan, Engineers

2019 Traffic Impact Study 1100 E. 5th Street Project. April 8.

Los Angeles, City of

1999 General Plan Noise Element

2006 Los Angeles CEQA Thresholds Guide

2015 Municipal Code

Office of Planning and Research

2003 State of California General Plan Guidelines

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

APPENDICES

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)
LOS C	Level of Service C
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

DEFINITIONS OF ACOUSTICAL TERMS

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}	L_{max} 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. L_{min} 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: 1100 East 5th Street, City of Los Angeles **Date:** March 12 -13, 2019

Project #: JN 19-0009

Noise Measurement #: LTNM1 24 hour noise measurement (24 x 1 hours) **Technician:** Ian Gallagher

Nearest Address or Cross Street: Building: 1100 East 5th Street, Los Angeles, California.

Site Description (Type of Existing Land Use and any other notable features): Project site: large building, concrete paved outdoor area.
Surrounding: Urban area, N,S,E & W all small businesses, warehouses and roads, rail lines ~850 yards east, 10 Fwy ~1,500 yards north. Noise Measurement Site: Parking/loading area surrouding, warehouse to south, 5th Street to north.

Weather: Almost clear skies, about 10% cloud, cloud deminishing. **Settings:** SLOW FAST

Temperature: 70 -53 deg F **Wind:** 10-15 mph **Humidity:** 33 -50% **Terrain:** Flat

Start Time: 6:00 PM **End Time:** 6:00 PM **Run Time:** 10 MIN

Leq: 59.4 dB **Primary Noise Source:** Traffic ambiance from surrounding roads.

Lmax 90.6 dB Occasional vehicle passing along East 5th Street outside gate.

L2 66.6 dB **Secondary Noise Sources:** Constant air traffic, pedestrians, bird song. Noise from yard next door.

L8 62.0 dB

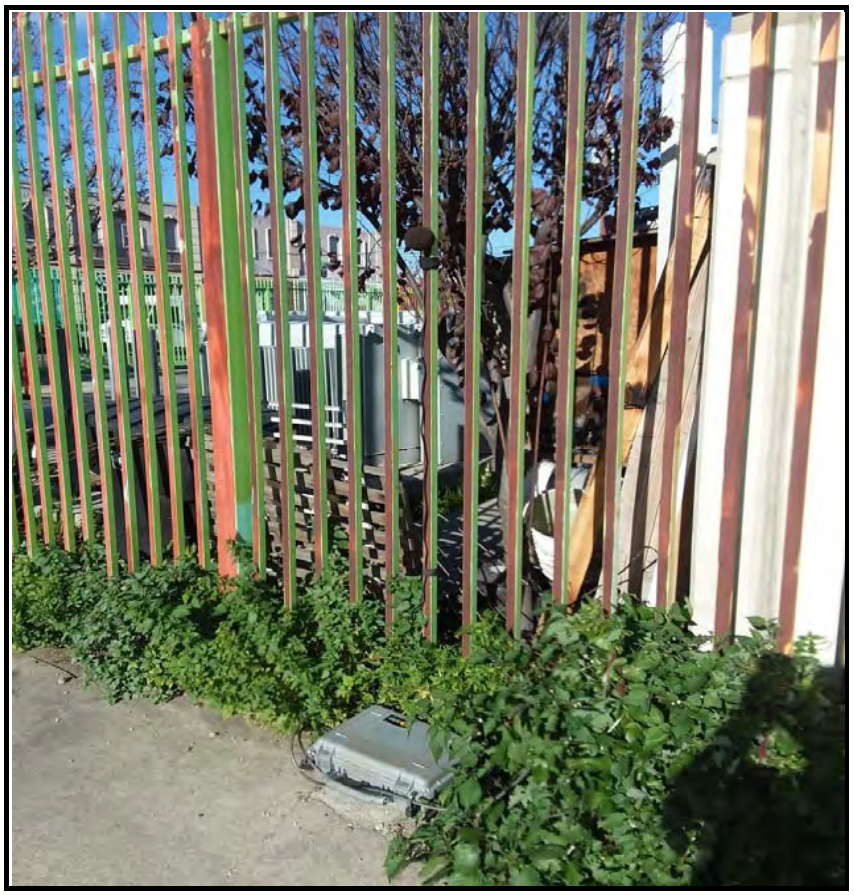
L25 57.7 dB

L50 55.7 dB

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CAL250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	Cal 250
SERIAL NUMBER:	;28:42	**SERIAL NUMBER:**	2733
FACTORY CALIBRATION DATE:	6/23/2017	**FACTORY CALIBRATION DATE:**	6/9/2017
FIELD CALIBRATION DATE:	3/12/2019		

Noise Measurement
Field Data

PHOTOS:



LTNM1 looking NE at noise measuring equipment installed on iron rail fence.

LTNM1 looking N across yard towards gate and E 5th Street beyond.

Summary	
File Name on Meter	LxT_Data.218
File Name on PC	SLM_0003099_LxT_Data_218.00.ldbin
Serial Number	0003099
Model	SoundTrack LxT®
Firmware Version	2.301
User	Ian Edward Gallagher
Location	LTNM1 JN 19-0009 1100 E 5th Street, Los Angeles
Job Description	10 minute noise measurement
Note	(1 x 10 minutes)

Measurement	
Start	2019-03-12 18:00:00
Stop	2019-03-13 18:00:00
Duration	24:00:00.0
Run Time	24:00:00.0
Pause	00:00:00.0
Pre Calibration	2019-03-12 16:30:25
Post Calibration	None

Overall Settings	
RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamp	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Freq. Weighting	A Weighting
OBA Max Spectrum	Bin Max
Overload	122.6 dB

Results			
LA_{eq}	59.4 dB		
LAE	108.7 dB		
EA	8.302 mPa²h		
EA8	2.767 mPa²h		
EA40	13.837 mPa²h		
$LA_{peak\ (max)}$	2019-03-13 12:34:41	105.9 dB	
LAS_{max}	2019-03-12 21:36:55	90.6 dB	
LAS_{min}	2019-03-13 14:28:08	46.0 dB	
SEA	-99.9 dB		

		Statistics	
LC_{eq}	72.1 dB	**LAS2.00**	66.6 dB
LA_{eq}	59.4 dB	**LAS8.00**	62.0 dB
LC_{eq} - LA_{eq}	12.7 dB	**LAS25.00**	57.7 dB
LAI_{eq}	61.8 dB	**LAS50.00**	55.7 dB
LA_{eq}	59.4 dB	**LAS90.00**	53.1 dB
LAI_{eq} - LA_{eq}	2.4 dB	**LAS99.00**	50.3 dB
# Overloads	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	2019-03-12	18:00:00	01:00:00.0	01:00:00.0	00:00:00.0	59.1	54.7	18:06:34	76.8	18:24:44	65.8	61.8	58.1	57.0	55.8	55.1
2	2019-03-12	19:00:00	01:00:00.0	01:00:00.0	00:00:00.0	59.2	53.4	19:36:01	78.0	19:23:17	66.9	60.8	57.0	55.9	54.5	53.8
3	2019-03-12	20:00:00	01:00:00.0	01:00:00.0	00:00:00.0	62.4	52.4	20:19:29	86.0	20:47:01	70.3	62.5	57.5	55.9	54.7	53.1
4	2019-03-12	21:00:00	01:00:00.0	01:00:00.0	00:00:00.0	63.5	53.3	21:46:30	90.6	21:36:55	68.8	61.6	56.8	55.5	54.5	53.8
5	2019-03-12	22:00:00	01:00:00.0	01:00:00.0	00:00:00.0	59.5	53.0	22:52:18	78.2	22:29:52	67.9	61.6	56.2	55.4	54.3	53.8
6	2019-03-12	23:00:00	01:00:00.0	01:00:00.0	00:00:00.0	58.6	52.0	23:45:50	83.4	23:19:01	65.8	58.7	55.8	54.7	53.4	52.6
7	2019-03-13	00:00:00	01:00:00.0	01:00:00.0	00:00:00.0	56.4	52.1	00:50:15	79.4	00:01:31	61.3	56.8	54.4	53.8	53.0	52.6
8	2019-03-13	01:00:00	01:00:00.0	01:00:00.0	00:00:00.0	56.2	49.7	01:15:41	72.4	01:50:50	64.3	57.5	54.5	53.2	51.4	50.4
9	2019-03-13	02:00:00	01:00:00.0	01:00:00.0	00:00:00.0	54.7	51.7	02:22:40	66.2	02:02:07	58.8	57.1	54.5	53.9	53.0	52.1
10	2019-03-13	03:00:00	01:00:00.0	01:00:00.0	00:00:00.0	55.1	50.9	03:04:18	69.9	03:12:52	60.8	57.5	54.8	53.8	52.0	51.3
11	2019-03-13	04:00:00	01:00:00.0	01:00:00.0	00:00:00.0	55.2	51.9	04:48:29	65.0	04:38:45	59.5	57.6	55.3	54.3	53.1	52.3
12	2019-03-13	05:00:00	01:00:00.0	01:00:00.0	00:00:00.0	57.3	51.9	05:02:02	70.2	05:06:11	64.8	59.3	57.0	55.4	53.0	52.3
13	2019-03-13	06:00:00	01:00:00.0	01:00:00.0	00:00:00.0	58.7	55.5	06:56:31	71.5	06:55:16	64.5	60.6	58.7	57.4	56.5	56.0
14	2019-03-13	07:00:00	01:00:00.0	01:00:00.0	00:00:00.0	58.6	53.2	07:45:15	73.4	07:02:47	65.3	61.1	58.7	57.0	54.7	53.7
15	2019-03-13	08:00:00	01:00:00.0	01:00:00.0	00:00:00.0	59.4	51.3	08:52:09	76.1	08:04:42	66.9	63.1	58.7	56.2	53.4	52.4
16	2019-03-13	09:00:00	01:00:00.0	01:00:00.0	00:00:00.0	59.8	51.5	09:01:07	83.5	09:53:16	65.6	62.3	59.4	55.8	53.3	52.2
17	2019-03-13	10:00:00	01:00:00.0	01:00:00.0	00:00:00.0	60.1	52.0	10:58:31	81.4	10:04:34	68.1	62.7	59.1	56.4	54.1	52.9
18	2019-03-13	11:00:00	01:00:00.0	01:00:00.0	00:00:00.0	58.0	52.7	11:35:44	75.5	11:18:32	64.5	60.9	58.0	56.1	54.1	53.2
19	2019-03-13	12:00:00	01:00:00.0	01:00:00.0	00:00:00.0	64.5	50.6	12:58:36	86.1	12:15:33	69.8	67.1	66.0	61.6	55.0	52.6
20	2019-03-13	13:00:00	01:00:00.0	01:00:00.0	00:00:00.0	58.7	47.5	13:06:18	76.6	13:04:54	66.2	63.6	57.9	54.9	50.3	48.9
21	2019-03-13	14:00:00	01:00:00.0	01:00:00.0	00:00:00.0	57.5	46.0	14:28:08	73.6	14:48:51	63.7	60.7	57.7	54.8	49.9	47.6
22	2019-03-13	15:00:00	01:00:00.0	01:00:00.0	00:00:00.0	59.4	52.5	15:41:10	75.8	15:46:28	67.0	62.7	59.3	56.8	54.2	53.1
23	2019-03-13	16:00:00	01:00:00.0	01:00:00.0	00:00:00.0	58.3	51.6	16:15:28	71.6	16:04:20	65.1	61.6	58.1	56.4	54.3	52.7
24	2019-03-13	17:00:00	01:00:00.0	01:00:00.0	00:00:00.0	57.9	52.6	17:27:33	70.1	17:46:06	64.1	61.3	57.8	56.0	54.3	53.3

Noise Measurement
Field Data

Project Name: 1100 East 5th Street, City of Los Angeles **Date:** March 12, 2019

Project #: JN 19-0009

Noise Measurement #: NM1 **Technician:** Ian Gallagher

Nearest Address or Cross Street: Business: 1101 East 5th Street, Los Angeles, California.

Site Description (Type of Existing Land Use and any other notable features): Project site: large building, concrete paved outdoor area.
Surrounding: Urban area, N,S,E & W all small businesses, warehouses and roads, rail lines ~850 yards east, 10 Fwy ~1,500 yards north. Noise Measurement Site: Parking to east and west, 5th St south & warehouse further south, commercial/mixed-use bldg north.

