APPENDIX F

Noise Technical Report

NOISE TECHNICAL REPORT
for the
Five Lagunas Project
SCH No. 20080811100

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ACRONYMS

Acronym	Definition
dB	decibel
dBA	A-weighted decibel
CEQA	California Environmental Quality Act
CNEL	community noise equivalent level
DSM	deep soil mixing
FHWA	Federal Highway Administration
L_{eq}	equivalent sound level
PPV	peak particle velocity
TNM	Traffic Noise Model
VdB	velocity decibel

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SUMMARY

Implementation of the Five Lagunas Project (proposed project) would involve an Addendum to the previously certified Program Environmental Impact Report (General Plan Program EIR) (State Clearinghouse No. 20080811100) for the City of Laguna Hills General Plan Update (General Plan Update). The Addendum, along with the General Plan Program EIR, serves as the environmental review for the Five Lagunas project (proposed project), as required pursuant to the provisions of the California Environmental Quality Act (CEQA), California Public Resources Code Sections 21000 et seq., and the CEQA Guidelines (14 CCR 15000 et seq.)

This noise impact analysis evaluates the potential for significant adverse impacts due to construction and operation of the proposed project. Potential noise impacts were found to be less than significant with incorporation of noise minimization measures consistent with the mitigation measures of the General Plan Program EIR to ensure that noise standards are not exceeded and that noise increases are not substantial. Therefore, no additional mitigation would be required.

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1 INTRODUCTION

1.1 Purpose

The purpose of this report is to estimate and evaluate the potential noise impacts associated with implementation of the Five Lagunas Project (proposed project) relative to relevant local, state, and federal regulatory thresholds.

1.2 Project Location

The Five Lagunas project site is located in the City of Laguna Hills in Orange County, California (Figure 1). The 240-acre Urban Village area is generally bounded by I-5 to the north and east, Paseo De Valencia to the south and west, and Los Alisos Boulevard to the south and east (Figure 2). As described above, the Urban Village is the entire area covered by the UVSP. The project site, however, is limited to an approximately 68-acre subarea located within the UVSP (Figure 3). The irregularly shaped site is generally bound by Avenida De La Carlota and I-5 to the northeast, Calle De Los Caballeros and the Oakbrook Village shopping center to the southeast, the Orange County Transportation Authority (OCTA) Laguna Hills Transportation Center to the south, Calle De La Louisa and the Saddleback Memorial Medical Center campus to the southwest, and El Toro Road and Laguna Hills City Hall to the northwest. Regional access to the project site is provided by I-5 and El Toro Road.

Currently, the Laguna Hills Mall (Mall) property consists of the central, enclosed Mall structure and six outlying buildings housing retail, dining, and professional services. The existing Mall property includes approximately 968,300 square feet of commercial retail space. The Mall site consists of the following Assessor's Parcel Numbers: 616-031-11; -13; -18; 616-032-04; -09; -10; 620-491-01, -02; -03; -06; -07; -08; -10; -11; -12; -13; -14; -15; -16; -17; -18; -19; 620-492-01; 621-051-25; -29; -33; -34; -35; 621-141-13; -24; -27; -29; -33; -36; -46; -48; -49; -50; -51; -53; -54; -55; -57; -58; -59; -81; -66; -68; -71; -73; -74; -75; 620-491-04; -05 (Figures 4A and 4B).

The project site is designated by the General Plan Land Use Map as Village Commercial (City of Laguna Hills 2009a); the City's Zoning District Map also identifies the site as Village Commercial. The site is located within the UVSP, which designated it as Village Commercial.

1.3 Project Description

The proposed project involves redevelopment of the existing Laguna Hills Mall property, including a proposed 926,429 gross square feet of commercial space and pads, 988 residential dwelling units, new landscaping, courtyards, signage, and a six-level parking structure supplemented by additional surface parking.

Table 1, Proposed Project Components, presents a summary of the proposed commercial retail and residential components for the proposed land uses and existing uses.

Project Design Features (Noise)

PDF-N-1 Parking structure(s) shall be designed and conditioned to include pavement treatments/materials that reduce noise generated by tire squeal.

Construction Schedule

Construction of the proposed project would commence in early 2016. Total construction is expected to take approximately 30 months, ending in 2018.

The project would be constructed in phases, broken into major sub-phases, from site preparation (clearing and grubbing) to paving. Powered equipment during construction would include crawler tractors, excavators, loaders and/or backhoes, graders, drill rigs, cement and mortar mixers, generator sets, pumps, compactors and scrapers, aerial lifts, compressors, cranes, welders, and saws.

Table 1
Proposed Project Components

Commercial/Retail/Restaurant/Office/Residential Uses			
	Square Feet (GFA)		
Use Type	*Existing Uses*	*Proposed Uses*	*Net Total (Proposed minus Existing)*
Retail	873,551	616,013	-257,538
Restaurant	78,795	115,354	36,559
Health Club	0	40,102	40,102
Cinema	13,166	109,070	95,904
Flex Retail/ Medical Office	0	45,890	45,890
Residential	0	1,300,000 (988 dwelling units)	1,300,000 (988 dwelling units)
	Project Totals	**926,429 Commercial/ Retail/ Restaurant/ Office; 1,300,000 (988 dwelling units) of Residential**	**-39,083 Commercial/ Retail/ Restaurant/ Office; 1,300,000 (988 dwelling units) of Residential**

Source: Perkowitz + Ruth Architects 2015.

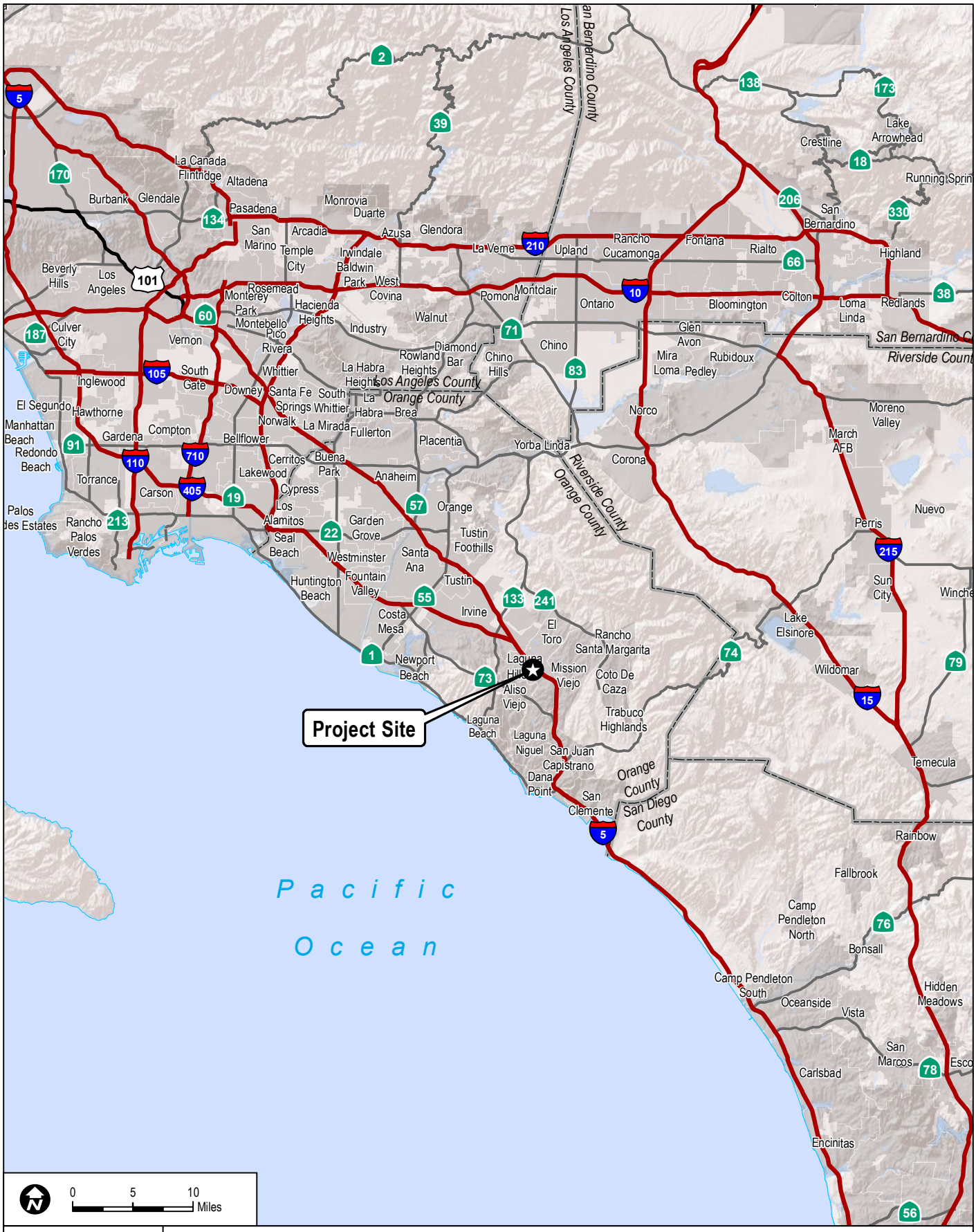

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FIGURE 1

Regional Map

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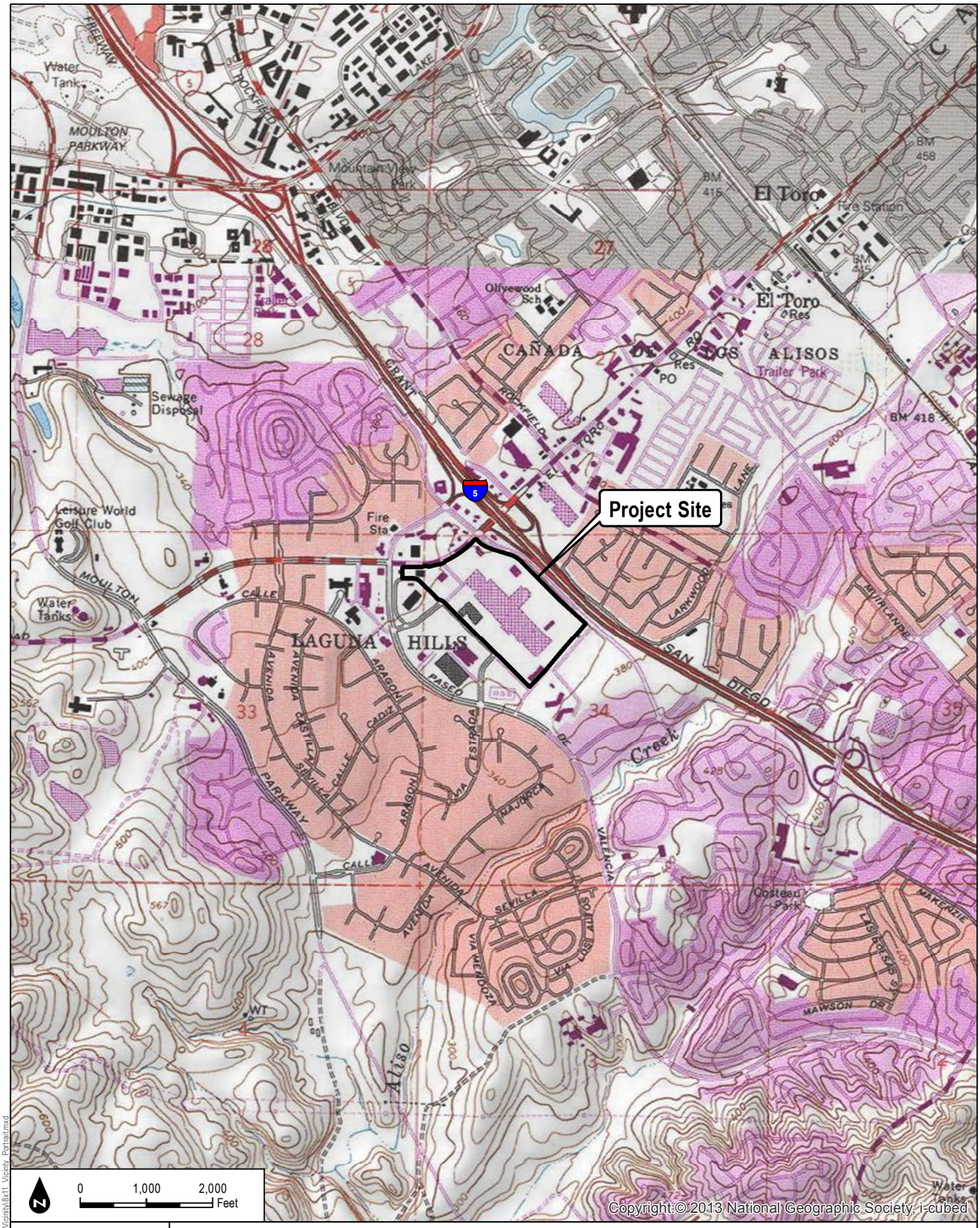

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SOURCE: USGS 7.5-Minute Series San Juan Capistrano Quadrangle.

FIGURE 2
Vicinity Map

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SOURCE: City of Laguna Hills 2002; Bing Maps 2015

FIGURE 3

Urban Village Specific Plan Area

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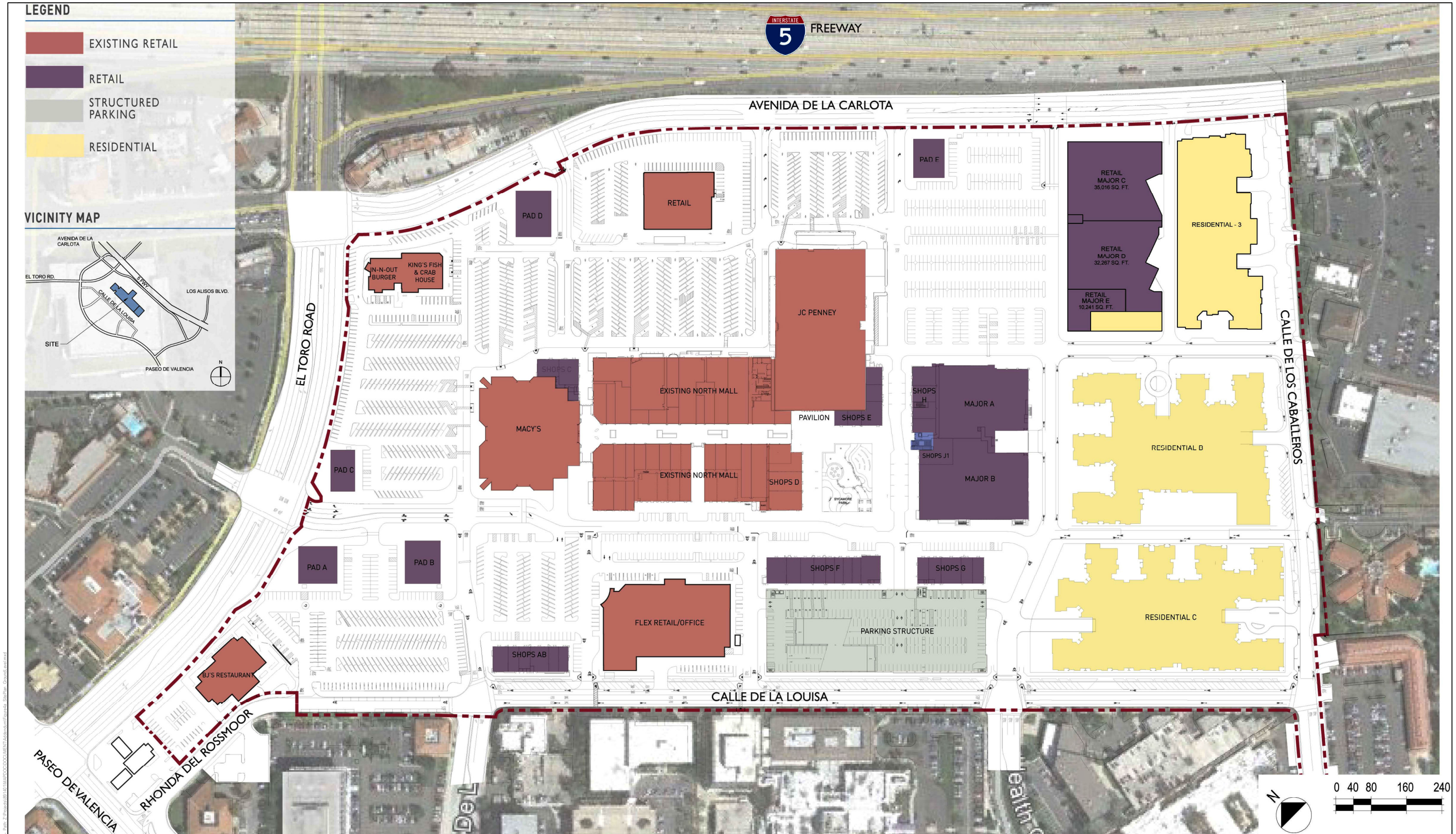

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SOURCE: Architects Orange

FIGURE 4A

Site Plan (Ground Level)

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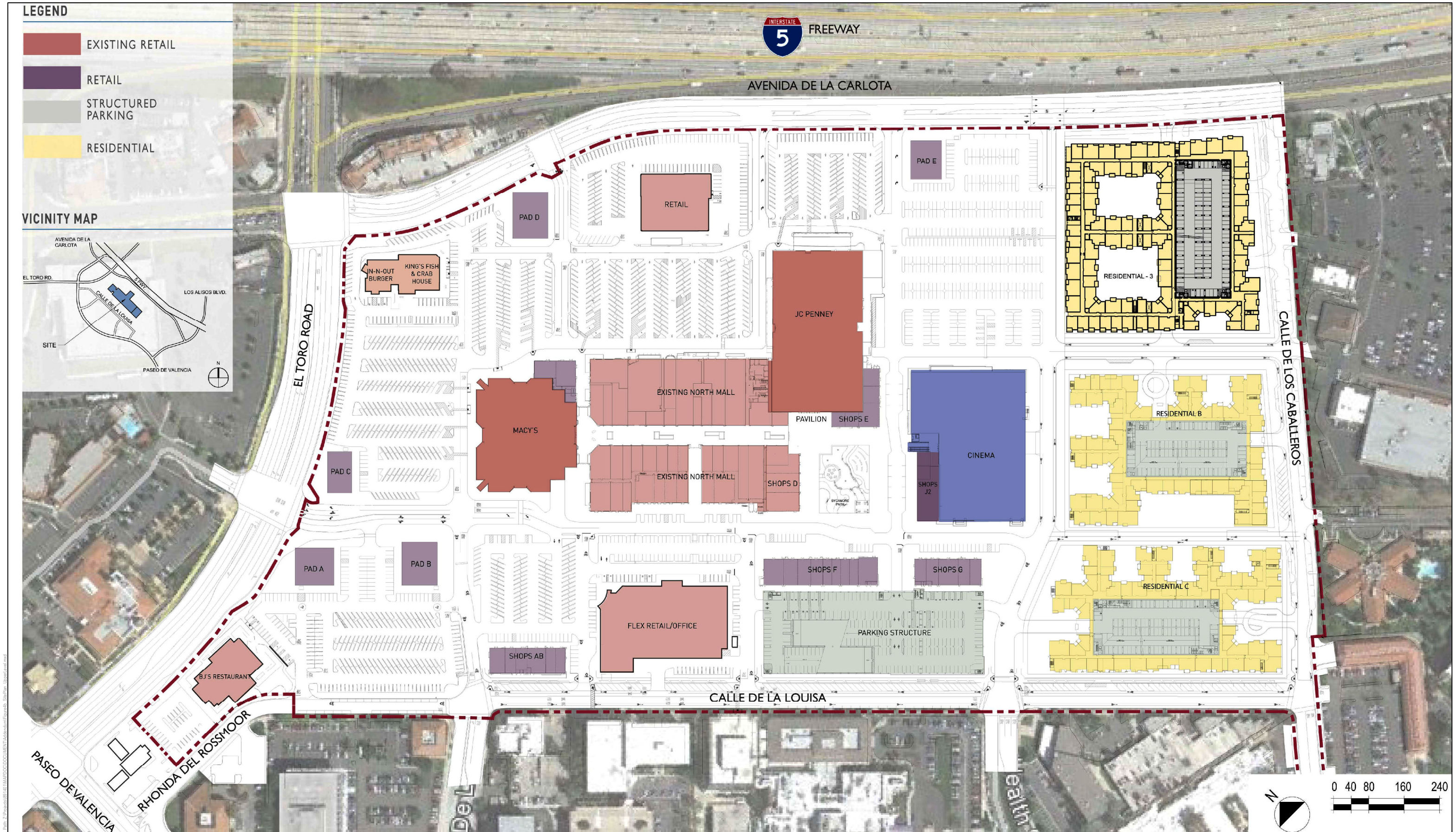

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SOURCE: Architects Orange

FIGURE 4B
Site Plan (Upper Level)

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2 FUNDAMENTALS OF NOISE AND VIBRATION

The following is a brief discussion of fundamental noise concepts and basic terminology.

2.1 Sound, Noise, and Acoustics

Sound is actually a process that consists of three components: the sound source, the sound path, and the sound receiver. All three components must be present for sound to exist. Without a source to produce sound, there is no sound. Similarly, without a medium to transmit sound pressure waves, there is no sound. Finally, sound must be received; a hearing organ, sensor, or object must be present to perceive, register, or be affected by sound or noise. In most situations, there are many different sound sources, paths, and receptors rather than just one of each. Acoustics is the field of science that deals with the production, propagation, reception, effects, and control of sound. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired.

2.2 Sound Pressure Levels and Decibels

The amplitude of a sound determines its loudness. Loudness of sound increases with increasing amplitude. Sound pressure amplitude is measured in units of micronewton per square meter, also called micropascal. One micropascal is approximately one-hundred billionth (0.00000000001) of normal atmospheric pressure. The pressure of a very loud sound may be 200 million micropascals, or 10 million times the pressure of the weakest audible sound. Because expressing sound levels in terms of micropascal would be very cumbersome, sound pressure level in logarithmic units is used instead to describe the ratio of actual sound pressure to a reference pressure squared. These units are called Bels. To provide a finer resolution, a Bel is subdivided into 10 decibels (dB).

2.3 A-Weighted Sound Level

Sound pressure level alone is not a reliable indicator of loudness. The frequency, or pitch, of a sound also has a substantial effect on how humans will respond. Although the intensity (energy per unit area) of the sound is a purely physical quantity, the loudness, or human response, is determined by the characteristics of the human ear.

Human hearing is limited not only in the range of audible frequencies, but also in the way it perceives the sound in that range. In general, the healthy human ear is most sensitive to sounds between 1,000 and 5,000 hertz, and it perceives a sound within that range as more intense than a sound of higher or lower frequency with the same magnitude. To approximate the frequency response of the human ear, a series of sound level adjustments is usually applied to the sound measured by a sound level meter. The adjustments (referred to as a weighting network) are frequency-dependent.

The A-scale weighting network approximates the frequency response of the average young ear when listening to ordinary sounds. When people make judgments about the relative loudness or annoyance of a sound, their judgments correlate well with the A-scale sound levels of those sounds. Other weighting networks have been devised to address high noise levels or other special situations (e.g., B-scale, C-scale, D-scale), but these scales are rarely used in conjunction with most environmental noise. Noise levels are typically reported in terms of A-weighted sound levels. All sound levels discussed in this report are A-weighted decibels (dBA). Examples of typical noise levels for common indoor and outdoor activities are depicted in Table 2.

Table 2
Typical Sound Levels in the Environment and Industry

Common Outdoor Activities	Noise Level (dB)	Common Indoor Activities
	110	Rock band
Jet fly over at 300 meters (1,000 feet)	100	
Gas lawn mower at 1 meter (3 feet)	90	
Diesel truck at 15 meters (50 feet), at 80 kilometers per hour (50 miles per hour)	80	Food blender at 1 meter (3 feet); garbage disposal at 1 meter (3 feet)
Noisy urban area, daytime; gas lawn mower at 30 meters (100 feet)	70	Vacuum cleaner at 3 meters (10 feet)
Commercial area; heavy traffic at 90 meters (300 feet)	60	Normal speech at 1 meter (3 feet)
Quite urban, daytime	50	Large business office; dishwasher next room
Quite urban, nighttime	40	Theater; large conference room (background)
Quite suburban, nighttime	30	Library
Quite rural, nighttime	20	Bedroom at night; concert hall (background)
	10	Broadcast/Recording studio
Lowest threshold of human hearing	0	Lowest threshold of human hearing

Source: Caltrans 1998

2.4 Human Response to Changes in Noise Levels

Under controlled conditions in an acoustics laboratory, the trained, healthy human ear is able to discern changes in sound levels of 1 dBA when exposed to steady, single-frequency signals in the mid-frequency range. Outside such controlled conditions, the trained ear can detect changes of 2 dBA in normal environmental noise. It is widely accepted that the average healthy ear, however, can barely perceive noise level changes of 3 dBA. A change of 5 dBA is readily perceptible, and a change of 10 dBA is perceived as twice or half as loud. A doubling of sound energy results in a 3 dBA increase in sound, which means that a doubling of sound energy (e.g., doubling the volume of traffic on a road) would result in a barely perceptible change in sound level).

2.5 Noise Descriptors

Additional units of measure have been developed to evaluate the long-term characteristics of sound. The equivalent sound level (L_{eq}) is also referred to as the time-average sound level. It is the equivalent steady-state sound level that in a stated period of time would contain the same acoustical energy as the time-varying sound level during the same time period. The 1-hour A-weighted equivalent sound level, $L_{eq}(h)$, is the energy average of the A-weighted sound levels occurring during a 1-hour period, and is the basis for the City of San Diego's noise ordinance criteria.

People are generally more sensitive and annoyed by noise occurring during the evening and nighttime hours. Thus, another noise descriptor used in community noise assessments—the community noise equivalent level (CNEL)—was introduced. The CNEL scale represents a time-weighted, 24-hour average noise level based on the A-weighted sound level. The CNEL accounts for the increased noise sensitivity during the evening hours (7 p.m. to 10 p.m.) and nighttime hours (10 p.m. to 7 a.m.) by adding 5 dBA and 10 dBA, respectively, to the average sound levels occurring during the evening and nighttime hours.

2.6 Sound Propagation

Sound propagation (i.e., the passage of sound from a noise source to a receiver) is influenced by geometric spreading, ground absorption, atmospheric effects, and shielding by natural and/or built features.

Sound levels attenuate (or diminish) at a rate of approximately 6 dBA per doubling of distance from an outdoor point source due to the geometric spreading of the sound waves. Atmospheric conditions such as humidity, temperature, and wind gradients can also temporarily either increase or decrease sound levels. In general, the greater the distance the receiver is from the source, the greater the potential for variation in sound levels due to atmospheric effects. Additional sound attenuation can result from built features such as intervening walls and buildings, and by natural features such as hills and dense woods.

2.7 Groundborne Vibration Fundamentals

Groundborne vibration is a small, rapidly fluctuating motion transmitted through the ground. The strength of groundborne vibration attenuates fairly rapidly over distance. Some soil types transmit vibration quite efficiently; other types (primarily sandy soils) do not. Several basic measurement units are commonly used to describe the intensity of ground vibration. The descriptors used by the Federal Transit Administration are peak particle velocity (PPV), in

units of inches per second, and velocity decibel (VdB). The calculation to determine PPV at a given distance is as follows:

$$PPV_{distance} = PPV_{ref}*(25/D)^{\wedge}1.5$$

Where:

PPV_{equip} = the peak particle velocity in inches per second of the equipment adjusted for distance

PPV_{ref} = the reference vibration level in inches per second at 25 feet

D = the distance from the equipment to the receiver

The velocity parameter (instead of acceleration or displacement) best correlates with human perception of vibration. Thus, the response of humans, buildings, and sensitive equipment to vibration is described in this section in terms of the root-mean square velocity level in VdB units relative to 1 micro-inch per second. As a point of reference, the average person can just barely perceive vibration velocity levels below 70 VdB (typically in the vertical direction). The calculation to determine the root-mean square at a given distance is as follows:

$$L_v(D) = L_v(25\text{ feet}) – 30*\log(D/25)$$

Where:

$L_v(D)$ = the vibration level at the receiver

$L_v(25\text{ feet})$ = the reference source vibration level

D = the distance from the vibration activity to the receiver

Typical background vibration levels are between 50 and 60 VdB, and the level for minor cosmetic damage to fragile buildings or blasting generally begins at 100 VdB.

3 REGULATORY SETTING

Federal

Federal Transit Administration Standards and Federal Railroad Administration Standards

Although the Federal Transit Administration (FTA) standards are intended for federally funded mass transit projects, the impact assessment procedures and criteria included in the FTA Transit Noise and Vibration Impact Assessment Manual (May 2006) are routinely used for projects proposed by local jurisdictions which do not have vibration impact standards. The FTA and Federal Railroad Administration (FRA) have published guidelines for assessing the impacts of groundborne vibration associated with rail projects, which have been applied by other jurisdictions to other types of projects. The FTA measure of the threshold of architectural damage for conventional sensitive structures from groundborne vibration is 0.2 inches/second PPV.

State

California Noise Control Act of 1973

Sections 46000 through 46080 of the California Health and Safety Code, known as the California Noise Control Act of 1973, finds that excessive noise is a serious hazard to the public health and welfare and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. It also finds that there is a continuous and increasing bombardment of noise in the urban, suburban, and rural areas. The California Noise Control Act declares that the State of California has a responsibility to protect the health and welfare of its citizens by the control, prevention, and abatement of noise. It is the policy of the state to provide an environment for all Californians free from noise that jeopardizes their health or welfare.

California Code of Regulations, Title 24

Title 24 of the California Code of Regulations (CCR) sets standards which new development in California must meet. According to Title 24, interior noise levels are not to exceed 45 dB CNEL for new multi-family residences, hotels and other attached residences.

Title 24 also requires that an interior acoustical study demonstrating that interior noise levels due to exterior sources will be less than or equal to 45 CNEL be performed for affected multi-family structures that are exposed to exterior noise levels in excess of 60 CNEL.

2013 California Green Building Standards Code

Section 5.507 of the California Green Building Standards Code (CalGreen) establishes requirements for acoustical control in non-residential buildings. The standards require that wall

and roof-ceiling assemblies making up the building envelope shall have a sound transmission class value of at least 50, and exterior windows shall have a minimum sound transmission class of 40 for building locations within the 65 dB CNEL noise contour of an airport or of a freeway or expressway, railroad, industrial source or fixed-guideway source as determined by the Noise Element of the General Plan. Wall and floor-ceiling assemblies separating tenant spaces and tenant spaces and public places shall have a sound transmission class of at least 40.

3.1 Local

City of Laguna Hills General Plan Noise Element

The City of Laguna Hills Noise Element contains Land Use Compatibility Guidelines, as shown in Figure 5.

Exterior noise levels of 65 dBA CNEL or less are considered normally acceptable for multi-family residential land uses, and conditionally acceptable (i.e., new construction or development should be undertaken only after a detailed analysis of noise reduction requirements is made) for exterior noise levels of 70 dBA CNEL or less. Noise levels at proposed multi-family residential uses of between 70 and 75 dBA CNEL are categorized as normally unacceptable (new construction or development should generally be discouraged; if new construction or development does proceed a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design).

City of Laguna Hills Municipal Code Sections 5-24.040 through 5-24.070 (Noise Ordinance) – Relevant Excerpts

The following are applicable to non-transportation noise sources:

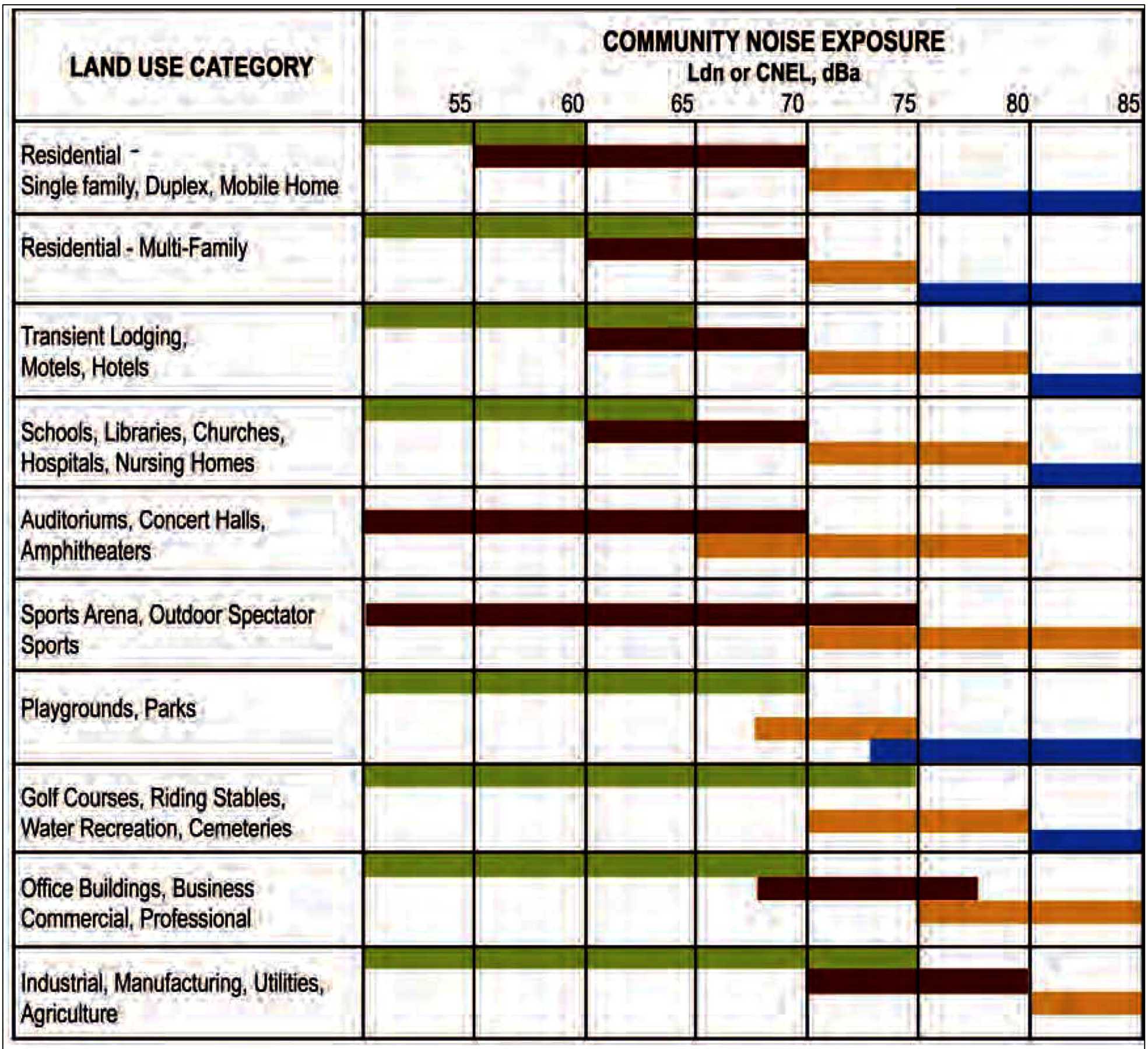
Designated noise zone. The entire territory of the city is designated as “Noise Zone l.”

Exterior Noise Standards

The following noise standards (Table 3), unless otherwise specifically indicated, shall apply to all residential property within a designated noise zone:

Table 3
Residential Exterior Noise Standards

Noise Zone	Noise Level	Time Period
1	55 dB(A)	7:00 a.m. - 10:00 p.m.
	50 dB(A)	10:00 p.m.- 7:00 a.m.



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

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

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

CLEARLY UNACCEPTABLE
New construction or development should generally not be undertaken.

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SOURCE: California Office of Planning Research, 1998

FIGURE 5
Land Use Compatibility Guidelines

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The following noise standards (Table 4), unless otherwise specifically indicated, apply to all land use entities that affect nonresidential property. If a land use affects both residential and nonresidential property then the residential standards are applied:

Table 4
Nonresidential Exterior Noise Standards

Noise Zone	Noise Level	Time Period
1	55 dB(A)	7:00 a.m. - I0:00 p.m.

Interior Noise Standards

The following interior noise standards (Table 5), unless otherwise specifically indicated, shall apply to all residential property within a designated noise zone:

Table 5
Residential Interior Noise Standards

Noise Zone	Noise Level	Time Period
1	55 dB(A)	7:00 a.m. - 10:00 p.m.
	45 dB(A)	10:00 p.m.- 7:00 a.m.

Special provisions

The following activities shall be exempted from the provisions of this chapter:

- Any mechanical device, apparatus or equipment used, related to or connected with emergency machinery, vehicle or work.
- Noise sources associated with construction, repair, remodeling, or grading of any real property, provided said activities do not take place between the hours of eight p.m. and seven a.m. on weekdays, eight p.m. and eight a.m. on Saturday, or at any time on Sunday or a federal holiday.

Laguna Hills General Plan Program EIR – Chapter 5.10, Noise

Potential Impacts: Compliance with Noise Standards; New development and redevelopment pursuant to the General Plan could conflict with adopted noise standards resulting in a significant impact.

The following mitigation measures pertain to the proposed project:

N-1 The City shall review development proposals to ensure that the noise standards and compatibility criteria set forth in the Noise Element are met. The City shall consult Noise Element guidelines and standards for noise compatible land uses to determine the suitability of proposed developments relative to existing and forecasted noise levels. The City shall enforce California Title 24 Noise Standards to ensure an acceptable interior noise level of 45 dBA CNEL in habitable rooms. The City shall require acoustical analysis for all discretionary projects where any of the following apply:

1. The project will create or impact noise sensitive land uses and is located within the existing or future 60 dBA CNEL or higher contour.
2. The addition of more than 10% to the volume of average daily traffic of any arterial street.
3. The addition of 1,000 or more vehicles in the peak hour on adjacent roadways.
4. The project will introduce noise or vibration sources associated with mechanical equipment operations, entertainment, maintenance, and facility operations.
5. The project is a proposed residential use in the vicinity of existing and proposed commercial areas.
6. The project is a mixed use development that includes a residential component. The focus of this type of acoustical study is to determine likely interior and exterior noise levels and recommend appropriate design features to reduce noise.

The City shall require mitigation measures, where necessary, to reduce noise levels to meet the adopted standards and criteria. Such measures may include landscaped berms, barriers, walls, enhanced parkways, increased parkways, and other sound attenuating architectural design and construction methods. The City will only permit new development if adopted noise standards and regulations can be met. (**Implementation Program N-1**)

N-2 The City shall implement provisions of the California Noise Insulation Standards (Title 24) that specify that indoor noise levels for multi-family residential living spaces shall not exceed 45 dB CNEL. The standard is defined as the combined effect of all noise sources and is implemented when existing or future exterior noise levels exceed 60 dB CNEL. Title 24 further requires that the standard be applied to all new hotels, motels, apartment houses, and dwellings other than single-family dwellings. The City shall also apply this standard to single-family dwellings and condominium conversion projects. (**Implementation Program N-3**)

N-3 The City shall review the locations of proposed projects with the potential to generate noise in relation to sensitive receptors through the discretionary project review process. The City shall limit delivery or service hours for stores and businesses with loading areas, docks, or trash bins that front, side, or gain access on driveways next to residential and other noise sensitive areas. The City shall only approve exceptions if full compliance with the nighttime limits of the noise regulations is achieved. (**Implementation Program N-4**)

Level of Significance After Mitigation: Less than significant.

Potential Impacts: Groundborne Vibration or Noise; New development and redevelopment pursuant to the General Plan could expose persons to significant excessive groundborne vibration and/or noise.

The following mitigation measures pertain to the proposed project:

See Mitigation Measures N-1 and N-2 above and the following:

N-4 The City shall require all construction activity to comply with the limits (maximum noise levels, hours, and days of allowed activity) established in City noise regulations to reduce impacts associated with temporary construction noise to the extent feasible. Trucks associated with construction activities shall follow designated truck routes, where appropriate. (**Implementation Program N-5**)

Level of Significance After Mitigation: Less than significant.

Potential Impacts: Permanent Ambient Noise Levels; New development and redevelopment pursuant to the General Plan will generate additional traffic that will increase noise levels along the roadway network, and traffic noise will continue to represent a significant source of noise in the community.

The following mitigation measures pertain to the proposed project:

See Mitigation Measure N-1 above.

Level of Significance After Mitigation: Less than significant.

Temporary or Periodic Increases in Ambient Noise Levels; Long-term implementation of the General Plan creates capacity for redevelopment and infill within the planning area, which could result in temporary or periodic significant increases in ambient noise levels due to construction activities.

The following mitigation measures pertain to the proposed project:

See Mitigation Measure N-4 above.

Level of Significance After Mitigation: Less than significant.

Urban Village Specific Plan

Noise Standards. Residential portions of the project shall be designed to limit the interior noise caused by the commercial and parking portions of the project to a maximum of 45 dB CNEL on an annual basis in any habitable room with windows closed. Proper design may include, but shall not be limited to, building orientation, double or extra-strength windows, wall and ceiling insulation, and orientation and insulation of vents. Where it is necessary that windows be closed in order to achieve the required level, means shall be provided for ventilation/cooling to provide a habitable environment.

