APPENDIX 7

Noise Impact Analysis

MILLCREEK PROMENADE

NOISE IMPACT ANALYSIS (REVISED)

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Prepared by:

Mike Dickerson, INCE ■ Roma Stromberg, INCE, M.S. ■ Carl Ballard, LEED GA

KUNZMAN ASSOCIATES, INC.
550 Parkcenter Drive, Suite 202 ■ Santa Ana, California 92705
(714) 973-8383 ■ www.kainc.us
JN 6437d

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I. INTRODUCTION AND SETTING

A. Purpose and Objectives

The purpose of this report is to provide an assessment of the noise impacts resulting from development of the proposed Millcreek Promenade 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 glossary of terms is provided in Appendix A of this report.

B. Project Location

The project is located south of Garbani Road between Sherman Road and Haun Road in the City of Menifee. A vicinity map showing the project location is provided on Figure 1.

C. Project Description

The project site is proposed to be developed with 210 multi-family attached residential dwelling units, 204 single-family detached residential dwelling units, 38,400 square feet of industrial park, 122,727 square feet of commercial retail, and 8,000 square feet of high-turnover (sit-down) restaurant. Figure 2 illustrates the project site plan.

Figure 1
Project Location Map

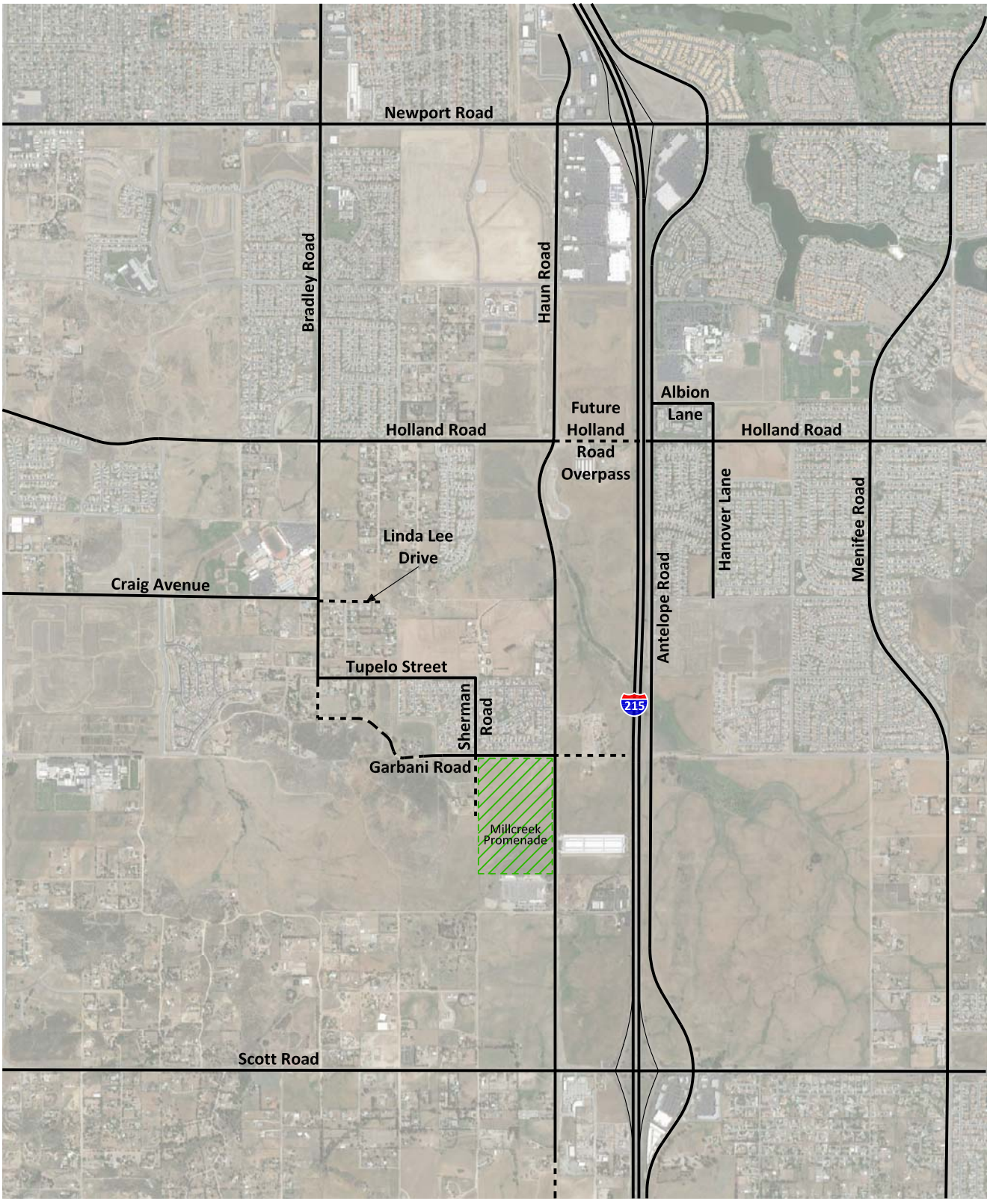

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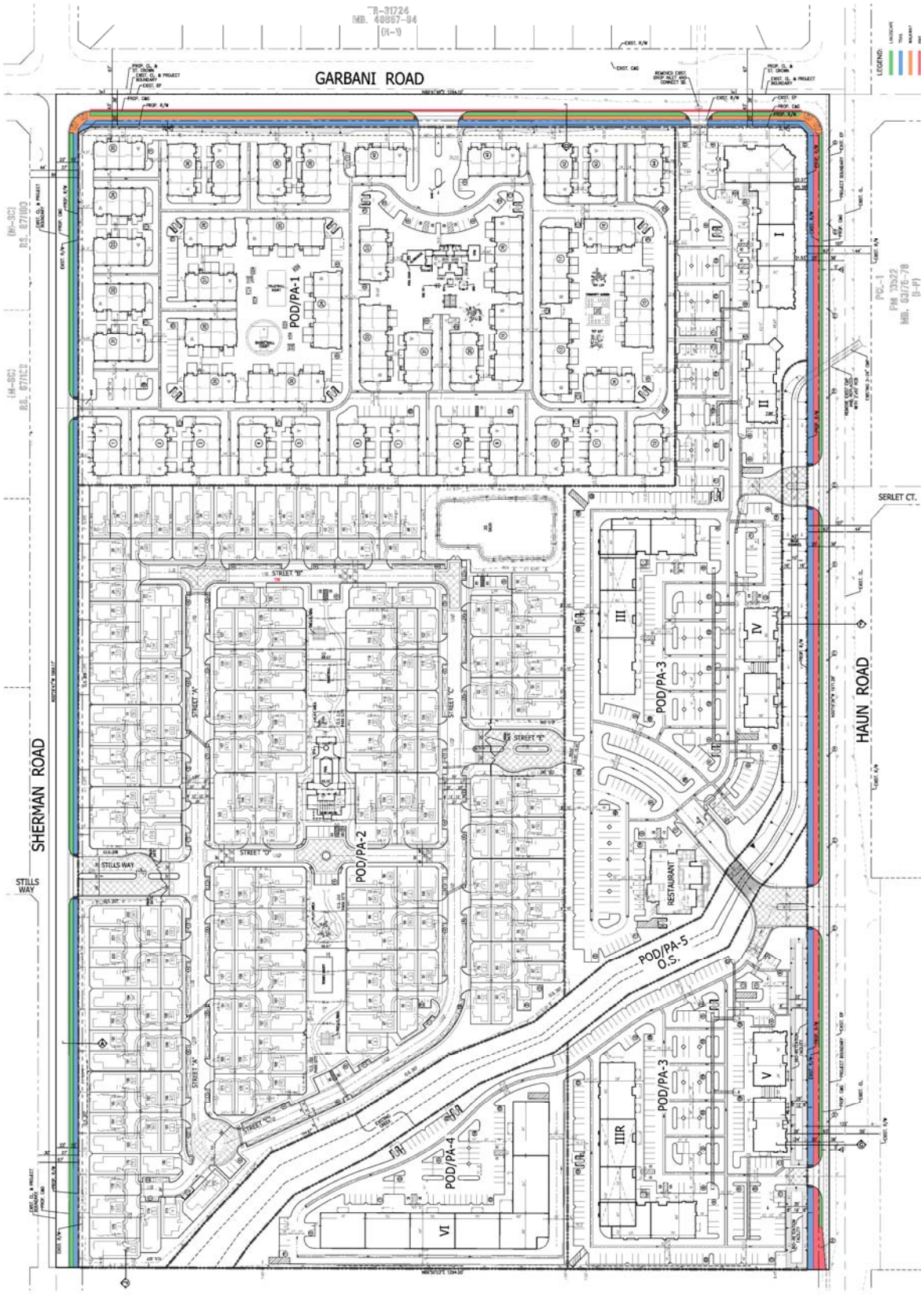
Figure 2
Site Plan



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II. NOISE AND VIBRATION FUNDAMENTALS

A. 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 one-hour average is assumed.

Noise standards for land use compatibility are stated in terms of the Community Noise Equivalent Level (CNEL) and the Day-Night Average Noise Level (L_{dn}). 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. L_{dn} 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 Traffic Noise Analysis Protocol for New Highway and Reconstruction Projects (2009).

B. 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.

Construction operations generally include a wide range of activities that can generate groundborne vibration. Vibratory compactors or rollers, pile drivers, and pavement breakers can generate perceptible amounts of vibration at up to 200 feet. Heavy trucks can also generate groundborne vibrations, which can vary depending on vehicle type, weight, and pavement conditions. Potholes, pavement joints, discontinuities, or the differential settlement of pavement all increase the vibration levels from vehicles passing over a road surface. Construction vibration is normally of greater concern than vibration from normal traffic flows on streets and freeways with smooth pavement conditions.

Typically, particle velocity or acceleration (measured in gravities) is used to describe vibration. Table 1 shows the peak particle velocities (PPV) of some common construction equipment and Table 2 shows typical human reactions to various levels of PPV as well as the effect of PPV on buildings.

Table 1

Vibration Source Levels for Construction Equipment[1]

Equipment	Peak Particle Velocity (inches/second) at 25 feet	Approximate Vibration Level LV (dVB) at 25 feet
Pile driver (impact)	1.518 (upper range)	112
	0.644 (typical)	104
Pile driver (sonic)	0.734 upper range	105
	0.170 typical	93
Clam shovel drop (slurry wall)	0.202	94
Hydromill	0.008 in soil	66
(slurry wall)	0.017 in rock	75
Vibratory Roller	0.21	94
Hoe Ram	0.089	87
Large bulldozer	0.089	87
Caisson drill	0.089	87
Loaded trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58

[1] Source: Transit Noise and Vibration Impact Assessment, Federal Transit Administration, May 2006.

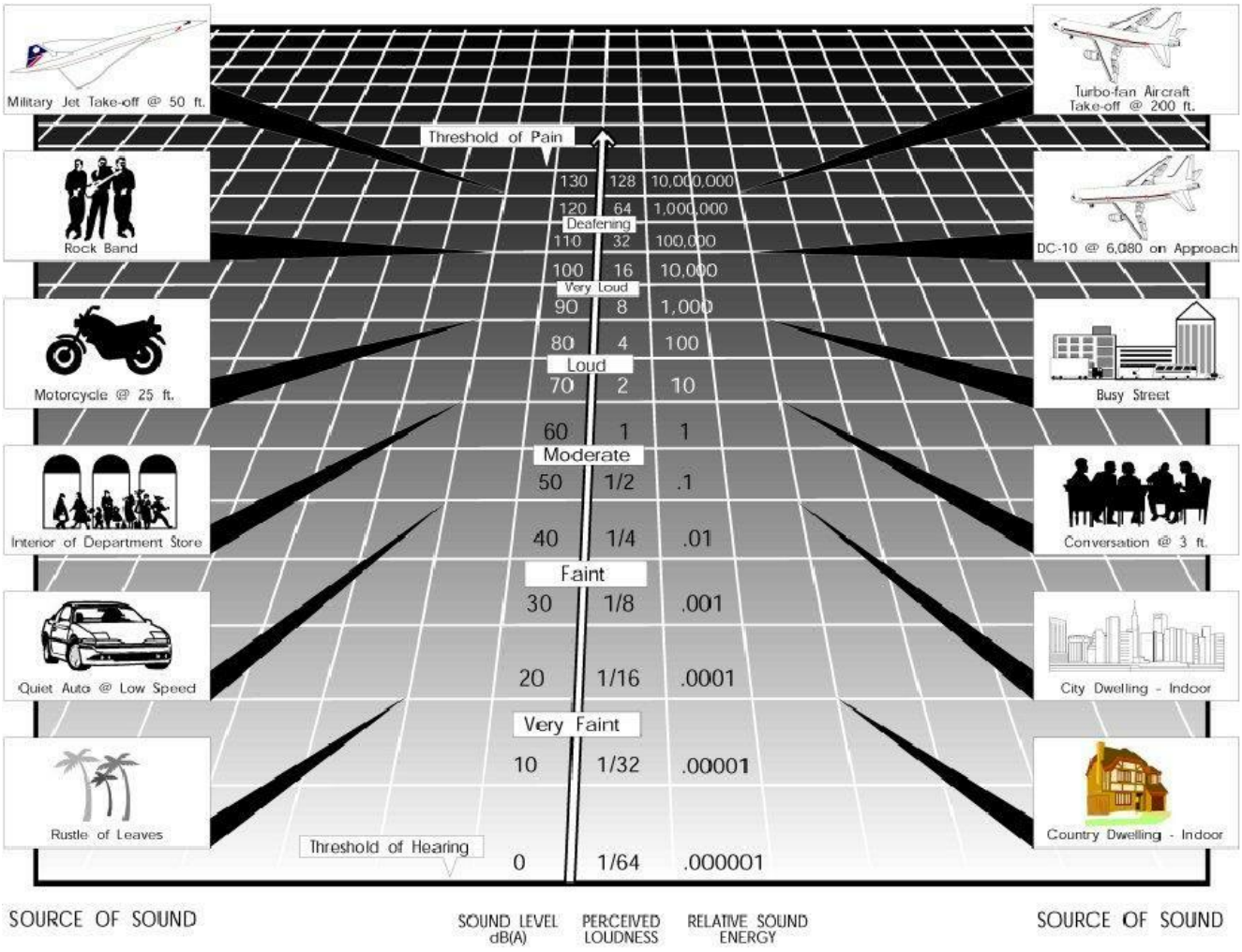
Table 2

Typical Human Reaction and Effect on Buildings Due to Groundborne Vibration[1]

Vibration Level Peak Particle Velocity (PPV)	Human Reaction	Effect on Buildings
0.006–0.019 in/sec	Threshold of perception, possibility of intrusion	Vibrations unlikely to cause damage of any type
0.08 in/sec	Vibrations readily perceptible	Recommended upper level of vibration to which ruins and ancient monuments should be subjected
0.10 in/sec	Level at which continuous vibration begins to annoy people	Virtually no risk of "architectural" (i.e., not structural) damage to normal buildings
0.20 in/sec	Vibrations annoying to people in buildings	Threshold at which there is a risk to "architectural" damage to normal dwelling – houses with plastered walls and ceilings
0.4–0.6 in/sec	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage

[1] Source: California Department of Transportation, 2002

Figure 3
Common Noise Sources and Noise Levels



III. EXISTING NOISE ENVIRONMENT

A. Existing Land Uses and Sensitive Receptors

The project site is bordered by Haun Road to the east, Garbani Road to the north, and Sherman Road to the west. Noise sensitive land uses include the single-family detached residential dwelling units to the north. Another single-family residential subdivision is proposed to be located just west of the project site.

The State of California defines sensitive receptors as those land uses that require serenity or are otherwise adversely affected by noise events or conditions. Schools, libraries, churches, hospitals, single and multiple-family residential, including transient lodging, motels and hotel uses make up the majority of these areas. Sensitive receptors that may be affected by project generated noise include the residential dwelling units located to the north of the project site.

B. 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, two (2) 10-minute daytime noise measurements were taken at 1:30 PM on November 6, 2015 and one (1) 24-hour noise measurement was performed starting on June 2, 2016 and ending on June 3, 2016. Field worksheets and noise measurement output data are included in Appendix C. The primary noise sources in the project vicinity, including land development and associated vehicle traffic, have not changed significantly from the initial noise measurements taken in 2015.

As shown on Figure 4, the two (2) short-term noise measurements were taken along the project site's north property line and the 24-hour noise measurement was performed at the southeast corner of the project site. Table 3 provides a summary of the short-term ambient noise data. The measured noise level at NM-1 was 46.5 dBA L_{eq} and the noise measurement at NM2 was 55.8 dBA L_{eq}. The results of the 24-hour noise measurements are shown in Appendix C. Measured ambient noise levels during the 24-hour noise measurement ranged between 65.85 and 68.8 dBA L_{eq} during the daytime (7:00 AM to 10:00 PM) and between 57.7 and 66.4 during the nighttime (10:00 PM to 7:00 AM). The calculated CNEL is 70.9 dBA.

The dominant noise source was from vehicles traveling on along Haun Road and Garbani Road. Vehicular noise from the I-215 Freeway was audible in the background.

Table 3

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

Daytime								
Site Location	Time Started	Leq	Lmax	Lmin	L(2)	L(8)	L(25)	L(50)
1	1:30 PM	46.5	58.3	37.7	52.3	50.0	47.0	44.7
2	2:11 PM	55.8	75.6	42.1	62.2	57.5	54.9	52.1

[1] See Figure 4 for noise measurement locations. Each noise measurement was performed over a 10-minute duration.

[2] Noise measurements were performed on November 6, 2015.

Figure 4
Noise Measurement Location Map

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IV. REGULATORY SETTING

A. Federal Regulations

1. 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.

B. State Regulations

1. State of California General Plan Guidelines 2003

Though not adopted by law, the State of California General Plan Guidelines 2003, 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 (see Table 4) identifies

acceptable and unacceptable community noise exposure limits for various land use categories. The City of Menifee utilizes the compatibility matrix.

2. State of California Building Code

The State of California's noise insulation standards are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 2, California Building Code. These noise standards are applied to new construction in California for the purpose of interior noise compatibility from exterior noise sources. The regulations specify that acoustical studies must be prepared when noise-sensitive structures, such as residential buildings, schools, or hospitals, are located near major transportation noise sources, and where such noise sources create an exterior noise level of 65 dBA CNEL or higher. Acoustical studies that accompany building plans must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new residential buildings, schools, and hospitals, the acceptable interior noise limit for new construction is 45 dBA CNEL.

C. Local Regulations

1. City of Menifee General Plan

The City of Menifee adopted their General Plan in 2013. The General Plan sets the long-term goals and policies that decision makers use to guide the growth and development in the City; and the Noise Element establishes the goals and policies associated with noise exposure within the City. Goals and policies that are applicable to implementation of the proposed project are presented below.

Policy N-1.2: Require new projects to comply with the noise standards of local, regional, and state building code regulations, including but not limited to the city's Municipal Code, Title 24 of the California Code of Regulations, the California Green Building Code, and subdivision and development codes.

Policy N-1.3: Require noise abatement measures to enforce compliance with any applicable regulatory mechanisms, including building codes and subdivision and zoning regulations, and ensure that the recommended mitigation measures are implemented.

Policy N-1.7: Mitigate exterior and interior noises to the levels listed in Table N-1 to the extent feasible, for stationary sources adjacent to sensitive receptors (see Table 5).

Policy N-1.8: Locate new development in areas where noise levels are appropriate for the proposed uses. Consider federal, state, and city noise standards and guidelines as a part of new development review.

Policy N-1.9: Limit the development of new noise-producing uses adjacent to noise-sensitive receptors and require that new noise-producing land be are designed with adequate noise abatement measures.

Policy N-1.11: Discourage the siting of noise-sensitive uses in areas in excess of 65 dBA CNEL without appropriate mitigation.

Policy N-1.13: Require new development to minimize vibration impacts to adjacent uses during demolition and construction.

2. City of Menifee Municipal Ordinance

8.01.010 Hours of Construction

The Buildings and Construction Section of the City of Menifee Municipal Code permits any construction within one-fourth mile from an occupied residence that occurs between Monday through Saturday, except nationally recognized holidays, 6:30 AM to 7:00 PM. Construction on Sundays or nationally recognized holidays is not allowed unless approval is obtained from the City Building Official or City Engineer.

9.09.030 Construction-Related Exemptions

Pursuant to its police power, the City of Menifee has established a Noise Ordinance (Chapter 9.09 of the Municipal Ordinance) which is intended to establish city-wide standards for the regulation noise. It is made clear in the ordinance that the ordinance standards are not intended to establish thresholds of significance for the purpose of any analysis required by the California Environmental Quality Act and no such thresholds are established.

Section 9.09.030 allows a property developer to apply for a construction exemption to the City's Stationary Noise Standards (see Table 5) for the following construction scenarios:

- Private construction projects, with or without a building permit, located one-quarter of a mile or more from an inhabited dwelling.
- Private construction projects, with or without a building permit, located within one-quarter of a mile from an inhabited dwelling, provided that:
    1. Construction does not occur between the hours of 6:00 PM and 6:00 AM the following morning during the months of June through September; and
    2. Construction does not occur between the hours of 6:00 PM and 7:00 AM the following morning during the months of October through May.

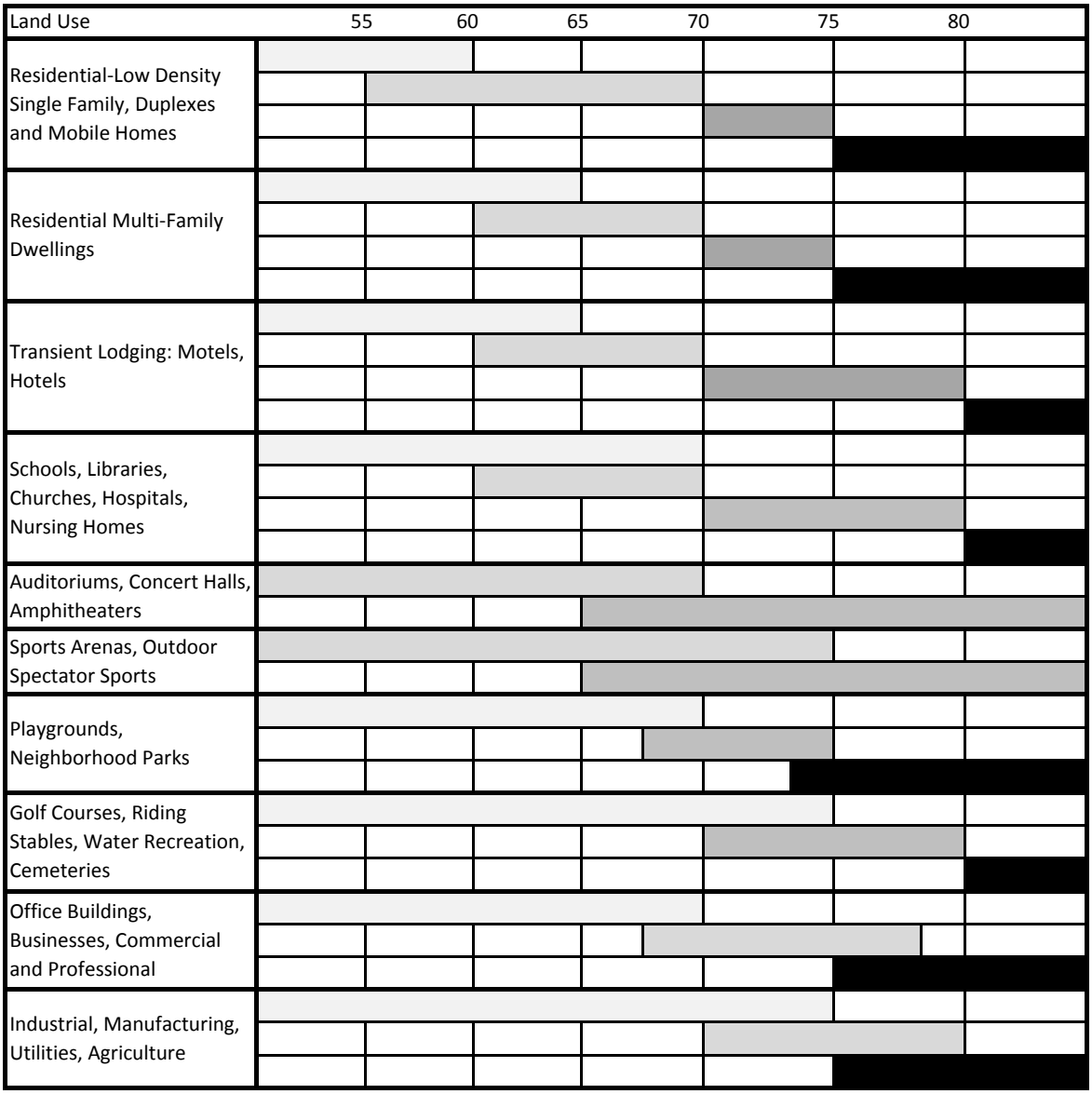
A construction-related exception is considered as either a minor temporary use or a major temporary use as defined in Chapter 9.06 of the Municipal Code. An application for a construction-related exception should be made using the temporary use application provided by the Community Development Director in Chapter 9.06 of the Municipal Code. For construction activities on Sunday or nationally recognized holidays, Section 8.01.010 prevails.

11.10.040 General Sound Level Standards

No person shall create any sound, or allow the creation of any sound, on any property that causes the exterior and interior sound level on any other occupied property to exceed the sound level standards set forth in Table 5. Specifically, commercial land uses shall not cause noise exterior noise levels to exceed 45 dBA L_{eq} between the hours of 10:00 PM and 7:00 AM or 65 dBA L_{eq} between the hours of 7:00 AM and 10:00 PM. Further, residential interior noise levels due to commercial activities shall not exceed 40 dBA L_{eq} between the hours of 10:00 PM and 7:00 AM or 55 dBA L_{eq} between the hours of 7:00 AM and 10:00 PM. For this analysis, it is assumed that commercial operations will not be open between the hours of 10:00 PM to 7:00 AM.

Table 4

Land Use Compatibility for Community Noise Exposure (dBA CNEL or L_{dn})[1]



Normally Acceptable:	**Conditionally Acceptable:**	**Normally Unacceptable:**	**Clearly Unacceptable:**
Specified land uses is satisfactory based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation or requirements.	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. Outdoor environment will seem noisy.	New construction and development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made with needed noise insulation features included in the design. Outdoor areas must be shielded.	New construction or development should generally not be undertaken. Construction costs to make the indoor environment acceptable would be prohibitive and the outdoor environment would not be usable.

[1] Source: California Office of Noise Control. Guidelines for the Preparation and Content of Noise Elements of the General Plan. February 1976.

Table 5

City of Menifee Stationary Noise Standards[1]

Land Use	Interior Standards	Exterior Standards
Residential		
10:00 PM to 7:00 AM	40 L_{eq} (10 minute)	45 L_{eq} (10 minute)
7:00 AM to 10:00 PM	55 L_{eq} (10 minute)	65 L_{eq} (10 minute)

[1] Source: City of Menifee Municipal Ordinance 11.10.040

V. ANALYTICAL METHODOLOGY AND MODEL PARAMETERS

A. Noise Modeling and Input

1. Road Construction Model

A worst-case construction noise scenario was modeled using a version of the Federal Highway Administration's Roadway Construction Noise Model (RCNM). RCNM utilizes standard noise emission levels for many different types of equipment and includes utilization percentage, impact, and shielding parameters. Noise modeling input parameters and output are provided in Appendix D.

2. Federal Highway Administration (FHWA) Traffic Noise Prediction Model

In order to project future traffic noise onto the project site and to determine if the proposed project trips would result in a substantial increase in ambient noise levels, Existing and Existing Plus Project noise levels along affected roadways were modeled utilizing the FHWA Traffic Noise Prediction Model – FHWA-RD-77-108, as modified for CNEL and the "Calveno" energy curves. Noise Contours were also modeled.

Project trips were obtained from the project's Traffic Impact Analysis prepared by Kunzman Associates, Inc. (February 15, 2018). The vehicle mix and split data were utilized from the City/County of Riverside's Industrial Hygiene traffic noise modeling requirements was utilized. Vehicle speeds were based on roadway classification, per City/County protocol. FHWA worksheets are included in Appendices E and F. Existing intersection traffic conditions were established through morning and evening peak hour intersection turning movement counts obtained by Kunzman Associates, Inc. from August 2017 and January 2018 while schools were in session (Kunzman 2018). Project trips for existing and existing plus project conditions were estimated using the Institute of Transportation Engineers, Trip Generation Manual, 10th Edition, 2017 (Kunzman 2018). Future traffic noise conditions were modeled using County of Riverside Circulation Element Level of Service criteria, mix and speed as outlined in the County of Riverside General Plan.

3. SoundPLAN Model

The SoundPLAN model was utilized to assess potential future traffic noise impacts to the proposed project; and to assess the potential for project operational noise (on-site) to violate applicable standards at nearby sensitive receptors. The SoundPLAN 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 average daily trips (ADT), roadway classification, width, speed, and truck mix, roadway grade and site conditions (hard or soft surface). Areas adjacent to all modeled roadways were assumed to be "hard site", a mix of hard soil and pavement.

Parking lot noise that may be associated with project operational noise may include vehicles starting and stopping, loading and unloading associated with commercial and

restaurant uses, refuse trucks, occasional car alarm activation and parking lot and landscape maintenance. A SoundPLAN noise reference level associated with retail land uses was utilized to represent parking lot noise. Because rooftop and HVAC plans are not yet available, the location of heating and air conditioning units (HVAC) were estimated based on similar uses in the City of Menifee. The sound power level associated with a 50 Ton Carrier HVAC unit was utilized. Possible reduction in noise levels due to intervening topography and vegetation were not accounted for in the analysis.

VI. IMPACT ANALYSIS

A. Noise Impacts

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

1. Construction Noise

Existing single-family detached residential dwelling units located north (approximately 150 feet) to the project site may be affected by short-term noise impacts associated the transport of workers, the movement of construction materials to and from the project site, ground clearing, excavation, grading, and building activities. Another single-family residential subdivision is proposed to be located just west of the project site. There is a potential for project construction noise to affect single-family residential land uses to the west if they are constructed and occupied at the time of construction. There is also potential for construction activities associated with later phases of the proposed project to affect earlier phases of the proposed project if they are inhabited.

Construction noise is considered a short-term impact and would be considered significant if construction activities are undertaken outside the allowable times as described by the City's Municipal ordnances 8.01.010 and 9.09.030. Existing single-family detached residential dwelling units to the north may be temporarily affected by short-term noise impacts associated the transport of workers, the movement of construction materials to and from the project site, ground clearing, excavation, grading, and building activities. The noise analysis reviews the construction noise levels during the various phases of the project.

Project generated construction noise will vary depending on the construction process, type of equipment involved, location of the construction site with respect to sensitive receptors, the schedule proposed to carry out each task (e.g., hours and days of the week) and the duration of the construction work. Typical noise sources and noise levels associated with construction are shown in Table 6. 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.

Typical construction noise associated with four phases of construction were modeled using the RCNM. Depending upon the exact equipment that is utilized, construction noise levels could reach up to 86.2 dBA L_{eq} at a distance of 50 feet during site grading. Unmitigated noise levels at existing single family property lines located approximately 115 feet north of the project site may reach up to 79 dBA L_{eq} and 82 dBA L_{max} at the nearest sensitive receptors during grading. Noise levels would lower as equipment moves away from the property line. Noise levels at single family residential property lines during other construction phases would be lower and range between 66.4 to 78.6 dBA.

Construction noise levels associated with site grading would also be the loudest at proposed single-family residential dwelling units located west of the project site (approximately 45 feet from the proposed project per TM 37450), and could reach up to 87 dBA L_{eq}. Modeling data for all construction phases is included in Appendix D.

Because the project is proposed to be phased, the required construction mitigation measures presented in Section VII of this report shall be adhered to during each phase of the project.

Consistency with Applicable Standards

Construction is anticipated to occur during the permissible hours according the City's Municipal Code. Construction noise will have a temporary or periodic increase in the ambient noise levels above the existing within the project vicinity. As stated earlier, any construction activities that occur outside the allowable time would be considered significant. Noise reduction measures are a provided to further reduce construction noise. Construction is anticipated to occur during the allowable hours as indicated in the City's Municipal Code. The impact is considered less than significant.

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

A worst-case project generated traffic noise level was modeled utilizing the FHWA Traffic Noise Prediction Model - FHWA-RD-77-108. Traffic noise levels were calculated 50 feet from the centerline of the analyzed roadway. The modeling is theoretical and does not take into account any existing barriers, structures, and/or topographical features that may further reduce noise levels. Therefore, the levels are shown for comparative purposes only to show the difference in with and without project conditions. Roadway input parameters including average daily traffic volumes (ADTs), speeds, and vehicle distribution data is shown in Table 7. In addition, the noise contours for 55, 60, 65 and 70 dBA CNEL were calculated for existing and existing plus project conditions, and are shown in Tables 8 and 9. 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 the existing condition and the existing condition plus project. This comparison, shown in Table 10, represents the greatest difference in traffic volumes and related noise levels. The difference between existing conditions and any phasing would be less. This therefore, is the worst-case scenario.

Consistency with Applicable Standards

Table 10 compares the Existing and the Existing Plus Project scenario. It takes a change of 3 dB or more to notice a change in the ambient noise level. As demonstrated in Table 11, the project is anticipated to change the ambient noise levels by less than 1 dB along most affected road segments.