Weather: Mostly sunny, about 10% cloud.. **Settings:** SLOW FAST

Temperature: 72 deg F **Wind:** 10-15 mph **Humidity:** 33% **Terrain:** Flat

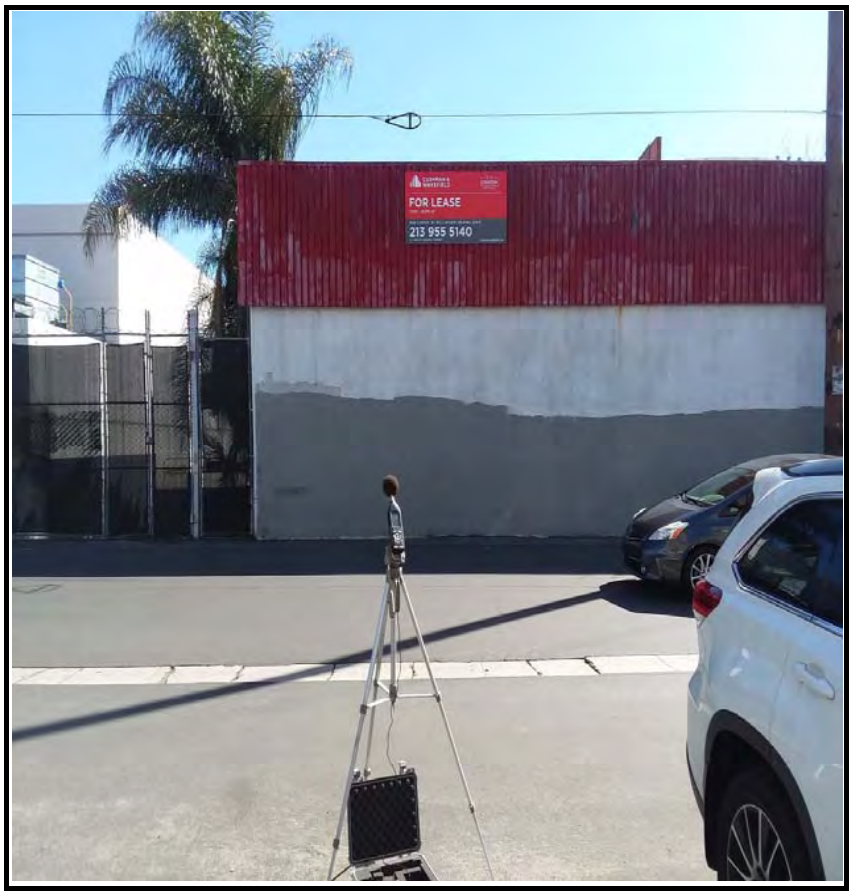
Start Time: 3:07 PM **End Time:** 3:17 PM **Run Time:** 10 MIN

Leq:	62.3	dB	**Primary Noise Source:** Traffic ambiance from surrounding roads.
Lmax	74.4	dB	Car passes at 3:12:30 PM
L2	71.7	dB	**Secondary Noise Sources:** Constant air traffic, pedestrians, bird song, crows.
L8	65.5	dB	
L25	61.3	dB	
L50	59.1	dB	

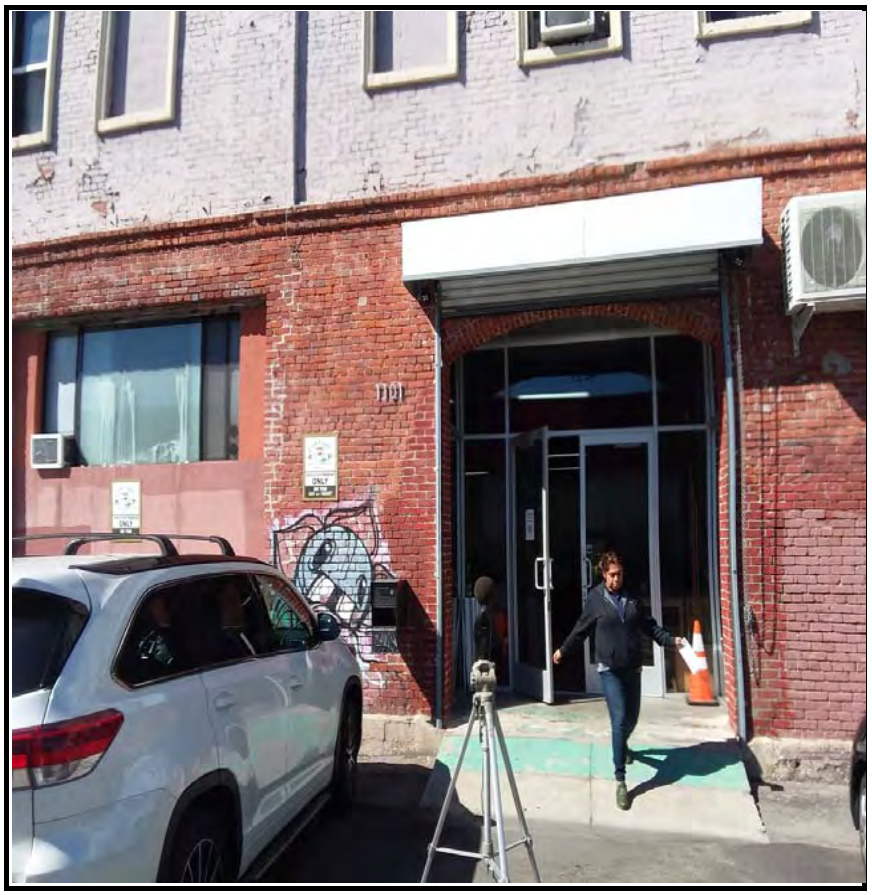
NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CAL250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	Cal 250
SERIAL NUMBER:	;28:42	**SERIAL NUMBER:**	2733
FACTORY CALIBRATION DATE:	6/23/2017	**FACTORY CALIBRATION DATE:**	6/9/2017
FIELD CALIBRATION DATE:	3/12/2019		

Noise Measurement
Field Data

PHOTOS:



NM1 looking south across East 5th Street towards 1100 East 5th Street, Los Angeles.



NM1 looking north at business 1101 East 5th Street, Los Angeles.

Summary	
File Name on Meter	LxT_Data.214
File Name on PC	SLM_0003099_LxT_Data_214.00.ldbin
Serial Number	0003099
Model	SoundTrack LxT®
Firmware Version	2.301
User	Ian Edward Gallagher
Location	NM1 JN 19-0009 1101 E 5th Street, Los Angeles
Job Description	10 minute noise measurement
Note	(1 x 10 minutes)

Measurement	
Start	2019-03-12 15:07:21
Stop	2019-03-12 15:17:21
Duration	00:10:00.0
Run Time	00:10:00.0
Pause	00:00:00.0
Pre Calibration	2019-03-12 15:07:07
Post Calibration	None

Overall Settings	
RMS Weight	A Weighting
Peak Weight	Z Weighting
Detector	Slow
Preamp	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Low
OBA Bandwidth	1/1 and 1/3
OBA Freq. Weighting	Z Weighting
OBA Max Spectrum	Bin Max
Overload	122.7 dB

Results			
LA_{eq}	62.3 dB		
LAE	90.1 dB		
EA	113.133 µPa²h		
EA8	5.430 mPa²h		
EA40	27.152 mPa²h		
$LZ_{peak\ (max)}$	2019-03-12 15:15:47	111.1	dB
LAS_{max}	2019-03-12 15:13:18	74.4	dB
LAS_{min}	2019-03-12 15:07:36	52.9	dB
SEA	-99.9 dB		

		Statistics	
LCe_q	73.9 dB	**LAS2.00**	71.7 dB
LA_{eq}	62.3 dB	**LAS8.00**	65.5 dB
LCe_q - LA_{eq}	11.6 dB	**LAS25.00**	61.3 dB
LAI_{eq}	64.1 dB	**LAS50.00**	59.1 dB
LA_{eq}	62.3 dB	**LAS66.60**	57.5 dB
LAI_{eq} - LA_{eq}	1.8 dB	**LAS90.00**	55.6 dB
# Overloads	0		

Noise Measurement
Field Data

Project Name: 1100 East 5th Street, City of Los Angeles **Date:** July 19, 2019

Project #: JN 19-0009

Noise Measurement #: NM2, Bull's Truck Wash 1 x 1 Hour noise sample. **Technician:** Ian Gallagher

Nearest Address or Cross Street: 500 South Alameda Street, Los Angeles, California

Site Description (Type of Existing Land Use and any other notable features): Project Site: Large building, concrete paved outdoor area.

Surrounding: Urban area, N, S, E & W all small businesses, warehouses and roads. Rail lines 850 yards East, 10 Freeway 1500 yards North.

Weather: Blue, sunny skies, about less than 1% high cloud. **Settings:** SLOW FAST

Temperature: 81 deg F **Wind:** 5 -10 mph **Humidity:** 47% **Terrain:** Flat

Start Time: 1:50 PM **End Time:** 2:50 PM **Run Time:**

Leq: 72 dB **Primary Noise Source:** Truck wash & traffic ambiance from S Alameda Street and surrounding roads.

Lmax 101.3 dB L(max) due to passing police siren along Seaton Street at 2:50 PM

L2 72.6 dB **Secondary Noise Sources:** Constant air traffic, pedestrians, bird song.

L8 68.7 dB Truck wash in constant operation during one hour noise sample.

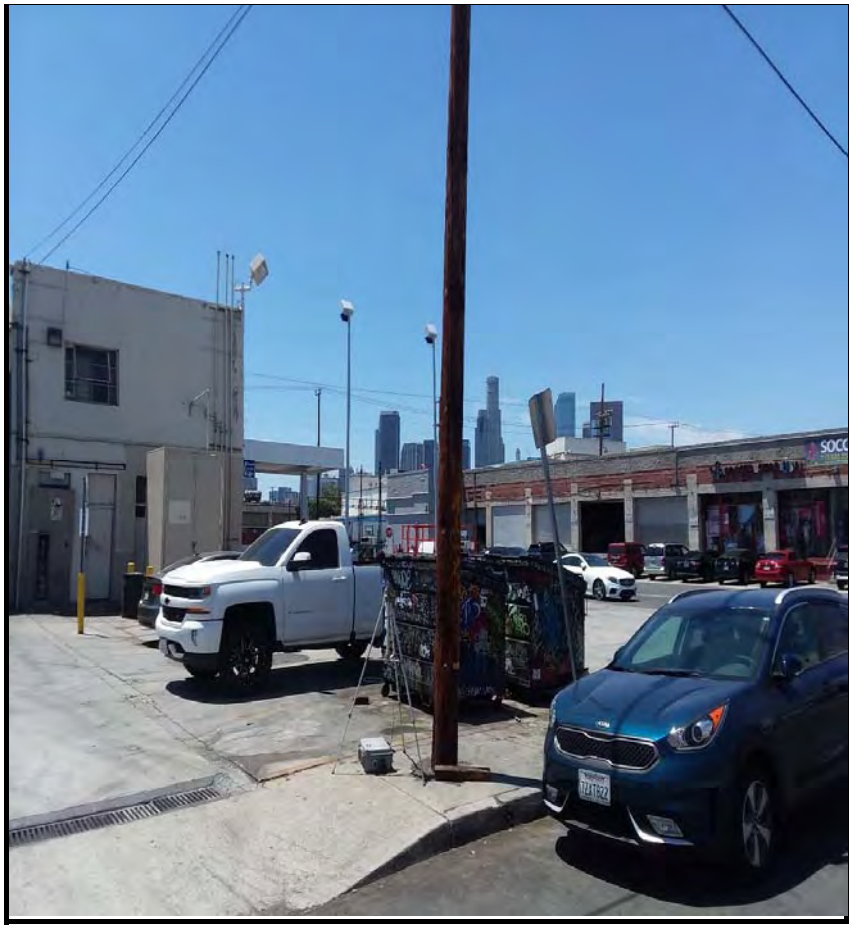
L25 65.8 dB

L50 63.8 dB

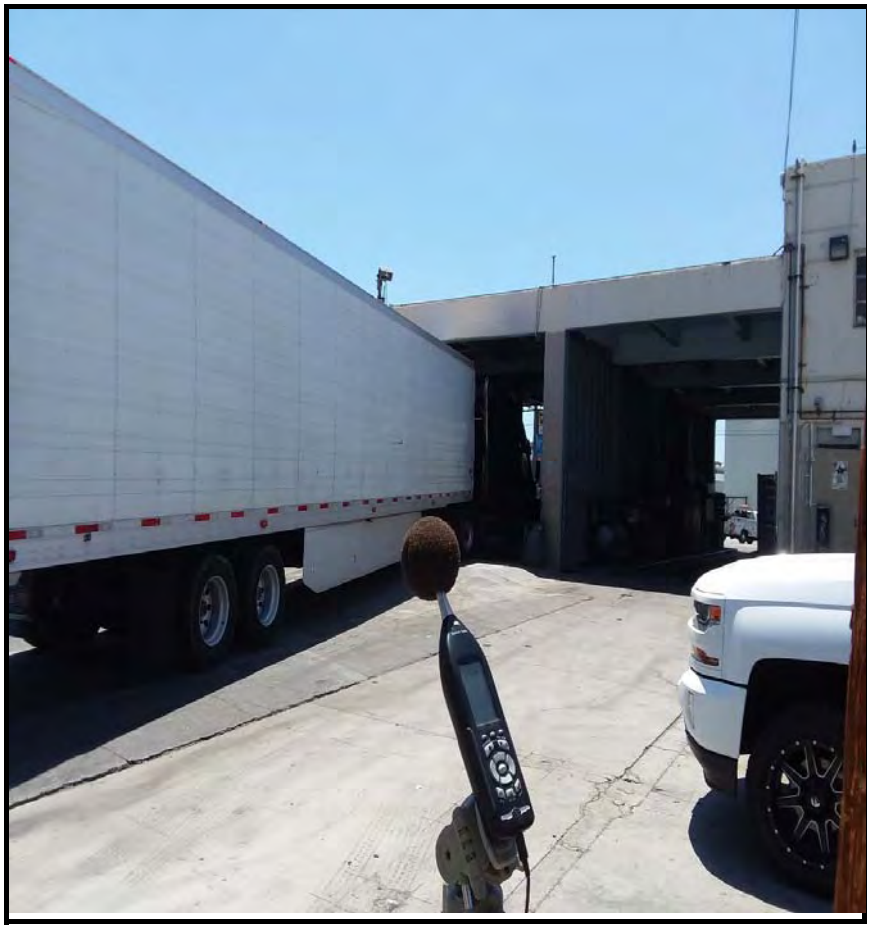
NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CAL250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	Cal 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2733
FACTORY CALIBRATION DATE:	6/23/2017	**FACTORY CALIBRATION DATE:**	6/9/2017
FIELD CALIBRATION DATE:	7/19/2019		

Noise Measurement
Field Data

PHOTOS:



NM2 looking NW down E 5th Street towards S Alameda Street and LA skyline.



NM2 looking SW towards entryway to Bull's Truck Wash 500 S Alameda Street, Los Angeles. Microphone about 60 feet East of truck wash.