4 EXISTING CONDITIONS

Ambient noise in the proposed project area is primarily generated by traffic along Interstate 5 (I-5) and arterial roadways in the project vicinity. The existing peak-hour traffic volumes along I-5 and local arterial roadways are shown in Table 6.

Table 6
Existing Traffic Volumes

Roadway	Existing Peak-Hour Traffic Volume
I-5 - Alicia Pkwy to El Toro Rd	26,500
El Toro Road - Avenida de la Carlota to Regional Center Drive	3,051
Avenida de la Carlota - El Toro Road to Plaza Lane / Mall Entrance	2,538
Avenida de la Carlota - Paseo de la Valencia / I-5 SB Ramps to El Toro Road	2,411
Avenida de la Carlota -Mall Driveway 3 to Oakbrook Village Driveway 1	1,250
Paseo de Valencia - Avenida de la Carlota to El Toro Road	1,011
Paseo de Valencia - Calle de la Plata to Calle de la Magdelena	2,044
Calle de la Louisa - Health Center Drive to Calle de los Caballeros	175
Calle de los Caballeros - Calle de la Louisa to Paseo de la Valencia	242
Los Alisos Blvd - Paseo de Valencia to Avenida de la Carlota	1,929

Source: Linscott, Law & Greenspan 2015

4.1 Ambient Noise Monitoring

Noise measurements were made using a Rion NL-32 integrating sound-level meter equipped with a 0.5-inch pre-polarized condenser microphone with pre-amplifier. The sound-level meter meets the current American National Standards Institute standard for a Type 1 (Precision) sound-level meter. The sound-level meter was calibrated before and after the measurements, and the measurements were conducted with the microphone positioned 5 feet above the ground and covered with a windscreen.

Short-term noise measurements are a reliable method of characterizing the typical noise environment in a given area, provided that the measurements are conducted during “normal” conditions (i.e., not during holidays or other special events, during off-peak hours, and not during meteorological “events” such as rainy, windy, or otherwise atypical conditions). The noise measurements were conducted at five locations in the project vicinity between 1:00 p.m. and 6:15 p.m. on September 16, 2015, and between 1:20 and 4:30 on September 22, 2015, as depicted in Figure 6, Noise Measurement and Modeling Locations. The sites are described as follows:

- Site M1- located on-site in the northwest quadrant of the project site, east of Calle de la Louisa;
- Site M2 - located on-site in the southeast quadrant of the project site, where on-site residential uses are proposed to be located west of Avenida de la Carlota and I-5;

- Site M3 - located adjacent to residences at the Villa Valencia Health Care Center, located immediately south of the proposed project site;
- Site M4 - located at the Saddleback Memorial Medical Center, west of the proposed project site;
- Site M5 - located south of the proposed project site, at the multi-family residential neighborhood west of Avenida de la Carlota and north of Los Alisos Boulevard;
- Site M6 - located at the multi-family residential neighborhood northwest of the intersection of Paseo de Valencia and Los Aliso Boulevard;
- Site M7 - located at the multi-family residential neighborhood northwest of the intersection of Paseo de Valencia and Avenida de la Carlota;
- Site M8 - located at the multi-family residential neighborhood northeast of the intersection of El Toro Road and Avenida Sevilla.

The measured average noise levels ranged from approximately 54 dBA L_{eq} at Site M3 to 66 dBA L_{eq} at Site M2 (see Table 7).

Table 7
Measured Noise Levels and CNEL

Site	Description	L_{eq}[a]	CNEL[b]
M1	On-Site northwest side of project site	55 dBA	57 dBA
M2	On-Site southeast side of project site	66 dBA	67 dBA
M3	South of project site - Villa Valencia	54 dBA	55 dBA
M4	West of project site - Saddleback Memorial Med Center	61 dBA	63 dBA
M5	South of project site – multi-family residential	56 dBA	58 dBA
M6	West of project site - multi-family residential	58 dBA	61 dBA
M7	North of project site multi-family residential	61 dBA	64 dBA
M8	Northwest of project site - multi-family residential	63 dBA	67 dBA

[a] Equivalent continuous sound level (time-average sound level)
[b] Community noise equivalent level (CNEL) based on diurnal noise patterns for roadways with greater than 10,000 average daily traffic

SOURCE: Bing Maps, 2015

FIGURE 6

Noise Measurement and Modeling Locations

DUDEK

Noise Technical Report

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5 PROJECT IMPACT ANALYSIS

5.1 Methodology

Operational Noise

The Federal Highway Administration's (FHWA) Traffic Noise Model (TNM) 2.5 was used to model noise generated by existing and future traffic along the roads (FHWA 2004). The TNM 2.5 noise model accepts as input the number and types of vehicles on the roadway, vehicle speeds, receiver locations, and other data, including noise attenuation from structures such as existing or future buildings or walls. The noise modeling data is summarized in Section 6 and is included as Appendix A.

5.2 Thresholds of Significance

The following significance criteria are based on Appendix G of the CEQA Guidelines and the General Plan Program EIR Significance Determination Thresholds. They provide the basis for determining significance of impacts associated with noise and vibration resulting from the proposed project. The determination of whether a noise impact would be significant is based on the applicable noise thresholds.

Impacts are considered significant if the project would result in any of the following:

- Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Expose persons to or generate excessive groundborne vibration or groundborne noise levels;
- Create a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project; or
- Create a substantial temporary or periodic increase in ambient noise levels in the project vicinity about levels existing without the project.

Supplemental Thresholds

California Department of Transportation

Substantial Noise Definition. CEQA does not define what constitutes a substantial increase in noise levels. However, the California Department of Transportation defines a substantial noise increase as being 12 dB above existing noise levels (Caltrans 2011).

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6 IMPACTS ANALYSIS

Implementation of the proposed project would result in two primary types of potential noise impacts: short-term (i.e., temporary) noise during construction and long-term noise during operation of the proposed project.

6.1 Short-Term Construction Noise

Construction noise and vibration are temporary phenomena. Construction noise and vibration levels will vary from hour-to-hour and day-to-day, depending on the equipment in use, the operations being performed, and the distance between the source and receptor.

Total construction is expected to take approximately 31 months. Equipment that would be in operation during construction includes excavators, backhoes, jackhammers, forklifts, compressors, cement mixers, concrete pumpers and haul trucks. The typical maximum noise levels for various pieces of construction equipment at a distance of 50 feet are presented in Table 8. Note that the equipment noise levels presented in Table 8 are maximum noise levels. The equipment operates in alternating cycles of full power and low power, thus, producing average noise levels less than the maximum level. The average sound level of the construction activity also depends upon the amount of time that the equipment operates and the intensity of the construction during the time period.

Table 8
Construction Equipment Maximum Noise Levels

Equipment Type	"Typical" Equipment dB(A) at 50 feet	"Quiet" [1]Equipment dB(A) at 50 feet
Air compressor	81	71
Backhoe	85	80
Concrete pump	82	80
Concrete vibrator	76	70
Crane	83	75
Truck	88	80
Dozer	87	83
Generator	78	71
Loader	84	80
Paver	88	80
Pneumatic tools	85	75

[1] Estimated levels obtainable by selecting quieter procedures or machines and implementing noise control features requiring no major redesign or extreme cost.

Table 8
Construction Equipment Maximum Noise Levels

Equipment Type	"Typical" Equipment dB(A) at 50 feet	"Quiet" [1]Equipment dB(A) at 50 feet
Water pump	76	71
Power hand saw	78	70
Shovel	82	80
Trucks	88	83

Source: DOT 2006

The maximum noise levels at 50 feet for typical equipment would range up to 88 dB for the type of equipment normally used for this type of development project, although the hourly noise levels would vary. Construction noise in a well-defined area typically attenuates at approximately 6 dB per doubling of distance. Construction would take place both near and far from adjacent existing, noise-sensitive land uses. Construction of the proposed residences along the southern project boundary would take place within approximately 50 feet of existing residences located to the south, for example, but during construction of other project components, construction would be more than 2,000 feet away, and likely shielded from direct view by intervening structures. Typically (because of the size of the project site), construction noise would occur at distances of between 200 and 500 feet from noise-sensitive uses.

The Federal Highway Administration's Roadway Construction Noise Model (RCNM) (FHWA 2008) was used to estimate construction noise levels at the nearest occupied noise-sensitive land use. Although the model was funded and promulgated by the FHWA, the RCNM is often used for non-roadway projects, because the same types of construction equipment used for roadway projects are also used for other project types. Input variables for RCNM consist of the receiver/land use types, the equipment type and number of each (e.g., two graders, a loader, a tractor), the duty cycle for each piece of equipment (e.g., percentage of hours the equipment typically works per day), and the distance from the noise-sensitive receiver. No topographical or structural shielding was assumed in the modeling. The RCNM has default duty cycle values for the various pieces of equipment, which were derived from an extensive study of typical construction activity patterns. Those default duty cycle values were utilized for this analysis.

Using the FHWA's RCNM construction noise model and construction information (types and number of construction equipment by phase) the estimated noise levels from construction were calculated for a representative range of distances, and summarized in Table 9, Construction Noise Model Results Summary. The RCNM inputs and outputs are provided in Appendix B.

Table 9
Construction Noise Model Results Summary

Construction Phase	Construction Noise at Representative Receiver Distances (Leq (dBA))			
	50 feet	*100 feet*	*200 feet*	*500 feet*
Building Construction 1 - Retail 1	89	85	79	71
Grading - Export 1	89	84	78	70
Demolition 1	87	82	76	68
Site Preparation	83	77	71	63
Trenching	86	80	74	66
Paving	84	78	72	64
Architectural Coating 1 - Retail 1	77	71	65	57
Grading - All Activities	89	84	78	70
Building Construction 2 - Retail 2	89	85	80	73
Building Construction 3 - Residential	88	84	80	73
Architectural Coating 2 - Retail 2	80	77	71	63
Architectural Coating 3 - Residential	79	74	68	60
Building Construction 4 - Parking	87	82	76	68
Demolition 2	88	83	77	69
Architectural Coating 4 - Parking	78	72	66	58
Building Construction 1 - Retail 1	89	85	79	71
Grading - Export 1	89	84	78	70

As shown in Table 9, the highest noise levels are predicted to occur during grading and phases 1 and 2 of building construction, when noise levels from typical (i.e., not quiet) equipment would be approximately 89 dBA L_{eq} at 50 feet. Short-term noise levels occurring near existing residences (specifically the Villa Valencia Health Care Center, an assisted living facility and a skilled nursing facility) or at Saddleback Memorial Medical Center would be well above existing ambient noise levels. Additionally, the 489 multi-story residential dwelling units that are part of the Oakbrook Village multi-use project to the south, would experience short-term noise increases as a result of construction of the proposed project. In accordance with Mitigation Measures N-1 and N-4 of the General Plan Program EIR, construction activities would occur only during hours permitted by the Section 5.24.070 of the City's Noise Ordinance (seven a.m. to eight p.m. on weekdays, eight a.m. to eight p.m. on Saturday, and not at any time on Sunday or federal holidays). Also in accordance with the General Plan Program EIR, the following noise minimization measures shall be implemented during construction:

- All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers.

- Installation of temporary sound barriers / shielding. This may comprise shielding of equipment in the vicinity of non-mobile equipment where this is the source, or alternatively shielding at the southern site boundary adjacent to residences.
- Construction noise reduction methods such as shutting off idling equipment, installing temporary acoustic barriers around stationary construction noise sources, maximizing the distance between construction equipment staging areas and occupied residential areas, and use of electric air compressors and similar power tools, rather than diesel equipment, shall be used where feasible.
- During construction, stationary construction equipment shall be placed such that emitted noise is directed away from or shielded from sensitive noise receivers.
- During construction, stockpiling and vehicle staging areas shall be located as far as practical from noise sensitive receptors.

Effectiveness of these mitigation measures would vary from several decibels (which in general is a relatively small change) to 10 or more decibels (which subjectively would be perceived as a substantial change), depending upon the specific equipment and the original condition of that equipment, the specific locations of the noise sources and the receivers, etc. Installation of a noise barrier, for example, would vary in effectiveness depending upon the degree to which the line-of-sight between the source and receiver is broken, and typically ranges from 5 to 10 dB. Installation of more effective silencers could range from several decibels to well over 10 dB. Reduction of idling equipment could reduce overall noise levels from barely any reduction to several decibels. Cumulatively, however, these measures would result in marked decreases in the noise from construction. With incorporation of mitigation, short-term construction impacts associated with exposure of persons to or generation of noise levels in excess of established standards would be less than significant, and the level of impact would not increase from those levels identified in the General Plan Program EIR. With implementation of these measures, noise impacts from construction would be **less than significant**.

6.2 Operational Noise

6.2.1 On-Site Operational Noise

Potential operational noise sources associated with the proposed project include heating-ventilation-air-conditioning (HVAC) equipment, commercial truck deliveries, and any sizable surface parking lots (exterior parking areas not enclosed in a garage or parking structure). Long-term operational noise also includes project-generated traffic along the nearby arterial roadways.

HVAC Noise

Mechanical HVAC equipment located on the ground or on rooftops of new buildings have the potential to generate high noise levels. The specific details (locations, sizes, manufacturers, and models) of the equipment have not yet been determined. The noise levels generated by HVAC equipment vary, but typically range from approximately 50 dBA to 65 dBA at a distance of 50 feet (City of Santa Ana 2010).[2] For a single point source such as a piece of mechanical equipment, the sound level normally decreases by about 6 dBA for each doubling of distance from the source under "hard-surface" conditions typical of a developed commercial site. The HVAC noise levels, if located within approximately 275 feet of the exteriors of the nearest existing noise-sensitive receptors to the project site, have the potential to exceed the City of Laguna Hills noise standard for stationary source noise at residential uses (55 dBA L_{eq} from 7 a.m. to 10 p.m., 50 dBA L_{eq} from 10 p.m. to 7 a.m.) at the nearest existing noise-sensitive receptors to the proposed project of on-site residential structures. Additionally, the HVAC has the potential to exceed the City's noise standard at the proposed future on-site residences. Implementation of the General Plan Program EIR mitigation measures, as described below, would reduce this impact to less than significant.

Truck Deliveries, Proposed Parking Structure and Surface Parking Noise

In addition to HVAC systems, commercial and mixed-use projects also have the potential to generate noise from truck deliveries and other mechanical equipment. Noise levels associated with commercial uses generally range from 65 dBA to 69 dBA at a distance of 50 feet from the noise source (PBS&J 2009).[3] Although most of the commercial land uses would be operating from 9:00 a.m. to 9:00 p.m., certain businesses such as restaurants, bars, and movie theaters would likely have later operating hours (i.e., past 10 p.m.). Commercial development would have the potential to result in noise levels above the City's Municipal Code daytime noise standard of 55 dBA L_{eq} within approximately 250 feet of the source, and would have the potential to result in noise levels above the City's nighttime noise standard of 50 dBA Leq within approximately 450 feet of the source. Commercial land uses would be located immediately adjacent to proposed on-site multi-family residential land uses. Therefore, any proposed noise-sensitive land use located with an unobstructed view and within 250 feet of commercial development operating between 7 a.m. and 10 p.m. could be exposed to noise levels that exceed the acceptable exterior noise level threshold of 55 dBA L_{eq}; any proposed noise-sensitive uses located with an unobstructed view and within 450 feet of commercial development operating between 10 p.m. and 7 a.m. could be

[2] Reference provides a representation of typical HVAC equipment noise from residential and commercial uses in Orange County.

[3] Reference provides a source for typical noise levels from commercial land uses.

exposed to noise levels that exceed the acceptable exterior noise level threshold of 50 dBA Leq. The mitigation measures provided below from the General Plan Program EIR would reduce this impact to less than significant.

Noise sources from parking lots include car alarms, door slams, radios, and tire squeals. These sources typically produce noise levels ranging from 55 to 70 dBA at 50 feet (Mestre Greve Associates 2011),[4] and are generally very brief (several seconds or less) and intermittent. Parking lots have the potential to generate noise levels that exceed 65 dBA depending on the location of the source; however, noise sources from the parking lot would be different from each other in kind, duration, and location, so that the overall effects would be separate and in most cases would not affect noise-sensitive receptors at the same time. Therefore, noise generated from parking lots would be less than significant.

Similarly, traffic associated with the proposed parking structure would not be of sufficient volume to exceed community noise standards based on a time-averaged scale such as community noise equivalent level (CNEL) or L_{eq} (Mestre Greve Associates 2011).[5] However, the instantaneous maximum sound levels generated by a car door slamming, an engine starting up, or cars passing by could be annoying to proposed on-site residences located to the south, or to patients of the Saddleback Memorial Medical Center to the west. Tire squeal associated with the parking structure likely would not be a factor, as the parking structure would be designed and conditioned to include surfaces that reduce noise generated by tire squeal.

In accordance with Mitigation Measure N-1 of the General Plan Program EIR, a subsequent acoustical analysis will be required prior to approval of final occupancy permits, ensuring that noise from both on-site and off-site noise-generating activities is in compliance with the City of Laguna Hills Municipal Code and General Plan noise standards at on-site noise-sensitive receptors (i.e., the proposed multifamily residential uses) and complies with the Municipal Code at existing off-site noise-sensitive receptors. Based on final site and floor plans, the acoustical analysis would make recommendations related to specific design features such as upgraded, triple-glazed windows, thicker drywall, or denser insulation, all of which are proven to attenuate noise. This subsequent acoustical analysis would ultimately determine which particular design features are needed to comply with applicable 45 dBA CNEL interior noise standard.

4 Reference provides a source for typical noise levels from parking lot activities.
5 Reference provides a source for typical noise levels from parking lot activities.

6.2.2 Off-Site Traffic Noise

The proposed project would generate traffic along adjacent roadways including Avenida de la Carlota, Paseo de Valencia, El Toro Road, Los Alisos Boulevard, Calle de la Louisa and the I-5 freeway. Potential noise effects from vehicular traffic were assessed using the Federal Highway Administration's Traffic Noise Model version 2.5. Information used in the model included the existing (Year 2015), existing plus project, future (Year 2018) without project, and future (Year 2018) with project traffic volumes and speeds. The peak-hour volumes for the local arterials were obtained from the traffic study prepared for the proposed project (Linscott, Law & Greenspan 2015). Traffic volumes for I-5 were obtained from Caltrans (Caltrans, 2013). Noise levels were modeled at representative noise-sensitive receivers. The receivers (M1–M8 and R1–R11) were modeled to be five feet above the local ground elevation, with the exception of future on-site residential receivers R6, R7, R9 and R10, which were modeled at 2nd- and 3rd-floor elevations.

As shown in Figure 5 (Noise Measurement and Modeling Locations), ten receptors (M3–M8 and R1–R4) represent existing off-site residences (except for M4 which represents Saddleback Memorial Medical Center), and nine receptors (M1, M2, and R5–R11) represent proposed on-site uses. Traffic noise impacts were calculated by comparing the existing (2015) baseline conditions, existing plus project, future (Year 2018) without project, and future (Year 2018) with project traffic scenarios.

The information provided from this modeling, along with the results from ambient noise survey measurements, was compared to the noise impact significance criteria to assess whether project-related traffic noise would cause a significant impact and, if so, where. The results of the comparisons are presented in Table 10 (Project-Related Traffic Noise).

Table 10
Project-Related Traffic Noise (dBA CNEL)

Modeled Receptor	Roadway Segment	Existing (Year 2015)	Existing (Year 2015) with Project	Year 2018	Year 2018 with Project	Maximum Noise Level Increase (dB)
M1 - On-Site Northwest side of Project	Calle de la Louisa	55	56	55	56	1
M2 - On-Site Southeast side of Project	Avenida de la Carlota, I-5	70	71	71	71	1
M3 - Villa Valencia	Calle de la Louisa, Calle de los Caballeros	56	56	56	56	0
M4 - Saddleback Memorial Medical Center	Calle de la Louisa	61	61	61	61	0

Table 10
Project-Related Traffic Noise (dBA CNEL)

Modeled Receptor	Roadway Segment	Existing (Year 2015)	Existing (Year 2015) with Project	Year 2018	Year 2018 with Project	Maximum Noise Level Increase (dB)
M5 - Multi Family Residential	Avenida de la Carlota	63	63	63	63	0
M6 - Multi Family Residential	Paseo de Valencia	61	61	61	62	1
M7 - Multi Family Residential	Avenida de la Carlota	64	64	64	64	0
M8 - Multi Family Residential	El Toro Road	64	64	64	64	0
R1 - Multi Family Residential	Los Alisos Boulevard, Paseo de Valencia	65	65	65	65	0
R2 - Multi Family Residential	Los Alisos Boulevard, Avenida de la Carlota	62	62	62	62	0
R3 - Multi Family Residential	Paseo de Valencia	64	64	64	64	0
R4 - Multi Family Residential	Paseo de Valencia, Avenida de la Carlota	64	64	64	64	0
R5 – Proposed Multi Family Future Residential 1st Floor	Avenida de la Carlota, I-5	72	72	72	72	0
R6 - Proposed Multi Family Future Residential 2nd Floor	Avenida de la Carlota, I-5	73	73	73	74	1
R7 - Proposed Multi Family Future Residential 3rd Floor	Avenida de la Carlota, I-5	77	77	77	77	0
R8 - Proposed Multi Family Future Residential 1st Floor	Calle de la Louisa	57	57	57	57	0
R9 - Proposed Multi Family Future Residential 2nd Floor	Calle de la Louisa	59	59	59	59	0
R10 - Proposed Multi Family Future Residential 3rd Floor	Calle de la Louisa	59	60	60	60	1
R11 - Proposed Multifamily Future Residential, Courtyard Area	Calle de La Louisa	55	55	55	55	0

Source: FHWA 2004; Appendix C.
Note: Traffic noise levels are rounded to the nearest whole numbers.

As Table 10 (Project-Related Traffic Noise) shows, the Proposed Project would increase the noise level along these roads by one dB or less (rounded to whole numbers) along the study area roadways. In the context of community noise, a one dB increase is not noticeable to the human ear. Therefore, due to the anticipated amount of increase in noise level (one dB) with implementation of the Proposed Project, noise impacts due to project-related traffic are not anticipated to be significant. The proposed project is not anticipated to result in significant noise

increases or cause an exceedance of applicable noise standards at any of the off-site noise-sensitive receptors. Therefore, the impact from traffic noise associated with the proposed project would be **less than significant.**

Traffic Noise at Proposed On-Site Noise-Sensitive Land Uses. At receptors R5–R11, on-site future with project traffic noise levels are predicted to range from 55 dBA CNEL at R11 (Proposed multifamily future residential land uses at the 1st floor level, inside the courtyard area) to 77 dBA CNEL at R7 (Proposed multifamily future residential land uses at the 3rd floor level, adjacent to Avenida de la Carlota and the I-5).

The City's Municipal Code does not set forth exterior noise standards related to noise exposure (only for noise generation), and thus, are not applicable to noise from non-stationary, traffic-related sources. Nonetheless, Mitigation Measures N-1 and N-2 from the General Plan Program EIR specify that the City shall enforce California Title 24 Noise Standards to ensure an acceptable interior noise level of 45 dBA CNEL in habitable rooms. General Plan Program EIR Mitigation Measure N-1 also states that the City requires acoustical analysis for discretionary projects where noise sensitive land uses are located within the existing or future 60 dBA CNEL or higher contour. In accordance with General Plan Program EIR Mitigation Measure N-1, a subsequent acoustical analysis would be required prior to approval of final occupancy permits, ensuring that noise from both on-site and off-site noise-generating activities is in compliance with the City's Municipal Code and General Plan noise standards at on-site noise-sensitive receptors (i.e., the proposed multifamily residential uses) and complies with the Municipal Code at existing off-site noise-sensitive receptors. Based on final site and floor plans, the acoustical analysis would make recommendations related to specific design features such as upgraded, triple-glazed windows, thicker drywall, or denser insulation, all of which are proven to attenuate noise. This subsequent acoustical analysis would ultimately determine which particular design features are needed to comply with applicable 45 dBA CNEL interior noise standard. Therefore, the impact from off-site traffic noise on the proposed project would be **less than significant**.

6.3 Groundborne Vibration

Groundborne vibration is a small, rapidly fluctuating motion transmitted through the ground that diminishes (attenuates) fairly rapidly over distance. The project would not create substantial levels of groundborne vibration during operation. Anticipated groundborne vibration from heavy equipment operations during construction of the proposed project was evaluated and compared to relevant vibration impact criteria using the Federal Transit Administration's Transit Noise and Vibration Impact Assessment, which provides vibration impact criteria and recommended methodologies and guidance for assessment of vibration effects (FTA 2006).

Because of the proximity of existing healthcare facilities and residences, pile driving will not be conducted. As an alternative to pile-driving, the proposed multi-level structures may be supported on a shallow foundation system utilizing a properly designed ground improvement program. For this project, deep soil mixing (DSM) is a likely ground improvement option. DSM is the mechanical blending of the in-situ soil with cementious materials using a hollow auger and paddle arrangement. Soil-mixing rigs may have a single auger (about 2 to 12 feet in diameter) or several smaller-diameter augers (usually 2 to 8 augers). As the augers are advanced into the soil, grout is pumped through the stems and injected into the soil at the tips. After the design depth has been reached, the augers are withdrawn while the mixing process continues. The soil-mixing process results in a fairly uniform soil-cement column. DSM solidifies "columns" of soil in the treated area and the resulting soil-cement matrix helps to redistribute the stresses in the soil, thus reducing the settlement of the ground surface. This planned method would achieve the same result as pile driving, without the relatively high noise and vibration levels typically associated with traditional pile-driving methods.

At a distance of approximately 50 feet, the vibration level from heavy construction machinery (such as a loaded truck or a drilling rig) would be between approximately 0.027 peak particle velocity in inches per second (PPV IPS) and 0.031 PPV IPS. Vibration levels of this magnitude would likely be perceptible at nearby residences, but they would be well below the Federal Transit Administration's threshold of potential damage for normal structures (0.20 PPV IPS) and would not be considered excessive. Therefore, short-term construction-related vibration impacts would be **less than significant**.

6.4 Cumulative Impacts

As shown in Table 10 long-term traffic noise levels are estimated to range from 55 dBA CNEL to 77 dBA CNEL without the project, and from 56 dBA CNEL to 77 dBA CNEL with the project. Compared to the modeled existing noise levels, the existing with project noise levels would result in a change in noise levels ranging from zero to one dBA (when rounded to whole decibels). The project is estimated to result in no exceedances of the City of Laguna Hills 65 dBA CNEL exterior noise standard. Therefore, traffic noise from the project would be **less than significant**.

7 SUMMARY AND CONCLUSIONS

The noise impact analysis evaluates the potential for significant adverse impacts due to construction and operation of the proposed project. With the implementation of the noise minimization measures specified in this report, which are consistent with the General Plan Program EIR, short-term and long-term noise and vibration levels associated with the proposed project would not result in the exceedance of City of Laguna Hills noise standards, nor would the project result in a substantial increase in traffic noise. Therefore, noise levels associated with the project were found to be **less than significant**.

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APPENDIX A

Field Noise Measurement Data

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FIELD NOISE MEASUREMENT DATA

PROJECT: Five Lagunas
PROJECT #: 8914
SITE ID: M1
SITE ADDRESS: Laguna Hills Mall, 23531 Calle de la Louisa
OBSERVER(S): Caitlin Munson
START DATE: 9-22-2015 END DATE: 9-22-2015
START TIME: 3:41 PM END TIME: 4:01 PM

METEOROLOGICAL CONDITIONS

TEMP: 90 F HUMIDITY: 53 % R.H. WIND: (CALM) LIGHT MODERATE
WINDSPD: 1-3 MPH DIR. N NE S SE S SW W NW VARIABLE STEADY GUSTY
SKY: (SUNNY) (CLEAR) OVRCAST PRTLY CLDY FOG RAIN

ACOUSTIC MEASUREMENTS

MEAS. INSTRUMENT: Rion NL-32 TYPE (1) 2 SERIAL # 01030561
CALIBRATOR: Rion NC-74 SERIAL # 35125809
CALIBRATION CHECK PRE-TEST 94.1 dBA SPL POST-TEST 94.1 dBA SPL WINDSCRN ✓

SETTINGS: (A-WTD) (SLOW) FAST FRONTAL RANDOM (ANSI) OTHER:

REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
1	3:41	4:01	54.8	65.5	49.5	51.0	52.7	57.9	

COMMENTS

SOURCE INFO AND TRAFFIC COUNTS

PRIMARY NOISE SOURCE: (TRAFFIC) AIRCRAFT RAIL INDUSTRIAL OTHER:
ROADWAY TYPE: Calle de la Louisa DIST. TO RDWY C/L OR EOP: 90 feet from Calle de la Louisa

TRAFFIC COUNT DURATION: 20 MIN SPEED ___ MIN SPEED

COUNT 1 (OR RDWY 1) DIRECTION	NB/EB	SB/WB	NB/EB	SB/WB	IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE ___	COUNT 2 (OR RDWY 2) NB/EB	SB/WB	NB/EB	SB/WB
AUTOS	59	42							
MED TRKS	Ø	1							
HVY TRKS	Ø	Ø							
BUSES	4	4							
MOTRCLS	Ø	Ø							

SPEEDS ESTIMATED BY: RADAR / DRIVING THE PACE
POSTED SPEED LIMIT SIGNS SAY:

OTHER NOISE SOURCES (BACKGROUND): (DIST. AIRCRAFT) RUSTLING LEAVES DIST. BARKING DOGS (BIRDS) DIST. INDUSTRIAL
DIST. KIDS PLAYING DIST. CONVRSTNS / YELLING DIST. TRAFFIC (LIST RDWYS BELOW) DISTD GARDENERS/LANDSCAPING NOISE
OTHER: garbage truck

DESCRIPTION / SKETCH

TERRAIN HARD SOFT (MIXED) FLAT OTHER:
PHOTOS
OTHER COMMENTS / SKETCH

DUDEK

FIELD NOISE MEASUREMENT DATA

PROJECT: Five Lagunas — PROJECT #: 8914
SITE ID: M2
SITE ADDRESS: Laguna Hills Mall, Avenida de la Carlota — OBSERVER(S): Caitlin Munson
START DATE: 9-22-2015 — END DATE: 9-22-2015
START TIME: 4:11 — END TIME: 4:31

METEOROLOGICAL CONDITIONS

TEMP: 90 F — HUMIDITY: 53 % R.H. — WIND: (CALM) LIGHT MODERATE
WINDSPD: 1-3 MPH — DIR. N NE S SE S SW W NW — VARIABLE STEADY GUSTY
SKY: (SUNNY) (CLEAR) OVRCAST PRTLY CLDY FOG RAIN

ACOUSTIC MEASUREMENTS

MEAS. INSTRUMENT: Rion NL-32 — TYPE (1) 2 — SERIAL #: 01030561
CALIBRATOR: Rion NC-74 — SERIAL #: 35125809
CALIBRATION CHECK — PRE-TEST: 94.1 dBA SPL — POST-TEST: 94.1 dBA SPL — WINDSCRN: ✓

SETTINGS: (A-WTD) (SLOW) FAST FRONTAL RANDOM (ANSI) OTHER:

REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
1	4:11	4:31	66.3	73.8	60.7	62.7	66.0	68.0	

COMMENTS

SOURCE INFO AND TRAFFIC COUNTS

PRIMARY NOISE SOURCE: (TRAFFIC) AIRCRAFT RAIL INDUSTRIAL OTHER: Interstate-5
ROADWAY TYPE: Avenida de la Carlota — DIST. TO RDWY C/L OR EOP: 50 feet from Ave De La Carlota

TRAFFIC COUNT DURATION: 20 MIN — SPEED 40 mph — ___ MIN — SPEED

COUNT 1 (OR RDWY 1)

DIRECTION	(NB)/EB	(SB)/WB	NB/EB	SB/WB
AUTOS	119	231		
MED TRKS	1	1		
HVY TRKS	Ø	1		
BUSES	Ø	3		
MOTRCLS	Ø	Ø		

IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE ___

COUNT 2 (OR RDWY 2)

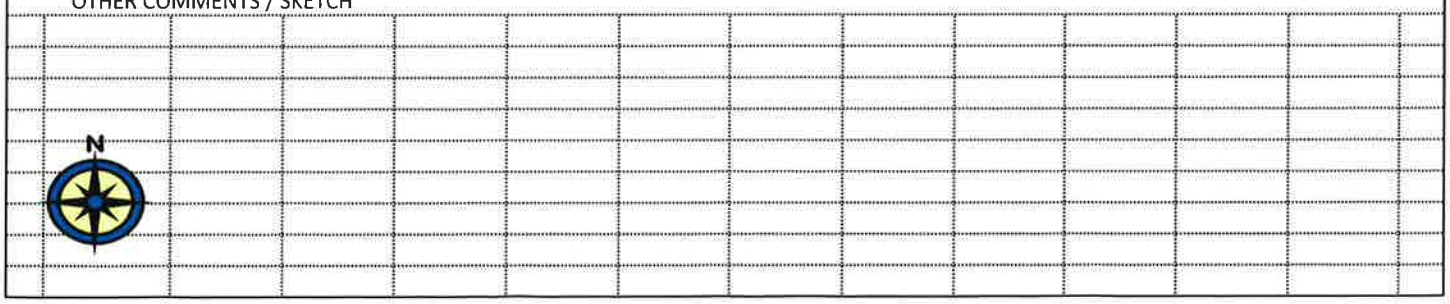
	NB/EB	SB/WB	NB/EB	SB/WB

SPEEDS ESTIMATED BY: RADAR / (DRIVING THE PACE)
POSTED SPEED LIMIT SIGNS SAY: 40 MPH

OTHER NOISE SOURCES (BACKGROUND): DIST. AIRCRAFT RUSTLING LEAVES DIST. BARKING DOGS BIRDS DIST. INDUSTRIAL
DIST. KIDS PLAYING DIST. CONVRSTNS / YELLING DIST. TRAFFIC (LIST RDWYS BELOW) DISTD GARDENERS/LANDSCAPING NOISE
OTHER:

DESCRIPTION / SKETCH

TERRAIN: HARD SOFT (MIXED) FLAT OTHER:
PHOTOS
OTHER COMMENTS / SKETCH



DUDEK

FIELD NOISE MEASUREMENT DATA

PROJECT: Five Lagunas
PROJECT #: 8914
SITE ID: M3
SITE ADDRESS: 24350 Calle de los Caballeros
OBSERVER(S): Caitlin Munson
START DATE: 9-16-2015 END DATE: 9-16-2015
START TIME: 5:16 END TIME: 5:36

METEOROLOGICAL CONDITIONS

TEMP: 81 F HUMIDITY: 48 % R.H. WIND: (CALM) LIGHT MODERATE
WINDSPD: 0-2 MPH DIR. N NE S SE S SW W NW VARIABLE STEADY GUSTY
SKY: (SUNNY) (CLEAR) OVRCAST PRTLY CLDY FOG RAIN

ACOUSTIC MEASUREMENTS

MEAS. INSTRUMENT: Rion NL-32 TYPE (1) 2 SERIAL # 01030561
CALIBRATOR: Rion NC-74 SERIAL # 35125809
CALIBRATION CHECK PRE-TEST 94.1 dBA SPL POST-TEST 94.1 dBA SPL WINDSCRN ✓

SETTINGS: (A-WTD) (SLOW) FAST FRONTAL RANDOM (ANSI) OTHER:

REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
1	5:16	5:36	53.9	74.0	50.4	51.4	53.1	55.6	

COMMENTS

SOURCE INFO AND TRAFFIC COUNTS

PRIMARY NOISE SOURCE: (TRAFFIC) AIRCRAFT RAIL INDUSTRIAL OTHER:
ROADWAY TYPE: Calle De Los Caballeros DIST. TO RDWY C/L OR EOP: 20 feet from Calle De Los Caballeros

TRAFFIC COUNT DURATION: 20 MIN SPEED ___ MIN SPEED

COUNT 1 (OR RDWY 1) DIRECTION	NB/(EB)	SB/(WB)	NB/EB	SB/WB	IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE ___	COUNT 2 (OR RDWY 2) NB/EB	SB/WB	NB/EB	SB/WB
AUTOS	31	23							
MED TRKS	Ø	Ø							
HVY TRKS	Ø	Ø							
BUSES	Ø	Ø							
MOTRCLS	Ø	Ø							

SPEEDS ESTIMATED BY: RADAR / (DRIVING THE PACE)
POSTED SPEED LIMIT SIGNS SAY:

OTHER NOISE SOURCES (BACKGROUND): DIST. AIRCRAFT (RUSTLING LEAVES) DIST. BARKING DOGS (BIRDS) DIST. INDUSTRIAL
DIST. KIDS PLAYING DIST. CONVRSTNS / YELLING DIST. TRAFFIC (LIST RDWYS BELOW) DISTD GARDENERS/LANDSCAPING NOISE
OTHER: Distant Construction

DESCRIPTION / SKETCH

TERRAIN HARD SOFT (MIXED) FLAT OTHER:
PHOTOS
OTHER COMMENTS / SKETCH

N

DUDEK

FIELD NOISE MEASUREMENT DATA

PROJECT	Fox Lagunas	PROJECT #	8914
SITE ID	M4		
SITE ADDRESS	24451 Health Center Drive	OBSERVER(S)	Caitlin Munson
START DATE	9-16-2015	END DATE	9-16-2015
START TIME	5:54	END TIME	6:14

METEOROLOGICAL CONDITIONS

TEMP 81 F HUMIDITY 48 % R.H. WIND (CALM) LIGHT MODERATE

WINDSPD 0-2 MPH DIR. N NE S SE S SW W NW VARIABLE STEADY GUSTY

SKY (SUNNY) (CLEAR) OVRCAST PRTLY CLDY FOG RAIN

ACOUSTIC MEASUREMENTS

MEAS. INSTRUMENT Rion NL-32 TYPE (1) 2 SERIAL # 01030561

CALIBRATOR Rion NC-74 SERIAL # 35175809

CALIBRATION CHECK PRE-TEST 94.1 dBA SPL POST-TEST 94.1 dBA SPL WINDSCRN ✓

SETTINGS (A-WTD) (SLOW) FAST FRONTAL RANDOM (ANSI) OTHER:

REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
1	5:54	6:14	60.8	81.1	48.0	49.0	57.6	63.0	

COMMENTS

SOURCE INFO AND TRAFFIC COUNTS

PRIMARY NOISE SOURCE (TRAFFIC) AIRCRAFT RAIL INDUSTRIAL OTHER:

ROADWAY TYPE: Calle De La Louisa DIST. TO RDWY C/L OR EOP: 20 feet from Calle De La Louisa

TRAFFIC COUNT DURATION: 20 MIN SPEED ___ MIN SPEED

COUNT 1 (OR RDWY 1)	DIRECTION	(NB)/EB	(SB)/WB	NB/EB	SB/WB
	AUTOS	27	32		
	MED TRKS	Ø	Ø		
	HVY TRKS	Ø	Ø		
	BUSES	3	3		
	MOTRCLS	Ø	Ø		

IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE ___

COUNT 2 (OR RDWY 2)	NB/EB	SB/WB	NB/EB	SB/WB

SPEEDS ESTIMATED BY: RADAR / DRIVING THE PACE

POSTED SPEED LIMIT SIGNS SAY:

OTHER NOISE SOURCES (BACKGROUND): DIST. AIRCRAFT RUSTLING LEAVES DIST. BARKING DOGS BIRDS DIST. INDUSTRIAL DIST. KIDS PLAYING (DIST. CONVRSTNS / YELLING) DIST. TRAFFIC (LIST RDWYS BELOW) DISTD GARDENERS/LANDSCAPING NOISE

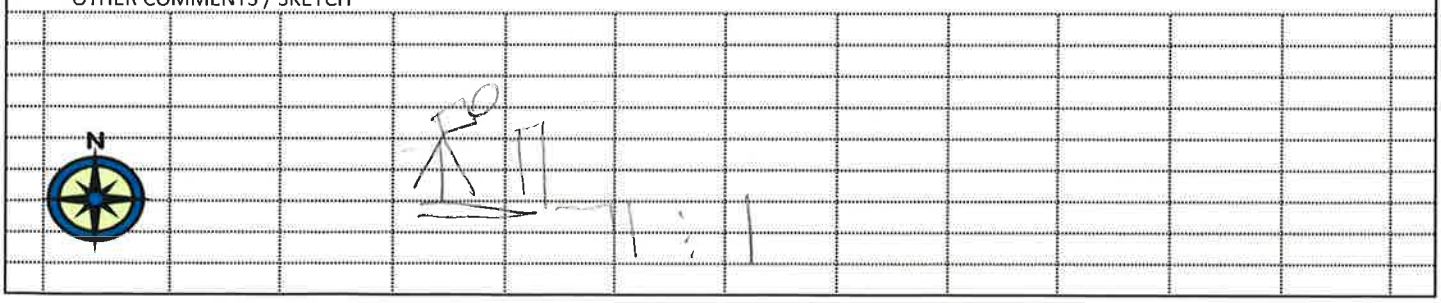
OTHER:

DESCRIPTION / SKETCH

TERRAIN HARD SOFT (MIXED) FLAT OTHER:

PHOTOS

OTHER COMMENTS / SKETCH



DUDEK

FIELD NOISE MEASUREMENT DATA

PROJECT: Five Lagunas
PROJECT #: 8914
SITE ID: M5
SITE ADDRESS: 24513 Los Alisos Blvd
OBSERVER(S): Caitlin Munson
START DATE: 9-16-15 END DATE: 9-16-15
START TIME: 3:40 END TIME: 4:06

METEOROLOGICAL CONDITIONS

TEMP: 81 F HUMIDITY: 48 % R.H. WIND: (CALM) LIGHT MODERATE
WINDSPD: 0-1 MPH DIR. N NE S SE S SW W NW VARIABLE STEADY GUSTY
SKY: (SUNNY) (CLEAR) OVRCAST PRTLY CLDY FOG RAIN

ACOUSTIC MEASUREMENTS

MEAS. INSTRUMENT: Rion NL-32 TYPE (1) 2 SERIAL # 01030561
CALIBRATOR: Rion NC-74 SERIAL # 35125804
CALIBRATION CHECK PRE-TEST 94.1 dBA SPL POST-TEST 94.1 dBA SPL WINDSCRN ✓

SETTINGS (A-WTD) (SLOW) FAST FRONTAL RANDOM (ANSI) OTHER:

REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
1	3:40	4:06	56.4	65.3	51.9	53.7	55.8	58.0	

COMMENTS

SOURCE INFO AND TRAFFIC COUNTS

PRIMARY NOISE SOURCE: (TRAFFIC) AIRCRAFT RAIL INDUSTRIAL OTHER:
ROADWAY TYPE: Ave de la Carlota DIST. TO RDWY C/L OR EOP: 110 feet from Ave De La Carlota
TRAFFIC COUNT DURATION: 20 MIN SPEED 40 MPH ___ MIN SPEED

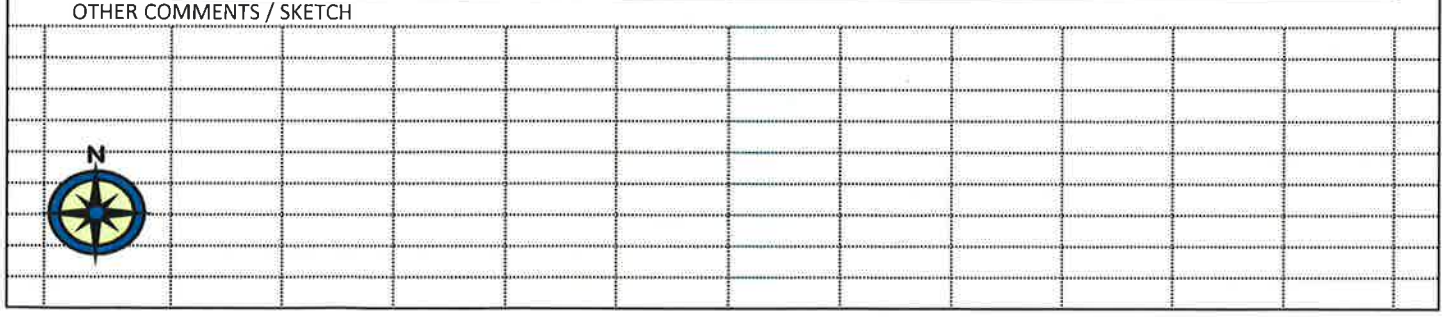
COUNT 1 (OR RDWY 1) DIRECTION	(NB/EB)	(SB/WB)	NB/EB	SB/WB	IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE	COUNT 2 (OR RDWY 2) NB/EB	SB/WB	NB/EB	SB/WB
AUTOS	101	197							
MED TRKS	1	Ø							
HVY TRKS	Ø	Ø							
BUSES	1	Ø							
MOTRCLS	1	3							

SPEEDS ESTIMATED BY: RADAR / (DRIVING THE PACE)
POSTED SPEED LIMIT SIGNS SAY: 40 MPH

OTHER NOISE SOURCES (BACKGROUND): (DIST. AIRCRAFT) RUSTLING LEAVES DIST. BARKING DOGS BIRDS DIST. INDUSTRIAL
DIST. KIDS PLAYING DIST. CONVRSTNS / YELLING DIST. TRAFFIC (LIST RDWYS BELOW) DISTD GARDENERS/LANDSCAPING NOISE
OTHER: construction noise, air horn

DESCRIPTION / SKETCH

TERRAIN HARD SOFT (MIXED) FLAT OTHER:
PHOTOS
OTHER COMMENTS / SKETCH



DUDEK

FIELD NOISE MEASUREMENT DATA

PROJECT	Five Lagunas	PROJECT #	8914
SITE ID	M6		
SITE ADDRESS	24522 Paseo De Valencia	OBSERVER(S)	Caitlin Munson
START DATE	9-22-2015	END DATE	9-22-2015
START TIME	1:21 PM	END TIME	1:42 PM

METEOROLOGICAL CONDITIONS

TEMP 90 F HUMIDITY 53 % R.H. WIND (CALM) LIGHT MODERATE

WINDSPD 1-3 MPH DIR. N NE S SE S SW W NW VARIABLE STEADY GUSTY

SKY (SUNNY) (CLEAR) OVRCAST PRTLY CLDY FOG RAIN

ACOUSTIC MEASUREMENTS

MEAS. INSTRUMENT Rion NL-32 TYPE (1) 2 SERIAL # 01030561

CALIBRATOR Rion NC-74 SERIAL # 35125809

CALIBRATION CHECK PRE-TEST 94.1 dBA SPL POST-TEST 94.1 dBA SPL WINDSCRN ✓

SETTINGS (A-WTD) (SLOW) FAST FRONTAL RANDOM (ANSI) OTHER:

REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
1	1:21	1:42	57.8	68.2	49.2	51.6	56.4	61.1	

COMMENTS

SOURCE INFO AND TRAFFIC COUNTS

PRIMARY NOISE SOURCE (TRAFFIC) AIRCRAFT RAIL INDUSTRIAL OTHER:

ROADWAY TYPE: Paseo De Valencia DIST. TO RDWY C/L OR EOP: 30 feet from Paseo De Valencia

TRAFFIC COUNT DURATION: 20 MIN SPEED ___ MIN SPEED

COUNT 1 (OR RDWY 1) DIRECTION	(NB)/EB	(SB)/WB	NB/EB	SB/WB	IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE	COUNT 2 (OR RDWY 2)	NB/EB	SB/WB	NB/EB	SB/WB
AUTOS	201	180								
MED TRKS	1	1								
HVY TRKS	Ø	Ø								
BUSES	5	3								
MOTRCLS	1	1								

SPEEDS ESTIMATED BY: RADAR / DRIVING THE PACE

POSTED SPEED LIMIT SIGNS SAY:

OTHER NOISE SOURCES (BACKGROUND): DIST. AIRCRAFT (RUSTLING LEAVES) DIST. BARKING DOGS (BIRDS) DIST. INDUSTRIAL DIST. KIDS PLAYING DIST. CONVRSTNS / YELLING DIST. TRAFFIC (LIST RDWYS BELOW) (DISTD GARDENERS/LANDSCAPING NOISE)

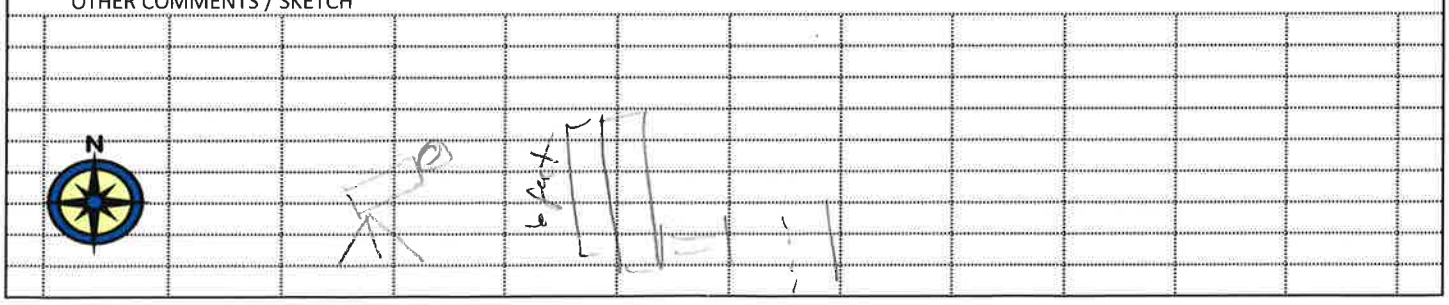
OTHER: AC Unit

DESCRIPTION / SKETCH

TERRAIN HARD SOFT (MIXED) FLAT OTHER:

PHOTOS

OTHER COMMENTS / SKETCH



DUDEK

FIELD NOISE MEASUREMENT DATA

PROJECT	Five Lagunas	PROJECT #	8911
SITE ID	M7		
SITE ADDRESS	23999 Ronda Granada	OBSERVER(S)	Caitlin Munson
START DATE	9-16-15	END DATE	9-16-15
START TIME	2:18	END TIME	2:38

METEOROLOGICAL CONDITIONS

TEMP 81 F HUMIDITY 52 % R.H. WIND (CALM) LIGHT MODERATE

WINDSPD 1-4 MPH DIR. N NE S SE S SW W NW VARIABLE STEADY GUSTY

SKY (SUNNY) (CLEAR) OVRCAST PRTLY CLDY FOG RAIN

ACOUSTIC MEASUREMENTS

MEAS. INSTRUMENT Rion NL-32 TYPE (1) 2 SERIAL # 01030561

CALIBRATOR Rion NC-74 SERIAL # 35125809

CALIBRATION CHECK PRE-TEST 94.1 dBA SPL POST-TEST 94.1 dBA SPL WINDSCRN ✓

SETTINGS (A-WTD) (SLOW) FAST FRONTAL RANDOM (ANSI) OTHER:

REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
1	2:18	2:38	61.3	77.1	52.0	55.0	58.8	64.6	

COMMENTS

SOURCE INFO AND TRAFFIC COUNTS

PRIMARY NOISE SOURCE (TRAFFIC) AIRCRAFT RAIL INDUSTRIAL OTHER: Construction on Ave De La Carlota

ROADWAY TYPE: Paseo de Valencia DIST. TO RDWY C/L OR EOP: 15 feet from Ave De La Carlota

TRAFFIC COUNT DURATION: 20 MIN SPEED ___ MIN SPEED

COUNT 1 (OR RDWY 1) DIRECTION	(NB/EB)	(SB/WB)	NB/EB	SB/WB	IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE ___	COUNT 2 (OR RDWY 2) NB/EB	SB/WB	NB/EB	SB/WB
AUTOS	200	171							
MED TRKS	2	1							
HVY TRKS	1	1							
BUSES	2	Ø							
MOTRCLS	Ø	Ø							

SPEEDS ESTIMATED BY: RADAR / (DRIVING THE PACE)

POSTED SPEED LIMIT SIGNS SAY: 40 MPH

OTHER NOISE SOURCES (BACKGROUND): DIST. AIRCRAFT RUSTLING LEAVES DIST. BARKING DOGS BIRDS DIST. INDUSTRIAL DIST. KIDS PLAYING DIST. CONVRSTNS / YELLING DIST. TRAFFIC (LIST RDWYS BELOW) DISTD GARDENERS/LANDSCAPING NOISE

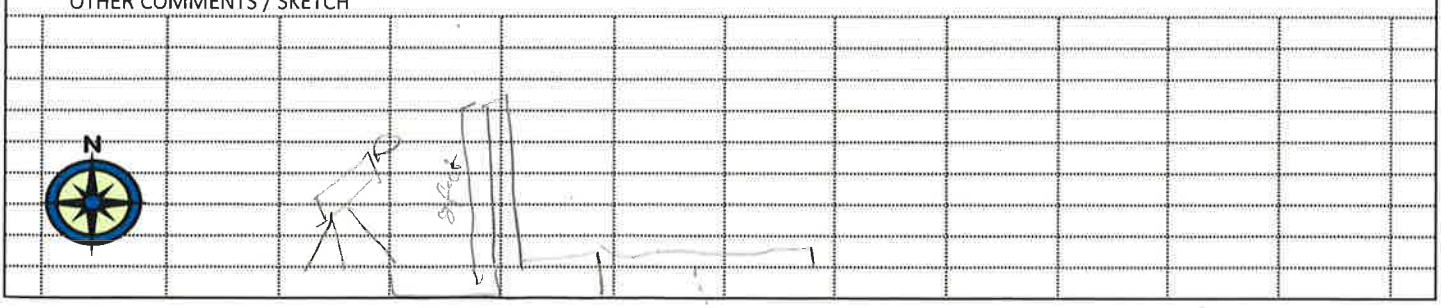
OTHER: Construction along Ave De La Carlota
Pavers, dump truck, back up noises, shovel scraping

DESCRIPTION / SKETCH

TERRAIN HARD SOFT (MIXED) FLAT OTHER:

PHOTOS

OTHER COMMENTS / SKETCH



DUDEK

FIELD NOISE MEASUREMENT DATA

PROJECT	Fix Lagunas	PROJECT #	8914
SITE ID	M8		
SITE ADDRESS	2034 Avenida Sevilla	OBSERVER(S)	Caitlin Munson
START DATE	9-16-15	END DATE	9-16-15
START TIME	1:08	END TIME	1:28

METEOROLOGICAL CONDITIONS

TEMP 81 F HUMIDITY 52 % R.H. WIND (CALM) LIGHT MODERATE

WINDSPD 1-4 MPH DIR. N NE S SE S SW W NW VARIABLE STEADY GUSTY

SKY (SUNNY) (CLEAR) OVRCAST PRTLY CLDY FOG RAIN

ACOUSTIC MEASUREMENTS

MEAS. INSTRUMENT Rion NL-32 TYPE (1) 2 SERIAL # 01030561

CALIBRATOR Rion NC-74 SERIAL # 35175809

CALIBRATION CHECK PRE-TEST 94.1 dBA SPL POST-TEST 94.1 dBA SPL WINDSCRN ✓

SETTINGS (A-WTD) (SLOW) FAST FRONTAL RANDOM (ANSI) OTHER:

REC. #	BEGIN	END	Leq	Lmax	Lmin	L90	L50	L10	OTHER (SPECIFY METRIC
1	1:08	1:28	63.2	79.5	49.6	55.0	59.4	66.5	

COMMENTS

SOURCE INFO AND TRAFFIC COUNTS

PRIMARY NOISE SOURCE (TRAFFIC) AIRCRAFT RAIL INDUSTRIAL OTHER:

ROADWAY TYPE: El Toro Road DIST. TO RDWY C/L OR EOP: 5 feet from wall

TRAFFIC COUNT DURATION: ___ MIN SPEED ___ MIN SPEED

COUNT 1 (OR RDWY 1) DIRECTION	NB/EB	SB/(WB)	NB/EB	SB/WB	IF COUNTING BOTH DIRECTIONS AS ONE, CHECK HERE ___	COUNT 2 (OR RDWY 2) NB/EB	SB/WB	NB/EB	SB/WB
AUTOS	425	422							
MED TRKS	4	3							
HVY TRKS	1	1							
BUSES	5	1							
MOTRCLS	Ø	Ø							

SPEEDS ESTIMATED BY: RADAR / DRIVING THE PACE

POSTED SPEED LIMIT SIGNS SAY:

OTHER NOISE SOURCES (BACKGROUND): DIST. AIRCRAFT (RUSTLING LEAVES) DIST. BARKING DOGS BIRDS DIST. INDUSTRIAL DIST. KIDS PLAYING DIST. CONVRSTNS / YELLING DIST. TRAFFIC (LIST RDWYS BELOW) (DISTD GARDENERS/LANDSCAPING NOISE)

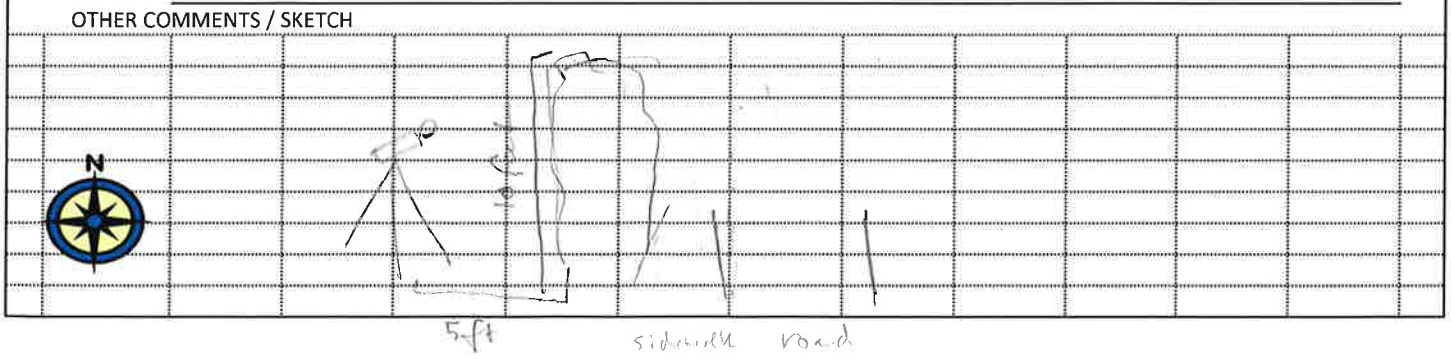
OTHER:

DESCRIPTION / SKETCH

TERRAIN HARD SOFT (MIXED) FLAT OTHER:

PHOTOS

OTHER COMMENTS / SKETCH



APPENDIX B

Construction Noise Model Input and Output Files

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat 10/5/2015
Case Descr Site Preparation

---- Receptor #1 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR1 - 50'	Residential	60	55	50

Equipment

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

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Tractor	84	80	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A
Front End Loader	79.1	75.1	N/A	N/A	N/A	N/A	N/A
Excavator	80.7	76.7	N/A	N/A	N/A	N/A	N/A
Total	84	83.1	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR2 - 100'	Residential	60	55	50

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		100	0
Backhoe	No	40		77.6	100	0
Front End Loader	No	40		79.1	100	0
Excavator	No	40		80.7	100	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night

Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Tractor	78	74	N/A	N/A	N/A	N/A	N/A
Backhoe	71.5	67.6	N/A	N/A	N/A	N/A	N/A
Front End Loader	73.1	69.1	N/A	N/A	N/A	N/A	N/A
Excavator	74.7	70.7	N/A	N/A	N/A	N/A	N/A
Total	78	77.1	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
CR3 - 200'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		200	0
Backhoe	No	40		77.6	200	0
Front End Loader	No	40		79.1	200	0
Excavator	No	40		80.7	200	0

Results

	Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Tractor	72	68	N/A	N/A	N/A	N/A	N/A
Backhoe	65.5	61.5	N/A	N/A	N/A	N/A	N/A
Front End Loader	67.1	63.1	N/A	N/A	N/A	N/A	N/A
Excavator	68.7	64.7	N/A	N/A	N/A	N/A	N/A
Total	72	71	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
CR4 - 500'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		500	0
Backhoe	No	40		77.6	500	0
Front End Loader	No	40		79.1	500	0
Excavator	No	40		80.7	500	0

	Calculated (dBA)		Results		Noise Limits (dBA)		
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Tractor	64	60	N/A	N/A	N/A	N/A	N/A
Backhoe	57.6	53.6	N/A	N/A	N/A	N/A	N/A
Front End Loader	59.1	55.1	N/A	N/A	N/A	N/A	N/A
Excavator	60.7	56.7	N/A	N/A	N/A	N/A	N/A
Total	64	63.1	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

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

	Noise Limit Exceedance (dBA)		
	Day	Evening	Night

Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A

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

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

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat 10/5/2015
Case Descr Grading

---- Receptor #1 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR1 - 50'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		50	0
Excavator	No	40		80.7	100	0
Grader	No	40	85		50	0
Grader	No	40	85		100	0
Backhoe	No	40		77.6	50	0
Backhoe	No	40		77.6	100	0
Auger Drill Rig	No	20		84.4	50	0
Concrete Mixer Truck	No	40		78.8	100	0
Concrete Pump Truck	No	20		81.4	50	0
Front End Loader	No	40		79.1	100	0
All Other Equipment > 5 H	No	50	85		50	0
Compactor (ground)	No	20		83.2	100	0
Scraper	No	40		83.6	50	0
Scraper	No	40		83.6	100	0
Scraper	No	40		83.6	50	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Tractor	84	80	N/A	N/A	N/A	N/A	N/A
Excavator	74.7	70.7	N/A	N/A	N/A	N/A	N/A
Grader	85	81	N/A	N/A	N/A	N/A	N/A
Grader	79	75	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A
Backhoe	71.5	67.6	N/A	N/A	N/A	N/A	N/A
Auger Drill Rig	84.4	77.4	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	72.8	68.8	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	81.4	74.4	N/A	N/A	N/A	N/A	N/A
Front End Loader	73.1	69.1	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	85	82	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	77.2	70.2	N/A	N/A	N/A	N/A	N/A
Scraper	83.6	79.6	N/A	N/A	N/A	N/A	N/A

Scraper	77.6	73.6	N/A	N/A	N/A	N/A	N/A
Scraper	83.6	79.6	N/A	N/A	N/A	N/A	N/A
Total	85	88.9	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR2 - 100'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		100	0
Excavator	No	40		80.7	100	0
Grader	No	40	85		100	0
Grader	No	40	85		100	0
Backhoe	No	40		77.6	100	0
Backhoe	No	40		77.6	100	0
Auger Drill Rig	No	20		84.4	100	0
Concrete Mixer Truck	No	40		78.8	100	0
Concrete Pump Truck	No	20		81.4	100	0
Front End Loader	No	40		79.1	100	0
All Other Equipment > 5 H	No	50	85		100	0
Compactor (ground)	No	20		83.2	100	0
Scraper	No	40		83.6	100	0
Scraper	No	40		83.6	100	0
Scraper	No	40		83.6	100	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Tractor	78	74	N/A	N/A	N/A	N/A	N/A
Excavator	74.7	70.7	N/A	N/A	N/A	N/A	N/A
Grader	79	75	N/A	N/A	N/A	N/A	N/A
Grader	79	75	N/A	N/A	N/A	N/A	N/A
Backhoe	71.5	67.6	N/A	N/A	N/A	N/A	N/A
Backhoe	71.5	67.6	N/A	N/A	N/A	N/A	N/A
Auger Drill Rig	78.3	71.3	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	72.8	68.8	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	75.4	68.4	N/A	N/A	N/A	N/A	N/A
Front End Loader	73.1	69.1	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	79	76	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	77.2	70.2	N/A	N/A	N/A	N/A	N/A
Scraper	77.6	73.6	N/A	N/A	N/A	N/A	N/A

Scraper	77.6	73.6	N/A	N/A	N/A	N/A	N/A
Scraper	77.6	73.6	N/A	N/A	N/A	N/A	N/A
Total	79	84.3	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR3 - 200'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		200	0
Excavator	No	40		80.7	200	0
Grader	No	40	85		200	0
Grader	No	40	85		200	0
Backhoe	No	40		77.6	200	0
Backhoe	No	40		77.6	200	0
Auger Drill Rig	No	20		84.4	200	0
Concrete Mixer Truck	No	40		78.8	200	0
Concrete Pump Truck	No	20		81.4	200	0
Front End Loader	No	40		79.1	200	0
All Other Equipment > 5 H	No	50	85		200	0
Compactor (ground)	No	20		83.2	200	0
Scraper	No	40		83.6	200	0
Scraper	No	40		83.6	200	0
Scraper	No	40		83.6	200	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Tractor	72	68	N/A	N/A	N/A	N/A	N/A
Excavator	68.7	64.7	N/A	N/A	N/A	N/A	N/A
Grader	73	69	N/A	N/A	N/A	N/A	N/A
Grader	73	69	N/A	N/A	N/A	N/A	N/A
Backhoe	65.5	61.5	N/A	N/A	N/A	N/A	N/A
Backhoe	65.5	61.5	N/A	N/A	N/A	N/A	N/A
Auger Drill Rig	72.3	65.3	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	66.8	62.8	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	69.4	62.4	N/A	N/A	N/A	N/A	N/A
Front End Loader	67.1	63.1	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	73	69.9	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	71.2	64.2	N/A	N/A	N/A	N/A	N/A
Scraper	71.5	67.6	N/A	N/A	N/A	N/A	N/A

Scraper	71.5	67.6	N/A	N/A	N/A	N/A	N/A
Scraper	71.5	67.6	N/A	N/A	N/A	N/A	N/A
Total	73	78.2	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR4 - 500'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		500	0
Excavator	No	40		80.7	500	0
Grader	No	40	85		500	0
Grader	No	40	85		500	0
Backhoe	No	40		77.6	500	0
Backhoe	No	40		77.6	500	0
Auger Drill Rig	No	20		84.4	500	0
Concrete Mixer Truck	No	40		78.8	500	0
Concrete Pump Truck	No	20		81.4	500	0
Front End Loader	No	40		79.1	500	0
All Other Equipment > 5 H	No	50	85		500	0
Compactor (ground)	No	20		83.2	500	0
Scraper	No	40		83.6	500	0
Scraper	No	40		83.6	500	0
Scraper	No	40		83.6	500	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Tractor	64	60	N/A	N/A	N/A	N/A	N/A
Excavator	60.7	56.7	N/A	N/A	N/A	N/A	N/A
Grader	65	61	N/A	N/A	N/A	N/A	N/A
Grader	65	61	N/A	N/A	N/A	N/A	N/A
Backhoe	57.6	53.6	N/A	N/A	N/A	N/A	N/A
Backhoe	57.6	53.6	N/A	N/A	N/A	N/A	N/A
Auger Drill Rig	64.4	57.4	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	58.8	54.8	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	61.4	54.4	N/A	N/A	N/A	N/A	N/A
Front End Loader	59.1	55.1	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	65	62	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	63.2	56.2	N/A	N/A	N/A	N/A	N/A
Scraper	63.6	59.6	N/A	N/A	N/A	N/A	N/A

Scraper		63.6	59.6	N/A	N/A	N/A	N/A	N/A
Scraper		63.6	59.6	N/A	N/A	N/A	N/A	N/A
	Total	65	70.3	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Leq
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A

N/A
N/A
N/A

Leq
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A

N/A
N/A
N/A

Leq
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A

N/A
N/A
N/A

Leq
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A

N/A
N/A
N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat 10/5/2015
Case Descr Bldg Const 1

---- Receptor #1 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR1 - 50'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Man Lift	No	20		74.7	50	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	50	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	50	0
Man Lift	No	20		74.7	100	0
All Other Equipment > 5	No	50	85		50	0
Concrete Saw	No	20		89.6	100	0
Compressor (air)	No	40		77.7	50	0
Compressor (air)	No	40		77.7	100	0
Jackhammer	Yes	20		88.9	50	0
All Other Equipment > 5	No	50	85		100	0
All Other Equipment > 5	No	50	85		50	0
Welder / Torch	No	40		74	100	0
Welder / Torch	No	40		74	50	0
Welder / Torch	No	40		74	100	0
Concrete Mixer Truck	No	40		78.8	50	0
Concrete Mixer Truck	No	40		78.8	100	0
Concrete Pump Truck	No	20		81.4	50	0
Concrete Saw	No	20		89.6	100	0

Results

	Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Man Lift	74.7	67.7	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	74.7	67.7	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	74.7	67.7	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	85	82	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	83.6	76.6	N/A	N/A	N/A	N/A	N/A	N/A

Compressor (air)	77.7	73.7	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	71.6	67.7	N/A	N/A	N/A	N/A	N/A	N/A
Jackhammer	88.9	81.9	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	79	76	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	85	82	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	68	64	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	74	70	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	68	64	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	78.8	74.8	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	72.8	68.8	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	81.4	74.4	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	83.6	76.6	N/A	N/A	N/A	N/A	N/A	N/A
Total	88.9	88.7	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Descriptio	Land Use	Daytime	Evening	Night
CR2 - 100'	Residential	60	55	50

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	100	0
All Other Equipment > 5	No	50	85		100	0
Concrete Saw	No	20		89.6	100	0
Compressor (air)	No	40		77.7	100	0
Compressor (air)	No	40		77.7	100	0
Jackhammer	Yes	20		88.9	100	0
All Other Equipment > 5	No	50	85		100	0
All Other Equipment > 5	No	50	85		100	0
Welder / Torch	No	40		74	100	0
Welder / Torch	No	40		74	100	0
Welder / Torch	No	40		74	100	0
Concrete Mixer Truck	No	40		78.8	100	0
Concrete Mixer Truck	No	40		78.8	100	0
Concrete Pump Truck	No	20		81.4	100	0
Concrete Saw	No	20		89.6	100	0

Results

Calculated (dBA)	Noise Limits (dBA)

Equipment	*Lmax	Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	79	76	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	83.6	76.6	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	71.6	67.7	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	71.6	67.7	N/A	N/A	N/A	N/A	N/A	N/A
Jackhammer	82.9	75.9	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	79	76	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	79	76	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	68	64	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	68	64	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	68	64	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	72.8	68.8	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	72.8	68.8	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	75.4	68.4	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	83.6	76.6	N/A	N/A	N/A	N/A	N/A	N/A
Total	83.6	84.7	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
CR3 - 200'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Man Lift	No	20		74.7	200	0
Man Lift	No	20		74.7	200	0
Man Lift	No	20		74.7	200	0
Man Lift	No	20		74.7	200	0
Man Lift	No	20		74.7	200	0
Man Lift	No	20		74.7	200	0
All Other Equipment > 5	No	50	85		200	0
Concrete Saw	No	20		89.6	200	0
Compressor (air)	No	40		77.7	200	0
Compressor (air)	No	40		77.7	200	0
Jackhammer	Yes	20		88.9	200	0
All Other Equipment > 5	No	50	85		200	0
All Other Equipment > 5	No	50	85		200	0

Welder / Torch	No	40	74	200	0
Welder / Torch	No	40	74	200	0
Welder / Torch	No	40	74	200	0
Concrete Mixer Truck	No	40	78.8	200	0
Concrete Mixer Truck	No	40	78.8	200	0
Concrete Pump Truck	No	20	81.4	200	0
Concrete Saw	No	20	89.6	200	0

Results

	Calculated (dBA)		Noise Limits (dBA)					
			Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	73	69.9	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	77.5	70.5	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	65.6	61.6	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	65.6	61.6	N/A	N/A	N/A	N/A	N/A	N/A
Jackhammer	76.8	69.9	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	73	69.9	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	73	69.9	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	62	58	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	62	58	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	62	58	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	66.8	62.8	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	66.8	62.8	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	69.4	62.4	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	77.5	70.5	N/A	N/A	N/A	N/A	N/A	N/A
Total	77.5	78.7	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

	Baselines (dBA)		
Descriptio Land Use	Daytime	Evening	Night
CR4 - 500' Residential	60	55	50

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Man Lift	No	20		74.7	500	0
Man Lift	No	20		74.7	500	0
Man Lift	No	20		74.7	500	0

Man Lift	No	20		74.7	500	0
Man Lift	No	20		74.7	500	0
Man Lift	No	20		74.7	500	0
All Other Equipment > 5	No	50	85		500	0
Concrete Saw	No	20		89.6	500	0
Compressor (air)	No	40		77.7	500	0
Compressor (air)	No	40		77.7	500	0
Jackhammer	Yes	20		88.9	500	0
All Other Equipment > 5	No	50	85		500	0
All Other Equipment > 5	No	50	85		500	0
Welder / Torch	No	40		74	500	0
Welder / Torch	No	40		74	500	0
Welder / Torch	No	40		74	500	0
Concrete Mixer Truck	No	40		78.8	500	0
Concrete Mixer Truck	No	40		78.8	500	0
Concrete Pump Truck	No	20		81.4	500	0
Concrete Saw	No	20		89.6	500	0

Results

	Calculated (dBA)		Noise Limits (dBA)					
			Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Man Lift	54.7	47.7	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	54.7	47.7	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	54.7	47.7	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	54.7	47.7	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	54.7	47.7	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	54.7	47.7	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	65	62	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	69.6	62.6	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	57.7	53.7	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	57.7	53.7	N/A	N/A	N/A	N/A	N/A	N/A
Jackhammer	68.9	61.9	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	65	62	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	65	62	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	54	50	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	54	50	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	54	50	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	58.8	54.8	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	58.8	54.8	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	61.4	54.4	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	69.6	62.6	N/A	N/A	N/A	N/A	N/A	N/A
Total	69.6	70.8	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

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

N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Noise Limit Exceedance (dBA)

Day		Evening		Night	
Lmax	Leq	Lmax	Leq	Lmax	Leq
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

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

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

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Report dat 10/5/2015
Case Descr Architectural Coatings

---- Receptor #1 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR1 - 50'	Residential	60	55	50

Equipment

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

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Compressor (air)	77.7	73.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	77.7	73.7	N/A	N/A	N/A	N/A	N/A
Total	77.7	76.7	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR2 - 100'	Residential	60	55	50

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	100	0
Compressor (air)	No	40		77.7	100	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Compressor (air)	71.6	67.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	71.6	67.7	N/A	N/A	N/A	N/A	N/A
Total	71.6	70.7	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR3 - 200'	Residential	60	55	50

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	200	0
Compressor (air)	No	40		77.7	200	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Compressor (air)	65.6	61.6	N/A	N/A	N/A	N/A	N/A
Compressor (air)	65.6	61.6	N/A	N/A	N/A	N/A	N/A
Total	65.6	64.7	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR4 - 500'	Residential	60	55	50

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	500	0
Compressor (air)	No	40		77.7	500	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Compressor (air)	57.7	53.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	57.7	53.7	N/A	N/A	N/A	N/A	N/A
Total	57.7	56.7	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

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

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

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

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

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---- Receptor #1 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR1 - 50'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	50	0
Concrete Saw	No	20		89.6	100	0
Jackhammer	Yes	20		88.9	50	0
Front End Loader	No	40		79.1	100	0
Tractor	No	40	84		50	0
Crane	No	16		80.6	100	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Concrete Saw	89.6	82.6	N/A	N/A	N/A	N/A	N/A
Concrete Saw	83.6	76.6	N/A	N/A	N/A	N/A	N/A
Jackhammer	88.9	81.9	N/A	N/A	N/A	N/A	N/A
Front End Loader	73.1	69.1	N/A	N/A	N/A	N/A	N/A
Tractor	84	80	N/A	N/A	N/A	N/A	N/A
Crane	74.5	66.6	N/A	N/A	N/A	N/A	N/A
Total	89.6	86.9	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR2 - 100'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	100	0
Concrete Saw	No	20		89.6	100	0
Jackhammer	Yes	20		88.9	100	0
Front End Loader	No	40		79.1	100	0

Tractor	No	40	84		100	0
Crane	No	16		80.6	100	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Concrete Saw	83.6	76.6	N/A	N/A	N/A	N/A	N/A
Concrete Saw	83.6	76.6	N/A	N/A	N/A	N/A	N/A
Jackhammer	82.9	75.9	N/A	N/A	N/A	N/A	N/A
Front End Loader	73.1	69.1	N/A	N/A	N/A	N/A	N/A
Tractor	78	74	N/A	N/A	N/A	N/A	N/A
Crane	74.5	66.6	N/A	N/A	N/A	N/A	N/A
Total	83.6	82.2	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Descriptio	Land Use	Daytime	Evening	Night
CR3 - 200'	Residential	60	55	50

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	200	0
Concrete Saw	No	20		89.6	200	0
Jackhammer	Yes	20		88.9	200	0
Front End Loader	No	40		79.1	200	0
Tractor	No	40	84		200	0
Crane	No	16		80.6	200	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Concrete Saw	77.5	70.5	N/A	N/A	N/A	N/A	N/A
Concrete Saw	77.5	70.5	N/A	N/A	N/A	N/A	N/A
Jackhammer	76.8	69.9	N/A	N/A	N/A	N/A	N/A
Front End Loader	67.1	63.1	N/A	N/A	N/A	N/A	N/A
Tractor	72	68	N/A	N/A	N/A	N/A	N/A
Crane	68.5	60.6	N/A	N/A	N/A	N/A	N/A
Total	77.5	76.2	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Baselines (dBA)

Descriptio	Land Use	Daytime	Evening	Night
CR4 - 500'	Residential	60	55	50

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	500	0
Concrete Saw	No	20		89.6	500	0
Jackhammer	Yes	20		88.9	500	0
Front End Loader	No	40		79.1	500	0
Tractor	No	40	84		500	0
Crane	No	16		80.6	500	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Concrete Saw	69.6	62.6	N/A	N/A	N/A	N/A	N/A
Concrete Saw	69.6	62.6	N/A	N/A	N/A	N/A	N/A
Jackhammer	68.9	61.9	N/A	N/A	N/A	N/A	N/A
Front End Loader	59.1	55.1	N/A	N/A	N/A	N/A	N/A
Tractor	64	60	N/A	N/A	N/A	N/A	N/A
Crane	60.6	52.6	N/A	N/A	N/A	N/A	N/A
Total	69.6	68.3	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Leq
N/A
N/A
N/A
N/A
N/A
N/A
N/A

Leq
N/A
N/A
N/A
N/A
N/A
N/A
N/A

Leq
N/A
N/A
N/A
N/A
N/A
N/A
N/A

Leq
N/A
N/A
N/A
N/A
N/A
N/A
N/A

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Case Descr Bldg Const 2

---- Receptor #1 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR1 - 50'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
All Other Equipment > 5 H	No	50	85		50	0
All Other Equipment > 5 H	No	50	85		100	5
All Other Equipment > 5 H	No	50	85		200	5
All Other Equipment > 5 H	No	50	85		400	5
All Other Equipment > 5 H	No	50	85		50	0
All Other Equipment > 5 H	No	50	85		400	5
All Other Equipment > 5 H	No	50	85		400	5
All Other Equipment > 5 H	No	50	85		200	5
All Other Equipment > 5 H	No	50	85		50	0
Generator	No	50		80.6	200	5
Generator	No	50		80.6	50	0
Generator	No	50		80.6	200	5
Generator	No	50		80.6	50	0
Front End Loader	No	40		79.1	300	5
Tractor	No	40	84		50	0
Welder / Torch	No	40		74	100	5
Welder / Torch	No	40		74	50	0
Welder / Torch	No	40		74	300	5
Concrete Saw	No	20		89.6	50	0
Concrete Saw	No	20		89.6	300	5

Results

Equipment	Calculated (dBA) *Lmax	Leq	Noise Limits (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax
All Other Equipment > 5 H	85	82	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	74	71	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	68	64.9	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	61.9	58.9	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	85	82	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	61.9	58.9	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	61.9	58.9	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	68	64.9	N/A	N/A	N/A	N/A	N/A

All Other Equipment > 5 H	85	82	N/A	N/A	N/A	N/A	N/A
Generator	63.6	60.6	N/A	N/A	N/A	N/A	N/A
Generator	80.6	77.6	N/A	N/A	N/A	N/A	N/A
Generator	63.6	60.6	N/A	N/A	N/A	N/A	N/A
Generator	80.6	77.6	N/A	N/A	N/A	N/A	N/A
Front End Loader	58.5	54.6	N/A	N/A	N/A	N/A	N/A
Tractor	84	80	N/A	N/A	N/A	N/A	N/A
Welder / Torch	63	59	N/A	N/A	N/A	N/A	N/A
Welder / Torch	74	70	N/A	N/A	N/A	N/A	N/A
Welder / Torch	53.4	49.5	N/A	N/A	N/A	N/A	N/A
Concrete Saw	89.6	82.6	N/A	N/A	N/A	N/A	N/A
Concrete Saw	69	62	N/A	N/A	N/A	N/A	N/A
Total	89.6	89.6	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Descriptio	Land Use	Daytime	Evening	Night
CR2 - 100'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
All Other Equipment > 5 H	No	50	85		100	0
All Other Equipment > 5 H	No	50	85		200	5
All Other Equipment > 5 H	No	50	85		300	5
All Other Equipment > 5 H	No	50	85		500	5
All Other Equipment > 5 H	No	50	85		100	0
All Other Equipment > 5 H	No	50	85		100	5
All Other Equipment > 5 H	No	50	85		200	5
All Other Equipment > 5 H	No	50	85		300	5
All Other Equipment > 5 H	No	50	85		100	0
Generator	No	50		80.6	100	0
Generator	No	50		80.6	200	5
Generator	No	50		80.6	500	5
Generator	No	50		80.6	100	0
Front End Loader	No	40		79.1	400	5
Tractor	No	40	84		500	5
Welder / Torch	No	40		74	500	5
Welder / Torch	No	40		74	100	0
Welder / Torch	No	40		74	500	5
Concrete Saw	No	20		89.6	100	0
Concrete Saw	No	20		89.6	200	5

Results

Calculated (dBA)	Noise Limits (dBA)