The proposed project trips are expected to result in an increase of 4.1 CNEL along Holland Road between Haun Road and the I-215 Freeway. This increase is due to the

fact that Holland Road is currently just a partial dirt road in this location. Adjacent land uses are vacant and light industrial.

The proposed project trips are expected to result in an increase of 3.1 CNEL along Tupelo Street between Bradley Road and Sherman Road; an increase of 3.9 CNEL along Garbani Road between Sherman Road and Haun Road; and an increase of 3.5 CNEL along Sherman Road between Sherman Road and Garbani Road. These increases are due to the fact that the land south of Garbani (the project site) is currently not developed. Development of the project is consistent with the land use designation and traffic and noise projections analyzed in the City of Menifee General Plan. Therefore, the impact would be considered less than significant. Traffic noise calculation outputs are included as Appendix E.

3. Noise Impacts to On-Site Receptors Due to Buildout Traffic Noise

At buildout of the project area, traffic noise associated with Garbani Road, Sherman Road and Haun Road will be the dominant noise source in the immediate project vicinity. Interstate 215 is located approximately 1,300 feet east of the project site. As shown on Exhibit N-1 of the City of Menifee General Plan Noise Element noise levels associated with Interstate-215 on the project site are expected to range between 60 and 65 dBA CNEL. The project has been strategically designed to shield proposed residences from noise coming from transportation noise east of the project site by placing the commercial and industrial buildings along Haun Road. Further, per the City's General Plan Land Use Plan, it is likely that the vacant off-site land located in-between the site and 1-215 will have structures at buildout which will serve to reduce the exposure of the site to noise associated with Interstate 215.

Garbani Road and Haun Road are designated as a "Majors" with four lanes and a right-of-way of 128-feet; and Sherman Road is classified as a "Collector" with a right-of-way of 74 feet in the City of Menifee General Plan Circulation Element (2014). Future traffic noise associated with Garbani Road, Sherman Road and Haun Road were modeled to assess potential noise impacts to the proposed project.

Future buildout noise associated was modeled per Riverside Industrial Hygiene Guidelines for Determining and Mitigating Traffic Noise Impacts to Residential Structures and of City of Menifee Traffic Impact Analysis Guidelines, Attachment B "Roadway Segment Capacity Thresholds" August 2015. The projected Average Daily Trip (ADT) Level of Service "C" design capacity for Garbani Road and Haun Road is 27,300; and the projected ADT Level of Service "C" design capacity for Sherman Road is 10,400 ADT (County of Riverside 2015). The SoundPLAN noise model takes into consideration the orientation of the patios and buildings, as well as the absorption and reflection provided by the existing and proposed buildings. SoundPLAN input and output is included as Appendix F.

Proposed Outdoor Recreation Area

The proposed recreational areas associated with the proposed project are located near the center of the site and are shielded by the proposed architectural layout design.

Exterior noise levels at outdoor use areas are expected to reach 61 dBA CNEL and would not exceed the Land Use Compatibility Criteria of 65 dBA CNEL. Noise impacts to outdoor recreational uses would be less than significant. No mitigation is required.

Residential Buildings with Exposure to Haun Road

As shown on Figure 5, exterior noise levels at proposed residential land uses along Haun Road (up to 64 dBA CNEL) fall into the "normally acceptable" category of the State Land Use Compatibility for Community Noise Exposure criteria for multiple-family residential land uses (65 dBA CNEL). Future traffic noise levels at these locations would be less than significant. No mitigation is necessary.

For new construction, a "windows closed" condition provides a 20 dBA noise reduction. The anticipated interior noise level at residential buildings facing Haun Road will reach up to 45.0 dBA CNEL with the "windows closed". This falls below the 45.0 dBA CNEL interior noise level criteria. No mitigation for interior noise is required for residential units facing Haun Road.

Residential Buildings with Exposure to Sherman Road

Exterior noise levels at proposed residential buildings located along Sherman Road are expected to range between 67 and 71 dBA CNEL. Units placed near receptors that are projected to experience exterior noise levels between 65 and 70 dBA CNEL (all first row units facing Sherman Road that are south of the proposed building represented by Receptor 10) fall into the "conditionally acceptable" category of the State Land Use Compatibility for Community Noise Exposure for multiple-family residential land uses.

As stated in Table 4, new construction or development that falls into the "conditionally acceptable" category 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. Impacts related to interior noise levels at units proposed south of the building represented by Receptor 10 and facing Sherman Road would be less than significant with mitigation if all windows and sliding glass doors with exposure to Sherman Road have a STC rating of at least 27.

Units that are represented by Receptor 10 are expected to be exposed to noise levels that reach up to 71 dBA CNEL fall under the "normally unacceptable" category. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made with needed noise insulation features included in the design. Outdoor areas must be shielded. Impacts related to interior noise levels represented by Receptor 10 and facing Sherman Road would be less than significant with mitigation if all windows and sliding glass doors with exposure to Sherman Road have a STC rating of at least 28.

Construction of a six-foot barrier as shown on Figure 6, would reduce exterior noise levels at units proposed along Sherman Road to 70 dBA CNEL or less, and impacts related to exterior noise levels would be less than significant.

Residential Buildings with Exposure to Garbani Road

Exterior noise levels at proposed residential buildings located along Garbani Road are expected to range between 69 and 74 dBA CNEL. Units placed near receptors that are projected to experience exterior noise levels between 65 and 70 dBA CNEL (Receptors 3, 4, 7 and 8) fall into the "conditionally acceptable" category of the State Land Use Compatibility for Community Noise Exposure for multiple-family residential land uses. Units that fall into this category should be constructed 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. Impacts related to interior noise levels at units proximate to Receptors 3, 4, 7 and 8 would be less than significant with mitigation if all windows and sliding glass doors with exposure to Garbani Road have a STC rating of at least 28.

Units that are represented by Receptors 5, 6, and 9 are expected to be exposed to noise levels that reach up to 74 dBA CNEL fall under the "normally unacceptable" category. If new construction proceeds, a detailed analysis of the noise reduction requirements must be made with needed noise insulation features included in the design. Outdoor areas must be shielded.

Impacts related to interior noise levels at units proximate to Receptors 5 and 6 would be less than significant with mitigation, if all windows and sliding glass doors with exposure to Garbani Road have a STC rating of at least 31; and if windows and sliding glass doors that are associated with units proximate to Receptor 9, and with exposure to Garbani Road have a STC rating of at least 32.

Construction of a six-foot barrier should be constructed as shown on Figure 6 would reduce exterior noise levels to 70 dBA CNEL or below and impacts related to exterior noise levels would be less than significant.

Noise Exposure to Multiple Family Patios

The project proposes outdoor patios with exposure to Sherman Road, Garbani Road and Haun Road. It is unclear as to whether patios are subject to the Land Use Compatibility criteria presented in Table 4. For discussion purposes, SoundPLAN modeling was conducted to determine how to achieve "normally acceptable" exterior noise levels (65 dBA CNEL or less) at the proposed patios. If it is determined that the proposed patios are subject to this exterior noise level requirement, as shown on Figure 7, a mitigation measure requiring that six-foot high barriers be constructed around each patio exposed noise levels that exceed 65 dBA CNEL or less. Implementation of this measure would reduce exterior noise level impacts at patios to less than significant.

Noise Exposure to Commercial Buildings

Exterior noise levels at commercial buildings along Haun Road will range between 63 and 72.0 dBA CNEL and will not exceed the State Land Use Compatibility for Community Noise Exposure "normally acceptable" criteria for office buildings, businesses,

commercial and professional land uses (70 dBA CNEL) at most locations. As shown on Figure 8, the proposed commercial building located closest to the Garbani Road/Haun Road intersection would experience exterior noise levels up to 72 dBA CNEL. It is recommended that outdoor use areas are not proposed in this area. Impacts would be less than significant with mitigation. Active outdoor use areas, i.e. outdoor dining, shall be prohibited in the area in-between the commercial building located nearest to the intersection of Garbani Road and Haun Road and Garbani Road and Haun Road.

Consistency with Applicable Standards

With mitigation, future traffic noise levels would be consistent with the City's General Plan Land Use Compatibility for Community Noise Exposure (see Table 4). Mitigation measures are presented in Section VII of this report.

3. Project Operational Noise Impacts

As stated previously, City Code 11.10.040 prohibits any person to make or allow exterior noise levels at residential land uses to exceed 45 dBA L_{eq} between the hours of 10:00 PM and 7:00 AM or 65 dBA L_{eq} between the hours of 7:00 AM and 10:00 PM. Further, residential interior noise levels due to commercial activities are not to exceed 40 dBA L_{eq} between the hours of 10:00 PM and 7:00 AM or 55 dBA L_{eq} between the hours of 7:00 AM and 10:00 PM. For this analysis, it is assumed that commercial operations will not be open between the hours of 10:00 PM to 7:00 AM.

On-site noise sources associated with development of the proposed project will include vehicles starting and stopping, loading and unloading associated with commercial and restaurant uses, refuse trucks, occasional car alarm activation and parking lot and landscape maintenance. These noise sources would range between 55 and 70 dBA at 50 feet from the noise source.

In order to determine if it is likely that the proposed commercial activities would violate Ordinance 11.10.040, commercial parking lot noise was modeled using the SoundPLAN model.

Daytime Noise Standard-65 dBA L_{eq}

As shown on Figure 8, peak hour operational noise levels associated with project operation will range between 34 and 54 dBA L_{eq}. Project operational noise will not exceed the City's exterior daytime noise standard of 65 dBA CNEL or the City's daytime interior noise standard of 55 dBA L_{eq} at any sensitive receptors.

Nighttime Noise Standard–45 dBA L_{eq}

It is highly unlikely that peak hour operations would occur between the hours of 10:00 PM and 7:00 AM. However, as shown on Figure 8, if peak operational noise occurred between these hours, the nighttime exterior noise standard of 45 dBA L_{eq} and the nighttime interior noise standard of 40 dBA L_{eq} may be exceeded. Interior nighttime noise standards could be achieved by allowing for a closed window condition by

providing air circulation and/or air conditioning units. In order to ensure that the exterior nighttime noise standard of 45 dBA L_{eq} is not exceeded, the hours of operation for all industrial, retail and restaurant uses shall be limited to hours between 7:00 AM and 10:00 PM.

B. Vibration Impacts

This impact discussion analyzes the potential for the proposed project to cause an exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels. Vibration levels in the project area may be influenced by construction. A vibration impact would generally be considered significant if it involves any construction-related or operations-related impacts in excess of 0.2 +inches per second (in/sec) PPV.

1. Construction Vibration

Construction activity can result in varying degrees of ground vibration, depending on the equipment used on the site. Operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Buildings respond to these vibrations with varying results ranging from no perceptible effects at the low levels to slight damage at the highest levels. Table 1 gives approximate vibration levels for particular construction activities. This data provides a reasonable estimate for a wide range of soil conditions.

The City allows vibration from temporary construction however this analysis provides the potential vibration impact for quantitative purposes. The nearest existing structure to the project site is located approximately 150-feet to the north of the project site. Future homes associated with the buildout of proposed single-family development west of the project site could be as close as 55 feet from the project site (assuming a 10-foot side yard setback for lots adjacent to Sherman Road per TM 37450).

As shown in Table 2, the threshold at which there may be a risk of architectural damage to normal houses with plastered walls and ceilings is 0.20 PPV in/second. Primary sources of vibration during construction would be bulldozers. As shown in Table 2, a large bulldozer could produce up to 0.089 PPV at 25 feet.

At a distance of 150 feet a large bulldozer would yield a worst-case 0.012 PPV (in/sec) which is well below the threshold of perception and below any risk or architectural damage. At a distance of 55 feet, a bulldozer would yield a worst-case 0.037 PPV (in/sec) which and is not expected to put future homes at risk for structural damage due to groundborne vibration.

Consistency with Applicable Standards

Construction equipment is anticipated to be located at least 55 feet or more from any sensitive receptors. Temporary vibration levels associated with project construction would be less than significant. Mitigation measures to reduce potential impacts are presented in Section VII of this report. Annoyance related impacts would be short-term and would only occur during site grading and construction activities.

Table 6

Typical Construction Equipment Noise Levels[1]

Type of Equipment	Range of Maximum Sound Levels Measured (dBA at 50 feet)	Suggested Maximum Sound Levels for Analysis (dBA at 50 feet)
Rock Drills	83-99	96
Jack Hammers	75-85	82
Pneumatic Tools	78-88	85
Pumps	74-84	80
Dozers	77-90	85
Scrappers	83-91	87
Haul Trucks	83-94	88
Cranes	79-86	82
Portable Generators	71-87	80
Rollers	75-82	80
Tractors	77-82	80
Front-End Loaders	77-90	86
Hydraulic Excavators	81-90	86
Graders	79-89	86
Air Compressors	76-89	86
Trucks	81-87	86

[1] Source: Bolt, Beranek & Newman; Noise Control for Buildings and Manufacturing Plants, 1987.

Table 7

Average Daily Traffic Volumes and Roadway Parameters

Roadway	Segment	Average Daily Traffic Volumes		Posted Travel Speeds (MPH)	Site Conditions
		Existing	Existing Plus Project		
Newport Road	west of Bradley Road	34,400	35,300	40	Hard
	Bradley Road to Haun Road	43,800	44,500	40	Hard
	Haun Road to I-215 Freeway	55,900	58,700	40	Hard
	I-215 Freeway to Antelope Road	57,600	58,900	40	Hard
	Antelope Road to Menifee Road	44,300	45,200	40	Hard
	east of Menifee Road	33,600	34,000	55	Hard
Holland Road	west of Bradley Road	7,800	8,200	50	Hard
	Bradley Road to Haun Road	10,800	11,000	50	Hard
	Haun Road to I-215 Freeway	100	100	25	Hard
	east of I-215 Freeway	5,700	5,700	45	Hard
Craig Avenue	west of Bradley Road	3,600	3,800	25	Hard
Linda Lee Drive	east of Bradley Road	100	100	25	Hard
Tupelo Street	Bradley Road to Sherman Road	2,600	5,300	25	Hard
Garbani Road	Sherman Road to Haun Road	2,500	6,100	40	Hard
Scott Road	west of Haun Road	14,300	14,800	40	Hard
	Haun Road to I-215 Freeway	23,900	26,700	40	Hard
	I-215 Freeway to Antelope Road	35,200	36,200	55	Hard
	Antelope Road to Menifee Road	19,800	20,400	55	Hard
Bradley Road	north of Newport Road	12,000	12,900	40	Hard
	Newport Road to Holland Road	10,500	12,300	40	Hard
	Holland Road to Craig Avenue	5500	8000	40	Hard
	south of Craig Avenue	2700	5400	40	Hard
Sherman Road	Tupelo Street to Garbani Road	2400	5400	25	Hard
Haun Road	north of Newport Road	12200	12200	40	Hard
	Newport Road to Holland Road	32900	36500	40	Hard
	Holland Road to Garbani Road	10600	14800	40	Hard
	Garbani Road to Scott Road	12300	17900	40	Hard
	south of Scott Road	2500	2500	40	Hard
Antelope Road	north of Newport Road	6400	6500	45	Hard
	Newport Road to Holland Road	22500	22800	40	Hard
	south of Holland Road	12000	12000	55	Hard
	north of Scott Road	13400	13600	55	Hard
	south of Scott Road	16500	16700	40	Hard
Menifee Road	north of Newport Road	12000	12100	45	Hard
	Newport Road to Holland Road	13200	13500	45	Hard

Vehicle Distribution (Truck Mix)[2]			
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Total % of Traffic Flow
Automobiles	75.5	14.0	92.00
Medium Trucks	48.0	0.2	3.00
Heavy Trucks	48.0	0.2	5.00

[1] Average daily traffic volumes obtained from the Millcreek Promenade Traffic Impact Analysis prepared by Kunzman Associates, Inc. (February 2018).

[2] Vehicle percentages are based on the City of Menifee Vehicle Mix Data.

Table 8

Existing (Without Project) Exterior Noise Levels Along Roadways (dBA CNEL)[1]

Roadway	Segment	CNEL at 50 feet (dBA)	Distance to Contour (feet)			
			70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
Newport Road	west of Bradley Road	80.7	588	1,858	5,877	18,584
	Bradley Road to Haun Road	81.8	748	2,366	7,482	23,662
	Haun Road to I-215 Freeway	82.8	955	3,020	9,550	30,198
	I-215 Freeway to Antelope Road	82.9	984	3,112	9,840	31,117
	Antelope Road to Menifee Road	81.8	757	2,393	7,568	23,932
	east of Menifee Road	82.7	930	2,942	9,303	29,418
Holland Road	west of Bradley Road	73.7	118	372	1,178	3,724
	Bradley Road to Haun Road	75.1	163	516	1,631	5,156
	Haun Road to I-215 Freeway	49.5	0	1	4	14
	east of I-215 Freeway	71.7	73	232	733	2,318
Craig Avenue	west of Bradley Road	65.2	17	52	165	522
Linda Lee Drive	east of Bradley NEW	49.6	0	1	5	15
Tupelo Street	Bradley Road to Sherman Road	63.8	12	38	119	377
Garbani Road	Sherman Road to Haun Road	66.2	21	66	210	664
Scott Road	west of Haun Road	76.9	244	773	2,443	7,725
	Haun Road to I-215 Freeway	79.1	408	1,291	4,083	12,911
	I-215 Freeway to Antelope Road	82.9	975	3,082	9,746	30,819
	Antelope Road to Menifee Road	80.4	548	1,734	5,482	17,336
Bradley Road	north of Newport Road	73.4	109	345	1,090	3,446
	Newport Road to Holland Road	72.8	95	302	954	3,015
	Holland Road to Craig Avenue	70.0	50	158	499	1,579
	south of Craig Avenue	66.6	23	72	227	717
Sherman Road	Tupelo Street to Garbani Road	63.4	11	35	110	348
Haun Road	north of Newport Road	74.2	132	418	1,323	4,184
	Newport Road to Holland Road	78.5	357	1,128	3,568	11,284
	Holland Road to Garbani Road	73.6	115	364	1,150	3,636
	Garbani Road to Scott Road	74.3	133	422	1,334	4,219
	south of Scott Road	67.3	27	86	271	857
Antelope Road	north of Newport Road	72.2	82	260	823	2,603
	Newport Road to Holland Road	76.9	244	772	2,440	7,717
	south of Holland Road	76.3	211	667	2,109	6,670
	north of Scott Road	76.7	236	745	2,355	7,449
	south of Scott Road	75.5	179	566	1,790	5,659
Menifee Road	north of Newport Road	74.9	154	488	1,543	4,880
	Newport Road to Holland Road	75.3	170	537	1,698	5,369

[1] Exterior noise levels calculated 5 feet above pad elevation, perpendicular to subject roadway.

Table 9

Existing Plus Project Exterior Noise Levels Along Roadways (dBA CNEL)[1]

Roadway	Segment	CNEL at 50 feet (dBA)	Distance to Contour (feet)			
			70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
Newport Road	west of Bradley Road	80.8	603	1,907	6,030	19,070
	Bradley Road to Haun Road	81.8	760	2,404	7,602	24,040
	Haun Road to I-215 Freeway	83.0	1,003	3,171	10,028	31,711
	I-215 Freeway to Antelope Road	83.0	1,006	3,182	10,062	31,819
	Antelope Road to Menifee Road	81.9	772	2,442	7,722	24,418
	east of Menifee Road	82.7	941	2,977	9,414	29,768
Holland Road	west of Bradley Road	73.9	124	392	1,238	3,915
	Bradley Road to Haun Road	75.2	166	525	1,661	5,252
	Haun Road to I-215 Freeway	53.6	1	4	11	36
	east of I-215 Freeway	71.7	73	232	733	2,318
Craig Avenue	west of Bradley Road	65.4	17	55	174	551
Linda Lee Drive	east of Bradley Road	49.6	0	1	5	15
Tupelo Street	Bradley Road to Sherman Road	66.9	24	77	243	769
Garbani Road	Sherman Road to Haun Road	70.1	51	162	513	1,621
Scott Road	west of Haun Road	77.0	253	800	2,528	7,995
	Haun Road to I-215 Freeway	79.6	456	1,442	4,561	14,424
	I-215 Freeway to Antelope Road	83.0	1,002	3,169	10,023	31,694
	Antelope Road to Menifee Road	80.5	565	1,786	5,648	17,861
Bradley Road	north of Newport Road	73.7	117	370	1,172	3,705
	Newport Road to Holland Road	73.5	112	353	1,117	3,532
	Holland Road to Craig Avenue	71.6	73	230	727	2,297
	south of Craig Avenue	69.6	45	143	454	1,435
Sherman Road	Tupelo Street to Garbani Road	67.0	25	78	248	783
Haun Road	north of Newport Road	74.2	132	418	1323	4184
	Newport Road to Holland Road	79.0	396	1252	3959	12519
	Holland Road to Garbani Road	75.1	161	508	1605	5076
	Garbani Road to Scott Road	75.9	194	614	1941	6139
	south of Scott Road	67.3	27	86	271	857
Antelope Road	north of Newport Road	72.2	84	264	836	2644
	Newport Road to Holland Road	76.9	247	782	2473	7820
	south of Holland Road	76.3	211	667	2109	6670
	north of Scott Road	76.8	239	756	2391	7560
	south of Scott Road	75.6	181	573	1811	5728
Menifee Road	north of Newport Road	74.9	156	492	1556	4921
	Newport Road to Holland Road	75.4	174	549	1736	5491

[1] Exterior noise levels calculated 5 feet above pad elevation, perpendicular to subject roadway.

Table 10

Change in Existing Noise Levels Along Roadways as a Result of Project (dBA CNEL)[1]

Roadway	Segment	Adjacent Sensitive Receptor?	CNEL at 50 Feet dBA		Change in Noise Level Existing and Existing Plus Project
			Existing Without Project	Existing Plus Project	
Newport Road	west of Bradley Road	Yes	80.7	80.8	0.1
	Bradley Road to Haun Road	Yes	81.8	81.8	0.1
	Haun Road to I-215 Freeway	No	82.8	83.0	0.2
	I-215 Freeway to Antelope Road	No	82.9	83.0	0.1
	Antelope Road to Menifee Road	Yes	81.8	81.9	0.1
	east of Menifee Road	Yes	82.7	82.7	0.1
Holland Road	west of Bradley Road	Yes	73.7	73.9	0.2
	Bradley Road to Haun Road	Yes	75.1	75.2	0.1
	Haun Road to I-215 Freeway	No	49.5	53.6	4.1
	east of I-215 Freeway	Yes	71.7	71.7	0.0
Craig Avenue	west of Bradley Road	Yes	65.2	65.4	0.2
Linda Lee Drive	east of Bradley	Yes	49.6	49.6	0.0
Tupelo Street	Bradley Road to Sherman Road	Yes	63.8	66.9	3.1
Garbani Road	Sherman Road to Haun Road	Yes	66.2	70.1	3.9
Scott Road	west of Haun Road	Yes	76.9	77.0	0.1
	Haun Road to I-215 Freeway	No	79.1	79.6	0.5
	I-215 Freeway to Antelope Road	No	82.9	83.0	0.1
	Antelope Road to Menifee Road	Yes	80.4	80.5	0.1
Bradley Road	north of Newport Road	Yes	73.4	73.7	0.3
	Newport Road to Holland Road	Yes	72.8	73.5	0.7
	Holland Road to Craig Avenue	Yes	70.0	71.6	1.6
	south of Craig Avenue	Yes	66.6	69.6	3.0
Sherman Road	Tupelo Street to Garbani Road	Yes	63.4	67.0	3.5
Haun Road	north of Newport Road	No	74.2	74.2	0.0
	Newport Road to Holland Road	Yes	78.5	79.0	0.5
	Holland Road to Garbani Road	Yes	73.6	75.1	1.4
	Garbani Road to Scott Road	No	74.3	75.9	1.6
	south of Scott Road	Yes	67.3	67.3	0.0
Antelope Road	north of Newport Road	Yes	72.2	72.2	0.1
	Newport Road to Holland Road	Yes	76.9	76.9	0.1
	south of Holland Road	Yes	76.3	76.3	0.0
	north of Scott Road	No	76.7	76.8	0.1
	south of Scott Road	Yes	75.5	75.6	0.1
Menifee Road	north of Newport Road	Yes	74.9	74.9	0.0
	Newport Road to Holland Road	Yes	75.3	75.4	0.1

Table 11

Project Average Daily Traffic Volumes and Roadway Parameters

Roadway	Segment	Future (LOS C) Average Daily Traffic Volume	Posted Travel Speeds (MPH)	Site Conditions
Garbani Road	Sherman Road to Haun Road	27,300	40	Hard
Sherman Road	South of Garbani Road	10,400	40	Hard
Haun Road	South of Garbani Road	27,300	40	Hard

Haun Road and Garbani Road Vehicle Distribution (Truck Mix)[2]				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	69.50	12.90	9.60	92
Medium Trucks	1.44	0.06	1.50	3
Heavy Trucks	2.40	0.10	2.50	5

Sherman Road Vehicle Distribution (Truck Mix)[2]				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	73.60	13.60	10.22	97.40
Medium Trucks	0.90	0.04	0.90	1.84
Heavy Trucks	0.35	0.04	0.38	0.74

[1] Average daily traffic volumes obtained from the County of Riverside General Plan Circulation Element (September 2016).

[2] Vehicle percentages are based on the County of Riverside General Plan Noise Element Mix Data.

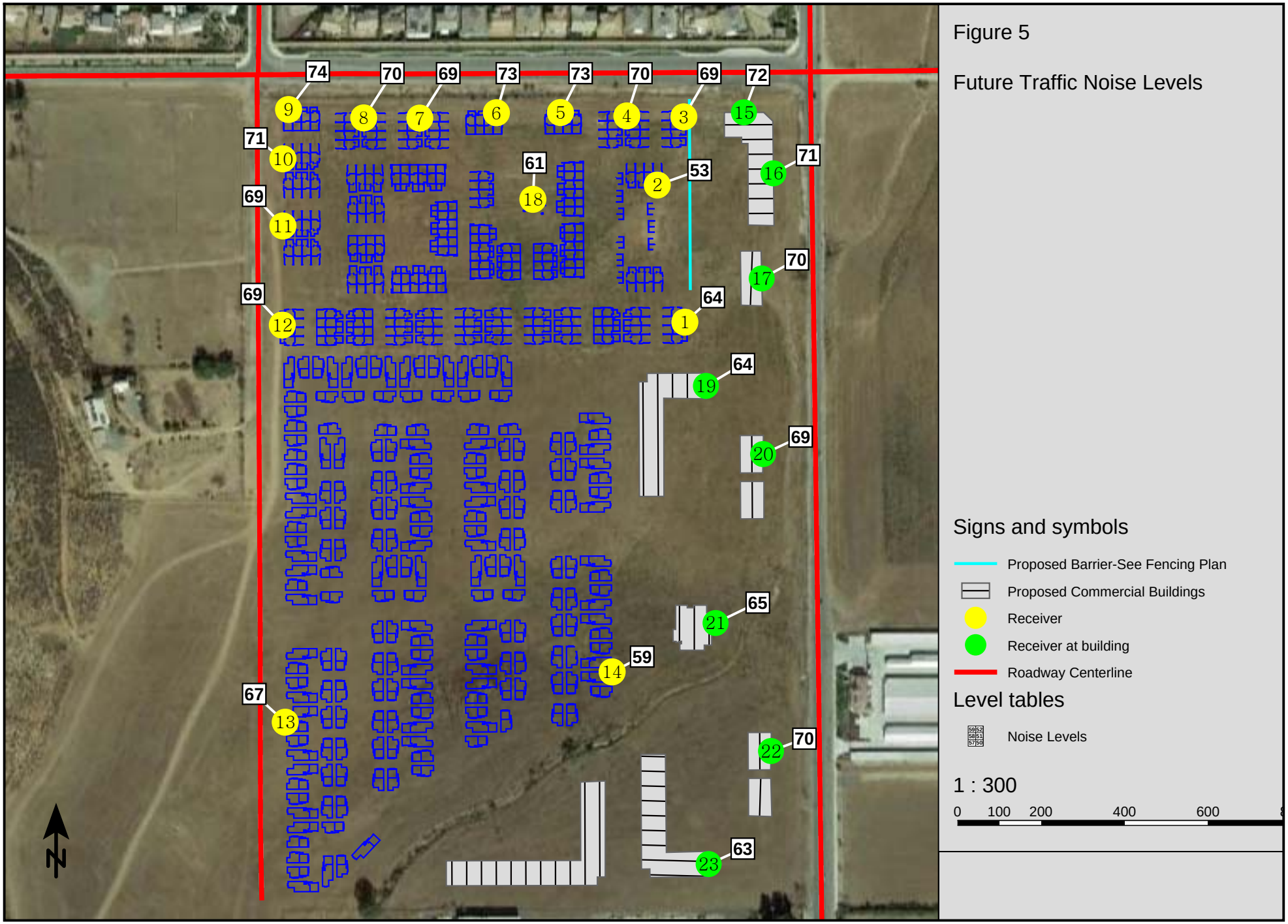

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Figure 5
Future Traffic Noise Levels
Signs and symbols
Proposed Barrier-See Fencing Plan
Proposed Commercial Buildings
Receiver
Receiver at building
Roadway Centerline
Level tables
Noise Levels
1 : 300
0
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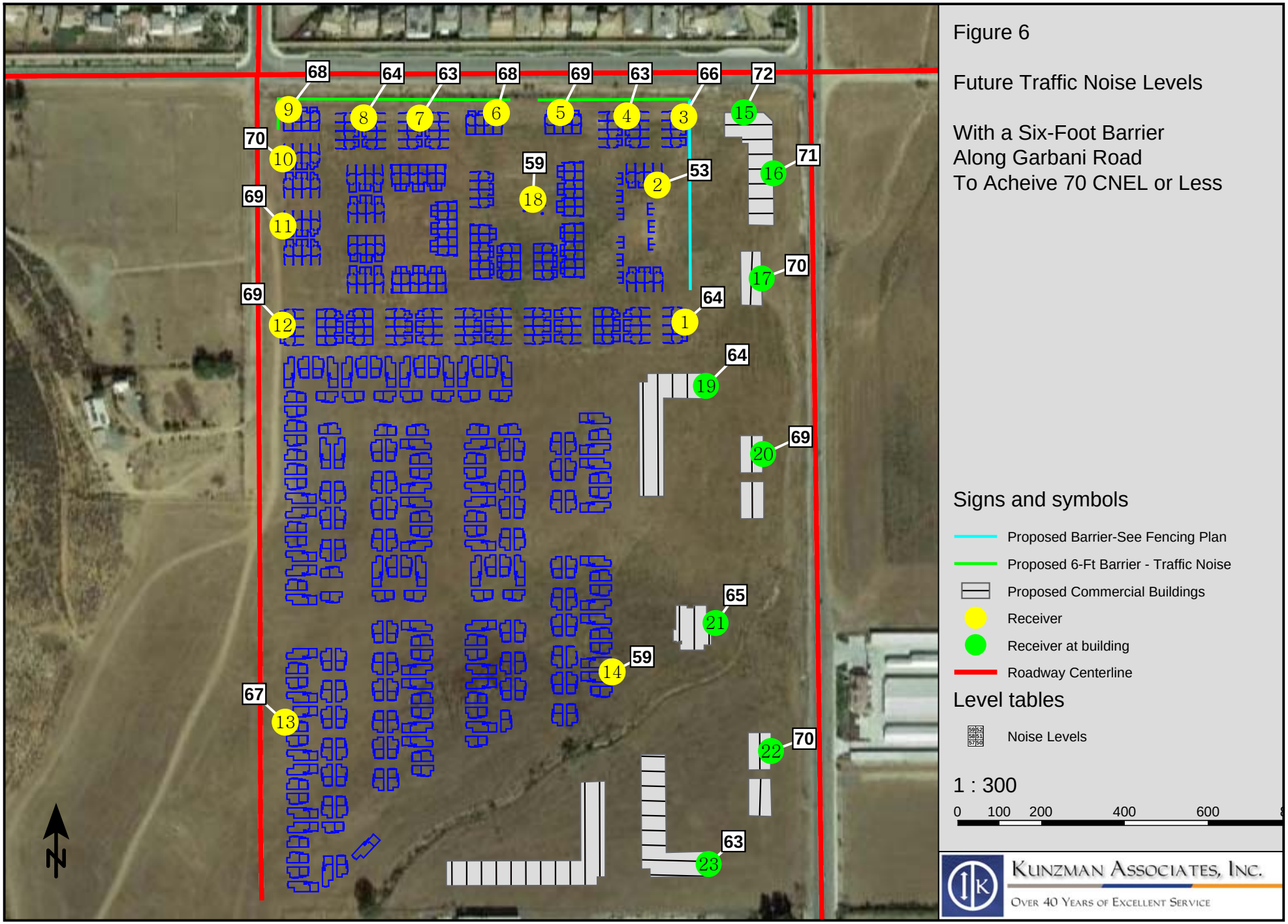
Figure 6
Future Traffic Noise Levels
With a Six-Foot Barrier
Along Garbani Road
To Acheive 70 CNEL or Less
Signs and symbols
Proposed Barrier-See Fencing Plan
Proposed 6-Ft Barrier - Traffic Noise
Proposed Commercial Buildings
Receiver
Receiver at building
Roadway Centerline
Level tables
Noise Levels
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71 16
69 11
70 17
69 12
64 1
64 19
69 20
65 21
59 14
67 13
70 22
63 23