Summary

File Name on Meter	LxT_Data.239
File Name on PC	SLM_0003099_LxT_Data_239.00.ldbin
Serial Number	0003099
Model	SoundTrack LxT®
Firmware Version	2.301
User	Ian Edward Gallagher
Location	34° 2'28.53"N 118°14'14.81"W NM2 (Bull's Truck Wash) 1708, 500 S Alameda St, Los Angeles
Job Description	1 Hour noise measurement
Note	(1 x 1 Hour)

Measurement

Description	
Start	2019-07-19 13:50:56
Stop	2019-07-19 14:50:56
Duration	01:00:00.0
Run Time	01:00:00.0
Pause	00:00:00.0
Pre Calibration	2019-07-19 13:47:39
Post Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting
Peak Weight	Z Weighting
Detector	Slow
Preamp	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Low
OBA Bandwidth	1/1 and 1/3
OBA Freq. Weighting	Z Weighting
OBA Max Spectrum	Bin Max
Overload	122.6 dB

	A	C	Z	
Under Range Peak	78.9	75.9	**80.9**	dB
Under Range Limit	**25.5**	25.5	30.5	dB
Noise Floor	16.2	16.3	21.3	dB

Results

LAeq	72.0			
LAE	107.6			
EA	6.397	mPa²h		
EA8	51.176	mPa²h		
EA40	255.880	mPa²h		
LZpeak (max)	2019-07-19 14:50:02		111.4	dB
LASmax	2019-07-19 14:50:02		101.3	dB
LASmin	2019-07-19 13:57:13		59.1	dB
SEA	-99.9	dB		

LCeq	78.7	dB
LAeq	72.0	dB
LCeq - LAeq	6.7	dB
LAIeq	76.3	dB
LAeq	72.0	dB
LAIeq - LAeq	4.3	dB

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Tim**	**dB**	**Time Stamp**
Leq	72.0		78.7			
LS(max)	101.3	2019/07/19 14:50:02				
LS(min)	59.1	2019/07/19 13:57:13				
LPeak(max)					111.4	2019/07/19 14:50:02

# Overloads	0	
Overload Duration	0.0	s
# OBA Overloads	0	
OBA Overload Duration	0.0	s

Dose Settings			
Dose Name	OSHA-1	OSHA-2	
Exchange Rate	5	5	dB
Threshold	90	80	dB
Criterion Level	90	90	dB
Criterion Duration	8	8	h

Results			
Dose	0.07	0.08	%
Projected Dose	0.53	0.63	%
TWA (Projected)	52.3	53.5	dB
TWA (t)	37.3	38.5	dB
Lep (t)	63.0	63.0	dB

Statistics		
LAI2.00	72.6	dB
LAI8.00	68.7	dB
LAI25.00	65.8	dB
LAI50.00	63.8	dB
LAI66.60	62.9	dB
LAI90.00	61.5	dB

Noise Measurement
Field Data

Project Name: 1100 East 5th Street, City of Los Angeles **Date:** March 12, 2019

Project #: JN 19-0009

Noise Measurement #: NM3 **Technician:** Ian Gallagher

Nearest Address or Cross Street: Business: 540 Alameda Street, Los Angeles, California.

Site Description (Type of Existing Land Use and any other notable features): Project site: large building, concrete paved outdoor area. Surrounding: Urban area, N,S,E & W all small businesses, warehouses and roads, rail lines ~850 yards east, 10 Fwy ~1,500 yards north. Noise Measurement Site: Seaton St to west & recycling center further west, & industrial east.

Weather: Mostly sunny, about 10% cloud.. **Settings:** SLOW (boxed) FAST

Temperature: 72 deg F **Wind:** 10-15 mph **Humidity:** 33% **Terrain:** Flat

Start Time: 3:42 PM **End Time:** 3:52 PM **Run Time:** 10 MIN

Leq:	62.1	dB
Lmax	77.7	dB
L2	71.1	dB
L8	66.3	dB
L25	59.7	dB
L50	58.0	dB

Primary Noise Source: Traffic ambiance from surrounding roads

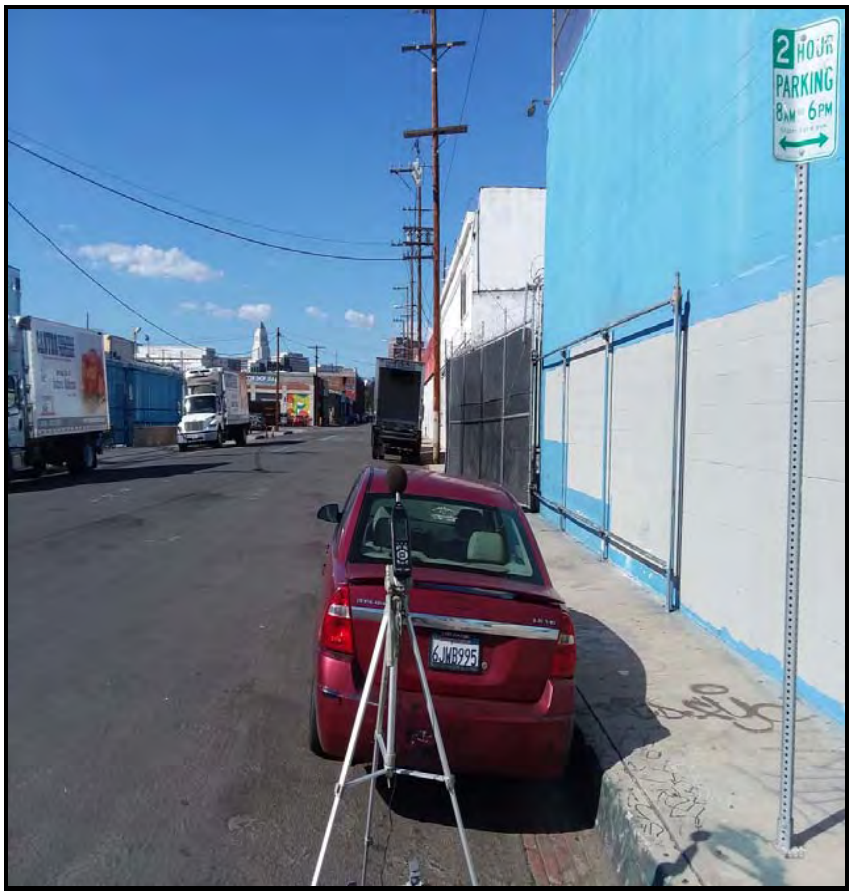
Parked truck with engine running ~30 yards from microphone.

Secondary Noise Sources: Constant air traffic, pedestrians, bird song.

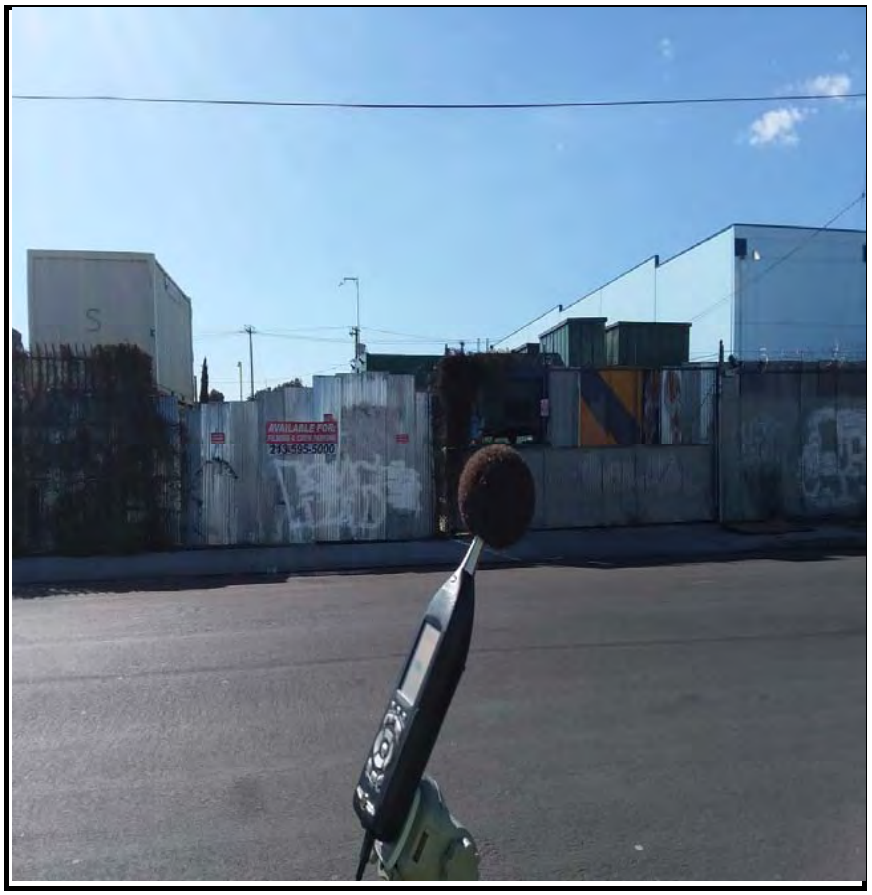
NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CAL250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	Cal 250
SERIAL NUMBER:	;28:42	**SERIAL NUMBER:**	2733
FACTORY CALIBRATION DATE:	6/23/2017	**FACTORY CALIBRATION DATE:**	6/9/2017
FIELD CALIBRATION DATE:	3/12/2019		

Noise Measurement
Field Data

PHOTOS:



NM3 looking N up Seaton St towards City Hall, Los Angeles (in the distance).



NM3 looking W across Seaton St towards back of recycling center 540 Alameda St.

Summary				
File Name on Meter	LxT_Data.216			
File Name on PC	SLM_0003099_LxT_Data_216.00.ldbin			
Serial Number	0003099			
Model	SoundTrack LxT®			
Firmware Version	2.301			
User	Ian Edward Gallagher			
Location	NM3 JN 19-0009 behind 540 Alameda Street, Los Angeles			
Job Description	10 minute noise measurement			
Note	(1 x 10 minutes)			
Measurement				
Start	2019-03-12 15:42:27			
Stop	2019-03-12 15:52:27			
Duration	00:10:00.0			
Run Time	00:10:00.0			
Pause	00:00:00.0			
Pre Calibration	2019-03-12 15:42:10			
Post Calibration	None			
Overall Settings				
RMS Weight	A Weighting			
Peak Weight	Z Weighting			
Detector	Slow			
Preamp	PRMLxT1L			
Microphone Correction	Off			
Integration Method	Linear			
OBA Range	Low			
OBA Bandwidth	1/1 and 1/3			
OBA Freq. Weighting	Z Weighting			
OBA Max Spectrum	Bin Max			
Overload	122.9 dB			
Results				
LA_{eq}	62.1 dB			
LAE	89.9 dB			
EA	109.058 µPa²h			
EA8	5.235 mPa²h			
EA40	26.174 mPa²h			
$LZ_{peak\ (max)}$	2019-03-12 15:50:32	106.4 dB		
LAS_{max}	2019-03-12 15:44:22	77.7 dB		
LAS_{min}	2019-03-12 15:43:30	53.0 dB		
SEA	-99.9 dB			
			Statistics	
LCe_{q}	71.0 dB		**LAS2.00**	71.1 dB
LA_{eq}	62.1 dB		**LAS8.00**	66.3 dB
LCe_{q} - LA_{eq}	8.9 dB		**LAS25.00**	59.7 dB
LAl_{eq}	65.6 dB		**LAS50.00**	58.0 dB
LA_{eq}	62.1 dB		**LAS66.60**	57.4 dB
LAl_{eq} - LA_{eq}	3.5 dB		**LAS90.00**	55.7 dB
# Overloads	0			

Noise Measurement
Field Data

Project Name: 1100 East 5th Street, City of Los Angeles **Date:** March 12, 2019

Project #: JN 19-0009

Noise Measurement #: NM4 **Technician:** Ian Gallagher

Nearest Address or Cross Street: Business: 451 Hewitt Street, Los Angeles, California.

Site Description (Type of Existing Land Use and any other notable features): Project site: large building, concrete paved outdoor area.
Surrounding: Urban area, N,S,E & W all small businesses, warehouses and roads, rail lines ~850 yards east, 10 Fwy ~1,500 yards north. Noise Measurement Site: 5th St to north, park use to south, Hewitt St east with parking structures/ multi-family residential further east.

Weather: Mostly sunny, about 10% cloud.. **Settings:** SLOW FAST

Temperature: 72 deg F **Wind:** 10-15 mph **Humidity:** 33% **Terrain:** Flat

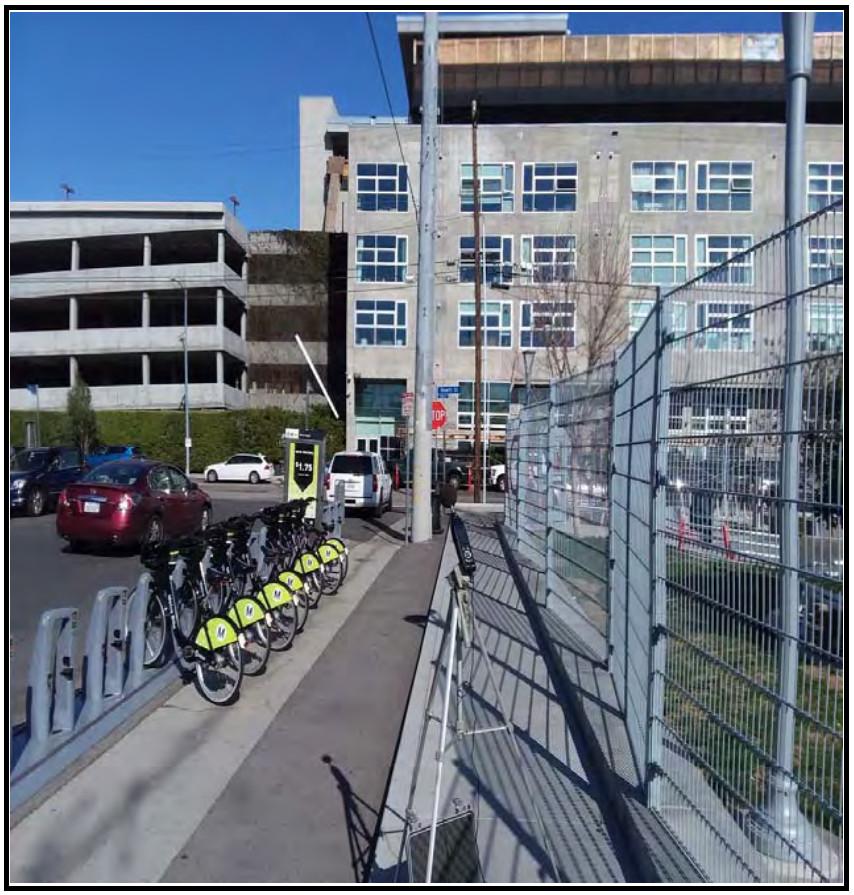
Start Time: 4:05 PM **End Time:** 4:15 PM **Run Time:** 10 MIN

Leq:	59.5	dB	**Primary Noise Source:** Traffic ambiance from surrounding roads
Lmax	81.7	dB	L(max), car horn from parked car being locked. 4:14 PM.
L2	65.1	dB	**Secondary Noise Sources:** Constant air traffic, pedestrians, bird song, park ambiance, dogs and people.
L8	62.7	dB	
L25	57.9	dB	
L50	55.8	dB	

