

# ATTACHMENT NO. 6



Page 1

## MEMORANDUM

To: Matt Schwengler, EIT, Kimley-Horn and Associates

From: Ryan Chiene  
Elena Ajdari  
Kimley-Horn and Associates

Date: August 9, 2021

Subject: Southern California Hospital at Culver City – Emergency Department Relocation Noise Analysis

---

### 1.0 Purpose

The purpose of this memorandum is to identify noise impacts associated with operation of the proposed Southern California Hospital Emergency Department Relocation Project (Project), located approximately 0.4-mile south of Interstate 10 (I-10) between Venice Boulevard (California State Route 187 [SR-187]) and Culver Boulevard, in Culver City, California (City).

### 2.0 Project Location and Description

The Project site is specifically located at the northern portion of the existing Southern California Hospital at 3828 Hughes Avenue, Culver City, California (Assessor's Parcel Number [APN] 4207-003-014). The Southern California Hospital site is surrounded by the Delmas Terrace to the east, Chase Bank to the south, Hughes Avenue to the west, and medical offices and Venice Boulevard to the north. I-10 is located approximately 0.4-mile to the north and I-405 is about 1.6 miles to the west of the Project site. There is one surface parking lot to the south of the hospital building near the existing Emergency Department (ED) drop-off area.

The proposed Project would demolish the northern portion of the existing hospital building and relocate the ED from the southern portion of the building to the northern portion. The Project would provide ambulance and car access from an approximately 26-foot wide ingress and egress driveway along Delmas Terrace. The general public will utilize the driveway directly in front of the ED entrance for drop-off and pick-up. A turnaround area with room for three (3) unmarked parking stalls are provided for ambulances in the proposed parking layout. See [Exhibit 1: Site Plan](#) for more details.

Exhibit 1: Site Plan



### 3.0 Noise Background

Sound is technically described in terms of amplitude (loudness) and frequency (pitch). The standard unit of sound amplitude measurement is the decibel (dB). The decibel scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound. The pitch of the sound is related to the frequency of the pressure vibration. Since the human ear is not equally sensitive to a given sound level at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) provides this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Noise, on the other hand, is typically defined as unwanted sound. A typical noise environment consists of a base of steady ambient noise that is the sum of various distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These can vary from an occasional aircraft or train passing by to virtually continuous noise from traffic on a major highway.

Several rating scales have been developed to analyze the adverse effect of community noise on people. Since environmental noise fluctuates over time, these scales consider that the effect of noise on people is largely dependent on the total acoustical energy content of the noise as well as the time of day when the noise occurs. For example, the equivalent continuous sound level ( $L_{eq}$ ) is the average acoustic energy content of noise for a stated period of time; thus, the  $L_{eq}$  of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. The Day-Night Sound level ( $L_{dn}$ ) is a 24-hour average  $L_{eq}$  with a 10 dBA “weighting” added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the nighttime. The Community Noise Equivalent Level (CNEL) is a 24-hour average  $L_{eq}$  with a 10-dBA weighting added to noise during the hours of 10:00 p.m. to 7:00 a.m. and an additional 5 dBA weighting during the hours of 7:00 p.m. to 10:00 p.m. to account for noise sensitivity in the evening and nighttime.

## 4.0 Regulatory Setting

### State

#### California Government Code

California Government Code Section 65302(f) mandates that the legislative body of each county and city adopt a noise element as part of its comprehensive general plan. The local noise element must recognize the land use compatibility guidelines established by the State Department of Health Services. The guidelines rank noise land use compatibility in terms of “normally acceptable”, “conditionally acceptable”, “normally unacceptable”, and “clearly unacceptable” noise levels for various land use types. Single-family homes are “normally acceptable” in exterior noise environments up to 60 CNEL and “conditionally acceptable” up to 70 CNEL. Multiple-family residential uses are “normally acceptable” up to 65 CNEL and “conditionally acceptable” up to 70 CNEL. Schools, libraries, and churches are “normally acceptable” up to 70 CNEL, as are office buildings and business, commercial, and professional uses.

#### Title 24 – Building Code

The State’s noise insulation standards are codified in the California Code of Regulations, Title 24: Part 1, Building Standards Administrative Code, and Part 2, California Building Code. These noise standards are applied to new construction in California for interior noise compatibility from exterior noise sources. The regulations specify that acoustical studies must be prepared when noise-sensitive structures, such as residential buildings, schools, or hospitals, are located near major transportation noise sources, and where such noise sources create an exterior noise level of 65 dBA CNEL or higher. Acoustical studies that accompany building plans must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new multi-family residential buildings, the acceptable interior noise limit for new construction is 45 dBA CNEL.

### Regional and Local

#### Culver City General Plan

The Culver City General Plan Noise Element, adopted July 22, 1996, indicates the noise standards, criterion, goals, and policies to achieve and maintain compatible land uses with environmental noise levels. Table 1: Culver City Interior and Exterior Noise Standards, lists interior and exterior noise level standards and the type of occupancy to which they should be applied. According to the Culver City Noise Element, noise-sensitive land uses include residential dwellings and mobile homes, schools, hotels, churches, and long-term medical or mental care facilities.

Table 1: Culver City Interior and Exterior Noise Standards			
Categories	Uses	Design Standard (CNEL)	
		Interior	Exterior
Residential	Single-Family, Duplex, Multiple Family	45	65
	Mobile Home	...	65
Commercial Industrial Institutional	Hotel, Motel, Transient Lodging	45	65
	Commercial retail, Bank, Restaurant	55	...
	Office building, Research & development Professional offices, City office building	50	...
	Amphitheater, Concert Hall, Auditorium, Meeting Hall	45	...
	Gymnasium (Multipurpose)	50	...
	Sports Club	55	...
	Manufacturing, Warehousing, Wholesale, Utilities	65	...
	Movie Theatres	45	...
Institutional	Hospital, Schools' Classroom	45	65
	Church, Library	45	...
Open space	Parks	...	65

Source: City of Culver City, *General Plan Noise Element*, adopted July 22, 1996.