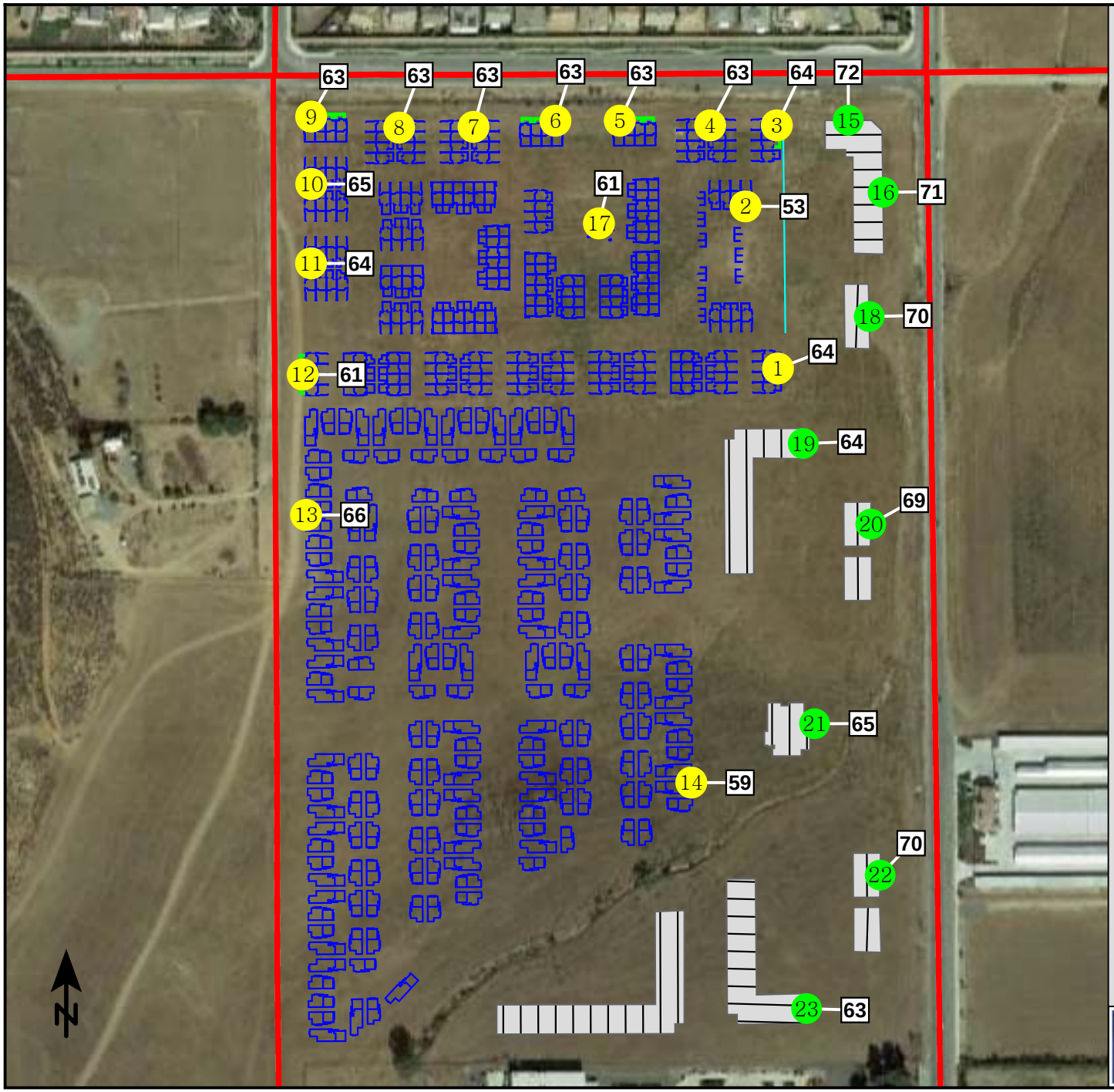

Figure 7

Future Traffic Noise Levels
With Enclosed Patios
To Achieve 65 CNEL or Less

Residential Units Proximate to Receptor #	Patio Enclosure Height
1	0 FT
2	0 FT
3	8 FT
4	6 FT
5	8 FT
6	8 FT
7	6 FT
8	6 FT
9	8 FT
10	0 FT
11	0 FT
12	6 FT
13 &14	0 FT

Signs and symbols

- Proposed Residential Buildings
- Proposed Barrier- See Fencing Plan
- Patio Enclosures 6-8 FT
- Proposed Commercial Buildings
- Receiver
- Receiver at building
- Roadway Centerline

Level tables

- Noise Levels

1 : 300

0 100 200 400 600

KUNZMAN ASSOCIATES, INC.
OVER 40 YEARS OF EXCELLENT SERVICE

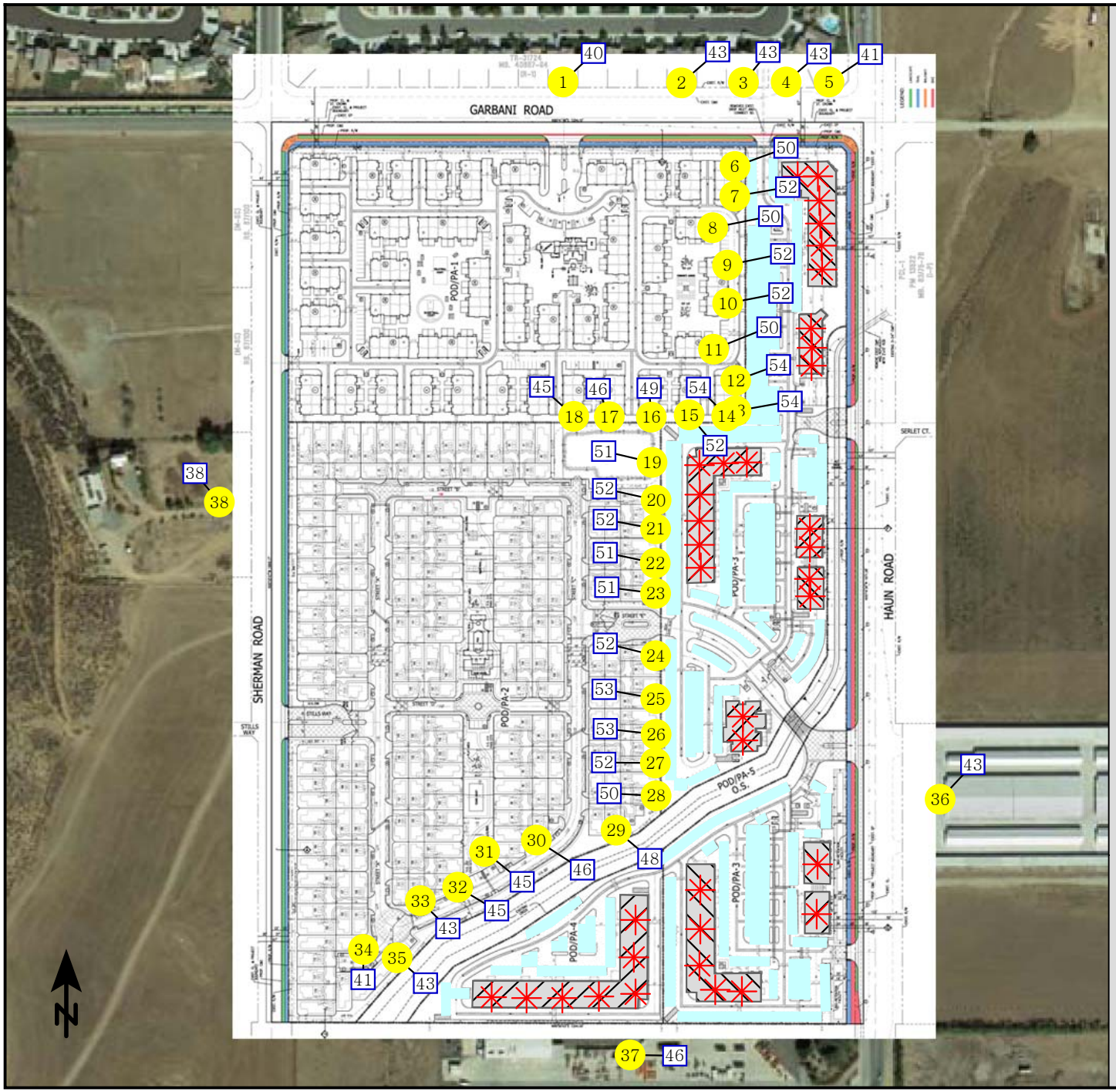

Figure 8

Peak Hour
Project Operational Noise Levels
(Leq)

Signs and symbols

- Proposed building
- Receiver
- HVAC Unit
- Parking lot

Level tables

- Level tables

1 : 325

0 100 200 400 600 800 fe

VII. MEASURES TO REDUCE IMPACTS

A. Construction Mitigation Measures

In addition to adherence to the City of Menifee policies found in the Noise Element 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. 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.

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

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

4. The contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise/vibration sources and sensitive receptors nearest the project site during all project construction.

5. The project proponent shall mandate that the construction contractor prohibit the use of music or sound amplification on the project site during construction.

6. The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment.

B. Operational Mitigation Measures

1. In order to ensure that the 45 dBA CNEL interior noise standard is met, the applicant shall provide an interior acoustic isolation analysis verifying separating assemblies (e.g., demising wall and floor/ceiling assemblies) for multi-family attached residential land uses meet Title 24 STC/IIC sound attenuation requirement as outlined within Chapter 12, Section 1207 of the 2013 California Building Code, prior to obtaining building permits as follows.

    - All windows and sliding glass doors installed in first row units proximate to Receptor 10 (see Figure 5), and with exposure to Sherman Road, shall have a STC rating of least 28.

    - All windows and sliding glass doors installed in first row units proposed south of the building associated with Receptor 10 (see Figure 5), and with exposure to Sherman Road, shall have a STC rating of at least 27.

- All windows and sliding glass doors installed in first row units proximate to Receptors 3, 4, 7 and 8 (see Figure 5), and with exposure to Garbani Road, shall have a STC rating of least 28.
- All windows and sliding glass doors installed in first row units proximate to Receptors 5 and 6 (see Figure 5), and with exposure to Garbani Road, shall have a STC rating of 31.
- All windows and sliding glass doors installed in first row units proximate to Receptor 9 (see Figure 5), and with exposure to Garbani Road, shall have a STC rating of 32. This mitigation measure shall apply to first-row buildings.

2. In order to lower exterior noise levels to 70 dBA CNEL or less, and to be consistent with exterior noise level criteria presented in Table 4, a six-foot barrier, which blocks the line of sight between a five-foot high receptor and Garbani Road, shall be constructed as shown on Figure 6. The barrier must be solid with no holes or cracks; and there must be no space between the bottom of the barrier and the ground. The barrier may be a berm or a wall, or a combination of both. The most common materials utilized for sound reduction walls include concrete block and vinyl fencing. For example, a hollow-unit, six-inch thick, solid concrete masonry wall, with no holes or cracks has a STC rating of 42 (National Concrete Masonry Association 2012). Vinyl barriers are also quite effective for sound reduction (approximately 26 STC), assuming that they are installed with no holes or cracks and that there are no leaks between the ground and the barrier. There are many manufacturers and styles of vinyl fencing available.

2. In order to ensure that the exterior nighttime noise standard of 45 dBA L_{eq} and the interior nighttime noise standard of 40 dBA L_{eq} are not exceeded do to project operational noise:

   - Project hours of operation for all industrial, retail and restaurant uses shall be limited to hours between 7:00 AM and 10:00 PM.
   - Air circulation systems and/or air conditioning shall be provided to all homes proposed adjacent to the proposed commercial area.

3. Any active outdoor use areas, i.e. outdoor dining, shall prohibited in the area in-between the commercial building located nearest to the intersection of Garbani Road and Haun Road and Garbani Road and Haun Road.

VIII. REFERENCES

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APPENDICES

Appendix A – List of Acronyms

Appendix B – Definitions of Acoustical Terms

Appendix C – Noise Monitoring Field Worksheets

Appendix D – Construction Noise and Vibration Worksheets

Appendix E – Project Generated Trips FHWA Worksheets

Appendix F – SoundPLAN Input Data

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
L_{dn}	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
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.
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).
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.
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.
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.
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.
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.
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.
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.
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.

APPENDIX C

Noise Monitoring Field Worksheets

Noise Measurement
Field Data

Project Name:	Rancho Bonito	Date:	06 Novenber 2015
Project #:	6329a		
Noise Measurement #:	NM1 LxT_Data.061	Technician:	Ian Edward Gallagher
Nearest Address or Cross Street:	**Garbani Road & Sherman Road**		
Site Description (Type of Existing Land Use and any other notable features)	**Empty Lot, Surrounding land use: residential/ farm/ empty**		
Temperature:	72 deg F **Wind:** **~9mph blowing from NW**	**Settings:**	**SLOW** **FAST** (Circle one)
Weather:	Sunny, clear	**Terrain:**	Flat
Start Time:	**1:30 PM** **End Time:** **1:40 PM**	**Run Time:**	10 MIN

Leq:	46.5 **dB**		
Lmax	58.3 **dB**	**Primary Noise Source:**	**Traffic Noise from Garbani Road**
L2	52.3 **dB**		
L8	50.0 **dB**	**Secondary Noise Sources:**	Residential Noises, occasional distant dog barking, distant lawn mower
L25	47.0 **dB**		High altitude propeller plane overhead. Wind blowing thru weeds.
L50	44.7 **dB**		

NOISE METER:	SoundTrack LxT Class 1	**CALIBRATOR**	Larson Davis CAL250 Acoustic Calibrator
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LxT1	**MODEL:**	Cal250
SERIAL NUMBER:	3099	**SER. NUMBER:**	2723
FACTORY CALIBRATION DATE:	11/4/2014	**FACTORY CALIBRATION DATE:**	11/3/2014

Noise Measurement
Field Data

FIELD CALIBRATION DATE: _____

Additional Notes/Sketch	Northwest corner of project site

Summary	**NM1**
File Name	LxT_Data.061
Serial Number	0003099
Model	SoundTrack LxT®
Firmware Version	2.301
User	Ian McGallagher
Start	2015-11-06 13:30:18
Stop	2015-11-06 13:40:18
Duration	0:10:00.0
Run Time	0:10:00.0
Pause	0:00:00.0

Pre Calibration	2015-11-06 13:26:39
Post Calibration	None
Calibration Deviation	---

Overall Settings	
RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamp	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	High
OBA Bandwidth	1/1 and 1/3
OBA Freq. Weighting	A Weighting
OBA Max Spectrum	Bin Max
Overload	121.7 dB

Results			
LAeq	46.5 dB		
LAE	74.3 dB		
EA	2.982 µPa²h		
EA8	143.148 µPa²h		
EA40	715.739 µPa²h		
LApeak (max)	2015-11-06 13:32:33	85.5 dB	
LASmax	2015-11-06 13:32:36	58.3 dB	
LASmin	2015-11-06 13:32:03	37.7 dB	
SEA	-99.9 dB		

		Statistics	
LCeq	70.4 dB		
LAeq	46.5 dB	**LAS2.00**	52.3 dB
LCeq - LAeq	23.9 dB	**LAS8.00**	50.0 dB
LAIeq	48.7 dB	**LAS10.00**	49.5 dB
LAeq	46.5 dB	**LAS25.00**	47.0 dB
LAIeq - LAeq	2.2 dB	**LAS50.00**	44.7 dB
# Overloads	0	**LAS90.00**	41.5 dB
Overload Duration	0.0 s		

Noise Measurement
Field Data

Project Name:	Rancho Bonito	Date:	06 Novenber 2015
Project #:	6329a		
Noise Measurement #:	NM2 LxT_Data.062	Technician:	Ian Edward Gallagher
Nearest Address or Cross Street:	**Garbani Road & Huan Road**		
Site Description (Type of Existing Land Use and any other notable features)	**Empty Lot, Surrounding land use: residential/ farm/ empty**		
Temperature:	72 deg F **Wind:** **~9mph blowing from NW**	**Settings:**	**SLOW** **FAST** (Circle one)
Weather:	Sunny, clear	**Terrain:**	Flat
Start Time:	**2:11 PM** **End Time:** **2:21 PM**	**Run Time:**	10 MIN

Leq:	55.8 **dB**		
Lmax	75.6 **dB**	**Primary Noise Source:**	**Traffic Noise from Garbani Road & Huan Road**
L2	62.2 **dB**		
L8	57.5 **dB**	**Secondary Noise Sources:**	Residential Noises, occasional distant dog barking,
L25	54.9 **dB**		High altitude plane overhead. Wind blowing thru weeds.
L50	52.1 **dB**		14:15 Ambulance, lights and sirens goes down Huan Road

NOISE METER:	SoundTrack LxT Class 1	**CALIBRATOR**	Larson Davis CAL250 Acoustic Calibrator
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LxT1	**MODEL:**	Cal250
SERIAL NUMBER:	3099	**SER. NUMBER:**	2723
FACTORY CALIBRATION DATE:	11/4/2014	**FACTORY CALIBRATION DATE:**	11/3/2014

Noise Measurement
Field Data

FIELD CALIBRATION DATE: _____

Additional Notes/Sketch Northeast corner of project site

Summary	**NM2**
File Name	LxT_Data.062
Serial Number	0003099
Model	SoundTrack LxT®
Firmware Version	2.301
User	Ian McGallagher
Start	2015-11-06 14:11:08
Stop	2015-11-06 14:21:08
Duration	0:10:00.0
Run Time	0:10:00.0
Pause	0:00:00.0

Pre Calibration	2015-11-06 13:26:34
Post Calibration	None
Calibration Deviation	---

Overall Settings	
RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamp	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	High
OBA Bandwidth	1/1 and 1/3
OBA Freq. Weighting	A Weighting
OBA Max Spectrum	Bin Max
Overload	121.7 dB

Results			
LAeq	55.8 dB		
LAE	83.6 dB		
EA	25.390 µPa²h		
EA8	1.219 mPa²h		
EA40	6.094 mPa²h		
LApeak (max)	2015-11-06 14:14:27	88.5 dB	
LASmax	2015-11-06 14:14:27	75.6 dB	
LASmin	2015-11-06 14:13:51	42.1 dB	
SEA	-99.9 dB		

LCeq	67.4 dB	**Statistics**	
LAeq	55.8 dB	**LAS2.00**	62.2 dB
LCeq - LAeq	11.6 dB	**LAS8.00**	57.5 dB
LAIeq	58.7 dB	**LAS10.00**	57.0 dB
LAeq	55.8 dB	**LAS25.00**	54.9 dB
LAIeq - LAeq	2.9 dB	**LAS50.00**	52.1 dB
# Overloads	0	**LAS90.00**	46.9 dB
Overload Duration	0.0 s		

Noise Measurement
Field Data

Project Name:	March Plaza	Date:	2 to 3 June 2016
Project #:	6437a		
Noise Measurement #:	NM - 24 hour 3099 LxT_Data.068	Technician:	Ian Edward Gallagher
Nearest Address or Cross Street:	**Haun Rd & Wickerd Rd**		
Site Description (Type of Existing Land Use and any other notable features)	**Commercial / open lot.**		
Temperature Range:	103 to 64 deg F **Wind:** **10mph to calm**	**Settings:**	**SLOW** **FAST** (Circle one)
Weather:	Sunny by day, clear skies Humidty : 14%	**Terrain:**	Flat
Start Time:	**21:00 Thurs 2 June 2016** **End Time:** **21:00 Fri 3 June 2016**	**Run Time:**	24 hours

Leq:	**dB**		
Lmax	**dB**	**Primary Noise Source:**	**Heavy traffic along Haun Road**
L2	**dB**		
L8	**dB**	**Secondary Noise Sources:**	Bird Song by day, crickets, wild night life by night,
L25	**dB**		**Overhead high altitude jet aircraft.**
L50	**dB**		

NOISE METER:	SoundTrack LxT Class 1	**CALIBRATOR**	Larson Davis CAL250 Acoustic Calibrator
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LxT1	**MODEL:**	Cal250
SERIAL NUMBER:	3099	**SER. NUMBER:**	2723
FACTORY CALIBRATION DATE:	11/4/2014	**FACTORY CALIBRATION DATE:**	11/3/2014
FIELD CALIBRATION DATE:	6/2/2016		

Noise Measurement
Field Data

Additional Notes/Sketch

Noise Measurement
Field Data

Date	Time	Leq	Lmax	Lmin	L2	L8	L25	L50
6/2/2016	9PM - 10PM	67.8	96.4	46.4	71.8	69.7	66.5	60.6
6/2/2016	10PM - 11PM	64.9	82.5	47.9	72.3	69.6	66.1	60.1
6/2/2016	11PM -12AM	65.0	90.1	47.4	71.1	69.0	64.7	58.9
6/2/2016	12AM - 1AM	60.8	75.7	41.3	69.6	66.6	59.8	53.8
6/2/2016	1AM - 2AM	58.6	75.6	41.1	68.5	63.5	55.1	51.2
6/2/2016	2AM - 3AM	57.7	75.9	43.5	68.2	62.0	53.2	50.1
6/2/2016	3AM - 4AM	58.5	75.3	43.3	68.7	63.5	54.7	51.2
6/2/2016	4AM - 5AM	62.0	78.3	45.1	71.3	67.5	59.9	55.2
6/2/2016	5AM - 6AM	64.5	85.3	51.4	72.1	69.4	64.0	59.2
6/2/2016	6AM - 7AM	66.4	81.0	47.5	73.4	71.1	67.7	61.6
6/2/2016	7AM - 8AM	68.8	82.2	43.5	73.9	72.1	70.3	68.1
6/2/2016	8AM - 9AM	66.1	78.3	42.3	72.7	70.6	67.9	62.8
6/2/2016	9AM - 10AM	66.2	81.6	42.9	72.9	70.5	67.6	62.1
6/2/2016	10AM - 11AM	66.7	79.6	44.9	72.8	70.9	68.4	64.4
6/2/2016	11AM - 12PM	66.6	83.4	42.3	72.5	70.6	68.2	64.7
6/2/2016	12PM - 1PM	66.2	79.2	41.6	72.5	70.1	67.9	64.6
8/4/2015	1PM - 2PM	65.8	79.2	39.2	71.8	69.9	67.5	64.1
8/4/2015	2PM - 3PM	66.7	80.0	40.8	72.7	70.6	68.4	65.3
8/4/2015	3PM - 4PM	67.7	85.5	46.3	72.8	71.1	68.9	66.5
8/4/2015	4PM - 5PM	67.4	83.9	45.5	72.5	71.0	68.9	66.3
8/4/2015	5PM - 6PM	68.0	80.3	45.9	73.7	71.8	69.6	66.8
8/4/2015	6PM - 7PM	67.7	79.3	46.2	73.2	71.4	69.3	66.6
8/4/2015	7PM - 8PM	67.3	79.3	47.1	73.2	71.3	69.0	65.6
8/4/2015	8PM - 9PM	66.3	82.2	47.5	72.1	70.3	67.9	64.1

CNEL **70.9**

APPENDIX D

Construction Noise and Vibration Worksheets

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 3/13/2019
Case Description: Millcreek Promenade

				---- Receptor #1 ----
		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Grading	Residential	65	65	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	50	0
Grader	No	40	85		50	0
Dozer	No	40		81.7	50	0
Tractor	No	40	84		50	0
Front End Loader	No	40		79.1	50	0
Backhoe	No	40		77.6	50	0

		Calculated (dBA)	Results
Equipment		*Lmax	Leq
Excavator		80.7	76.7
Grader		85	81
Dozer		81.7	77.7
Tractor		84	80
Front End Loader		79.1	75.1
Backhoe		77.6	73.6
	Total	85	85.9

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 3/13/2019
Case Description: Millcreek Promenade

		Baselines (dBA)		---- Receptor #1 ----
Description	Land Use	Daytime	Evening	Night
Grading	Residential	65	65	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		50	0
Front End Loader	No	40		79.1	50	0
Crane	No	16		80.6	50	0
Front End Loader	No	40		79.1	50	0
Generator	No	50		80.6	50	0
Rough Terrain Fork Lift	No	40		0	50	0
Welder / Torch	No	40		74	50	0

		Calculated (dBA)		Results
Equipment		*Lmax	Leq	
Tractor		84	80	
Front End Loader		79.1	75.1	
Crane		80.6	72.6	
Front End Loader		79.1	75.1	
Generator		80.6	77.6	
Rough Terrain Fork Lift		0	-4	
Welder / Torch		74	70	
	Total	84	84	

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 3/13/2019
Case Description: Millcreek Promenade

				---- Receptor #1 ----
		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Grading	Residential	65	65	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		50	0
Front End Loader	No	40		79.1	50	0
Vibratory Concrete Mixer	No	20		80	50	0
Vibratory Concrete Mixer	No	20		80	50	0
Paver	No	50		77.2	50	0
Pavement Scarafier	No	20		89.5	50	0
Roller	No	20		80	50	0
Backhoe	No	40		77.6	50	0

		Calculated (dBA)	Results
Equipment		*Lmax	Leq
Tractor		84	80
Front End Loader		79.1	75.1
Vibratory Concrete Mixer		80	73
Vibratory Concrete Mixer		80	73
Paver		77.2	74.2
Pavement Scarafier		89.5	82.5
Roller		80	73
Backhoe		77.6	73.6
	Total	89.5	86.2

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 3/13/2019
Case Description: Millcreek Promenade

		Baselines (dBA)		---- Receptor #1 ----
Description	Land Use	Daytime	Evening	Night
Grading	Residential	65	65	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	50	0

Calculated (dBA)

Equipment		*Lmax	Leq
Compressor (air)		77.7	73.7
	Total	77.7	73.7

*Calculated Lmax is the Loudest value.

GROUNDBORNE VIBRATION ANALYSIS

Project:	Rancho Bonito /Millcreek Promenade	Date:	3/13/19
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Project Site		
Address:			

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

INPUT

Equipment = Type	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	150.00	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.

RESULTS

PPV =	0.012	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	Rancho Bonito /Millcreek Promenade	Date:	3/13/19
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Project Site		
Address:			

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

INPUT

Equipment = Type	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	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.

RESULTS

PPV =	0.037	IN/SEC	OUTPUT IN BLUE

APPENDIX E

Project Generated Trips FHWA Worksheet

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Newport Road
SEGMENT west of Bradley Road
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	34,400
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	3,440

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	23.9	- -
MEDIUM TRUCKS=	4.00	23.8	- -
HEAVY TRUCKS =	8.01	23.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	74.2	72.2	70.9	64.8	73.2	73.9
MEDIUM TRUCKS	68.3	64.3	46.5	65.7	71.9	71.9
HEAVY TRUCKS	75.3	71.3	53.6	72.8	78.9	78.9
VEHICULAR NOISE	78.3	75.1	71.0	74.1	80.6	**80.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	588	1858	5877	18584
LDN	571	1805	5708	18051

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Newport Road
SEGMENT Bradley Road to Haun Road
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	43,800
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	4,380

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	23.9	- -
MEDIUM TRUCKS=	4.00	23.8	- -
HEAVY TRUCKS =	8.01	23.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	75.2	73.2	71.9	65.8	74.3	74.9
MEDIUM TRUCKS	69.3	65.4	47.6	66.8	72.9	72.9
HEAVY TRUCKS	76.4	72.4	54.6	73.8	80.0	80.0
VEHICULAR NOISE	79.3	76.2	72.0	75.1	81.6	**81.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	748	2366	7482	23662
LDN	727	2298	7268	22984

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Newport Road
SEGMENT Haun Road to I-215 Freeway
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	55,900
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	5,590

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	23.9	- -
MEDIUM TRUCKS=	4.00	23.8	- -
HEAVY TRUCKS =	8.01	23.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	76.3	74.3	73.0	66.9	75.3	76.0
MEDIUM TRUCKS	70.4	66.4	48.6	67.8	74.0	74.0
HEAVY TRUCKS	77.4	73.4	55.7	74.9	81.0	81.0
VEHICULAR NOISE	80.4	77.3	73.1	76.2	82.7	**82.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	955	3020	9550	30198
LDN	928	2933	9276	29333

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Newport Road
SEGMENT I-215 Freeway to Antelope Road
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	57,600
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	5,760

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	23.9	- -
MEDIUM TRUCKS=	4.00	23.8	- -
HEAVY TRUCKS =	8.01	23.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	76.4	74.4	73.1	67.0	75.5	76.1
MEDIUM TRUCKS	70.5	66.5	48.8	68.0	74.1	74.1
HEAVY TRUCKS	77.6	73.6	55.8	75.0	81.1	81.1
VEHICULAR NOISE	80.5	77.4	73.2	76.3	82.8	**82.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	984	3112	9840	31117
LDN	956	3023	9558	30225

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Newport Road
SEGMENT Antelope Road to Menifee Road
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	44,300
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	4,430

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	23.9	- -
MEDIUM TRUCKS=	4.00	23.8	- -
HEAVY TRUCKS =	8.01	23.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	75.3	73.3	72.0	65.9	74.3	75.0
MEDIUM TRUCKS	69.4	65.4	47.6	66.8	73.0	73.0
HEAVY TRUCKS	76.4	72.4	54.7	73.9	80.0	80.0
VEHICULAR NOISE	79.4	76.2	72.1	75.2	81.7	**81.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	757	2393	7568	23932
LDN	735	2325	7351	23246

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Newport Road
SEGMENT east of Menifee Road
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	33,600
SPEED =	55
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	3,360

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	23.9	- -
MEDIUM TRUCKS=	4.00	23.8	- -
HEAVY TRUCKS =	8.01	23.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	78.0	76.0	74.7	68.7	77.1	77.7
MEDIUM TRUCKS	70.3	66.4	48.6	67.8	73.9	73.9
HEAVY TRUCKS	76.5	72.5	54.7	73.9	80.1	80.1
VEHICULAR NOISE	80.8	77.9	74.8	75.8	82.5	**82.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	930	2942	9303	29418
LDN	890	2813	8895	28130

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Holland Road
SEGMENT west of Bradley Road
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	7,800
SPEED =	50
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	780

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	68.5	66.5	65.2	59.2	67.6	68.2
MEDIUM TRUCKS	61.4	57.4	39.6	58.8	64.9	65.0
HEAVY TRUCKS	67.8	63.8	46.0	65.2	71.4	71.4
VEHICULAR NOISE	71.6	68.7	65.3	66.9	73.5	**73.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	118	372	1178	3724
LDN	113	358	1132	3579

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Holland Road
SEGMENT Bradley Road to Haun Road
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	10,800
SPEED =	50
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,080

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	70.0	67.9	66.6	60.6	69.0	69.7
MEDIUM TRUCKS	62.8	58.8	41.0	60.2	66.4	66.4
HEAVY TRUCKS	69.2	65.2	47.4	66.7	72.8	72.8
VEHICULAR NOISE	73.0	70.1	66.7	68.3	75.0	**75.1**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	163	516	1631	5156
LDN	157	496	1567	4956

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Future Holland
SEGMENT Haun Road to I-215 Freeway
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	100
SPEED =	25
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	10

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	49.7	- -
MEDIUM TRUCKS=	4.00	49.6	- -
HEAVY TRUCKS =	8.01	49.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	39.7	37.7	36.4	30.4	38.8	39.4
MEDIUM TRUCKS	36.5	32.6	14.8	34.0	40.1	40.1
HEAVY TRUCKS	44.9	40.9	23.1	42.3	48.5	48.5
VEHICULAR NOISE	46.5	43.0	36.7	43.2	49.5	**49.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	0	1	4	14
LDN	0	1	4	14

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Holland Road
SEGMENT east of I-215 Freeway
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	5,700
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	570

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	65.9	63.9	62.6	56.5	64.9	65.6
MEDIUM TRUCKS	59.3	55.3	37.5	56.7	62.9	62.9
HEAVY TRUCKS	66.0	62.0	44.3	63.5	69.6	69.6
VEHICULAR NOISE	69.4	66.4	62.6	65.0	71.5	**71.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	73	232	733	2318
LDN	71	224	708	2240

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Craig Avenue
SEGMENT west of Bradley Road
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	3,600
SPEED =	25
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	360

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	48.6	- -
MEDIUM TRUCKS=	4.00	48.5	- -
HEAVY TRUCKS =	8.01	48.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	55.4	53.4	52.1	46.0	54.5	55.1
MEDIUM TRUCKS	52.2	48.2	30.4	49.6	55.8	55.8
HEAVY TRUCKS	60.6	56.6	38.8	58.0	64.1	64.2
VEHICULAR NOISE	62.2	58.7	52.3	58.8	65.1	**65.2**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	17	52	165	522
LDN	16	52	163	515

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Linda Lee Drive
SEGMENT east of Bradley NEW
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	100
SPEED =	25
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	10

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	48.6	- -
MEDIUM TRUCKS=	4.00	48.5	- -
HEAVY TRUCKS =	8.01	48.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	39.8	37.8	36.5	30.5	38.9	39.5
MEDIUM TRUCKS	36.6	32.7	14.9	34.1	40.2	40.2
HEAVY TRUCKS	45.0	41.0	23.2	42.4	48.6	48.6
VEHICULAR NOISE	46.6	43.1	36.8	43.3	49.6	**49.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	0	1	5	15
LDN	0	1	5	14

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Tupelo Street
SEGMENT Bradley Road to Sherman Road
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	2,600
SPEED =	25
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	260