Equipment	*Lmax	Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax
All Other Equipment > 5 H	79	76	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	68	64.9	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	64.4	61.4	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	60	57	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	79	76	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	74	71	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	68	64.9	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	64.4	61.4	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	79	76	N/A	N/A	N/A	N/A	N/A
Generator	74.6	71.6	N/A	N/A	N/A	N/A	N/A
Generator	63.6	60.6	N/A	N/A	N/A	N/A	N/A
Generator	55.6	52.6	N/A	N/A	N/A	N/A	N/A
Generator	74.6	71.6	N/A	N/A	N/A	N/A	N/A
Front End Loader	56	52.1	N/A	N/A	N/A	N/A	N/A
Tractor	59	55	N/A	N/A	N/A	N/A	N/A
Welder / Torch	49	45	N/A	N/A	N/A	N/A	N/A
Welder / Torch	68	64	N/A	N/A	N/A	N/A	N/A
Welder / Torch	49	45	N/A	N/A	N/A	N/A	N/A
Concrete Saw	83.6	76.6	N/A	N/A	N/A	N/A	N/A
Concrete Saw	72.5	65.5	N/A	N/A	N/A	N/A	N/A
Total	83.6	83.5	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR3 - 200'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
All Other Equipment > 5 H	No	50	85		200	0
All Other Equipment > 5 H	No	50	85		300	0
All Other Equipment > 5 H	No	50	85		400	5
All Other Equipment > 5 H	No	50	85		500	5
All Other Equipment > 5 H	No	50	85		200	0
All Other Equipment > 5 H	No	50	85		400	5
All Other Equipment > 5 H	No	50	85		200	0
All Other Equipment > 5 H	No	50	85		400	5
All Other Equipment > 5 H	No	50	85		500	5
Generator	No	50		80.6	200	0
Generator	No	50		80.6	500	5
Generator	No	50		80.6	200	0
Generator	No	50		80.6	500	5

Front End Loader	No	40	79.1	200	0
Tractor	No	40	84	200	0
Welder / Torch	No	40	74	400	5
Welder / Torch	No	40	74	500	5
Welder / Torch	No	40	74	200	0
Concrete Saw	No	20	89.6	400	5
Concrete Saw	No	20	89.6	200	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
All Other Equipment > 5 H	73	69.9	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	69.4	66.4	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	61.9	58.9	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	60	57	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	73	69.9	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	61.9	58.9	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	73	69.9	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	61.9	58.9	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	60	57	N/A	N/A	N/A	N/A	N/A
Generator	68.6	65.6	N/A	N/A	N/A	N/A	N/A
Generator	55.6	52.6	N/A	N/A	N/A	N/A	N/A
Generator	68.6	65.6	N/A	N/A	N/A	N/A	N/A
Generator	55.6	52.6	N/A	N/A	N/A	N/A	N/A
Front End Loader	67.1	63.1	N/A	N/A	N/A	N/A	N/A
Tractor	72	68	N/A	N/A	N/A	N/A	N/A
Welder / Torch	50.9	47	N/A	N/A	N/A	N/A	N/A
Welder / Torch	49	45	N/A	N/A	N/A	N/A	N/A
Welder / Torch	62	58	N/A	N/A	N/A	N/A	N/A
Concrete Saw	66.5	59.5	N/A	N/A	N/A	N/A	N/A
Concrete Saw	77.5	70.5	N/A	N/A	N/A	N/A	N/A
Total	77.5	78.2	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Descriptio	Land Use	Daytime	Evening	Night
CR4 - 500'	Residential	60	55	50

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
All Other Equipment > 5 H	No	50	85		500	0
All Other Equipment > 5 H	No	50	85		500	5
All Other Equipment > 5 H	No	50	85		500	0

All Other Equipment > 5 H	No	50	85		500	5
All Other Equipment > 5 H	No	50	85		500	0
All Other Equipment > 5 H	No	50	85		500	5
All Other Equipment > 5 H	No	50	85		500	0
All Other Equipment > 5 H	No	50	85		500	5
All Other Equipment > 5 H	No	50	85		500	0
Generator	No	50		80.6	500	5
Generator	No	50		80.6	500	0
Generator	No	50		80.6	500	0
Generator	No	50		80.6	500	5
Front End Loader	No	40		79.1	500	5
Tractor	No	40	84		500	0
Welder / Torch	No	40		74	500	0
Welder / Torch	No	40		74	500	5
Welder / Torch	No	40		74	500	0
Concrete Saw	No	20		89.6	500	5
Concrete Saw	No	20		89.6	500	5

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
All Other Equipment > 5 H	65	62	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	60	57	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	65	62	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	60	57	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	65	62	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	60	57	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	65	62	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	60	57	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 H	65	62	N/A	N/A	N/A	N/A	N/A
Generator	55.6	52.6	N/A	N/A	N/A	N/A	N/A
Generator	60.6	57.6	N/A	N/A	N/A	N/A	N/A
Generator	60.6	57.6	N/A	N/A	N/A	N/A	N/A
Generator	55.6	52.6	N/A	N/A	N/A	N/A	N/A
Front End Loader	54.1	50.1	N/A	N/A	N/A	N/A	N/A
Tractor	64	60	N/A	N/A	N/A	N/A	N/A
Welder / Torch	54	50	N/A	N/A	N/A	N/A	N/A
Welder / Torch	49	45	N/A	N/A	N/A	N/A	N/A
Welder / Torch	54	50	N/A	N/A	N/A	N/A	N/A
Concrete Saw	64.6	57.6	N/A	N/A	N/A	N/A	N/A
Concrete Saw	64.6	57.6	N/A	N/A	N/A	N/A	N/A
Total	65	71.4	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Leq
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A

N/A
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Leq
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Leq
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Leq
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Roadway Construction Noise Model (RCNM),Version 1.1

Report dat 10/6/2015
Case Descr Bldg Const 2 - 2

---- Receptor #1 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR1 - 50'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Pump Truck	No	20		81.4	200	0
Concrete Pump Truck	No	20		81.4	300	5
Compressor (air)	No	40		77.7	50	0
Compressor (air)	No	40		77.7	100	0
Compressor (air)	No	40		77.7	50	0
Compressor (air)	No	40		77.7	300	5
Compactor (ground)	No	20		83.2	50	0
Compactor (ground)	No	20		83.2	200	5
Crane	No	16		80.6	50	0
Crane	No	16		80.6	100	0
Crane	No	16		80.6	200	5
Crane	No	16		80.6	300	5
All Other Equipment > 5 HI	No	50	85		50	0
All Other Equipment > 5 HI	No	50	85		100	0
Excavator	No	40		80.7	50	0
Excavator	No	40		80.7	200	5
Excavator	No	40		80.7	300	0
Excavator	No	40		80.7	50	0
Excavator	No	40		80.7	50	0
All Other Equipment > 5 HI	No	50	85		100	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Concrete Pump Truck	69.4	62.4	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	60.8	53.8	N/A	N/A	N/A	N/A	N/A
Compressor (air)	77.7	73.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	71.6	67.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	77.7	73.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	57.1	53.1	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	83.2	76.2	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	66.2	59.2	N/A	N/A	N/A	N/A	N/A

Crane	80.6	72.6	N/A	N/A	N/A	N/A	N/A
Crane	74.5	66.6	N/A	N/A	N/A	N/A	N/A
Crane	63.5	55.6	N/A	N/A	N/A	N/A	N/A
Crane	60	52	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 HI	85	82	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 HI	79	76	N/A	N/A	N/A	N/A	N/A
Excavator	80.7	76.7	N/A	N/A	N/A	N/A	N/A
Excavator	63.7	59.7	N/A	N/A	N/A	N/A	N/A
Excavator	65.1	61.2	N/A	N/A	N/A	N/A	N/A
Excavator	80.7	76.7	N/A	N/A	N/A	N/A	N/A
Excavator	80.7	76.7	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 HI	79	76	N/A	N/A	N/A	N/A	N/A
Total	85	87	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR2 - 100'	Residential	60	55	50

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Pump Truck	No	20		81.4	100	0
Concrete Pump Truck	No	20		81.4	200	0
Compressor (air)	No	40		77.7	100	0
Compressor (air)	No	40		77.7	200	5
Compressor (air)	No	40		77.7	100	0
Compressor (air)	No	40		77.7	400	5
Compactor (ground)	No	20		83.2	100	0
Compactor (ground)	No	20		83.2	200	0
Crane	No	16		80.6	100	0
Crane	No	16		80.6	500	5
Crane	No	16		80.6	100	0
Crane	No	16		80.6	500	5
All Other Equipment > 5 HI	No	50	85		100	0
All Other Equipment > 5 HI	No	50	85		200	5
Excavator	No	40		80.7	100	0
Excavator	No	40		80.7	100	0
Excavator	No	40		80.7	400	5
Excavator	No	40		80.7	100	0
Excavator	No	40		80.7	200	0
All Other Equipment > 5 HI	No	50	85		100	5

Results

Calculated (dBA)	Noise Limits (dBA)

Equipment	*Lmax	Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax
Concrete Pump Truck	75.4	68.4	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	69.4	62.4	N/A	N/A	N/A	N/A	N/A
Compressor (air)	71.6	67.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	60.6	56.6	N/A	N/A	N/A	N/A	N/A
Compressor (air)	71.6	67.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	54.6	50.6	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	77.2	70.2	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	71.2	64.2	N/A	N/A	N/A	N/A	N/A
Crane	74.5	66.6	N/A	N/A	N/A	N/A	N/A
Crane	55.6	47.6	N/A	N/A	N/A	N/A	N/A
Crane	74.5	66.6	N/A	N/A	N/A	N/A	N/A
Crane	55.6	47.6	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 HI	79	76	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 HI	68	64.9	N/A	N/A	N/A	N/A	N/A
Excavator	74.7	70.7	N/A	N/A	N/A	N/A	N/A
Excavator	74.7	70.7	N/A	N/A	N/A	N/A	N/A
Excavator	57.6	53.7	N/A	N/A	N/A	N/A	N/A
Excavator	74.7	70.7	N/A	N/A	N/A	N/A	N/A
Excavator	68.7	64.7	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 HI	74	71	N/A	N/A	N/A	N/A	N/A
Total	79	81.4	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR3 - 200'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Pump Truck	No	20		81.4	200	0
Concrete Pump Truck	No	20		81.4	300	0
Compressor (air)	No	40		77.7	200	0
Compressor (air)	No	40		77.7	400	5
Compressor (air)	No	40		77.7	500	5
Compressor (air)	No	40		77.7	200	0
Compactor (ground)	No	20		83.2	200	0
Compactor (ground)	No	20		83.2	300	5
Crane	No	16		80.6	500	5
Crane	No	16		80.6	200	0
Crane	No	16		80.6	400	0
Crane	No	16		80.6	500	5
All Other Equipment > 5 HI	No	50	85		200	0

All Other Equipment > 5 HI	No	50	85		300	0
Excavator	No	40		80.7	500	5
Excavator	No	40		80.7	200	0
Excavator	No	40		80.7	400	5
Excavator	No	40		80.7	200	0
Excavator	No	40		80.7	500	5
All Other Equipment > 5 HI	No	50	85		200	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Concrete Pump Truck	69.4	62.4	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	65.8	58.8	N/A	N/A	N/A	N/A	N/A
Compressor (air)	65.6	61.6	N/A	N/A	N/A	N/A	N/A
Compressor (air)	54.6	50.6	N/A	N/A	N/A	N/A	N/A
Compressor (air)	52.7	48.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	65.6	61.6	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	71.2	64.2	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	62.7	55.7	N/A	N/A	N/A	N/A	N/A
Crane	55.6	47.6	N/A	N/A	N/A	N/A	N/A
Crane	68.5	60.6	N/A	N/A	N/A	N/A	N/A
Crane	62.5	54.5	N/A	N/A	N/A	N/A	N/A
Crane	55.6	47.6	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 HI	73	69.9	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 HI	69.4	66.4	N/A	N/A	N/A	N/A	N/A
Excavator	55.7	51.7	N/A	N/A	N/A	N/A	N/A
Excavator	68.7	64.7	N/A	N/A	N/A	N/A	N/A
Excavator	57.6	53.7	N/A	N/A	N/A	N/A	N/A
Excavator	68.7	64.7	N/A	N/A	N/A	N/A	N/A
Excavator	55.7	51.7	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 HI	73	69.9	N/A	N/A	N/A	N/A	N/A
Total	73	76.1	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Descriptio	Land Use	Daytime	Evening	Night
CR4 - 500'	Residential	60	55	50

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Pump Truck	No	20		81.4	500	0
Concrete Pump Truck	No	20		81.4	500	0
Compressor (air)	No	40		77.7	500	5

Compressor (air)	No	40		77.7	500	0
Compressor (air)	No	40		77.7	500	5
Compressor (air)	No	40		77.7	500	0
Compactor (ground)	No	20		83.2	500	0
Compactor (ground)	No	20		83.2	500	5
Crane	No	16		80.6	500	0
Crane	No	16		80.6	500	0
Crane	No	16		80.6	500	5
Crane	No	16		80.6	500	0
All Other Equipment > 5 HI	No	50	85		500	0
All Other Equipment > 5 HI	No	50	85		500	0
Excavator	No	40		80.7	500	0
Excavator	No	40		80.7	500	5
Excavator	No	40		80.7	500	5
Excavator	No	40		80.7	500	0
Excavator	No	40		80.7	500	0
All Other Equipment > 5 HI	No	50	85		500	5

			Results				
	Calculated (dBA)			Noise Limits (dBA)			
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Concrete Pump Truck	61.4	54.4	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	61.4	54.4	N/A	N/A	N/A	N/A	N/A
Compressor (air)	52.7	48.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	57.7	53.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	52.7	48.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	57.7	53.7	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	63.2	56.2	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	58.2	51.2	N/A	N/A	N/A	N/A	N/A
Crane	60.6	52.6	N/A	N/A	N/A	N/A	N/A
Crane	60.6	52.6	N/A	N/A	N/A	N/A	N/A
Crane	55.6	47.6	N/A	N/A	N/A	N/A	N/A
Crane	60.6	52.6	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 HI	65	62	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 HI	65	62	N/A	N/A	N/A	N/A	N/A
Excavator	60.7	56.7	N/A	N/A	N/A	N/A	N/A
Excavator	55.7	51.7	N/A	N/A	N/A	N/A	N/A
Excavator	55.7	51.7	N/A	N/A	N/A	N/A	N/A
Excavator	60.7	56.7	N/A	N/A	N/A	N/A	N/A
Excavator	60.7	56.7	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 HI	60	57	N/A	N/A	N/A	N/A	N/A
Total	65	68.9	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Leq
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A

N/A
N/A
N/A
N/A
N/A
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Leq
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Leq
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Leq
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Roadway Construction Noise Model (RCNM),Version 1.1

Report dat 10/5/2015
Case Descr Architectural Coatings 2

---- Receptor #1 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR1 - 50'	Residential	60	55	50

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	50	0
Compressor (air)	No	40		77.7	100	0
Compressor (air)	No	40		77.7	50	0
Compressor (air)	No	40		77.7	100	0
Compressor (air)	No	40		77.7	50	0
Compressor (air)	No	40		77.7	200	0
Man Lift	No	20		74.7	50	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	50	0
Man Lift	No	20		74.7	200	0
Man Lift	No	20		74.7	50	0
Man Lift	No	20		74.7	200	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	200	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	200	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Compressor (air)	77.7	73.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	71.6	67.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	77.7	73.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	71.6	67.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	77.7	73.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	65.6	61.6	N/A	N/A	N/A	N/A	N/A
Man Lift	74.7	67.7	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A
Man Lift	74.7	67.7	N/A	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A
Man Lift	74.7	67.7	N/A	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A

Man Lift		68.7	61.7	N/A	N/A	N/A	N/A	N/A
Man Lift		62.7	55.7	N/A	N/A	N/A	N/A	N/A
Man Lift		68.7	61.7	N/A	N/A	N/A	N/A	N/A
Man Lift		62.7	55.7	N/A	N/A	N/A	N/A	N/A
	Total	77.7	80.3	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Descriptio	Land Use	Daytime	Evening	Night
CR2 - 100'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	100	0
Compressor (air)	No	40		77.7	100	0
Compressor (air)	No	40		77.7	100	0
Compressor (air)	No	40		77.7	100	0
Compressor (air)	No	40		77.7	100	0
Compressor (air)	No	40		77.7	100	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	100	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Compressor (air)	71.6	67.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	71.6	67.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	71.6	67.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	71.6	67.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	71.6	67.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	71.6	67.7	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A

Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A
Total	71.6	77	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Descriptio	Land Use	Daytime	Evening	Night
CR3 - 200'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	200	0
Compressor (air)	No	40		77.7	200	0
Compressor (air)	No	40		77.7	200	0
Compressor (air)	No	40		77.7	200	0
Compressor (air)	No	40		77.7	200	0
Compressor (air)	No	40		77.7	200	0
Man Lift	No	20		74.7	200	0
Man Lift	No	20		74.7	200	0
Man Lift	No	20		74.7	200	0
Man Lift	No	20		74.7	200	0
Man Lift	No	20		74.7	200	0
Man Lift	No	20		74.7	200	0
Man Lift	No	20		74.7	200	0
Man Lift	No	20		74.7	200	0
Man Lift	No	20		74.7	200	0
Man Lift	No	20		74.7	200	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Compressor (air)	65.6	61.6	N/A	N/A	N/A	N/A	N/A
Compressor (air)	65.6	61.6	N/A	N/A	N/A	N/A	N/A
Compressor (air)	65.6	61.6	N/A	N/A	N/A	N/A	N/A
Compressor (air)	65.6	61.6	N/A	N/A	N/A	N/A	N/A
Compressor (air)	65.6	61.6	N/A	N/A	N/A	N/A	N/A
Compressor (air)	65.6	61.6	N/A	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A

Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A
Total	65.6	71	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Descriptio	Land Use	Daytime	Evening	Night
CR4 - 500'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	500	0
Compressor (air)	No	40		77.7	500	0
Compressor (air)	No	40		77.7	500	0
Compressor (air)	No	40		77.7	500	0
Compressor (air)	No	40		77.7	500	0
Compressor (air)	No	40		77.7	500	0
Man Lift	No	20		74.7	500	0
Man Lift	No	20		74.7	500	0
Man Lift	No	20		74.7	500	0
Man Lift	No	20		74.7	500	0
Man Lift	No	20		74.7	500	0
Man Lift	No	20		74.7	500	0
Man Lift	No	20		74.7	500	0
Man Lift	No	20		74.7	500	0
Man Lift	No	20		74.7	500	0
Man Lift	No	20		74.7	500	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Compressor (air)	57.7	53.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	57.7	53.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	57.7	53.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	57.7	53.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	57.7	53.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	57.7	53.7	N/A	N/A	N/A	N/A	N/A

Man Lift	54.7	47.7	N/A	N/A	N/A	N/A	N/A
Man Lift	54.7	47.7	N/A	N/A	N/A	N/A	N/A
Man Lift	54.7	47.7	N/A	N/A	N/A	N/A	N/A
Man Lift	54.7	47.7	N/A	N/A	N/A	N/A	N/A
Man Lift	54.7	47.7	N/A	N/A	N/A	N/A	N/A
Man Lift	54.7	47.7	N/A	N/A	N/A	N/A	N/A
Man Lift	54.7	47.7	N/A	N/A	N/A	N/A	N/A
Man Lift	54.7	47.7	N/A	N/A	N/A	N/A	N/A
Man Lift	54.7	47.7	N/A	N/A	N/A	N/A	N/A
Man Lift	54.7	47.7	N/A	N/A	N/A	N/A	N/A
Total	57.7	63	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

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Case Descr Demolition 2

---- Receptor #1 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR1 - 50'	Residential	60	55	50

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		50	0
Tractor	No	40	84		100	0
Excavator	No	40		80.7	50	0
Excavator	No	40		80.7	100	0
Front End Loader	No	40		79.1	50	0
Backhoe	No	40		77.6	100	0
Jackhammer	Yes	20		88.9	50	0
Jackhammer	Yes	20		88.9	100	0
Jackhammer	Yes	20		88.9	50	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	50	0
Man Lift	No	20		74.7	200	0
Man Lift	No	20		74.7	50	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	50	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Tractor	84	80	N/A	N/A	N/A	N/A	N/A
Tractor	78	74	N/A	N/A	N/A	N/A	N/A
Excavator	80.7	76.7	N/A	N/A	N/A	N/A	N/A
Excavator	74.7	70.7	N/A	N/A	N/A	N/A	N/A
Front End Loader	79.1	75.1	N/A	N/A	N/A	N/A	N/A
Backhoe	71.5	67.6	N/A	N/A	N/A	N/A	N/A
Jackhammer	88.9	81.9	N/A	N/A	N/A	N/A	N/A
Jackhammer	82.9	75.9	N/A	N/A	N/A	N/A	N/A
Jackhammer	88.9	81.9	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A
Man Lift	74.7	67.7	N/A	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A
Man Lift	74.7	67.7	N/A	N/A	N/A	N/A	N/A

Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A
Man Lift	74.7	67.7	N/A	N/A	N/A	N/A	N/A
Total	88.9	87.7	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR2 - 100'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		100	0
Tractor	No	40	84		100	0
Excavator	No	40		80.7	100	0
Excavator	No	40		80.7	100	0
Front End Loader	No	40		79.1	100	0
Backhoe	No	40		77.6	100	0
Jackhammer	Yes	20		88.9	100	0
Jackhammer	Yes	20		88.9	100	0
Jackhammer	Yes	20		88.9	100	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	100	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Tractor	78	74	N/A	N/A	N/A	N/A	N/A
Tractor	78	74	N/A	N/A	N/A	N/A	N/A
Excavator	74.7	70.7	N/A	N/A	N/A	N/A	N/A
Excavator	74.7	70.7	N/A	N/A	N/A	N/A	N/A
Front End Loader	73.1	69.1	N/A	N/A	N/A	N/A	N/A
Backhoe	71.5	67.6	N/A	N/A	N/A	N/A	N/A
Jackhammer	82.9	75.9	N/A	N/A	N/A	N/A	N/A
Jackhammer	82.9	75.9	N/A	N/A	N/A	N/A	N/A
Jackhammer	82.9	75.9	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A

Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A
Total	82.9	83.3	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR3 - 200'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		200	0
Tractor	No	40	84		200	0
Excavator	No	40		80.7	200	0
Excavator	No	40		80.7	200	0
Front End Loader	No	40		79.1	200	0
Backhoe	No	40		77.6	200	0
Jackhammer	Yes	20		88.9	200	0
Jackhammer	Yes	20		88.9	200	0
Jackhammer	Yes	20		88.9	200	0
Man Lift	No	20		74.7	200	0
Man Lift	No	20		74.7	200	0
Man Lift	No	20		74.7	200	0
Man Lift	No	20		74.7	200	0
Man Lift	No	20		74.7	200	0
Man Lift	No	20		74.7	200	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Tractor	72	68	N/A	N/A	N/A	N/A	N/A
Tractor	72	68	N/A	N/A	N/A	N/A	N/A
Excavator	68.7	64.7	N/A	N/A	N/A	N/A	N/A
Excavator	68.7	64.7	N/A	N/A	N/A	N/A	N/A
Front End Loader	67.1	63.1	N/A	N/A	N/A	N/A	N/A
Backhoe	65.5	61.5	N/A	N/A	N/A	N/A	N/A
Jackhammer	76.8	69.9	N/A	N/A	N/A	N/A	N/A
Jackhammer	76.8	69.9	N/A	N/A	N/A	N/A	N/A
Jackhammer	76.8	69.9	N/A	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A

Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A
Total	76.8	77.3	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR4 - 500'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		500	0
Tractor	No	40	84		500	0
Excavator	No	40		80.7	500	0
Excavator	No	40		80.7	500	0
Front End Loader	No	40		79.1	500	0
Backhoe	No	40		77.6	500	0
Jackhammer	Yes	20		88.9	500	0
Jackhammer	Yes	20		88.9	500	0
Jackhammer	Yes	20		88.9	500	0
Man Lift	No	20		74.7	500	0
Man Lift	No	20		74.7	500	0
Man Lift	No	20		74.7	500	0
Man Lift	No	20		74.7	500	0
Man Lift	No	20		74.7	500	0
Man Lift	No	20		74.7	500	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Tractor	64	60	N/A	N/A	N/A	N/A	N/A
Tractor	64	60	N/A	N/A	N/A	N/A	N/A
Excavator	60.7	56.7	N/A	N/A	N/A	N/A	N/A
Excavator	60.7	56.7	N/A	N/A	N/A	N/A	N/A
Front End Loader	59.1	55.1	N/A	N/A	N/A	N/A	N/A
Backhoe	57.6	53.6	N/A	N/A	N/A	N/A	N/A
Jackhammer	68.9	61.9	N/A	N/A	N/A	N/A	N/A
Jackhammer	68.9	61.9	N/A	N/A	N/A	N/A	N/A
Jackhammer	68.9	61.9	N/A	N/A	N/A	N/A	N/A
Man Lift	54.7	47.7	N/A	N/A	N/A	N/A	N/A
Man Lift	54.7	47.7	N/A	N/A	N/A	N/A	N/A
Man Lift	54.7	47.7	N/A	N/A	N/A	N/A	N/A
Man Lift	54.7	47.7	N/A	N/A	N/A	N/A	N/A

Man Lift		54.7	47.7	N/A	N/A	N/A	N/A	N/A
Man Lift		54.7	47.7	N/A	N/A	N/A	N/A	N/A
	Total	68.9	69.3	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Leq
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A

N/A
N/A
N/A

Leq
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A

N/A
N/A
N/A

Leq
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A

N/A
N/A
N/A

Leq
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A

N/A
N/A
N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat 10/5/2015
Case Descr Pavings

---- Receptor #1 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR1 - 50'	Residential	60	55	50

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	50	0
Pavement Scarafier	No	20		89.5	50	0
Dump Truck	No	40		76.5	50	0
Roller	No	20		80	50	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Paver	77.2	74.2	N/A	N/A	N/A	N/A	N/A
Pavement Scarafier	89.5	82.5	N/A	N/A	N/A	N/A	N/A
Dump Truck	76.5	72.5	N/A	N/A	N/A	N/A	N/A
Roller	80	73	N/A	N/A	N/A	N/A	N/A
Total	89.5	83.8	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR2 - 100'	Residential	60	55	50

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	100	0
Pavement Scarafier	No	20		89.5	100	0
Dump Truck	No	40		76.5	100	0
Roller	No	20		80	100	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night

Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Paver	71.2	68.2	N/A	N/A	N/A	N/A	N/A
Pavement Scarafier	83.5	76.5	N/A	N/A	N/A	N/A	N/A
Dump Truck	70.4	66.5	N/A	N/A	N/A	N/A	N/A
Roller	74	67	N/A	N/A	N/A	N/A	N/A
Total	83.5	77.8	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR3 - 200'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	200	0
Pavement Scarafier	No	20		89.5	200	0
Dump Truck	No	40		76.5	200	0
Roller	No	20		80	200	0

Results

	Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Paver	65.2	62.2	N/A	N/A	N/A	N/A	N/A
Pavement Scarafier	77.5	70.5	N/A	N/A	N/A	N/A	N/A
Dump Truck	64.4	60.4	N/A	N/A	N/A	N/A	N/A
Roller	68	61	N/A	N/A	N/A	N/A	N/A
Total	77.5	71.8	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR4 - 500'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	500	0
Pavement Scarafier	No	20		89.5	500	0
Dump Truck	No	40		76.5	500	0
Roller	No	20		80	500	0

	Calculated (dBA)		Results		Noise Limits (dBA)		
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Paver	57.2	54.2	N/A	N/A	N/A	N/A	N/A
Pavement Scarafier	69.5	62.5	N/A	N/A	N/A	N/A	N/A
Dump Truck	56.5	52.5	N/A	N/A	N/A	N/A	N/A
Roller	60	53	N/A	N/A	N/A	N/A	N/A
Total	69.5	63.8	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Leq
N/A
N/A
N/A
N/A
N/A

Leq
N/A
N/A
N/A
N/A
N/A

Leq
N/A
N/A
N/A
N/A
N/A

Leq
N/A
N/A
N/A
N/A
N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat 10/6/2015
Case Descr Bldg Const 3

---- Receptor #1 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR1 - 50'	Residential	60	55	50

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
All Other Equipment > 5	No	50	85		50	0
All Other Equipment > 5	No	50	85		100	0
All Other Equipment > 5	No	50	85		100	0
Generator	No	50		80.6	200	5
Generator	No	50		80.6	50	0
Generator	No	50		80.6	200	5
Generator	No	50		80.6	400	5
Backhoe	No	40		77.6	100	0
Backhoe	No	40		77.6	50	0
Welder / Torch	No	40		74	50	0
Welder / Torch	No	40		74	100	5
Concrete Saw	No	20		89.6	50	0
Concrete Saw	No	20		89.6	200	5
Concrete Saw	No	20		89.6	50	5
Concrete Saw	No	20		89.6	500	5
Concrete Saw	No	20		89.6	200	5
Concrete Pump Truck	No	20		81.4	100	5
Concrete Mixer Truck	No	40		78.8	200	0
Concrete Pump Truck	No	20		81.4	50	0
Compactor (ground)	No	20		83.2	200	5

Results

Equipment	Calculated (dBA) *Lmax	Leq	Noise Limits (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
All Other Equipment > 5	85	82	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	79	76	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	79	76	N/A	N/A	N/A	N/A	N/A	N/A
Generator	63.6	60.6	N/A	N/A	N/A	N/A	N/A	N/A
Generator	80.6	77.6	N/A	N/A	N/A	N/A	N/A	N/A
Generator	63.6	60.6	N/A	N/A	N/A	N/A	N/A	N/A
Generator	57.6	54.6	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	71.5	67.6	N/A	N/A	N/A	N/A	N/A	N/A

Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	74	70	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	63	59	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	89.6	82.6	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	72.5	65.5	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	84.6	77.6	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	64.6	57.6	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	72.5	65.5	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	70.4	63.4	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	66.8	62.8	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	81.4	74.4	N/A	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	66.2	59.2	N/A	N/A	N/A	N/A	N/A	N/A
Total	89.6	87.9	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Descriptio	Land Use	Daytime	Evening	Night
CR2 - 100'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
All Other Equipment > 5	No	50	85		100	0
All Other Equipment > 5	No	50	85		200	0
All Other Equipment > 5	No	50	85		100	0
Generator	No	50		80.6	100	0
Generator	No	50		80.6	400	5
Generator	No	50		80.6	100	0
Generator	No	50		80.6	500	0
Backhoe	No	40		77.6	400	5
Backhoe	No	40		77.6	100	0
Welder / Torch	No	40		74	100	0
Welder / Torch	No	40		74	200	5
Concrete Saw	No	20		89.6	100	0
Concrete Saw	No	20		89.6	200	5
Concrete Saw	No	20		89.6	100	0
Concrete Saw	No	20		89.6	200	5
Concrete Saw	No	20		89.6	100	0
Concrete Pump Truck	No	20		81.4	100	0
Concrete Mixer Truck	No	40		78.8	400	5
Concrete Pump Truck	No	20		81.4	100	0
Compactor (ground)	No	20		83.2	100	0

Results

Calculated (dBA)	Noise Limits (dBA)

Equipment	*Lmax	Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
All Other Equipment > 5	79	76	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	73	69.9	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	79	76	N/A	N/A	N/A	N/A	N/A	N/A
Generator	74.6	71.6	N/A	N/A	N/A	N/A	N/A	N/A
Generator	57.6	54.6	N/A	N/A	N/A	N/A	N/A	N/A
Generator	74.6	71.6	N/A	N/A	N/A	N/A	N/A	N/A
Generator	60.6	57.6	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	54.5	50.5	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	71.5	67.6	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	68	64	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	57	53	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	83.6	76.6	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	72.5	65.5	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	83.6	76.6	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	72.5	65.5	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	83.6	76.6	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	75.4	68.4	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	55.7	51.8	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	75.4	68.4	N/A	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	77.2	70.2	N/A	N/A	N/A	N/A	N/A	N/A
Total	83.6	84.7	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
CR3 - 200'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
All Other Equipment > 5	No	50	85		200	0
All Other Equipment > 5	No	50	85		300	0
All Other Equipment > 5	No	50	85		400	5
Generator	No	50		80.6	200	0
Generator	No	50		80.6	400	5
Generator	No	50		80.6	200	0
Generator	No	50		80.6	400	5
Backhoe	No	40		77.6	200	0
Backhoe	No	40		77.6	500	5
Welder / Torch	No	40		74	200	0
Welder / Torch	No	40		74	300	0
Concrete Saw	No	20		89.6	200	0
Concrete Saw	No	20		89.6	400	5

Concrete Saw	No	20	89.6	200	0
Concrete Saw	No	20	89.6	500	5
Concrete Saw	No	20	89.6	200	0
Concrete Pump Truck	No	20	81.4	400	5
Concrete Mixer Truck	No	40	78.8	500	0
Concrete Pump Truck	No	20	81.4	200	0
Compactor (ground)	No	20	83.2	200	5

Results

	Calculated (dBA)		Noise Limits (dBA)					
			Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
All Other Equipment > 5	73	69.9	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	69.4	66.4	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	61.9	58.9	N/A	N/A	N/A	N/A	N/A	N/A
Generator	68.6	65.6	N/A	N/A	N/A	N/A	N/A	N/A
Generator	57.6	54.6	N/A	N/A	N/A	N/A	N/A	N/A
Generator	68.6	65.6	N/A	N/A	N/A	N/A	N/A	N/A
Generator	57.6	54.6	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	65.5	61.5	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	52.6	48.6	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	62	58	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	58.4	54.5	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	77.5	70.5	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	66.5	59.5	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	77.5	70.5	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	64.6	57.6	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	77.5	70.5	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	58.3	51.3	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	58.8	54.8	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	69.4	62.4	N/A	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	66.2	59.2	N/A	N/A	N/A	N/A	N/A	N/A
Total	77.5	78	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Descriptio	Land Use	Daytime	Evening	Night
CR4 - 500'	Residential	60	55	50

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
All Other Equipment > 5	No	50	85		500	0
All Other Equipment > 5	No	50	85		500	0
All Other Equipment > 5	No	50	85		500	5

Generator	No	50	80.6	500	0
Generator	No	50	80.6	500	5
Generator	No	50	80.6	500	0
Generator	No	50	80.6	500	5
Backhoe	No	40	77.6	500	0
Backhoe	No	40	77.6	500	0
Welder / Torch	No	40	74	500	0
Welder / Torch	No	40	74	500	5
Concrete Saw	No	20	89.6	500	0
Concrete Saw	No	20	89.6	500	5
Concrete Saw	No	20	89.6	500	0
Concrete Saw	No	20	89.6	500	0
Concrete Saw	No	20	89.6	500	5
Concrete Pump Truck	No	20	81.4	500	0
Concrete Mixer Truck	No	40	78.8	500	5
Concrete Pump Truck	No	20	81.4	500	0
Compactor (ground)	No	20	83.2	500	5

			Results					
	Calculated (dBA)		Noise Limits (dBA)					
			Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
All Other Equipment > 5	65	62	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	65	62	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	60	57	N/A	N/A	N/A	N/A	N/A	N/A
Generator	60.6	57.6	N/A	N/A	N/A	N/A	N/A	N/A
Generator	55.6	52.6	N/A	N/A	N/A	N/A	N/A	N/A
Generator	60.6	57.6	N/A	N/A	N/A	N/A	N/A	N/A
Generator	55.6	52.6	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	57.6	53.6	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	57.6	53.6	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	54	50	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	49	45	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	69.6	62.6	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	64.6	57.6	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	69.6	62.6	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	69.6	62.6	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	64.6	57.6	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	61.4	54.4	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	53.8	49.8	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	61.4	54.4	N/A	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	58.2	51.2	N/A	N/A	N/A	N/A	N/A	N/A
Total	69.6	71.2	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat 10/6/2015
Case Descr Bldg Const 3 - 2

---- Receptor #1 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR1 - 50'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compactor (ground)	No	20		83.2	50	0
Compressor (air)	No	40		77.7	50	0
Compressor (air)	No	40		77.7	100	5
Crane	No	16		80.6	50	0
All Other Equipment > 5	No	50	85		200	5
Excavator	No	40		80.7	50	0
Excavator	No	40		80.7	100	0
All Other Equipment > 5	No	50	85		50	0
All Other Equipment > 5	No	50	85		300	5

Results

	Calculated (dBA)		Noise Limits (dBA)					
			Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Compactor (ground)	83.2	76.2	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	77.7	73.7	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	66.6	62.7	N/A	N/A	N/A	N/A	N/A	N/A
Crane	80.6	72.6	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	68	64.9	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	80.7	76.7	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	74.7	70.7	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	85	82	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	64.4	61.4	N/A	N/A	N/A	N/A	N/A	N/A
Total	85	84.9	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR2 - 100'	Residential	60	55	50

			Equipment Spec	Actual	Receptor	Estimated

Description	Impact Device	Usage(%)	Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Compactor (ground)	No	20		83.2	100	0
Compressor (air)	No	40		77.7	100	0
Compressor (air)	No	40		77.7	200	5
Crane	No	16		80.6	100	0
All Other Equipment > 5	No	50	85		300	0
Excavator	No	40		80.7	100	0
Excavator	No	40		80.7	200	5
All Other Equipment > 5	No	50	85		100	0
All Other Equipment > 5	No	50	85		400	5

Results

	Calculated (dBA)		Noise Limits (dBA)					
			Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Compactor (ground)	77.2	70.2	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	71.6	67.7	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	60.6	56.6	N/A	N/A	N/A	N/A	N/A	N/A
Crane	74.5	66.6	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	69.4	66.4	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	74.7	70.7	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	63.7	59.7	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	79	76	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	61.9	58.9	N/A	N/A	N/A	N/A	N/A	N/A
Total	79	79	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Descriptio	Land Use	Daytime	Evening	Night
CR3 - 200'	Residential	60	55	50

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compactor (ground)	No	20		83.2	200	0
Compressor (air)	No	40		77.7	200	0
Compressor (air)	No	40		77.7	400	5
Crane	No	16		80.6	200	0
All Other Equipment > 5	No	50	85		200	0
Excavator	No	40		80.7	200	0
Excavator	No	40		80.7	500	5
All Other Equipment > 5	No	50	85		200	0
All Other Equipment > 5	No	50	85		400	5

			Results					
	Calculated (dBA)		Noise Limits (dBA)					
			Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Compactor (ground)	71.2	64.2	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	65.6	61.6	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	54.6	50.6	N/A	N/A	N/A	N/A	N/A	N/A
Crane	68.5	60.6	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	73	69.9	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	68.7	64.7	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	55.7	51.7	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	73	69.9	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	61.9	58.9	N/A	N/A	N/A	N/A	N/A	N/A
Total	73	74.6	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Descriptio	Land Use	Daytime	Evening	Night
CR4 - 500'	Residential	60	55	50

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Compactor (ground)	No	20		83.2	500	0
Compressor (air)	No	40		77.7	500	5
Compressor (air)	No	40		77.7	500	0
Crane	No	16		80.6	500	5
All Other Equipment > 5	No	50	85		500	0
Excavator	No	40		80.7	500	5
Excavator	No	40		80.7	500	0
All Other Equipment > 5	No	50	85		500	5
All Other Equipment > 5	No	50	85		500	0

			Results					
	Calculated (dBA)		Noise Limits (dBA)					
			Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Compactor (ground)	63.2	56.2	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	52.7	48.7	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	57.7	53.7	N/A	N/A	N/A	N/A	N/A	N/A
Crane	55.6	47.6	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	65	62	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	55.7	51.7	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	60.7	56.7	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	60	57	N/A	N/A	N/A	N/A	N/A	N/A

All Other Equipment > 5	65	62	N/A	N/A	N/A	N/A	N/A	N/A
Total	65	67	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat 10/5/2015
Case Descr Architectural Coatings 3

---- Receptor #1 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR1 - 50'	Residential	60	55	50

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
Compressor (air)	No	40		77.7	100	0
Compressor (air)	No	40		77.7	50	0
Man Lift	No	20		74.7	50	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	50	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	50	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Compressor (air)	77.7	73.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	71.6	67.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	77.7	73.7	N/A	N/A	N/A	N/A	N/A
Man Lift	74.7	67.7	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A
Man Lift	74.7	67.7	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A
Man Lift	74.7	67.7	N/A	N/A	N/A	N/A	N/A
Total	77.7	78.7	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR2 - 100'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)

Compressor (air)	No	40	77.7	100	0
Compressor (air)	No	40	77.7	100	0
Compressor (air)	No	40	77.7	100	0
Man Lift	No	20	74.7	100	0
Man Lift	No	20	74.7	100	0
Man Lift	No	20	74.7	100	0
Man Lift	No	20	74.7	100	0
Man Lift	No	20	74.7	100	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Compressor (air)	71.6	67.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	71.6	67.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	71.6	67.7	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A
Total	71.6	74	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Descriptio	Land Use	Daytime	Evening	Night
CR3 - 200'	Residential	60	55	50

Equipment

			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Compressor (air)	No	40	77.7	200	0	
Compressor (air)	No	40	77.7	200	0	
Compressor (air)	No	40	77.7	200	0	
Man Lift	No	20	74.7	200	0	
Man Lift	No	20	74.7	200	0	
Man Lift	No	20	74.7	200	0	
Man Lift	No	20	74.7	200	0	
Man Lift	No	20	74.7	200	0	