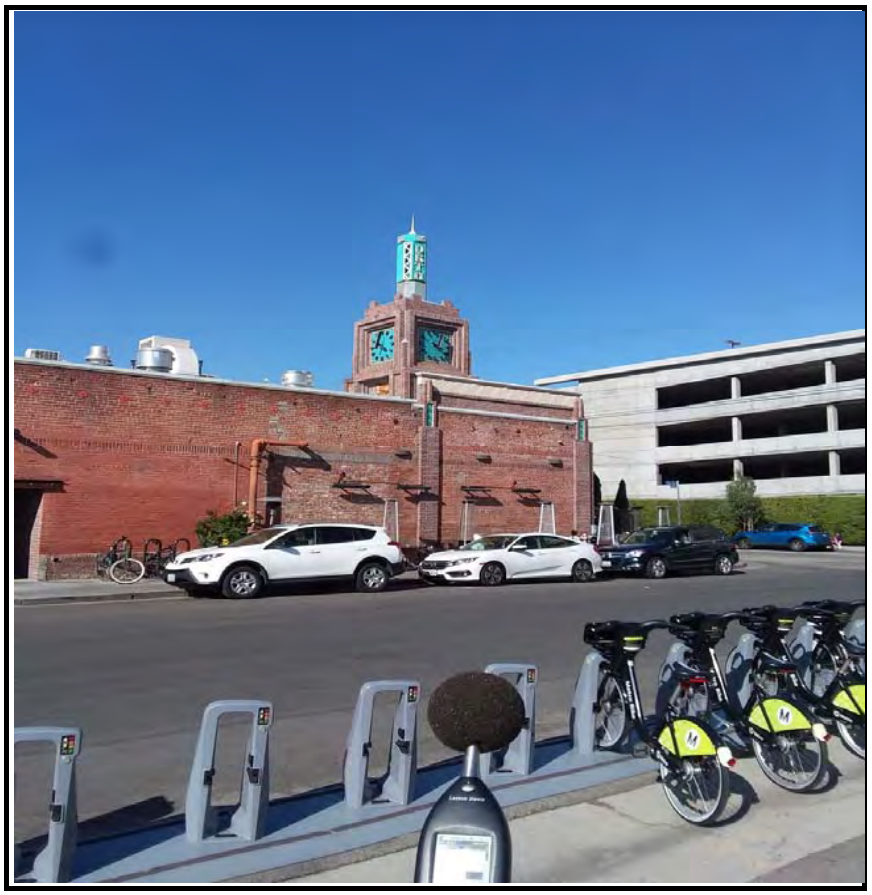
NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CAL250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	Cal 250
SERIAL NUMBER:	;28:42	**SERIAL NUMBER:**	2733
FACTORY CALIBRATION DATE:	6/23/2017	**FACTORY CALIBRATION DATE:**	6/9/2017
FIELD CALIBRATION DATE:	3/12/2019		

Noise Measurement
Field Data

PHOTOS:



NM4 looking E down E 5th St towards S Hewitt St intersection.



NM4 looking NE across E 5th St towards business 451 S Hewitt St clock tower.

Summary	
File Name on Meter	LxT_Data.217
File Name on PC	SLM_0003099_LxT_Data_217.00.ldbin
Serial Number	0003099
Model	SoundTrack LxT®
Firmware Version	2.301
User	Ian Edward Gallagher
Location	NM4 JN 19-0009 451 S Hewitt Street, Los Angeles
Job Description	10 minute noise measurement
Note	(1 x 10minutes)

Measurement	
Start	2019-03-12 16:05:05
Stop	2019-03-12 16:15:05
Duration	00:10:00.0
Run Time	00:10:00.0
Pause	00:00:00.0
Pre Calibration	2019-03-12 16:04:53
Post Calibration	None

Overall Settings	
RMS Weight	A Weighting
Peak Weight	Z Weighting
Detector	Slow
Preamp	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Low
OBA Bandwidth	1/1 and 1/3
OBA Freq. Weighting	Z Weighting
OBA Max Spectrum	Bin Max
Overload	122.6 dB

Results			
LA_{eq}	59.5 dB		
LAE	87.3 dB		
EA	59.365 µPa²h		
EA8	2.849 mPa²h		
EA40	14.247 mPa²h		
$LZ_{peak\ (max)}$	2019-03-12 16:13:59	106.3 dB	
LAS_{max}	2019-03-12 16:13:59	81.7 dB	
LAS_{min}	2019-03-12 16:13:15	52.8 dB	
SEA	-99.9 dB		

		Statistics	
LC_{eq}	70.1 dB	**LAS2.00**	65.1 dB
LA_{eq}	59.5 dB	**LAS8.00**	62.7 dB
LC_{eq} - LA_{eq}	10.6 dB	**LAS25.00**	57.9 dB
LAI_{eq}	68.8 dB	**LAS50.00**	55.8 dB
LA_{eq}	59.5 dB	**LAS66.60**	54.9 dB
LAI_{eq} - LA_{eq}	9.3 dB	**LAS90.00**	53.7 dB
# Overloads	0		

APPENDIX D

RCNM AND SOUNDPLAN CONSTRUCTION NOISE MODELING DATA

Receptor - Residential to North and South

A	B	C	D	E	F	G	H	I	J
Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1, 2]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Demolition									
Concrete/Industrial Saw	1	76	238	20	0.20	-13.6	-7.0	89.6	55.5
Rubber Tired Dozers	1	85	238	40	0.40	-13.6	-4.0	98.6	67.5
Tractors/Loaders/Backhoes	3	80	238	40	1.20	-13.6	0.8	93.6	67.2
							Log Sum		70.5
Site Preparation									
Tractors/Loaders/Backhoes	1	80	238	40	0.40	-13.6	-4.0	93.6	62.5
							Log Sum		62.5
Grading									
Graders	1	85	238	40	0.40	-13.6	-4.0	98.6	67.5
Rubber Tired Dozers	1	85	238	40	0.40	-13.6	-4.0	98.6	67.5
Tractors/Loaders/Backhoes	1	80	238	40	0.40	-13.6	-4.0	93.6	62.5
							Log Sum		71.1
Building Construction									
Cranes	1	83	238	16	0.16	-13.6	-8.0	96.6	61.5
Forklifts	2	64	238	50	1.00	-13.6	0.0	77.6	50.4
Generator Sets	1	82	238	40	0.40	-13.6	-4.0	95.6	64.5
Welders	3	64	238	40	1.20	-13.6	0.8	77.6	51.2
Tractors/Loaders/Backhoes	1	80	238	40	0.40	-13.6	-4.0	93.6	62.5
							Log Sum		65.2
Paving									
Cement and Mortar Mixers	1	85	238	40	0.40	-13.6	-4.0	98.6	67.5
Pavers	1	85	238	50	0.50	-13.6	-3.0	98.6	68.4
Paving Equipment	1	85	238	20	0.20	-13.6	-7.0	98.6	64.5
Tractors/Loaders/Backhoes	1	80	238	40	0.40	-13.6	-4.0	93.6	62.5
Rollers	1	85	238	20	0.20	-13.6	-7.0	98.6	64.5
							Log Sum		72.6
Architectural Coating									
Air Compressors	1	80	238	40	0.40	-13.6	-4.0	93.6	62.5
							Log Sum		62.5

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018).

(2) Source: https://www.google.com/url?q=http://www.noisetesting.info/blog/warehouse-forklift-workplace-noise-levels/&sa=D&source=hangouts&ust=1545259247311000&usg=AFQjCNHFcKKoEKUjv5VZMOtw_KO977Em1A

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

Receptor - Residential to East

A	B	C	D	E	F	G	H	I	J
Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1, 2]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Demolition									
Concrete/Industrial Saw	1	76	636	20	0.20	-22.1	-7.0	98.1	46.9
Rubber Tired Dozers	1	85	636	40	0.40	-22.1	-4.0	107.1	58.9
Tractors/Loaders/Backhoes	3	80	636	40	1.20	-22.1	0.8	102.1	58.7
							Log Sum		62.0
Site Preparation									
Tractors/Loaders/Backhoes	1	80	636	40	0.40	-22.1	-4.0	102.1	53.9
							Log Sum		53.9
Grading									
Graders	1	85	636	40	0.40	-22.1	-4.0	107.1	58.9
Rubber Tired Dozers	1	85	636	40	0.40	-22.1	-4.0	107.1	58.9
Tractors/Loaders/Backhoes	1	80	636	40	0.40	-22.1	-4.0	102.1	53.9
							Log Sum		62.6
Building Construction									
Cranes	1	83	636	16	0.16	-22.1	-8.0	105.1	53.0
Forklifts	2	64	636	50	1.00	-22.1	0.0	86.1	41.9
Generator Sets	1	82	636	40	0.40	-22.1	-4.0	104.1	55.9
Welders	3	64	636	40	1.20	-22.1	0.8	86.1	42.7
Tractors/Loaders/Backhoes	1	80	636	40	0.40	-22.1	-4.0	102.1	53.9
							Log Sum		56.6
Paving									
Cement and Mortar Mixers	1	85	636	40	0.40	-22.1	-4.0	107.1	58.9
Pavers	1	85	636	50	0.50	-22.1	-3.0	107.1	59.9
Paving Equipment	1	85	636	20	0.20	-22.1	-7.0	107.1	55.9
Tractors/Loaders/Backhoes	1	80	636	40	0.40	-22.1	-4.0	102.1	53.9
Rollers	1	85	636	20	0.20	-22.1	-7.0	107.1	55.9
							Log Sum		64.0
Architectural Coating									
Air Compressors	1	80	636	40	0.40	-22.1	-4.0	102.1	53.9
							Log Sum		53.9

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018).

(2) Source: https://www.google.com/url?q=http://www.noisetesting.info/blog/warehouse-forklift-workplace-noise-levels/&sa=D&source=hangouts&ust=1545259247311000&usg=AFQjCNHFcKKoEKUjv5VZMOtw_KO977Em1A

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

Cumulative Noise Impacts to 1101-1129 E. 5th Street and 445 S. Colyton Street

A	B	C	D	E	F	G	H	I	J
Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1, 2]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Demolition									
Concrete/Industrial Saw	1	76	238	20	0.20	-13.6	-7.0	89.6	55.5
Rubber Tired Dozers	1	85	238	40	0.40	-13.6	-4.0	98.6	67.5
Tractors/Loaders/Backhoes	3	80	238	40	1.20	-13.6	0.8	93.6	67.2
Concrete/Industrial Saw	1	76	313	20	0.20	-15.9	-7.0	91.9	53.1
Rubber Tired Dozers	1	85	313	40	0.40	-15.9	-4.0	100.9	65.1
Tractors/Loaders/Backhoes	3	80	313	40	1.20	-15.9	0.8	95.9	64.9
							Log Sum		72.5
Site Preparation									
Tractors/Loaders/Backhoes	1	80	238	40	0.40	-13.6	-4.0	93.6	62.5
Tractors/Loaders/Backhoes	1	80	313	40	0.40	-15.9	-4.0	95.9	60.1
							Log Sum		65.5
Grading									
Graders	1	85	238	40	0.40	-13.6	-4.0	98.6	67.5
Rubber Tired Dozers	1	85	238	40	0.40	-13.6	-4.0	98.6	67.5
Tractors/Loaders/Backhoes	1	80	238	40	0.40	-13.6	-4.0	93.6	62.5
Graders	1	85	313	40	0.40	-15.9	-4.0	100.9	65.1
Rubber Tired Dozers	1	85	313	40	0.40	-15.9	-4.0	100.9	65.1
Tractors/Loaders/Backhoes	1	80	313	40	0.40	-15.9	-4.0	95.9	60.1
							Log Sum		73.1
Building Construction									
Cranes	1	83	238	16	0.16	-13.6	-8.0	96.6	61.5
Forklifts	2	64	238	50	1.00	-13.6	0.0	77.6	50.4
Generator Sets	1	82	238	40	0.40	-13.6	-4.0	95.6	64.5
Welders	3	64	238	40	1.20	-13.6	0.8	77.6	51.2
Tractors/Loaders/Backhoes	1	80	238	40	0.40	-13.6	-4.0	93.6	62.5
Cranes	1	83	313	16	0.16	-15.9	-8.0	98.9	59.1
Forklifts	2	64	313	50	1.00	-15.9	0.0	79.9	48.1
Generator Sets	1	82	313	40	0.40	-15.9	-4.0	97.9	62.1
Welders	3	64	313	40	1.20	-15.9	0.8	79.9	48.9
Tractors/Loaders/Backhoes	1	80	313	40	0.40	-15.9	-4.0	95.9	60.1
							Log Sum		69.9
Paving									
Cement and Mortar Mixers	1	85	238	40	0.40	-13.6	-4.0	98.6	67.5
Pavers	1	85	238	50	0.50	-13.6	-3.0	98.6	68.4
Paving Equipment	1	85	238	20	0.20	-13.6	-7.0	98.6	64.5
Tractors/Loaders/Backhoes	1	80	238	40	0.40	-13.6	-4.0	93.6	62.5
Rollers	1	85	238	20	0.20	-13.6	-7.0	98.6	64.5
Cement and Mortar Mixers	1	85	313	40	0.40	-15.9	-4.0	100.9	65.1
Pavers	1	85	313	50	0.50	-15.9	-3.0	100.9	66.1
Paving Equipment	1	85	313	20	0.20	-15.9	-7.0	100.9	62.1
Tractors/Loaders/Backhoes	1	80	313	40	0.40	-15.9	-4.0	95.9	60.1
Rollers	1	85	313	20	0.20	-15.9	-7.0	100.9	62.1
							Log Sum		75.0
Architectural Coating									
Air Compressors	1	80	238	40	0.40	-13.6	-4.0	93.6	62.5
Air Compressors	1	80	313	40	0.40	-15.9	-4.0	95.9	60.1
							Log Sum		64.5

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018).