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	48.6	- -
MEDIUM TRUCKS=	4.00	48.5	- -
HEAVY TRUCKS =	8.01	48.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	54.0	52.0	50.7	44.6	53.1	53.7
MEDIUM TRUCKS	50.8	46.8	29.0	48.2	54.4	54.4
HEAVY TRUCKS	59.1	55.2	37.4	56.6	62.7	62.7
VEHICULAR NOISE	60.8	57.3	50.9	57.4	63.7	**63.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	12	38	119	377
LDN	12	37	118	372

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Garbani Road
SEGMENT Sherman Road to Haun Road
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	2,500
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	250

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	48.6	- -
MEDIUM TRUCKS=	4.00	48.5	- -
HEAVY TRUCKS =	8.01	48.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	59.7	57.7	56.4	50.3	58.8	59.4
MEDIUM TRUCKS	53.8	49.8	32.0	51.2	57.4	57.4
HEAVY TRUCKS	60.9	56.9	39.1	58.3	64.4	64.4
VEHICULAR NOISE	63.8	60.7	56.5	59.6	66.1	**66.2**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	21	66	210	664
LDN	20	65	204	645

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Scott Road
SEGMENT west of Haun Road
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	14,300
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,430

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	23.9	- -
MEDIUM TRUCKS=	4.00	23.8	- -
HEAVY TRUCKS =	8.01	23.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	70.4	68.3	67.0	61.0	69.4	70.1
MEDIUM TRUCKS	64.5	60.5	42.7	61.9	68.1	68.1
HEAVY TRUCKS	71.5	67.5	49.7	69.0	75.1	75.1
VEHICULAR NOISE	74.4	71.3	67.1	70.3	76.8	**76.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	244	773	2443	7725
LDN	237	750	2373	7504

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Scott Road
SEGMENT Haun Road to I-215 Freeway
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	23,900
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,390

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	23.9	- -
MEDIUM TRUCKS=	4.00	23.8	- -
HEAVY TRUCKS =	8.01	23.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	72.6	70.6	69.3	63.2	71.7	72.3
MEDIUM TRUCKS	66.7	62.7	44.9	64.1	70.3	70.3
HEAVY TRUCKS	73.7	69.8	52.0	71.2	77.3	77.3
VEHICULAR NOISE	76.7	73.6	69.4	72.5	79.0	**79.1**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	408	1291	4083	12911
LDN	397	1254	3966	12541

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Scott Road
SEGMENT I-215 Freeway to Antelope Road
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	35,200
SPEED =	55
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	3,520

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	23.9	- -
MEDIUM TRUCKS=	4.00	23.8	- -
HEAVY TRUCKS =	8.01	23.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	78.3	76.2	74.9	68.9	77.3	77.9
MEDIUM TRUCKS	70.5	66.6	48.8	68.0	74.1	74.1
HEAVY TRUCKS	76.7	72.7	54.9	74.1	80.3	80.3
VEHICULAR NOISE	81.0	78.1	75.0	76.0	82.7	**82.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	975	3082	9746	30819
LDN	932	2947	9319	29469

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Scott Road
SEGMENT Antelope Road to Menifee Road
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	19,800
SPEED =	55
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,980

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	23.9	- -
MEDIUM TRUCKS=	4.00	23.8	- -
HEAVY TRUCKS =	8.01	23.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	75.8	73.7	72.4	66.4	74.8	75.4
MEDIUM TRUCKS	68.0	64.1	46.3	65.5	71.6	71.6
HEAVY TRUCKS	74.2	70.2	52.4	71.6	77.8	77.8
VEHICULAR NOISE	78.5	75.6	72.5	73.5	80.2	**80.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	548	1734	5482	17336
LDN	524	1658	5242	16576

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Bradley Road
SEGMENT north of Newport Road
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	12,000
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	44
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,200

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	45.0	- -
MEDIUM TRUCKS=	4.00	44.9	- -
HEAVY TRUCKS =	8.01	45.0	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	66.9	64.8	63.5	57.5	65.9	66.5
MEDIUM TRUCKS	60.9	57.0	39.2	58.4	64.5	64.5
HEAVY TRUCKS	68.0	64.0	46.2	65.5	71.6	71.6
VEHICULAR NOISE	70.9	67.8	63.6	66.8	73.3	**73.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	109	345	1090	3446
LDN	106	335	1059	3347

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Bradley Road
SEGMENT Newport Road to Holland Road
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	10,500
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	44
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,050

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	45.0	- -
MEDIUM TRUCKS=	4.00	44.9	- -
HEAVY TRUCKS =	8.01	45.0	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	66.3	64.3	63.0	56.9	65.3	66.0
MEDIUM TRUCKS	60.4	56.4	38.6	57.8	64.0	64.0
HEAVY TRUCKS	67.4	63.4	45.7	64.9	71.0	71.0
VEHICULAR NOISE	70.4	67.3	63.1	66.2	72.7	**72.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	95	302	954	3015
LDN	93	293	926	2929

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Bradley Road
SEGMENT Holland Road to Craig Avenue
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	5,500
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	44
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	550

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	45.0	- -
MEDIUM TRUCKS=	4.00	44.9	- -
HEAVY TRUCKS =	8.01	45.0	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	63.5	61.5	60.2	54.1	62.5	63.2
MEDIUM TRUCKS	57.6	53.6	35.8	55.0	61.1	61.1
HEAVY TRUCKS	64.6	60.6	42.9	62.1	68.2	68.2
VEHICULAR NOISE	67.5	64.4	60.2	63.4	69.9	**70.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	50	158	499	1579
LDN	49	153	485	1534

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Bradley Road
SEGMENT south of Craig Avenue
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	2,700
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	270

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	48.6	- -
MEDIUM TRUCKS=	4.00	48.5	- -
HEAVY TRUCKS =	8.01	48.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	60.0	58.0	56.7	50.7	59.1	59.7
MEDIUM TRUCKS	54.1	50.2	32.4	51.6	57.7	57.7
HEAVY TRUCKS	61.2	57.2	39.4	58.6	64.8	64.8
VEHICULAR NOISE	64.1	61.0	56.8	60.0	66.4	**66.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	23	72	227	717
LDN	22	70	220	697

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Sherman Road
SEGMENT Tupelo Street to Garbani Road
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	2,400
SPEED =	25
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	240

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	48.6	- -
MEDIUM TRUCKS=	4.00	48.5	- -
HEAVY TRUCKS =	8.01	48.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	53.6	51.6	50.3	44.3	52.7	53.3
MEDIUM TRUCKS	50.4	46.5	28.7	47.9	54.0	54.0
HEAVY TRUCKS	58.8	54.8	37.0	56.2	62.4	62.4
VEHICULAR NOISE	60.4	56.9	50.6	57.1	63.4	**63.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	11	35	110	348
LDN	11	34	109	343

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Haun Road
SEGMENT north of Newport Road
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	12,200
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,220

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	67.7	65.7	64.4	58.3	66.8	67.4
MEDIUM TRUCKS	61.8	57.8	40.0	59.2	65.4	65.4
HEAVY TRUCKS	68.8	64.9	47.1	66.3	72.4	72.4
VEHICULAR NOISE	71.8	68.7	64.5	67.6	74.1	**74.2**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	132	418	1323	4184
LDN	129	406	1285	4064

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Haun Road
SEGMENT Newport Road to Holland Road
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	32,900
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	3,290

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	72.0	70.0	68.7	62.6	71.1	71.7
MEDIUM TRUCKS	66.1	62.1	44.3	63.5	69.7	69.7
HEAVY TRUCKS	73.2	69.2	51.4	70.6	76.7	76.7
VEHICULAR NOISE	76.1	73.0	68.8	71.9	78.4	**78.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	357	1128	3568	11284
LDN	347	1096	3466	10961

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Haun Road
SEGMENT Holland Road to Garbani Road
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	10,600
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,060

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	67.1	65.1	63.8	57.7	66.1	66.8
MEDIUM TRUCKS	61.2	57.2	39.4	58.6	64.8	64.8
HEAVY TRUCKS	68.2	64.3	46.5	65.7	71.8	71.8
VEHICULAR NOISE	71.2	68.1	63.9	67.0	73.5	**73.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	115	364	1150	3636
LDN	112	353	1117	3531

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Haun Road
SEGMENT Garbanio Road to Scott Road
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	12,300
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,230

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	67.7	65.7	64.4	58.4	66.8	67.4
MEDIUM TRUCKS	61.8	57.8	40.1	59.3	65.4	65.4
HEAVY TRUCKS	68.9	64.9	47.1	66.3	72.5	72.5
VEHICULAR NOISE	71.8	68.7	64.5	67.7	74.1	**74.3**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	133	422	1334	4219
LDN	130	410	1296	4098

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Haun Road
SEGMENT south of Scott Road
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	2,500
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	250

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	60.8	58.8	57.5	51.4	59.9	60.5
MEDIUM TRUCKS	54.9	50.9	33.1	52.4	58.5	58.5
HEAVY TRUCKS	62.0	58.0	40.2	59.4	65.5	65.6
VEHICULAR NOISE	64.9	61.8	57.6	60.7	67.2	**67.3**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	27	86	271	857
LDN	26	83	263	833

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Antelope Road
SEGMENT north of Newport Road
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	6,400
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	640

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	66.4	64.4	63.1	57.0	65.4	66.1
MEDIUM TRUCKS	59.8	55.8	38.0	57.2	63.4	63.4
HEAVY TRUCKS	66.5	62.5	44.8	64.0	70.1	70.1
VEHICULAR NOISE	69.9	66.9	63.1	65.5	72.0	**72.2**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	82	260	823	2603
LDN	80	252	795	2515

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Antelope Road
SEGMENT Newport Road to Holland Road
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	22,500
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,250

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	70.4	68.3	67.0	61.0	69.4	70.0
MEDIUM TRUCKS	64.5	60.5	42.7	61.9	68.0	68.0
HEAVY TRUCKS	71.5	67.5	49.7	69.0	75.1	75.1
VEHICULAR NOISE	74.4	71.3	67.1	70.3	76.8	**76.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	244	772	2440	7717
LDN	237	750	2370	7496

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Antelope Road
SEGMENT south of Holland Road
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	12,000
SPEED =	55
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,200

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	71.6	69.6	68.3	62.2	70.7	71.3
MEDIUM TRUCKS	63.9	59.9	42.1	61.3	67.5	67.5
HEAVY TRUCKS	70.0	66.1	48.3	67.5	73.6	73.6
VEHICULAR NOISE	74.3	71.5	68.3	69.4	76.1	**76.3**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	211	667	2109	6670
LDN	202	638	2017	6378

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Antelope Road
SEGMENT north of Scott Road
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	13,400
SPEED =	55
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,340

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	72.1	70.1	68.8	62.7	71.2	71.8
MEDIUM TRUCKS	64.4	60.4	42.6	61.8	67.9	67.9
HEAVY TRUCKS	70.5	66.5	48.8	68.0	74.1	74.1
VEHICULAR NOISE	74.8	72.0	68.8	69.8	76.5	**76.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	236	745	2355	7449
LDN	225	712	2252	7122

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Antelope Road
SEGMENT south of Scott Road
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	16,500
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,650

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	69.0	67.0	65.7	59.6	68.1	68.7
MEDIUM TRUCKS	63.1	59.1	41.3	60.6	66.7	66.7
HEAVY TRUCKS	70.2	66.2	48.4	67.6	73.7	73.7
VEHICULAR NOISE	73.1	70.0	65.8	68.9	75.4	**75.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	179	566	1790	5659
LDN	174	550	1738	5497

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Menifee Road
SEGMENT north of Newport Road
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	12,000
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,200

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	69.1	67.1	65.8	59.7	68.2	68.8
MEDIUM TRUCKS	62.5	58.5	40.8	60.0	66.1	66.1
HEAVY TRUCKS	69.2	65.3	47.5	66.7	72.8	72.8
VEHICULAR NOISE	72.6	69.6	65.9	68.2	74.7	**74.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	154	488	1543	4880
LDN	149	472	1491	4716

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Menifee Road
SEGMENT Newport Road to Holland Road
LOCATION: City of Menifee SCENARIO: Existing

JOB #: 6437a
DATE: 14-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	13,200
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,320

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	69.5	67.5	66.2	60.1	68.6	69.2
MEDIUM TRUCKS	62.9	59.0	41.2	60.4	66.5	66.5
HEAVY TRUCKS	69.7	65.7	47.9	67.1	73.2	73.2
VEHICULAR NOISE	73.0	70.0	66.3	68.6	75.2	**75.3**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	170	537	1698	5369
LDN	164	519	1640	5187

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Newport Road
SEGMENT west of Bradley Road
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	35,300
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	3,530

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	23.9	- -
MEDIUM TRUCKS=	4.00	23.8	- -
HEAVY TRUCKS =	8.01	23.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	74.3	72.3	71.0	64.9	73.3	74.0
MEDIUM TRUCKS	68.4	64.4	46.6	65.8	72.0	72.0
HEAVY TRUCKS	75.4	71.5	53.7	72.9	79.0	79.0
VEHICULAR NOISE	78.4	75.3	71.1	74.2	80.7	**80.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	603	1907	6030	19070
LDN	586	1852	5858	18524

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Newport Road
SEGMENT Bradley Road to Haun Road
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	44,500
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	4,450

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	23.9	- -
MEDIUM TRUCKS=	4.00	23.8	- -
HEAVY TRUCKS =	8.01	23.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	75.3	73.3	72.0	65.9	74.4	75.0
MEDIUM TRUCKS	69.4	65.4	47.6	66.8	73.0	73.0
HEAVY TRUCKS	76.4	72.5	54.7	73.9	80.0	80.0
VEHICULAR NOISE	79.4	76.3	72.1	75.2	81.7	**81.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	760	2404	7602	24040
LDN	738	2335	7384	23351

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Newport Road
SEGMENT Haun Road to I-215 Freeway
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	58,700
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	5,870

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	23.9	- -
MEDIUM TRUCKS=	4.00	23.8	- -
HEAVY TRUCKS =	8.01	23.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	76.5	74.5	73.2	67.1	75.6	76.2
MEDIUM TRUCKS	70.6	66.6	48.8	68.1	74.2	74.2
HEAVY TRUCKS	77.6	73.7	55.9	75.1	81.2	81.2
VEHICULAR NOISE	80.6	77.5	73.3	76.4	82.9	**83.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	1003	3171	10028	31711
LDN	974	3080	9741	30803

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Newport Road
SEGMENT I-215 Freeway to Antelope Road
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	58,900
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	5,890

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	23.9	- -
MEDIUM TRUCKS=	4.00	23.8	- -
HEAVY TRUCKS =	8.01	23.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	76.5	74.5	73.2	67.1	75.6	76.2
MEDIUM TRUCKS	70.6	66.6	48.9	68.1	74.2	74.2
HEAVY TRUCKS	77.7	73.7	55.9	75.1	81.2	81.2
VEHICULAR NOISE	80.6	77.5	73.3	76.4	82.9	**83.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	1006	3182	10062	31819
LDN	977	3091	9774	30908

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Newport Road
SEGMENT Antelope Road to Menifee Road
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	45,200
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	4,520

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	23.9	- -
MEDIUM TRUCKS=	4.00	23.8	- -
HEAVY TRUCKS =	8.01	23.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	75.4	73.3	72.0	66.0	74.4	75.0
MEDIUM TRUCKS	69.5	65.5	47.7	66.9	73.1	73.1
HEAVY TRUCKS	76.5	72.5	54.7	74.0	80.1	80.1
VEHICULAR NOISE	79.4	76.3	72.1	75.3	81.8	**81.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	772	2442	7722	24418
LDN	750	2372	7500	23719

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Newport Road
SEGMENT east of Menifee Road
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	34,000
SPEED =	55
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	3,400

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	23.9	- -
MEDIUM TRUCKS=	4.00	23.8	- -
HEAVY TRUCKS =	8.01	23.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	78.1	76.1	74.8	68.7	77.2	77.8
MEDIUM TRUCKS	70.4	66.4	48.6	67.8	74.0	74.0
HEAVY TRUCKS	76.5	72.6	54.8	74.0	80.1	80.1
VEHICULAR NOISE	80.8	78.0	74.8	75.9	82.6	**82.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	941	2977	9414	29768
LDN	900	2846	9001	28465

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Holland Road
SEGMENT west of Bradley Road
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	8,200
SPEED =	50
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	820

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	68.8	66.7	65.5	59.4	67.8	68.5
MEDIUM TRUCKS	61.6	57.6	39.8	59.0	65.2	65.2
HEAVY TRUCKS	68.0	64.0	46.3	65.5	71.6	71.6
VEHICULAR NOISE	71.8	68.9	65.5	67.1	73.8	**73.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	124	392	1238	3915
LDN	119	376	1190	3763

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Holland Road
SEGMENT Bradley Road to Haun Road
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	11,000
SPEED =	50
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,100

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	70.0	68.0	66.7	60.7	69.1	69.7
MEDIUM TRUCKS	62.9	58.9	41.1	60.3	66.4	66.4
HEAVY TRUCKS	69.3	65.3	47.5	66.7	72.9	72.9
VEHICULAR NOISE	73.1	70.2	66.8	68.4	75.0	**75.2**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	166	525	1661	5252
LDN	160	505	1596	5048

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Future Holland Road
SEGMENT Haun Road to I-215 Freeway
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	100
SPEED =	50
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	10

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	49.7	- -
MEDIUM TRUCKS=	4.00	49.6	- -
HEAVY TRUCKS =	8.01	49.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	48.4	46.4	45.1	39.0	47.5	48.1
MEDIUM TRUCKS	41.2	37.3	19.5	38.7	44.8	44.8
HEAVY TRUCKS	47.7	43.7	25.9	45.1	51.3	51.3
VEHICULAR NOISE	51.5	48.6	45.2	46.8	53.4	**53.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	1	4	11	36
LDN	1	3	11	35

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Holland Road
SEGMENT east of I-215 Freeway
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	5,700
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	570

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	65.9	63.9	62.6	56.5	64.9	65.6
MEDIUM TRUCKS	59.3	55.3	37.5	56.7	62.9	62.9
HEAVY TRUCKS	66.0	62.0	44.3	63.5	69.6	69.6
VEHICULAR NOISE	69.4	66.4	62.6	65.0	71.5	**71.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	73	232	733	2318
LDN	71	224	708	2240

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Craig Avenue
SEGMENT west of Bradley Road
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	3,800
SPEED =	25
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	380

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	48.6	- -
MEDIUM TRUCKS=	4.00	48.5	- -
HEAVY TRUCKS =	8.01	48.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	55.6	53.6	52.3	46.3	54.7	55.3
MEDIUM TRUCKS	52.4	48.5	30.7	49.9	56.0	56.0
HEAVY TRUCKS	60.8	56.8	39.0	58.2	64.4	64.4
VEHICULAR NOISE	62.4	58.9	52.6	59.1	65.4	**65.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	17	55	174	551
LDN	17	54	172	544

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Linda Lee Drive
SEGMENT east of Bradley Road
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	100
SPEED =	25
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	10

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	48.6	- -
MEDIUM TRUCKS=	4.00	48.5	- -
HEAVY TRUCKS =	8.01	48.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	39.8	37.8	36.5	30.5	38.9	39.5
MEDIUM TRUCKS	36.6	32.7	14.9	34.1	40.2	40.2
HEAVY TRUCKS	45.0	41.0	23.2	42.4	48.6	48.6
VEHICULAR NOISE	46.6	43.1	36.8	43.3	49.6	**49.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	0	1	5	15
LDN	0	1	5	14

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Tupelo Street
SEGMENT Bradley Road to Sherman Road
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	5,300
SPEED =	25
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	530

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	48.6	- -
MEDIUM TRUCKS=	4.00	48.5	- -
HEAVY TRUCKS =	8.01	48.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	57.1	55.1	53.8	47.7	56.2	56.8
MEDIUM TRUCKS	53.9	49.9	32.1	51.3	57.5	57.5
HEAVY TRUCKS	62.2	58.3	40.5	59.7	65.8	65.8
VEHICULAR NOISE	63.9	60.4	54.0	60.5	66.8	**66.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	24	77	243	769
LDN	24	76	240	758

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Garbani Road
SEGMENT Sherman Road to Haun Road
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	6,100
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	610

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	48.6	- -
MEDIUM TRUCKS=	4.00	48.5	- -
HEAVY TRUCKS =	8.01	48.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	63.6	61.6	60.3	54.2	62.6	63.3
MEDIUM TRUCKS	57.7	53.7	35.9	55.1	61.3	61.3
HEAVY TRUCKS	64.7	60.7	43.0	62.2	68.3	68.3
VEHICULAR NOISE	67.7	64.6	60.4	63.5	70.0	**70.1**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	51	162	513	1621
LDN	50	157	498	1574

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Scott Road
SEGMENT west of Haun Road
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	14,800
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,480

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	23.9	- -
MEDIUM TRUCKS=	4.00	23.8	- -
HEAVY TRUCKS =	8.01	23.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	70.5	68.5	67.2	61.1	69.6	70.2
MEDIUM TRUCKS	64.6	60.6	42.9	62.1	68.2	68.2
HEAVY TRUCKS	71.7	67.7	49.9	69.1	75.2	75.2
VEHICULAR NOISE	74.6	71.5	67.3	70.4	76.9	**77.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	253	800	2528	7995
LDN	246	777	2456	7766

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Scott Road
SEGMENT Haun Road to I-215 Freeway
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	26,700
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,670

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	23.9	- -
MEDIUM TRUCKS=	4.00	23.8	- -
HEAVY TRUCKS =	8.01	23.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	73.1	71.1	69.8	63.7	72.1	72.8
MEDIUM TRUCKS	67.2	63.2	45.4	64.6	70.8	70.8
HEAVY TRUCKS	74.2	70.2	52.5	71.7	77.8	77.8
VEHICULAR NOISE	77.2	74.0	69.9	73.0	79.5	**79.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	456	1442	4561	14424
LDN	443	1401	4431	14011

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Scott Road
SEGMENT I-215 Freeway to Antelope Road
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	36,200
SPEED =	55
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	3,620

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	23.9	- -
MEDIUM TRUCKS=	4.00	23.8	- -
HEAVY TRUCKS =	8.01	23.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	78.4	76.4	75.1	69.0	77.4	78.1
MEDIUM TRUCKS	70.7	66.7	48.9	68.1	74.3	74.3
HEAVY TRUCKS	76.8	72.8	55.1	74.3	80.4	80.4
VEHICULAR NOISE	81.1	78.3	75.1	76.1	82.8	**83.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	1002	3169	10023	31694
LDN	958	3031	9584	30306

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Scott Road
SEGMENT Antelope Road to Menifee Road
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	20,400
SPEED =	55
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,040

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	23.9	- -
MEDIUM TRUCKS=	4.00	23.8	- -
HEAVY TRUCKS =	8.01	23.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	75.9	73.9	72.6	66.5	74.9	75.6
MEDIUM TRUCKS	68.2	64.2	46.4	65.6	71.8	71.8
HEAVY TRUCKS	74.3	70.3	52.6	71.8	77.9	77.9
VEHICULAR NOISE	78.6	75.8	72.6	73.6	80.3	**80.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	565	1786	5648	17861
LDN	540	1708	5401	17079

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Bradley Road
SEGMENT north of Newport Road
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	12,900
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	44
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,290

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	45.0	- -
MEDIUM TRUCKS=	4.00	44.9	- -
HEAVY TRUCKS =	8.01	45.0	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	67.2	65.2	63.9	57.8	66.2	66.9
MEDIUM TRUCKS	61.3	57.3	39.5	58.7	64.8	64.9
HEAVY TRUCKS	68.3	64.3	46.6	65.8	71.9	71.9
VEHICULAR NOISE	71.2	68.1	64.0	67.1	73.6	**73.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	117	370	1172	3705
LDN	114	360	1138	3598

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Bradley Road
SEGMENT Newport Road to Holland Road
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	12,300
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	44
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,230

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	45.0	- -
MEDIUM TRUCKS=	4.00	44.9	- -
HEAVY TRUCKS =	8.01	45.0	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	67.0	64.9	63.6	57.6	66.0	66.7
MEDIUM TRUCKS	61.1	57.1	39.3	58.5	64.6	64.6
HEAVY TRUCKS	68.1	64.1	46.4	65.6	71.7	71.7
VEHICULAR NOISE	71.0	67.9	63.7	66.9	73.4	**73.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	112	353	1117	3532
LDN	109	343	1085	3431

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Bradley Road
SEGMENT Holland Road to Craig Avenue
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	8,000
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	44
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	800

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	45.0	- -
MEDIUM TRUCKS=	4.00	44.9	- -
HEAVY TRUCKS =	8.01	45.0	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	65.1	63.1	61.8	55.7	64.2	64.8
MEDIUM TRUCKS	59.2	55.2	37.4	56.6	62.8	62.8
HEAVY TRUCKS	66.2	62.3	44.5	63.7	69.8	69.8
VEHICULAR NOISE	69.2	66.1	61.9	65.0	71.5	**71.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	73	230	727	2297
LDN	71	223	706	2232

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Bradley Road
SEGMENT south of Craig Avenue
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	5,400
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	540

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	48.6	- -
MEDIUM TRUCKS=	4.00	48.5	- -
HEAVY TRUCKS =	8.01	48.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	63.0	61.0	59.7	53.7	62.1	62.7
MEDIUM TRUCKS	57.1	53.2	35.4	54.6	60.7	60.7
HEAVY TRUCKS	64.2	60.2	42.4	61.6	67.8	67.8
VEHICULAR NOISE	67.1	64.0	59.8	63.0	69.5	**69.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	45	143	454	1435
LDN	44	139	441	1394

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Sherman Road
SEGMENT Tupelo Street to Garbani Road
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	5,400
SPEED =	25
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	540

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	48.6	- -
MEDIUM TRUCKS=	4.00	48.5	- -
HEAVY TRUCKS =	8.01	48.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	57.2	55.2	53.9	47.8	56.2	56.9
MEDIUM TRUCKS	54.0	50.0	32.2	51.4	57.5	57.5
HEAVY TRUCKS	62.3	58.3	40.6	59.8	65.9	65.9
VEHICULAR NOISE	63.9	60.5	54.1	60.6	66.9	**67.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	25	78	248	783
LDN	24	77	244	773

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Haun Road
SEGMENT north of Newport Road
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	12,200
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,220

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	67.7	65.7	64.4	58.3	66.8	67.4
MEDIUM TRUCKS	61.8	57.8	40.0	59.2	65.4	65.4
HEAVY TRUCKS	68.8	64.9	47.1	66.3	72.4	72.4
VEHICULAR NOISE	71.8	68.7	64.5	67.6	74.1	**74.2**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	132	418	1323	4184
LDN	129	406	1285	4064

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Haun Road
SEGMENT Newport Road to Tupelo Street
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	36,500
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	3,650

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	72.5	70.4	69.1	63.1	71.5	72.2
MEDIUM TRUCKS	66.6	62.6	44.8	64.0	70.1	70.1
HEAVY TRUCKS	73.6	69.6	51.8	71.1	77.2	77.2
VEHICULAR NOISE	76.5	73.4	69.2	72.4	78.9	**79.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	396	1252	3959	12519
LDN	385	1216	3845	12160

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Haun Road
SEGMENT Holland Road to Garbani Road
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	14,800
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,480

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	68.5	66.5	65.2	59.2	67.6	68.2
MEDIUM TRUCKS	62.6	58.7	40.9	60.1	66.2	66.2
HEAVY TRUCKS	69.7	65.7	47.9	67.1	73.3	73.3
VEHICULAR NOISE	72.6	69.5	65.3	68.5	74.9	**75.1**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	161	508	1605	5076
LDN	156	493	1559	4931

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Haun Road
SEGMENT Garbanio Road to Scott Road
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	17,900
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,790

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	69.4	67.3	66.0	60.0	68.4	69.1
MEDIUM TRUCKS	63.5	59.5	41.7	60.9	67.0	67.0
HEAVY TRUCKS	70.5	66.5	48.8	68.0	74.1	74.1
VEHICULAR NOISE	73.4	70.3	66.1	69.3	75.8	**75.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	194	614	1941	6139
LDN	189	596	1886	5963

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Haun Road
SEGMENT south of Scott Road
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	2,500
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	250

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	60.8	58.8	57.5	51.4	59.9	60.5
MEDIUM TRUCKS	54.9	50.9	33.1	52.4	58.5	58.5
HEAVY TRUCKS	62.0	58.0	40.2	59.4	65.5	65.6
VEHICULAR NOISE	64.9	61.8	57.6	60.7	67.2	**67.3**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	27	86	271	857
LDN	26	83	263	833

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Antelope Road
SEGMENT north of Newport Road
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	6,500
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	650

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	66.4	64.4	63.1	57.1	65.5	66.1
MEDIUM TRUCKS	59.9	55.9	38.1	57.3	63.4	63.4
HEAVY TRUCKS	66.6	62.6	44.8	64.0	70.2	70.2
VEHICULAR NOISE	70.0	67.0	63.2	65.5	72.1	**72.2**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	84	264	836	2644
LDN	81	255	808	2554

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Antelope Road
SEGMENT south of Newport Road
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	22,800
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,280

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	70.4	68.4	67.1	61.0	69.5	70.1
MEDIUM TRUCKS	64.5	60.5	42.7	62.0	68.1	68.1
HEAVY TRUCKS	71.6	67.6	49.8	69.0	75.1	75.2
VEHICULAR NOISE	74.5	71.4	67.2	70.3	76.8	**76.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	247	782	2473	7820
LDN	240	760	2402	7596

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Antelope Road
SEGMENT south of Holland Road
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	12,000
SPEED =	55
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,200

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	71.6	69.6	68.3	62.2	70.7	71.3
MEDIUM TRUCKS	63.9	59.9	42.1	61.3	67.5	67.5
HEAVY TRUCKS	70.0	66.1	48.3	67.5	73.6	73.6
VEHICULAR NOISE	74.3	71.5	68.3	69.4	76.1	**76.3**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	211	667	2109	6670
LDN	202	638	2017	6378

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Antelope Road
SEGMENT north of Scott Road
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	13,600
SPEED =	55
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,360

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	72.1	70.1	68.8	62.8	71.2	71.8
MEDIUM TRUCKS	64.4	60.4	42.7	61.9	68.0	68.0
HEAVY TRUCKS	70.6	66.6	48.8	68.0	74.2	74.2
VEHICULAR NOISE	74.9	72.0	68.9	69.9	76.6	**76.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	239	756	2391	7560
LDN	229	723	2286	7229

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Antelope Road
SEGMENT south of Scott Road
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	16,700
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,670

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	69.1	67.0	65.7	59.7	68.1	68.8
MEDIUM TRUCKS	63.2	59.2	41.4	60.6	66.7	66.7
HEAVY TRUCKS	70.2	66.2	48.4	67.7	73.8	73.8
VEHICULAR NOISE	73.1	70.0	65.8	69.0	75.5	**75.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	181	573	1811	5728
LDN	176	556	1759	5564

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Menifee Road
SEGMENT north of Newport Road
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	12,100
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,210

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	69.1	67.1	65.8	59.8	68.2	68.8
MEDIUM TRUCKS	62.6	58.6	40.8	60.0	66.1	66.1
HEAVY TRUCKS	69.3	65.3	47.5	66.7	72.9	72.9
VEHICULAR NOISE	72.7	69.7	65.9	68.2	74.8	**74.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	156	492	1556	4921
LDN	150	475	1504	4755

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Menifee Road
SEGMENT Newport Road to Holland Road
LOCATION: City of Menifee SCENARIO: Existing Plus Project

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	13,500
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,350

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	69.6	67.6	66.3	60.2	68.7	69.3
MEDIUM TRUCKS	63.0	59.1	41.3	60.5	66.6	66.6
HEAVY TRUCKS	69.8	65.8	48.0	67.2	73.3	73.3
VEHICULAR NOISE	73.1	70.1	66.4	68.7	75.3	**75.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	174	549	1736	5491
LDN	168	531	1678	5305

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Newport Road
SEGMENT west of Bradley Road
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	36,500
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	3,650

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	23.9	- -
MEDIUM TRUCKS=	4.00	23.8	- -
HEAVY TRUCKS =	8.01	23.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	74.4	72.4	71.1	65.1	73.5	74.1
MEDIUM TRUCKS	68.5	64.6	46.8	66.0	72.1	72.1
HEAVY TRUCKS	75.6	71.6	53.8	73.0	79.2	79.2
VEHICULAR NOISE	78.5	75.4	71.2	74.4	80.8	**81.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	624	1972	6235	19718
LDN	606	1915	6057	19153

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Newport Road
SEGMENT Bradley Road to Haun Road
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	46,300
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	4,630

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	23.9	- -
MEDIUM TRUCKS=	4.00	23.8	- -
HEAVY TRUCKS =	8.01	23.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	75.5	73.4	72.1	66.1	74.5	75.2
MEDIUM TRUCKS	69.6	65.6	47.8	67.0	73.2	73.2
HEAVY TRUCKS	76.6	72.6	54.8	74.1	80.2	80.2
VEHICULAR NOISE	79.5	76.4	72.2	75.4	81.9	**82.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	791	2501	7910	25012
LDN	768	2430	7683	24296

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Newport Road
SEGMENT Haun Road to I-215 Freeway
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	59,800
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	5,980

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	23.9	- -
MEDIUM TRUCKS=	4.00	23.8	- -
HEAVY TRUCKS =	8.01	23.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	76.6	74.6	73.3	67.2	75.6	76.3
MEDIUM TRUCKS	70.7	66.7	48.9	68.1	74.3	74.3
HEAVY TRUCKS	77.7	73.7	56.0	75.2	81.3	81.3
VEHICULAR NOISE	80.7	77.6	73.4	76.5	83.0	**83.1**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	1022	3231	10216	32305
LDN	992	3138	9923	31380