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Compressor (air)	65.6	61.6	N/A	N/A	N/A	N/A	N/A

Compressor (air)	65.6	61.6	N/A	N/A	N/A	N/A	N/A
Compressor (air)	65.6	61.6	N/A	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A
Total	65.6	67.9	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR4 - 500'	Residential	60	55	50

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	500	0
Compressor (air)	No	40		77.7	500	0
Compressor (air)	No	40		77.7	500	0
Man Lift	No	20		74.7	500	0
Man Lift	No	20		74.7	500	0
Man Lift	No	20		74.7	500	0
Man Lift	No	20		74.7	500	0
Man Lift	No	20		74.7	500	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Compressor (air)	57.7	53.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	57.7	53.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	57.7	53.7	N/A	N/A	N/A	N/A	N/A
Man Lift	54.7	47.7	N/A	N/A	N/A	N/A	N/A
Man Lift	54.7	47.7	N/A	N/A	N/A	N/A	N/A
Man Lift	54.7	47.7	N/A	N/A	N/A	N/A	N/A
Man Lift	54.7	47.7	N/A	N/A	N/A	N/A	N/A
Man Lift	54.7	47.7	N/A	N/A	N/A	N/A	N/A
Total	57.7	60	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Leq
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A

Leq
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A

Leq
N/A

N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A

Leq
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A

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Case Descr Trenching

---- Receptor #1 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR1 - 50'	Residential	60	55	50

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
Excavator	No	40		80.7	50	0
Excavator	No	40		80.7	50	0
Tractor	No	40	84		50	0
Front End Loader	No	40		79.1	50	0
All Other Equipment > 5	No	50	85		50	0

Results

	Calculated (dBA)		Noise Limits (dBA)					
			Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)	77.7	73.7	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	80.7	76.7	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	80.7	76.7	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	84	80	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	79.1	75.1	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	85	82	N/A	N/A	N/A	N/A	N/A	N/A
Total	85	86.1	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR2 - 100'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	100	0
Excavator	No	40		80.7	100	0
Excavator	No	40		80.7	100	0
Tractor	No	40	84		100	0

Front End Loader	No	40		79.1	100	0
All Other Equipment > 5	No	50	85		100	0

Results

	Calculated (dBA)		Noise Limits (dBA)					
			Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)	71.6	67.7	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	74.7	70.7	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	74.7	70.7	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	78	74	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	73.1	69.1	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	79	76	N/A	N/A	N/A	N/A	N/A	N/A
Total	79	80.1	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Descriptio	Land Use	Daytime	Evening	Night
CR3 - 200'	Residential	60	55	50

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	200	0
Excavator	No	40		80.7	200	0
Excavator	No	40		80.7	200	0
Tractor	No	40	84		200	0
Front End Loader	No	40		79.1	200	0
All Other Equipment > 5	No	50	85		200	0

Results

	Calculated (dBA)		Noise Limits (dBA)					
			Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)	65.6	61.6	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	68.7	64.7	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	68.7	64.7	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	72	68	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	67.1	63.1	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	73	69.9	N/A	N/A	N/A	N/A	N/A	N/A
Total	73	74.1	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Baselines (dBA)

Descriptio	Land Use	Daytime	Evening	Night
CR4 - 500'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	500	0
Excavator	No	40		80.7	500	0
Excavator	No	40		80.7	500	0
Tractor	No	40	84		500	0
Front End Loader	No	40		79.1	500	0
All Other Equipment > 5	No	50	85		500	0

	Calculated (dBA)		Results		Noise Limits (dBA)			
			Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)	57.7	53.7	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	60.7	56.7	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	60.7	56.7	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	64	60	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	59.1	55.1	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5	65	62	N/A	N/A	N/A	N/A	N/A	N/A
Total	65	66.1	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

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---- Receptor #1 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR1 - 50'	Residential	60	55	50

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
All Other Equipment > 5 HP	No	50	85		50	0
All Other Equipment > 5 HP	No	50	85		100	0
Generator	No	50		80.6	50	0
Generator	No	50		80.6	100	0
Front End Loader	No	40		79.1	50	0
Tractor	No	40	84		50	0
Welder / Torch	No	40		74	50	0
Concrete Pump Truck	No	20		81.4	50	0
Man Lift	No	20		74.7	50	0
Man Lift	No	20		74.7	100	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
All Other Equipment > 5 HP	85	82	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 HP	79	76	N/A	N/A	N/A	N/A	N/A
Generator	80.6	77.6	N/A	N/A	N/A	N/A	N/A
Generator	74.6	71.6	N/A	N/A	N/A	N/A	N/A
Front End Loader	79.1	75.1	N/A	N/A	N/A	N/A	N/A
Tractor	84	80	N/A	N/A	N/A	N/A	N/A
Welder / Torch	74	70	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	81.4	74.4	N/A	N/A	N/A	N/A	N/A
Man Lift	74.7	67.7	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A
Total	85	86.5	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR2 - 100'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
All Other Equipment > 5 HP	No	50	85		100	0
All Other Equipment > 5 HP	No	50	85		100	0
Generator	No	50		80.6	100	0
Generator	No	50		80.6	100	0
Front End Loader	No	40		79.1	100	0
Tractor	No	40	84		100	0
Welder / Torch	No	40		74	100	0
Concrete Pump Truck	No	20		81.4	100	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	100	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
All Other Equipment > 5 HP	79	76	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 HP	79	76	N/A	N/A	N/A	N/A	N/A
Generator	74.6	71.6	N/A	N/A	N/A	N/A	N/A
Generator	74.6	71.6	N/A	N/A	N/A	N/A	N/A
Front End Loader	73.1	69.1	N/A	N/A	N/A	N/A	N/A
Tractor	78	74	N/A	N/A	N/A	N/A	N/A
Welder / Torch	68	64	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	75.4	68.4	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A
Total	79	81.9	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Descriptio	Land Use	Daytime	Evening	Night
CR3 - 200'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
All Other Equipment > 5 HP	No	50	85		200	0
All Other Equipment > 5 HP	No	50	85		200	0
Generator	No	50		80.6	200	0
Generator	No	50		80.6	200	0
Front End Loader	No	40		79.1	200	0
Tractor	No	40	84		200	0

Welder / Torch	No	40	74	200	0
Concrete Pump Truck	No	20	81.4	200	0
Man Lift	No	20	74.7	200	0
Man Lift	No	20	74.7	200	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
All Other Equipment > 5 HP	73	69.9	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 HP	73	69.9	N/A	N/A	N/A	N/A	N/A
Generator	68.6	65.6	N/A	N/A	N/A	N/A	N/A
Generator	68.6	65.6	N/A	N/A	N/A	N/A	N/A
Front End Loader	67.1	63.1	N/A	N/A	N/A	N/A	N/A
Tractor	72	68	N/A	N/A	N/A	N/A	N/A
Welder / Torch	62	58	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	69.4	62.4	N/A	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A
Total	73	75.8	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Descriptio	Land Use	Daytime	Evening	Night
CR4 - 500'	Residential	60	55	50

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
All Other Equipment > 5 HP	No	50	85		500	0
All Other Equipment > 5 HP	No	50	85		500	0
Generator	No	50		80.6	500	0
Generator	No	50		80.6	500	0
Front End Loader	No	40		79.1	500	0
Tractor	No	40	84		500	0
Welder / Torch	No	40		74	500	0
Concrete Pump Truck	No	20		81.4	500	0
Man Lift	No	20		74.7	500	0
Man Lift	No	20		74.7	500	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
All Other Equipment > 5 HP	65	62	N/A	N/A	N/A	N/A	N/A

All Other Equipment > 5 HP	65	62	N/A	N/A	N/A	N/A	N/A
Generator	60.6	57.6	N/A	N/A	N/A	N/A	N/A
Generator	60.6	57.6	N/A	N/A	N/A	N/A	N/A
Front End Loader	59.1	55.1	N/A	N/A	N/A	N/A	N/A
Tractor	64	60	N/A	N/A	N/A	N/A	N/A
Welder / Torch	54	50	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	61.4	54.4	N/A	N/A	N/A	N/A	N/A
Man Lift	54.7	47.7	N/A	N/A	N/A	N/A	N/A
Man Lift	54.7	47.7	N/A	N/A	N/A	N/A	N/A
Total	65	67.9	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Leq
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A

Leq
N/A
N/A
N/A
N/A
N/A
N/A
N/A
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N/A
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Leq
N/A
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Leq
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N/A

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Case Descr Architectural Coatings 3

---- Receptor #1 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR1 - 50'	Residential	60	55	50

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	50	0
Compressor (air)	No	40		77.7	50	0
Man Lift	No	20		74.7	50	0
Man Lift	No	20		74.7	50	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Compressor (air)	77.7	73.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	77.7	73.7	N/A	N/A	N/A	N/A	N/A
Man Lift	74.7	67.7	N/A	N/A	N/A	N/A	N/A
Man Lift	74.7	67.7	N/A	N/A	N/A	N/A	N/A
Total	77.7	77.7	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR2 - 100'	Residential	60	55	50

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	100	0
Compressor (air)	No	40		77.7	100	0
Man Lift	No	20		74.7	100	0
Man Lift	No	20		74.7	100	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night

Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Compressor (air)	71.6	67.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	71.6	67.7	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A
Man Lift	68.7	61.7	N/A	N/A	N/A	N/A	N/A
Total	71.6	71.7	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR3 - 200'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	200	0
Compressor (air)	No	40		77.7	200	0
Man Lift	No	20		74.7	200	0
Man Lift	No	20		74.7	200	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Compressor (air)	65.6	61.6	N/A	N/A	N/A	N/A	N/A
Compressor (air)	65.6	61.6	N/A	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A
Man Lift	62.7	55.7	N/A	N/A	N/A	N/A	N/A
Total	65.6	65.6	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
CR4 - 500'	Residential	60	55	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	500	0
Compressor (air)	No	40		77.7	500	0
Man Lift	No	20		74.7	500	0
Man Lift	No	20		74.7	500	0

	Results						
	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Compressor (air)	57.7	53.7	N/A	N/A	N/A	N/A	N/A
Compressor (air)	57.7	53.7	N/A	N/A	N/A	N/A	N/A
Man Lift	54.7	47.7	N/A	N/A	N/A	N/A	N/A
Man Lift	54.7	47.7	N/A	N/A	N/A	N/A	N/A
Total	57.7	57.7	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Leq
N/A
N/A
N/A
N/A
N/A

Leq
N/A
N/A
N/A
N/A
N/A

Leq
N/A
N/A
N/A
N/A
N/A

Leq
N/A
N/A
N/A
N/A
N/A

APPENDIX C

Traffic Noise Modeling Input and Output Files

Dudek 8 October 2015
M Greene TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: 8914
RUN: 5 Lagunas Project - Cal Run

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
I-5 NB S of El Toro Rd	60.0	point1	1	37,507,728.0	12,198,161.0	370.00				Average	
		point2	2	37,506,920.0	12,198,572.0	370.00				Average	
		point3	3	37,506,208.0	12,199,047.0	370.00				Average	
		point4	4	37,505,528.0	12,199,702.0	370.00				Average	
		point5	5	37,504,880.0	12,200,357.0	370.00				Average	
		point6	6	37,504,712.0	12,200,535.0	375.00					
I-5 SB S of El Toro Rd	60.0	point7	7	37,504,656.0	12,200,472.0	375.00				Average	
		point8	8	37,506,116.0	12,198,997.0	370.00				Average	
		point9	9	37,506,868.0	12,198,499.0	370.00				Average	
		point10	10	37,507,684.0	12,198,076.0	370.00					
Ave de la Carlota N of Los Alisos	100.0	point11	11	37,507,120.0	12,197,526.0	360.00				Average	
		point12	12	37,506,784.0	12,198,313.0	360.00				Average	
		point13	13	37,506,592.0	12,198,523.0	360.00				Average	
		point179	179	37,506,328.0	12,198,716.0	360.00				Average	
		point14	14	37,506,064.0	12,198,909.0	360.00					
El Toro Rd EB 2	50.0	point19	19	37,503,104.0	12,199,735.0	360.00				Average	
		point20	20	37,503,588.0	12,199,723.0	360.00				Average	
		point21	21	37,503,912.0	12,199,824.0	360.00				Average	
		point22	22	37,504,112.0	12,199,943.0	360.00				Average	
		point23	23	37,504,384.0	12,200,192.0	360.00					
El Toro Rd EB 3	50.0	point24	24	37,504,392.0	12,200,202.0	360.00				Average	
		point25	25	37,504,612.0	12,200,395.0	360.00					
El Toro Rd WB	50.0	point28	28	37,505,300.0	12,201,159.0	360.00				Average	
		point29	29	37,504,732.0	12,200,595.0	360.00					
El Toro Rd WB 2	50.0	point30	30	37,504,576.0	12,200,429.0	360.00				Average	
		point31	31	37,504,364.0	12,200,233.0	360.00					
El Toro Rd WB 3	50.0	point32	32	37,504,352.0	12,200,223.0	360.00				Average	

		point33	33	37,504,100.0	12,200,000.0	360.00				Average	
		point34	34	37,503,840.0	12,199,850.0	360.00				Average	
		point35	35	37,503,568.0	12,199,779.0	360.00				Average	
		point36	36	37,503,096.0	12,199,789.0	360.00					
El Toro Rd WB 4	50.0	point37	37	37,503,052.0	12,199,788.0	360.00				Average	
		point38	38	37,501,748.0	12,199,806.0	360.00					
El Toro Rd EB	50.0	point39	39	37,501,736.0	12,199,773.0	360.00				Average	
		point40	40	37,503,048.0	12,199,738.0	360.00					
El Toro Rd EB 4	50.0	point42	42	37,504,788.0	12,200,560.0	360.00				Average	
		point27	27	37,505,384.0	12,201,133.0	360.00					
Rossmoor	55.0	point43	43	37,503,104.0	12,199,528.0	360.00				Average	
		point44	44	37,503,412.0	12,199,514.0	360.00				Average	
		point45	45	37,503,540.0	12,199,449.0	360.00				Average	
		point46	46	37,503,844.0	12,199,187.0	360.00					
Calle de la Louisa	55.0	point47	47	37,503,856.0	12,199,175.0	360.00				Average	
		point177	177	37,504,280.0	12,198,768.0	360.00					
Calle de la Louisa - 2	55.0	point49	49	37,504,724.0	12,198,342.0	360.00				Average	
		point50	50	37,505,196.0	12,197,873.0	360.00					
Calle de los Caballeros	45.0	point51	51	37,505,176.0	12,197,862.0	360.00				Average	
		point53	53	37,505,048.0	12,197,699.0	360.00				Average	
		point54	54	37,505,000.0	12,197,564.0	360.00					
Paseo de Valencia	95.0	point63	63	37,504,456.0	12,197,676.0	360.00				Average	
		point65	65	37,504,888.0	12,197,583.0	360.00				Average	
		point66	66	37,505,200.0	12,197,461.0	360.00				Average	
		point67	67	37,505,416.0	12,197,316.0	360.00				Average	
		point68	68	37,505,676.0	12,197,066.0	360.00				Average	
		point64	64	37,505,844.0	12,196,889.0	360.00					
Paseo de Valencia S of Los Alisos	95.0	point69	69	37,505,868.0	12,196,866.0	360.00				Average	
		point70	70	37,506,020.0	12,196,606.0	360.00				Average	
		point71	71	37,506,104.0	12,196,345.0	360.00				Average	
		point72	72	37,506,156.0	12,196,103.0	360.00					
Los Alisos Blvd E of Paseo de Valencia	95.0	point74	74	37,505,852.0	12,196,882.0	360.00				Average	
		point76	76	37,506,216.0	12,197,182.0	360.00				Average	
		point77	77	37,506,456.0	12,197,301.0	360.00					
Paseo de Valencia n of El Toro Rd	60.0	point89	89	37,503,076.0	12,199,794.0	360.00				Average	
		point91	91	37,503,104.0	12,200,046.0	360.00				Average	
		point92	92	37,503,216.0	12,200,206.0	360.00				Average	
		point93	93	37,503,456.0	12,200,353.0	360.00					
I-5 SB Offramp	50.0	point111	111	37,503,980.0	12,200,976.0	375.00				Average	
		point97	97	37,503,996.0	12,200,833.0	370.00				Average	

		point98	98	37,503,932.0	12,200,696.0	360.00				Average	
		point99	99	37,503,908.0	12,200,652.0	360.00					
I-5 SB On-ramp	30.0	point112	112	37,503,908.0	12,200,645.0	360.00				Average	
		point100	100	37,503,948.0	12,200,684.0	360.00				Average	
		point101	101	37,504,052.0	12,200,759.0	365.00				Average	
		point102	102	37,504,172.0	12,200,787.0	370.00				Average	
		point103	103	37,504,320.0	12,200,691.0	375.00				Average	
		point104	104	37,504,532.0	12,200,506.0	375.00					
Ave de la Carlota N of I-5 ramps	65.0	point114	114	37,503,572.0	12,201,170.0	360.00				Average	
		point108	108	37,503,592.0	12,201,026.0	360.00				Average	
		point109	109	37,503,644.0	12,200,900.0	360.00				Average	
		point90	90	37,503,884.0	12,200,641.0	360.00					
I-5 NB N of El Toro Rd	60.0	point115	115	37,504,700.0	12,200,548.0	375.00				Average	
		point174	174	37,504,216.0	12,201,028.0	375.00				Average	
		point116	116	37,503,732.0	12,201,509.0	375.00					
I-5 SB N of El Toro Rd	60.0	point118	118	37,503,688.0	12,201,459.0	375.00				Average	
		point173	173	37,504,160.0	12,200,976.0	375.00				Average	
		point119	119	37,504,636.0	12,200,492.0	375.00					
Ave de la Carlota N of El Toro Rd	90.0	point121	121	37,504,332.0	12,200,252.0	360.00				Average	
		point106	106	37,503,900.0	12,200,633.0	360.00					
Paseo de Valencia - 2	95.0	point123	123	37,503,072.0	12,199,716.0	360.00				Average	
		point56	56	37,503,056.0	12,199,216.0	360.00				Average	
		point57	57	37,503,128.0	12,198,772.0	360.00				Average	
		point58	58	37,503,128.0	12,198,733.0	360.00					
Health Center Dr	65.0	point124	124	37,504,448.0	12,197,701.0	360.00				Average	
		point125	125	37,504,484.0	12,197,969.0	360.00				Average	
		point126	126	37,504,528.0	12,198,141.0	360.00				Average	
		point127	127	37,504,688.0	12,198,346.0	360.00					
Calle de la Plata	55.0	point128	128	37,503,136.0	12,198,760.0	360.00				Average	
		point129	129	37,503,436.0	12,198,856.0	360.00				Average	
		point130	130	37,503,580.0	12,198,964.0	360.00				Average	
		point131	131	37,503,844.0	12,199,173.0	360.00					
Paseo de Valencia n of El Toro Rd-2	60.0	point132	132	37,503,456.0	12,200,353.0	360.00				Average	
		point94	94	37,503,796.0	12,200,546.0	360.00				Average	
		point95	95	37,503,884.0	12,200,627.0	360.00					
Paseo de Valencia - S of Calle dl Plata	95.0	point169	169	37,503,128.0	12,198,733.0	360.00				Average	
		point59	59	37,503,244.0	12,198,461.0	360.00				Average	
		point60	60	37,503,388.0	12,198,255.0	360.00				Average	
		point61	61	37,503,728.0	12,197,927.0	360.00				Average	
		point62	62	37,504,204.0	12,197,711.0	360.00				Average	

		point52	52	37,504,436.0	12,197,679.0	360.00					
Los Alisos Blvd- W of Ave dl Carlotta	95.0	point170	170	37,506,456.0	12,197,301.0	360.00				Average	
		point78	78	37,507,100.0	12,197,491.0	360.00				Average	
		point79	79	37,507,168.0	12,197,526.0	360.00					
Los Alisos Blvd- E of Ave dl Carlotta	95.0	point171	171	37,507,168.0	12,197,526.0	360.00				Average	
		point80	80	37,507,360.0	12,197,623.0	360.00				Average	
		point81	81	37,507,544.0	12,197,813.0	360.00				Average	
		point82	82	37,507,684.0	12,198,029.0	360.00				Average	
		point83	83	37,507,840.0	12,198,324.0	360.00				Average	
		point84	84	37,507,896.0	12,198,588.0	360.00				Average	
		point85	85	37,507,928.0	12,198,910.0	360.00				Average	
		point86	86	37,507,960.0	12,199,263.0	360.00				Average	
		point87	87	37,508,136.0	12,199,669.0	360.00				Average	
		point88	88	37,508,160.0	12,199,699.0	360.00				Average	
		point75	75	37,508,392.0	12,200,096.0	360.00					
Ave de la Carlota S of El Toro Rd	80.0	point172	172	37,506,064.0	12,198,909.0	360.00				Average	
		point15	15	37,505,004.0	12,199,884.0	360.00				Average	
		point16	16	37,504,784.0	12,199,973.0	360.00				Average	
		point17	17	37,504,512.0	12,200,081.0	360.00				Average	
		point18	18	37,504,408.0	12,200,184.0	360.00					
Calle de la Louisa-2	55.0	point178	178	37,504,280.0	12,198,768.0	360.00				Average	
		point48	48	37,504,704.0	12,198,361.0	360.00					

Dudek 8 October 201
M Greene TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Percentages

PROJECT/CONTRACT: 8914

RUN: 5 Lagunas Project - Cal Run

Roadway	Points												
Name	Name	No.	Segment										
			Total	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			Volume	P	S	P	S	P	S	P	S	P	S
			veh/hr	%	mph	%	mph	%	mph	%	mph	%	mph
I-5 NB S of El Toro Rd	point1	1	7250	97	65	1	65	2	65	0	0	0	0
	point2	2	7250	97	65	1	65	2	65	0	0	0	0
	point3	3	7250	97	65	1	65	2	65	0	0	0	0
	point4	4	7250	97	65	1	65	2	65	0	0	0	0
	point5	5	7250	97	65	1	65	2	65	0	0	0	0
	point6	6											
I-5 SB S of El Toro Rd	point7	7	7250	97	65	1	65	2	65	0	0	0	0
	point8	8	7250	97	65	1	65	2	65	0	0	0	0
	point9	9	7250	97	65	1	65	2	65	0	0	0	0
	point10	10											
Ave de la Carlota N of Los Alisos	point11	11	912	98	40	1	40	0	0	0	0	1	40
	point12	12	912	98	40	1	40	0	0	0	0	1	40
	point13	13	912	98	40	1	40	0	0	0	0	1	40
	point179	179	912	98	40	1	40	0	0	0	0	1	40
	point14	14											
El Toro Rd EB 2	point19	19	1225	97	35	2	35	1	35	0	0	0	0
	point20	20	1225	97	35	2	35	1	35	0	0	0	0
	point21	21	1225	97	35	2	35	1	35	0	0	0	0
	point22	22	1225	97	35	2	35	1	35	0	0	0	0
	point23	23											
El Toro Rd EB 3	point24	24	1225	97	35	2	35	1	35	0	0	0	0
	point25	25											
El Toro Rd WB	point28	28	0	0	0	0	0	0	0	0	0	0	0
	point29	29											
El Toro Rd WB 2	point30	30	1225	97	35	2	35	1	35	0	0	0	0

	point31	31											
El Toro Rd WB 3	point32	32	1225	97	35	2	35	1	35	0	0	0	0
	point33	33	1225	97	35	2	35	1	35	0	0	0	0
	point34	34	1225	97	35	2	35	1	35	0	0	0	0
	point35	35	1225	97	35	2	35	1	35	0	0	0	0
	point36	36											
El Toro Rd WB 4	point37	37	1281	98	35	1	35	0	0	1	35	0	0
	point38	38											
El Toro Rd EB	point39	39	1305	98	35	1	35	0	0	1	35	0	0
	point40	40											
El Toro Rd EB 4	point42	42	0	0	0	0	0	0	0	0	0	0	0
	point27	27											
Rossmoor	point43	43	330	92	30	1	30	0	0	7	30	0	0
	point44	44	330	92	30	1	30	0	0	7	30	0	0
	point45	45	330	92	30	1	30	0	0	7	30	0	0
	point46	46											
Calle de la Louisa	point47	47	330	92	30	1	30	0	0	7	30	0	0
	point177	177											
Calle de la Louisa - 2	point49	49	175	97	30	2	30	1	30	0	0	0	0
	point50	50											
Calle de los Caballeros	point51	51	162	99	30	0	0	0	0	0	0	1	30
	point53	53	162	99	30	0	0	0	0	0	0	1	30
	point54	54											
Paseo de Valencia	point63	63	1179	97	40	1	40	0	0	2	40	0	0
	point65	65	1179	97	40	1	40	0	0	2	40	0	0
	point66	66	1179	97	40	1	40	0	0	2	40	0	0
	point67	67	1179	97	40	1	40	0	0	2	40	0	0
	point68	68	1179	97	40	1	40	0	0	2	40	0	0
	point64	64											
Paseo de Valencia S of Los Alisos	point69	69	1179	97	40	1	40	0	0	2	40	0	0
	point70	70	1179	97	40	1	40	0	0	2	40	0	0
	point71	71	1179	97	40	1	40	0	0	2	40	0	0
	point72	72											
Los Alisos Blvd E of Paseo de Valencia	point74	74	1929	97	40	2	40	1	40	0	0	0	0
	point76	76	1929	97	40	2	40	1	40	0	0	0	0
	point77	77											
Paseo de Valencia n of El Toro Rd	point89	89	1072	97	40	2	40	1	40	0	0	0	0

	point91	91	1072	97	40	2	40	1	40	0	0	0	0
	point92	92	1072	97	40	2	40	1	40	0	0	0	0
	point93	93											
I-5 SB Offramp	point111	111	0	0	0	0	0	0	0	0	0	0	0
	point97	97	0	0	0	0	0	0	0	0	0	0	0
	point98	98	0	0	0	0	0	0	0	0	0	0	0
	point99	99											
I-5 SB On-ramp	point112	112	2149	97	45	2	45	1	45	0	0	0	0
	point100	100	2149	97	45	2	45	1	45	0	0	0	0
	point101	101	2149	97	45	2	45	1	45	0	0	0	0
	point102	102	2149	97	45	2	45	1	45	0	0	0	0
	point103	103	2149	97	45	2	45	1	45	0	0	0	0
	point104	104											
Ave de la Carlota N of I-5 ramps	point114	114	1611	97	40	2	40	1	40	0	0	0	0
	point108	108	1611	97	40	2	40	1	40	0	0	0	0
	point109	109	1611	97	40	2	40	1	40	0	0	0	0
	point90	90											
I-5 NB N of El Toro Rd	point115	115	13250	97	65	1	65	2	65	0	0	0	0
	point174	174	13250	97	65	1	65	2	65	0	0	0	0
	point116	116											
I-5 SB N of El Toro Rd	point118	118	13250	97	65	1	65	2	65	0	0	0	0
	point173	173	13250	97	65	1	65	2	65	0	0	0	0
	point119	119											
Ave de la Carlota N of El Toro Rd	point121	121	2411	97	40	2	40	1	40	0	0	0	0
	point106	106											
Paseo de Valencia - 2	point123	123	1970	97	40	2	40	1	40	0	0	0	0
	point56	56	1970	97	40	2	40	1	40	0	0	0	0
	point57	57	1970	97	40	2	40	1	40	0	0	0	0
	point58	58											
Health Center Dr	point124	124	459	97	30	2	30	1	30	0	0	0	0
	point125	125	459	97	30	2	30	1	30	0	0	0	0
	point126	126	459	97	30	2	30	1	30	0	0	0	0
	point127	127											
Calle de la Plata	point128	128	197	97	30	2	30	1	30	0	0	0	0
	point129	129	197	97	30	2	30	1	30	0	0	0	0
	point130	130	197	97	30	2	30	1	30	0	0	0	0
	point131	131											

Paseo de Valencia n of El Toro Rd-2	point132	132	1128	99	40	1	40	0	0	0	0	0	0
	point94	94	1128	99	40	1	40	0	0	0	0	0	0
	point95	95											
Paseo de Valencia - S of Calle dl Plata	point169	169	2044	97	40	2	40	1	40	0	0	0	0
	point59	59	2044	97	40	2	40	1	40	0	0	0	0
	point60	60	2044	97	40	2	40	1	40	0	0	0	0
	point61	61	2044	97	40	2	40	1	40	0	0	0	0
	point62	62	2044	97	40	2	40	1	40	0	0	0	0
	point52	52											
Los Alisos Blvd- W of Ave dl Carlotta	point170	170	1973	97	40	2	40	1	40	0	0	0	0
	point78	78	1973	97	40	2	40	1	40	0	0	0	0
	point79	79											
Los Alisos Blvd- E of Ave dl Carlotta	point171	171	2267	97	40	2	40	1	40	0	0	0	0
	point80	80	2267	97	40	2	40	1	40	0	0	0	0
	point81	81	2267	97	40	2	40	1	40	0	0	0	0
	point82	82	2267	97	40	2	40	1	40	0	0	0	0
	point83	83	2267	97	40	2	40	1	40	0	0	0	0
	point84	84	2267	97	40	2	40	1	40	0	0	0	0
	point85	85	2267	97	40	2	40	1	40	0	0	0	0
	point86	86	2267	97	40	2	40	1	40	0	0	0	0
	point87	87	2267	97	40	2	40	1	40	0	0	0	0
	point88	88	2267	97	40	2	40	1	40	0	0	0	0
	point75	75											
Ave de la Carlota S of El Toro Rd	point172	172	1068	97	40	2	40	1	40	0	0	0	0
	point15	15	1068	97	40	2	40	1	40	0	0	0	0
	point16	16	1068	97	40	2	40	1	40	0	0	0	0
	point17	17	1068	97	40	2	40	1	40	0	0	0	0
	point18	18											
Calle de la Louisa-2	point178	178	195	91	30	0	0	0	0	9	30	0	0
	point48	48											

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8 October 2015
TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: 8914
RUN: 5 Lagunas Project - Cal Run

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria Existing LAeq1h	Impact Criteria LAeq1h	Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
M1 - On-Site Northwest side of Project	1	1	37,504,132.0	12,199,323.0	360.00	5.00	54.80	66	10.0	8.0	Y
M2 - On-Site Southeast side of Project	3	1	37,505,964.0	12,198,891.0	360.00	5.00	66.30	66	10.0	8.0	Y
M3 - Villa Valencia	6	1	37,505,440.0	12,198,020.0	360.00	5.00	53.90	66	10.0	8.0	Y
M4 - Saddleback Memorial Med Center	8	1	37,504,472.0	12,198,515.0	368.00	5.00	60.80	66	10.0	8.0	Y
M5 - Multi Family Resi	10	1	37,506,864.0	12,197,778.0	360.00	5.00	56.40	66	10.0	8.0	Y
M6 - Multi Family Resi	12	1	37,505,724.0	12,196,838.0	360.00	5.00	57.80	66	10.0	8.0	Y
M7 - Multi Family Resi	14	1	37,503,724.0	12,200,709.0	360.00	5.00	61.30	66	10.0	8.0	Y
M8 - Multi Family Resi	16	1	37,502,048.0	12,199,843.0	360.00	5.00	63.20	66	10.0	8.0	Y
R1 - Multi Family Resi	18	1	37,505,988.0	12,196,864.0	360.00	5.00	0.00	66	10.0	8.0	
R2 - Multi Family Resi	20	1	37,506,868.0	12,197,584.0	360.00	5.00	0.00	66	10.0	8.0	
R3 - Multi Family Resi	22	1	37,503,360.0	12,198,185.0	360.00	5.00	0.00	66	10.0	8.0	
R4 - Multi Family Resi	26	1	37,503,792.0	12,200,623.0	360.00	5.00	0.00	66	10.0	8.0	
R5 - Multi Fam Future Resi 1st Flr	28	1	37,505,996.0	12,198,890.0	360.00	5.00	0.00	66	10.0	8.0	Y
R6 - Multi Fam Future Resi 2nd Flr	30	1	37,506,000.0	12,198,890.0	360.00	15.00	0.00	66	10.0	8.0	Y
R7 - Multi Fam Future Resi 3rd Flr	32	1	37,506,000.0	12,198,890.0	360.00	25.00	0.00	66	10.0	8.0	Y
R8 - Multi Fam Future Resi 1st Flr	34	1	37,504,868.0	12,198,337.0	360.00	5.00	0.00	66	10.0	8.0	Y
R9 - Multi Fam Future Resi 2nd Flr	35	1	37,504,872.0	12,198,337.0	360.00	15.00	0.00	66	10.0	8.0	Y
R10 - Multi Fam Future Resi 3rd Flr	36	1	37,504,872.0	12,198,337.0	360.00	25.00	0.00	66	10.0	8.0	Y

Dudek **8 October 2015**
M Greene **TNM 2.5**

INPUT: BARRIERS
PROJECT/CONTRACT: **8914**
RUN: **5 Lagunas Project - Cal Run**

Barrier Name	Type	Height Min	Height Max	If Wall $ per Unit Area	If Berm $ per Unit Vol.	Top Width	Run:Rise	Add'tnl $ per Unit Length	Points Name	No.	Coordinates (bottom) X	Y	Z	Height at Point	Segment Seg Ht Increment	Perturbs #Up	Perturbs #Dn	On Struct?	Important Reflections?
		ft	ft	$/sq ft	$/cu yd	ft	ft:ft	$/ft			ft	ft	ft	ft	ft				
Barrier1	W	0.00	99.99	0.00				0.00	point1	1	37,502,940.0	12,199,817.0	360.00	5.00	0.00	0	0		
									point2	2	37,501,788.0	12,199,836.0	360.00	5.00					
Barrier3	W	0.00	99.99	0.00				0.00	point3	3	37,503,588.0	12,200,482.0	360.00	6.00	0.00	0	0		
									point4	4	37,503,780.0	12,200,593.0	360.00	6.00	0.00	0	0		
									point5	5	37,503,816.0	12,200,626.0	360.00	6.00	0.00	0	0		
									point6	6	37,503,644.0	12,200,830.0	360.00	6.00					
Barrier4	W	0.00	99.99	0.00				0.00	point7	7	37,505,376.0	12,197,285.0	360.00	5.00	0.00	0	0		
									point9	9	37,505,580.0	12,197,081.0	360.00	5.00	0.00	0	0		
									point10	10	37,505,804.0	12,196,852.0	360.00	5.00	0.00	0	0		
									point8	8	37,505,960.0	12,196,564.0	360.00	5.00					
Barrier5	W	0.00	99.99	0.00				0.00	point11	11	37,506,088.0	12,196,653.0	360.00	5.00	0.00	0	0		
									point12	12	37,505,968.0	12,196,867.0	360.00	5.00	0.00	0	0		
									point13	13	37,506,272.0	12,197,110.0	360.00	5.00					
Barrier6	W	0.00	99.99	0.00				0.00	point14	14	37,506,412.0	12,197,398.0	360.00	8.00	0.00	0	0		
									point15	15	37,506,992.0	12,197,572.0	360.00	8.00	0.00	0	0		
									point16	16	37,506,692.0	12,198,280.0	360.00	8.00					
Barrier7	W	0.00	99.99	0.00				0.00	point17	17	37,503,208.0	12,198,435.0	360.00	5.00	0.00	0	0		
									point18	18	37,503,352.0	12,198,219.0	360.00	5.00	0.00	0	0		
									point19	19	37,503,628.0	12,197,954.0	360.00	5.00					
General structural shielding from I-5	W	0.00	99.99	0.00				0.00	point20	20	37,506,304.0	12,197,401.0	360.00	30.00	0.00	0	0		
									point21	21	37,505,380.0	12,198,580.0	360.00	30.00	0.00	0	0		
									point22	22	37,504,848.0	12,199,021.0	360.00	30.00	0.00	0	0		
									point23	23	37,504,068.0	12,199,770.0	360.00	30.00					
General Shielding from I-5 - 2	W	0.00	99.99	0.00				0.00	point24	24	37,506,428.0	12,197,196.0	360.00	15.00	0.00	0	0		
									point25	25	37,506,716.0	12,196,663.0	360.00	15.00					
I-5 Shielding - 4	W	0.00	99.99	0.00				0.00	point26	26	37,503,340.0	12,200,395.0	360.00	15.00	0.00	0	0		
									point27	27	37,502,356.0	12,201,143.0	360.00	15.00					
I-5 Shielding - 3	W	0.00	99.99	0.00				0.00	point28	28	37,503,896.0	12,199,944.0	360.00	15.00	0.00	0	0		
									point29	29	37,503,476.0	12,200,282.0	360.00	15.00					
Barrier12	W	0.00	99.99	0.00				0.00	point30	30	37,504,016.0	12,199,739.0	360.00	15.00	0.00	0	0		
									point31	31	37,503,604.0	12,199,599.0	360.00	15.00					
Barrier18	W	0.00	99.99	0.00				0.00	point43	43	37,507,632.0	12,198,157.0	370.00	4.00	0.00	0	0		
									point44	44	37,506,888.0	12,198,534.0	370.00	4.00	0.00	0	0		
									point45	45	37,506,176.0	12,199,009.0	370.00	4.00	0.00	0	0		
									point46	46	37,505,496.0	12,199,674.0	370.00	4.00	0.00	0	0		
									point47	47	37,504,848.0	12,200,329.0	370.00	4.00	0.00	0	0		
									point53	53	37,504,664.0	12,200,523.0	375.00	4.00	0.00	0	0		

									point54	54	37,504,180.0	12,201,003.0	375.00	4.00	0.00	0	0		
									point55	55	37,503,704.0	12,201,488.0	375.00	4.00					
Barrier14	W	0.00	99.99	0.00				0.00	point37	37	37,507,620.0	12,198,057.0	370.00	6.00	0.00	0	0		
									point38	38	37,506,804.0	12,198,480.0	370.00	6.00	0.00	0	0		
									point39	39	37,506,052.0	12,198,978.0	370.00	6.00	0.00	0	0		
									point40	40	37,504,592.0	12,200,453.0	375.00	6.00	0.00	0	0		
									point49	49	37,504,580.0	12,200,465.0	375.00	6.00					
Barrier14-2-2	W	0.00	99.99	0.00				0.00	point59	59	37,504,504.0	12,200,553.0	375.00	6.00	0.00	0	0		
									point50	50	37,504,188.0	12,200,868.0	375.00	6.00	0.00	0	0		
									point51	51	37,503,632.0	12,201,432.0	375.00	6.00					

Dudek
M Greene

8 October 2015
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 8914
RUN: 5 Lagunas Project - Cal Run
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
M1 - On-Site Northwest side of Project	1	1	54.8	54.5	66	-0.3	10	----	54.5	0.0	8	-8.0
M2 - On-Site Southeast side of Project	3	1	66.3	68.1	66	1.8	10	Snd Lvl	68.1	0.0	8	-8.0
M3 - Villa Valencia	6	1	53.9	53.6	66	-0.3	10	----	53.6	0.0	8	-8.0
M4 - Saddleback Memorial Med Center	8	1	60.8	59.2	66	-1.6	10	----	59.2	0.0	8	-8.0
M5 - Multi Family Resi	10	1	56.4	58.4	66	2.0	10	----	58.4	0.0	8	-8.0
M6 - Multi Family Resi	12	1	57.8	59.9	66	2.1	10	----	59.9	0.0	8	-8.0
M7 - Multi Family Resi	14	1	61.3	63.2	66	1.9	10	----	63.2	0.0	8	-8.0
M8 - Multi Family Resi	16	1	63.2	63.1	66	-0.1	10	----	63.1	0.0	8	-8.0
R1 - Multi Family Resi	18	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R2 - Multi Family Resi	20	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R3 - Multi Family Resi	22	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R4 - Multi Family Resi	26	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R5 - Multi Fam Future Resi 1st Flr	28	1	0.0	69.0	66	69.0	10	Snd Lvl	69.0	0.0	8	-8.0
R6 - Multi Fam Future Resi 2nd Flr	30	1	0.0	70.8	66	70.8	10	Snd Lvl	70.8	0.0	8	-8.0
R7 - Multi Fam Future Resi 3rd Flr	32	1	0.0	74.5	66	74.5	10	Snd Lvl	74.5	0.0	8	-8.0
R8 - Multi Fam Future Resi 1st Flr	34	1	0.0	56.2	66	56.2	10	----	56.2	0.0	8	-8.0
R9 - Multi Fam Future Resi 2nd Flr	35	1	0.0	57.6	66	57.6	10	----	57.6	0.0	8	-8.0
R10 - Multi Fam Future Resi 3rd Flr	36	1	0.0	58.3	66	58.3	10	----	58.3	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	18	0.0	0.0	0.0
All Impacted	4	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