The following objectives and policies from the Culver City Noise Element are applicable to the proposed Project:

**Objective 1:** *Land Use Compatibility.* Ensure the compatibility of adjacent land uses with regard to noise sources and receptors.

*Policy 1.A:* Ensure the consistent application of adopted noise standards and criterion in the review of all discretionary land use decisions.

*Policy 1.D:* Investigate the opportunity to construct barriers to mitigate sound emissions where necessary and where feasible.

**Objective 2:** *Stationary Noise Sources.* Protect those areas that are or may be subject to unacceptable noise from stationary noise sources.

*Policy 2.B:* Require addition of noise reduction features to all existing and proposed stationary-related noise sources which exceed established noise standards to reduce impacts on noise sensitive land uses.

*Policy 2.C:* Coordinate standards and policies with sponsors of sporting events and other outdoor noise generating activities.

*Measure 5. Improve Regulation of Construction Noise* of the General Plan indicates if the project involve pile driving, night time truck hauling, blasting, 24 hour pumping (important in areas of high ground water), or any other very high noise equipment, the environmental review shall include a

construction noise alternative analysis. From this analysis specific mitigation measures shall be developed to mitigate potential noise impacts. This may include but not be limited to:

- Establish standard noise abatement measures to reduce construction noise impacts, such as requiring temporary, movable noise barriers around the job sit, and requiring mufflers on large pieces of grading and construction equipment.
- Requirements to use quieter albeit costlier construction techniques, such as non-squeal concrete finishes or asphalt/rubber paving materials.
- Notification of residents of time, duration, and location of construction.
- Relocation of residents to hotels during significantly noisy construction period.
- Developer reimbursement to City for 24 hour on-site inspection to verify compliance with required mitigation.
- Limit hours of operation of equipment which produces significant impact noise or levels noticeably above general construction noise to the hours consistent with those established for construction related noise.
- Construction projects which require special circumstances or special equipment should be subject to an acoustical analysis by a certified acoustical consultant to determine the extent of possible impacts, and to make recommendations on necessary mitigation measures.

#### Culver City Municipal Code

Culver City Municipal Code (CCMC), Chapter 9.07 (Noise Regulations), establishes criteria and standards for the regulation of noise levels within the community. Rather than being adopted to assist the City in guiding land use decisions, like the Culver City Noise Element, the City's Noise Regulations are intended to protect the comfort, repose, health, or peace of residents in the area, and define noise levels that are considered public nuisances and are subject to abatement through the City's exercise of its enforcement authority. Relevant sections of the City's Noise Regulations are presented below.

#### Section § 9.07.035 Construction:

- A. All construction activity shall be prohibited, except between the hours of:
  - 8:00 a.m. and 8:00 p.m. Mondays through Fridays
  - 9:00 a.m. and 7:00 p.m. Saturdays
  - 10:00 a.m. and 7:00 p.m. Sundays



- B. It is prohibited for any person to operate a device, which amplifies music or sound, at a construction site in a manner that results in noise levels that are audible beyond the construction site property line.
- C. Construction activity of a specific nature (such as the pouring of concrete), with a limited duration, in non- residential zoning districts (as set forth in Article 2 of Title 17, Zoning, of this Code), on construction sites one (1) acre or greater in size, during the times prohibited by Subsection A. of this Section may be authorized, provided such exception has been determined to be in the public interest and one (1) of the following permits has been issued:
  - 1. A land use permit, processed in accordance with the provisions of Article 5 of Title 17, Zoning, of this Code. The request for extended construction hours shall accompany the land use permit application and include detailed facts showing that the public interest will be served by allowing the extended construction hours. The request shall be considered in conjunction with the project as a whole and shall be subject to conditions of approval as determined to be necessary by the decision-making authority.
  - 2. A Temporary Use Permit approved by the City Council, processed in accordance with the provisions of Chapter 17.520. At least fifteen (15) days prior to the anticipated date of decision on the Temporary Use Permit application, notice of the Temporary Use Permit application shall be mailed to all property owners and occupants within a one thousand (1,000) foot radius of the construction site. Applications for a Temporary Use Permit shall set forth detailed facts showing that the public interest will be served by the issuance of such permit.
- D. In the case of an emergency, the Building Official may issue a permit for construction activity for periods during which construction activity is prohibited by Subsection A. of this Section. Such permit shall be issued for only the period of the emergency.

Section § 9.07.045 Emergency Signaling Devices:

- A. It is prohibited for any person to intentionally sound or permit the sounding outdoors of any fire, burglar, or civil defense alarm, siren, whistle, or similar stationary emergency signaling device, except for emergency purposes or for testing as provided in Subsection B. of this Section.
- B. The testing of a stationary emergency signaling device shall not occur except between 7:00 a.m. and 7:00 p.m. Any such testing shall only use the minimum cycle test time. In no case shall such test time exceed sixty (60) seconds. The testing of the complete emergency signaling system, including the functioning of the signaling device and the personnel response to the signaling device, shall not occur more than once in each calendar month.

- C. It is prohibited for any person to sound or permit the sounding of any exterior audible burglar or fire alarm or any motor vehicle burglar alarm unless such alarm is automatically terminated within fifteen (15) minutes after activation. Repetition of the sounding of the alarm within a twenty-four (24) hour period for nonemergency reasons shall constitute a violation.

Section § 9.07.060 Exemptions from Provisions:

- A. Emergency exemptions. The emission of noise for the purpose of alerting persons to the existence of an emergency or the emission of noises in the performance of emergency work is exempted from the provisions.
- B. Warning devices. Warning devices necessary for the protection of public safety, as for example fire, police and ambulance sirens, including the testing of such devices, are exempted from the provisions.