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Newport Road
SEGMENT I-215 Freeway to Antelope Road
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	60,900
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	6,090

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	23.9	- -
MEDIUM TRUCKS=	4.00	23.8	- -
HEAVY TRUCKS =	8.01	23.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	76.6	74.6	73.3	67.3	75.7	76.3
MEDIUM TRUCKS	70.8	66.8	49.0	68.2	74.4	74.4
HEAVY TRUCKS	77.8	73.8	56.0	75.2	81.4	81.4
VEHICULAR NOISE	80.7	77.6	73.4	76.6	83.1	**83.2**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	1040	3290	10404	32899
LDN	1011	3196	10106	31957

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Newport Road
SEGMENT Antelope Road to Menifee Road
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	46,600
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	4,660

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	23.9	- -
MEDIUM TRUCKS=	4.00	23.8	- -
HEAVY TRUCKS =	8.01	23.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	75.5	73.5	72.2	66.1	74.6	75.2
MEDIUM TRUCKS	69.6	65.6	47.8	67.0	73.2	73.2
HEAVY TRUCKS	76.6	72.7	54.9	74.1	80.2	80.2
VEHICULAR NOISE	79.6	76.5	72.3	75.4	81.9	**82.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	796	2517	7961	25174
LDN	773	2445	7733	24453

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Newport Road
SEGMENT east of Menifee Road
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	35,000
SPEED =	55
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	3,500

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	23.9	- -
MEDIUM TRUCKS=	4.00	23.8	- -
HEAVY TRUCKS =	8.01	23.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	78.2	76.2	74.9	68.9	77.3	77.9
MEDIUM TRUCKS	70.5	66.5	48.8	68.0	74.1	74.1
HEAVY TRUCKS	76.7	72.7	54.9	74.1	80.3	80.3
VEHICULAR NOISE	80.9	78.1	75.0	76.0	82.7	**82.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	969	3064	9690	30644
LDN	927	2930	9266	29302

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Holland Road
SEGMENT west of Bradley Road
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	8,300
SPEED =	50
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	830

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	68.8	66.8	65.5	59.4	67.9	68.5
MEDIUM TRUCKS	61.6	57.7	39.9	59.1	65.2	65.2
HEAVY TRUCKS	68.1	64.1	46.3	65.5	71.7	71.7
VEHICULAR NOISE	71.9	69.0	65.6	67.2	73.8	**74.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	125	396	1253	3963
LDN	120	381	1204	3809

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Holland Road
SEGMENT Bradley Road to Haun Road
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	11,400
SPEED =	50
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,140

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	70.2	68.2	66.9	60.8	69.3	69.9
MEDIUM TRUCKS	63.0	59.0	41.2	60.5	66.6	66.6
HEAVY TRUCKS	69.4	65.5	47.7	66.9	73.0	73.0
VEHICULAR NOISE	73.3	70.4	66.9	68.6	75.2	**75.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	172	544	1721	5443
LDN	165	523	1654	5231

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Future Holland Road
SEGMENT Haun Road to I-215 Freeway
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	100
SPEED =	50
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	10

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	49.7	- -
MEDIUM TRUCKS=	4.00	49.6	- -
HEAVY TRUCKS =	8.01	49.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	48.4	46.4	45.1	39.0	47.5	48.1
MEDIUM TRUCKS	41.2	37.3	19.5	38.7	44.8	44.8
HEAVY TRUCKS	47.7	43.7	25.9	45.1	51.3	51.3
VEHICULAR NOISE	51.5	48.6	45.2	46.8	53.4	**53.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	1	4	11	36
LDN	1	3	11	35

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Holland Road
SEGMENT East of I-215 Freeway
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	5,900
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	590

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	66.0	64.0	62.7	56.6	65.1	65.7
MEDIUM TRUCKS	59.4	55.5	37.7	56.9	63.0	63.0
HEAVY TRUCKS	66.2	62.2	44.4	63.6	69.7	69.8
VEHICULAR NOISE	69.5	66.5	62.8	65.1	71.7	**71.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	76	240	759	2400
LDN	73	232	733	2319

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Craig Avenue
SEGMENT west of Bradley Road
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	3,800
SPEED =	25
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	380

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	48.6	- -
MEDIUM TRUCKS=	4.00	48.5	- -
HEAVY TRUCKS =	8.01	48.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	55.6	53.6	52.3	46.3	54.7	55.3
MEDIUM TRUCKS	52.4	48.5	30.7	49.9	56.0	56.0
HEAVY TRUCKS	60.8	56.8	39.0	58.2	64.4	64.4
VEHICULAR NOISE	62.4	58.9	52.6	59.1	65.4	**65.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	17	55	174	551
LDN	17	54	172	544

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Linda Lee Drive
SEGMENT east of Bradley NEW
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	100
SPEED =	25
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	10

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	48.6	- -
MEDIUM TRUCKS=	4.00	48.5	- -
HEAVY TRUCKS =	8.01	48.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	39.8	37.8	36.5	30.5	38.9	39.5
MEDIUM TRUCKS	36.6	32.7	14.9	34.1	40.2	40.2
HEAVY TRUCKS	45.0	41.0	23.2	42.4	48.6	48.6
VEHICULAR NOISE	46.6	43.1	36.8	43.3	49.6	**49.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	0	1	5	15
LDN	0	1	5	14

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Tupelo Street
SEGMENT Bradley Road to Sherman Road
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	4,900
SPEED =	25
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	490

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	48.6	- -
MEDIUM TRUCKS=	4.00	48.5	- -
HEAVY TRUCKS =	8.01	48.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	56.7	54.7	53.4	47.4	55.8	56.4
MEDIUM TRUCKS	53.5	49.6	31.8	51.0	57.1	57.1
HEAVY TRUCKS	61.9	57.9	40.1	59.3	65.5	65.5
VEHICULAR NOISE	63.5	60.0	53.7	60.2	66.5	**66.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	22	71	225	711
LDN	22	70	222	701

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Garbani Road
SEGMENT Sherman Road to Haun Road
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	4,900
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	490

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	48.6	- -
MEDIUM TRUCKS=	4.00	48.5	- -
HEAVY TRUCKS =	8.01	48.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	62.6	60.6	59.3	53.3	61.7	62.3
MEDIUM TRUCKS	56.7	52.7	35.0	54.2	60.3	60.3
HEAVY TRUCKS	63.8	59.8	42.0	61.2	67.4	67.4
VEHICULAR NOISE	66.7	63.6	59.4	62.5	69.0	**69.2**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	41	130	412	1302
LDN	40	126	400	1265

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Scott Road
SEGMENT west of Haun Road
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	15,200
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,520

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	23.9	- -
MEDIUM TRUCKS=	4.00	23.8	- -
HEAVY TRUCKS =	8.01	23.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	70.6	68.6	67.3	61.2	69.7	70.3
MEDIUM TRUCKS	64.7	60.8	43.0	62.2	68.3	68.3
HEAVY TRUCKS	71.8	67.8	50.0	69.2	75.4	75.4
VEHICULAR NOISE	74.7	71.6	67.4	70.5	77.0	**77.2**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	260	821	2597	8211
LDN	252	798	2522	7976

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Scott Road
SEGMENT Haun Road to I-215 Freeway
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	26,800
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,680

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	23.9	- -
MEDIUM TRUCKS=	4.00	23.8	- -
HEAVY TRUCKS =	8.01	23.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	73.1	71.1	69.8	63.7	72.1	72.8
MEDIUM TRUCKS	67.2	63.2	45.4	64.6	70.8	70.8
HEAVY TRUCKS	74.2	70.3	52.5	71.7	77.8	77.8
VEHICULAR NOISE	77.2	74.1	69.9	73.0	79.5	**79.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	458	1448	4578	14478
LDN	445	1406	4447	14063

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Scott Road
SEGMENT I-215 Freeway to Antelope Road
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	37,500
SPEED =	55
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	3,750

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	23.9	- -
MEDIUM TRUCKS=	4.00	23.8	- -
HEAVY TRUCKS =	8.01	23.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	78.5	76.5	75.2	69.2	77.6	78.2
MEDIUM TRUCKS	70.8	66.8	49.1	68.3	74.4	74.4
HEAVY TRUCKS	77.0	73.0	55.2	74.4	80.6	80.6
VEHICULAR NOISE	81.2	78.4	75.3	76.3	83.0	**83.2**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	1038	3283	10383	32833
LDN	993	3139	9928	31395

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Scott Road
SEGMENT Antelope Road to Menifee Road
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	21,100
SPEED =	55
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,110

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	23.9	- -
MEDIUM TRUCKS=	4.00	23.8	- -
HEAVY TRUCKS =	8.01	23.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	76.0	74.0	72.7	66.7	75.1	75.7
MEDIUM TRUCKS	68.3	64.3	46.6	65.8	71.9	71.9
HEAVY TRUCKS	74.5	70.5	52.7	71.9	78.1	78.1
VEHICULAR NOISE	78.7	75.9	72.8	73.8	80.5	**80.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	584	1847	5842	18474
LDN	559	1766	5586	17665

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Bradley Road
SEGMENT north of Newport Road
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	13,300
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	44
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,330

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	45.0	- -
MEDIUM TRUCKS=	4.00	44.9	- -
HEAVY TRUCKS =	8.01	45.0	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	67.3	65.3	64.0	57.9	66.4	67.0
MEDIUM TRUCKS	61.4	57.4	39.6	58.8	65.0	65.0
HEAVY TRUCKS	68.5	64.5	46.7	65.9	72.0	72.0
VEHICULAR NOISE	71.4	68.3	64.1	67.2	73.7	**73.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	121	382	1208	3819
LDN	117	371	1173	3710

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Bradley Road
SEGMENT Newport Road to Holland Road
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	12,400
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	44
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,240

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	45.0	- -
MEDIUM TRUCKS=	4.00	44.9	- -
HEAVY TRUCKS =	8.01	45.0	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	67.0	65.0	63.7	57.6	66.1	66.7
MEDIUM TRUCKS	61.1	57.1	39.3	58.5	64.7	64.7
HEAVY TRUCKS	68.1	64.2	46.4	65.6	71.7	71.7
VEHICULAR NOISE	71.1	68.0	63.8	66.9	73.4	**73.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	113	356	1126	3561
LDN	109	346	1094	3459

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Bradley Road
SEGMENT Holland Road to Craig Avenue
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	7,600
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	44
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	760

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	45.0	- -
MEDIUM TRUCKS=	4.00	44.9	- -
HEAVY TRUCKS =	8.01	45.0	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	64.9	62.9	61.6	55.5	63.9	64.6
MEDIUM TRUCKS	59.0	55.0	37.2	56.4	62.6	62.6
HEAVY TRUCKS	66.0	62.0	44.3	63.5	69.6	69.6
VEHICULAR NOISE	69.0	65.8	61.7	64.8	71.3	**71.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	69	218	690	2183
LDN	67	212	670	2120

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Bradley Road
SEGMENT south of Craig Avenue
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	4,600
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	460

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	48.6	- -
MEDIUM TRUCKS=	4.00	48.5	- -
HEAVY TRUCKS =	8.01	48.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	62.4	60.3	59.0	53.0	61.4	62.0
MEDIUM TRUCKS	56.4	52.5	34.7	53.9	60.0	60.0
HEAVY TRUCKS	63.5	59.5	41.7	60.9	67.1	67.1
VEHICULAR NOISE	66.4	63.3	59.1	62.3	68.8	**68.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	39	122	387	1222
LDN	38	119	375	1187

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Sherman Road
SEGMENT Tupelo Street to Garbani Road
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	4,700
SPEED =	25
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	470

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	48.6	- -
MEDIUM TRUCKS=	4.00	48.5	- -
HEAVY TRUCKS =	8.01	48.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	56.6	54.6	53.3	47.2	55.6	56.3
MEDIUM TRUCKS	53.4	49.4	31.6	50.8	56.9	56.9
HEAVY TRUCKS	61.7	57.7	40.0	59.2	65.3	65.3
VEHICULAR NOISE	63.3	59.8	53.5	60.0	66.3	**66.3**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	22	68	216	682
LDN	21	67	213	672

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Haun Road
SEGMENT north of Newport Road
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	12,700
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,270

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	67.9	65.9	64.6	58.5	66.9	67.6
MEDIUM TRUCKS	62.0	58.0	40.2	59.4	65.6	65.6
HEAVY TRUCKS	69.0	65.0	47.3	66.5	72.6	72.6
VEHICULAR NOISE	72.0	68.9	64.7	67.8	74.3	**74.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	138	436	1377	4356
LDN	134	423	1338	4231

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Haun Road
SEGMENT Newport Road to Holland Road
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	36,600
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	3,660

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	72.5	70.5	69.2	63.1	71.5	72.2
MEDIUM TRUCKS	66.6	62.6	44.8	64.0	70.2	70.2
HEAVY TRUCKS	73.6	69.6	51.9	71.1	77.2	77.2
VEHICULAR NOISE	76.5	73.4	69.3	72.4	78.9	**79.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	397	1255	3970	12553
LDN	386	1219	3856	12193

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Haun Road
SEGMENT Holland Road to Garbani Road
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	13,900
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,390

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	68.3	66.2	65.0	58.9	67.3	68.0
MEDIUM TRUCKS	62.4	58.4	40.6	59.8	65.9	66.0
HEAVY TRUCKS	69.4	65.4	47.7	66.9	73.0	73.0
VEHICULAR NOISE	72.3	69.2	65.0	68.2	74.7	**74.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	151	477	1508	4767
LDN	146	463	1464	4631

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Haun Road
SEGMENT Garbanio Road to Scott Road
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	17,500
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,750

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	69.3	67.2	66.0	59.9	68.3	69.0
MEDIUM TRUCKS	63.4	59.4	41.6	60.8	66.9	67.0
HEAVY TRUCKS	70.4	66.4	48.7	67.9	74.0	74.0
VEHICULAR NOISE	73.3	70.2	66.0	69.2	75.7	**75.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	190	600	1898	6002
LDN	184	583	1844	5830

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Haun Road
SEGMENT south of Scott Road
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	2,600
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	260

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	61.0	59.0	57.7	51.6	60.0	60.7
MEDIUM TRUCKS	55.1	51.1	33.3	52.5	58.7	58.7
HEAVY TRUCKS	62.1	58.2	40.4	59.6	65.7	65.7
VEHICULAR NOISE	65.1	62.0	57.8	60.9	67.4	**67.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	28	89	282	892
LDN	27	87	274	866

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Antelope Road
SEGMENT north of Newport Road
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	6,800
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	680

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	66.6	64.6	63.3	57.3	65.7	66.3
MEDIUM TRUCKS	60.1	56.1	38.3	57.5	63.6	63.6
HEAVY TRUCKS	66.8	62.8	45.0	64.2	70.4	70.4
VEHICULAR NOISE	70.2	67.2	63.4	65.7	72.3	**72.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	87	277	875	2766
LDN	85	267	845	2672

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Antelope Road
SEGMENT Newport Road to Holland Road
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	23,700
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,370

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	70.6	68.6	67.3	61.2	69.6	70.3
MEDIUM TRUCKS	64.7	60.7	42.9	62.1	68.3	68.3
HEAVY TRUCKS	71.7	67.8	50.0	69.2	75.3	75.3
VEHICULAR NOISE	74.7	71.6	67.4	70.5	77.0	**77.1**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	257	813	2570	8129
LDN	250	790	2497	7896

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Antelope Road
SEGMENT south of Holland Road
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	12,500
SPEED =	55
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,250

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	71.8	69.8	68.5	62.4	70.8	71.5
MEDIUM TRUCKS	64.1	60.1	42.3	61.5	67.6	67.6
HEAVY TRUCKS	70.2	66.2	48.5	67.7	73.8	73.8
VEHICULAR NOISE	74.5	71.7	68.5	69.5	76.2	**76.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	220	695	2197	6948
LDN	210	664	2101	6644

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Antelope Road
SEGMENT north of Scott Road
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	14,100
SPEED =	55
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,410

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	72.3	70.3	69.0	62.9	71.4	72.0
MEDIUM TRUCKS	64.6	60.6	42.8	62.0	68.2	68.2
HEAVY TRUCKS	70.7	66.8	49.0	68.2	74.3	74.3
VEHICULAR NOISE	75.0	72.2	69.0	70.1	76.8	**77.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	248	784	2478	7838
LDN	237	749	2370	7494

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Antelope Road
SEGMENT south of Scott Road
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	17,300
SPEED =	40
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,730

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	69.2	67.2	65.9	59.8	68.3	68.9
MEDIUM TRUCKS	63.3	59.3	41.5	60.8	66.9	66.9
HEAVY TRUCKS	70.4	66.4	48.6	67.8	74.0	74.0
VEHICULAR NOISE	73.3	70.2	66.0	69.1	75.6	**75.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	188	593	1876	5934
LDN	182	576	1823	5764

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Menifee Road
SEGMENT north of Newport Road
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	12,600
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,260

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	69.3	67.3	66.0	59.9	68.4	69.0
MEDIUM TRUCKS	62.7	58.8	41.0	60.2	66.3	66.3
HEAVY TRUCKS	69.5	65.5	47.7	66.9	73.0	73.0
VEHICULAR NOISE	72.8	69.8	66.1	68.4	75.0	**75.1**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	162	512	1621	5125
LDN	157	495	1566	4951

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: Millcreek Promenade Noise Impact Analysis
ROADWAY Menifee Road
SEGMENT Newport Road to Holland Road
LOCATION: City of Menifee SCENARIO: E + A + P

JOB #: 6437a
DATE: 13-Feb-18
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	14,000
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,400

RECEIVER INPUT DATA

RECEIVER DISTANCE =		50
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		50
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	10	
MED TRUCKS	10	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	10	

WALL INFORMATION

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

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.755	0.140	0.104	0.920
MEDIUM TRUCKS	0.480	0.002	0.500	0.030
HEAVY TRUCKS	0.480	0.002	0.500	0.050

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	37.7	- -
MEDIUM TRUCKS=	4.00	37.6	- -
HEAVY TRUCKS =	8.01	37.7	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	69.8	67.8	66.5	60.4	68.8	69.5
MEDIUM TRUCKS	63.2	59.2	41.4	60.6	66.8	66.8
HEAVY TRUCKS	69.9	65.9	48.2	67.4	73.5	73.5
VEHICULAR NOISE	73.3	70.3	66.5	68.9	75.4	**75.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	180	569	1801	5694
LDN	174	550	1740	5502

APPENDIX F

SoundPLAN Input Data

Contribution levels of the receivers

Source name	Traffic lane	Level w/o NP Lden dB(A)	Level w NP Lden dB(A)
1	Fl	64.3	64.3
Garbani	-	50.6	49.7
Haun N	-	33.3	33.3
Huan S	-	64.1	64.1
Sherman N	-	14.2	14.2
Sherman S	-	21.8	21.8
2	Fl	53.4	53.4
Garbani	-	50.1	50.1
Haun N	-	37.7	37.7
Huan S	-	50.3	50.3
Sherman N	-	20.1	20.1
Sherman S	-	33.5	33.5
3	Fl	68.9	65.7
Garbani	-	68.6	65.0
Haun N	-	54.9	54.9
Huan S	-	53.3	53.6
Sherman N	-	19.8	19.8
Sherman S	-	23.0	23.0
4	Fl	69.5	63.4
Garbani	-	69.5	63.4
Haun N	-	49.1	44.3
Huan S	-	43.2	42.3
Sherman N	-	37.8	33.2
Sherman S	-	31.3	31.3
5	Fl	73.5	68.5
Garbani	-	73.4	68.4
Haun N	-	55.2	49.9
Huan S	-	47.2	46.3
Sherman N	-	45.9	44.8
Sherman S	-	40.5	37.9
6	Fl	72.8	68.5
Garbani	-	72.8	68.4
Haun N	-	50.8	48.6
Huan S	-	45.6	46.1
Sherman N	-	47.4	41.8
Sherman S	-	43.9	40.6
7	Fl	69.3	63.3
Garbani	-	69.3	63.3
Haun N	-	32.7	32.7
Huan S	-	38.5	38.5
Sherman N	-	43.7	38.4
Sherman S	-	34.4	34.6
8	Fl	69.5	63.5
Garbani	-	69.4	63.4
Haun N	-	42.6	39.3
Huan S	-	38.2	38.2
Sherman N	-	54.3	47.8
Sherman S	-	42.4	39.2
9	Fl	73.9	68.2
Garbani	-	73.4	67.8
Haun N	-	47.9	45.8
Huan S	-	41.6	42.3
Sherman N	-	60.0	53.1
Sherman S	-	61.7	55.9
10	Fl	70.6	70.4
Garbani	-	66.7	66.3
Haun N	-	23.7	23.7
Huan S	-	28.7	28.7
Sherman N	-	55.7	54.3

Contribution levels of the receivers

Source name	Traffic lane	Level w/o NP Lden dB(A)	Level w NP Lden dB(A)
Sherman S	-	68.1	68.1
11	Fl	69.4	69.4
Garbani	-	63.1	63.0
Haun N	-	21.7	21.7
Huan S	-	28.4	28.4
Sherman N	-	51.4	51.4
Sherman S	-	68.2	68.2
12	Fl	68.7	68.7
Garbani	-	58.5	58.4
Haun N	-	19.0	19.0
Huan S	-	27.7	27.7
Sherman N	-	44.4	44.4
Sherman S	-	68.3	68.3
13	Fl	66.7	66.7
Garbani	-	48.6	48.5
Haun N	-	20.1	20.1
Huan S	-	34.8	34.8
Sherman N	-	36.0	36.0
Sherman S	-	66.7	66.7
14	Fl	58.9	58.9
Garbani	-	44.5	44.4
Haun N	-	27.4	27.4
Huan S	-	58.8	58.8
Sherman N	-	19.3	19.3
Sherman S	-	32.0	32.0
16	Fl	71.7	71.7
Garbani	-	70.8	70.7
Haun N	-	61.4	61.4
Huan S	-	61.6	61.6
Sherman N	-	36.3	34.8
Sherman S	-	29.1	28.5
17	Fl	71.5	71.5
Garbani	-	63.1	63.1
Haun N	-	58.3	58.3
Huan S	-	70.6	70.6
Sherman N	-	8.5	8.5
Sherman S	-	16.3	16.3
18	Fl	69.6	69.6
Garbani	-	57.8	57.8
Haun N	-	35.8	35.8
Huan S	-	69.3	69.3
Sherman N	-	12.4	12.4
Sherman S	-	20.4	20.4
18	Fl	61.0	59.0
Garbani	-	60.9	58.8
Haun N	-	36.7	36.7
Huan S	-	44.1	44.1
Sherman N	-	30.2	30.2
Sherman S	-	37.0	37.0
19	Fl	64.1	64.1
Garbani	-	53.2	53.2
Haun N	-	29.9	29.9
Huan S	-	63.8	63.8
Sherman N	-	11.9	11.9
Sherman S	-	21.5	21.5
20	Fl	69.5	69.5
Garbani	-	54.2	54.2
Haun N	-	47.6	47.6
Huan S	-	69.3	69.3

Contribution levels of the receivers

Source name	Traffic lane	Level w/o NP Lden dB(A)	Level w NP Lden dB(A)
Sherman N	-	10.8	10.8
Sherman S	-	20.6	20.6
21 Fl		65.2	65.2
Garbani	-	48.7	48.7
Haun N	-	32.2	32.2
Huan S	-	65.1	65.1
Sherman N	-	9.6	9.6
Sherman S	-	20.7	20.7
22 Fl		69.7	69.7
Garbani	-	49.4	49.4
Haun N	-	42.0	42.0
Huan S	-	69.6	69.6
Sherman N	-	8.2	8.2
Sherman S	-	20.5	20.5
23 Fl		63.0	63.0
Garbani	-	42.2	42.2
Haun N	-	30.7	30.7
Huan S	-	63.0	63.0
Sherman N	-	7.5	7.5
Sherman S	-	20.0	20.0

Receiver list

No.	Receiver name	Building side	Floor	Limit Lden dB(A)	Level w/o NP Lden dB(A)	Level w NP Lden dB(A)	Difference Lden dB	Conflict Lden dB
1	1	-	Fl	-	64.3	64.3	0.0	-
2	2	-	Fl	-	53.4	53.4	0.0	-
3	3	-	Fl	-	68.9	65.7	-3.2	-
4	4	-	Fl	-	69.5	63.4	-6.1	-
5	5	-	Fl	-	73.5	68.5	-5.0	-
6	6	-	Fl	-	72.8	68.5	-4.3	-
7	7	-	Fl	-	69.3	63.3	-6.0	-
8	8	-	Fl	-	69.5	63.5	-6.0	-
9	9	-	Fl	-	73.9	68.2	-5.7	-
10	10	-	Fl	-	70.6	70.4	-0.2	-
11	11	-	Fl	-	69.4	69.4	0.0	-
12	12	-	Fl	-	68.7	68.7	0.0	-
13	13	-	Fl	-	66.7	66.7	0.0	-
14	14	-	Fl	-	58.9	58.9	0.0	-
15	16	North	Fl	-	71.7	71.7	0.0	-
16	17	East	Fl	-	71.5	71.5	0.0	-
17	18	East	Fl	-	69.6	69.6	0.0	-
18		-	Fl	-	61.0	59.0	-2.0	-
19	19	East	Fl	-	64.1	64.1	0.0	-
20	20	East	Fl	-	69.5	69.5	0.0	-
21	21	East	Fl	-	65.2	65.2	0.0	-
22	22	East	Fl	-	69.7	69.7	0.0	-
23	23	East	Fl	-	63.0	63.0	0.0	-

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 %
Garbani				Traffic direction: In entry direction								
0+000	27300	Total	-	1669	1189	413	-	none	-	-	Average (of DGAC and PCC)	0.0
		Automobiles	-	1581	1174	291	64					
		Medium trucks	-	33	6	46	64					
		Heavy trucks	-	55	9	76	64					
		Buses	-	-	-	-	-					
		Motorcycles	-	-	-	-	-					
		Auxiliary vehicle	-	-	-	-	-					
0+215	-							-	-	-	-	-
Sherman S				Traffic direction: In entry direction								
0+000	10402	Total	-	649	474	133	-	none	-	-	Average (of DGAC and PCC)	0.0
		Automobiles	-	638	471	118	64					
		Medium trucks	-	8	1	11	64					
		Heavy trucks	-	3	1	4	64					
		Buses	-	-	-	-	-					
		Motorcycles	-	-	-	-	-					
		Auxiliary vehicle	-	-	-	-	-					
0+603	-							-	-	-	-	-
Huan S				Traffic direction: In entry direction								
0+000	27300	Total	-	1669	1189	413	-	none	-	-	Average (of DGAC and PCC)	0.0
		Automobiles	-	1581	1174	291	64					
		Medium trucks	-	33	6	46	64					
		Heavy trucks	-	55	9	76	64					
		Buses	-	-	-	-	-					
		Motorcycles	-	-	-	-	-					
		Auxiliary vehicle	-	-	-	-	-					
0+655	-							-	-	-	-	-
Haun N				Traffic direction: In entry direction								
0+655	27300	Total	-	1669	1189	413	-	none	-	-	Average (of DGAC and PCC)	0.0
		Automobiles	-	1581	1174	291	64					
		Medium trucks	-	33	6	46	64					
		Heavy trucks	-	55	9	76	64					
		Buses	-	-	-	-	-					
		Motorcycles	-	-	-	-	-					
		Auxiliary vehicle	-	-	-	-	-					
0+726	-							-	-	-	-	-
Sherman N				Traffic direction: In entry direction								
0+000	10399	Total	-	649	475	132	-	none	-	-	Average (of DGAC and PCC)	0.0
		Automobiles	-	638	473	117	64					
		Medium trucks	-	8	1	11	64					
		Heavy trucks	-	3	1	4	64					
		Buses	-	-	-	-	-					
		Motorcycles	-	-	-	-	-					
		Auxiliary vehicle	-	-	-	-	-					
0+081	-							-	-	-	-	-

Contribution levels of the receivers

Source name	Traffic lane	Level w/o NP Lden dB(A)	Level w NP Lden dB(A)
1	Fl	64.3	64.3
Garbani	-	50.4	49.6
Haun N	-	34.3	34.3
Huan S	-	64.1	64.1
Sherman N	-	13.7	13.7
Sherman S	-	21.6	21.6
2	Fl	53.4	53.4
Garbani	-	50.1	50.0
Haun N	-	38.1	38.1
Huan S	-	50.4	50.4
Sherman N	-	20.1	20.1
Sherman S	-	33.9	33.9
3	Fl	69.6	63.9
Garbani	-	69.2	63.4
Haun N	-	57.2	51.4
Huan S	-	53.3	50.2
Sherman N	-	19.5	19.5
Sherman S	-	23.0	23.0
4	Fl	69.4	63.4
Garbani	-	69.3	63.3
Haun N	-	50.2	44.5
Huan S	-	41.2	41.2
Sherman N	-	34.8	30.7
Sherman S	-	31.4	31.4
5	Fl	73.0	62.6
Garbani	-	72.9	62.5
Haun N	-	55.2	45.6
Huan S	-	50.1	40.9
Sherman N	-	45.3	38.2
Sherman S	-	40.0	35.2
6	Fl	72.9	62.6
Garbani	-	72.8	62.5
Haun N	-	51.3	45.1
Huan S	-	47.0	43.0
Sherman N	-	47.4	38.1
Sherman S	-	43.7	33.9
7	Fl	69.4	63.4
Garbani	-	69.3	63.3
Haun N	-	44.4	35.5
Huan S	-	39.6	39.6
Sherman N	-	49.7	43.3
Sherman S	-	36.0	36.4
8	Fl	69.4	63.4
Garbani	-	69.2	63.2
Haun N	-	40.5	33.5
Huan S	-	38.2	38.2
Sherman N	-	54.2	47.3
Sherman S	-	38.4	38.3
9	Fl	74.0	63.1
Garbani	-	73.5	62.5
Haun N	-	47.7	37.7
Huan S	-	42.6	34.1
Sherman N	-	60.0	49.0
Sherman S	-	61.6	51.7
10	Fl	64.9	64.9
Garbani	-	57.6	57.6
Haun N	-	27.8	27.8
Huan S	-	39.1	39.1
Sherman N	-	47.4	47.4

Contribution levels of the receivers

Source name	Traffic lane	Level w/o NP Lden dB(A)	Level w NP Lden dB(A)
Sherman S	-	63.9	63.9
11	Fl	64.5	64.5
Garbani	-	53.4	53.4
Haun N	-	29.8	29.8
Huan S	-	39.4	39.4
Sherman N	-	31.4	31.4
Sherman S	-	64.1	64.1
12	Fl	68.8	61.4
Garbani	-	58.7	53.0
Haun N	-	19.3	19.3
Huan S	-	28.0	28.0
Sherman N	-	44.3	39.1
Sherman S	-	68.4	60.7
13	Fl	66.4	66.4
Garbani	-	52.9	52.8
Haun N	-	23.8	23.8
Huan S	-	37.1	37.1
Sherman N	-	18.6	18.6
Sherman S	-	66.2	66.2
14	Fl	59.3	59.3
Garbani	-	44.6	44.5
Haun N	-	27.5	27.5
Huan S	-	59.1	59.1
Sherman N	-	19.2	19.2
Sherman S	-	31.0	31.0
16	Fl	71.6	71.6
Garbani	-	70.7	70.7
Haun N	-	61.4	61.4
Huan S	-	61.2	61.2
Sherman N	-	39.0	39.0
Sherman S	-	32.5	32.5
17	Fl	71.5	71.5
Garbani	-	63.1	63.1
Haun N	-	58.3	58.3
Huan S	-	70.6	70.6
Sherman N	-	8.5	8.5
Sherman S	-	16.6	16.6
18	Fl	61.0	60.9
Garbani	-	57.8	57.8
Haun N	-	35.8	35.8
Huan S	-	69.3	69.3
Sherman N	-	12.4	12.4
Sherman S	-	20.7	20.7
18	Fl	69.6	69.6
Garbani	-	60.8	60.7
Haun N	-	36.7	36.7
Huan S	-	44.1	44.1
Sherman N	-	30.2	30.2
Sherman S	-	37.1	37.1
19	Fl	64.1	64.1
Garbani	-	53.2	53.2
Haun N	-	29.9	29.9
Huan S	-	63.8	63.8
Sherman N	-	11.9	11.9
Sherman S	-	21.8	21.8
20	Fl	69.5	69.5
Garbani	-	54.2	54.2
Haun N	-	47.6	47.6
Huan S	-	69.3	69.3

Contribution levels of the receivers

Source name	Traffic lane	Level w/o NP Lden dB(A)	Level w NP Lden dB(A)
Sherman N	-	10.8	10.8
Sherman S	-	21.0	21.0
21 Fl		65.2	65.2
Garbani	-	48.7	48.7
Haun N	-	32.2	32.2
Huan S	-	65.1	65.1
Sherman N	-	9.6	9.6
Sherman S	-	21.2	21.2
22 Fl		69.7	69.7
Garbani	-	49.4	49.4
Haun N	-	42.0	42.0
Huan S	-	69.6	69.6
Sherman N	-	8.2	8.2
Sherman S	-	21.2	21.2
23 Fl		63.0	63.0
Garbani	-	42.2	42.2
Haun N	-	30.7	30.7
Huan S	-	63.0	63.0
Sherman N	-	7.5	7.5
Sherman S	-	20.9	20.9