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M Greene

29 February 2016
TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: 8914
RUN: 5 Lagunas Project - Existing

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
I-5 NB S of El Toro Rd	60.0	point1	1	37,507,728.0	12,198,161.0	370.00				Average	
		point2	2	37,506,920.0	12,198,572.0	370.00				Average	
		point3	3	37,506,208.0	12,199,047.0	370.00				Average	
		point4	4	37,505,528.0	12,199,702.0	370.00				Average	
		point5	5	37,504,880.0	12,200,357.0	370.00				Average	
		point6	6	37,504,712.0	12,200,535.0	375.00					
I-5 SB S of El Toro Rd	60.0	point7	7	37,504,648.0	12,200,459.0	375.00				Average	
		point8	8	37,506,108.0	12,198,984.0	370.00				Average	
		point9	9	37,506,860.0	12,198,486.0	370.00				Average	
		point10	10	37,507,676.0	12,198,063.0	370.00					
Ave de la Carlota N of Los Alisos	100.0	point11	11	37,507,120.0	12,197,526.0	360.00				Average	
		point12	12	37,506,784.0	12,198,313.0	360.00				Average	
		point13	13	37,506,592.0	12,198,523.0	360.00				Average	
		point14	14	37,506,064.0	12,198,909.0	360.00					
El Toro Rd EB 2	50.0	point19	19	37,503,104.0	12,199,735.0	360.00				Average	
		point20	20	37,503,588.0	12,199,723.0	360.00				Average	
		point21	21	37,503,912.0	12,199,824.0	360.00				Average	
		point22	22	37,504,112.0	12,199,943.0	360.00				Average	
		point23	23	37,504,384.0	12,200,192.0	360.00					
El Toro Rd EB 3	50.0	point24	24	37,504,392.0	12,200,202.0	360.00				Average	
		point25	25	37,504,612.0	12,200,395.0	360.00					
El Toro Rd WB	50.0	point28	28	37,505,300.0	12,201,159.0	360.00				Average	
		point29	29	37,504,732.0	12,200,595.0	360.00					
El Toro Rd WB 2	50.0	point30	30	37,504,576.0	12,200,429.0	360.00				Average	
		point31	31	37,504,364.0	12,200,233.0	360.00					
El Toro Rd WB 3	50.0	point32	32	37,504,352.0	12,200,223.0	360.00				Average	
		point33	33	37,504,100.0	12,200,000.0	360.00				Average	

		point34	34	37,503,840.0	12,199,850.0	360.00				Average	
		point35	35	37,503,568.0	12,199,779.0	360.00				Average	
		point36	36	37,503,096.0	12,199,789.0	360.00					
El Toro Rd WB 4	50.0	point37	37	37,503,052.0	12,199,788.0	360.00				Average	
		point38	38	37,501,748.0	12,199,806.0	360.00					
El Toro Rd EB	50.0	point39	39	37,501,736.0	12,199,773.0	360.00				Average	
		point40	40	37,503,048.0	12,199,738.0	360.00					
El Toro Rd EB 4	50.0	point42	42	37,504,788.0	12,200,560.0	360.00				Average	
		point27	27	37,505,384.0	12,201,133.0	360.00					
Rossmoor	55.0	point43	43	37,503,104.0	12,199,528.0	360.00				Average	
		point44	44	37,503,412.0	12,199,514.0	360.00				Average	
		point45	45	37,503,540.0	12,199,449.0	360.00				Average	
		point46	46	37,503,844.0	12,199,187.0	360.00					
Calle de la Louisa	55.0	point47	47	37,503,856.0	12,199,175.0	360.00				Average	
		point48	48	37,504,704.0	12,198,361.0	360.00					
Calle de la Louisa - 2	55.0	point49	49	37,504,724.0	12,198,342.0	360.00				Average	
		point50	50	37,505,196.0	12,197,873.0	360.00					
Calle de los Caballeros	45.0	point51	51	37,505,176.0	12,197,862.0	360.00				Average	
		point53	53	37,505,048.0	12,197,699.0	360.00				Average	
		point54	54	37,505,000.0	12,197,564.0	360.00					
Paseo de Valencia	95.0	point63	63	37,504,456.0	12,197,676.0	360.00				Average	
		point65	65	37,504,888.0	12,197,583.0	360.00				Average	
		point66	66	37,505,200.0	12,197,461.0	360.00				Average	
		point67	67	37,505,416.0	12,197,316.0	360.00				Average	
		point68	68	37,505,676.0	12,197,066.0	360.00				Average	
		point64	64	37,505,844.0	12,196,889.0	360.00					
Paseo de Valencia S of Los Alisos	95.0	point69	69	37,505,868.0	12,196,866.0	360.00				Average	
		point70	70	37,506,020.0	12,196,606.0	360.00				Average	
		point71	71	37,506,104.0	12,196,345.0	360.00				Average	
		point72	72	37,506,156.0	12,196,103.0	360.00					
Los Alisos Blvd E of Paseo de Valencia	95.0	point74	74	37,505,852.0	12,196,882.0	360.00				Average	
		point76	76	37,506,216.0	12,197,182.0	360.00				Average	
		point77	77	37,506,456.0	12,197,301.0	360.00					
Paseo de Valencia n of El Toro Rd	60.0	point89	89	37,503,076.0	12,199,794.0	360.00				Average	
		point91	91	37,503,104.0	12,200,046.0	360.00				Average	
		point92	92	37,503,216.0	12,200,206.0	360.00				Average	
		point93	93	37,503,456.0	12,200,353.0	360.00					
I-5 SB Offramp	50.0	point111	111	37,503,980.0	12,200,976.0	375.00				Average	
		point97	97	37,503,996.0	12,200,833.0	370.00				Average	
		point98	98	37,503,932.0	12,200,696.0	360.00				Average	

		point99	99	37,503,908.0	12,200,652.0	360.00					
I-5 SB On-ramp	30.0	point112	112	37,503,908.0	12,200,645.0	360.00				Average	
		point100	100	37,503,948.0	12,200,684.0	360.00				Average	
		point101	101	37,504,052.0	12,200,759.0	365.00				Average	
		point102	102	37,504,172.0	12,200,787.0	370.00				Average	
		point103	103	37,504,320.0	12,200,691.0	375.00				Average	
		point104	104	37,504,532.0	12,200,506.0	375.00					
Ave de la Carlota N of I-5 ramps	65.0	point114	114	37,503,572.0	12,201,170.0	360.00				Average	
		point108	108	37,503,592.0	12,201,026.0	360.00				Average	
		point109	109	37,503,644.0	12,200,900.0	360.00				Average	
		point90	90	37,503,884.0	12,200,641.0	360.00					
I-5 NB N of El Toro Rd	60.0	point115	115	37,504,700.0	12,200,548.0	375.00				Average	
		point174	174	37,504,216.0	12,201,028.0	375.00				Average	
		point116	116	37,503,732.0	12,201,509.0	375.00					
I-5 SB N of El Toro Rd	60.0	point118	118	37,503,680.0	12,201,449.0	375.00				Average	
		point173	173	37,504,152.0	12,200,966.0	375.00				Average	
		point119	119	37,504,628.0	12,200,482.0	375.00					
Ave de la Carlota N of El Toro Rd	90.0	point121	121	37,504,332.0	12,200,252.0	360.00				Average	
		point106	106	37,503,900.0	12,200,633.0	360.00					
Paseo de Valencia - 2	95.0	point123	123	37,503,072.0	12,199,716.0	360.00				Average	
		point56	56	37,503,056.0	12,199,216.0	360.00				Average	
		point57	57	37,503,128.0	12,198,772.0	360.00				Average	
		point58	58	37,503,128.0	12,198,733.0	360.00					
Health Center Dr	65.0	point124	124	37,504,448.0	12,197,701.0	360.00				Average	
		point125	125	37,504,484.0	12,197,969.0	360.00				Average	
		point126	126	37,504,528.0	12,198,141.0	360.00				Average	
		point127	127	37,504,688.0	12,198,346.0	360.00					
Calle de la Plata	55.0	point128	128	37,503,136.0	12,198,760.0	360.00				Average	
		point129	129	37,503,436.0	12,198,856.0	360.00				Average	
		point130	130	37,503,580.0	12,198,964.0	360.00				Average	
		point131	131	37,503,844.0	12,199,173.0	360.00					
Paseo de Valencia n of El Toro Rd-2	60.0	point132	132	37,503,456.0	12,200,353.0	360.00				Average	
		point94	94	37,503,796.0	12,200,546.0	360.00				Average	
		point95	95	37,503,884.0	12,200,627.0	360.00					
Paseo de Valencia - S of Calle dl Plata	95.0	point169	169	37,503,128.0	12,198,733.0	360.00				Average	
		point59	59	37,503,244.0	12,198,461.0	360.00				Average	
		point60	60	37,503,388.0	12,198,255.0	360.00				Average	
		point61	61	37,503,728.0	12,197,927.0	360.00				Average	
		point62	62	37,504,204.0	12,197,711.0	360.00				Average	
		point52	52	37,504,436.0	12,197,679.0	360.00					

Los Alisos Blvd- W of Ave dl Carlotta	95.0	point170	170	37,506,456.0	12,197,301.0	360.00				Average	
		point78	78	37,507,100.0	12,197,491.0	360.00				Average	
		point79	79	37,507,168.0	12,197,526.0	360.00					
Los Alisos Blvd- E of Ave dl Carlotta	95.0	point171	171	37,507,168.0	12,197,526.0	360.00				Average	
		point80	80	37,507,360.0	12,197,623.0	360.00				Average	
		point81	81	37,507,544.0	12,197,813.0	360.00				Average	
		point82	82	37,507,684.0	12,198,029.0	360.00				Average	
		point83	83	37,507,840.0	12,198,324.0	360.00				Average	
		point84	84	37,507,896.0	12,198,588.0	360.00				Average	
		point85	85	37,507,928.0	12,198,910.0	360.00				Average	
		point86	86	37,507,960.0	12,199,263.0	360.00				Average	
		point87	87	37,508,136.0	12,199,669.0	360.00				Average	
		point88	88	37,508,160.0	12,199,699.0	360.00				Average	
		point75	75	37,508,392.0	12,200,096.0	360.00					
Ave de la Carlota S of El Toro Rd	80.0	point172	172	37,506,064.0	12,198,909.0	360.00				Average	
		point15	15	37,505,004.0	12,199,884.0	360.00				Average	
		point16	16	37,504,784.0	12,199,973.0	360.00				Average	
		point17	17	37,504,512.0	12,200,081.0	360.00				Average	
		point18	18	37,504,408.0	12,200,184.0	360.00					

Dudek 29 February 2
M Greene TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Percentages
PROJECT/CONTRACT: 8914
RUN: 5 Lagunas Project - Existing

Roadway	Points												
Name	Name	No.	Segment										
			Total	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			Volume	P	S	P	S	P	S	P	S	P	S
			veh/hr	%	mph	%	mph	%	mph	%	mph	%	mph
I-5 NB S of El Toro Rd	point1	1	13250	97	65	1	65	2	65	0	0	0	0
	point2	2	13250	97	65	1	65	2	65	0	0	0	0
	point3	3	13250	97	65	1	65	2	65	0	0	0	0
	point4	4	13250	97	65	1	65	2	65	0	0	0	0
	point5	5	13250	97	65	1	65	2	65	0	0	0	0
	point6	6											
I-5 SB S of El Toro Rd	point7	7	13250	97	65	1	65	2	65	0	0	0	0
	point8	8	13250	97	65	1	65	2	65	0	0	0	0
	point9	9	13250	97	65	1	65	2	65	0	0	0	0
	point10	10											
Ave de la Carlota N of Los Alisos	point11	11	1109	97	40	2	40	1	40	0	0	0	0
	point12	12	1109	97	40	2	40	1	40	0	0	0	0
	point13	13	1109	97	40	2	40	1	40	0	0	0	0
	point14	14											
El Toro Rd EB 2	point19	19	1225	97	35	2	35	1	35	0	0	0	0
	point20	20	1225	97	35	2	35	1	35	0	0	0	0
	point21	21	1225	97	35	2	35	1	35	0	0	0	0
	point22	22	1225	97	35	2	35	1	35	0	0	0	0
	point23	23											
El Toro Rd EB 3	point24	24	1225	97	35	2	35	1	35	0	0	0	0
	point25	25											
El Toro Rd WB	point28	28	0	0	0	0	0	0	0	0	0	0	0
	point29	29											
El Toro Rd WB 2	point30	30	1225	97	35	2	35	1	35	0	0	0	0
	point31	31											

El Toro Rd WB 3	point32	32	1225	97	35	2	35	1	35	0	0	0	0
	point33	33	1225	97	35	2	35	1	35	0	0	0	0
	point34	34	1225	97	35	2	35	1	35	0	0	0	0
	point35	35	1225	97	35	2	35	1	35	0	0	0	0
	point36	36											
El Toro Rd WB 4	point37	37	1210	97	35	2	35	1	35	0	0	0	0
	point38	38											
El Toro Rd EB	point39	39	1210	97	35	2	35	1	35	0	0	0	0
	point40	40											
El Toro Rd EB 4	point42	42	0	0	0	0	0	0	0	0	0	0	0
	point27	27											
Rossmoor	point43	43	360	97	30	2	30	1	30	0	0	0	0
	point44	44	360	97	30	2	30	1	30	0	0	0	0
	point45	45	360	97	30	2	30	1	30	0	0	0	0
	point46	46											
Calle de la Louisa	point47	47	447	97	30	2	30	1	30	0	0	0	0
	point48	48											
Calle de la Louisa - 2	point49	49	175	97	30	2	30	1	30	0	0	0	0
	point50	50											
Calle de los Caballeros	point51	51	242	97	30	2	30	1	30	0	0	0	0
	point53	53	242	97	30	2	30	1	30	0	0	0	0
	point54	54											
Paseo de Valencia	point63	63	1644	97	40	2	40	1	40	0	0	0	0
	point65	65	1644	97	40	2	40	1	40	0	0	0	0
	point66	66	1644	97	40	2	40	1	40	0	0	0	0
	point67	67	1644	97	40	2	40	1	40	0	0	0	0
	point68	68	1644	97	40	2	40	1	40	0	0	0	0
	point64	64											
Paseo de Valencia S of Los Alisos	point69	69	2897	97	40	2	40	1	40	0	0	0	0
	point70	70	2897	97	40	2	40	1	40	0	0	0	0
	point71	71	2897	97	40	2	40	1	40	0	0	0	0
	point72	72											
Los Alisos Blvd E of Paseo de Valencia	point74	74	1929	97	40	2	40	1	40	0	0	0	0
	point76	76	1929	97	40	2	40	1	40	0	0	0	0
	point77	77											
Paseo de Valencia n of El Toro Rd	point89	89	1072	97	40	2	40	1	40	0	0	0	0
	point91	91	1072	97	40	2	40	1	40	0	0	0	0

	point92	92	1072	97	40	2	40	1	40	0	0	0	0
	point93	93											
I-5 SB Offramp	point111	111	0	0	0	0	0	0	0	0	0	0	0
	point97	97	0	0	0	0	0	0	0	0	0	0	0
	point98	98	0	0	0	0	0	0	0	0	0	0	0
	point99	99											
I-5 SB On-ramp	point112	112	2149	97	45	2	45	1	45	0	0	0	0
	point100	100	2149	97	45	2	45	1	45	0	0	0	0
	point101	101	2149	97	45	2	45	1	45	0	0	0	0
	point102	102	2149	97	45	2	45	1	45	0	0	0	0
	point103	103	2149	97	45	2	45	1	45	0	0	0	0
	point104	104											
Ave de la Carlota N of I-5 ramps	point114	114	1611	97	40	2	40	1	40	0	0	0	0
	point108	108	1611	97	40	2	40	1	40	0	0	0	0
	point109	109	1611	97	40	2	40	1	40	0	0	0	0
	point90	90											
I-5 NB N of El Toro Rd	point115	115	13250	97	65	1	65	2	65	0	0	0	0
	point174	174	13250	97	65	1	65	2	65	0	0	0	0
	point116	116											
I-5 SB N of El Toro Rd	point118	118	13250	97	65	1	65	2	65	0	0	0	0
	point173	173	13250	97	65	1	65	2	65	0	0	0	0
	point119	119											
Ave de la Carlota N of El Toro Rd	point121	121	2411	97	40	2	40	1	40	0	0	0	0
	point106	106											
Paseo de Valencia - 2	point123	123	1970	97	40	2	40	1	40	0	0	0	0
	point56	56	1970	97	40	2	40	1	40	0	0	0	0
	point57	57	1970	97	40	2	40	1	40	0	0	0	0
	point58	58											
Health Center Dr	point124	124	459	97	30	2	30	1	30	0	0	0	0
	point125	125	459	97	30	2	30	1	30	0	0	0	0
	point126	126	459	97	30	2	30	1	30	0	0	0	0
	point127	127											
Calle de la Plata	point128	128	197	97	30	2	30	1	30	0	0	0	0
	point129	129	197	97	30	2	30	1	30	0	0	0	0
	point130	130	197	97	30	2	30	1	30	0	0	0	0
	point131	131											
Paseo de Valencia n of El Toro Rd-2	point132	132	1011	97	40	2	40	1	40	0	0	0	0

	point94	94	1011	97	40	2	40	1	40	0	0	0	0
	point95	95											
Paseo de Valencia - S of Calle dl Plata	point169	169	2044	97	40	2	40	1	40	0	0	0	0
	point59	59	2044	97	40	2	40	1	40	0	0	0	0
	point60	60	2044	97	40	2	40	1	40	0	0	0	0
	point61	61	2044	97	40	2	40	1	40	0	0	0	0
	point62	62	2044	97	40	2	40	1	40	0	0	0	0
	point52	52											
Los Alisos Blvd- W of Ave dl Carlotta	point170	170	1973	97	40	2	40	1	40	0	0	0	0
	point78	78	1973	97	40	2	40	1	40	0	0	0	0
	point79	79											
Los Alisos Blvd- E of Ave dl Carlotta	point171	171	2267	97	40	2	40	1	40	0	0	0	0
	point80	80	2267	97	40	2	40	1	40	0	0	0	0
	point81	81	2267	97	40	2	40	1	40	0	0	0	0
	point82	82	2267	97	40	2	40	1	40	0	0	0	0
	point83	83	2267	97	40	2	40	1	40	0	0	0	0
	point84	84	2267	97	40	2	40	1	40	0	0	0	0
	point85	85	2267	97	40	2	40	1	40	0	0	0	0
	point86	86	2267	97	40	2	40	1	40	0	0	0	0
	point87	87	2267	97	40	2	40	1	40	0	0	0	0
	point88	88	2267	97	40	2	40	1	40	0	0	0	0
	point75	75											
Ave de la Carlota S of El Toro Rd	point172	172	1312	97	40	2	40	1	40	0	0	0	0
	point15	15	1312	97	40	2	40	1	40	0	0	0	0
	point16	16	1312	97	40	2	40	1	40	0	0	0	0
	point17	17	1312	97	40	2	40	1	40	0	0	0	0
	point18	18											

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M Greene **TNM 2.5**

INPUT: RECEIVERS
PROJECT/CONTRACT: **8914**
RUN: **5 Lagunas Project - Existing**

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
M1 - On-Site Northwest side of Project	1	1	37,504,132.0	12,199,323.0	360.00	5.00	54.80	66	10.0	8.0	Y
M2 - On-Site Southeast side of Project	3	1	37,505,964.0	12,198,891.0	360.00	5.00	66.30	66	10.0	8.0	Y
M3 - Villa Valencia	6	1	37,505,440.0	12,198,020.0	360.00	5.00	53.90	66	10.0	8.0	Y
M4 - Saddleback Memorial Med Center	8	1	37,504,472.0	12,198,515.0	368.00	5.00	60.80	66	10.0	8.0	Y
M5 - Multi Family Resi	10	1	37,506,864.0	12,197,778.0	360.00	5.00	56.40	66	10.0	8.0	Y
M6 - Multi Family Resi	12	1	37,505,724.0	12,196,838.0	360.00	5.00	57.80	66	10.0	8.0	Y
M7 - Multi Family Resi	14	1	37,503,724.0	12,200,709.0	360.00	5.00	61.30	66	10.0	8.0	Y
M8 - Multi Family Resi	16	1	37,502,048.0	12,199,843.0	360.00	5.00	63.20	66	10.0	8.0	Y
R1 - Multi Family Resi	18	1	37,505,988.0	12,196,864.0	360.00	5.00	0.00	66	10.0	8.0	
R2 - Multi Family Resi	20	1	37,506,868.0	12,197,584.0	360.00	5.00	0.00	66	10.0	8.0	
R3 - Multi Family Resi	22	1	37,503,360.0	12,198,185.0	360.00	5.00	0.00	66	10.0	8.0	
R4 - Multi Family Resi	24	1	37,503,792.0	12,200,623.0	360.00	5.00	0.00	66	10.0	8.0	
R5 - Multi Fam Future Resi 1st Flr	27	1	37,505,996.0	12,198,890.0	360.00	5.00	0.00	66	10.0	8.0	Y
R6 - Multi Fam Future Resi 2nd Flr	28	1	37,506,000.0	12,198,890.0	360.00	15.00	0.00	66	10.0	8.0	Y
R7 - Multi Fam Future Resi 3rd Flr	29	1	37,506,000.0	12,198,890.0	360.00	25.00	0.00	66	10.0	8.0	Y
R8 - Multi Fam Future Resi 1st Flr	30	1	37,504,868.0	12,198,337.0	360.00	5.00	0.00	66	10.0	8.0	Y
R9 - Multi Fam Future Resi 2nd Flr	31	1	37,504,872.0	12,198,337.0	360.00	15.00	0.00	66	10.0	8.0	Y
R10 - Multi Fam Future Resi 3rd Flr	32	1	37,504,872.0	12,198,337.0	360.00	25.00	0.00	66	10.0	8.0	Y
R11 - Courtyard Bldg A	34	1	37,505,984.0	12,198,731.0	360.00	5.00	0.00	66	10.0	8.0	Y
M1 - On-Site Northwest side of Project 1											
M2 - On-Site Southeast side of Project 1											
M3 - Villa Valencia 1											
M4 - Saddleback Memorial Med Center 1											
M5 - Multi Family Resi 1											

INPUT: RECEIVERS **8914**

M6 - Multi Family Resi 1											
M7 - Multi Family Resi 1											
M8 - Multi Family Resi 1											
R1 - Multi Family Resi 0											
R2 - Multi Family Resi 0											
R3 - Multi Family Resi 0											
R4 - Multi Family Resi 0											

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M Greene TNM 2.5

INPUT: BARRIERS
PROJECT/CONTRACT: 8914
RUN: 5 Lagunas Project - Existing

Barrier Name	Type	Height Min	Height Max	If Wall $ per Unit Area	If Berm $ per Unit Vol.	Top Width	Run:Rise	Add'tnl $ per Unit Length	Points Name	No.	Coordinates (bottom) X	Y	Z	Height at Point	Segment Seg Ht Increment	Perturbs #Up	Perturbs #Dn	On Struct?	Important Reflections?
		ft	ft	$/sq ft	$/cu yd	ft	ft:ft	$/ft			ft	ft	ft	ft	ft				
Barrier1	W	0.00	99.99	0.00				0.00	point1	1	37,502,940.0	12,199,817.0	360.00	5.00	0.00	0	0		
									point2	2	37,501,788.0	12,199,836.0	360.00	5.00					
Barrier3	W	0.00	99.99	0.00				0.00	point3	3	37,503,588.0	12,200,482.0	360.00	6.00	0.00	0	0		
									point4	4	37,503,780.0	12,200,593.0	360.00	6.00	0.00	0	0		
									point5	5	37,503,816.0	12,200,626.0	360.00	6.00	0.00	0	0		
									point6	6	37,503,644.0	12,200,830.0	360.00	6.00					
Barrier4	W	0.00	99.99	0.00				0.00	point7	7	37,505,376.0	12,197,285.0	360.00	5.00	0.00	0	0		
									point9	9	37,505,580.0	12,197,081.0	360.00	5.00	0.00	0	0		
									point10	10	37,505,804.0	12,196,852.0	360.00	5.00	0.00	0	0		
									point8	8	37,505,960.0	12,196,564.0	360.00	5.00					
Barrier5	W	0.00	99.99	0.00				0.00	point11	11	37,506,088.0	12,196,653.0	360.00	5.00	0.00	0	0		
									point12	12	37,505,968.0	12,196,867.0	360.00	5.00	0.00	0	0		
									point13	13	37,506,272.0	12,197,110.0	360.00	5.00					
Barrier6	W	0.00	99.99	0.00				0.00	point14	14	37,506,412.0	12,197,398.0	360.00	5.00	0.00	0	0		
									point15	15	37,506,992.0	12,197,572.0	360.00	5.00	0.00	0	0		
									point16	16	37,506,692.0	12,198,280.0	360.00	5.00					
Barrier7	W	0.00	99.99	0.00				0.00	point17	17	37,503,208.0	12,198,435.0	360.00	5.00	0.00	0	0		
									point18	18	37,503,352.0	12,198,219.0	360.00	5.00	0.00	0	0		
									point19	19	37,503,628.0	12,197,954.0	360.00	5.00					
General structural shielding from I-5	W	0.00	99.99	0.00				0.00	point20	20	37,506,304.0	12,197,401.0	360.00	30.00	0.00	0	0		
									point21	21	37,505,380.0	12,198,580.0	360.00	30.00	0.00	0	0		
									point22	22	37,504,848.0	12,199,021.0	360.00	30.00	0.00	0	0		
									point23	23	37,504,068.0	12,199,770.0	360.00	30.00					
General Shielding from I-5 - 2	W	0.00	99.99	0.00				0.00	point24	24	37,506,428.0	12,197,196.0	360.00	15.00	0.00	0	0		
									point25	25	37,506,716.0	12,196,663.0	360.00	15.00					
I-5 Shielding - 4	W	0.00	99.99	0.00				0.00	point26	26	37,503,340.0	12,200,395.0	360.00	15.00	0.00	0	0		
									point27	27	37,502,356.0	12,201,143.0	360.00	15.00					
I-5 Shielding - 3	W	0.00	99.99	0.00				0.00	point28	28	37,503,896.0	12,199,944.0	360.00	15.00	0.00	0	0		
									point29	29	37,503,476.0	12,200,282.0	360.00	15.00					
Barrier12	W	0.00	99.99	0.00				0.00	point31	31	37,504,016.0	12,199,739.0	360.00	15.00	0.00	0	0		
									point32	32	37,503,604.0	12,199,599.0	360.00	15.00					
Barrier14	W	0.00	99.99	0.00				0.00	point33	33	37,507,620.0	12,198,057.0	370.00	6.00	0.00	0	0		
									point34	34	37,506,804.0	12,198,480.0	370.00	6.00	0.00	0	0		
									point35	35	37,506,052.0	12,198,978.0	370.00	6.00	0.00	0	0		
									point36	36	37,504,592.0	12,200,453.0	375.00	6.00	0.00	0	0		
									point37	37	37,504,580.0	12,200,465.0	375.00	6.00					
Barrier15	W	0.00	99.99	0.00				0.00	point38	38	37,504,504.0	12,200,553.0	375.00	6.00	0.00	0	0		

									point39	39	37,504,188.0	12,200,868.0	375.00	6.00	0.00	0	0		
									point40	40	37,503,632.0	12,201,432.0	375.00	6.00					
Barrier16	W	0.00	99.99	0.00				0.00	point41	41	37,507,632.0	12,198,157.0	370.00	4.00	0.00	0	0		
									point42	42	37,506,888.0	12,198,534.0	370.00	4.00	0.00	0	0		
									point43	43	37,506,176.0	12,199,009.0	370.00	4.00	0.00	0	0		
									point44	44	37,505,496.0	12,199,674.0	370.00	4.00	0.00	0	0		
									point45	45	37,504,848.0	12,200,329.0	370.00	4.00	0.00	0	0		
									point46	46	37,504,664.0	12,200,523.0	375.00	4.00	0.00	0	0		
									point47	47	37,504,180.0	12,201,003.0	375.00	4.00	0.00	0	0		
									point48	48	37,503,704.0	12,201,488.0	375.00	4.00					
Barrier17	W	0.00	99.99	0.00				0.00	point49	49	37,505,868.0	12,198,752.0	360.00	60.00	0.00	0	0		
									point50	50	37,505,980.0	12,198,866.0	360.00	60.00	0.00	0	0		
									point51	51	37,506,152.0	12,198,698.0	360.00	60.00	0.00	0	0		
									point52	52	37,506,000.0	12,198,540.0	360.00	60.00					

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M Greene TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 8914
RUN: 5 Lagunas Project - Existing
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
M1 - On-Site Northwest side of Project	1	1	54.8	55.2	66	0.4	10	----	55.2	0.0	8	-8.0
M2 - On-Site Southeast side of Project	3	1	66.3	70.4	66	4.1	10	Snd Lvl	70.4	0.0	8	-8.0
M3 - Villa Valencia	6	1	53.9	55.2	66	1.3	10	----	55.2	0.0	8	-8.0
M4 - Saddleback Memorial Med Center	8	1	60.8	60.8	66	0.0	10	----	60.8	0.0	8	-8.0
M5 - Multi Family Resi	10	1	56.4	62.8	66	6.4	10	----	62.8	0.0	8	-8.0
M6 - Multi Family Resi	12	1	57.8	61.3	66	3.5	10	----	61.3	0.0	8	-8.0
M7 - Multi Family Resi	14	1	61.3	63.5	66	2.2	10	----	63.5	0.0	8	-8.0
M8 - Multi Family Resi	16	1	63.2	63.6	66	0.4	10	----	63.6	0.0	8	-8.0
R1 - Multi Family Resi	18	1	0.0	64.8	66	64.8	10	----	64.8	0.0	8	-8.0
R2 - Multi Family Resi	20	1	0.0	62.2	66	62.2	10	----	62.2	0.0	8	-8.0
R3 - Multi Family Resi	22	1	0.0	63.5	66	63.5	10	----	63.5	0.0	8	-8.0
R4 - Multi Family Resi	24	1	0.0	64.2	66	64.2	10	----	64.2	0.0	8	-8.0
R5 - Multi Fam Future Resi 1st Flr	27	1	0.0	71.6	66	71.6	10	Snd Lvl	71.6	0.0	8	-8.0
R6 - Multi Fam Future Resi 2nd Flr	28	1	0.0	73.2	66	73.2	10	Snd Lvl	73.2	0.0	8	-8.0
R7 - Multi Fam Future Resi 3rd Flr	29	1	0.0	77.0	66	77.0	10	Snd Lvl	77.0	0.0	8	-8.0
R8 - Multi Fam Future Resi 1st Flr	30	1	0.0	57.1	66	57.1	10	----	57.1	0.0	8	-8.0
R9 - Multi Fam Future Resi 2nd Flr	31	1	0.0	58.5	66	58.5	10	----	58.5	0.0	8	-8.0
R10 - Multi Fam Future Resi 3rd Flr	32	1	0.0	59.2	66	59.2	10	----	59.2	0.0	8	-8.0
R11 - Courtyard Bldg A	34	1	0.0	54.8	66	54.8	10	----	54.8	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	19	0.0	0.0	0.0
All Impacted	4	0.0	0.0	0.0

All that meet NR Goal		0	0.0	0.0	0.0							

Dudek
M Greene

29 February 2016
TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: 8914
RUN: 5 Lagunas Project - Existing w Project

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
I-5 NB S of El Toro Rd	60.0	point1	1	37,507,728.0	12,198,161.0	370.00				Average	
		point2	2	37,506,920.0	12,198,572.0	370.00				Average	
		point3	3	37,506,208.0	12,199,047.0	370.00				Average	
		point4	4	37,505,528.0	12,199,702.0	370.00				Average	
		point5	5	37,504,880.0	12,200,357.0	370.00				Average	
		point6	6	37,504,712.0	12,200,535.0	375.00					
I-5 SB S of El Toro Rd	60.0	point7	7	37,504,648.0	12,200,459.0	375.00				Average	
		point8	8	37,506,108.0	12,198,984.0	370.00				Average	
		point9	9	37,506,860.0	12,198,486.0	370.00				Average	
		point10	10	37,507,676.0	12,198,063.0	370.00					
Ave de la Carlota N of Los Alisos	100.0	point11	11	37,507,120.0	12,197,526.0	360.00				Average	
		point12	12	37,506,784.0	12,198,313.0	360.00				Average	
		point13	13	37,506,592.0	12,198,523.0	360.00				Average	
		point14	14	37,506,064.0	12,198,909.0	360.00					
El Toro Rd EB 2	50.0	point19	19	37,503,104.0	12,199,735.0	360.00				Average	
		point20	20	37,503,588.0	12,199,723.0	360.00				Average	
		point21	21	37,503,912.0	12,199,824.0	360.00				Average	
		point22	22	37,504,112.0	12,199,943.0	360.00				Average	
		point23	23	37,504,384.0	12,200,192.0	360.00					
El Toro Rd EB 3	50.0	point24	24	37,504,392.0	12,200,202.0	360.00				Average	
		point25	25	37,504,612.0	12,200,395.0	360.00					
El Toro Rd WB	50.0	point28	28	37,505,300.0	12,201,159.0	360.00				Average	
		point29	29	37,504,732.0	12,200,595.0	360.00					
El Toro Rd WB 2	50.0	point30	30	37,504,576.0	12,200,429.0	360.00				Average	
		point31	31	37,504,364.0	12,200,233.0	360.00					
El Toro Rd WB 3	50.0	point32	32	37,504,352.0	12,200,223.0	360.00				Average	
		point33	33	37,504,100.0	12,200,000.0	360.00				Average	

		point34	34	37,503,840.0	12,199,850.0	360.00				Average	
		point35	35	37,503,568.0	12,199,779.0	360.00				Average	
		point36	36	37,503,096.0	12,199,789.0	360.00					
El Toro Rd WB 4	50.0	point37	37	37,503,052.0	12,199,788.0	360.00				Average	
		point38	38	37,501,748.0	12,199,806.0	360.00					
El Toro Rd EB	50.0	point39	39	37,501,736.0	12,199,773.0	360.00				Average	
		point40	40	37,503,048.0	12,199,738.0	360.00					
El Toro Rd EB 4	50.0	point42	42	37,504,788.0	12,200,560.0	360.00				Average	
		point27	27	37,505,384.0	12,201,133.0	360.00					
Rossmoor	55.0	point43	43	37,503,104.0	12,199,528.0	360.00				Average	
		point44	44	37,503,412.0	12,199,514.0	360.00				Average	
		point45	45	37,503,540.0	12,199,449.0	360.00				Average	
		point46	46	37,503,844.0	12,199,187.0	360.00					
Calle de la Louisa	55.0	point47	47	37,503,856.0	12,199,175.0	360.00				Average	
		point48	48	37,504,704.0	12,198,361.0	360.00					
Calle de la Louisa - 2	55.0	point49	49	37,504,724.0	12,198,342.0	360.00				Average	
		point50	50	37,505,196.0	12,197,873.0	360.00					
Calle de los Caballeros	45.0	point51	51	37,505,176.0	12,197,862.0	360.00				Average	
		point53	53	37,505,048.0	12,197,699.0	360.00				Average	
		point54	54	37,505,000.0	12,197,564.0	360.00					
Paseo de Valencia	95.0	point63	63	37,504,456.0	12,197,676.0	360.00				Average	
		point65	65	37,504,888.0	12,197,583.0	360.00				Average	
		point66	66	37,505,200.0	12,197,461.0	360.00				Average	
		point67	67	37,505,416.0	12,197,316.0	360.00				Average	
		point68	68	37,505,676.0	12,197,066.0	360.00				Average	
		point64	64	37,505,844.0	12,196,889.0	360.00					
Paseo de Valencia S of Los Alisos	95.0	point69	69	37,505,868.0	12,196,866.0	360.00				Average	
		point70	70	37,506,020.0	12,196,606.0	360.00				Average	
		point71	71	37,506,104.0	12,196,345.0	360.00				Average	
		point72	72	37,506,156.0	12,196,103.0	360.00					
Los Alisos Blvd E of Paseo de Valencia	95.0	point74	74	37,505,852.0	12,196,882.0	360.00				Average	
		point76	76	37,506,216.0	12,197,182.0	360.00				Average	
		point77	77	37,506,456.0	12,197,301.0	360.00					
Paseo de Valencia n of El Toro Rd	60.0	point89	89	37,503,076.0	12,199,794.0	360.00				Average	
		point91	91	37,503,104.0	12,200,046.0	360.00				Average	
		point92	92	37,503,216.0	12,200,206.0	360.00				Average	
		point93	93	37,503,456.0	12,200,353.0	360.00					
I-5 SB Offramp	50.0	point111	111	37,503,980.0	12,200,976.0	375.00				Average	
		point97	97	37,503,996.0	12,200,833.0	370.00				Average	
		point98	98	37,503,932.0	12,200,696.0	360.00				Average	

		point99	99	37,503,908.0	12,200,652.0	360.00					
I-5 SB On-ramp	30.0	point112	112	37,503,908.0	12,200,645.0	360.00				Average	
		point100	100	37,503,948.0	12,200,684.0	360.00				Average	
		point101	101	37,504,052.0	12,200,759.0	365.00				Average	
		point102	102	37,504,172.0	12,200,787.0	370.00				Average	
		point103	103	37,504,320.0	12,200,691.0	375.00				Average	
		point104	104	37,504,532.0	12,200,506.0	375.00					
Ave de la Carlota N of I-5 ramps	65.0	point114	114	37,503,572.0	12,201,170.0	360.00				Average	
		point108	108	37,503,592.0	12,201,026.0	360.00				Average	
		point109	109	37,503,644.0	12,200,900.0	360.00				Average	
		point90	90	37,503,884.0	12,200,641.0	360.00					
I-5 NB N of El Toro Rd	60.0	point115	115	37,504,700.0	12,200,548.0	375.00				Average	
		point174	174	37,504,216.0	12,201,028.0	375.00				Average	
		point116	116	37,503,732.0	12,201,509.0	375.00					
I-5 SB N of El Toro Rd	60.0	point118	118	37,503,680.0	12,201,449.0	375.00				Average	
		point173	173	37,504,152.0	12,200,966.0	375.00				Average	
		point119	119	37,504,628.0	12,200,482.0	375.00					
Ave de la Carlota N of El Toro Rd	90.0	point121	121	37,504,332.0	12,200,252.0	360.00				Average	
		point106	106	37,503,900.0	12,200,633.0	360.00					
Paseo de Valencia - 2	95.0	point123	123	37,503,072.0	12,199,716.0	360.00				Average	
		point56	56	37,503,056.0	12,199,216.0	360.00				Average	
		point57	57	37,503,128.0	12,198,772.0	360.00				Average	
		point58	58	37,503,128.0	12,198,733.0	360.00					
Health Center Dr	65.0	point124	124	37,504,448.0	12,197,701.0	360.00				Average	
		point125	125	37,504,484.0	12,197,969.0	360.00				Average	
		point126	126	37,504,528.0	12,198,141.0	360.00				Average	
		point127	127	37,504,688.0	12,198,346.0	360.00					
Calle de la Plata	55.0	point128	128	37,503,136.0	12,198,760.0	360.00				Average	
		point129	129	37,503,436.0	12,198,856.0	360.00				Average	
		point130	130	37,503,580.0	12,198,964.0	360.00				Average	
		point131	131	37,503,844.0	12,199,173.0	360.00					
Paseo de Valencia n of El Toro Rd-2	60.0	point132	132	37,503,456.0	12,200,353.0	360.00				Average	
		point94	94	37,503,796.0	12,200,546.0	360.00				Average	
		point95	95	37,503,884.0	12,200,627.0	360.00					
Paseo de Valencia - S of Calle dl Plata	95.0	point169	169	37,503,128.0	12,198,733.0	360.00				Average	
		point59	59	37,503,244.0	12,198,461.0	360.00				Average	
		point60	60	37,503,388.0	12,198,255.0	360.00				Average	
		point61	61	37,503,728.0	12,197,927.0	360.00				Average	
		point62	62	37,504,204.0	12,197,711.0	360.00				Average	
		point52	52	37,504,436.0	12,197,679.0	360.00					

Los Alisos Blvd- W of Ave dl Carlotta	95.0	point170	87	37,506,456.0	12,197,301.0	360.00				Average	
		point78	78	37,507,100.0	12,197,491.0	360.00				Average	
		point79	79	37,507,168.0	12,197,526.0	360.00					
Los Alisos Blvd- E of Ave dl Carlotta	95.0	point171	171	37,507,168.0	12,197,526.0	360.00				Average	
		point80	80	37,507,360.0	12,197,623.0	360.00				Average	
		point81	81	37,507,544.0	12,197,813.0	360.00				Average	
		point82	82	37,507,684.0	12,198,029.0	360.00				Average	
		point83	83	37,507,840.0	12,198,324.0	360.00				Average	
		point84	84	37,507,896.0	12,198,588.0	360.00				Average	
		point85	85	37,507,928.0	12,198,910.0	360.00				Average	
		point86	86	37,507,960.0	12,199,263.0	360.00				Average	
		point87	87	37,508,136.0	12,199,669.0	360.00				Average	
		point88	88	37,508,160.0	12,199,699.0	360.00				Average	
		point75	75	37,508,392.0	12,200,096.0	360.00					
Ave de la Carlota S of El Toro Rd	80.0	point172	172	37,506,064.0	12,198,909.0	360.00				Average	
		point15	15	37,505,004.0	12,199,884.0	360.00				Average	
		point16	16	37,504,784.0	12,199,973.0	360.00				Average	
		point17	17	37,504,512.0	12,200,081.0	360.00				Average	
		point18	18	37,504,408.0	12,200,184.0	360.00					