## 5.0 Existing Setting

The Project site is impacted by various noise sources. Mobile sources of noise, traffic along Venice Boulevard to the north and W. Washington Boulevard to the south are the most common and significant sources of noise in the Project area. The primary sources of stationary noise near the Project site include surface parking noise to the north and south of the hospital building, mechanical equipment (e.g., heating, ventilation, and air conditioning [HVAC] units) operating at the nearby commercial/medical/office uses, and other urban-related activities (e.g., idling cars/trucks, pedestrians, construction activities, car radios and music playing, dogs barking, etc.). The noise associated with these sources may represent a single-event noise occurrence or short-term noise.

### Noise Measurements

To quantify existing ambient noise levels in the Project area, Kimley-Horn conducted three short-term (10-minute) measurements on June 2, 2021, and one long-term (48-hour) noise measurements starting on June 2, 2021, and ending June 4, 2021; see [Appendix A: Noise Data](#). The noise measurement sites were representative of typical existing noise exposure within and immediately adjacent to the Project site. The 10-minute daytime measurements were taken between 10:21 a.m. and 11:00 a.m. Measurements of  $L_{eq}$  are considered representative of the noise levels throughout the day. The average noise levels and noise measurement locations are listed in [Table 2: Existing Noise Measurements](#) and shown in [Appendix A](#).



Table 2: Existing Noise Measurements						
Site	Location	Measurement Period	Duration	dBA CNEL	Daytime Average L <sub>eq</sub> (dBA) <sup>1</sup>	Nighttime Average L <sub>eq</sub> (dBA) <sup>1</sup>
Short-Term Noise Measurements (15-minute measurements)						
ST-1	Along Delmas Terrace adjacent to the proposed Project site, approximately 100 feet south of Venice Boulevard.	10:21 a.m., Wednesday, June 2, 2021	10 min	-	62.2	-
ST-2	Adjacent to multi-family residential building along Watseka Avenue, approximately 130 feet north of Washington Boulevard.	10:35 a.m., Wednesday, June 2, 2021	10 min	-	63.3	-
ST-3	Near mixed-use residential building along Hughes Avenue, approximately 90 feet north of Washington Boulevard.	10:50 a.m., Wednesday, June 2, 2021	10 min	-	66.2	-
Long-Term Noise Measurements (continuous 48-hour measurement)						
LT-1	Existing Emergency Department drop off area, approximately 160 feet east of Hughes Avenue.	11:38 a.m., Wednesday June 2, 2021 to Thursday June 3, 2021	24 hr	66.7	63.6	52.6
		11:38 a.m., Thursday June 3, 2021 to Friday June 4, 2021	24 hr	61.7	58.1	53.9
		11:38 a.m., Wednesday June 2, 2021 to Friday June 4, 2021	48 hr	64.9	61.4	58.6
Notes:						
1. Daytime hours are from 7:00 a.m. to 10:00 p.m. The 15-hour daytime average (15-hour L <sub>eq</sub> ) was calculated from 24-hour measurements at long-term measurement locations. The 10-minute L <sub>eq</sub> is listed from short-term measurement data.						
Source: Noise measurements taken by Kimley-Horn and Associates, June 2-4, 2021. See <a href="#">Appendix A</a> for noise measurement results.						

## Sensitive Receptors

Noise exposure standards and guidelines for various types of land uses reflect the varying noise sensitivities associated with each of these uses. Residences, hospitals, schools, guest lodging, libraries, and churches are treated as the most sensitive to noise intrusion and therefore have more stringent noise exposure targets than do other uses, such as manufacturing or agricultural uses that are not subject to impacts such as sleep disturbance. Sensitive receptors near the Project site are shown in [Table 3: Sensitive Receptors](#).

<b>Table 3: Sensitive Receptors</b>	
<b>Receptor Description</b>	<b>Distance and Direction from the Project</b>
Brotman Hospital/Physicians Plaza	65 ft to the north
Southern California Hospital	adjacent to the south
Culver City Urgent Care	185 ft to the northeast
Culver Medical Plaza	220 ft to the west
Multi-Family Residential Dwellings	300 ft to the southeast
Dr. Boris Cosmetic Surgery Center	300 ft to the northeast
Residential Units	300 ft to the north
Multi-Family Residential Dwellings	340 ft to the northwest
Multi-Family Residential Dwellings	390 ft to the southwest
Multi-Family Residential Dwellings	440 ft to the northeast
Culver Palms Church of Christ	450 ft to the northeast
Multi-Family Residential Dwellings	570 ft to the northwest
Kirk Douglas Theatre	580 ft to the south
First Lutheran School	670 ft to the northwest
Saint Augustine's Catholic Religious Education Center	760 ft to the west
Source: Google Earth, 2021.	

## 6.0 Noise Impacts

### Construction Noise

Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g. land clearing, grading, excavation, paving). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. During construction, exterior noise levels could affect the residential neighborhoods surrounding the construction site. However, it is acknowledged that construction activities would occur throughout the Project site and would not be concentrated at a single point near sensitive receptors.

Construction activities would include demolition, site preparation, grading, building construction, paving, and architectural coating. Such activities would require concrete/industrial saws, excavators, and dozers during demolition; dozers and tractors during site preparation; excavators, graders, and dozers during grading; cranes, forklifts, generators, tractors, and welders during building construction; pavers, rollers, mixers, and paving equipment during paving; and air compressors during architectural coating. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes

of full power operation followed by 3 to 4 minutes at lower power settings. Other primary sources of acoustical disturbance would be random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. Typical noise levels associated with individual construction equipment are listed in Table 4: Typical Construction Noise Levels.

Table 4: Typical Construction Noise Levels	
Equipment	Typical Noise Level (dBA) at 50 feet from Source
Air Compressor	80
Backhoe	80
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Concrete Vibrator	76
Crane, Derrick	88
Crane, Mobile	83
Dozer	85
Generator	82
Grader	85
Impact Wrench	85
Jack Hammer	88
Loader	80
Paver	85
Pile-driver (Impact)	101
Pile-driver (Sonic)	95
Pneumatic Tool	85
Pump	77
Roller	85
Saw	76
Scraper	85
Shovel	82
Truck	84
1. Calculated using the inverse square law formula for sound attenuation: $dBA_2 = dBA_1 + 20\log(d_1/d_2)$ Where: $dBA_2$ = estimated noise level at receptor; $dBA_1$ = reference noise level; $d_1$ = reference distance; $d_2$ = receptor location distance Source: Federal Transit Administration, <i>Transit Noise and Vibration Impact Assessment Manual</i> , September 2018.	