Receiver list

No.	Receiver name	Building side	Floor	Limit Lden dB(A)	Level w/o NP Lden dB(A)	Level w NP Lden dB(A)	Difference Lden dB	Conflict Lden dB
1	1	-	Fl	-	64.3	64.3	0.0	-
2	2	-	Fl	-	53.4	53.4	0.0	-
3	3	-	Fl	-	69.6	63.9	-5.7	-
4	4	-	Fl	-	69.4	63.4	-6.0	-
5	5	-	Fl	-	73.0	62.6	-10.4	-
6	6	-	Fl	-	72.9	62.6	-10.2	-
7	7	-	Fl	-	69.4	63.4	-6.0	-
8	8	-	Fl	-	69.4	63.4	-6.0	-
9	9	-	Fl	-	74.0	63.1	-10.9	-
10	10	-	Fl	-	64.9	64.9	0.0	-
11	11	-	Fl	-	64.5	64.5	0.0	-
12	12	-	Fl	-	68.8	61.4	-7.4	-
13	13	-	Fl	-	66.4	66.4	0.0	-
14	14	-	Fl	-	59.3	59.3	0.0	-
15	16	North	Fl	-	71.6	71.6	0.0	-
16	17	East	Fl	-	71.5	71.5	0.0	-
17	18	-	Fl	-	61.0	60.9	-0.1	-
18		East	Fl	-	69.6	69.6	0.0	-
19	19	East	Fl	-	64.1	64.1	0.0	-
20	20	East	Fl	-	69.5	69.5	0.0	-
21	21	East	Fl	-	65.2	65.2	0.0	-
22	22	East	Fl	-	69.7	69.7	0.0	-
23	23	East	Fl	-	63.0	63.0	0.0	-

Noise emissions of road traffic

Station km	ADT Veh/24	Vehicles type	Traffic values: Vehicle name	day Veh/h	evening Veh/h	night Veh/h	Speed km/h	Control device	Constr. Speed km/h	Affect. veh. %	Road surface	Gradient Min / Max %
Garbani			Traffic direction: In entry direction									
0+000	27300	Total	-	1669	1189	413	-	none	-	-	Average (of DGAC and PCC)	0.0
		Automobiles	-	1581	1174	291	64					
		Medium trucks	-	33	6	46	64					
		Heavy trucks	-	55	9	76	64					
		Buses	-	-	-	-	-					
		Motorcycles	-	-	-	-	-					
		Auxiliary vehicle	-	-	-	-	-					
0+215	-							-	-	-	-	-
Sherman S			Traffic direction: In entry direction									
0+000	10403	Total	-	649	474	133	-	none	-	-	Average (of DGAC and PCC)	0.0
		Automobiles	-	638	471	118	64					
		Medium trucks	-	8	1	11	64					
		Heavy trucks	-	3	1	4	64					
		Buses	-	-	-	-	-					
		Motorcycles	-	-	-	-	-					
		Auxiliary vehicle	-	-	-	-	-					
0+000	10398	Total	-	649	475	132	-	none	-	-	Average (of DGAC and PCC)	0.0
		Automobiles	-	638	473	117	64					
		Medium trucks	-	8	1	11	64					
		Heavy trucks	-	3	1	4	64					
		Buses	-	-	-	-	-					
		Motorcycles	-	-	-	-	-					
		Auxiliary vehicle	-	-	-	-	-					
0+699	-							-	-	-	-	-
Huan S			Traffic direction: In entry direction									
0+000	27300	Total	-	1669	1189	413	-	none	-	-	Average (of DGAC and PCC)	0.0
		Automobiles	-	1581	1174	291	64					
		Medium trucks	-	33	6	46	64					
		Heavy trucks	-	55	9	76	64					
		Buses	-	-	-	-	-					
		Motorcycles	-	-	-	-	-					
		Auxiliary vehicle	-	-	-	-	-					
0+655	-							-	-	-	-	-
Haun N			Traffic direction: In entry direction									
0+655	27300	Total	-	1669	1189	413	-	none	-	-	Average (of DGAC and PCC)	0.0
		Automobiles	-	1581	1174	291	64					
		Medium trucks	-	33	6	46	64					
		Heavy trucks	-	55	9	76	64					
		Buses	-	-	-	-	-					
		Motorcycles	-	-	-	-	-					
		Auxiliary vehicle	-	-	-	-	-					
0+726	-							-	-	-	-	-
Sherman N			Traffic direction: In entry direction									
0+000	10398	Total	-	649	475	132	-	none	-	-	Average (of DGAC and PCC)	0.0
		Automobiles	-	638	473	117	64					
		Medium trucks	-	8	1	11	64					
		Heavy trucks	-	3	1	4	64					
		Buses	-	-	-	-	-					
		Motorcycles	-	-	-	-	-					
		Auxiliary vehicle	-	-	-	-	-					
0+081	-							-	-	-	-	-

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
1 1.Fl	40.2	39.1
1	34.8	30.9
2	30.1	27.0
3	11.5	11.5
4	21.2	19.8
5	10.7	10.7
6	16.5	16.5
7	27.8	27.8
8	-1.4	-1.4
9	6.1	6.1
10	8.2	8.2
11	3.5	3.5
12	9.2	9.2
13	8.0	8.0
14	18.9	18.9
15	19.7	19.7
16	8.4	8.4
17	0.3	0.3
18	16.9	16.9
19	5.2	5.2
20	3.1	3.1
21	5.3	5.3
22	4.5	4.5
23	-0.5	-0.5
24	13.3	13.3
25	6.7	6.7
26	3.3	3.3
27	8.9	8.9
28	1.3	1.3
29	10.3	10.3
30	13.8	13.8
31	16.3	16.3
32	13.9	13.9
33	11.3	11.3
34	12.0	12.0
35	10.8	10.8
36	4.5	4.5
37	4.5	4.5
38	6.8	6.8
39	5.1	5.1
40	-2.7	-2.7
41	13.7	13.7
42	7.7	7.7
HVAC1	27.3	27.3
HVAC2	24.8	24.8
HVAC3	24.4	24.4
HVAC4	27.0	27.0
HVAC5	26.1	26.1
HVAC6	25.6	25.6
HVAC7	24.7	24.7
HVAC8	24.1	24.1
HVAC9	23.8	23.8
HVAC10	23.3	23.3
HVAC11	23.3	23.3
HVAC12	24.4	24.4
HVAC13	20.5	20.5
HVAC14	19.9	19.9
HVAC15	19.4	19.4
HVAC16	18.9	18.9
HVAC17	21.9	21.9
HVAC18	19.9	19.9
HVAC19	18.2	18.2
HVAC20	17.8	17.8
HVAC21	16.4	16.4

Contribution levels of the receivers

Source name			Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
HVAC22			16.3	16.3
HVAC23			13.9	13.9
HVAC24			13.2	13.2
HVAC25			15.6	15.6
HVAC26			13.5	13.5
HVAC27			12.9	12.9
HVAC28			12.5	12.5
HVAC29			15.3	15.3
HVAC30			15.4	15.4
HVAC31			13.3	13.3
HVAC32			12.6	12.6
HVAC33			15.9	15.9
HVAC34			15.8	15.8
HVAC35			15.7	15.7
HVAC36			15.8	15.8
2	1.Fl		42.5	41.5
1			37.7	34.3
2			33.5	32.6
3			13.3	10.7
4			22.9	19.3
5			14.4	14.4
6			17.9	17.9
7			29.0	28.5
8			-2.0	-2.0
9			7.0	7.0
10			10.2	9.7
11			6.1	5.9
12			10.3	10.3
13			5.0	5.0
14			19.0	19.0
15			17.5	17.5
16			7.1	7.1
17			2.3	2.3
18			14.0	14.0
19			6.6	6.6
20			4.2	4.2
21			7.4	7.4
22			4.4	4.4
23			-0.5	-0.5
24			12.8	12.8
25			4.8	4.8
26			1.3	1.3
27			8.8	8.8
28			0.0	0.0
29			9.4	9.4
30			13.9	13.9
31			15.2	15.2
32			12.6	12.6
33			10.9	10.9
34			12.0	12.0
35			10.8	10.8
36			4.6	4.6
37			4.5	4.5
38			6.7	6.7
39			4.9	4.9
40			-3.7	-3.7
41			11.4	11.4
42			7.8	7.8
HVAC1			30.6	30.6
HVAC2			29.6	29.6
HVAC3			28.6	28.6
HVAC4			28.8	28.8
HVAC5			27.7	27.7
HVAC6			28.9	28.9

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
HVAC7	27.0	27.0
HVAC8	24.3	24.3
HVAC9	23.8	23.8
HVAC10	26.4	26.4
HVAC11	24.3	24.3
HVAC12	24.0	24.0
HVAC13	20.8	20.8
HVAC14	22.7	22.7
HVAC15	20.2	20.2
HVAC16	19.7	19.7
HVAC17	23.0	23.0
HVAC18	19.9	19.9
HVAC19	18.7	18.7
HVAC20	18.4	18.4
HVAC21	16.5	16.5
HVAC22	16.1	16.1
HVAC23	14.7	14.7
HVAC24	14.0	14.0
HVAC25	15.3	15.3
HVAC26	14.9	14.9
HVAC27	14.6	14.6
HVAC28	13.4	13.4
HVAC29	12.9	12.9
HVAC30	15.5	15.5
HVAC31	13.3	13.3
HVAC32	12.7	12.7
HVAC33	15.8	15.8
HVAC34	15.7	15.7
HVAC35	15.7	15.7
HVAC36	15.8	15.8
3 1.Fl	43.4	43.4
1	38.5	38.5
2	34.0	34.0
3	14.9	14.9
4	22.6	22.6
5	16.2	16.3
6	22.9	22.9
7	28.9	28.6
8	-1.0	-1.0
9	9.2	9.2
10	10.5	10.5
11	8.1	8.1
12	12.0	12.0
13	6.3	6.3
14	15.5	15.5
15	15.0	15.0
16	6.1	6.1
17	3.8	3.8
18	14.4	14.3
19	7.1	7.1
20	6.5	6.5
21	9.6	9.6
22	6.9	6.9
23	1.2	1.2
24	11.2	11.2
25	4.7	4.7
26	2.3	2.3
27	10.7	10.7
28	2.3	2.3
29	9.9	9.9
30	12.6	12.6
31	15.0	15.0
32	12.5	12.5
33	10.0	10.0

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
34	11.9	11.9
35	10.8	10.8
36	4.4	4.4
37	4.3	4.3
38	6.9	6.6
39	5.8	5.2
40	-1.8	-1.8
41	13.6	13.6
42	7.6	7.6
HVAC1	33.6	33.6
HVAC2	32.7	32.7
HVAC3	30.6	30.6
HVAC4	28.6	28.6
HVAC5	27.8	27.8
HVAC6	28.8	28.8
HVAC7	27.9	27.9
HVAC8	24.8	24.8
HVAC9	24.3	24.3
HVAC10	26.7	26.2
HVAC11	24.3	24.3
HVAC12	23.9	23.9
HVAC13	20.8	20.8
HVAC14	20.4	20.4
HVAC15	19.6	19.6
HVAC16	19.8	19.8
HVAC17	23.3	23.3
HVAC18	20.2	20.2
HVAC19	18.8	18.8
HVAC20	18.9	18.9
HVAC21	16.7	16.7
HVAC22	16.3	16.3
HVAC23	16.4	16.4
HVAC24	13.7	13.7
HVAC25	14.5	14.5
HVAC26	13.6	13.6
HVAC27	13.1	13.1
HVAC28	12.8	12.8
HVAC29	12.9	12.9
HVAC30	14.7	14.7
HVAC31	14.1	14.1
HVAC32	13.4	13.4
HVAC33	15.7	15.7
HVAC34	15.7	15.7
HVAC35	15.5	15.5
HVAC36	17.4	16.4
4 1.Fl	42.9	42.9
1	37.7	37.8
2	31.9	31.9
3	10.0	10.0
4	14.5	14.5
5	15.8	15.8
6	21.7	21.7
7	27.6	25.7
8	0.0	0.0
9	9.5	9.5
10	5.5	5.5
11	3.6	3.6
12	12.5	12.5
13	6.4	6.4
14	14.1	13.6
15	15.6	15.6
16	5.8	5.7
17	-2.3	-2.3
18	13.1	13.1

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
19	1.6	1.6
20	0.7	0.7
21	7.1	7.1
22	4.6	4.6
23	-1.6	-1.6
24	11.4	11.4
25	3.4	3.4
26	1.7	1.7
27	8.1	8.1
28	-2.5	-2.5
29	8.2	8.2
30	11.6	11.6
31	14.1	14.1
32	11.4	11.4
33	7.4	6.7
34	10.4	9.8
35	8.7	8.2
36	3.1	2.0
37	4.0	2.0
38	6.2	4.5
39	4.4	2.8
40	-2.2	-2.2
41	12.8	12.8
42	6.5	4.9
HVAC1	34.8	34.8
HVAC2	34.4	34.4
HVAC3	31.0	31.0
HVAC4	28.6	28.6
HVAC5	26.9	26.9
HVAC6	25.3	25.3
HVAC7	22.8	22.8
HVAC8	22.1	22.1
HVAC9	21.3	21.3
HVAC10	24.5	24.5
HVAC11	24.2	24.2
HVAC12	23.7	23.7
HVAC13	20.6	20.6
HVAC14	20.1	20.1
HVAC15	19.6	19.6
HVAC16	19.1	19.1
HVAC17	17.9	17.9
HVAC18	17.6	17.6
HVAC19	17.2	17.2
HVAC20	16.5	16.5
HVAC21	18.7	18.7
HVAC22	18.4	18.4
HVAC23	13.5	13.5
HVAC24	13.0	13.0
HVAC25	14.4	14.4
HVAC26	14.0	14.0
HVAC27	13.7	13.7
HVAC28	12.9	12.9
HVAC29	12.0	12.0
HVAC30	13.7	13.7
HVAC31	13.2	13.2
HVAC32	12.8	12.8
HVAC33	12.8	12.8
HVAC34	13.6	13.6
HVAC35	15.1	12.4
HVAC36	15.2	12.3
5 1.Fl	41.0	41.1
1	32.1	32.7
2	28.5	28.5
3	5.4	5.4

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
4	13.9	13.9
5	11.3	11.3
6	16.9	16.9
7	20.3	19.7
8	-2.8	-2.8
9	4.8	4.8
10	4.6	4.6
11	-3.0	-3.0
12	8.3	8.3
13	2.8	2.8
14	10.1	10.1
15	12.6	12.6
16	2.3	2.3
17	-1.6	-1.6
18	12.7	12.7
19	3.9	3.9
20	0.6	0.6
21	4.0	4.0
22	1.8	1.8
23	-4.6	-4.6
24	7.4	7.4
25	2.5	2.5
26	-0.8	-0.8
27	4.7	4.7
28	-0.6	-0.6
29	6.0	6.0
30	7.9	7.9
31	11.0	11.0
32	6.2	6.2
33	3.0	3.0
34	7.0	7.0
35	4.8	4.8
36	-1.1	-1.2
37	-0.8	-1.0
38	2.6	2.3
39	1.9	1.3
40	-2.0	-2.0
41	9.5	9.5
42	2.0	1.8
HVAC1	34.4	34.4
HVAC2	34.8	34.8
HVAC3	31.2	31.2
HVAC4	28.8	28.8
HVAC5	26.8	26.8
HVAC6	25.3	25.3
HVAC7	22.6	22.6
HVAC8	21.9	21.9
HVAC9	21.2	21.2
HVAC10	18.8	18.8
HVAC11	18.8	18.8
HVAC12	18.8	18.8
HVAC13	18.2	18.2
HVAC14	17.5	17.5
HVAC15	17.1	17.1
HVAC16	16.7	16.7
HVAC17	17.6	17.6
HVAC18	17.4	17.4
HVAC19	16.9	16.9
HVAC20	16.5	16.5
HVAC21	14.9	14.9
HVAC22	14.6	14.6
HVAC23	13.5	13.5
HVAC24	13.0	13.0
HVAC25	12.9	12.9
HVAC26	12.5	12.5

Contribution levels of the receivers

Source name		Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
HVAC27		12.1	12.1
HVAC28		11.9	11.9
HVAC29		11.9	11.9
HVAC30		12.4	12.4
HVAC31		12.1	12.1
HVAC32		11.7	11.7
HVAC33		11.6	11.6
HVAC34		11.6	11.6
HVAC35		11.5	11.5
HVAC36		11.7	11.7
6	1.Fl	50.1	46.4
1		47.9	42.0
2		42.8	38.0
3		16.3	12.7
4		25.6	21.8
5		18.5	16.9
6		22.6	20.0
7		31.4	30.5
8		0.7	0.7
9		9.3	7.6
10		12.5	9.9
11		10.1	7.2
12		12.5	12.1
13		7.5	6.8
14		16.8	16.6
15		17.3	16.3
16		6.1	6.1
17		6.0	3.4
18		14.7	14.5
19		9.6	7.1
20		7.9	5.5
21		9.9	8.0
22		6.9	5.4
23		1.6	-0.1
24		11.8	11.8
25		5.1	5.1
26		2.7	1.5
27		10.8	9.5
28		3.0	2.0
29		10.2	9.4
30		12.8	12.8
31		15.2	14.7
32		13.3	13.3
33		10.8	10.8
34		13.1	13.1
35		12.0	12.0
36		5.7	5.7
37		5.5	5.5
38		7.6	7.6
39		5.7	5.7
40		-2.0	-2.7
41		13.0	13.0
42		8.8	8.8
HVAC1		36.9	36.9
HVAC2		32.2	32.2
HVAC3		31.8	31.8
HVAC4		34.1	34.1
HVAC5		32.9	32.8
HVAC6		33.0	32.9
HVAC7		30.0	30.0
HVAC8		28.0	28.0
HVAC9		27.3	27.2
HVAC10		28.7	27.8
HVAC11		26.5	26.5

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
HVAC12	26.2	26.2
HVAC13	23.0	23.0
HVAC14	22.2	22.2
HVAC15	21.6	21.6
HVAC16	22.6	22.6
HVAC17	25.2	22.3
HVAC18	21.8	21.8
HVAC19	20.9	20.6
HVAC20	20.7	20.2
HVAC21	18.1	18.1
HVAC22	17.6	17.6
HVAC23	17.5	15.5
HVAC24	14.8	14.8
HVAC25	15.2	15.2
HVAC26	14.6	14.6
HVAC27	14.2	14.2
HVAC28	13.8	13.8
HVAC29	13.8	13.8
HVAC30	15.5	15.5
HVAC31	14.9	14.9
HVAC32	14.3	14.3
HVAC33	17.0	17.0
HVAC34	16.6	16.6
HVAC35	16.5	16.5
HVAC36	16.3	16.3
7 1.Fl	51.5	47.5
1	49.5	43.3
2	43.5	38.5
3	17.1	13.4
4	26.6	22.6
5	18.3	17.0
6	22.7	20.0
7	32.2	31.5
8	2.3	1.7
9	9.7	8.0
10	13.3	10.5
11	10.8	7.9
12	12.6	12.4
13	7.5	7.1
14	16.8	16.6
15	16.2	16.1
16	6.3	6.3
17	6.6	3.9
18	14.7	14.6
19	10.3	7.7
20	8.4	6.0
21	10.1	8.2
22	7.1	5.6
23	1.7	0.0
24	11.9	11.9
25	5.2	5.2
26	2.8	2.1
27	11.1	9.7
28	3.3	2.2
29	10.3	9.5
30	13.0	13.0
31	15.3	14.9
32	13.6	13.6
33	10.6	10.5
34	13.4	13.4
35	12.3	12.2
36	6.1	6.1
37	5.9	5.9
38	8.1	8.1

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
39	6.4	6.4
40	-1.9	-2.1
41	13.3	13.3
42	9.3	9.3
HVAC1	36.8	36.6
HVAC2	32.0	31.5
HVAC3	35.9	35.9
HVAC4	35.3	35.3
HVAC5	34.3	34.3
HVAC6	34.4	34.3
HVAC7	30.8	30.8
HVAC8	29.4	29.4
HVAC9	28.6	28.5
HVAC10	29.6	28.7
HVAC11	29.3	28.5
HVAC12	26.9	26.9
HVAC13	24.2	24.2
HVAC14	24.6	24.6
HVAC15	24.0	24.0
HVAC16	23.4	23.4
HVAC17	25.8	23.2
HVAC18	22.5	22.5
HVAC19	21.6	21.3
HVAC20	21.4	20.9
HVAC21	18.6	18.6
HVAC22	18.2	18.2
HVAC23	18.0	16.0
HVAC24	15.2	15.2
HVAC25	15.6	15.6
HVAC26	15.1	15.1
HVAC27	14.5	14.5
HVAC28	14.2	14.2
HVAC29	14.2	14.2
HVAC30	15.7	15.7
HVAC31	15.1	15.1
HVAC32	14.5	14.5
HVAC33	15.8	15.8
HVAC34	17.0	17.0
HVAC35	16.8	16.8
HVAC36	16.8	16.8
8 1.Fl	49.5	46.6
1	47.0	41.4
2	40.5	35.8
3	18.1	15.3
4	27.3	23.4
5	17.3	17.2
6	20.9	20.9
7	33.8	33.3
8	0.7	0.7
9	9.2	9.2
10	12.8	12.2
11	8.7	8.5
12	12.2	12.2
13	6.7	6.7
14	18.8	18.8
15	16.6	16.6
16	6.6	6.6
17	4.2	4.2
18	14.5	14.5
19	8.5	8.4
20	5.9	5.9
21	9.1	9.1
22	6.4	6.4
23	1.1	1.1

Contribution levels of the receivers

Source name		Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
24		13.9	13.9
25		5.3	5.3
26		2.1	2.1
27		10.3	10.3
28		0.6	0.6
29		10.0	10.0
30		13.8	13.8
31		15.5	15.5
32		13.3	13.3
33		12.4	12.4
34		14.1	14.1
35		12.9	12.9
36		6.5	6.5
37		6.3	6.3
38		8.6	8.6
39		6.7	6.7
40		-2.7	-2.7
41		13.5	13.5
42		9.8	9.8
HVAC1		34.5	34.4
HVAC2		32.0	31.8
HVAC3		36.3	36.3
HVAC4		34.2	34.2
HVAC5		33.6	33.6
HVAC6		33.0	33.0
HVAC7		31.3	31.3
HVAC8		30.2	30.2
HVAC9		29.5	29.5
HVAC10		30.4	30.4
HVAC11		30.0	30.0
HVAC12		29.1	29.1
HVAC13		26.7	26.7
HVAC14		25.5	25.5
HVAC15		24.8	24.8
HVAC16		22.7	22.7
HVAC17		26.3	26.3
HVAC18		23.1	23.1
HVAC19		22.0	22.0
HVAC20		21.5	21.5
HVAC21		19.1	19.1
HVAC22		18.6	18.6
HVAC23		16.9	16.9
HVAC24		16.0	16.0
HVAC25		16.1	16.1
HVAC26		15.5	15.5
HVAC27		15.0	15.0
HVAC28		14.6	14.6
HVAC29		14.6	14.6
HVAC30		17.4	17.4
HVAC31		17.3	17.3
HVAC32		16.5	16.5
HVAC33		17.7	17.7
HVAC34		17.2	17.2
HVAC35		17.0	17.0
HVAC36		17.1	17.1
9	1.Fl	51.9	48.1
1		50.3	44.5
2		41.2	36.5
3		19.8	16.5
4		28.9	24.9
5		18.7	17.9
6		22.6	21.7
7		35.3	34.6
8		1.9	1.9

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
9	12.0	11.0
10	14.6	12.4
11	11.4	8.8
12	12.9	12.9
13	7.5	7.5
14	17.1	17.1
15	16.6	16.6
16	6.7	6.7
17	5.6	3.4
18	14.6	14.6
19	10.2	8.3
20	6.6	6.0
21	9.8	9.8
22	7.0	7.0
23	1.4	1.4
24	12.6	12.6
25	5.3	5.3
26	2.5	2.5
27	11.1	11.1
28	0.9	0.9
29	10.3	10.3
30	13.4	13.4
31	15.5	15.5
32	14.1	14.1
33	10.6	10.6
34	14.0	14.0
35	12.4	12.4
36	7.1	7.1
37	6.9	6.9
38	9.1	9.1
39	7.1	7.1
40	-2.1	-2.1
41	14.0	14.0
42	10.1	10.1
HVAC1	33.6	33.4
HVAC2	32.2	32.0
HVAC3	33.5	33.5
HVAC4	35.7	35.7
HVAC5	34.7	34.7
HVAC6	34.8	34.8
HVAC7	33.9	33.9
HVAC8	32.9	32.8
HVAC9	31.8	31.8
HVAC10	29.9	29.9
HVAC11	31.0	30.7
HVAC12	30.1	30.0
HVAC13	27.7	27.7
HVAC14	26.8	26.8
HVAC15	24.5	24.5
HVAC16	23.7	23.7
HVAC17	27.5	27.0
HVAC18	24.2	24.2
HVAC19	23.5	23.2
HVAC20	23.5	22.8
HVAC21	23.3	21.8
HVAC22	20.1	20.1
HVAC23	18.1	18.1
HVAC24	17.0	17.0
HVAC25	17.2	17.2
HVAC26	16.0	16.0
HVAC27	15.5	15.5
HVAC28	15.1	15.1
HVAC29	15.1	15.1
HVAC30	16.5	16.5
HVAC31	15.9	15.9

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
HVAC32	15.4	15.4
HVAC33	16.0	16.0
HVAC34	17.6	17.6
HVAC35	17.4	17.4
HVAC36	17.4	17.4
10 1.Fl	52.1	48.5
1	50.6	45.0
2	39.9	35.4
3	21.7	19.2
4	30.5	26.7
5	19.3	19.3
6	23.2	23.0
7	37.1	36.8
8	2.7	2.7
9	13.8	12.1
10	14.1	14.1
11	10.0	10.0
12	14.0	13.6
13	8.0	8.0
14	17.0	17.0
15	16.7	16.7
16	6.9	6.9
17	4.9	4.9
18	14.5	14.5
19	9.1	9.1
20	6.4	6.4
21	9.8	9.8
22	6.9	6.9
23	1.3	1.3
24	13.2	13.2
25	5.2	5.2
26	2.4	2.4
27	11.0	11.0
28	0.9	0.9
29	10.1	10.1
30	13.4	13.4
31	15.8	15.8
32	14.2	14.2
33	9.9	9.9
34	13.3	13.3
35	11.3	11.3
36	6.4	6.4
37	7.5	7.5
38	9.8	9.8
39	7.7	7.7
40	-2.1	-2.1
41	14.6	14.5
42	10.2	10.2
HVAC1	31.8	31.8
HVAC2	30.4	30.4
HVAC3	31.5	31.5
HVAC4	34.8	34.8
HVAC5	34.4	34.4
HVAC6	34.9	34.9
HVAC7	35.6	35.6
HVAC8	34.8	34.8
HVAC9	33.9	33.9
HVAC10	31.2	31.2
HVAC11	30.9	30.9
HVAC12	31.5	31.5
HVAC13	28.1	28.1
HVAC14	26.6	26.6
HVAC15	25.5	25.5
HVAC16	24.7	24.7

Contribution levels of the receivers

Source name		Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
HVAC17		28.6	28.5
HVAC18		25.4	25.4
HVAC19		24.7	24.5
HVAC20		25.0	24.4
HVAC21		23.9	22.4
HVAC22		19.8	19.8
HVAC23		18.0	18.0
HVAC24		17.1	17.1
HVAC25		17.1	17.1
HVAC26		16.5	16.5
HVAC27		16.4	16.4
HVAC28		15.6	15.6
HVAC29		15.5	15.5
HVAC30		16.8	16.8
HVAC31		16.2	16.2
HVAC32		16.1	16.1
HVAC33		15.9	15.9
HVAC34		16.9	16.9
HVAC35		17.9	17.9
HVAC36		17.9	17.9
11	1.Fl	50.5	48.6
1		48.3	44.8
2		36.5	32.5
3		23.6	23.6
4		32.0	32.0
5		20.0	20.0
6		23.4	23.4
7		39.9	39.9
8		3.2	3.2
9		10.5	10.5
10		12.0	12.0
11		7.9	7.9
12		14.5	14.5
13		9.5	9.5
14		18.7	18.7
15		18.8	18.8
16		6.8	6.8
17		3.3	3.3
18		14.0	14.0
19		7.4	7.4
20		5.6	5.6
21		9.0	9.0
22		5.2	5.2
23		0.5	0.5
24		13.9	13.9
25		4.8	4.8
26		1.6	1.6
27		9.6	9.6
28		0.5	0.5
29		9.5	9.5
30		13.3	13.3
31		15.3	15.3
32		13.1	13.1
33		10.8	10.8
34		14.5	14.5
35		12.5	12.5
36		7.8	7.8
37		8.4	8.4
38		10.6	10.6
39		8.5	8.5
40		-2.5	-2.5
41		14.6	14.6
42		11.4	11.4
HVAC1		30.6	30.6

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
HVAC2	28.3	28.3
HVAC3	29.5	29.5
HVAC4	31.7	31.7
HVAC5	32.1	32.1
HVAC6	32.5	32.5
HVAC7	34.9	34.9
HVAC8	34.5	34.5
HVAC9	34.5	34.5
HVAC10	32.9	32.9
HVAC11	33.1	33.1
HVAC12	32.9	32.9
HVAC13	29.8	29.8
HVAC14	27.6	27.6
HVAC15	26.1	26.1
HVAC16	25.1	25.1
HVAC17	29.5	29.5
HVAC18	26.9	26.9
HVAC19	24.0	24.0
HVAC20	24.1	24.1
HVAC21	20.0	20.0
HVAC22	19.5	19.5
HVAC23	17.3	17.3
HVAC24	16.5	16.5
HVAC25	16.9	16.9
HVAC26	16.3	16.3
HVAC27	15.8	15.8
HVAC28	15.5	15.5
HVAC29	15.5	15.5
HVAC30	17.0	17.0
HVAC31	16.4	16.4
HVAC32	15.4	15.4
HVAC33	16.3	16.3
HVAC34	17.9	17.9
HVAC35	18.5	18.5
HVAC36	18.5	18.5
12 1.Fl	53.6	53.4
1	52.2	51.9
2	35.6	34.7
3	26.9	26.9
4	34.6	34.6
5	21.9	21.9
6	25.8	25.8
7	43.2	43.2
8	4.6	4.6
9	15.7	15.7
10	12.8	12.8
11	9.4	9.4
12	17.0	17.0
13	10.0	10.0
14	16.0	16.0
15	19.5	19.5
16	9.4	9.4
17	4.1	4.1
18	13.6	13.6
19	8.1	8.1
20	5.8	5.8
21	9.3	9.3
22	6.4	6.4
23	0.8	0.8
24	10.7	10.7
25	3.9	3.9
26	1.3	1.3
27	10.4	10.4
28	0.5	0.5

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
29	9.4	9.4
30	12.1	12.1
31	15.4	15.4
32	13.6	13.6
33	8.7	8.7
34	10.7	10.7
35	9.3	9.3
36	2.4	2.4
37	2.6	2.6
38	5.6	5.6
39	4.7	4.7
40	-2.2	-2.2
41	18.1	18.1
42	5.6	5.6
HVAC1	30.8	30.0
HVAC2	28.0	28.0
HVAC3	28.9	28.9
HVAC4	29.8	29.8
HVAC5	32.3	32.3
HVAC6	32.6	32.6
HVAC7	35.2	35.2
HVAC8	36.0	36.0
HVAC9	36.7	36.7
HVAC10	36.1	36.1
HVAC11	35.9	35.9
HVAC12	34.9	34.9
HVAC13	30.1	30.1
HVAC14	27.5	27.5
HVAC15	25.7	25.7
HVAC16	24.4	24.4
HVAC17	30.9	30.9
HVAC18	28.7	28.7
HVAC19	23.5	23.5
HVAC20	22.7	22.7
HVAC21	19.1	19.1
HVAC22	18.5	18.5
HVAC23	16.6	16.6
HVAC24	15.8	15.8
HVAC25	15.7	15.7
HVAC26	15.2	15.2
HVAC27	14.7	14.7
HVAC28	14.4	14.4
HVAC29	14.4	14.4
HVAC30	16.4	16.4
HVAC31	14.9	14.9
HVAC32	14.3	14.3
HVAC33	15.2	15.2
HVAC34	14.3	14.3
HVAC35	14.4	14.4
HVAC36	14.4	14.4
13 1.Fl	54.2	54.2
1	51.6	51.5
2	34.3	34.2
3	28.9	28.9
4	36.1	36.1
5	22.7	22.7
6	24.5	24.5
7	48.8	48.8
8	5.0	5.0
9	10.9	10.9
10	11.7	11.7
11	7.8	7.8
12	13.9	13.9
13	8.1	8.1