Dudek 29 February 2
M Greene TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Percentages
PROJECT/CONTRACT: 8914
RUN: 5 Lagunas Project - Existing w Project

Roadway	Points												
Name	Name	No.	Segment										
			Total	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			Volume	P	S	P	S	P	S	P	S	P	S
			veh/hr	%	mph	%	mph	%	mph	%	mph	%	mph
I-5 NB S of El Toro Rd	point1	1	13456	97	65	1	65	2	65	0	0	0	0
	point2	2	13456	97	65	1	65	2	65	0	0	0	0
	point3	3	13456	97	65	1	65	2	65	0	0	0	0
	point4	4	13456	97	65	1	65	2	65	0	0	0	0
	point5	5	13456	97	65	1	65	2	65	0	0	0	0
	point6	6											
I-5 SB S of El Toro Rd	point7	7	13435	97	65	1	65	2	65	0	0	0	0
	point8	8	13435	97	65	1	65	2	65	0	0	0	0
	point9	9	13435	97	65	1	65	2	65	0	0	0	0
	point10	10											
Ave de la Carlota N of Los Alisos	point11	11	1138	97	40	2	40	1	40	0	0	0	0
	point12	12	1138	97	40	2	40	1	40	0	0	0	0
	point13	13	1138	97	40	2	40	1	40	0	0	0	0
	point14	14											
El Toro Rd EB 2	point19	19	1254	97	35	2	35	1	35	0	0	0	0
	point20	20	1254	97	35	2	35	1	35	0	0	0	0
	point21	21	1254	97	35	2	35	1	35	0	0	0	0
	point22	22	1254	97	35	2	35	1	35	0	0	0	0
	point23	23											
El Toro Rd EB 3	point24	24	1254	97	35	2	35	1	35	0	0	0	0
	point25	25											
El Toro Rd WB	point28	28	0	0	0	0	0	0	0	0	0	0	0
	point29	29											
El Toro Rd WB 2	point30	30	1254	97	35	2	35	1	35	0	0	0	0
	point31	31											

El Toro Rd WB 3	point32	32	1254	97	35	2	35	1	35	0	0	0	0
	point33	33	1254	97	35	2	35	1	35	0	0	0	0
	point34	34	1254	97	35	2	35	1	35	0	0	0	0
	point35	35	1254	97	35	2	35	1	35	0	0	0	0
	point36	36											
El Toro Rd WB 4	point37	37	1238	97	35	2	35	1	35	0	0	0	0
	point38	38											
El Toro Rd EB	point39	39	1238	97	35	2	35	1	35	0	0	0	0
	point40	40											
El Toro Rd EB 4	point42	42	0	0	0	0	0	0	0	0	0	0	0
	point27	27											
Rossmoor	point43	43	365	97	30	2	30	1	30	0	0	0	0
	point44	44	365	97	30	2	30	1	30	0	0	0	0
	point45	45	365	97	30	2	30	1	30	0	0	0	0
	point46	46											
Calle de la Louisa	point47	47	447	97	30	2	30	1	30	0	0	0	0
	point48	48											
Calle de la Louisa - 2	point49	49	175	97	30	2	30	1	30	0	0	0	0
	point50	50											
Calle de los Caballeros	point51	51	260	97	30	2	30	1	30	0	0	0	0
	point53	53	260	97	30	2	30	1	30	0	0	0	0
	point54	54											
Paseo de Valencia	point63	63	1673	97	40	2	40	1	40	0	0	0	0
	point65	65	1673	97	40	2	40	1	40	0	0	0	0
	point66	66	1673	97	40	2	40	1	40	0	0	0	0
	point67	67	1673	97	40	2	40	1	40	0	0	0	0
	point68	68	1673	97	40	2	40	1	40	0	0	0	0
	point64	64											
Paseo de Valencia S of Los Alisos	point69	69	2926	97	40	2	40	1	40	0	0	0	0
	point70	70	2926	97	40	2	40	1	40	0	0	0	0
	point71	71	2926	97	40	2	40	1	40	0	0	0	0
	point72	72											
Los Alisos Blvd E of Paseo de Valencia	point74	74	1929	97	40	2	40	1	40	0	0	0	0
	point76	76	1929	97	40	2	40	1	40	0	0	0	0
	point77	77											
Paseo de Valencia n of El Toro Rd	point89	89	1085	97	40	2	40	1	40	0	0	0	0
	point91	91	1085	97	40	2	40	1	40	0	0	0	0

	point92	92	1085	97	40	2	40	1	40	0	0	0	0
	point93	93											
I-5 SB Offramp	point111	111	0	0	0	0	0	0	0	0	0	0	0
	point97	97	0	0	0	0	0	0	0	0	0	0	0
	point98	98	0	0	0	0	0	0	0	0	0	0	0
	point99	99											
I-5 SB On-ramp	point112	112	2334	97	45	2	45	1	45	0	0	0	0
	point100	100	2334	97	45	2	45	1	45	0	0	0	0
	point101	101	2334	97	45	2	45	1	45	0	0	0	0
	point102	102	2334	97	45	2	45	1	45	0	0	0	0
	point103	103	2334	97	45	2	45	1	45	0	0	0	0
	point104	104											
Ave de la Carlota N of I-5 ramps	point114	114	1611	97	40	2	40	1	40	0	0	0	0
	point108	108	1611	97	40	2	40	1	40	0	0	0	0
	point109	109	1611	97	40	2	40	1	40	0	0	0	0
	point90	90											
I-5 NB N of El Toro Rd	point115	115	13250	97	65	1	65	2	65	0	0	0	0
	point174	174	13250	97	65	1	65	2	65	0	0	0	0
	point116	116											
I-5 SB N of El Toro Rd	point118	118	13250	97	65	1	65	2	65	0	0	0	0
	point173	173	13250	97	65	1	65	2	65	0	0	0	0
	point119	119											
Ave de la Carlota N of El Toro Rd	point121	121	2583	97	40	2	40	1	40	0	0	0	0
	point106	106											
Paseo de Valencia - 2	point123	123	2015	97	40	2	40	1	40	0	0	0	0
	point56	56	2015	97	40	2	40	1	40	0	0	0	0
	point57	57	2015	97	40	2	40	1	40	0	0	0	0
	point58	58											
Health Center Dr	point124	124	488	97	30	2	30	1	30	0	0	0	0
	point125	125	488	97	30	2	30	1	30	0	0	0	0
	point126	126	488	97	30	2	30	1	30	0	0	0	0
	point127	127											
Calle de la Plata	point128	128	219	97	30	2	30	1	30	0	0	0	0
	point129	129	219	97	30	2	30	1	30	0	0	0	0
	point130	130	219	97	30	2	30	1	30	0	0	0	0
	point131	131											
Paseo de Valencia n of El Toro Rd-2	point132	132	1024	97	40	2	40	1	40	0	0	0	0

	point94	94	1024	97	40	2	40	1	40	0	0	0	0
	point95	95											
Paseo de Valencia - S of Calle dl Plata	point169	169	2078	97	40	2	40	1	40	0	0	0	0
	point59	59	2078	97	40	2	40	1	40	0	0	0	0
	point60	60	2078	97	40	2	40	1	40	0	0	0	0
	point61	61	2078	97	40	2	40	1	40	0	0	0	0
	point62	62	2078	97	40	2	40	1	40	0	0	0	0
	point52	52											
Los Alisos Blvd- W of Ave dl Carlotta	point170	170	1973	97	40	2	40	1	40	0	0	0	0
	point78	78	1973	97	40	2	40	1	40	0	0	0	0
	point79	79											
Los Alisos Blvd- E of Ave dl Carlotta	point171	171	2296	97	40	2	40	1	40	0	0	0	0
	point80	80	2296	97	40	2	40	1	40	0	0	0	0
	point81	81	2296	97	40	2	40	1	40	0	0	0	0
	point82	82	2296	97	40	2	40	1	40	0	0	0	0
	point83	83	2296	97	40	2	40	1	40	0	0	0	0
	point84	84	2296	97	40	2	40	1	40	0	0	0	0
	point85	85	2296	97	40	2	40	1	40	0	0	0	0
	point86	86	2296	97	40	2	40	1	40	0	0	0	0
	point87	87	2296	97	40	2	40	1	40	0	0	0	0
	point88	88	2296	97	40	2	40	1	40	0	0	0	0
	point75	75											
Ave de la Carlota S of El Toro Rd	point172	172	1653	97	40	2	40	1	40	0	0	0	0
	point15	15	1653	97	40	2	40	1	40	0	0	0	0
	point16	16	1653	97	40	2	40	1	40	0	0	0	0
	point17	17	1653	97	40	2	40	1	40	0	0	0	0
	point18	18											

Dudek **29 February 2016**
M Greene **TNM 2.5**

INPUT: RECEIVERS
PROJECT/CONTRACT: **8914**
RUN: **5 Lagunas Project - Existing w Project**

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
M1 - On-Site Northwest side of Project	1	1	37,504,132.0	12,199,323.0	360.00	5.00	54.80	66	10.0	8.0	Y
M2 - On-Site Southeast side of Project	3	1	37,505,964.0	12,198,891.0	360.00	5.00	66.30	66	10.0	8.0	Y
M3 - Villa Valencia	6	1	37,505,440.0	12,198,020.0	360.00	5.00	53.90	66	10.0	8.0	Y
M4 - Saddleback Memorial Med Center	8	1	37,504,472.0	12,198,515.0	368.00	5.00	60.80	66	10.0	8.0	Y
M5 - Multi Family Resi	10	1	37,506,864.0	12,197,778.0	360.00	5.00	56.40	66	10.0	8.0	Y
M6 - Multi Family Resi	12	1	37,505,724.0	12,196,838.0	360.00	5.00	57.80	66	10.0	8.0	Y
M7 - Multi Family Resi	14	1	37,503,724.0	12,200,709.0	360.00	5.00	61.30	66	10.0	8.0	Y
M8 - Multi Family Resi	16	1	37,502,048.0	12,199,843.0	360.00	5.00	63.20	66	10.0	8.0	Y
R1 - Multi Family Resi	18	1	37,505,988.0	12,196,864.0	360.00	5.00	0.00	66	10.0	8.0	
R2 - Multi Family Resi	20	1	37,506,868.0	12,197,584.0	360.00	5.00	0.00	66	10.0	8.0	
R3 - Multi Family Resi	22	1	37,503,360.0	12,198,185.0	360.00	5.00	0.00	66	10.0	8.0	
R4 - Multi Family Resi	24	1	37,503,792.0	12,200,623.0	360.00	5.00	0.00	66	10.0	8.0	
R5 - Multi Fam Future Resi 1st Flr	26	1	37,505,996.0	12,198,890.0	360.00	5.00	0.00	66	10.0	8.0	Y
R6 - Multi Fam Future Resi 2nd Flr	27	1	37,506,000.0	12,198,890.0	360.00	15.00	0.00	66	10.0	8.0	Y
R7 - Multi Fam Future Resi 3rd Flr	28	1	37,506,000.0	12,198,890.0	360.00	25.00	0.00	66	10.0	8.0	Y
R8 - Multi Fam Future Resi 1st Flr	29	1	37,504,868.0	12,198,337.0	360.00	5.00	0.00	66	10.0	8.0	Y
R9 - Multi Fam Future Resi 2nd Flr	30	1	37,504,872.0	12,198,337.0	360.00	15.00	0.00	66	10.0	8.0	Y
R10 - Multi Fam Future Resi 3rd Flr	31	1	37,504,872.0	12,198,337.0	360.00	25.00	0.00	66	10.0	8.0	Y
R11 - Courtyard Bldg A	33	1	37,505,984.0	12,198,731.0	360.00	5.00	0.00	66	10.0	8.0	Y

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M Greene TNM 2.5

INPUT: BARRIERS
PROJECT/CONTRACT: 8914
RUN: 5 Lagunas Project - Existing w Project

Barrier Name	Type	Height Min	Height Max	If Wall $ per Unit Area	If Berm $ per Unit Vol.	Top Width	Run:Rise	Add'tnl $ per Unit Length	Points Name	No.	Coordinates (bottom) X	Y	Z	Height at Point	Segment Seg Ht Increment	Perturbs #Up	Perturbs #Dn	On Struct?	Important Reflections?
		ft	ft	$/sq ft	$/cu yd	ft	ft:ft	$/ft			ft	ft	ft	ft	ft				
Barrier1	W	0.00	99.99	0.00				0.00	point1	1	37,502,940.0	12,199,817.0	360.00	5.00	0.00	0	0		
									point2	2	37,501,788.0	12,199,836.0	360.00	5.00					
Barrier3	W	0.00	99.99	0.00				0.00	point3	3	37,503,588.0	12,200,482.0	360.00	6.00	0.00	0	0		
									point4	4	37,503,780.0	12,200,593.0	360.00	6.00	0.00	0	0		
									point5	5	37,503,816.0	12,200,626.0	360.00	6.00	0.00	0	0		
									point6	6	37,503,644.0	12,200,830.0	360.00	6.00					
Barrier4	W	0.00	99.99	0.00				0.00	point7	7	37,505,376.0	12,197,285.0	360.00	5.00	0.00	0	0		
									point9	9	37,505,580.0	12,197,081.0	360.00	5.00	0.00	0	0		
									point10	10	37,505,804.0	12,196,852.0	360.00	5.00	0.00	0	0		
									point8	8	37,505,960.0	12,196,564.0	360.00	5.00					
Barrier5	W	0.00	99.99	0.00				0.00	point11	11	37,506,088.0	12,196,653.0	360.00	5.00	0.00	0	0		
									point12	12	37,505,968.0	12,196,867.0	360.00	5.00	0.00	0	0		
									point13	13	37,506,272.0	12,197,110.0	360.00	5.00					
Barrier6	W	0.00	99.99	0.00				0.00	point14	14	37,506,412.0	12,197,398.0	360.00	5.00	0.00	0	0		
									point15	15	37,506,992.0	12,197,572.0	360.00	5.00	0.00	0	0		
									point16	16	37,506,692.0	12,198,280.0	360.00	5.00					
Barrier7	W	0.00	99.99	0.00				0.00	point17	17	37,503,208.0	12,198,435.0	360.00	5.00	0.00	0	0		
									point18	18	37,503,352.0	12,198,219.0	360.00	5.00	0.00	0	0		
									point19	19	37,503,628.0	12,197,954.0	360.00	5.00					
General structural shielding from I-5	W	0.00	99.99	0.00				0.00	point20	20	37,506,304.0	12,197,401.0	360.00	30.00	0.00	0	0		
									point21	21	37,505,380.0	12,198,580.0	360.00	30.00	0.00	0	0		
									point22	22	37,504,848.0	12,199,021.0	360.00	30.00	0.00	0	0		
									point23	23	37,504,068.0	12,199,770.0	360.00	30.00					
General Shielding from I-5 - 2	W	0.00	99.99	0.00				0.00	point24	24	37,506,428.0	12,197,196.0	360.00	15.00	0.00	0	0		
									point25	25	37,506,716.0	12,196,663.0	360.00	15.00					
I-5 Shielding - 3	W	0.00	99.99	0.00				0.00	point26	26	37,503,896.0	12,199,944.0	360.00	15.00	0.00	0	0		
									point27	27	37,503,476.0	12,200,282.0	360.00	15.00					
I-5 Shielding - 4	W	0.00	99.99	0.00				0.00	point28	28	37,503,340.0	12,200,395.0	360.00	15.00	0.00	0	0		
									point29	29	37,502,356.0	12,201,143.0	360.00	15.00					
Barrier12	W	0.00	99.99	0.00				0.00	point30	30	37,504,016.0	12,199,739.0	360.00	15.00	0.00	0	0		
									point31	31	37,503,604.0	12,199,599.0	360.00	15.00					
Barrier13	W	0.00	99.99	0.00				0.00	point32	32	37,507,620.0	12,198,057.0	370.00	6.00	0.00	0	0		
									point33	33	37,506,804.0	12,198,480.0	370.00	6.00	0.00	0	0		
									point34	34	37,506,052.0	12,198,978.0	370.00	6.00	0.00	0	0		
									point35	35	37,504,592.0	12,200,453.0	375.00	6.00	0.00	0	0		
									point36	36	37,504,580.0	12,200,465.0	375.00	6.00					
Barrier14	W	0.00	99.99	0.00				0.00	point37	37	37,504,504.0	12,200,553.0	375.00	6.00	0.00	0	0		

									point38	38	37,504,188.0	12,200,868.0	375.00	6.00	0.00	0	0		
									point39	39	37,503,632.0	12,201,432.0	375.00	6.00					
Barrier15	W	0.00	99.99	0.00				0.00	point40	40	37,507,632.0	12,198,157.0	370.00	4.00	0.00	0	0		
									point41	41	37,506,888.0	12,198,534.0	370.00	4.00	0.00	0	0		
									point42	42	37,506,176.0	12,199,009.0	370.00	4.00	0.00	0	0		
									point43	43	37,505,496.0	12,199,674.0	370.00	4.00	0.00	0	0		
									point44	44	37,504,848.0	12,200,329.0	370.00	4.00	0.00	0	0		
									point45	45	37,504,664.0	12,200,523.0	375.00	4.00	0.00	0	0		
									point46	46	37,504,180.0	12,201,003.0	375.00	4.00	0.00	0	0		
									point47	47	37,503,704.0	12,201,488.0	375.00	4.00					
Barrier16	W	0.00	99.99	0.00				0.00	point48	48	37,505,868.0	12,198,752.0	360.00	60.00	0.00	0	0		
									point49	49	37,505,980.0	12,198,866.0	360.00	60.00	0.00	0	0		
									point50	50	37,506,152.0	12,198,698.0	360.00	60.00	0.00	0	0		
									point51	51	37,506,000.0	12,198,540.0	360.00	60.00					

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M Greene TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 8914
RUN: 5 Lagunas Project - Existing w Project
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
M1 - On-Site Northwest side of Project	1	1	54.8	55.3	66	0.5	10	----	55.3	0.0	8	-8.0
M2 - On-Site Southeast side of Project	3	1	66.3	70.7	66	4.4	10	Snd Lvl	70.7	0.0	8	-8.0
M3 - Villa Valencia	6	1	53.9	55.3	66	1.4	10	----	55.3	0.0	8	-8.0
M4 - Saddleback Memorial Med Center	8	1	60.8	60.9	66	0.1	10	----	60.9	0.0	8	-8.0
M5 - Multi Family Resi	10	1	56.4	62.9	66	6.5	10	----	62.9	0.0	8	-8.0
M6 - Multi Family Resi	12	1	57.8	61.3	66	3.5	10	----	61.3	0.0	8	-8.0
M7 - Multi Family Resi	14	1	61.3	63.6	66	2.3	10	----	63.6	0.0	8	-8.0
M8 - Multi Family Resi	16	1	63.2	63.7	66	0.5	10	----	63.7	0.0	8	-8.0
R1 - Multi Family Resi	18	1	0.0	64.8	66	64.8	10	----	64.8	0.0	8	-8.0
R2 - Multi Family Resi	20	1	0.0	62.2	66	62.2	10	----	62.2	0.0	8	-8.0
R3 - Multi Family Resi	22	1	0.0	63.6	66	63.6	10	----	63.6	0.0	8	-8.0
R4 - Multi Family Resi	24	1	0.0	64.3	66	64.3	10	----	64.3	0.0	8	-8.0
R5 - Multi Fam Future Resi 1st Flr	26	1	0.0	71.9	66	71.9	10	Snd Lvl	71.9	0.0	8	-8.0
R6 - Multi Fam Future Resi 2nd Flr	27	1	0.0	73.4	66	73.4	10	Snd Lvl	73.4	0.0	8	-8.0
R7 - Multi Fam Future Resi 3rd Flr	28	1	0.0	77.1	66	77.1	10	Snd Lvl	77.1	0.0	8	-8.0
R8 - Multi Fam Future Resi 1st Flr	29	1	0.0	57.2	66	57.2	10	----	57.2	0.0	8	-8.0
R9 - Multi Fam Future Resi 2nd Flr	30	1	0.0	58.6	66	58.6	10	----	58.6	0.0	8	-8.0
R10 - Multi Fam Future Resi 3rd Flr	31	1	0.0	59.3	66	59.3	10	----	59.3	0.0	8	-8.0
R11 - Courtyard Bldg A	33	1	0.0	54.8	66	54.8	10	----	54.8	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	19	0.0	0.0	0.0
All Impacted	4	0.0	0.0	0.0

All that meet NR Goal		0	0.0	0.0	0.0							

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INPUT: ROADWAYS
PROJECT/CONTRACT: 8914
RUN: 5 Lagunas Project - Year 2018

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
I-5 NB S of El Toro Rd	60.0	point1	1	37,507,728.0	12,198,161.0	370.00				Average	
		point2	2	37,506,920.0	12,198,572.0	370.00				Average	
		point3	3	37,506,208.0	12,199,047.0	370.00				Average	
		point4	4	37,505,528.0	12,199,702.0	370.00				Average	
		point5	5	37,504,880.0	12,200,357.0	370.00				Average	
		point6	6	37,504,712.0	12,200,535.0	375.00					
I-5 SB S of El Toro Rd	60.0	point7	7	37,504,648.0	12,200,459.0	375.00				Average	
		point8	8	37,506,108.0	12,198,984.0	370.00				Average	
		point9	9	37,506,860.0	12,198,486.0	370.00				Average	
		point10	10	37,507,676.0	12,198,063.0	370.00					
Ave de la Carlota N of Los Alisos	100.0	point11	11	37,507,120.0	12,197,526.0	360.00				Average	
		point12	12	37,506,784.0	12,198,313.0	360.00				Average	
		point13	13	37,506,592.0	12,198,523.0	360.00				Average	
		point14	14	37,506,064.0	12,198,909.0	360.00					
El Toro Rd EB 2	50.0	point19	19	37,503,104.0	12,199,735.0	360.00				Average	
		point20	20	37,503,588.0	12,199,723.0	360.00				Average	
		point21	21	37,503,912.0	12,199,824.0	360.00				Average	
		point22	22	37,504,112.0	12,199,943.0	360.00				Average	
		point23	23	37,504,384.0	12,200,192.0	360.00					
El Toro Rd EB 3	50.0	point24	24	37,504,392.0	12,200,202.0	360.00				Average	
		point25	25	37,504,612.0	12,200,395.0	360.00					
El Toro Rd WB	50.0	point28	28	37,505,300.0	12,201,159.0	360.00				Average	
		point29	29	37,504,732.0	12,200,595.0	360.00					
El Toro Rd WB 2	50.0	point30	30	37,504,576.0	12,200,429.0	360.00				Average	
		point31	31	37,504,364.0	12,200,233.0	360.00					
El Toro Rd WB 3	50.0	point32	32	37,504,352.0	12,200,223.0	360.00				Average	
		point33	33	37,504,100.0	12,200,000.0	360.00				Average	

		point34	34	37,503,840.0	12,199,850.0	360.00				Average	
		point35	35	37,503,568.0	12,199,779.0	360.00				Average	
		point36	36	37,503,096.0	12,199,789.0	360.00					
El Toro Rd WB 4	50.0	point37	37	37,503,052.0	12,199,788.0	360.00				Average	
		point38	38	37,501,748.0	12,199,806.0	360.00					
El Toro Rd EB	50.0	point39	39	37,501,736.0	12,199,773.0	360.00				Average	
		point40	40	37,503,048.0	12,199,738.0	360.00					
El Toro Rd EB 4	50.0	point42	42	37,504,788.0	12,200,560.0	360.00				Average	
		point27	27	37,505,384.0	12,201,133.0	360.00					
Rossmoor	55.0	point43	43	37,503,104.0	12,199,528.0	360.00				Average	
		point44	44	37,503,412.0	12,199,514.0	360.00				Average	
		point45	45	37,503,540.0	12,199,449.0	360.00				Average	
		point46	46	37,503,844.0	12,199,187.0	360.00					
Calle de la Louisa	55.0	point47	47	37,503,856.0	12,199,175.0	360.00				Average	
		point48	48	37,504,704.0	12,198,361.0	360.00					
Calle de la Louisa - 2	55.0	point49	49	37,504,724.0	12,198,342.0	360.00				Average	
		point50	50	37,505,196.0	12,197,873.0	360.00					
Calle de los Caballeros	45.0	point51	51	37,505,176.0	12,197,862.0	360.00				Average	
		point53	53	37,505,048.0	12,197,699.0	360.00				Average	
		point54	54	37,505,000.0	12,197,564.0	360.00					
Paseo de Valencia	95.0	point63	63	37,504,456.0	12,197,676.0	360.00				Average	
		point65	65	37,504,888.0	12,197,583.0	360.00				Average	
		point66	66	37,505,200.0	12,197,461.0	360.00				Average	
		point67	67	37,505,416.0	12,197,316.0	360.00				Average	
		point68	68	37,505,676.0	12,197,066.0	360.00				Average	
		point64	64	37,505,844.0	12,196,889.0	360.00					
Paseo de Valencia S of Los Alisos	95.0	point69	69	37,505,868.0	12,196,866.0	360.00				Average	
		point70	70	37,506,020.0	12,196,606.0	360.00				Average	
		point71	71	37,506,104.0	12,196,345.0	360.00				Average	
		point72	72	37,506,156.0	12,196,103.0	360.00					
Los Alisos Blvd E of Paseo de Valencia	95.0	point74	74	37,505,852.0	12,196,882.0	360.00				Average	
		point76	76	37,506,216.0	12,197,182.0	360.00				Average	
		point77	77	37,506,456.0	12,197,301.0	360.00					
Paseo de Valencia n of El Toro Rd	60.0	point89	89	37,503,076.0	12,199,794.0	360.00				Average	
		point91	91	37,503,104.0	12,200,046.0	360.00				Average	
		point92	92	37,503,216.0	12,200,206.0	360.00				Average	
		point93	93	37,503,456.0	12,200,353.0	360.00					
I-5 SB Offramp	50.0	point111	111	37,503,980.0	12,200,976.0	375.00				Average	
		point97	97	37,503,996.0	12,200,833.0	370.00				Average	
		point98	98	37,503,932.0	12,200,696.0	360.00				Average	

		point99	99	37,503,908.0	12,200,652.0	360.00					
I-5 SB On-ramp	30.0	point112	112	37,503,908.0	12,200,645.0	360.00				Average	
		point100	100	37,503,948.0	12,200,684.0	360.00				Average	
		point101	101	37,504,052.0	12,200,759.0	365.00				Average	
		point102	102	37,504,172.0	12,200,787.0	370.00				Average	
		point103	103	37,504,320.0	12,200,691.0	375.00				Average	
		point104	104	37,504,532.0	12,200,506.0	375.00					
Ave de la Carlota N of I-5 ramps	65.0	point114	114	37,503,572.0	12,201,170.0	360.00				Average	
		point108	108	37,503,592.0	12,201,026.0	360.00				Average	
		point109	109	37,503,644.0	12,200,900.0	360.00				Average	
		point90	90	37,503,884.0	12,200,641.0	360.00					
I-5 NB N of El Toro Rd	60.0	point115	115	37,504,700.0	12,200,548.0	375.00				Average	
		point174	174	37,504,216.0	12,201,028.0	375.00				Average	
		point116	116	37,503,732.0	12,201,509.0	375.00					
I-5 SB N of El Toro Rd	60.0	point118	118	37,503,680.0	12,201,449.0	375.00				Average	
		point173	173	37,504,152.0	12,200,966.0	375.00				Average	
		point119	119	37,504,628.0	12,200,482.0	375.00					
Ave de la Carlota N of El Toro Rd	90.0	point121	121	37,504,332.0	12,200,252.0	360.00				Average	
		point106	106	37,503,900.0	12,200,633.0	360.00					
Paseo de Valencia - 2	95.0	point123	123	37,503,072.0	12,199,716.0	360.00				Average	
		point56	56	37,503,056.0	12,199,216.0	360.00				Average	
		point57	57	37,503,128.0	12,198,772.0	360.00				Average	
		point58	58	37,503,128.0	12,198,733.0	360.00					
Health Center Dr	65.0	point124	124	37,504,448.0	12,197,701.0	360.00				Average	
		point125	125	37,504,484.0	12,197,969.0	360.00				Average	
		point126	126	37,504,528.0	12,198,141.0	360.00				Average	
		point127	127	37,504,688.0	12,198,346.0	360.00					
Calle de la Plata	55.0	point128	128	37,503,136.0	12,198,760.0	360.00				Average	
		point129	129	37,503,436.0	12,198,856.0	360.00				Average	
		point130	130	37,503,580.0	12,198,964.0	360.00				Average	
		point131	131	37,503,844.0	12,199,173.0	360.00					
Paseo de Valencia n of El Toro Rd-2	60.0	point132	132	37,503,456.0	12,200,353.0	360.00				Average	
		point94	94	37,503,796.0	12,200,546.0	360.00				Average	
		point95	95	37,503,884.0	12,200,627.0	360.00					
Paseo de Valencia - S of Calle dl Plata	95.0	point169	169	37,503,128.0	12,198,733.0	360.00				Average	
		point59	59	37,503,244.0	12,198,461.0	360.00				Average	
		point60	60	37,503,388.0	12,198,255.0	360.00				Average	
		point61	61	37,503,728.0	12,197,927.0	360.00				Average	
		point62	62	37,504,204.0	12,197,711.0	360.00				Average	
		point52	52	37,504,436.0	12,197,679.0	360.00					

Los Alisos Blvd- W of Ave dl Carlotta	95.0	point170	170	37,506,456.0	12,197,301.0	360.00				Average	
		point78	78	37,507,100.0	12,197,491.0	360.00				Average	
		point79	79	37,507,168.0	12,197,526.0	360.00					
Los Alisos Blvd- E of Ave dl Carlotta	95.0	point171	171	37,507,168.0	12,197,526.0	360.00				Average	
		point80	80	37,507,360.0	12,197,623.0	360.00				Average	
		point81	81	37,507,544.0	12,197,813.0	360.00				Average	
		point82	82	37,507,684.0	12,198,029.0	360.00				Average	
		point83	83	37,507,840.0	12,198,324.0	360.00				Average	
		point84	84	37,507,896.0	12,198,588.0	360.00				Average	
		point85	85	37,507,928.0	12,198,910.0	360.00				Average	
		point86	86	37,507,960.0	12,199,263.0	360.00				Average	
		point87	87	37,508,136.0	12,199,669.0	360.00				Average	
		point88	88	37,508,160.0	12,199,699.0	360.00				Average	
		point75	75	37,508,392.0	12,200,096.0	360.00					
Ave de la Carlota S of El Toro Rd	80.0	point172	172	37,506,064.0	12,198,909.0	360.00				Average	
		point15	15	37,505,004.0	12,199,884.0	360.00				Average	
		point16	16	37,504,784.0	12,199,973.0	360.00				Average	
		point17	17	37,504,512.0	12,200,081.0	360.00				Average	
		point18	18	37,504,408.0	12,200,184.0	360.00					

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INPUT: TRAFFIC FOR LAeq1h Percentages
PROJECT/CONTRACT: 8914
RUN: 5 Lagunas Project - Year 2018

Roadway	Points												
Name	Name	No.	Segment										
			Total	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			Volume	P	S	P	S	P	S	P	S	P	S
			veh/hr	%	mph	%	mph	%	mph	%	mph	%	mph
I-5 NB S of El Toro Rd	point1	1	13250	97	65	1	65	2	65	0	0	0	0
	point2	2	13250	97	65	1	65	2	65	0	0	0	0
	point3	3	13250	97	65	1	65	2	65	0	0	0	0
	point4	4	13250	97	65	1	65	2	65	0	0	0	0
	point5	5	13250	97	65	1	65	2	65	0	0	0	0
	point6	6											
I-5 SB S of El Toro Rd	point7	7	13250	97	65	1	65	2	65	0	0	0	0
	point8	8	13250	97	65	1	65	2	65	0	0	0	0
	point9	9	13250	97	65	1	65	2	65	0	0	0	0
	point10	10											
Ave de la Carlota N of Los Alisos	point11	11	1151	97	40	2	40	1	40	0	0	0	0
	point12	12	1151	97	40	2	40	1	40	0	0	0	0
	point13	13	1151	97	40	2	40	1	40	0	0	0	0
	point14	14											
El Toro Rd EB 2	point19	19	1254	97	35	2	35	1	35	0	0	0	0
	point20	20	1254	97	35	2	35	1	35	0	0	0	0
	point21	21	1254	97	35	2	35	1	35	0	0	0	0
	point22	22	1254	97	35	2	35	1	35	0	0	0	0
	point23	23											
El Toro Rd EB 3	point24	24	1254	97	35	2	35	1	35	0	0	0	0
	point25	25											
El Toro Rd WB	point28	28	0	0	0	0	0	0	0	0	0	0	0
	point29	29											
El Toro Rd WB 2	point30	30	1254	97	35	2	35	1	35	0	0	0	0
	point31	31											

El Toro Rd WB 3	point32	32	1254	97	35	2	35	1	35	0	0	0	0
	point33	33	1254	97	35	2	35	1	35	0	0	0	0
	point34	34	1254	97	35	2	35	1	35	0	0	0	0
	point35	35	1254	97	35	2	35	1	35	0	0	0	0
	point36	36											
El Toro Rd WB 4	point37	37	1276	97	35	2	35	1	35	0	0	0	0
	point38	38											
El Toro Rd EB	point39	39	1276	97	35	2	35	1	35	0	0	0	0
	point40	40											
El Toro Rd EB 4	point42	42	0	0	0	0	0	0	0	0	0	0	0
	point27	27											
Rossmoor	point43	43	371	97	30	2	30	1	30	0	0	0	0
	point44	44	371	97	30	2	30	1	30	0	0	0	0
	point45	45	371	97	30	2	30	1	30	0	0	0	0
	point46	46											
Calle de la Louisa	point47	47	466	97	30	2	30	1	30	0	0	0	0
	point48	48											
Calle de la Louisa - 2	point49	49	185	97	30	2	30	1	30	0	0	0	0
	point50	50											
Calle de los Caballeros	point51	51	249	97	30	2	30	1	30	0	0	0	0
	point53	53	249	97	30	2	30	1	30	0	0	0	0
	point54	54											
Paseo de Valencia	point63	63	1700	97	40	2	40	1	40	0	0	0	0
	point65	65	1700	97	40	2	40	1	40	0	0	0	0
	point66	66	1700	97	40	2	40	1	40	0	0	0	0
	point67	67	1700	97	40	2	40	1	40	0	0	0	0
	point68	68	1700	97	40	2	40	1	40	0	0	0	0
	point64	64											
Paseo de Valencia S of Los Alisos	point69	69	2995	97	40	2	40	1	40	0	0	0	0
	point70	70	2995	97	40	2	40	1	40	0	0	0	0
	point71	71	2995	97	40	2	40	1	40	0	0	0	0
	point72	72											
Los Alisos Blvd E of Paseo de Valencia	point74	74	1991	97	40	2	40	1	40	0	0	0	0
	point76	76	1991	97	40	2	40	1	40	0	0	0	0
	point77	77											
Paseo de Valencia n of El Toro Rd	point89	89	1110	97	40	2	40	1	40	0	0	0	0
	point91	91	1110	97	40	2	40	1	40	0	0	0	0

	point92	92	1110	97	40	2	40	1	40	0	0	0	0
	point93	93											
I-5 SB Offramp	point111	111	0	0	0	0	0	0	0	0	0	0	0
	point97	97	0	0	0	0	0	0	0	0	0	0	0
	point98	98	0	0	0	0	0	0	0	0	0	0	0
	point99	99											
I-5 SB On-ramp	point112	112	2235	97	45	2	45	1	45	0	0	0	0
	point100	100	2235	97	45	2	45	1	45	0	0	0	0
	point101	101	2235	97	45	2	45	1	45	0	0	0	0
	point102	102	2235	97	45	2	45	1	45	0	0	0	0
	point103	103	2235	97	45	2	45	1	45	0	0	0	0
	point104	104											
Ave de la Carlota N of I-5 ramps	point114	114	1679	97	40	2	40	1	40	0	0	0	0
	point108	108	1679	97	40	2	40	1	40	0	0	0	0
	point109	109	1679	97	40	2	40	1	40	0	0	0	0
	point90	90											
I-5 NB N of El Toro Rd	point115	115	13250	97	65	1	65	2	65	0	0	0	0
	point174	174	13250	97	65	1	65	2	65	0	0	0	0
	point116	116											
I-5 SB N of El Toro Rd	point118	118	13250	97	65	1	65	2	65	0	0	0	0
	point173	173	13250	97	65	1	65	2	65	0	0	0	0
	point119	119											
Ave de la Carlota N of El Toro Rd	point121	121	2529	97	40	2	40	1	40	0	0	0	0
	point106	106											
Paseo de Valencia - 2	point123	123	2033	97	40	2	40	1	40	0	0	0	0
	point56	56	2033	97	40	2	40	1	40	0	0	0	0
	point57	57	2033	97	40	2	40	1	40	0	0	0	0
	point58	58											
Health Center Dr	point124	124	473	97	30	2	30	1	30	0	0	0	0
	point125	125	473	97	30	2	30	1	30	0	0	0	0
	point126	126	473	97	30	2	30	1	30	0	0	0	0
	point127	127											
Calle de la Plata	point128	128	203	97	30	2	30	1	30	0	0	0	0
	point129	129	203	97	30	2	30	1	30	0	0	0	0
	point130	130	203	97	30	2	30	1	30	0	0	0	0
	point131	131											
Paseo de Valencia n of El Toro Rd-2	point132	132	1049	97	40	2	40	1	40	0	0	0	0

	point94	94	1049	97	40	2	40	1	40	0	0	0	0
	point95	95											
Paseo de Valencia - S of Calle dl Plata	point169	169	2109	97	40	2	40	1	40	0	0	0	0
	point59	59	2109	97	40	2	40	1	40	0	0	0	0
	point60	60	2109	97	40	2	40	1	40	0	0	0	0
	point61	61	2109	97	40	2	40	1	40	0	0	0	0
	point62	62	2109	97	40	2	40	1	40	0	0	0	0
	point52	52											
Los Alisos Blvd- W of Ave dl Carlotta	point170	170	2036	97	40	2	40	1	40	0	0	0	0
	point78	78	2036	97	40	2	40	1	40	0	0	0	0
	point79	79											
Los Alisos Blvd- E of Ave dl Carlotta	point171	171	2339	97	40	2	40	1	40	0	0	0	0
	point80	80	2339	97	40	2	40	1	40	0	0	0	0
	point81	81	2339	97	40	2	40	1	40	0	0	0	0
	point82	82	2339	97	40	2	40	1	40	0	0	0	0
	point83	83	2339	97	40	2	40	1	40	0	0	0	0
	point84	84	2339	97	40	2	40	1	40	0	0	0	0
	point85	85	2339	97	40	2	40	1	40	0	0	0	0
	point86	86	2339	97	40	2	40	1	40	0	0	0	0
	point87	87	2339	97	40	2	40	1	40	0	0	0	0
	point88	88	2339	97	40	2	40	1	40	0	0	0	0
	point75	75											
Ave de la Carlota S of El Toro Rd	point172	172	1379	97	40	2	40	1	40	0	0	0	0
	point15	15	1379	97	40	2	40	1	40	0	0	0	0
	point16	16	1379	97	40	2	40	1	40	0	0	0	0
	point17	17	1379	97	40	2	40	1	40	0	0	0	0
	point18	18											

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INPUT: RECEIVERS
PROJECT/CONTRACT: **8914**
RUN: **5 Lagunas Project - Year 2018**

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
M1 - On-Site Northwest side of Project	1	1	37,504,132.0	12,199,323.0	360.00	5.00	54.80	66	10.0	8.0	Y
M2 - On-Site Southeast side of Project	3	1	37,505,964.0	12,198,891.0	360.00	5.00	66.30	66	10.0	8.0	Y
M3 - Villa Valencia	6	1	37,505,440.0	12,198,020.0	360.00	5.00	53.90	66	10.0	8.0	Y
M4 - Saddleback Memorial Med Center	8	1	37,504,472.0	12,198,515.0	368.00	5.00	60.80	66	10.0	8.0	Y
M5 - Multi Family Resi	10	1	37,506,864.0	12,197,778.0	360.00	5.00	56.40	66	10.0	8.0	Y
M6 - Multi Family Resi	12	1	37,505,724.0	12,196,838.0	360.00	5.00	57.80	66	10.0	8.0	Y
M7 - Multi Family Resi	14	1	37,503,724.0	12,200,709.0	360.00	5.00	61.30	66	10.0	8.0	Y
M8 - Multi Family Resi	16	1	37,502,048.0	12,199,843.0	360.00	5.00	63.20	66	10.0	8.0	Y
R1 - Multi Family Resi	18	1	37,505,988.0	12,196,864.0	360.00	5.00	0.00	66	10.0	8.0	
R2 - Multi Family Resi	20	1	37,506,868.0	12,197,584.0	360.00	5.00	0.00	66	10.0	8.0	
R3 - Multi Family Resi	22	1	37,503,360.0	12,198,185.0	360.00	5.00	0.00	66	10.0	8.0	
R4 - Multi Family Resi	24	1	37,503,792.0	12,200,623.0	360.00	5.00	0.00	66	10.0	8.0	
R5 - Multi Fam Future Resi 1st Flr	26	1	37,505,996.0	12,198,890.0	360.00	5.00	0.00	66	10.0	8.0	Y
R6 - Multi Fam Future Resi 2nd Flr	27	1	37,506,000.0	12,198,890.0	360.00	15.00	0.00	66	10.0	8.0	Y
R7 - Multi Fam Future Resi 3rd Flr	28	1	37,506,000.0	12,198,890.0	360.00	25.00	0.00	66	10.0	8.0	Y
R8 - Multi Fam Future Resi 1st Flr	29	1	37,504,868.0	12,198,337.0	360.00	5.00	0.00	66	10.0	8.0	Y
R9 - Multi Fam Future Resi 2nd Flr	30	1	37,504,872.0	12,198,337.0	360.00	15.00	0.00	66	10.0	8.0	Y
R10 - Multi Fam Future Resi 3rd Flr	31	1	37,504,872.0	12,198,337.0	360.00	25.00	0.00	66	10.0	8.0	Y
R11 - Courtyard Bldg A	34	1	37,505,984.0	12,198,731.0	360.00	5.00	0.00	66	10.0	8.0	Y