As shown in Table 4, exterior noise levels could affect the nearest existing sensitive receptors in the vicinity. Sensitive uses in the Project site vicinity include existing medical uses to the north, northeast, and west and the Multi-Family Residential Dwellings to the southeast. These sensitive receptors may be exposed to elevated noise levels during Project construction. However, construction noise would be acoustically dispersed throughout the Project site and not concentrated in one area near

surrounding sensitive uses. The City's Municipal Code does not establish quantitative construction noise standards. Instead, the Municipal Code establishes limited hours of construction activities. Municipal Code Section 9.07.035 states that construction activities may only take place between the hours of 8:00 a.m. and 8:00 p.m. on weekdays, between the hours of 9:00 a.m. and 7:00 p.m. on Saturdays, and between the hours of 10:00 a.m. and 7:00 p.m. on Sundays. except in the case of emergency which shall be approved by the Culver City. All motorized equipment used in such activity shall be equipped with functioning mufflers as mandated by the state.

Construction activities may also cause increased noise along site access routes due to movement of equipment and workers. Compliance with the Municipal Code would minimize impacts from construction noise, as construction would be limited to daytime hours on weekdays, Saturdays, and Sundays. By following Municipal Code standards, Project construction activities would result in a less than significant noise impact.

The noise levels calculated in [Table 5: Project Construction Noise Levels](#), show the exterior construction noise without accounting for attenuation from existing physical barriers which have been estimated by FHWA's Roadway Construction Noise Model (RCNM). The nearest noise sensitive receptor is the Brotman Physicians Plaza to the north. All construction equipment was assumed to operate simultaneously at a construction area near to sensitive receptors. These assumptions represent a worst-case noise scenario as construction activities would routinely be spread throughout the construction site further away from noise sensitive receptors.

Construction Phase	Receptor Location			Worst Case Modeled Exterior Noise Level (dBA L <sub>eq</sub> )	Noise Threshold (dBA L <sub>eq</sub> )	Exceeded?
	Land Use	Direction	Distance (feet)			
Demolition	Medical	North	95	79.7	80	No
	Medical	Northeast	230	72.1	80	No
	Medical	West	280	70.4	80	No
Construction	Medical	North	95	78.8	80	No
	Medical	Northeast	230	71.2	80	No
	Medical	West	280	69.5	80	No
Paving	Medical	North	95	77.7	80	No
	Medical	Northeast	230	70.0	80	No
	Medical	West	280	68.3	80	No
Architectural Coating	Medical	North	95	68.1	80	No
	Medical	Northeast	230	60.4	80	No
	Medical	West	280	58.7	80	No

Source: Federal Highway Administration, *Roadway Construction Noise Model*, 2006. Refer to Appendix A for noise modeling results.

As shown in [Table 5](#), exterior noise levels during different phases are between 58.7 dBA and 79.7 dBA. Construction equipment would operate throughout the Project site and the associated noise levels would not occur at a fixed location for extended periods of time. These sensitive uses may be exposed to elevated noise levels during project construction. However, construction noise would be

acoustically dispersed throughout the Project site and not concentrated in one area near surrounding sensitive uses.

The Culver City has set restrictions to control noise impacts from construction activities. Section 9.07.035 states that all construction activity shall be prohibited, except between the hours of 8:00 a.m. and 8:00 p.m. on weekdays, between the hours of 9:00 a.m. and 7:00 p.m. on Saturdays, and between the hours of 10:00 a.m. and 7:00 p.m. on Sundays except in the case of emergency which shall be approved by the Culver City.

Although the Culver City Municipal Code limits the hours of construction, it does not provide specific noise level performance standards for construction. By following the City's standards, the impact from construction noise would be less than significant level.

## **Operation Noise**

### **On-Site Operations**

The Project proposes to relocate the ED at the Southern California Hospital from the south of the building to the northern portion of the hospital site. Therefore, ambulance and emergency drop-off, as well as car access to the ED would be relocated consequently. The primary noise sources associated with the proposed Project would consist of emergency vehicle sirens and driveway operations (i.e., sound from maneuvering and idling vehicles, banging and clanging of equipment, and vehicles idling in the driveway lanes, etc.) and parking lot noise. A discussion of each of these Project noise sources is provided below.

**Emergency Vehicle Noise.** Emergency vehicle visits to the Southern California Hospital are a considerable source of noise at the Project site. According to information provided by Southern California Hospital, there are approximately 17 daily ambulance visits (including 11 during the peak hour and an average of 3.5 vehicles per hour) to the existing ED.<sup>1</sup> The Project is not expected to produce an increase in daily visits from emergency vehicles. Due to the nature of the proposed Project, there would periodically be ambulances or emergency vehicles that arrive or leave the new ED location with their sirens on. Ambulance sirens are designed to be clearly audible and highly noticeable to all other drivers on a roadway, who are required by law to pull over to make way for an ambulance with its siren on. Ambulance sirens typically generate noise levels up to 100 dBA at a distance of 100 feet.<sup>2</sup>

Similar to existing conditions, the nearest sensitive receptors would be briefly exposed to elevated noise levels from emergency vehicle sirens during emergency drop offs at the new ED location. However, these noise events would be short in duration and emergency vehicles would turn off their

---

<sup>1</sup> Per e-mail communication with Southern California Hospital at Culver City, June 8, 2021.