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
14	14.7	14.7
15	16.3	16.3
16	5.5	5.5
17	2.2	2.2
18	12.2	12.2
19	6.1	6.1
20	4.1	4.1
21	7.6	7.6
22	4.7	4.7
23	-0.6	-0.6
24	9.1	9.1
25	2.0	2.0
26	-0.7	-0.7
27	8.6	8.6
28	-0.5	-0.5
29	7.8	7.8
30	10.8	10.8
31	13.7	13.7
32	12.0	12.0
33	5.1	5.1
34	7.9	7.9
35	6.3	6.3
36	0.2	0.2
37	0.2	0.2
38	3.0	3.0
39	1.9	1.9
40	-3.2	-3.2
41	13.4	13.4
42	3.3	3.3
HVAC1	30.3	30.3
HVAC2	27.4	27.4
HVAC3	28.2	28.2
HVAC4	29.1	29.1
HVAC5	30.0	30.0
HVAC6	31.7	31.7
HVAC7	34.5	34.5
HVAC8	35.7	35.7
HVAC9	37.6	37.6
HVAC10	37.6	37.6
HVAC11	37.1	37.1
HVAC12	35.4	35.4
HVAC13	29.4	29.4
HVAC14	26.4	26.4
HVAC15	24.4	24.4
HVAC16	22.9	22.9
HVAC17	30.4	30.4
HVAC18	23.7	23.7
HVAC19	21.8	21.8
HVAC20	21.0	21.0
HVAC21	16.9	16.9
HVAC22	16.2	16.2
HVAC23	13.9	13.9
HVAC24	13.1	13.1
HVAC25	13.2	13.2
HVAC26	12.6	12.6
HVAC27	12.0	12.0
HVAC28	11.7	11.7
HVAC29	11.7	11.7
HVAC30	12.7	12.7
HVAC31	12.2	12.2
HVAC32	11.6	11.6
HVAC33	11.6	11.6
HVAC34	11.6	11.6
HVAC35	11.6	11.6
HVAC36	11.6	11.6

Contribution levels of the receivers

Source name		Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
14	1.Fl	53.6	53.5
1		49.0	48.8
2		33.9	33.5
3		26.6	26.6
4		35.5	35.5
5		22.4	22.4
6		23.7	23.7
7		50.3	50.3
8		4.7	4.7
9		9.9	9.9
10		11.0	11.0
11		6.6	6.6
12		13.5	13.5
13		7.6	7.6
14		14.7	14.7
15		15.4	15.4
16		4.7	4.7
17		1.0	1.0
18		11.6	11.6
19		5.0	5.0
20		3.2	3.2
21		6.8	6.8
22		3.2	3.2
23		-1.4	-1.4
24		9.2	9.2
25		1.4	1.4
26		-1.5	-1.5
27		7.0	7.0
28		-1.0	-1.0
29		7.0	7.0
30		9.5	9.5
31		12.9	12.9
32		11.5	11.5
33		5.0	5.0
34		7.6	7.6
35		6.0	6.0
36		-0.1	-0.1
37		0.0	0.0
38		2.9	2.9
39		2.0	2.0
40		-3.7	-3.7
41		12.9	12.9
42		3.1	3.1
HVAC1		30.2	30.2
HVAC2		27.3	27.3
HVAC3		28.0	28.0
HVAC4		28.9	28.9
HVAC5		30.4	30.4
HVAC6		31.4	31.4
HVAC7		34.1	34.1
HVAC8		35.1	35.1
HVAC9		37.0	37.0
HVAC10		37.1	37.1
HVAC11		37.2	37.2
HVAC12		35.7	35.7
HVAC13		29.4	29.4
HVAC14		26.1	26.1
HVAC15		23.9	23.9
HVAC16		22.3	22.3
HVAC17		25.7	25.7
HVAC18		23.1	23.1
HVAC19		21.2	21.2
HVAC20		20.4	20.4
HVAC21		16.3	16.3

Contribution levels of the receivers

Source name			Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
HVAC22			15.6	15.6
HVAC23			13.0	13.0
HVAC24			12.2	12.2
HVAC25			12.5	12.5
HVAC26			11.9	11.9
HVAC27			11.3	11.3
HVAC28			11.1	11.1
HVAC29			11.0	11.0
HVAC30			12.1	12.1
HVAC31			11.5	11.5
HVAC32			10.9	10.9
HVAC33			11.0	11.0
HVAC34			11.0	11.0
HVAC35			11.0	11.0
HVAC36			11.0	11.0
15	1.Fl		51.6	51.4
1			44.6	43.5
2			33.0	29.7
3			17.9	17.9
4			31.0	31.0
5			20.2	20.2
6			22.6	22.6
7			49.2	49.2
8			4.5	4.5
9			9.0	9.0
10			10.7	10.7
11			5.7	5.7
12			12.3	12.3
13			7.9	7.9
14			27.5	27.5
15			20.8	20.8
16			9.7	9.7
17			0.1	0.1
18			12.9	12.9
19			4.2	4.2
20			2.1	2.1
21			3.9	3.9
22			1.8	1.8
23			-2.7	-2.7
24			12.1	12.1
25			3.6	3.6
26			-0.3	-0.3
27			6.0	6.0
28			-0.8	-0.8
29			8.7	8.7
30			18.1	18.1
31			18.3	18.3
32			12.7	12.7
33			15.9	15.9
34			17.6	17.6
35			16.5	16.5
36			10.0	10.0
37			9.7	9.7
38			12.0	12.0
39			9.8	9.8
40			-3.1	-3.1
41			12.4	12.4
42			13.3	13.3
HVAC1			29.6	29.6
HVAC2			27.3	27.3
HVAC3			28.1	28.1
HVAC4			28.7	28.7
HVAC5			30.7	30.7
HVAC6			30.8	30.8

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
HVAC7	32.9	32.9
HVAC8	33.4	33.4
HVAC9	35.1	35.1
HVAC10	34.7	34.7
HVAC11	36.1	36.1
HVAC12	36.6	36.6
HVAC13	31.2	31.2
HVAC14	27.6	27.6
HVAC15	25.4	25.4
HVAC16	23.7	23.7
HVAC17	24.0	24.0
HVAC18	22.6	22.6
HVAC19	21.0	21.0
HVAC20	20.2	20.2
HVAC21	17.5	17.5
HVAC22	16.9	16.9
HVAC23	13.0	13.0
HVAC24	12.3	12.3
HVAC25	15.5	15.5
HVAC26	15.0	15.0
HVAC27	12.7	12.7
HVAC28	12.4	12.4
HVAC29	12.7	12.7
HVAC30	20.2	20.2
HVAC31	18.0	18.0
HVAC32	17.4	17.4
HVAC33	20.5	20.5
HVAC34	19.8	19.8
HVAC35	19.6	19.6
HVAC36	19.5	19.5
16 1.Fl	48.8	48.5
1	41.4	39.7
2	31.3	27.4
3	12.3	12.3
4	27.2	27.2
5	18.8	18.8
6	22.0	22.0
7	44.8	44.8
8	7.9	7.9
9	9.7	9.7
10	11.6	11.6
11	6.1	6.1
12	16.1	16.1
13	16.1	16.1
14	27.8	27.8
15	28.3	28.3
16	15.9	15.9
17	2.4	2.4
18	21.4	21.4
19	6.9	6.9
20	4.2	4.2
21	7.1	7.1
22	6.2	6.2
23	1.5	1.5
24	20.1	20.1
25	12.9	12.9
26	8.1	8.1
27	11.1	11.1
28	3.2	3.2
29	14.3	14.3
30	19.9	19.9
31	22.8	22.8
32	20.7	20.7
33	17.5	17.5

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
34	18.5	18.5
35	17.7	17.7
36	11.3	11.3
37	11.0	11.0
38	13.0	13.0
39	11.3	11.3
40	-0.2	-0.2
41	20.4	20.4
42	14.6	14.6
HVAC1	26.9	26.9
HVAC2	24.6	24.6
HVAC3	26.4	26.4
HVAC4	26.9	26.9
HVAC5	28.6	28.6
HVAC6	29.3	29.3
HVAC7	30.6	30.6
HVAC8	30.7	30.7
HVAC9	33.5	33.5
HVAC10	32.5	32.5
HVAC11	33.6	33.6
HVAC12	37.9	37.9
HVAC13	34.3	34.3
HVAC14	32.5	32.5
HVAC15	31.1	31.1
HVAC16	29.7	29.7
HVAC17	22.8	22.8
HVAC18	22.6	22.6
HVAC19	21.5	21.5
HVAC20	20.9	20.9
HVAC21	22.7	22.7
HVAC22	22.5	22.5
HVAC23	18.0	18.0
HVAC24	17.6	17.6
HVAC25	20.6	20.6
HVAC26	18.6	18.6
HVAC27	17.9	17.9
HVAC28	17.8	17.8
HVAC29	19.9	19.9
HVAC30	20.3	20.3
HVAC31	18.1	18.1
HVAC32	17.4	17.4
HVAC33	20.6	20.6
HVAC34	22.1	22.1
HVAC35	21.9	21.9
HVAC36	21.8	21.8
17 1.Fl	46.3	45.9
1	39.0	36.7
2	30.4	26.4
3	8.9	8.9
4	24.5	24.5
5	17.5	17.5
6	21.4	21.4
7	40.8	40.8
8	10.0	10.0
9	10.1	10.1
10	12.7	12.7
11	6.7	6.7
12	20.1	20.1
13	19.1	19.1
14	27.3	27.3
15	27.9	27.9
16	16.1	16.1
17	4.5	4.5
18	23.4	23.4

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
19	8.7	8.7
20	4.1	4.1
21	10.3	10.3
22	9.9	9.9
23	5.2	5.2
24	19.0	19.0
25	12.0	12.0
26	8.8	8.8
27	15.7	15.7
28	7.8	7.8
29	15.8	15.8
30	19.8	19.8
31	23.1	23.1
32	20.5	20.5
33	17.3	17.3
34	17.9	17.9
35	16.7	16.7
36	10.3	10.3
37	10.1	10.1
38	12.6	12.6
39	11.0	11.0
40	3.9	3.9
41	23.6	23.6
42	13.7	13.7
HVAC1	25.9	25.9
HVAC2	23.9	23.9
HVAC3	26.3	26.3
HVAC4	26.7	26.7
HVAC5	26.7	26.7
HVAC6	27.2	27.2
HVAC7	29.5	29.5
HVAC8	29.6	29.6
HVAC9	30.0	30.0
HVAC10	30.3	30.3
HVAC11	31.9	31.9
HVAC12	34.2	34.2
HVAC13	32.7	32.7
HVAC14	31.4	31.4
HVAC15	30.2	30.2
HVAC16	29.0	29.0
HVAC17	23.8	23.8
HVAC18	23.6	23.6
HVAC19	23.4	23.4
HVAC20	23.1	23.1
HVAC21	25.3	25.3
HVAC22	22.4	22.4
HVAC23	19.2	19.2
HVAC24	18.5	18.5
HVAC25	20.4	20.4
HVAC26	18.5	18.5
HVAC27	17.8	17.8
HVAC28	17.5	17.5
HVAC29	19.2	19.2
HVAC30	20.2	20.2
HVAC31	18.1	18.1
HVAC32	17.5	17.5
HVAC33	20.7	20.7
HVAC34	20.1	20.1
HVAC35	20.0	20.0
HVAC36	20.0	20.0
18 1.Fl	44.9	44.5
1	37.5	34.9
2	29.6	25.5
3	6.9	6.9

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
4	22.9	22.9
5	16.6	16.6
6	20.7	20.7
7	38.5	38.5
8	12.1	12.1
9	9.5	9.5
10	12.9	12.9
11	7.1	7.1
12	21.4	21.4
13	18.7	18.7
14	27.0	27.0
15	27.6	27.6
16	15.6	15.6
17	8.3	8.3
18	23.3	23.3
19	10.5	10.5
20	5.4	5.4
21	10.9	10.9
22	12.1	12.1
23	7.6	7.6
24	18.1	18.1
25	10.8	10.8
26	8.6	8.6
27	15.6	15.6
28	10.5	10.5
29	15.5	15.5
30	20.1	20.1
31	23.1	23.1
32	20.3	20.3
33	17.3	17.3
34	17.9	17.9
35	16.7	16.7
36	10.4	10.4
37	10.2	10.2
38	12.5	12.5
39	10.5	10.5
40	6.6	6.6
41	23.2	23.2
42	13.7	13.7
HVAC1	24.9	24.9
HVAC2	23.7	23.7
HVAC3	25.7	25.7
HVAC4	26.0	26.0
HVAC5	26.2	26.2
HVAC6	26.6	26.6
HVAC7	28.4	28.4
HVAC8	28.4	28.4
HVAC9	28.8	28.8
HVAC10	28.5	28.5
HVAC11	30.1	30.1
HVAC12	32.8	32.8
HVAC13	31.4	31.4
HVAC14	30.5	30.5
HVAC15	29.5	29.5
HVAC16	28.2	28.2
HVAC17	24.2	24.2
HVAC18	24.0	24.0
HVAC19	23.6	23.6
HVAC20	23.4	23.4
HVAC21	24.8	24.8
HVAC22	22.1	22.1
HVAC23	18.9	18.9
HVAC24	18.7	18.7
HVAC25	20.2	20.2
HVAC26	18.4	18.4

Contribution levels of the receivers

Source name		Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
HVAC27		17.7	17.7
HVAC28		17.3	17.3
HVAC29		17.7	17.7
HVAC30		20.2	20.2
HVAC31		18.0	18.0
HVAC32		17.4	17.4
HVAC33		20.7	20.7
HVAC34		20.1	20.1
HVAC35		20.0	20.0
HVAC36		20.1	20.1
19	1.Fl	50.9	50.8
1		39.6	38.3
2		29.7	26.2
3		7.7	7.7
4		18.6	18.6
5		20.8	20.8
6		22.9	22.9
7		49.0	49.0
8		11.3	11.3
9		10.8	10.8
10		12.6	12.6
11		6.9	6.9
12		19.7	19.7
13		19.4	19.4
14		29.4	29.4
15		29.9	29.9
16		17.3	17.3
17		3.3	3.3
18		23.8	23.8
19		7.6	7.6
20		3.5	3.5
21		8.4	8.4
22		7.8	7.8
23		3.0	3.0
24		21.0	21.0
25		13.8	13.8
26		9.9	9.9
27		13.8	13.8
28		4.8	4.8
29		16.0	16.0
30		20.9	20.9
31		24.2	24.2
32		21.9	21.9
33		17.9	17.9
34		19.1	19.1
35		17.8	17.8
36		12.2	12.2
37		11.9	11.9
38		14.0	14.0
39		12.1	12.1
40		2.4	2.4
41		23.7	23.7
42		15.6	15.6
HVAC1		25.8	25.8
HVAC2		23.8	23.8
HVAC3		24.9	24.9
HVAC4		25.4	25.4
HVAC5		27.1	27.1
HVAC6		26.3	26.3
HVAC7		29.0	29.0
HVAC8		29.4	29.4
HVAC9		30.1	30.1
HVAC10		27.8	27.8
HVAC11		31.6	31.6

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
HVAC12	39.0	39.0
HVAC13	37.2	37.2
HVAC14	35.4	35.4
HVAC15	33.7	33.7
HVAC16	31.9	31.9
HVAC17	22.2	22.2
HVAC18	21.9	21.9
HVAC19	21.6	21.6
HVAC20	21.3	21.3
HVAC21	23.9	23.9
HVAC22	24.2	24.2
HVAC23	18.4	18.4
HVAC24	18.1	18.1
HVAC25	21.4	21.4
HVAC26	19.5	19.5
HVAC27	18.7	18.7
HVAC28	18.6	18.6
HVAC29	20.6	20.6
HVAC30	21.1	21.1
HVAC31	18.9	18.9
HVAC32	18.3	18.3
HVAC33	21.3	21.3
HVAC34	22.8	22.8
HVAC35	22.6	22.6
HVAC36	22.5	22.5
20 1.Fl	51.8	51.8
1	35.4	33.0
2	28.5	26.2
3	8.4	8.4
4	18.6	18.6
5	22.3	22.3
6	24.4	24.4
7	50.4	50.4
8	14.7	14.7
9	13.0	13.0
10	13.5	13.5
11	7.6	7.6
12	23.6	23.6
13	22.5	22.5
14	31.1	31.1
15	31.5	31.5
16	18.9	18.9
17	4.8	4.8
18	25.1	25.1
19	8.9	8.9
20	3.6	3.6
21	9.7	9.7
22	10.1	10.1
23	5.4	5.4
24	21.9	21.9
25	14.6	14.6
26	10.7	10.7
27	15.4	15.4
28	7.6	7.6
29	17.0	17.0
30	22.1	22.1
31	25.5	25.5
32	22.9	22.9
33	18.5	18.5
34	19.6	19.6
35	18.5	18.5
36	12.0	12.0
37	12.7	12.7
38	14.7	14.7

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
39	12.9	12.9
40	4.8	4.8
41	26.5	26.5
42	16.1	16.1
HVAC1	25.0	25.0
HVAC2	23.1	23.1
HVAC3	23.8	23.8
HVAC4	24.2	24.2
HVAC5	26.0	26.0
HVAC6	25.7	25.7
HVAC7	20.3	20.3
HVAC8	21.4	21.4
HVAC9	21.3	21.3
HVAC10	27.3	27.3
HVAC11	30.5	30.5
HVAC12	37.1	37.1
HVAC13	38.4	38.4
HVAC14	38.0	38.0
HVAC15	36.2	36.2
HVAC16	34.0	34.0
HVAC17	22.1	22.1
HVAC18	21.9	21.9
HVAC19	21.7	21.7
HVAC20	21.4	21.4
HVAC21	26.4	26.4
HVAC22	25.8	25.8
HVAC23	18.3	18.3
HVAC24	18.0	18.0
HVAC25	22.2	22.2
HVAC26	20.3	20.3
HVAC27	19.5	19.5
HVAC28	19.3	19.3
HVAC29	21.3	21.3
HVAC30	21.8	21.8
HVAC31	19.7	19.7
HVAC32	19.0	19.0
HVAC33	21.9	21.9
HVAC34	21.3	21.3
HVAC35	23.2	23.2
HVAC36	23.1	23.1
21 1.Fl	51.7	51.7
1	31.7	28.5
2	24.1	21.2
3	8.4	8.4
4	18.3	18.3
5	22.9	22.9
6	24.8	24.8
7	50.2	50.2
8	20.3	20.3
9	16.5	16.5
10	15.0	15.0
11	9.0	9.0
12	28.0	28.0
13	25.2	25.2
14	32.6	32.6
15	32.9	32.9
16	20.1	20.1
17	8.5	8.5
18	26.2	26.2
19	10.8	10.8
20	8.1	8.1
21	12.1	12.1
22	11.3	11.3
23	6.4	6.4

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
24	22.5	22.5
25	15.2	15.2
26	11.4	11.4
27	17.3	17.3
28	8.9	8.9
29	17.9	17.9
30	22.7	22.7
31	26.6	26.6
32	23.8	23.8
33	19.2	19.2
34	20.3	20.3
35	19.2	19.2
36	12.7	12.7
37	12.4	12.4
38	14.6	14.6
39	12.5	12.5
40	6.2	6.2
41	28.4	28.4
42	16.1	16.1
HVAC1	24.4	24.4
HVAC2	22.1	22.1
HVAC3	18.5	18.5
HVAC4	18.6	18.6
HVAC5	20.0	20.0
HVAC6	19.8	19.8
HVAC7	20.0	20.0
HVAC8	20.4	20.4
HVAC9	20.6	20.6
HVAC10	26.6	26.6
HVAC11	29.4	29.4
HVAC12	34.9	34.9
HVAC13	36.9	36.9
HVAC14	38.5	38.5
HVAC15	38.2	38.2
HVAC16	36.1	36.1
HVAC17	24.2	24.2
HVAC18	22.3	22.3
HVAC19	24.7	24.7
HVAC20	26.5	26.5
HVAC21	28.7	28.7
HVAC22	26.8	26.8
HVAC23	21.8	21.8
HVAC24	20.8	20.8
HVAC25	22.9	22.9
HVAC26	21.0	21.0
HVAC27	20.1	20.1
HVAC28	19.9	19.9
HVAC29	21.8	21.8
HVAC30	22.4	22.4
HVAC31	21.1	21.1
HVAC32	20.2	20.2
HVAC33	22.4	22.4
HVAC34	21.8	21.8
HVAC35	21.6	21.6
HVAC36	21.5	21.5
22 1.Fl	51.4	51.4
1	27.9	25.4
2	20.3	18.5
3	8.3	8.3
4	17.6	17.6
5	25.6	25.6
6	25.7	25.7
7	49.7	49.7
8	30.8	30.8

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
9	22.4	22.4
10	24.2	24.2
11	19.4	19.4
12	33.7	33.7
13	27.5	27.5
14	35.0	35.0
15	34.8	34.8
16	21.7	21.7
17	9.4	9.4
18	27.6	27.6
19	12.2	12.2
20	7.7	7.7
21	13.2	13.2
22	14.0	14.0
23	9.6	9.6
24	23.3	23.3
25	15.9	15.9
26	12.2	12.2
27	19.3	19.3
28	11.5	11.5
29	18.9	18.9
30	23.6	23.6
31	27.9	27.9
32	24.9	24.9
33	20.0	20.0
34	21.1	21.1
35	20.1	20.1
36	13.6	13.6
37	13.2	13.2
38	15.4	15.4
39	12.9	12.9
40	8.3	8.3
41	30.1	30.1
42	17.0	17.0
HVAC1	20.1	20.1
HVAC2	18.8	18.8
HVAC3	18.2	18.2
HVAC4	18.4	18.4
HVAC5	18.9	18.9
HVAC6	19.0	19.0
HVAC7	19.7	19.7
HVAC8	19.9	19.9
HVAC9	20.1	20.1
HVAC10	25.6	25.6
HVAC11	28.1	28.1
HVAC12	32.6	32.6
HVAC13	34.3	34.3
HVAC14	36.4	36.4
HVAC15	38.1	38.1
HVAC16	37.8	37.8
HVAC17	24.4	24.4
HVAC18	24.8	24.8
HVAC19	22.7	22.7
HVAC20	27.3	27.3
HVAC21	29.5	29.5
HVAC22	28.2	28.2
HVAC23	22.4	22.4
HVAC24	21.6	21.6
HVAC25	23.7	23.7
HVAC26	21.9	21.9
HVAC27	20.9	20.9
HVAC28	20.6	20.6
HVAC29	22.5	22.5
HVAC30	24.9	24.9
HVAC31	21.8	21.8

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
HVAC32	20.3	20.3
HVAC33	23.9	23.9
HVAC34	22.5	22.5
HVAC35	22.2	22.2
HVAC36	22.1	22.1
23 1.Fl	51.3	51.3
1	25.7	24.1
2	18.4	17.5
3	8.7	8.7
4	17.9	17.9
5	34.4	34.4
6	35.8	35.8
7	48.9	48.9
8	33.6	33.6
9	27.5	27.5
10	27.9	27.9
11	22.8	22.8
12	36.1	36.1
13	30.0	30.0
14	37.9	37.9
15	36.9	36.9
16	23.5	23.5
17	7.6	7.6
18	28.7	28.7
19	11.0	11.0
20	7.8	7.8
21	15.0	15.0
22	16.8	16.8
23	12.2	12.2
24	24.1	24.1
25	16.5	16.5
26	13.0	13.0
27	20.0	20.0
28	14.5	14.5
29	19.7	19.7
30	24.5	24.5
31	29.1	29.1
32	26.0	26.0
33	21.0	21.0
34	22.0	22.0
35	21.4	21.4
36	14.4	14.4
37	13.9	13.9
38	16.2	16.2
39	13.5	13.5
40	12.0	12.0
41	32.1	32.1
42	17.8	17.8
HVAC1	19.0	19.0
HVAC2	18.2	18.2
HVAC3	18.1	18.1
HVAC4	18.2	18.2
HVAC5	18.5	18.5
HVAC6	18.7	18.7
HVAC7	19.5	19.5
HVAC8	19.7	19.7
HVAC9	19.9	19.9
HVAC10	25.0	25.0
HVAC11	27.0	27.0
HVAC12	30.9	30.9
HVAC13	32.4	32.4
HVAC14	34.2	34.2
HVAC15	36.0	36.0
HVAC16	37.9	37.9

Contribution levels of the receivers

Source name		Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
HVAC17		22.8	22.8
HVAC18		25.1	25.1
HVAC19		33.0	33.0
HVAC20		34.2	34.2
HVAC21		30.8	30.8
HVAC22		29.6	29.6
HVAC23		22.9	22.9
HVAC24		22.7	22.7
HVAC25		24.4	24.4
HVAC26		22.7	22.7
HVAC27		21.7	21.7
HVAC28		21.2	21.2
HVAC29		23.3	23.3
HVAC30		24.1	24.1
HVAC31		22.0	22.0
HVAC32		21.1	21.1
HVAC33		23.7	23.7
HVAC34		24.0	24.0
HVAC35		22.8	22.8
HVAC36		22.6	22.6
24	1.Fl	52.0	52.0
1		23.4	22.6
2		16.9	16.6
3		11.8	11.8
4		26.4	26.4
5		33.1	33.1
6		36.5	36.5
7		39.3	39.3
8		30.5	30.5
9		27.3	27.3
10		29.2	29.2
11		22.7	22.7
12		36.3	36.3
13		34.3	34.3
14		48.9	48.9
15		43.2	43.2
16		26.6	26.6
17		10.6	10.6
18		31.1	31.1
19		13.5	13.5
20		11.1	11.1
21		23.1	23.1
22		19.9	19.9
23		14.0	14.0
24		26.0	26.0
25		18.2	18.2
26		15.7	15.7
27		21.6	21.6
28		16.8	16.8
29		21.3	21.3
30		26.8	26.8
31		32.1	32.1
32		28.5	28.5
33		22.5	22.5
34		23.8	23.8
35		23.1	23.1
36		17.0	17.0
37		16.4	16.4
38		18.0	18.0
39		15.5	15.5
40		17.4	17.4
41		36.2	36.2
42		20.2	20.2
HVAC1		18.2	18.2

Contribution levels of the receivers

Source name		Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
HVAC2		17.6	17.6
HVAC3		17.7	17.7
HVAC4		17.9	17.9
HVAC5		18.0	18.0
HVAC6		18.2	18.2
HVAC7		19.5	19.5
HVAC8		20.0	20.0
HVAC9		20.7	20.7
HVAC10		24.5	24.5
HVAC11		28.0	28.0
HVAC12		29.5	29.5
HVAC13		29.1	29.1
HVAC14		31.6	31.6
HVAC15		32.7	32.7
HVAC16		35.1	35.1
HVAC17		29.0	29.0
HVAC18		29.5	29.5
HVAC19		31.1	31.1
HVAC20		31.2	31.2
HVAC21		33.9	33.9
HVAC22		33.3	33.3
HVAC23		25.9	25.9
HVAC24		24.8	24.8
HVAC25		26.3	26.3
HVAC26		24.7	24.7
HVAC27		23.5	23.5
HVAC28		25.1	25.1
HVAC29		23.5	23.5
HVAC30		25.6	25.6
HVAC31		23.8	23.8
HVAC32		22.8	22.8
HVAC33		25.1	25.1
HVAC34		24.5	24.5
HVAC35		25.0	25.0
HVAC36		25.3	25.3
25	1.Fl	52.8	52.8
1		22.7	22.1
2		16.5	16.3
3		17.1	17.1
4		25.6	25.6
5		31.3	31.3
6		35.0	35.0
7		35.4	35.4
8		27.0	27.0
9		25.9	25.9
10		28.1	28.1
11		22.0	22.0
12		33.5	33.5
13		31.8	31.8
14		49.7	49.7
15		46.4	46.4
16		29.5	29.5
17		11.7	11.7
18		32.7	32.7
19		19.1	19.1
20		19.4	19.4
21		25.2	25.2
22		21.2	21.2
23		15.4	15.4
24		27.6	27.6
25		18.3	18.3
26		16.6	16.6
27		22.8	22.8
28		18.3	18.3

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
29	22.2	22.2
30	28.7	28.7
31	34.8	34.8
32	30.6	30.6
33	23.8	23.8
34	25.0	25.0
35	24.4	24.4
36	17.6	17.6
37	16.9	16.9
38	19.0	19.0
39	15.7	15.7
40	19.2	19.2
41	38.5	38.5
42	21.2	21.2
HVAC1	17.5	17.5
HVAC2	17.6	17.6
HVAC3	17.9	17.9
HVAC4	18.4	18.4
HVAC5	18.8	18.8
HVAC6	19.2	19.2
HVAC7	20.6	20.6
HVAC8	21.3	21.3
HVAC9	22.9	22.9
HVAC10	27.7	27.7
HVAC11	27.5	27.5
HVAC12	26.2	26.2
HVAC13	28.9	28.9
HVAC14	29.8	29.8
HVAC15	30.9	30.9
HVAC16	31.6	31.6
HVAC17	27.6	27.6
HVAC18	29.6	29.6
HVAC19	29.9	29.9
HVAC20	29.9	29.9
HVAC21	35.9	35.9
HVAC22	34.8	34.8
HVAC23	27.8	27.8
HVAC24	26.7	26.7
HVAC25	28.0	28.0
HVAC26	26.2	26.2
HVAC27	26.5	26.5
HVAC28	25.9	25.9
HVAC29	25.9	25.9
HVAC30	27.0	27.0
HVAC31	25.3	25.3
HVAC32	24.1	24.1
HVAC33	26.3	26.3
HVAC34	25.6	25.6
HVAC35	25.1	25.1
HVAC36	24.7	24.7
26 1.Fl	52.9	52.9
1	22.5	22.1
2	16.5	16.3
3	16.5	16.5
4	24.3	24.3
5	29.9	29.9
6	33.5	33.5
7	33.3	33.3
8	24.8	24.8
9	24.4	24.4
10	25.9	25.9
11	21.1	21.1
12	31.3	31.3
13	28.9	28.9

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
14	49.8	49.8
15	46.3	46.3
16	33.1	33.1
17	18.6	18.6
18	34.2	34.2
19	22.2	22.2
20	19.9	19.9
21	26.7	26.7
22	22.4	22.4
23	17.0	17.0
24	29.3	29.3
25	17.8	17.8
26	17.1	17.1
27	23.9	23.9
28	19.4	19.4
29	22.9	22.9
30	30.6	30.6
31	36.9	36.9
32	32.7	32.7
33	24.8	24.8
34	26.0	26.0
35	25.6	25.6
36	18.9	18.9
37	18.1	18.1
38	20.0	20.0
39	16.4	16.4
40	20.8	20.8
41	38.7	38.7
42	22.5	22.5
HVAC1	17.5	17.5
HVAC2	17.2	17.2
HVAC3	17.5	17.5
HVAC4	18.3	18.3
HVAC5	18.7	18.7
HVAC6	18.8	18.8
HVAC7	21.3	21.3
HVAC8	23.4	23.4
HVAC9	24.8	24.8
HVAC10	27.4	27.4
HVAC11	24.4	24.4
HVAC12	26.6	26.6
HVAC13	27.6	27.6
HVAC14	28.4	28.4
HVAC15	28.1	28.1
HVAC16	30.4	30.4
HVAC17	26.5	26.5
HVAC18	29.0	29.0
HVAC19	28.7	28.7
HVAC20	29.5	29.5
HVAC21	35.8	35.8
HVAC22	36.3	36.3
HVAC23	28.9	28.9
HVAC24	27.7	27.7
HVAC25	29.9	29.9
HVAC26	29.0	29.0
HVAC27	27.7	27.7
HVAC28	26.3	26.3
HVAC29	26.4	26.4
HVAC30	28.5	28.5
HVAC31	26.6	26.6
HVAC32	25.9	25.9
HVAC33	27.2	27.2
HVAC34	26.3	26.3
HVAC35	25.7	25.7
HVAC36	25.2	25.2

Contribution levels of the receivers

Source name		Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
27	1.Fl	52.1	52.1
1		22.4	22.1
2		16.5	16.4
3		15.8	15.8
4		23.2	23.2
5		28.9	28.9
6		32.4	32.4
7		31.8	31.8
8		23.2	23.2
9		23.1	23.1
10		21.6	21.6
11		16.1	16.1
12		29.6	29.6
13		26.9	26.9
14		48.8	48.8
15		44.1	44.1
16		36.7	36.7
17		18.9	18.9
18		35.4	35.4
19		22.5	22.5
20		20.1	20.1
21		27.7	27.7
22		23.4	23.4
23		18.0	18.0
24		30.7	30.7
25		17.2	17.2
26		13.3	13.3
27		24.7	24.7
28		20.2	20.2
29		22.7	22.7
30		32.3	32.3
31		38.8	38.8
32		34.7	34.7
33		25.8	25.8
34		26.9	26.9
35		26.6	26.6
36		20.0	20.0
37		19.0	19.0
38		20.9	20.9
39		16.9	16.9
40		21.8	21.8
41		37.3	37.3
42		23.7	23.7
HVAC1		17.1	17.1
HVAC2		16.8	16.8
HVAC3		17.5	17.5
HVAC4		18.0	18.0
HVAC5		18.0	18.0
HVAC6		18.5	18.5
HVAC7		21.6	21.6
HVAC8		20.9	20.9
HVAC9		23.9	23.9
HVAC10		27.1	27.1
HVAC11		23.7	23.7
HVAC12		25.7	25.7
HVAC13		26.6	26.6
HVAC14		25.8	25.8
HVAC15		26.8	26.8
HVAC16		29.4	29.4
HVAC17		25.8	25.8
HVAC18		28.5	28.5
HVAC19		27.8	27.8
HVAC20		28.4	28.4
HVAC21		35.0	35.0