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INPUT: BARRIERS
PROJECT/CONTRACT: 8914
RUN: 5 Lagunas Project - Year 2018

Barrier Name	Type	Height Min	Height Max	If Wall $ per Unit Area	If Berm $ per Unit Vol.	Top Width	Run:Rise	Add'tnl $ per Unit Length	Points Name	No.	Coordinates (bottom) X	Y	Z	Height at Point	Segment Seg Ht Increment	Perturbs #Up	Perturbs #Dn	On Struct?	Important Reflections?
		ft	ft	$/sq ft	$/cu yd	ft	ft:ft	$/ft			ft	ft	ft	ft	ft				
Barrier1	W	0.00	99.99	0.00				0.00	point1	1	37,502,940.0	12,199,817.0	360.00	5.00	0.00	0	0		
									point2	2	37,501,788.0	12,199,836.0	360.00	5.00					
Barrier3	W	0.00	99.99	0.00				0.00	point3	3	37,503,588.0	12,200,482.0	360.00	6.00	0.00	0	0		
									point4	4	37,503,780.0	12,200,593.0	360.00	6.00	0.00	0	0		
									point5	5	37,503,816.0	12,200,626.0	360.00	6.00	0.00	0	0		
									point6	6	37,503,644.0	12,200,830.0	360.00	6.00					
Barrier4	W	0.00	99.99	0.00				0.00	point7	7	37,505,376.0	12,197,285.0	360.00	5.00	0.00	0	0		
									point9	9	37,505,580.0	12,197,081.0	360.00	5.00	0.00	0	0		
									point10	10	37,505,804.0	12,196,852.0	360.00	5.00	0.00	0	0		
									point8	8	37,505,960.0	12,196,564.0	360.00	5.00					
Barrier5	W	0.00	99.99	0.00				0.00	point11	11	37,506,088.0	12,196,653.0	360.00	5.00	0.00	0	0		
									point12	12	37,505,968.0	12,196,867.0	360.00	5.00	0.00	0	0		
									point13	13	37,506,272.0	12,197,110.0	360.00	5.00					
Barrier6	W	0.00	99.99	0.00				0.00	point14	14	37,506,412.0	12,197,398.0	360.00	5.00	0.00	0	0		
									point15	15	37,506,992.0	12,197,572.0	360.00	5.00	0.00	0	0		
									point16	16	37,506,692.0	12,198,280.0	360.00	5.00					
Barrier7	W	0.00	99.99	0.00				0.00	point17	17	37,503,208.0	12,198,435.0	360.00	5.00	0.00	0	0		
									point18	18	37,503,352.0	12,198,219.0	360.00	5.00	0.00	0	0		
									point19	19	37,503,628.0	12,197,954.0	360.00	5.00					
General structural shielding from I-5	W	0.00	99.99	0.00				0.00	point20	20	37,506,304.0	12,197,401.0	360.00	30.00	0.00	0	0		
									point21	21	37,505,380.0	12,198,580.0	360.00	30.00	0.00	0	0		
									point22	22	37,504,848.0	12,199,021.0	360.00	30.00	0.00	0	0		
									point23	23	37,504,068.0	12,199,770.0	360.00	30.00					
General Shielding from I-5 - 2	W	0.00	99.99	0.00				0.00	point25	25	37,506,428.0	12,197,196.0	360.00	15.00	0.00	0	0		
									point26	26	37,506,716.0	12,196,663.0	360.00	15.00					
I-5 Shielding - 3	W	0.00	99.99	0.00				0.00	point27	27	37,503,896.0	12,199,944.0	360.00	15.00	0.00	0	0		
									point28	28	37,503,476.0	12,200,282.0	360.00	15.00					
I-5 Shielding - 4	W	0.00	99.99	0.00				0.00	point29	29	37,503,340.0	12,200,395.0	360.00	15.00	0.00	0	0		
									point30	30	37,502,356.0	12,201,143.0	360.00	15.00					
Barrier12	W	0.00	99.99	0.00				0.00	point31	31	37,504,016.0	12,199,739.0	360.00	15.00	0.00	0	0		
									point32	32	37,503,604.0	12,199,599.0	360.00	15.00					
Barrier13	W	0.00	99.99	0.00				0.00	point33	33	37,507,620.0	12,198,057.0	370.00	6.00	0.00	0	0		
									point34	34	37,506,804.0	12,198,480.0	370.00	6.00	0.00	0	0		
									point35	35	37,506,052.0	12,198,978.0	370.00	6.00	0.00	0	0		
									point36	36	37,504,592.0	12,200,453.0	375.00	6.00	0.00	0	0		
									point37	37	37,504,580.0	12,200,465.0	375.00	6.00					
Barrier14	W	0.00	99.99	0.00				0.00	point38	38	37,504,504.0	12,200,553.0	375.00	6.00	0.00	0	0		

									point39	39	37,504,188.0	12,200,868.0	375.00	6.00	0.00	0	0		
									point40	40	37,503,632.0	12,201,432.0	375.00	6.00					
Barrier15	W	0.00	99.99	0.00				0.00	point41	41	37,507,632.0	12,198,157.0	370.00	4.00	0.00	0	0		
									point42	42	37,506,888.0	12,198,534.0	370.00	4.00	0.00	0	0		
									point43	43	37,506,176.0	12,199,009.0	370.00	4.00	0.00	0	0		
									point44	44	37,505,496.0	12,199,674.0	370.00	4.00	0.00	0	0		
									point45	45	37,504,848.0	12,200,329.0	370.00	4.00	0.00	0	0		
									point46	46	37,504,664.0	12,200,523.0	375.00	4.00	0.00	0	0		
									point47	47	37,504,180.0	12,201,003.0	375.00	4.00	0.00	0	0		
									point48	48	37,503,704.0	12,201,488.0	375.00	4.00					
Barrier16	W	0.00	99.99	0.00				0.00	point49	49	37,505,868.0	12,198,752.0	360.00	60.00	0.00	0	0		
									point50	50	37,505,980.0	12,198,866.0	360.00	60.00	0.00	0	0		
									point51	51	37,506,152.0	12,198,698.0	360.00	60.00	0.00	0	0		
									point52	52	37,506,000.0	12,198,540.0	360.00	60.00					

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M Greene TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 8914
RUN: 5 Lagunas Project - Year 2018
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
M1 - On-Site Northwest side of Project	1	1	54.8	55.3	66	0.5	10	----	55.3	0.0	8	-8.0
M2 - On-Site Southeast side of Project	3	1	66.3	70.5	66	4.2	10	Snd Lvl	70.5	0.0	8	-8.0
M3 - Villa Valencia	6	1	53.9	55.3	66	1.4	10	----	55.3	0.0	8	-8.0
M4 - Saddleback Memorial Med Center	8	1	60.8	61.0	66	0.2	10	----	61.0	0.0	8	-8.0
M5 - Multi Family Resi	10	1	56.4	62.8	66	6.4	10	----	62.8	0.0	8	-8.0
M6 - Multi Family Resi	12	1	57.8	61.4	66	3.6	10	----	61.4	0.0	8	-8.0
M7 - Multi Family Resi	14	1	61.3	63.6	66	2.3	10	----	63.6	0.0	8	-8.0
M8 - Multi Family Resi	16	1	63.2	63.9	66	0.7	10	----	63.9	0.0	8	-8.0
R1 - Multi Family Resi	18	1	0.0	64.9	66	64.9	10	----	64.9	0.0	8	-8.0
R2 - Multi Family Resi	20	1	0.0	62.3	66	62.3	10	----	62.3	0.0	8	-8.0
R3 - Multi Family Resi	22	1	0.0	63.6	66	63.6	10	----	63.6	0.0	8	-8.0
R4 - Multi Family Resi	24	1	0.0	64.3	66	64.3	10	----	64.3	0.0	8	-8.0
R5 - Multi Fam Future Resi 1st Flr	26	1	0.0	71.7	66	71.7	10	Snd Lvl	71.7	0.0	8	-8.0
R6 - Multi Fam Future Resi 2nd Flr	27	1	0.0	73.3	66	73.3	10	Snd Lvl	73.3	0.0	8	-8.0
R7 - Multi Fam Future Resi 3rd Flr	28	1	0.0	77.0	66	77.0	10	Snd Lvl	77.0	0.0	8	-8.0
R8 - Multi Fam Future Resi 1st Flr	29	1	0.0	57.2	66	57.2	10	----	57.2	0.0	8	-8.0
R9 - Multi Fam Future Resi 2nd Flr	30	1	0.0	58.6	66	58.6	10	----	58.6	0.0	8	-8.0
R10 - Multi Fam Future Resi 3rd Flr	31	1	0.0	59.3	66	59.3	10	----	59.3	0.0	8	-8.0
R11 - Courtyard Bldg A	34	1	0.0	54.8	66	54.8	10	----	54.8	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	19	0.0	0.0	0.0
All Impacted	4	0.0	0.0	0.0

All that meet NR Goal		0	0.0	0.0	0.0							

Dudek 29 February 2016
M Greene TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: 8914
RUN: 5 Lagunas Project - Year 2018 w Proj

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
I-5 NB S of El Toro Rd	60.0	point1	1	37,507,728.0	12,198,161.0	370.00				Average	
		point2	2	37,506,920.0	12,198,572.0	370.00				Average	
		point3	3	37,506,208.0	12,199,047.0	370.00				Average	
		point4	4	37,505,528.0	12,199,702.0	370.00				Average	
		point5	5	37,504,880.0	12,200,357.0	370.00				Average	
		point6	6	37,504,712.0	12,200,535.0	375.00					
I-5 SB S of El Toro Rd	60.0	point7	7	37,504,648.0	12,200,459.0	375.00				Average	
		point8	8	37,506,108.0	12,198,984.0	370.00				Average	
		point9	9	37,506,860.0	12,198,486.0	370.00				Average	
		point10	10	37,507,676.0	12,198,063.0	370.00					
Ave de la Carlota N of Los Alisos	100.0	point11	11	37,507,120.0	12,197,526.0	360.00				Average	
		point12	12	37,506,784.0	12,198,313.0	360.00				Average	
		point13	13	37,506,592.0	12,198,523.0	360.00				Average	
		point14	14	37,506,064.0	12,198,909.0	360.00					
El Toro Rd EB 2	50.0	point19	19	37,503,104.0	12,199,735.0	360.00				Average	
		point20	20	37,503,588.0	12,199,723.0	360.00				Average	
		point21	21	37,503,912.0	12,199,824.0	360.00				Average	
		point22	22	37,504,112.0	12,199,943.0	360.00				Average	
		point23	23	37,504,384.0	12,200,192.0	360.00					
El Toro Rd EB 3	50.0	point24	24	37,504,392.0	12,200,202.0	360.00				Average	
		point25	25	37,504,612.0	12,200,395.0	360.00					
El Toro Rd WB	50.0	point28	28	37,505,300.0	12,201,159.0	360.00				Average	
		point29	29	37,504,732.0	12,200,595.0	360.00					
El Toro Rd WB 2	50.0	point30	30	37,504,576.0	12,200,429.0	360.00				Average	
		point31	31	37,504,364.0	12,200,233.0	360.00					
El Toro Rd WB 3	50.0	point32	32	37,504,352.0	12,200,223.0	360.00				Average	
		point33	33	37,504,100.0	12,200,000.0	360.00				Average	

		point34	34	37,503,840.0	12,199,850.0	360.00				Average	
		point35	35	37,503,568.0	12,199,779.0	360.00				Average	
		point36	36	37,503,096.0	12,199,789.0	360.00					
El Toro Rd WB 4	50.0	point37	37	37,503,052.0	12,199,788.0	360.00				Average	
		point38	38	37,501,748.0	12,199,806.0	360.00					
El Toro Rd EB	50.0	point39	39	37,501,736.0	12,199,773.0	360.00				Average	
		point40	40	37,503,048.0	12,199,738.0	360.00					
El Toro Rd EB 4	50.0	point42	42	37,504,788.0	12,200,560.0	360.00				Average	
		point27	27	37,505,384.0	12,201,133.0	360.00					
Rossmoor	55.0	point43	43	37,503,104.0	12,199,528.0	360.00				Average	
		point44	44	37,503,412.0	12,199,514.0	360.00				Average	
		point45	45	37,503,540.0	12,199,449.0	360.00				Average	
		point46	46	37,503,844.0	12,199,187.0	360.00					
Calle de la Louisa	55.0	point47	47	37,503,856.0	12,199,175.0	360.00				Average	
		point48	48	37,504,704.0	12,198,361.0	360.00					
Calle de la Louisa - 2	55.0	point49	49	37,504,724.0	12,198,342.0	360.00				Average	
		point50	50	37,505,196.0	12,197,873.0	360.00					
Calle de los Caballeros	45.0	point51	51	37,505,176.0	12,197,862.0	360.00				Average	
		point53	53	37,505,048.0	12,197,699.0	360.00				Average	
		point54	54	37,505,000.0	12,197,564.0	360.00					
Paseo de Valencia	95.0	point63	63	37,504,456.0	12,197,676.0	360.00				Average	
		point65	65	37,504,888.0	12,197,583.0	360.00				Average	
		point66	66	37,505,200.0	12,197,461.0	360.00				Average	
		point67	67	37,505,416.0	12,197,316.0	360.00				Average	
		point68	68	37,505,676.0	12,197,066.0	360.00				Average	
		point64	64	37,505,844.0	12,196,889.0	360.00					
Paseo de Valencia S of Los Alisos	95.0	point69	69	37,505,868.0	12,196,866.0	360.00				Average	
		point70	70	37,506,020.0	12,196,606.0	360.00				Average	
		point71	71	37,506,104.0	12,196,345.0	360.00				Average	
		point72	72	37,506,156.0	12,196,103.0	360.00					
Los Alisos Blvd E of Paseo de Valencia	95.0	point74	74	37,505,852.0	12,196,882.0	360.00				Average	
		point76	76	37,506,216.0	12,197,182.0	360.00				Average	
		point77	77	37,506,456.0	12,197,301.0	360.00					
Paseo de Valencia n of El Toro Rd	60.0	point89	89	37,503,076.0	12,199,794.0	360.00				Average	
		point91	91	37,503,104.0	12,200,046.0	360.00				Average	
		point92	92	37,503,216.0	12,200,206.0	360.00				Average	
		point93	93	37,503,456.0	12,200,353.0	360.00					
I-5 SB Offramp	50.0	point111	111	37,503,980.0	12,200,976.0	375.00				Average	
		point97	97	37,503,996.0	12,200,833.0	370.00				Average	
		point98	98	37,503,932.0	12,200,696.0	360.00				Average	

		point99	99	37,503,908.0	12,200,652.0	360.00					
I-5 SB On-ramp	30.0	point112	112	37,503,908.0	12,200,645.0	360.00				Average	
		point100	100	37,503,948.0	12,200,684.0	360.00				Average	
		point101	101	37,504,052.0	12,200,759.0	365.00				Average	
		point102	102	37,504,172.0	12,200,787.0	370.00				Average	
		point103	103	37,504,320.0	12,200,691.0	375.00				Average	
		point104	104	37,504,532.0	12,200,506.0	375.00					
Ave de la Carlota N of I-5 ramps	65.0	point114	114	37,503,572.0	12,201,170.0	360.00				Average	
		point108	108	37,503,592.0	12,201,026.0	360.00				Average	
		point109	109	37,503,644.0	12,200,900.0	360.00				Average	
		point90	90	37,503,884.0	12,200,641.0	360.00					
I-5 NB N of El Toro Rd	60.0	point115	115	37,504,700.0	12,200,548.0	375.00				Average	
		point174	174	37,504,216.0	12,201,028.0	375.00				Average	
		point116	116	37,503,732.0	12,201,509.0	375.00					
I-5 SB N of El Toro Rd	60.0	point118	118	37,503,680.0	12,201,449.0	375.00				Average	
		point173	173	37,504,152.0	12,200,966.0	375.00				Average	
		point119	119	37,504,628.0	12,200,482.0	375.00					
Ave de la Carlota N of El Toro Rd	90.0	point121	121	37,504,332.0	12,200,252.0	360.00				Average	
		point106	106	37,503,900.0	12,200,633.0	360.00					
Paseo de Valencia - 2	95.0	point123	123	37,503,072.0	12,199,716.0	360.00				Average	
		point56	56	37,503,056.0	12,199,216.0	360.00				Average	
		point57	57	37,503,128.0	12,198,772.0	360.00				Average	
		point58	58	37,503,128.0	12,198,733.0	360.00					
Health Center Dr	65.0	point124	124	37,504,448.0	12,197,701.0	360.00				Average	
		point125	125	37,504,484.0	12,197,969.0	360.00				Average	
		point126	126	37,504,528.0	12,198,141.0	360.00				Average	
		point127	127	37,504,688.0	12,198,346.0	360.00					
Calle de la Plata	55.0	point128	128	37,503,136.0	12,198,760.0	360.00				Average	
		point129	129	37,503,436.0	12,198,856.0	360.00				Average	
		point130	130	37,503,580.0	12,198,964.0	360.00				Average	
		point131	131	37,503,844.0	12,199,173.0	360.00					
Paseo de Valencia n of El Toro Rd-2	60.0	point132	132	37,503,456.0	12,200,353.0	360.00				Average	
		point94	94	37,503,796.0	12,200,546.0	360.00				Average	
		point95	95	37,503,884.0	12,200,627.0	360.00					
Paseo de Valencia - S of Calle dl Plata	95.0	point169	169	37,503,128.0	12,198,733.0	360.00				Average	
		point59	59	37,503,244.0	12,198,461.0	360.00				Average	
		point60	60	37,503,388.0	12,198,255.0	360.00				Average	
		point61	61	37,503,728.0	12,197,927.0	360.00				Average	
		point62	62	37,504,204.0	12,197,711.0	360.00				Average	
		point52	52	37,504,436.0	12,197,679.0	360.00					

Los Alisos Blvd- W of Ave dl Carlotta	95.0	point170	170	37,506,456.0	12,197,301.0	360.00				Average	
		point78	78	37,507,100.0	12,197,491.0	360.00				Average	
		point79	79	37,507,168.0	12,197,526.0	360.00					
Los Alisos Blvd- E of Ave dl Carlotta	95.0	point171	171	37,507,168.0	12,197,526.0	360.00				Average	
		point80	80	37,507,360.0	12,197,623.0	360.00				Average	
		point81	81	37,507,544.0	12,197,813.0	360.00				Average	
		point82	82	37,507,684.0	12,198,029.0	360.00				Average	
		point83	83	37,507,840.0	12,198,324.0	360.00				Average	
		point84	84	37,507,896.0	12,198,588.0	360.00				Average	
		point85	85	37,507,928.0	12,198,910.0	360.00				Average	
		point86	86	37,507,960.0	12,199,263.0	360.00				Average	
		point87	87	37,508,136.0	12,199,669.0	360.00				Average	
		point88	88	37,508,160.0	12,199,699.0	360.00				Average	
		point75	75	37,508,392.0	12,200,096.0	360.00					
Ave de la Carlota S of El Toro Rd	80.0	point172	172	37,506,064.0	12,198,909.0	360.00				Average	
		point15	15	37,505,004.0	12,199,884.0	360.00				Average	
		point16	16	37,504,784.0	12,199,973.0	360.00				Average	
		point17	17	37,504,512.0	12,200,081.0	360.00				Average	
		point18	18	37,504,408.0	12,200,184.0	360.00					

Dudek 29 February 2
M Greene TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Percentages
PROJECT/CONTRACT: 8914
RUN: 5 Lagunas Project - Year 2018 w Proj

Roadway	Points												
Name	Name	No.	Segment										
			Total	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			Volume	P	S	P	S	P	S	P	S	P	S
			veh/hr	%	mph	%	mph	%	mph	%	mph	%	mph
I-5 NB S of El Toro Rd	point1	1	13456	97	65	1	65	2	65	0	0	0	0
	point2	2	13456	97	65	1	65	2	65	0	0	0	0
	point3	3	13456	97	65	1	65	2	65	0	0	0	0
	point4	4	13456	97	65	1	65	2	65	0	0	0	0
	point5	5	13456	97	65	1	65	2	65	0	0	0	0
	point6	6											
I-5 SB S of El Toro Rd	point7	7	13435	97	65	1	65	2	65	0	0	0	0
	point8	8	13435	97	65	1	65	2	65	0	0	0	0
	point9	9	13435	97	65	1	65	2	65	0	0	0	0
	point10	10											
Ave de la Carlota N of Los Alisos	point11	11	1180	97	40	2	40	1	40	0	0	0	0
	point12	12	1180	97	40	2	40	1	40	0	0	0	0
	point13	13	1180	97	40	2	40	1	40	0	0	0	0
	point14	14											
El Toro Rd EB 2	point19	19	1305	97	35	2	35	1	35	0	0	0	0
	point20	20	1305	97	35	2	35	1	35	0	0	0	0
	point21	21	1305	97	35	2	35	1	35	0	0	0	0
	point22	22	1305	97	35	2	35	1	35	0	0	0	0
	point23	23											
El Toro Rd EB 3	point24	24	1305	97	35	2	35	1	35	0	0	0	0
	point25	25											
El Toro Rd WB	point28	28	0	0	0	0	0	0	0	0	0	0	0
	point29	29											
El Toro Rd WB 2	point30	30	1305	97	35	2	35	1	35	0	0	0	0
	point31	31											

El Toro Rd WB 3	point32	32	1305	97	35	2	35	1	35	0	0	0	0
	point33	33	1305	97	35	2	35	1	35	0	0	0	0
	point34	34	1305	97	35	2	35	1	35	0	0	0	0
	point35	35	1305	97	35	2	35	1	35	0	0	0	0
	point36	36											
El Toro Rd WB 4	point37	37	1288	97	35	2	35	1	35	0	0	0	0
	point38	38											
El Toro Rd EB	point39	39	1288	97	35	2	35	1	35	0	0	0	0
	point40	40											
El Toro Rd EB 4	point42	42	0	0	0	0	0	0	0	0	0	0	0
	point27	27											
Rossmoor	point43	43	376	97	30	2	30	1	30	0	0	0	0
	point44	44	376	97	30	2	30	1	30	0	0	0	0
	point45	45	376	97	30	2	30	1	30	0	0	0	0
	point46	46											
Calle de la Louisa	point47	47	466	97	30	2	30	1	30	0	0	0	0
	point48	48											
Calle de la Louisa - 2	point49	49	185	97	30	2	30	1	30	0	0	0	0
	point50	50											
Calle de los Caballeros	point51	51	267	97	30	2	30	1	30	0	0	0	0
	point53	53	267	97	30	2	30	1	30	0	0	0	0
	point54	54											
Paseo de Valencia	point63	63	1729	97	40	2	40	1	40	0	0	0	0
	point65	65	1729	97	40	2	40	1	40	0	0	0	0
	point66	66	1729	97	40	2	40	1	40	0	0	0	0
	point67	67	1729	97	40	2	40	1	40	0	0	0	0
	point68	68	1729	97	40	2	40	1	40	0	0	0	0
	point64	64											
Paseo de Valencia S of Los Alisos	point69	69	3024	97	40	2	40	1	40	0	0	0	0
	point70	70	3024	97	40	2	40	1	40	0	0	0	0
	point71	71	3024	97	40	2	40	1	40	0	0	0	0
	point72	72											
Los Alisos Blvd E of Paseo de Valencia	point74	74	1991	97	40	2	40	1	40	0	0	0	0
	point76	76	1991	97	40	2	40	1	40	0	0	0	0
	point77	77											
Paseo de Valencia n of El Toro Rd	point89	89	1123	97	40	2	40	1	40	0	0	0	0
	point91	91	1123	97	40	2	40	1	40	0	0	0	0

	point92	92	1123	97	40	2	40	1	40	0	0	0	0
	point93	93											
I-5 SB Offramp	point111	111	0	0	0	0	0	0	0	0	0	0	0
	point97	97	0	0	0	0	0	0	0	0	0	0	0
	point98	98	0	0	0	0	0	0	0	0	0	0	0
	point99	99											
I-5 SB On-ramp	point112	112	2420	97	45	2	45	1	45	0	0	0	0
	point100	100	2420	97	45	2	45	1	45	0	0	0	0
	point101	101	2420	97	45	2	45	1	45	0	0	0	0
	point102	102	2420	97	45	2	45	1	45	0	0	0	0
	point103	103	2420	97	45	2	45	1	45	0	0	0	0
	point104	104											
Ave de la Carlota N of I-5 ramps	point114	114	1679	97	40	2	40	1	40	0	0	0	0
	point108	108	1679	97	40	2	40	1	40	0	0	0	0
	point109	109	1679	97	40	2	40	1	40	0	0	0	0
	point90	90											
I-5 NB N of El Toro Rd	point115	115	13250	97	65	1	65	2	65	0	0	0	0
	point174	174	13250	97	65	1	65	2	65	0	0	0	0
	point116	116											
I-5 SB N of El Toro Rd	point118	118	13250	97	65	1	65	2	65	0	0	0	0
	point173	173	13250	97	65	1	65	2	65	0	0	0	0
	point119	119											
Ave de la Carlota N of El Toro Rd	point121	121	2701	97	40	2	40	1	40	0	0	0	0
	point106	106											
Paseo de Valencia - 2	point123	123	2078	97	40	2	40	1	40	0	0	0	0
	point56	56	2078	97	40	2	40	1	40	0	0	0	0
	point57	57	2078	97	40	2	40	1	40	0	0	0	0
	point58	58											
Health Center Dr	point124	124	473	97	30	2	30	1	30	0	0	0	0
	point125	125	473	97	30	2	30	1	30	0	0	0	0
	point126	126	473	97	30	2	30	1	30	0	0	0	0
	point127	127											
Calle de la Plata	point128	128	225	97	30	2	30	1	30	0	0	0	0
	point129	129	225	97	30	2	30	1	30	0	0	0	0
	point130	130	225	97	30	2	30	1	30	0	0	0	0
	point131	131											
Paseo de Valencia n of El Toro Rd-2	point132	132	1062	97	40	2	40	1	40	0	0	0	0

	point94	94	1062	97	40	2	40	1	40	0	0	0	0
	point95	95											
Paseo de Valencia - S of Calle dl Plata	point169	169	2143	97	40	2	40	1	40	0	0	0	0
	point59	59	2143	97	40	2	40	1	40	0	0	0	0
	point60	60	2143	97	40	2	40	1	40	0	0	0	0
	point61	61	2143	97	40	2	40	1	40	0	0	0	0
	point62	62	2143	97	40	2	40	1	40	0	0	0	0
	point52	52											
Los Alisos Blvd- W of Ave dl Carlotta	point170	170	2036	97	40	2	40	1	40	0	0	0	0
	point78	78	2036	97	40	2	40	1	40	0	0	0	0
	point79	79											
Los Alisos Blvd- E of Ave dl Carlotta	point171	171	2368	97	40	2	40	1	40	0	0	0	0
	point80	80	2368	97	40	2	40	1	40	0	0	0	0
	point81	81	2368	97	40	2	40	1	40	0	0	0	0
	point82	82	2368	97	40	2	40	1	40	0	0	0	0
	point83	83	2368	97	40	2	40	1	40	0	0	0	0
	point84	84	2368	97	40	2	40	1	40	0	0	0	0
	point85	85	2368	97	40	2	40	1	40	0	0	0	0
	point86	86	2368	97	40	2	40	1	40	0	0	0	0
	point87	87	2368	97	40	2	40	1	40	0	0	0	0
	point88	88	2368	97	40	2	40	1	40	0	0	0	0
	point75	75											
Ave de la Carlota S of El Toro Rd	point172	172	1722	97	40	2	40	1	40	0	0	0	0
	point15	15	1722	97	40	2	40	1	40	0	0	0	0
	point16	16	1722	97	40	2	40	1	40	0	0	0	0
	point17	17	1722	97	40	2	40	1	40	0	0	0	0
	point18	18											

Dudek **29 February 2016**
M Greene **TNM 2.5**

INPUT: RECEIVERS
PROJECT/CONTRACT: **8914**
RUN: **5 Lagunas Project - Year 2018 w Proj**

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
M1 - On-Site Northwest side of Project	1	1	37,504,132.0	12,199,323.0	360.00	5.00	54.80	66	10.0	8.0	Y
M2 - On-Site Southeast side of Project	3	1	37,505,964.0	12,198,891.0	360.00	5.00	66.30	66	10.0	8.0	Y
M3 - Villa Valencia	6	1	37,505,440.0	12,198,020.0	360.00	5.00	53.90	66	10.0	8.0	Y
M4 - Saddleback Memorial Med Center	8	1	37,504,472.0	12,198,515.0	368.00	5.00	60.80	66	10.0	8.0	Y
M5 - Multi Family Resi	10	1	37,506,864.0	12,197,778.0	360.00	5.00	56.40	66	10.0	8.0	Y
M6 - Multi Family Resi	12	1	37,505,724.0	12,196,838.0	360.00	5.00	57.80	66	10.0	8.0	Y
M7 - Multi Family Resi	14	1	37,503,724.0	12,200,709.0	360.00	5.00	61.30	66	10.0	8.0	Y
M8 - Multi Family Resi	16	1	37,502,048.0	12,199,843.0	360.00	5.00	63.20	66	10.0	8.0	Y
R1 - Multi Family Resi	18	1	37,505,988.0	12,196,864.0	360.00	5.00	0.00	66	10.0	8.0	
R2 - Multi Family Resi	20	1	37,506,868.0	12,197,584.0	360.00	5.00	0.00	66	10.0	8.0	
R3 - Multi Family Resi	22	1	37,503,360.0	12,198,185.0	360.00	5.00	0.00	66	10.0	8.0	
R4 - Multi Family Resi	25	1	37,503,792.0	12,200,623.0	360.00	5.00	0.00	66	10.0	8.0	
R5 - Multi Fam Future Resi 1st Flr	27	1	37,505,996.0	12,198,890.0	360.00	5.00	0.00	66	10.0	8.0	Y
R6 - Multi Fam Future Resi 2nd Flr	28	1	37,506,000.0	12,198,890.0	360.00	15.00	0.00	66	10.0	8.0	Y
R7 - Multi Fam Future Resi 3rd Flr	29	1	37,506,000.0	12,198,890.0	360.00	25.00	0.00	66	10.0	8.0	Y
R8 - Multi Fam Future Resi 1st Flr	30	1	37,504,868.0	12,198,337.0	360.00	5.00	0.00	66	10.0	8.0	Y
R9 - Multi Fam Future Resi 2nd Flr	31	1	37,504,872.0	12,198,337.0	360.00	15.00	0.00	66	10.0	8.0	Y
R10 - Multi Fam Future Resi 3rd Flr	32	1	37,504,872.0	12,198,337.0	360.00	25.00	0.00	66	10.0	8.0	Y
R11 - Courtyard Bldg A	35	1	37,505,984.0	12,198,731.0	360.00	5.00	0.00	66	10.0	8.0	Y

Dudek 29 February 2016
M Greene TNM 2.5

INPUT: BARRIERS
PROJECT/CONTRACT: 8914
RUN: 5 Lagunas Project - Year 2018 w Proj

Barrier Name	Type	Height Min	Height Max	If Wall $ per Unit Area	If Berm $ per Unit Vol.	Top Width	Run:Rise	Add'tnl $ per Unit Length	Points Name	No.	Coordinates (bottom) X	Y	Z	Height at Point	Segment Seg Ht Increment	Perturbs #Up	Perturbs #Dn	On Struct?	Important Reflections?
		ft	ft	$/sq ft	$/cu yd	ft	ft:ft	$/ft			ft	ft	ft	ft	ft				
Barrier1	W	0.00	99.99	0.00				0.00	point1	1	37,502,940.0	12,199,817.0	360.00	5.00	0.00	0	0		
									point2	2	37,501,788.0	12,199,836.0	360.00	5.00					
Barrier3	W	0.00	99.99	0.00				0.00	point3	3	37,503,588.0	12,200,482.0	360.00	6.00	0.00	0	0		
									point4	4	37,503,780.0	12,200,593.0	360.00	6.00	0.00	0	0		
									point5	5	37,503,816.0	12,200,626.0	360.00	6.00	0.00	0	0		
									point6	6	37,503,644.0	12,200,830.0	360.00	6.00					
Barrier4	W	0.00	99.99	0.00				0.00	point7	7	37,505,376.0	12,197,285.0	360.00	5.00	0.00	0	0		
									point9	9	37,505,580.0	12,197,081.0	360.00	5.00	0.00	0	0		
									point10	10	37,505,804.0	12,196,852.0	360.00	5.00	0.00	0	0		
									point8	8	37,505,960.0	12,196,564.0	360.00	5.00					
Barrier5	W	0.00	99.99	0.00				0.00	point11	11	37,506,088.0	12,196,653.0	360.00	5.00	0.00	0	0		
									point12	12	37,505,968.0	12,196,867.0	360.00	5.00	0.00	0	0		
									point13	13	37,506,272.0	12,197,110.0	360.00	5.00					
Barrier6	W	0.00	99.99	0.00				0.00	point14	14	37,506,412.0	12,197,398.0	360.00	5.00	0.00	0	0		
									point15	15	37,506,992.0	12,197,572.0	360.00	5.00	0.00	0	0		
									point16	16	37,506,692.0	12,198,280.0	360.00	5.00					
Barrier7	W	0.00	99.99	0.00				0.00	point17	17	37,503,208.0	12,198,435.0	360.00	5.00	0.00	0	0		
									point18	18	37,503,352.0	12,198,219.0	360.00	5.00	0.00	0	0		
									point19	19	37,503,628.0	12,197,954.0	360.00	5.00					
General structural shielding from I-5	W	0.00	99.99	0.00				0.00	point20	20	37,506,304.0	12,197,401.0	360.00	30.00	0.00	0	0		
									point21	21	37,505,380.0	12,198,580.0	360.00	30.00	0.00	0	0		
									point22	22	37,504,848.0	12,199,021.0	360.00	30.00	0.00	0	0		
									point23	23	37,504,068.0	12,199,770.0	360.00	30.00					
General Shielding from I-5 - 2	W	0.00	99.99	0.00				0.00	point24	24	37,506,428.0	12,197,196.0	360.00	15.00	0.00	0	0		
									point25	25	37,506,716.0	12,196,663.0	360.00	15.00					
I-5 Shielding - 3	W	0.00	99.99	0.00				0.00	point26	26	37,503,896.0	12,199,944.0	360.00	15.00	0.00	0	0		
									point27	27	37,503,476.0	12,200,282.0	360.00	15.00					
I-5 Shielding - 4	W	0.00	99.99	0.00				0.00	point28	28	37,503,340.0	12,200,395.0	360.00	15.00	0.00	0	0		
									point29	29	37,502,356.0	12,201,143.0	360.00	15.00					
Barrier12	W	0.00	99.99	0.00				0.00	point30	30	37,504,016.0	12,199,739.0	360.00	15.00	0.00	0	0		
									point31	31	37,503,604.0	12,199,599.0	360.00	15.00					
Barrier13	W	0.00	99.99	0.00				0.00	point32	32	37,507,620.0	12,198,057.0	370.00	6.00	0.00	0	0		
									point33	33	37,506,804.0	12,198,480.0	370.00	6.00	0.00	0	0		
									point34	34	37,506,052.0	12,198,978.0	370.00	6.00	0.00	0	0		
									point35	35	37,504,592.0	12,200,453.0	375.00	6.00	0.00	0	0		
									point36	36	37,504,580.0	12,200,465.0	375.00	6.00					
Barrier14	W	0.00	99.99	0.00				0.00	point37	37	37,504,504.0	12,200,553.0	375.00	6.00	0.00	0	0		

									point38	38	37,504,188.0	12,200,868.0	375.00	6.00	0.00	0	0		
									point39	39	37,503,632.0	12,201,432.0	375.00	6.00					
Barrier15	W	0.00	99.99	0.00				0.00	point40	40	37,507,632.0	12,198,157.0	370.00	4.00	0.00	0	0		
									point41	41	37,506,888.0	12,198,534.0	370.00	4.00	0.00	0	0		
									point42	42	37,506,176.0	12,199,009.0	370.00	4.00	0.00	0	0		
									point43	43	37,505,496.0	12,199,674.0	370.00	4.00	0.00	0	0		
									point44	44	37,504,848.0	12,200,329.0	370.00	4.00	0.00	0	0		
									point45	45	37,504,664.0	12,200,523.0	375.00	4.00	0.00	0	0		
									point46	46	37,504,180.0	12,201,003.0	375.00	4.00	0.00	0	0		
									point47	47	37,503,704.0	12,201,488.0	375.00	4.00					
Barrier16	W	0.00	99.99	0.00				0.00	point49	49	37,505,868.0	12,198,752.0	360.00	60.00	0.00	0	0		
									point50	50	37,505,980.0	12,198,866.0	360.00	60.00	0.00	0	0		
									point51	51	37,506,152.0	12,198,698.0	360.00	60.00	0.00	0	0		
									point52	52	37,506,000.0	12,198,540.0	360.00	60.00					

Dudek — **29 February 2016**
M Greene — **TNM 2.5**
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 8914
RUN: 5 Lagunas Project - Year 2018 w Proj
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
M1 - On-Site Northwest side of Project	1	1	54.8	55.4	66	0.6	10	----	55.4	0.0	8	-8.0
M2 - On-Site Southeast side of Project	3	1	66.3	70.8	66	4.5	10	Snd Lvl	70.8	0.0	8	-8.0
M3 - Villa Valencia	6	1	53.9	55.4	66	1.5	10	----	55.4	0.0	8	-8.0
M4 - Saddleback Memorial Med Center	8	1	60.8	61.0	66	0.2	10	----	61.0	0.0	8	-8.0
M5 - Multi Family Resi	10	1	56.4	62.9	66	6.5	10	----	62.9	0.0	8	-8.0
M6 - Multi Family Resi	12	1	57.8	61.5	66	3.7	10	----	61.5	0.0	8	-8.0
M7 - Multi Family Resi	14	1	61.3	63.7	66	2.4	10	----	63.7	0.0	8	-8.0
M8 - Multi Family Resi	16	1	63.2	63.9	66	0.7	10	----	63.9	0.0	8	-8.0
R1 - Multi Family Resi	18	1	0.0	64.9	66	64.9	10	----	64.9	0.0	8	-8.0
R2 - Multi Family Resi	20	1	0.0	62.3	66	62.3	10	----	62.3	0.0	8	-8.0
R3 - Multi Family Resi	22	1	0.0	63.7	66	63.7	10	----	63.7	0.0	8	-8.0
R4 - Multi Family Resi	25	1	0.0	64.4	66	64.4	10	----	64.4	0.0	8	-8.0
R5 - Multi Fam Future Resi 1st Flr	27	1	0.0	71.9	66	71.9	10	Snd Lvl	71.9	0.0	8	-8.0
R6 - Multi Fam Future Resi 2nd Flr	28	1	0.0	73.5	66	73.5	10	Snd Lvl	73.5	0.0	8	-8.0
R7 - Multi Fam Future Resi 3rd Flr	29	1	0.0	77.1	66	77.1	10	Snd Lvl	77.1	0.0	8	-8.0
R8 - Multi Fam Future Resi 1st Flr	30	1	0.0	57.3	66	57.3	10	----	57.3	0.0	8	-8.0
R9 - Multi Fam Future Resi 2nd Flr	31	1	0.0	58.7	66	58.7	10	----	58.7	0.0	8	-8.0
R10 - Multi Fam Future Resi 3rd Flr	32	1	0.0	59.3	66	59.3	10	----	59.3	0.0	8	-8.0
R11 - Courtyard Bldg A	35	1	0.0	54.8	66	54.8	10	----	54.8	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	19	0.0	0.0	0.0
All Impacted	4	0.0	0.0	0.0

All that meet NR Goal		0	0.0	0.0	0.0							