<sup>2</sup> Kimley-Horn and Associates, Inc., *Club Estates Exterior Noise Analysis*, 2008.

sirens after accessing the Project site. Typical operational policy for emergency vehicles is to limit the use of sirens and horns, as practical, when traveling past noise-sensitive areas. Additionally, noise for the purpose of alerting persons to the existence of an actual emergency is exempt from the City of Culver City Municipal Code pursuant to CCMC Section § 9.07.045. However, a comparative analysis of emergency vehicle noise (i.e., noise from ambulance sirens) from existing and proposed Project conditions is provided below in Table 6: Ambulance Noise Levels, and shown in Exhibit 2: Existing Ambulance Noise Contours and Exhibit 3: Proposed Ambulance Noise Contours for informational purposes and to determine if the Project would result in a noticeable change (i.e., above 3 dBA) in noise levels at surrounding sensitive receptors. In general, a noise increase of less than 3 dBA is barely perceptible to people, while a 5-dBA increase is readily noticeable.<sup>3</sup>

Exterior noise levels associated with emergency vehicle noise was modeled with the SoundPLAN software. SoundPLAN allows computer simulations of noise situations, and creates noise contour maps using reference noise levels, topography, point and area noise sources, mobile noise sources, and intervening structures. Inputs to the SoundPLAN model included ground topography and ground type, noise source locations and heights, receiver locations, and sound power level data. Utilizing the input data described above, SoundPLAN was used to calculate noise levels at the nearest sensitive receptors surrounding the Project site.

---

<sup>3</sup> California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol ("TeNS")*, September 2013.



Receptor No.	Land Use	Floor	Modeled Noise Level - Existing (dBA L <sub>dn</sub> )	Modeled Noise Level - Proposed (dBA L <sub>dn</sub> )	Noise Level Increase (dBA L <sub>dn</sub> )	Exceeds 3 dBA?
1	Medical Office	1	70	73	+3	No
		2	73	75	+2	No
		3	74	76	+3	No
		4	74	76	+2	No
		5	74	76	+2	No
2	Medical Office	1	78	81	+3	No
		2	77	80	+3	No
		3	76	79	+3	No
		4	75	78	+3	No
		5	75	78	+3	No
3	Medical Office	1	79	82	+3	No
4	Brotman Hospital	1	79	81	+2	No
		2	79	81	+2	No
		3	78	81	+2	No
		4	77	80	+3	No
		5	77	79	+3	No
5	Brotman Hospital	1	80	82	+2	No
		2	80	82	+2	No
		3	79	82	+2	No
		4	78	80	+3	No
		5	77	80	+3	No
		6	77	79	+3	No
6	Brotman Hospital	1	79	81	+2	No
		2	79	81	+2	No
		3	79	81	+3	No
		4	78	80	+2	No
		5	77	80	+3	No
7	Southern California Hospital	1	81	83	+3	No
8	Southern California Hospital	1	78	80	+3	No
		2	77	80	+3	No
		3	76	79	+3	No
		4	76	78	+3	No
		5	75	78	+3	No
9	Southern California Hospital	1	81	84	+3	No
		2	81	83	+3	No
		3	80	82	+3	No
		4	79	82	+3	No
		5	78	81	+3	No
10	Office (future)	1	75	77	+2	No
		2	75	78	+2	No
		3	75	78	+2	No
		4	75	78	+2	No
11	Office (future)	1	80	83	+3	No
		2	80	82	+3	No
		3	79	82	+3	No
		4	79	81	+2	No
12	Chase Bank	1	75	78	+2	No

Receptor No.	Land Use	Floor	Modeled Noise Level - Existing (dBA L <sub>dn</sub> )	Modeled Noise Level - Proposed (dBA L <sub>dn</sub> )	Noise Level Increase (dBA L <sub>dn</sub> )	Exceeds 3 dBA?
13	Chase Bank	1	82	85	+3	No
14	Multi-Family Residential	1	48	50	+2	No
		2	48	50	+2	No
15	Multi-Family Residential	1	57	59	+2	No
		2	57	59	+2	No
16	Medical Office	1	78	62	-17	No
		2	78	63	-15	No
		3	78	64	-14	No
		4	77	65	-12	No
17	Medical Office	1	69	65	-5	No
		2	71	65	-6	No
		3	74	66	-8	No
18	Mixed-Use Residential	1	79	63	-17	No
		2	79	63	-15	No
		3	78	64	-14	No
		4	77	64	-13	No
		5	77	65	-12	No
		6	76	65	-11	No
		7	76	66	-10	No
19	Mixed-Use Residential	1	79	61	-18	No
		2	79	62	-17	No
		3	78	63	-16	No
		4	78	63	-15	No
		5	77	63	-13	No
		6	76	64	-12	No
		7	76	64	-11	No
		8	75	65	-10	No
20	Single-Family Residential	1	44	42	-2	No
21	Multi-Family Residential	1	44	42	-2	No
		2	44	42	-2	No
		3	44	42	-2	No
		4	44	42	-2	No
		5	45	43	-2	No
22	Multi-Family Residential	1	44	42	-2	No
		2	44	42	-2	No
		3	44	42	-2	No
		4	44	42	-2	No
		5	45	44	-1	No
23	Medical Office	1	77	54	-23	No
		2	77	59	-18	No
		3	76	61	-15	No
		4	75	62	-13	No

Source: SoundPLAN version 5.0. See [Appendix A](#) for noise modeling data and results. Note that sound level results and the change in noise levels are rounded to the nearest whole number.