(2) Source: https://www.google.com/url?q=http://www.noisetesting.info/blog/warehouse-forklift-workplace-noise-levels/&sa=D&source=hangouts&ust=1545259247311000&usg=AFQjCNHFcKKoEKUjv5VZMOtw_KO977Em1A

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

APPENDIX E

PROJECT GENERATED TRIPS FHWA WORKSHEETS

Existing Traffic Noise

1	:Id	
2nd Street	:Road	
West of Alameda Street	:Segment	

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	8300
Speed	25
Distance	33
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	509.04	6.22	2.42	376.18	1.10	1.11	94.23	8.30	3.23
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
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	22.78	3.66	-0.45	21.47	-3.85	-3.84	15.46	4.91	0.80
Distance	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	58.96	51.48	53.53	57.64	43.97	50.13	51.63	52.73	54.78
	DAY LEQ	60.62		EVENING LEQ	58.51		NIGHT LEQ	58.02	

F	CNEL	65.09	
	DAY LEQ	60.62	

Day hour	89.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

1	:Id
2nd Street	:Road
West of Alameda Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	8400
Speed	25
Distance	33
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	515.17	6.30	2.45	380.72	1.12	1.12	95.36	8.40	3.27
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
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	22.83	3.71	-0.39	21.52	-3.80	-3.79	15.51	4.96	0.86
Distance	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	59.01	51.53	53.58	57.70	44.02	50.19	51.68	52.78	54.83
	DAY LEQ	60.67		EVENING LEQ	58.56		NIGHT LEQ	58.07	

CNEL	65.15
DAY LEQ	60.67

Day hour	89.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

2	:Id
3rd Street/4th Place/4th Street	:Road
West of Central Avenue	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	14500
Speed	25
Distance	43
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	889.28	10.87	4.23	657.19	1.93	1.93	164.61	14.50	5.64
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
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	25.21	6.08	1.98	23.89	-1.43	-1.42	17.88	7.33	3.23
Distance	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	60.23	52.75	54.80	58.92	45.24	51.41	52.90	54.00	56.05
	DAY LEQ	61.89		EVENING LEQ	59.78		NIGHT LEQ	59.29	

CNEL	66.37
DAY LEQ	61.89

Day hour	90.00
Absorptive?	no
Use hour?	no
GRADE dB	1.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

2	:Id
3rd Street/4th Place/4th Street	:Road
West of Central Avenue	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	14600
Speed	25
Distance	43
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	895.41	10.95	4.26	661.72	1.94	1.95	165.75	14.60	5.68
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
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	25.23	6.11	2.01	23.92	-1.40	-1.39	17.91	7.36	3.26
Distance	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	60.26	52.78	54.83	58.95	45.27	51.44	52.93	54.03	56.08
	DAY LEQ	61.92		EVENING LEQ	59.81		NIGHT LEQ	59.32	

CNEL	66.40
DAY LEQ	61.92

Day hour	90.00
Absorptive?	no
Use hour?	no
GRADE dB	1.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

3	:Id
3rd Street/4th Place/4th Street	:Road
Central Avenue to Alameda Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	13100
Speed	25
Distance	43
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	803.42	9.82	3.82	593.74	1.74	1.75	148.72	13.10	5.09
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
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	24.76	5.64	1.54	23.45	-1.87	-1.86	17.44	6.89	2.79
Distance	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	59.79	52.31	54.36	58.48	44.80	50.97	52.46	53.56	55.61
	DAY LEQ	61.45		EVENING LEQ	59.34		NIGHT LEQ	58.85	

CNEL	65.93
DAY LEQ	61.45

Day hour	91.00
Absorptive?	no
Use hour?	no
GRADE dB	2.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

3	:Id
3rd Street/4th Place/4th Street	:Road
Central Avenue to Alameda Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	13200
Speed	25
Distance	43
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	809.55	9.90	3.85	598.27	1.76	1.76	149.85	13.20	5.13
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
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	24.80	5.67	1.57	23.48	-1.84	-1.83	17.47	6.92	2.82
Distance	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	59.82	52.34	54.40	58.51	44.83	51.00	52.50	53.59	55.64
	DAY LEQ	61.48		EVENING LEQ	59.37		NIGHT LEQ	58.88	

CNEL	65.96
DAY LEQ	61.48

Day hour	91.00
Absorptive?	no
Use hour?	no
GRADE dB	2.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

4	:Id
3rd Street/4th Place/4th Street	:Road
East of Alameda Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	6800
Speed	25
Distance	43
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	417.04	5.10	1.98	308.20	0.91	0.91	77.20	6.80	2.64
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
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	21.92	2.79	-1.31	20.60	-4.72	-4.71	14.59	4.04	-0.06
Distance	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	56.94	49.46	51.51	55.63	41.95	48.12	49.62	50.71	52.76
	DAY LEQ	58.60		EVENING LEQ	56.49		NIGHT LEQ	56.00	

CNEL	63.08
DAY LEQ	58.60

Day hour	92.00
Absorptive?	no
Use hour?	no
GRADE dB	3.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

4	:Id
3rd Street/4th Place/4th Street	:Road
East of Alameda Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	6900
Speed	25
Distance	43
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	423.17	5.17	2.01	312.73	0.92	0.92	78.33	6.90	2.68
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
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	21.98	2.85	-1.25	20.67	-4.66	-4.64	14.65	4.10	0.00
Distance	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	57.00	49.53	51.58	55.69	42.02	48.18	49.68	50.78	52.83
	DAY LEQ	58.66		EVENING LEQ	56.56		NIGHT LEQ	56.07	

CNEL	63.14
DAY LEQ	58.66

Day hour	92.00
Absorptive?	no
Use hour?	no
GRADE dB	3.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

5	:Id
3rd Street/4th Place/4th Street	:Road
West of Merrick Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	22100
Speed	25
Distance	43
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1355.38	16.57	6.45	1001.65	2.94	2.95	250.89	22.10	8.59
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
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	27.04	7.91	3.81	25.72	0.40	0.41	19.71	9.16	5.06
Distance	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	62.06	54.58	56.63	60.75	47.07	53.24	54.73	55.83	57.88
	DAY LEQ	63.72		EVENING LEQ	61.61		NIGHT LEQ	61.12	

CNEL	68.20
DAY LEQ	63.72

Day hour	93.00
Absorptive?	no
Use hour?	no
GRADE dB	4.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

5	:Id
3rd Street/4th Place/4th Street	:Road
West of Merrick Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	22300
Speed	25
Distance	43
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1367.65	16.72	6.50	1010.71	2.97	2.98	253.16	22.30	8.67
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
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	27.07	7.95	3.85	25.76	0.44	0.45	19.75	9.20	5.10
Distance	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	62.10	54.62	56.67	60.79	47.11	53.28	54.77	55.87	57.92
	DAY LEQ	63.76		EVENING LEQ	61.65		NIGHT LEQ	61.16	

CNEL	68.24
DAY LEQ	63.76

Day hour	93.00
Absorptive?	no
Use hour?	no
GRADE dB	4.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

6	:Id
3rd Street/4th Place/4th Street	:Road
East of Merrick Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	22100
Speed	25
Distance	43
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1355.38	16.57	6.45	1001.65	2.94	2.95	250.89	22.10	8.59
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
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	27.04	7.91	3.81	25.72	0.40	0.41	19.71	9.16	5.06
Distance	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	62.06	54.58	56.63	60.75	47.07	53.24	54.73	55.83	57.88
	DAY LEQ	63.72		EVENING LEQ	61.61		NIGHT LEQ	61.12	

CNEL	68.20
DAY LEQ	63.72

Day hour	94.00
Absorptive?	no
Use hour?	no
GRADE dB	5.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

6	:Id
3rd Street/4th Place/4th Street	:Road
East of Merrick Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	22300
Speed	25
Distance	43
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1367.65	16.72	6.50	1010.71	2.97	2.98	253.16	22.30	8.67
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
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	27.07	7.95	3.85	25.76	0.44	0.45	19.75	9.20	5.10
Distance	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	62.10	54.62	56.67	60.79	47.11	53.28	54.77	55.87	57.92
	DAY LEQ	63.76		EVENING LEQ	61.65		NIGHT LEQ	61.16	

CNEL	68.24
DAY LEQ	63.76

Day hour	94.00
Absorptive?	no
Use hour?	no
GRADE dB	5.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

7	:Id
4th Street	:Road
West of Central Avenue	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	16900
Speed	35
Distance	43
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1036.47	12.67	4.93	765.97	2.25	2.26	191.86	16.90	6.57
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	24.41	5.28	1.18	23.10	-2.23	-2.21	17.08	6.53	2.43
Distance	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	65.10	55.70	56.81	63.79	48.19	53.42	57.78	56.95	58.06
	DAY LEQ	66.12		EVENING LEQ	64.28		NIGHT LEQ	62.39	

CNEL	69.83
DAY LEQ	66.12

Day hour	95.00
Absorptive?	no
Use hour?	no
GRADE dB	6.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

7	:Id	
4th Street	:Road	
West of Central Avenue	:Segment	

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	17000
Speed	35
Distance	43
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1042.60	12.75	4.96	770.50	2.26	2.27	192.99	17.00	6.61
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	24.43	5.31	1.21	23.12	-2.20	-2.19	17.11	6.56	2.46
Distance	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	65.13	55.72	56.84	63.82	48.21	53.44	57.80	56.97	58.09
	DAY LEQ	66.14		EVENING LEQ	64.31		NIGHT LEQ	62.42	

CNEL	69.85
DAY LEQ	66.14

Day hour	95.00
Absorptive?	no
Use hour?	no
GRADE dB	6.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

8	:Id
4th Street	:Road
Cenral Avenue to Alameda Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	18700
Speed	35
Distance	43
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1146.86	14.02	5.45	847.55	2.49	2.50	212.29	18.70	7.27
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	24.85	5.72	1.62	23.54	-1.79	-1.78	17.52	6.97	2.87
Distance	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	65.54	56.14	57.25	64.23	48.63	53.86	58.22	57.38	58.50
	DAY LEQ	66.56		EVENING LEQ	64.72		NIGHT LEQ	62.83	

CNEL	70.27
DAY LEQ	66.56

Day hour	96.00
Absorptive?	no
Use hour?	no
GRADE dB	7.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

8	:Id
4th Street	:Road
Cenral Avenue to Alameda Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	18900
Speed	35
Distance	43
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1159.13	14.17	5.51	856.61	2.52	2.52	214.56	18.90	7.35
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	24.89	5.77	1.67	23.58	-1.74	-1.73	17.57	7.02	2.92
Distance	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	65.59	56.18	57.30	64.28	48.67	53.90	58.26	57.43	58.55
	DAY LEQ	66.60		EVENING LEQ	64.77		NIGHT LEQ	62.88	

CNEL	70.31
DAY LEQ	66.60

Day hour	96.00
Absorptive?	no
Use hour?	no
GRADE dB	7.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

9	:Id
4th Street	:Road
Alameda Street to Seaton Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	5900
Speed	35
Distance	36
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	361.84	4.42	1.72	267.41	0.79	0.79	66.98	5.90	2.29
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	19.84	0.71	-3.39	18.53	-6.80	-6.78	12.51	1.96	-2.14
Distance	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	61.31	51.90	53.01	59.99	44.39	49.62	53.98	53.15	54.26
	DAY LEQ	62.32		EVENING LEQ	60.48		NIGHT LEQ	58.59	

CNEL	66.03
DAY LEQ	62.32

Day hour	97.00
Absorptive?	no
Use hour?	no
GRADE dB	8.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

9	:Id	
4th Street	:Road	
Alameda Street to Seaton Street	:Segment	

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	6000
Speed	35
Distance	36
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	367.98	4.50	1.75	271.94	0.80	0.80	68.12	6.00	2.33
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	19.91	0.79	-3.32	18.60	-6.72	-6.71	12.59	2.03	-2.07
Distance	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	61.38	51.97	53.09	60.06	44.46	49.69	54.05	53.22	54.34
	DAY LEQ	62.39		EVENING LEQ	60.55		NIGHT LEQ	58.67	

F	CNEL	66.10	Day hour	97.00
	DAY LEQ	62.39	Absorptive?	no
			Use hour?	no
			GRADE dB	8.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

10	:Id
4th Street	:Road
Seaton Street to 4th Place/4th Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	5900
Speed	35
Distance	36
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	361.84	4.42	1.72	267.41	0.79	0.79	66.98	5.90	2.29
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	19.84	0.71	-3.39	18.53	-6.80	-6.78	12.51	1.96	-2.14
Distance	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	61.31	51.90	53.01	59.99	44.39	49.62	53.98	53.15	54.26
	DAY LEQ	62.32		EVENING LEQ	60.48		NIGHT LEQ	58.59	

CNEL	66.03
DAY LEQ	62.32

Day hour	98.00
Absorptive?	no
Use hour?	no
GRADE dB	9.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

10	:Id
4th Street	:Road
Seaton Street to 4th Place/4th Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	6100
Speed	35
Distance	36
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	374.11	4.57	1.78	276.47	0.81	0.81	69.25	6.10	2.37
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	19.98	0.86	-3.24	18.67	-6.65	-6.64	12.66	2.11	-1.99
Distance	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	61.45	52.04	53.16	60.14	44.53	49.76	54.12	53.29	54.41
	DAY LEQ	62.46		EVENING LEQ	60.63		NIGHT LEQ	58.74	

CNEL	66.17
DAY LEQ	62.46

Day hour	98.00
Absorptive?	no
Use hour?	no
GRADE dB	9.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

11	:Id
5th Street	:Road
Alameda Street to Seaton Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	5900
Speed	25
Distance	33
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	361.84	4.42	1.72	267.41	0.79	0.79	66.98	5.90	2.29
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
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	21.30	2.17	-1.93	19.99	-5.34	-5.32	13.97	3.42	-0.68
Distance	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	57.47	50.00	52.05	56.16	42.49	48.65	50.15	51.24	53.30
	DAY LEQ	59.13		EVENING LEQ	57.03		NIGHT LEQ	56.54	

CNEL	63.61
DAY LEQ	59.13

Day hour	99.00
Absorptive?	no
Use hour?	no
GRADE dB	10.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

11	:Id
5th Street	:Road
Alameda Street to Seaton Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	6900
Speed	25
Distance	33
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	423.17	5.17	2.01	312.73	0.92	0.92	78.33	6.90	2.68
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
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	21.98	2.85	-1.25	20.67	-4.66	-4.64	14.65	4.10	0.00
Distance	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	58.15	50.68	52.73	56.84	43.17	49.33	50.83	51.92	53.98
	DAY LEQ	59.81		EVENING LEQ	57.71		NIGHT LEQ	57.22	