Contribution levels of the receivers

Source name		Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
HVAC22		36.5	36.5
HVAC23		29.8	29.8
HVAC24		28.5	28.5
HVAC25		31.5	31.5
HVAC26		30.1	30.1
HVAC27		28.7	28.7
HVAC28		26.9	26.9
HVAC29		26.4	26.4
HVAC30		30.1	30.1
HVAC31		28.2	28.2
HVAC32		26.5	26.5
HVAC33		27.4	27.4
HVAC34		27.4	27.4
HVAC35		26.7	26.7
HVAC36		25.7	25.7
28	1.Fl	50.2	50.2
1		22.2	22.1
2		16.7	16.6
3		15.2	15.2
4		22.1	22.1
5		27.9	27.9
6		31.1	31.1
7		30.3	30.3
8		21.7	21.7
9		21.8	21.8
10		18.2	18.2
11		10.7	10.7
12		28.0	28.0
13		24.9	24.9
14		43.0	43.0
15		40.6	40.6
16		37.9	37.9
17		20.4	20.4
18		36.4	36.4
19		23.2	23.2
20		20.4	20.4
21		28.7	28.7
22		24.9	24.9
23		19.1	19.1
24		32.6	32.6
25		17.2	17.2
26		10.6	10.6
27		22.0	22.0
28		20.2	20.2
29		22.1	22.1
30		34.7	34.7
31		41.6	41.6
32		37.8	37.8
33		26.7	26.7
34		27.6	27.6
35		27.9	27.9
36		21.4	21.4
37		20.2	20.2
38		21.9	21.9
39		17.2	17.2
40		22.8	22.8
41		35.1	35.1
42		25.0	25.0
HVAC1		16.6	16.6
HVAC2		16.4	16.4
HVAC3		17.2	17.2
HVAC4		17.7	17.7
HVAC5		17.5	17.5
HVAC6		18.0	18.0

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
HVAC7	19.4	19.4
HVAC8	20.4	20.4
HVAC9	23.2	23.2
HVAC10	27.5	27.5
HVAC11	25.8	25.8
HVAC12	24.7	24.7
HVAC13	23.7	23.7
HVAC14	24.6	24.6
HVAC15	25.5	25.5
HVAC16	28.6	28.6
HVAC17	24.1	24.1
HVAC18	27.7	27.7
HVAC19	26.2	26.2
HVAC20	27.0	27.0
HVAC21	33.1	33.1
HVAC22	35.5	35.5
HVAC23	30.5	30.5
HVAC24	29.7	29.7
HVAC25	33.6	33.6
HVAC26	31.4	31.4
HVAC27	30.1	30.1
HVAC28	27.5	27.5
HVAC29	26.2	26.2
HVAC30	32.4	32.4
HVAC31	28.9	28.9
HVAC32	29.1	29.1
HVAC33	27.0	27.0
HVAC34	28.2	28.2
HVAC35	27.3	27.3
HVAC36	26.6	26.6
29 1.Fl	48.3	48.3
1	22.1	21.5
2	16.4	16.2
3	14.0	14.0
4	21.6	21.6
5	26.2	26.2
6	30.0	30.0
7	29.8	29.8
8	20.2	20.2
9	19.9	19.9
10	15.5	15.5
11	9.7	9.7
12	26.3	26.3
13	22.8	22.8
14	36.4	36.4
15	36.5	36.5
16	29.4	29.4
17	18.1	18.1
18	33.7	33.7
19	22.6	22.6
20	18.7	18.7
21	27.4	27.4
22	17.6	17.6
23	9.7	9.7
24	30.3	30.3
25	10.9	10.9
26	6.8	6.8
27	15.6	15.6
28	11.6	11.6
29	18.5	18.5
30	35.6	35.6
31	39.9	39.9
32	34.2	34.2
33	33.2	33.2

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
34	31.2	31.2
35	31.7	31.7
36	24.3	24.3
37	22.8	22.8
38	24.3	24.3
39	19.3	19.3
40	20.1	20.1
41	31.5	31.5
42	28.7	28.7
HVAC1	17.1	17.1
HVAC2	16.9	16.9
HVAC3	17.4	17.4
HVAC4	17.8	17.8
HVAC5	18.2	18.2
HVAC6	18.3	18.3
HVAC7	20.3	20.3
HVAC8	21.9	21.9
HVAC9	23.7	23.7
HVAC10	24.7	24.7
HVAC11	25.4	25.4
HVAC12	24.6	24.6
HVAC13	23.9	23.9
HVAC14	24.6	24.6
HVAC15	25.4	25.4
HVAC16	28.6	28.6
HVAC17	24.0	24.0
HVAC18	26.6	26.6
HVAC19	25.7	25.7
HVAC20	26.7	26.7
HVAC21	31.4	31.4
HVAC22	31.4	31.4
HVAC23	30.1	30.1
HVAC24	25.5	25.5
HVAC25	34.6	34.6
HVAC26	32.7	32.7
HVAC27	30.0	30.0
HVAC28	28.2	28.2
HVAC29	26.4	26.4
HVAC30	35.6	35.6
HVAC31	31.4	31.4
HVAC32	29.5	29.5
HVAC33	31.7	31.7
HVAC34	30.3	30.3
HVAC35	29.4	29.4
HVAC36	28.6	28.6
30 1.Fl	46.0	46.0
1	23.3	21.5
2	17.4	16.1
3	8.0	8.0
4	20.1	20.1
5	22.6	22.6
6	27.8	27.8
7	28.5	28.5
8	18.2	18.2
9	17.5	17.5
10	16.9	16.9
11	13.9	13.9
12	23.9	23.9
13	19.8	19.8
14	32.2	32.2
15	32.7	32.7
16	23.5	23.5
17	15.3	15.3
18	28.7	28.7

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
19	17.7	17.7
20	15.2	15.2
21	23.4	23.4
22	12.6	12.6
23	8.4	8.4
24	24.8	24.8
25	6.3	6.3
26	2.8	2.8
27	13.2	13.2
28	9.8	9.8
29	14.8	14.8
30	28.8	28.8
31	33.2	33.2
32	30.0	30.0
33	33.7	33.7
34	32.5	32.5
35	32.6	32.6
36	26.3	26.3
37	25.4	25.4
38	27.0	27.0
39	22.9	22.9
40	17.1	17.1
41	27.8	27.8
42	30.9	30.9
HVAC1	18.7	18.7
HVAC2	16.1	16.1
HVAC3	16.1	16.1
HVAC4	16.2	16.2
HVAC5	16.5	16.5
HVAC6	16.7	16.7
HVAC7	17.6	17.6
HVAC8	18.3	18.3
HVAC9	18.7	18.7
HVAC10	20.6	20.6
HVAC11	21.2	21.2
HVAC12	22.1	22.1
HVAC13	22.7	22.7
HVAC14	23.4	23.4
HVAC15	24.1	24.1
HVAC16	26.4	26.4
HVAC17	23.0	23.0
HVAC18	24.5	24.5
HVAC19	24.3	24.3
HVAC20	24.4	24.4
HVAC21	27.0	27.0
HVAC22	29.4	29.4
HVAC23	27.3	27.3
HVAC24	23.9	23.9
HVAC25	31.4	31.4
HVAC26	27.5	27.5
HVAC27	25.9	25.9
HVAC28	24.7	24.7
HVAC29	23.6	23.6
HVAC30	34.6	34.6
HVAC31	30.4	30.4
HVAC32	28.7	28.7
HVAC33	32.3	32.3
HVAC34	31.9	31.9
HVAC35	31.3	31.3
HVAC36	31.3	31.3
31 1.Fl	44.6	44.6
1	24.0	21.9
2	17.8	16.2
3	6.9	6.9

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
4	18.9	18.9
5	21.2	21.2
6	26.6	26.6
7	27.5	27.5
8	16.8	16.8
9	16.5	16.5
10	16.8	16.8
11	13.1	13.1
12	22.3	22.3
13	18.4	18.4
14	30.2	30.2
15	30.9	30.9
16	21.1	21.1
17	11.9	11.9
18	26.3	26.3
19	16.0	16.0
20	13.5	13.5
21	21.0	21.0
22	11.5	11.5
23	6.9	6.9
24	21.4	21.4
25	4.9	4.9
26	1.3	1.3
27	11.5	11.5
28	8.2	8.2
29	14.5	14.5
30	25.6	25.6
31	30.5	30.5
32	26.2	26.2
33	31.6	31.6
34	31.8	31.8
35	30.8	30.8
36	25.2	25.2
37	25.5	25.5
38	27.8	27.8
39	24.7	24.7
40	13.9	13.9
41	26.1	26.1
42	29.5	29.5
HVAC1	18.2	18.2
HVAC2	16.8	16.8
HVAC3	17.0	17.0
HVAC4	16.6	16.6
HVAC5	16.3	16.3
HVAC6	16.4	16.4
HVAC7	17.0	17.0
HVAC8	17.3	17.3
HVAC9	18.1	18.1
HVAC10	20.3	20.3
HVAC11	20.5	20.5
HVAC12	22.1	22.1
HVAC13	22.6	22.6
HVAC14	23.3	23.3
HVAC15	23.9	23.9
HVAC16	25.4	25.4
HVAC17	22.9	22.9
HVAC18	23.9	23.9
HVAC19	23.7	23.7
HVAC20	23.8	23.8
HVAC21	26.3	26.3
HVAC22	27.9	27.9
HVAC23	25.9	25.9
HVAC24	22.7	22.7
HVAC25	30.0	30.0
HVAC26	26.1	26.1

Contribution levels of the receivers

Source name		Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
HVAC27		25.6	25.6
HVAC28		24.6	24.6
HVAC29		23.7	23.7
HVAC30		31.4	31.4
HVAC31		31.7	31.7
HVAC32		27.8	27.8
HVAC33		29.0	29.0
HVAC34		31.1	31.1
HVAC35		31.2	31.2
HVAC36		31.6	31.6
32	1.Fl	44.5	44.5
1		23.5	21.5
2		17.6	16.0
3		6.0	6.0
4		18.3	18.3
5		20.2	20.2
6		25.7	25.7
7		26.4	26.5
8		15.6	15.6
9		15.5	15.5
10		15.1	15.1
11		11.7	11.7
12		21.2	21.2
13		17.2	17.2
14		28.7	28.7
15		29.6	29.6
16		20.0	20.0
17		10.9	10.9
18		24.2	24.2
19		15.1	15.1
20		12.6	12.6
21		18.0	18.0
22		9.8	9.8
23		5.7	5.7
24		19.5	19.5
25		4.1	4.1
26		0.3	0.3
27		10.8	10.8
28		7.5	7.5
29		15.0	15.0
30		23.1	23.1
31		29.2	29.2
32		24.9	24.9
33		31.1	31.1
34		32.1	32.1
35		30.5	30.5
36		25.5	25.5
37		26.7	26.7
38		29.8	29.8
39		27.5	27.5
40		12.8	12.8
41		24.8	24.8
42		29.5	29.5
HVAC1		18.0	18.0
HVAC2		16.7	16.7
HVAC3		17.0	17.0
HVAC4		17.0	17.0
HVAC5		16.5	16.5
HVAC6		16.5	16.5
HVAC7		17.2	17.2
HVAC8		17.4	17.4
HVAC9		17.7	17.7
HVAC10		19.6	19.6
HVAC11		19.8	19.8

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
HVAC12	21.6	21.6
HVAC13	22.1	22.1
HVAC14	22.8	22.8
HVAC15	23.3	23.3
HVAC16	24.6	24.6
HVAC17	22.3	22.3
HVAC18	23.8	23.8
HVAC19	23.5	23.5
HVAC20	23.0	23.0
HVAC21	25.0	25.0
HVAC22	27.7	27.7
HVAC23	23.7	23.7
HVAC24	21.8	21.8
HVAC25	29.3	29.3
HVAC26	27.2	27.2
HVAC27	25.4	25.4
HVAC28	24.5	24.5
HVAC29	23.6	23.6
HVAC30	31.6	31.6
HVAC31	32.1	32.1
HVAC32	27.6	27.6
HVAC33	28.9	28.9
HVAC34	31.5	31.5
HVAC35	32.3	32.3
HVAC36	33.3	33.3
33 1.Fl	43.5	43.4
1	23.0	21.1
2	17.2	15.4
3	3.4	3.4
4	16.6	16.6
5	18.6	18.6
6	24.5	24.5
7	25.2	25.2
8	14.1	14.1
9	14.7	14.7
10	14.6	14.6
11	11.0	11.0
12	20.0	20.0
13	16.2	16.2
14	27.4	27.4
15	28.4	28.4
16	18.7	18.7
17	9.8	9.8
18	22.6	22.6
19	14.0	14.0
20	11.5	11.5
21	16.3	16.3
22	9.0	9.0
23	5.1	5.1
24	17.9	17.9
25	3.2	3.2
26	-0.6	-0.6
27	10.2	10.2
28	7.0	7.0
29	15.0	15.0
30	20.9	20.9
31	28.1	28.1
32	23.5	23.5
33	29.5	29.5
34	29.9	29.9
35	28.8	28.8
36	23.7	23.7
37	25.2	25.2
38	28.7	28.7

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
39	28.5	28.5
40	11.6	11.6
41	23.7	23.7
42	27.3	27.3
HVAC1	17.1	17.1
HVAC2	15.6	15.6
HVAC3	16.1	16.1
HVAC4	16.2	16.2
HVAC5	16.2	16.2
HVAC6	15.4	15.4
HVAC7	15.7	15.7
HVAC8	15.8	15.8
HVAC9	16.1	16.1
HVAC10	18.0	18.0
HVAC11	18.2	18.2
HVAC12	20.5	20.5
HVAC13	21.0	21.0
HVAC14	21.5	21.5
HVAC15	22.0	22.0
HVAC16	22.4	22.4
HVAC17	21.9	21.9
HVAC18	23.2	23.2
HVAC19	23.1	23.1
HVAC20	23.3	23.3
HVAC21	24.3	24.3
HVAC22	26.8	26.8
HVAC23	22.7	22.7
HVAC24	21.1	21.1
HVAC25	28.1	28.1
HVAC26	26.1	26.1
HVAC27	24.3	24.3
HVAC28	23.7	23.7
HVAC29	22.8	22.8
HVAC30	30.4	30.4
HVAC31	31.6	31.6
HVAC32	26.3	26.3
HVAC33	27.7	27.7
HVAC34	30.3	30.3
HVAC35	31.4	31.4
HVAC36	32.9	32.9
34 1.Fl	41.2	41.2
1	22.1	20.4
2	16.4	14.6
3	2.3	2.3
4	14.7	14.7
5	16.8	16.8
6	22.4	22.4
7	23.3	23.3
8	11.9	11.9
9	12.2	12.2
10	12.8	12.8
11	9.1	9.1
12	17.5	17.5
13	13.5	13.5
14	24.6	24.6
15	25.6	25.6
16	15.7	15.7
17	8.1	8.1
18	19.9	19.9
19	12.3	12.3
20	7.3	7.3
21	12.3	12.3
22	8.4	8.4
23	4.8	4.8

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
24	15.0	15.0
25	2.2	2.2
26	-2.0	-2.0
27	9.0	9.0
28	6.0	6.0
29	15.4	15.4
30	16.3	16.3
31	25.7	25.7
32	21.4	21.4
33	26.8	26.8
34	27.8	27.8
35	25.5	25.5
36	20.1	20.1
37	21.5	21.5
38	24.7	24.7
39	29.4	29.4
40	9.6	9.6
41	21.1	21.1
42	23.3	23.3
HVAC1	16.2	16.2
HVAC2	14.7	14.7
HVAC3	15.3	15.3
HVAC4	15.4	15.4
HVAC5	15.4	15.4
HVAC6	15.0	15.0
HVAC7	14.6	14.6
HVAC8	14.8	14.8
HVAC9	15.0	15.0
HVAC10	16.7	16.7
HVAC11	17.0	17.0
HVAC12	19.4	19.4
HVAC13	19.8	19.8
HVAC14	20.3	20.3
HVAC15	20.7	20.7
HVAC16	20.9	20.9
HVAC17	19.4	19.4
HVAC18	20.4	20.4
HVAC19	20.6	20.6
HVAC20	20.5	20.5
HVAC21	21.6	21.6
HVAC22	23.7	23.7
HVAC23	19.7	19.7
HVAC24	21.6	21.6
HVAC25	23.0	23.0
HVAC26	24.6	24.6
HVAC27	24.7	24.7
HVAC28	22.3	22.3
HVAC29	21.6	21.6
HVAC30	27.2	27.2
HVAC31	29.9	29.9
HVAC32	24.8	24.8
HVAC33	25.9	25.9
HVAC34	27.0	27.0
HVAC35	28.6	28.6
HVAC36	31.4	31.4
35 1.Fl	42.6	42.6
1	22.0	20.2
2	16.2	14.6
3	3.1	3.1
4	15.8	15.8
5	17.4	17.4
6	22.9	22.9
7	23.5	23.5
8	12.8	12.8

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
9	12.6	12.6
10	12.3	12.3
11	8.5	8.5
12	18.1	18.1
13	14.0	14.0
14	25.2	25.2
15	26.2	26.2
16	16.4	16.4
17	8.8	8.8
18	20.0	20.0
19	12.4	12.4
20	6.3	6.3
21	11.7	11.7
22	8.8	8.8
23	5.1	5.1
24	15.3	15.3
25	2.8	2.8
26	-1.5	-1.5
27	9.4	9.4
28	6.3	6.3
29	15.7	15.7
30	16.3	16.3
31	26.6	26.6
32	22.3	22.3
33	28.1	28.1
34	29.6	29.6
35	27.0	27.0
36	21.8	21.8
37	23.7	23.7
38	27.2	27.2
39	33.1	33.1
40	10.4	10.4
41	21.7	21.7
42	25.0	25.0
HVAC1	16.3	16.3
HVAC2	14.8	14.8
HVAC3	15.3	15.3
HVAC4	15.4	15.4
HVAC5	14.9	14.9
HVAC6	14.4	14.4
HVAC7	14.8	14.8
HVAC8	14.9	14.9
HVAC9	15.2	15.2
HVAC10	17.0	17.0
HVAC11	17.2	17.2
HVAC12	19.4	19.4
HVAC13	19.8	19.8
HVAC14	20.3	20.3
HVAC15	20.8	20.8
HVAC16	21.2	21.2
HVAC17	19.5	19.5
HVAC18	20.7	20.7
HVAC19	20.7	20.7
HVAC20	20.7	20.7
HVAC21	21.9	21.9
HVAC22	24.1	24.1
HVAC23	20.3	20.3
HVAC24	22.3	22.3
HVAC25	23.8	23.8
HVAC26	25.6	25.6
HVAC27	25.7	25.7
HVAC28	23.3	23.3
HVAC29	22.5	22.5
HVAC30	28.2	28.2
HVAC31	31.0	31.0

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
HVAC32	25.9	25.9
HVAC33	26.7	26.7
HVAC34	27.6	27.6
HVAC35	29.1	29.1
HVAC36	33.9	33.9
36 1.Fl	42.6	42.6
1	26.4	26.5
2	13.8	13.8
3	5.8	5.8
4	23.1	23.1
5	26.0	26.0
6	27.4	27.4
7	22.4	22.4
8	16.4	16.4
9	19.8	19.8
10	26.3	26.3
11	19.8	19.8
12	23.6	23.6
13	19.0	19.0
14	24.9	24.9
15	23.5	23.5
16	20.4	20.4
17	21.7	21.7
18	28.9	28.9
19	26.5	26.5
20	22.6	22.6
21	22.4	22.4
22	11.7	11.7
23	14.5	14.5
24	24.9	24.9
25	11.5	11.5
26	11.9	11.9
27	25.0	25.0
28	22.6	22.6
29	25.0	25.0
30	11.5	11.5
31	31.4	31.4
32	25.7	25.7
33	4.3	4.3
34	7.9	7.9
35	6.7	6.7
36	2.3	2.3
37	1.9	1.9
38	3.5	3.5
39	0.2	0.2
40	19.5	19.5
41	18.1	18.1
42	8.9	8.9
HVAC1	16.7	16.7
HVAC2	16.4	16.4
HVAC3	16.8	16.8
HVAC4	17.3	17.3
HVAC5	18.0	18.0
HVAC6	20.7	20.7
HVAC7	19.3	19.3
HVAC8	20.5	20.5
HVAC9	23.3	23.3
HVAC10	21.5	21.5
HVAC11	21.4	21.4
HVAC12	20.8	20.8
HVAC13	22.8	22.8
HVAC14	23.3	23.3
HVAC15	23.8	23.8
HVAC16	24.9	24.9

Contribution levels of the receivers

Source name		Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
HVAC17		24.3	24.3
HVAC18		24.6	24.6
HVAC19		25.6	25.6
HVAC20		28.4	28.4
HVAC21		28.6	28.6
HVAC22		28.9	28.9
HVAC23		32.0	32.0
HVAC24		29.9	29.9
HVAC25		25.0	25.0
HVAC26		23.7	23.7
HVAC27		23.3	23.3
HVAC28		23.5	23.5
HVAC29		24.5	24.5
HVAC30		22.0	22.0
HVAC31		21.5	21.5
HVAC32		21.2	21.2
HVAC33		20.5	20.5
HVAC34		19.8	19.8
HVAC35		19.1	19.1
HVAC36		18.3	18.3
37	1.Fl	46.1	46.1
1		14.8	14.7
2		9.8	9.8
3		5.1	5.1
4		8.6	8.6
5		16.3	16.3
6		18.3	18.3
7		15.8	15.8
8		6.2	6.2
9		3.9	3.9
10		12.2	12.2
11		1.7	1.7
12		12.7	12.7
13		9.5	9.5
14		17.7	17.7
15		20.6	20.6
16		12.9	12.9
17		3.6	3.6
18		20.6	20.6
19		6.6	6.6
20		2.3	2.3
21		12.8	12.8
22		11.2	11.2
23		9.8	9.8
24		14.8	14.8
25		8.3	8.3
26		12.9	12.9
27		24.5	24.5
28		22.5	22.5
29		37.5	37.5
30		36.1	36.1
31		24.4	24.4
32		13.4	13.4
33		16.3	16.3
34		14.7	14.7
35		15.8	15.8
36		9.2	9.2
37		8.0	8.0
38		7.3	7.3
39		17.9	17.9
40		4.8	4.8
41		17.1	17.1
42		11.8	11.8
HVAC1		10.9	10.9

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
HVAC2	11.3	11.3
HVAC3	11.7	11.7
HVAC4	11.1	11.1
HVAC5	11.3	11.3
HVAC6	13.6	13.6
HVAC7	14.4	14.4
HVAC8	14.8	14.8
HVAC9	15.2	15.2
HVAC10	15.1	15.1
HVAC11	13.1	13.1
HVAC12	12.7	12.7
HVAC13	13.1	13.1
HVAC14	14.5	14.5
HVAC15	14.9	14.9
HVAC16	15.3	15.3
HVAC17	17.9	17.9
HVAC18	18.1	18.1
HVAC19	18.5	18.5
HVAC20	18.8	18.8
HVAC21	22.8	22.8
HVAC22	23.0	23.0
HVAC23	22.3	22.3
HVAC24	23.7	23.7
HVAC25	28.9	28.9
HVAC26	31.0	31.0
HVAC27	33.2	33.2
HVAC28	33.8	33.8
HVAC29	32.1	32.1
HVAC30	30.4	30.4
HVAC31	29.3	29.3
HVAC32	37.6	37.6
HVAC33	37.5	37.5
HVAC34	35.4	35.4
HVAC35	32.8	32.8
HVAC36	30.6	30.6
38 1.Fl	37.5	37.3
1	27.2	24.9
2	20.9	17.9
3	-1.9	-1.9
4	12.1	12.1
5	13.9	13.9
6	16.8	16.8
7	26.9	26.9
8	10.8	10.8
9	11.5	11.5
10	14.3	14.3
11	7.9	7.9
12	16.6	16.6
13	12.1	12.1
14	21.9	21.9
15	22.8	22.8
16	11.4	11.4
17	1.3	1.3
18	19.6	19.6
19	8.1	8.1
20	5.7	5.7
21	13.1	13.1
22	9.6	9.6
23	3.0	3.0
24	13.2	13.2
25	1.4	1.4
26	-1.2	-1.2
27	9.0	9.0
28	5.7	5.7

Contribution levels of the receivers

Source name	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
29	8.9	8.9
30	15.9	15.9
31	20.6	20.6
32	16.7	16.7
33	17.2	17.2
34	17.3	17.3
35	15.6	15.6
36	9.4	9.4
37	10.1	10.1
38	12.8	12.8
39	11.6	11.6
40	5.0	5.0
41	18.4	18.4
42	12.7	12.7
HVAC1	18.7	18.7
HVAC2	16.9	16.9
HVAC3	19.2	19.2
HVAC4	19.4	19.4
HVAC5	19.5	19.5
HVAC6	19.6	19.6
HVAC7	20.2	20.2
HVAC8	20.2	20.2
HVAC9	20.3	20.3
HVAC10	18.3	18.3
HVAC11	19.2	19.2
HVAC12	22.7	22.7
HVAC13	22.7	22.7
HVAC14	22.7	22.7
HVAC15	22.6	22.6
HVAC16	22.5	22.5
HVAC17	17.2	17.2
HVAC18	17.2	17.2
HVAC19	17.3	17.3
HVAC20	18.0	18.0
HVAC21	20.1	20.1
HVAC22	19.6	19.6
HVAC23	18.8	18.8
HVAC24	18.4	18.4
HVAC25	19.4	19.4
HVAC26	18.9	18.9
HVAC27	16.2	16.2
HVAC28	15.5	15.5
HVAC29	15.2	15.2
HVAC30	19.3	19.3
HVAC31	19.0	19.0
HVAC32	18.2	18.2
HVAC33	19.1	19.1
HVAC34	19.2	19.2
HVAC35	19.6	19.6
HVAC36	20.1	20.1

Noise emissions of industry sources

Source name	Reference	Level	Frequency spectrum [dB(A)]								Corrections		
		Leq1	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)
HVAC1	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC2	Lw/unit	-	61.9	73.9	77.2	79.7	81.6	79.7	77.3	74.4	-	-	-
HVAC3	Lw/unit	-	61.9	73.9	77.2	79.7	81.6	79.7	77.3	74.4	-	-	-
HVAC4	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC5	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC6	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC7	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC8	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC9	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC10	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC11	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC12	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC13	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC14	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC15	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC16	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC17	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC18	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC19	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC20	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC21	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC22	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC23	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC24	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC25	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC26	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC27	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC28	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC29	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC30	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC31	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC32	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC33	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC34	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC35	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-
HVAC36	Lw/unit	-	61.9	73.9	77.3	79.8	81.6	79.7	77.4	74.4	-	-	-

Noise emissions of parking lot traffic

Name	Parking lot type	Low noise trolleys	Size	Moveme per hour Leq1	Road surface	Separated method	Lw,ref dB(A)
1	Visitors and staff	-	109 Parking bays	1.100	Asphaltic driving lanes	no	88.4
2	Visitors and staff	-	34 Parking bays	1.100	Asphaltic driving lanes	no	81.8
3	Visitors and staff	-	6 Parking bays	1.100	Asphaltic driving lanes	no	70.8
4	Visitors and staff	-	25 Parking bays	1.100	Asphaltic driving lanes	no	80.0
5	Visitors and staff	-	34 Parking bays	1.100	Asphaltic driving lanes	no	81.8
6	Visitors and staff	-	47 Parking bays	1.100	Asphaltic driving lanes	no	83.7
7	Visitors and staff	-	60 Parking bays	1.100	Asphaltic driving lanes	no	85.1
8	Visitors and staff	-	6 Parking bays	1.100	Asphaltic driving lanes	no	70.8
9	Visitors and staff	-	9 Parking bays	1.100	Asphaltic driving lanes	no	72.5
10	Visitors and staff	-	15 Parking bays	1.100	Asphaltic driving lanes	no	76.7
11	Visitors and staff	-	5 Parking bays	1.100	Asphaltic driving lanes	no	70.0
12	Visitors and staff	-	16 Parking bays	1.100	Asphaltic driving lanes	no	77.2
13	Visitors and staff	-	9 Parking bays	1.100	Asphaltic driving lanes	no	72.5
14	Visitors and staff	-	33 Parking bays	1.100	Asphaltic driving lanes	no	81.6
15	Visitors and staff	-	40 Parking bays	1.100	Asphaltic driving lanes	no	82.7
16	Visitors and staff	-	9 Parking bays	1.100	Asphaltic driving lanes	no	72.5
17	Visitors and staff	-	3 Parking bays	1.100	Asphaltic driving lanes	no	67.8
18	Visitors and staff	-	44 Parking bays	1.100	Asphaltic driving lanes	no	83.3
19	Visitors and staff	-	8 Parking bays	1.100	Asphaltic driving lanes	no	72.0
20	Visitors and staff	-	4 Parking bays	1.100	Asphaltic driving lanes	no	69.0
21	Visitors and staff	-	12 Parking bays	1.100	Asphaltic driving lanes	no	75.0
22	Visitors and staff	-	10 Parking bays	1.100	Asphaltic driving lanes	no	73.0
23	Visitors and staff	-	7 Parking bays	1.100	Asphaltic driving lanes	no	71.5
24	Visitors and staff	-	26 Parking bays	1.100	Asphaltic driving lanes	no	80.2
25	Visitors and staff	-	8 Parking bays	1.100	Asphaltic driving lanes	no	72.0
26	Visitors and staff	-	6 Parking bays	1.100	Asphaltic driving lanes	no	70.8
27	Visitors and staff	-	18 Parking bays	1.100	Asphaltic driving lanes	no	77.9
28	Visitors and staff	-	11 Parking bays	1.100	Asphaltic driving lanes	no	74.2
29	Visitors and staff	-	33 Parking bays	1.100	Asphaltic driving lanes	no	81.6
30	Visitors and staff	-	27 Parking bays	1.100	Asphaltic driving lanes	no	80.5
31	Visitors and staff	-	37 Parking bays	1.100	Asphaltic driving lanes	no	82.3
32	Visitors and staff	-	18 Parking bays	1.100	Asphaltic driving lanes	no	77.9
33	Visitors and staff	-	15 Parking bays	1.100	Asphaltic driving lanes	no	76.7
34	Visitors and staff	-	15 Parking bays	1.100	Asphaltic driving lanes	no	76.7
35	Visitors and staff	-	14 Parking bays	1.100	Asphaltic driving lanes	no	76.2
36	Visitors and staff	-	5 Parking bays	1.100	Asphaltic driving lanes	no	70.0
37	Visitors and staff	-	5 Parking bays	1.100	Asphaltic driving lanes	no	70.0
38	Visitors and staff	-	7 Parking bays	1.100	Asphaltic driving lanes	no	71.5
39	Visitors and staff	-	9 Parking bays	1.100	Asphaltic driving lanes	no	72.5
40	Visitors and staff	-	3 Parking bays	1.100	Asphaltic driving lanes	no	67.8
41	Visitors and staff	-	18 Parking bays	1.100	Asphaltic driving lanes	no	77.9
42	Visitors and staff	-	10 Parking bays	1.100	Asphaltic driving lanes	no	73.0

Receiver list

No.	Receiver name	Building side	Floor	Limit Leq1 dB(A)	Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)	Difference Leq1 dB	Conflict Leq1 dB
1	1	-	1.Fl	-	40.2	39.1	-1.1	-
2	2	-	1.Fl	-	42.5	41.5	-1.0	-
3	3	-	1.Fl	-	43.4	43.4	0.0	-
4	4	-	1.Fl	-	42.9	42.9	0.0	-
5	5	-	1.Fl	-	41.0	41.1	0.1	-
6	6	-	1.Fl	-	50.1	46.4	-3.7	-
7	7	-	1.Fl	-	51.5	47.5	-4.0	-
8	8	-	1.Fl	-	49.5	46.6	-2.9	-
9	9	-	1.Fl	-	51.9	48.1	-3.7	-
10	10	-	1.Fl	-	52.1	48.5	-3.6	-
11	11	-	1.Fl	-	50.5	48.6	-1.9	-
12	12	-	1.Fl	-	53.6	53.4	-0.2	-
13	13	-	1.Fl	-	54.2	54.2	0.0	-
14	14	-	1.Fl	-	53.6	53.5	-0.1	-
15	15	-	1.Fl	-	51.6	51.4	-0.2	-
16	16	-	1.Fl	-	48.8	48.5	-0.3	-
17	17	-	1.Fl	-	46.3	45.9	-0.4	-
18	18	-	1.Fl	-	44.9	44.5	-0.4	-
19	19	-	1.Fl	-	50.9	50.8	-0.1	-
20	20	-	1.Fl	-	51.8	51.8	-0.1	-
21	21	-	1.Fl	-	51.7	51.7	0.0	-
22	22	-	1.Fl	-	51.4	51.4	0.0	-
23	23	-	1.Fl	-	51.3	51.3	0.0	-
24	24	-	1.Fl	-	52.0	52.0	0.0	-
25	25	-	1.Fl	-	52.8	52.8	0.0	-
26	26	-	1.Fl	-	52.9	52.9	0.0	-
27	27	-	1.Fl	-	52.1	52.1	0.0	-
28	28	-	1.Fl	-	50.2	50.2	0.0	-
29	29	-	1.Fl	-	48.3	48.3	0.0	-
30	30	-	1.Fl	-	46.0	46.0	0.0	-
31	31	-	1.Fl	-	44.6	44.6	0.0	-
32	32	-	1.Fl	-	44.5	44.5	0.0	-
33	33	-	1.Fl	-	43.5	43.4	0.0	-
34	34	-	1.Fl	-	41.2	41.2	0.0	-
35	35	-	1.Fl	-	42.6	42.6	0.0	-
36	36	-	1.Fl	-	42.6	42.6	0.0	-
37	37	-	1.Fl	-	46.1	46.1	0.0	-
38	38	-	1.Fl	-	37.5	37.3	-0.2	-