Exhibit 2: Existing Ambulance Noise

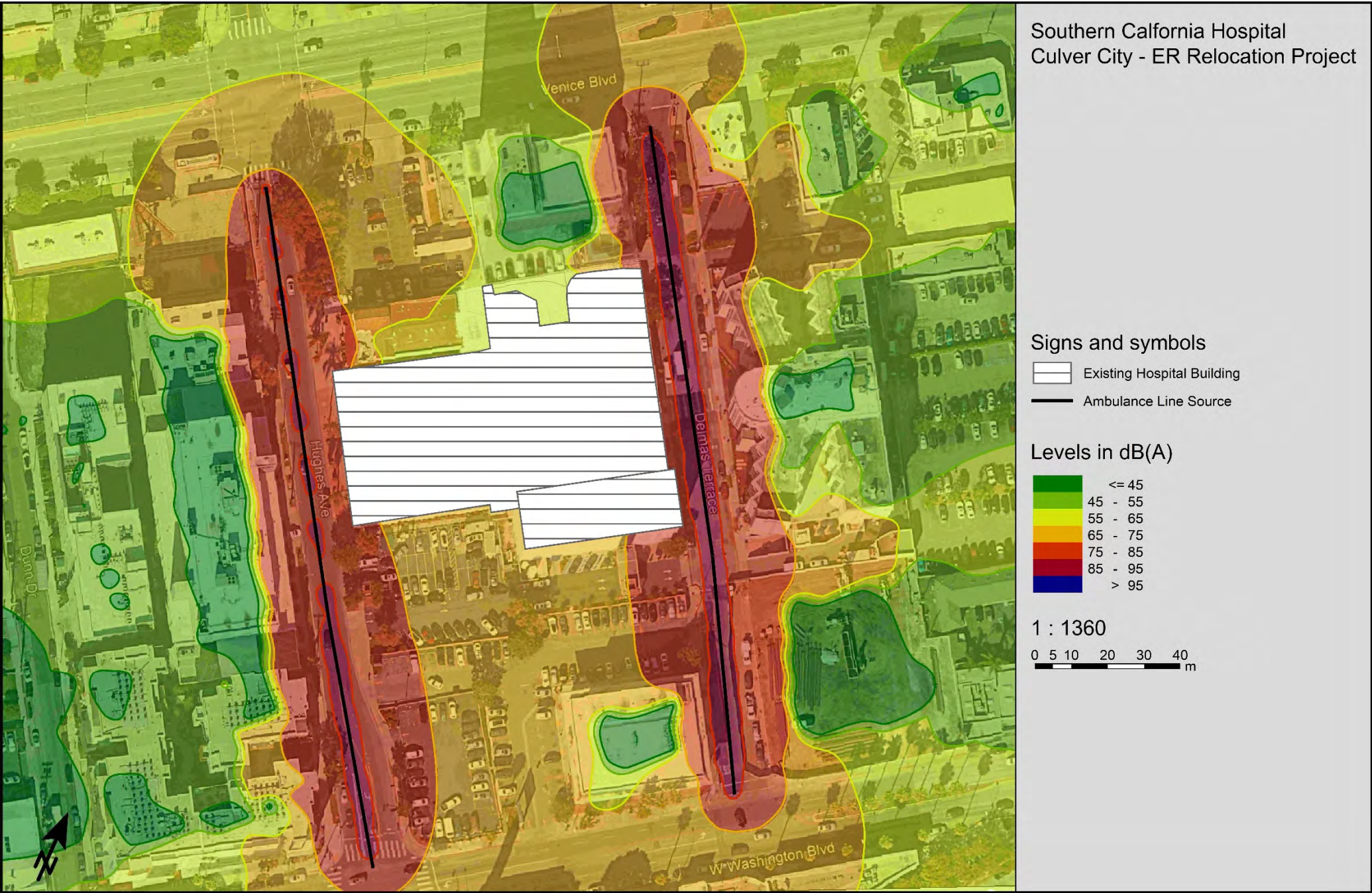
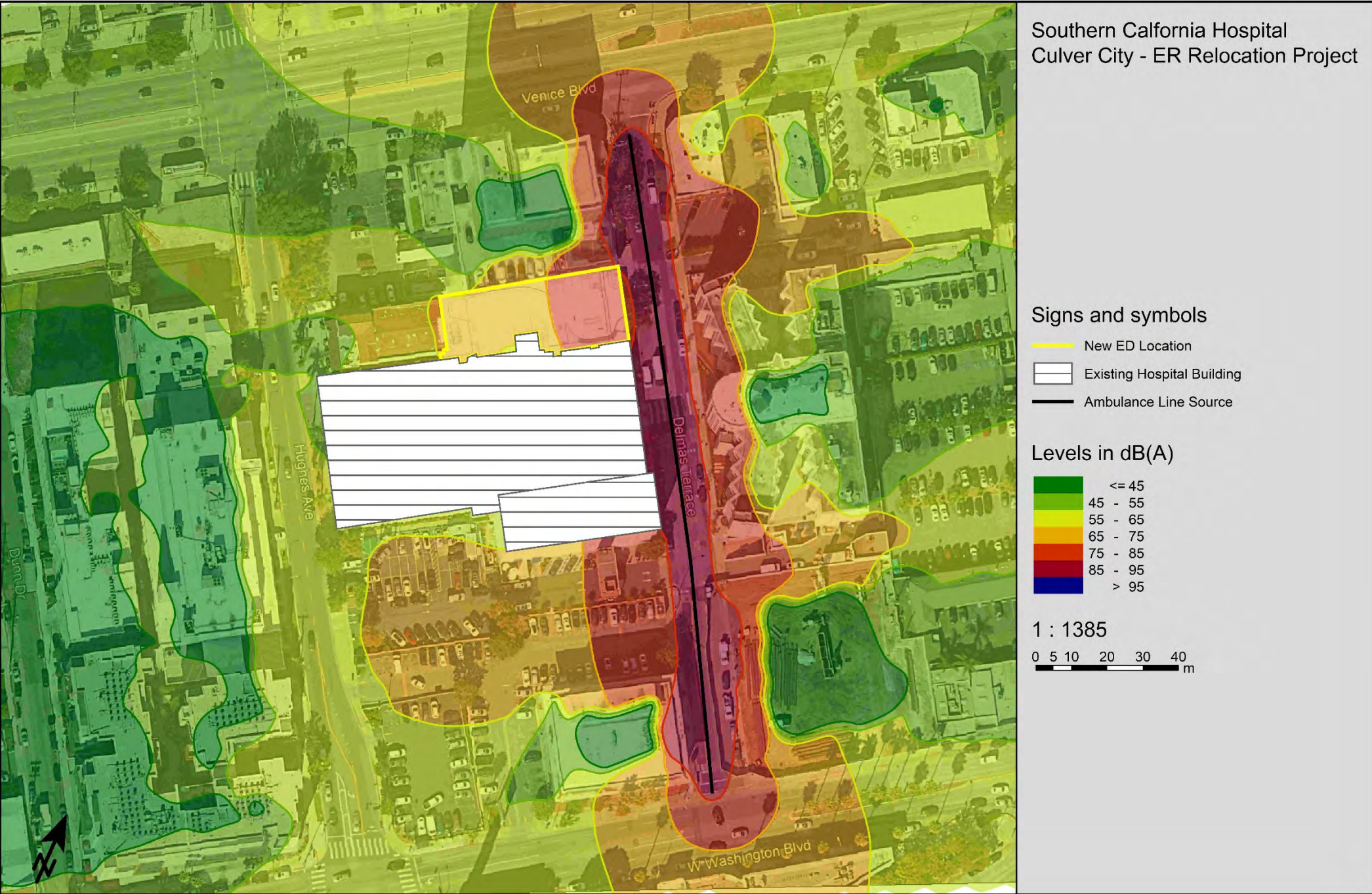