CNEL	64.29
DAY LEQ	59.81

Day hour	99.00
Absorptive?	no
Use hour?	no
GRADE dB	10.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

12	:Id
Palmetto Street	:Road
Alameda Street to Seaton Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	5600
Speed	25
Distance	33
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	343.45	4.20	1.63	253.81	0.75	0.75	63.57	5.60	2.18
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
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	21.07	1.95	-2.15	19.76	-5.56	-5.55	13.75	3.20	-0.90
Distance	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	57.25	49.77	51.82	55.93	42.26	48.42	49.92	51.02	53.07
	DAY LEQ	58.91		EVENING LEQ	56.80		NIGHT LEQ	56.31	

CNEL	63.39
DAY LEQ	58.91

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

12	:Id
Palmetto Street	:Road
Alameda Street to Seaton Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	6800
Speed	25
Distance	33
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	417.04	5.10	1.98	308.20	0.91	0.91	77.20	6.80	2.64
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
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	21.92	2.79	-1.31	20.60	-4.72	-4.71	14.59	4.04	-0.06
Distance	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	58.09	50.61	52.66	56.78	43.10	49.27	50.77	51.86	53.91
	DAY LEQ	59.75		EVENING LEQ	57.64		NIGHT LEQ	57.15	

CNEL	64.23
DAY LEQ	59.75

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

13	:Id
Palmetto Street	:Road
Seaton Street to Mateo Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	5600
Speed	25
Distance	33
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	343.45	4.20	1.63	253.81	0.75	0.75	63.57	5.60	2.18
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
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	21.07	1.95	-2.15	19.76	-5.56	-5.55	13.75	3.20	-0.90
Distance	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	57.25	49.77	51.82	55.93	42.26	48.42	49.92	51.02	53.07
	DAY LEQ	58.91		EVENING LEQ	56.80		NIGHT LEQ	56.31	

CNEL	63.39
DAY LEQ	58.91

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

13	:Id
Palmetto Street	:Road
Seaton Street to Mateo Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	5700
Speed	25
Distance	33
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	349.58	4.27	1.66	258.34	0.76	0.76	64.71	5.70	2.22
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
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	21.15	2.02	-2.08	19.84	-5.48	-5.47	13.82	3.27	-0.83
Distance	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	57.32	49.85	51.90	56.01	42.34	48.50	50.00	51.10	53.15
	DAY LEQ	58.98		EVENING LEQ	56.88		NIGHT LEQ	56.39	

CNEL	63.46
DAY LEQ	58.98

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

14	:Id
6th Street	:Road
West of Central Avenue	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	11800
Speed	35
Distance	43
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	723.69	8.85	3.44	534.82	1.57	1.57	133.96	11.80	4.59
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	22.85	3.72	-0.38	21.54	-3.79	-3.77	15.52	4.97	0.87
Distance	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	63.54	54.14	55.25	62.23	46.63	51.86	56.22	55.39	56.50
	DAY LEQ	64.56		EVENING LEQ	62.72		NIGHT LEQ	60.83	

CNEL	68.27
DAY LEQ	64.56

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

14	:Id
6th Street	:Road
West of Central Avenue	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	11900
Speed	35
Distance	43
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	729.82	8.92	3.47	539.35	1.58	1.59	135.09	11.90	4.63
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	22.89	3.76	-0.34	21.57	-3.75	-3.74	15.56	5.01	0.91
Distance	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	63.58	54.17	55.29	62.27	46.66	51.89	56.25	55.42	56.54
	DAY LEQ	64.59		EVENING LEQ	62.76		NIGHT LEQ	60.87	

CNEL	68.30
DAY LEQ	64.59

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

15	:Id
6th Street	:Road
Central Avenue to Alameda Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	14500
Speed	35
Distance	43
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	889.28	10.87	4.23	657.19	1.93	1.93	164.61	14.50	5.64
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	23.74	4.62	0.52	22.43	-2.89	-2.88	16.42	5.87	1.77
Distance	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.44	55.03	56.15	63.13	47.52	52.75	57.11	56.28	57.40
	DAY LEQ	65.45		EVENING LEQ	63.61		NIGHT LEQ	61.73	

CNEL	69.16
DAY LEQ	65.45

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

15	:Id
6th Street	:Road
Central Avenue to Alameda Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	14700
Speed	35
Distance	43
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	901.54	11.02	4.29	666.25	1.96	1.96	166.88	14.70	5.72
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	23.80	4.68	0.58	22.49	-2.83	-2.82	16.48	5.93	1.83
Distance	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.50	55.09	56.21	63.18	47.58	52.81	57.17	56.34	57.46
	DAY LEQ	65.51		EVENING LEQ	63.67		NIGHT LEQ	61.79	

CNEL	69.22
DAY LEQ	65.51

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

16	:Id
6th Street	:Road
Alameda Street to Mateo Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	12600
Speed	35
Distance	43
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	772.75	9.45	3.68	571.08	1.68	1.68	143.04	12.60	4.90
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	23.13	4.01	-0.09	21.82	-3.50	-3.49	15.81	5.26	1.16
Distance	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	63.83	54.42	55.54	62.52	46.91	52.14	56.50	55.67	56.79
	DAY LEQ	64.84		EVENING LEQ	63.00		NIGHT LEQ	61.12	

CNEL	68.55
DAY LEQ	64.84

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

16	:Id
6th Street	:Road
Alameda Street to Mateo Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	12800
Speed	35
Distance	43
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	785.02	9.60	3.73	580.14	1.70	1.71	145.31	12.80	4.98
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	23.20	4.08	-0.03	21.89	-3.43	-3.42	15.88	5.33	1.22
Distance	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	63.90	54.49	55.61	62.58	46.98	52.21	56.57	55.74	56.86
	DAY LEQ	64.91		EVENING LEQ	63.07		NIGHT LEQ	61.18	

CNEL	68.62
DAY LEQ	64.91

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

17	:Id	
6th Street	:Road	
East of Mateo Street	:Segment	

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	11000
Speed	35
Distance	43
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	674.62	8.25	3.21	498.56	1.46	1.47	124.88	11.00	4.28
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	22.54	3.42	-0.68	21.23	-4.09	-4.08	15.22	4.67	0.57
Distance	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	63.24	53.83	54.95	61.93	46.32	51.55	55.91	55.08	56.20
	DAY LEQ	64.25		EVENING LEQ	62.41		NIGHT LEQ	60.53	

CNEL	67.96
DAY LEQ	64.25

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

17	:Id
6th Street	:Road
East of Mateo Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	11200
Speed	35
Distance	43
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	686.89	8.40	3.27	507.62	1.49	1.49	127.15	11.20	4.36
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	22.62	3.50	-0.61	21.31	-4.01	-4.00	15.30	4.75	0.64
Distance	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	63.32	53.91	55.03	62.00	46.40	51.63	55.99	55.16	56.28
	DAY LEQ	64.33		EVENING LEQ	62.49		NIGHT LEQ	60.60	

CNEL	68.04
DAY LEQ	64.33

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

18	:Id
7th Street	:Road
West of Central Avenue	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	15800
Speed	35
Distance	43
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	969.01	11.85	4.61	716.11	2.10	2.11	179.37	15.80	6.14
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	24.12	4.99	0.89	22.80	-2.52	-2.51	16.79	6.24	2.14
Distance	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.81	55.40	56.52	63.50	47.89	53.12	57.49	56.65	57.77
	DAY LEQ	65.82		EVENING LEQ	63.99		NIGHT LEQ	62.10	

CNEL	69.53
DAY LEQ	65.82

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

18	:Id
7th Street	:Road
West of Central Avenue	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	15900
Speed	35
Distance	43
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	975.14	11.92	4.64	720.64	2.12	2.12	180.50	15.90	6.18
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	24.14	5.02	0.92	22.83	-2.49	-2.48	16.82	6.27	2.17
Distance	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.84	55.43	56.55	63.53	47.92	53.15	57.51	56.68	57.80
	DAY LEQ	65.85		EVENING LEQ	64.01		NIGHT LEQ	62.13	

CNEL	69.56
DAY LEQ	65.85

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

19	:Id
7th Street	:Road
Central Avenue to Alameda Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	16300
Speed	35
Distance	43
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	999.67	12.22	4.75	738.77	2.17	2.18	185.05	16.30	6.34
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	24.25	5.13	1.02	22.94	-2.38	-2.37	16.93	6.38	2.27
Distance	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.95	55.54	56.66	63.63	48.03	53.26	57.62	56.79	57.90
	DAY LEQ	65.96		EVENING LEQ	64.12		NIGHT LEQ	62.23	

CNEL	69.67
DAY LEQ	65.96

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

19	:Id
7th Street	:Road
Central Avenue to Alameda Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	16600
Speed	35
Distance	43
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1018.07	12.45	4.84	752.37	2.21	2.22	188.45	16.60	6.46
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	24.33	5.20	1.10	23.02	-2.30	-2.29	17.01	6.45	2.35
Distance	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	65.03	55.62	56.73	63.71	48.11	53.34	57.70	56.87	57.98
	DAY LEQ	66.04		EVENING LEQ	64.20		NIGHT LEQ	62.31	

CNEL	69.75
DAY LEQ	66.04

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

20	:Id
7th Street	:Road
Alameda Street to Mateo Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	16200
Speed	35
Distance	43
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	993.54	12.15	4.73	734.24	2.16	2.16	183.91	16.20	6.30
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	24.23	5.10	1.00	22.91	-2.41	-2.40	16.90	6.35	2.25
Distance	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.92	55.51	56.63	63.61	48.00	53.23	57.59	56.76	57.88
	DAY LEQ	65.93		EVENING LEQ	64.10		NIGHT LEQ	62.21	

CNEL	69.64
DAY LEQ	65.93

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

20	:Id
7th Street	:Road
Alameda Street to Mateo Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	16300
Speed	35
Distance	43
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	999.67	12.22	4.75	738.77	2.17	2.18	185.05	16.30	6.34
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	24.25	5.13	1.02	22.94	-2.38	-2.37	16.93	6.38	2.27
Distance	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.95	55.54	56.66	63.63	48.03	53.26	57.62	56.79	57.90
	DAY LEQ	65.96		EVENING LEQ	64.12		NIGHT LEQ	62.23	

CNEL	69.67
DAY LEQ	65.96

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

21	:Id
7th Street	:Road
East of Mateo Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	14000
Speed	35
Distance	43
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	858.61	10.50	4.08	634.53	1.86	1.87	158.94	14.00	5.44
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	23.59	4.47	0.36	22.28	-3.04	-3.03	16.27	5.71	1.61
Distance	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.29	54.88	55.99	62.97	47.37	52.60	56.96	56.13	57.24
	DAY LEQ	65.30		EVENING LEQ	63.46		NIGHT LEQ	61.57	

CNEL	69.01
DAY LEQ	65.30

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

21	:Id
7th Street	:Road
East of Mateo Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	14100
Speed	35
Distance	43
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	864.75	10.57	4.11	639.06	1.88	1.88	160.07	14.10	5.48
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	23.62	4.50	0.39	22.31	-3.01	-3.00	16.30	5.75	1.64
Distance	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.32	54.91	56.03	63.00	47.40	52.63	56.99	56.16	57.28
	DAY LEQ	65.33		EVENING LEQ	63.49		NIGHT LEQ	61.60	

CNEL	69.04
DAY LEQ	65.33

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

22	:Id	
Central Avenue	:Road	
North of 3rd Street	:Segment	

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	13100
Speed	35
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	758.67	15.72	26.20	563.23	2.62	4.37	139.67	21.83	36.39
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	23.05	6.22	8.44	21.76	-1.56	0.65	15.70	7.64	9.86
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	63.09	55.98	63.41	61.80	48.19	55.63	55.74	57.40	64.84
	DAY LEQ	66.65		EVENING LEQ	62.89		NIGHT LEQ	65.99	

CNEL	72.55
DAY LEQ	66.65

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

22	:Id
Central Avenue	:Road
North of 3rd Street	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	13200
Speed	35
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	764.46	15.84	26.40	567.53	2.64	4.40	140.74	22.00	36.67
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	23.09	6.25	8.47	21.79	-1.53	0.69	15.74	7.68	9.90
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	63.13	56.01	63.45	61.83	48.23	55.66	55.78	57.44	64.87
	DAY LEQ	66.69		EVENING LEQ	62.92		NIGHT LEQ	66.02	

CNEL	72.58
DAY LEQ	66.69

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Traffic Noise

23	:Id
Central Avenue	:Road
3rd Street to 4th Street	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	15000
Speed	35
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	868.71	18.00	30.00	644.92	3.00	5.00	159.93	25.00	41.67
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	23.64	6.81	9.02	22.35	-0.98	1.24	16.29	8.23	10.45
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	63.68	56.56	64.00	62.39	48.78	56.22	56.33	57.99	65.43
	DAY LEQ	67.24		EVENING LEQ	63.48		NIGHT LEQ	66.58	

CNEL	73.14
DAY LEQ	67.24

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

23	:Id
Central Avenue	:Road
3rd Street to 4th Street	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	15100
Speed	35
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	874.50	18.12	30.20	649.22	3.02	5.03	160.99	25.17	41.94
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	23.67	6.84	9.05	22.38	-0.95	1.27	16.32	8.26	10.48
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	63.71	56.59	64.03	62.42	48.81	56.25	56.36	58.02	65.46
	DAY LEQ	67.27		EVENING LEQ	63.51		NIGHT LEQ	66.61	

CNEL	73.17
DAY LEQ	67.27

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light heavy mix.