Exhibit 3: Proposed Ambulance Noise Contours



As noted above, emergency related noise is exempt from the City of Culver City Municipal Code pursuant to CCMC Section § 9.07.045. Additionally, emergency vehicles with sirens currently access Southern California Hospital. Therefore, a comparative analysis of emergency vehicle noise from existing and proposed is provided in [Table 6](#). [Table 6](#) shows that ambulance noise levels associated with the proposed Project would result in a noise level increase of up to 3 dBA  $L_{dn}$  at the adjacent medical office and hospital uses along Delmas Terrace, and up to a 2 dBA  $L_{dn}$  increase at the nearest multi-family residential use along Watseka Avenue to the southeast of the proposed ED site (Receptor No. 14). The uses to the west of the Project site along Hughes Avenue and Dunn Drive would see a significant decrease in ambulance noise levels (up to 23 dBA  $L_{dn}$  lower than existing conditions) due to the ED relocation to the northern portion of the hospital building. Additionally, the modeling shows that noise levels at the Southern California Hospital would not result in noticeable increase (i.e., more than 3 dBA) with implementation of the Project (Receptors 7 - 9).

Thus, ambulance noise from the proposed Project would not result in a noticeable increase at the nearest residential and/or medical uses in the Project vicinity, and noise levels at the uses to the west of the site would be significantly lower as a result of the proposed Project. A less than significant impact would occur in this regard.

**Parking Lot Noise.** The proposed Project would include 10 surface parking spaces for employee/visitor vehicles and sufficient parking area for a peak hour influx of ambulances at the ED. Traffic associated with parking lots is typically not of sufficient volume to exceed community noise standards, which are based on a time-averaged scale such as the one-hour  $L_{eq}$  and CNEL scales. The instantaneous maximum sound levels generated by a car door slamming, engine starting up, and car pass-bys range from 53 to 61 dBA<sup>4</sup> and may be an annoyance to adjacent noise-sensitive receptors. Conversations in parking areas may also be an annoyance to adjacent sensitive receptors. Sound levels of speech typically range from 33 dBA at 50 feet for normal speech to 50 dBA at 50 feet for very loud speech.<sup>5</sup> Parking lot noise would occur at the proposed ED surface parking lot as close as approximately 50 feet from the nearest off-site uses.

As indicated in [Table 7: Emergency Department Parking Lot Noise Levels](#) and shown in [Exhibit 4: Emergency Department Parking Lot Noise Contours](#), operational noise levels from parking lot activities at the proposed ED location would be a maximum of 48 dBA  $L_{dn}$  at the medical office building immediately to the north, which is well below the City's interior noise level standard of 45 dBA CNEL for hospital uses assuming an exterior-to-interior attenuation rate of 25 dBA for standard construction practices. Therefore, a less than significant impact would occur in this regard.

---

<sup>4</sup> Kariel, H. G., *Noise in Rural Recreational Environments*, Canadian Acoustics 19(5), 3-10, 1991.

<sup>5</sup> Elliott H. Berger, Rick Neitzel1, and Cynthia A. Kladden. (2010). *Noise Navigator Sound Level Database with Over 1700 Measurement Values*.

## 7.0 Conclusion

Project implementation would result in less than significant noise impacts. No mitigation measures would be required.

Table 7: Emergency Department Parking Lot Noise Levels			
Receptor No.	Land Use	Floor	Modeled Noise Level (dBA L <sub>dn</sub> )
1	Medical Office	1	45
		2	46
		3	47
		4	48
		5	47
2	Medical Office	1	31
		2	32
		3	33
		4	34
		5	35
3	Medical Office	1	40
4	Brotman Hospital	1	46
		2	46
		3	47
		4	46
		5	46
5	Brotman Hospital	1	42
		2	43
		3	44
		4	44
		5	44
6	Brotman Hospital	1	37
		2	38
		3	39
		4	40
		5	40
7	Southern California Hospital	1	40
8	Southern California Hospital	1	40
		2	41
		3	42
		4	43
		5	43
9	Southern California Hospital	1	34
		2	35
		3	35
		4	36
		5	36
10	Office (future)	1	31
		2	32
		3	33
		4	34
11	Office (future)	1	30



Table 7: Emergency Department Parking Lot Noise Levels			
Receptor No.	Land Use	Floor	Modeled Noise Level (dBA L <sub>dn</sub> )
		2	31
		3	32
		4	32
12	Chase Bank	1	23
13	Chase Bank	1	20
14	Multi-Family Residential	1	16
		2	17
15	Multi-Family Residential	1	17
		2	17
16	Medical Office	1	27
		2	31
		3	32
		4	33
17	Medical Office	1	34
		2	35
		3	36
18	Mixed-Use Residential	1	29
		2	30
		3	30
		4	31
		5	31
		6	32
		7	32
19	Mixed-Use Residential	1	25
		2	27
		3	28
		4	29
		5	29
		6	29
		7	30
		8	30
20	Single-Family Residential	1	13
21	Multi-Family Residential	1	13
		2	13
		3	14
		4	14
		5	15
22	Multi-Family Residential	1	13
		2	13
		3	14
		4	15
		5	16
23	Medical Office	1	28
		2	29
		3	32
		4	34
Source: SoundPLAN version 5.0. See <a href="#">Appendix A</a> for noise modeling data and results. Note that sound level results are rounded to the nearest whole number.			