Existing Traffic Noise

24	:Id
Central Avenue	:Road
6th Street to 7th Street	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	16300
Speed	35
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	944.00	19.56	32.60	700.81	3.26	5.43	173.79	27.17	45.28
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	24.00	7.17	9.39	22.71	-0.61	1.60	16.65	8.59	10.81
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.04	56.93	64.36	62.75	49.14	56.58	56.69	58.35	65.79
	DAY LEQ	67.60		EVENING LEQ	63.84		NIGHT LEQ	66.94	

CNEL	73.50
DAY LEQ	67.60

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

24	:Id
Central Avenue	:Road
6th Street to 7th Street	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	16400
Speed	35
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	949.79	19.68	32.80	705.11	3.28	5.47	174.85	27.33	45.56
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	24.03	7.19	9.41	22.74	-0.59	1.63	16.68	8.62	10.84
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.07	56.95	64.39	62.78	49.17	56.61	56.72	58.38	65.81
	DAY LEQ	67.63		EVENING LEQ	63.87		NIGHT LEQ	66.97	

CNEL	73.52
DAY LEQ	67.63

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Traffic Noise

25	:Id	
Central Avenue	:Road	
South of 7th Street	:Segment	

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	17400
Speed	35
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1007.70	20.88	34.80	748.11	3.48	5.80	185.51	29.00	48.33
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	24.29	7.45	9.67	22.99	-0.33	1.89	16.94	8.88	11.10
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.33	57.21	64.65	63.03	49.43	56.86	56.98	58.64	66.07
	DAY LEQ	67.89		EVENING LEQ	64.12		NIGHT LEQ	67.22	

CNEL	73.78
DAY LEQ	67.89

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

25	:Id
Central Avenue	:Road
South of 7th Street	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	17600
Speed	35
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1019.29	21.12	35.20	756.71	3.52	5.87	187.65	29.33	48.89
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	24.34	7.50	9.72	23.04	-0.28	1.94	16.99	8.93	11.15
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.38	57.26	64.69	63.08	49.48	56.91	57.03	58.69	66.12
	DAY LEQ	67.94		EVENING LEQ	64.17		NIGHT LEQ	67.27	

CNEL	73.83
DAY LEQ	67.94

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Traffic Noise

26	:Id	
Alameda Street	:Road	
North of 2nd Street	:Segment	

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	19700
Speed	35
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1140.91	23.64	39.40	846.99	3.94	6.57	210.04	32.83	54.72
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	24.83	7.99	10.21	23.53	0.21	2.43	17.48	9.42	11.64
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.87	57.75	65.18	63.57	49.97	57.40	57.52	59.17	66.61
	DAY LEQ	68.43		EVENING LEQ	64.66		NIGHT LEQ	67.76	

CNEL	74.32
DAY LEQ	68.43

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

26	:Id
Alameda Street	:Road
North of 2nd Street	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	20100
Speed	35
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1164.07	24.12	40.20	864.19	4.02	6.70	214.30	33.50	55.83
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	24.91	8.08	10.30	23.62	0.30	2.51	17.56	9.50	11.72
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.95	57.84	65.27	63.66	50.05	57.49	57.60	59.26	66.70
	DAY LEQ	68.51		EVENING LEQ	64.75		NIGHT LEQ	67.85	

CNEL	74.41
DAY LEQ	68.51

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Traffic Noise

27	:Id
Alameda Street	:Road
2nd Street to 3rd Street/4th Place	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	20100
Speed	35
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1164.07	24.12	40.20	864.19	4.02	6.70	214.30	33.50	55.83
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	24.91	8.08	10.30	23.62	0.30	2.51	17.56	9.50	11.72
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.95	57.84	65.27	63.66	50.05	57.49	57.60	59.26	66.70
	DAY LEQ	68.51		EVENING LEQ	64.75		NIGHT LEQ	67.85	

CNEL	74.41
DAY LEQ	68.51

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

27 :Id

Alameda Street :Road

2nd Street to 3rd Street/4th Place :Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	20500
Speed	35
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1187.24	24.60	41.00	881.39	4.10	6.83	218.57	34.17	56.94
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	25.00	8.16	10.38	23.71	0.38	2.60	17.65	9.59	11.81
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	65.04	57.92	65.36	63.74	50.14	57.58	57.69	59.35	66.78
	DAY LEQ	68.60		EVENING LEQ	64.83		NIGHT LEQ	67.94	

CNEL	74.49
DAY LEQ	68.60

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Traffic Noise

28	:Id
Alameda Street	:Road
3rd Street/4th Place to 4th Street	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	21500
Speed	35
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1245.15	25.80	43.00	924.39	4.30	7.17	229.23	35.83	59.72
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	25.21	8.37	10.59	23.91	0.59	2.81	17.86	9.80	12.01
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	65.25	58.13	65.56	63.95	50.35	57.78	57.90	59.55	66.99
	DAY LEQ	68.81		EVENING LEQ	65.04		NIGHT LEQ	68.14	

CNEL	74.70
DAY LEQ	68.81

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

28	:Id
Alameda Street	:Road
3rd Street/4th Place to 4th Street	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	22200
Speed	35
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1285.69	26.64	44.40	954.48	4.44	7.40	236.69	37.00	61.67
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	25.34	8.51	10.73	24.05	0.73	2.95	18.00	9.94	12.15
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	65.38	58.27	65.70	64.09	50.49	57.92	58.04	59.69	67.13
	DAY LEQ	68.95		EVENING LEQ	65.18		NIGHT LEQ	68.28	

CNEL	74.84
DAY LEQ	68.95

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Traffic Noise

29	:Id	
Alameda Street	:Road	
South of 4th Street	:Segment	

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	18100
Speed	35
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1048.24	21.72	36.20	778.20	3.62	6.03	192.98	30.17	50.28
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	24.46	7.62	9.84	23.16	-0.16	2.06	17.11	9.05	11.27
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.50	57.38	64.82	63.20	49.60	57.04	57.15	58.81	66.24
	DAY LEQ	68.06		EVENING LEQ	64.29		NIGHT LEQ	67.39	

CNEL	73.95
DAY LEQ	68.06

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

29	:Id	
Alameda Street	:Road	
South of 4th Street	:Segment	

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	18900
Speed	35
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1094.57	22.68	37.80	812.60	3.78	6.30	201.51	31.50	52.50
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	24.65	7.81	10.03	23.35	0.03	2.25	17.30	9.24	11.46
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.69	57.57	65.00	63.39	49.79	57.22	57.34	58.99	66.43
	DAY LEQ	68.25		EVENING LEQ	64.48		NIGHT LEQ	67.58	

CNEL	74.14
DAY LEQ	68.25

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Traffic Noise

30	:Id	
Alameda Street	:Road	
North of 6th Street	:Segment	

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	18800
Speed	35
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1088.78	22.56	37.60	808.30	3.76	6.27	200.44	31.33	52.22
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	24.62	7.79	10.01	23.33	0.01	2.22	17.27	9.21	11.43
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.66	57.54	64.98	63.37	49.76	57.20	57.31	58.97	66.41
	DAY LEQ	68.22		EVENING LEQ	64.46		NIGHT LEQ	67.56	

CNEL	74.12
DAY LEQ	68.22

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

30	:Id	
Alameda Street	:Road	
North of 6th Street	:Segment	

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	19900
Speed	35
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1152.49	23.88	39.80	855.59	3.98	6.63	212.17	33.17	55.28
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	24.87	8.03	10.25	23.58	0.25	2.47	17.52	9.46	11.68
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.91	57.79	65.23	63.62	50.01	57.45	57.56	59.22	66.66
	DAY LEQ	68.47		EVENING LEQ	64.71		NIGHT LEQ	67.81	

CNEL	74.36
DAY LEQ	68.47

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Traffic Noise

31	:Id
Alameda Street	:Road
6th Street to 7th Street	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	18600
Speed	35
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1077.20	22.32	37.20	799.70	3.72	6.20	198.31	31.00	51.67
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	24.58	7.74	9.96	23.28	-0.04	2.18	17.23	9.17	11.39
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.62	57.50	64.93	63.32	49.72	57.15	57.27	58.93	66.36
	DAY LEQ	68.18		EVENING LEQ	64.41		NIGHT LEQ	67.51	

CNEL	74.07
DAY LEQ	68.18

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

31	:Id
Alameda Street	:Road
6th Street to 7th Street	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	19300
Speed	35
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1117.74	23.16	38.60	829.80	3.86	6.43	205.77	32.17	53.61
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	24.74	7.90	10.12	23.44	0.12	2.34	17.39	9.33	11.55
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.78	57.66	65.10	63.48	49.88	57.31	57.43	59.09	66.52
	DAY LEQ	68.34		EVENING LEQ	64.57		NIGHT LEQ	67.67	

CNEL	74.23
DAY LEQ	68.34

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Traffic Noise

32	:Id	
Alameda Street	:Road	
South of 7th Street	:Segment	

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	19100
Speed	35
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1106.16	22.92	38.20	821.20	3.82	6.37	203.64	31.83	53.06
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	24.69	7.86	10.07	23.40	0.07	2.29	17.34	9.28	11.50
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.73	57.61	65.05	63.44	49.83	57.27	57.38	59.04	66.48
	DAY LEQ	68.29		EVENING LEQ	64.53		NIGHT LEQ	67.63	

CNEL	74.19
DAY LEQ	68.29

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

32	:Id
Alameda Street	:Road
South of 7th Street	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	19400
Speed	35
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1123.53	23.28	38.80	834.10	3.88	6.47	206.84	32.33	53.89
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
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	24.76	7.92	10.14	23.47	0.14	2.36	17.41	9.35	11.57
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.80	57.68	65.12	63.51	49.90	57.34	57.45	59.11	66.54
	DAY LEQ	68.36		EVENING LEQ	64.60		NIGHT LEQ	67.70	

CNEL	74.25
DAY LEQ	68.36

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Traffic Noise

33	:Id
Seaton Street	:Road
4th Street to 5th Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	5600
Speed	25
Distance	33
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	343.45	4.20	1.63	253.81	0.75	0.75	63.57	5.60	2.18
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
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	21.07	1.95	-2.15	19.76	-5.56	-5.55	13.75	3.20	-0.90
Distance	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	57.25	49.77	51.82	55.93	42.26	48.42	49.92	51.02	53.07
	DAY LEQ	58.91		EVENING LEQ	56.80		NIGHT LEQ	56.31	

CNEL	63.39
DAY LEQ	58.91

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

33	:Id
Seaton Street	:Road
4th Street to 5th Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	5800
Speed	25
Distance	33
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	355.71	4.35	1.69	262.88	0.77	0.77	65.84	5.80	2.26
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
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	21.23	2.10	-2.00	19.91	-5.41	-5.40	13.90	3.35	-0.75
Distance	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	57.40	49.92	51.97	56.09	42.41	48.58	50.07	51.17	53.22
	DAY LEQ	59.06		EVENING LEQ	56.95		NIGHT LEQ	56.46	

CNEL	63.54
DAY LEQ	59.06

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

34	:Id
Seaton Street	:Road
5th Street to Palmetto Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	5600
Speed	25
Distance	33
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	343.45	4.20	1.63	253.81	0.75	0.75	63.57	5.60	2.18
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
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	21.07	1.95	-2.15	19.76	-5.56	-5.55	13.75	3.20	-0.90
Distance	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	57.25	49.77	51.82	55.93	42.26	48.42	49.92	51.02	53.07
	DAY LEQ	58.91		EVENING LEQ	56.80		NIGHT LEQ	56.31	

CNEL	63.39
DAY LEQ	58.91

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

34 :Id

Seaton Street :Road

5th Street to Palmetto Street :Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	6900
Speed	25
Distance	33
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	423.17	5.17	2.01	312.73	0.92	0.92	78.33	6.90	2.68
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
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	21.98	2.85	-1.25	20.67	-4.66	-4.64	14.65	4.10	0.00
Distance	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	58.15	50.68	52.73	56.84	43.17	49.33	50.83	51.92	53.98
	DAY LEQ	59.81		EVENING LEQ	57.71		NIGHT LEQ	57.22	

CNEL	64.29
DAY LEQ	59.81

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

35	:Id	
Mateo Street	:Road	
North of 6th Street	:Segment	

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	4100
Speed	25
Distance	36
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	251.45	3.07	1.20	185.83	0.55	0.55	46.55	4.10	1.59
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
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	19.72	0.59	-3.51	18.41	-6.92	-6.90	12.39	1.84	-2.26
Distance	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	55.52	48.04	50.09	54.20	40.53	46.69	48.19	49.29	51.34
	DAY LEQ	57.18		EVENING LEQ	55.07		NIGHT LEQ	54.58	

CNEL	61.65
DAY LEQ	57.18

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

35	:Id
Mateo Street	:Road
North of 6th Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	4200
Speed	25
Distance	36
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	257.58	3.15	1.23	190.36	0.56	0.56	47.68	4.20	1.63
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
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	19.82	0.70	-3.40	18.51	-6.81	-6.80	12.50	1.95	-2.15
Distance	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	55.62	48.14	50.19	54.31	40.63	46.80	48.29	49.39	51.44
	DAY LEQ	57.28		EVENING LEQ	55.17		NIGHT LEQ	54.68	

CNEL	61.76
DAY LEQ	57.28

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

36	:Id	
Mateo Street	:Road	
6th Street to 7th Street	:Segment	

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	4600
Speed	25
Distance	36
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	282.12	3.45	1.34	208.49	0.61	0.61	52.22	4.60	1.79
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
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	20.22	1.09	-3.01	18.91	-6.42	-6.40	12.89	2.34	-1.76
Distance	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	56.02	48.54	50.59	54.70	41.03	47.19	48.69	49.79	51.84
	DAY LEQ	57.67		EVENING LEQ	55.57		NIGHT LEQ	55.08	

CNEL	62.15
DAY LEQ	57.67

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

36	:Id
Mateo Street	:Road
6th Street to 7th Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	4700
Speed	25
Distance	36
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	288.25	3.52	1.37	213.02	0.63	0.63	53.36	4.70	1.83
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
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	20.31	1.19	-2.92	19.00	-6.32	-6.31	12.99	2.44	-1.67
Distance	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	56.11	48.63	50.68	54.80	41.12	47.29	48.78	49.88	51.93
	DAY LEQ	57.77		EVENING LEQ	55.66		NIGHT LEQ	55.17	

CNEL	62.25
DAY LEQ	57.77

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

37	:Id	
Mateo Street	:Road	
South of 7th Street	:Segment	

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	5600
Speed	25
Distance	36
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	343.45	4.20	1.63	253.81	0.75	0.75	63.57	5.60	2.18
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
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	21.07	1.95	-2.15	19.76	-5.56	-5.55	13.75	3.20	-0.90
Distance	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	56.87	49.39	51.44	55.56	41.88	48.05	49.54	50.64	52.69
	DAY LEQ	58.53		EVENING LEQ	56.42		NIGHT LEQ	55.93	

CNEL	63.01
DAY LEQ	58.53

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

37	:Id
Mateo Street	:Road
South of 7th Street	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	5700
Speed	25
Distance	36
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	349.58	4.27	1.66	258.34	0.76	0.76	64.71	5.70	2.22
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
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	21.15	2.02	-2.08	19.84	-5.48	-5.47	13.82	3.27	-0.83
Distance	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	56.95	49.47	51.52	55.63	41.96	48.12	49.62	50.72	52.77
	DAY LEQ	58.61		EVENING LEQ	56.50		NIGHT LEQ	56.01	

CNEL	63.09
DAY LEQ	58.61

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

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

Future Traffic Noise - 5th Street

	DAYTIME			EVENING			NIGHTTIME				
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	ADT	10400.00
										SPEED	25.00
										DISTANCE	40.00
INPUT PARAMETERS											
Vehicles per hour	637.83	7.73	3.03	471.36	1.38	1.39	118.07	10.21	4.04	% A	97.40
Speed in MPH	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	% MT	1.84
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	% HT	0.74
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	LEFT	-90.00
										RIGHT	90.00
NOISE CALCULATIONS											
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24	CNEL	65.00
ADJUSTMENTS										DAY LEQ	60.76
Flow	23.76	4.60	0.53	22.45	-2.87	-2.86	16.44	5.80	1.78		
Distance	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	Day hour	89.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Absorbtive?	no
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	Use hour?	no
LEQ	59.10	51.58	53.67	57.79	44.11	50.28	51.78	52.79	54.92	GRADE dB	0.00

DAY LEQ	60.76	EVENING LEQ	58.65	NIGHT LEQ	58.14	
CNEL	**65.00**					

APPENDIX F

SOUNDPLAN INPUT/OUTPUT

Noise emissions of road traffic

Station km	ADT Veh/24	Vehicles type	Vehicle name	Traffic values day Veh/h	evenin Veh/h	night Veh/h	Speed km/h	Control device	Constr Speed km/h	Affect. veh. %	Road surface	Gradien Min / M %
Alameda Northbound			Traffic direction: In entry direction									
0+000	15848	Total	-	942	670	233	-	none	-	-	Average (of DGAC and PCC)	0.0
		Automobiles	-	892	662	164	56					
		Medium trucks	-	19	3	26	56					
		Heavy trucks	-	31	5	43	56					
		Buses	-	-	-	-	-					
		Motorcycles	-	-	-	-	-					
		Auxiliary vehicle	-	-	-	-	-					
0+573	-							-	-	-	-	-
Alameda Northbound1			Traffic direction: In entry direction									
0+000	15848	Total	-	942	670	233	-	none	-	-	Average (of DGAC and PCC)	0.0
		Automobiles	-	892	662	164	56					
		Medium trucks	-	19	3	26	56					
		Heavy trucks	-	31	5	43	56					
		Buses	-	-	-	-	-					
		Motorcycles	-	-	-	-	-					
		Auxiliary vehicle	-	-	-	-	-					
0+570	-							-	-	-	-	-

Noise emissions of industry sources

				Frequency spectrum [dB(A)]								Corrections		
Source name	Reference	Level		63	125	250	500	1	2	4	8	Cwall	CI	CT
			dB(A)	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz	dB(A)	dB(A)	dB(A)
Truck Wash	Lw/m,m2	Day	72.5	75.6	79.6	83.6	86.6	89.6	87.6	82.6	77.6	-	-	-
Truck Scales	Lw/m,m2	Day	72.5	75.6	79.6	83.6	86.6	89.6	87.6	82.6	77.6	-	-	-

Receiver list

No.	Receiver name	Building side	Floor	Limit Lden dB(A)	Level Lden dB(A)	Conflict Lden dB
1	Proposed Building	West	GF	-	62.7	-
			1.Fl	-	62.1	-
			2.Fl	-	62.3	-
			3.Fl	-	62.7	-
			4.Fl	-	63.2	-
			5.Fl	-	63.7	-
			6.Fl	-	64.2	-
			7.Fl	-	64.3	-
2		West	GF	-	63.3	-
			1.Fl	-	63.0	-
			2.Fl	-	63.0	-
			3.Fl	-	63.1	-
			4.Fl	-	63.3	-
			5.Fl	-	63.5	-
			6.Fl	-	63.9	-
			7.Fl	-	64.1	-

Contribution levels of the receivers

Source name		Traffic lane	Level Lden dB(A)
Proposed Building	GF		62.7
Alameda Northbound		-	59.3
Alameda Northbound1		-	58.8
Truck Scales		-	30.2
Truck Wash		-	53.6
Proposed Building	1.Fl		62.1
Alameda Northbound		-	58.8
Alameda Northbound1		-	58.4
Truck Scales		-	28.7
Truck Wash		-	52.7
Proposed Building	2.Fl		62.3
Alameda Northbound		-	58.9
Alameda Northbound1		-	58.6
Truck Scales		-	28.1
Truck Wash		-	52.6
Proposed Building	3.Fl		62.7
Alameda Northbound		-	59.5
Alameda Northbound1		-	58.9
Truck Scales		-	28.1
Truck Wash		-	52.6
Proposed Building	4.Fl		63.2
Alameda Northbound		-	60.0
Alameda Northbound1		-	59.6
Truck Scales		-	28.2
Truck Wash		-	52.5
Proposed Building	5.Fl		63.7
Alameda Northbound		-	60.5
Alameda Northbound1		-	60.2
Truck Scales		-	28.2
Truck Wash		-	52.4
Proposed Building	6.Fl		64.2
Alameda Northbound		-	61.0
Alameda Northbound1		-	60.9
Truck Scales		-	28.2
Truck Wash		-	52.3
Proposed Building	7.Fl		64.3
Alameda Northbound		-	61.2
Alameda Northbound1		-	60.9
Truck Scales		-	28.2
Truck Wash		-	52.0
Proposed Building	GF		63.3
Alameda Northbound		-	57.9
Alameda Northbound1		-	57.4
Truck Scales		-	40.6
Truck Wash		-	59.9
Proposed Building	1.Fl		63.0
Alameda Northbound		-	57.4
Alameda Northbound1		-	57.0
Truck Scales		-	40.0
Truck Wash		-	59.8
Proposed Building	2.Fl		63.0
Alameda Northbound		-	57.5
Alameda Northbound1		-	57.1
Truck Scales		-	40.0
Truck Wash		-	59.6
Proposed Building	3.Fl		63.1
Alameda Northbound		-	57.9
Alameda Northbound1		-	57.6

Contribution levels of the receivers

Source name		Traffic lane	Level Lden dB(A)
Truck Scales		-	39.9
Truck Wash		-	59.4
Proposed Building	4.Fl		63.3
Alameda Northbound		-	58.4
Alameda Northbound1		-	58.2
Truck Scales		-	39.8
Truck Wash		-	59.0
Proposed Building	5.Fl		63.5
Alameda Northbound		-	58.9
Alameda Northbound1		-	58.6
Truck Scales		-	39.7
Truck Wash		-	58.7
Proposed Building	6.Fl		63.9
Alameda Northbound		-	59.5
Alameda Northbound1		-	59.5
Truck Scales		-	38.7
Truck Wash		-	58.3
Proposed Building	7.Fl		64.1
Alameda Northbound		-	60.0
Alameda Northbound1		-	59.9
Truck Scales		-	38.5
Truck Wash		-	57.8

APPENDIX G

VIBRATION WORKSHEETS

VIBRATION LEVEL IMPACT

Project:	1100 E. 5th Street	Date: 1/28/16
Source:	Large Bulldozer	
Scenario:	Unmitigated	
Location:	Property Boundary	
Address:	Project Site	

PPV = PPVref(5/D)^n (in/sec)

DATA INPUT

Equipment = Type	2	Large Bulldozer	INPUT SECTION IN BLUE
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	55.00	Distance from Equipment to Receiver (ft)	
n =	1.10	Vibration attenuation rate through the ground	

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

DATA OUT RESULTS

PPV =	**0.006**	IN/SEC	OUTPUT IN RED

VIBRATION LEVEL IMPACT

Project:	1100 E. 5th Street	Date: 1/28/16
Source:	Vibratory Roller	
Scenario:	Unmitigated	
Location:	Property Boundary	
Address:	Project Site	

PPV = PPVref(5/D)^n (in/sec)

DATA INPUT

Equipment = Type	1	Vibratory Roller	INPUT SECTION IN BLUE
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	55.00	Distance from Equipment to Receiver (ft)	
n =	1.10	Vibration attenuation rate through the ground	

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

DATA OUT RESULTS

PPV =	**0.015**	IN/SEC	OUTPUT IN RED

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Table 6

Construction Noise by Phase - Existing Receptors 55 feet North and proposed receptors 55 feet north of the Project Site

A	B	C	D	E	J
Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1, 2]	Distance to Receptor[3]	Item Usage Percent	Receptor Item Leq, dBA
Demolition					
Concrete/Industrial Saw	1	76	55	20	68.2
Rubber Tired Dozers	1	85	55	40	80.2
Tractors/Loaders/Backhoes	3	80	55	40	80.0
					83.2
Site Preparation					
Tractors/Loaders/Backhoes	1	80	55	40	75.2
					75.2
Grading					
Graders	1	85	55	40	80.2
Rubber Tired Dozers	1	85	55	40	80.2
Tractors/Loaders/Backhoes	1	80	55	40	75.2
					83.8
Building Construction					
Cranes	1	83	55	16	74.2
Forklifts	2	64	55	50	63.2
Generator Sets	1	82	55	40	77.2
Welders	3	64	55	40	64.0
Tractors/Loaders/Backhoes	1	80	55	40	75.2
					77.9
Architectural Coating					
Air Compressors	1	80	55	40	75.2
					75.2

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018).

(2) Source: https://www.google.com/url?q=http://www.noisetesting.info/blog/warehouse-forklift-workplace-noise-levels/&sa=D&source=hangouts&ust=1545259247311000&usg=AFQjCNHFcKKoEKUjv5VZMOtw_KO977Em1A

(3) Distance to receptor calculated from edge of site. Construction noise projected from the edge of the project site to nearest sensitive use (structure).

Table 6a
Construction Noise by Phase - Proposed Receptors 20 feet South of the Project Site

A	B	C	D	E	J
Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1, 2]	Distance to Receptor[3]	Item Usage Percent	Receptor Item Leq, dBA
Demolition					
Concrete/Industrial Saw	1	76	20	20	77.0
Rubber Tired Dozers	1	85	20	40	89.0
Tractors/Loaders/Backhoes	3	80	20	40	88.8
					92.0
Site Preparation					
Tractors/Loaders/Backhoes	1	80	20	40	84.0
					84.0
Grading					
Graders	1	85	20	40	89.0
Rubber Tired Dozers	1	85	20	40	89.0
Tractors/Loaders/Backhoes	1	80	20	40	84.0
					92.6
Building Construction					
Cranes	1	83	20	16	83.0
Forklifts	2	64	20	50	72.0
Generator Sets	1	82	20	40	86.0
Welders	3	64	20	40	72.8
Tractors/Loaders/Backhoes	1	80	20	40	84.0
					86.7
Architectural Coating					
Air Compressors	1	80	20	40	84.0
					84.0

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018).

(2) Source: https://www.google.com/url?q=http://www.noisetesting.info/blog/warehouse-forklift-workplace-noise-levels/&sa=D&source=hangouts&ust=1545259247311000&usg=AFQjCNHFcKKoEKUjv5VZMOtw_KO977Em1A

(3) Distance to receptor calculated from edge of site. Construction noise projected from the edge of the project site to nearest sensitive use (structure).

Table 7
Construction Noise by Phase - Receptors 365 feet East of the Project Site

A	B	C	D	E	J
Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1, 2]	Distance to Receptor[3]	Item Usage Percent	Receptor Item Leq, dBA
Demolition					
Concrete/Industrial Saw	1	76	365	20	51.7
Rubber Tired Dozers	1	85	365	40	63.8
Tractors/Loaders/Backhoes	3	80	365	40	63.5
					66.8
Site Preparation					
Tractors/Loaders/Backhoes	1	80	365	40	58.8
					58.8
Grading					
Graders	1	85	365	40	63.8
Rubber Tired Dozers	1	85	365	40	63.8
Tractors/Loaders/Backhoes	1	80	365	40	58.8
					67.4
Building Construction					
Cranes	1	83	365	16	57.8
Forklifts	2	64	365	50	46.7
Generator Sets	1	82	365	40	60.8
Welders	3	64	365	40	47.5
Tractors/Loaders/Backhoes	1	80	365	40	58.8
					61.5
Architectural Coating					
Air Compressors	1	80	365	40	58.8
					58.8

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018).

(2) Source: https://www.google.com/url?q=http://www.noisetesting.info/blog/warehouse-forklift-workplace-noise-levels/&sa=D&source=hangouts&ust=1545259247311000&usg=AFQjCNHFcKKoEKUjv5VZMOtw_KO977Em1A

(3) Distance to receptor calculated from edge of site. Construction noise projected from the edge of the project site to nearest sensitive use (structure).

Table 7a
Construction Noise by Phase - Receptors 590 feet East of the Project Site

A	B	C	D	E	J
Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1, 2]	Distance to Receptor[3]	Item Usage Percent	Receptor Item Leq, dBA
Demolition					
Concrete/Industrial Saw	1	76	590	20	47.6
Rubber Tired Dozers	1	85	590	40	59.6
Tractors/Loaders/Backhoes	3	80	590	40	59.4
					62.6
Site Preparation					
Tractors/Loaders/Backhoes	1	80	590	40	54.6
					54.6
Grading					
Graders	1	85	590	40	59.6
Rubber Tired Dozers	1	85	590	40	59.6
Tractors/Loaders/Backhoes	1	80	590	40	54.6
					63.2
Building Construction					
Cranes	1	83	590	16	53.6
Forklifts	2	64	590	50	42.6
Generator Sets	1	82	590	40	56.6
Welders	3	64	590	40	43.4
Tractors/Loaders/Backhoes	1	80	590	40	54.6
					57.3
Architectural Coating					
Air Compressors	1	80	590	40	54.6
					54.6

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018).

(2) Source: https://www.google.com/url?q=http://www.noisetesting.info/blog/warehouse-forklift-workplace-noise-levels/&sa=D&source=hangouts&ust=1545259247311000&usg=AFQjCNHFcKKoEKUjv5VZMOtw_KO977Em1A

(3) Distance to receptor calculated from edge of site. Construction noise projected from the edge of the project site to nearest sensitive use (structure).