Exhibit 5: Emergency Department Parking Lot Noise Contours



Southern California Hospital  
Culver City - ER Relocation Project

Signs and symbols

- Existing Hospital Building
- ER Parking Lot Activity

Levels in dB(A)

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

1 : 1372

0 5 10 20 30 40 m

## **APPENDIX A: NOISE DATA**



**Noise Measurement Field Data**

<b>Project:</b>	Southern California Hospital - Culver City ED Relocation	<b>Job Number:</b>	99131012
<b>Site No.:</b>	ST-1	<b>Date:</b>	6/2/2021
<b>Analyst:</b>	Ryan Chiene & Ace Malisos	<b>Time:</b>	10:21 AM
<b>Location:</b>	Along Delmas Terrace, north of the Project site.		

**Noise Sources:** Backup beeper from truck, traffic on Venice Blvd and Delmas Terrace, van idling, cars coming in/out of parking structure.

**Results (dBA):**

<b>Leq:</b>	<b>Lmin:</b>	<b>Lmax:</b>	<b>Peak:</b>
62.2	54.0	76.6	94.4

**Equipment**

<b>Sound Level Meter:</b>	LD SoundExpert LxT
<b>Calibrator:</b>	CAL200
<b>Response Time:</b>	Slow
<b>Weighting:</b>	A
<b>Microphone Height:</b>	5 feet

**Weather**

<b>Temp. (degrees F):</b>	63
<b>Wind (mph):</b>	< 5
<b>Sky:</b>	Partly Cloudy
<b>Bar. Pressure:</b>	29.94"
<b>Humidity:</b>	84%

**Photo:**



Kimley»Horn

# Measurement Report

## Report Summary

Meter's File Name	SCH__001	Computer's File Name	SLM_0005586_SCH__001.00.ldbin
Meter	LxT SE		
Firmware	2.404		
User		Location	
Description			
Note			
Start Time	2021-06-02 10:21:08	Duration	0:10:00.0
End Time	2021-06-02 10:31:08	Run Time	0:10:00.0
		Pause Time	0:00:00.0

## Results

### Overall Metrics

LA <sub>eq</sub>	62.2 dB		
LAE	89.9 dB	SEA	--- dB
EA	109.5 µPa²h		
LA <sub>peak</sub>	94.4 dB	2021-06-02 10:30:37	
LAS <sub>max</sub>	76.6 dB	2021-06-02 10:21:56	
LAS <sub>min</sub>	54.0 dB	2021-06-02 10:24:04	
LA <sub>eq</sub>	62.2 dB		
LC <sub>eq</sub>	71.9 dB	LC <sub>eq</sub> - LA <sub>eq</sub>	9.7 dB
LAI <sub>eq</sub>	65.3 dB	LAI <sub>eq</sub> - LA <sub>eq</sub>	3.1 dB

### Exceedances

	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 135.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 137.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 140.0 dB	0	0:00:00.0

### Community Noise

LDN	LDay	LNight	
62.2 dB	62.2 dB	0.0 dB	
LDEN	LDay	LEve	LNight
62.2 dB	62.2 dB	--- dB	--- dB

### Any Data

Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L <sub>eq</sub>	62.2 dB		71.9 dB		--- dB	
LS <sub>(max)</sub>	76.6 dB	2021-06-02 10:21:56	--- dB		--- dB	
LS <sub>(min)</sub>	54.0 dB	2021-06-02 10:24:04	--- dB		--- dB	
L <sub>Peak(max)</sub>	94.4 dB	2021-06-02 10:30:37	--- dB		--- dB	

### Overloads

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

### Statistics

LAS 5.0	66.9 dB
LAS 10.0	64.4 dB
LAS 33.3	60.5 dB
LAS 50.0	59.4 dB
LAS 66.6	58.5 dB
LAS 90.0	56.6 dB

Time History





### Noise Measurement Field Data

<b>Project:</b>	Southern California Hospital - Culver City ED Relocation	<b>Job Number:</b>	99131012
<b>Site No.:</b>	ST-2	<b>Date:</b>	6/2/2021
<b>Analyst:</b>	Ryan Chiene & Ace Malisos	<b>Time:</b>	10:35 AM
<b>Location:</b>	Along Watseka Avenue adjacent to multi-family residential use.		

<b>Noise Sources:</b>	Traffic on Watseka Avenue, people talking, cars coming in/out of parking structure across the street, construction noise, mechanical equipment at adjacent restaurant, truck idling.
-----------------------	--

<b>Results (dBA):</b>				
	<b>Leq:</b>	<b>Lmin:</b>	<b>Lmax:</b>	<b>Peak:</b>
	63.3	52.6	73.2	98.4

Equipment	
<b>Sound Level Meter:</b>	LD SoundExpert LxT
<b>Calibrator:</b>	CAL200
<b>Response Time:</b>	Slow
<b>Weighting:</b>	A
<b>Microphone Height:</b>	5 feet

Weather	
<b>Temp. (degrees F):</b>	63
<b>Wind (mph):</b>	< 5
<b>Sky:</b>	Partly Cloudy
<b>Bar. Pressure:</b>	29.94"
<b>Humidity:</b>	84%

Photo:



Kimley»Horn

# Measurement Report

## Report Summary

Meter's File Name	SCH_.002	Computer's File Name	SLM_0005586_SCH_.002.00.ldbin
Meter	LxT SE		
Firmware	2.404		
User		Location	
Description			
Note			
Start Time	2021-06-02 10:35:56	Duration	0:10:00.0
End Time	2021-06-02 10:45:56	Run Time	0:10:00.0
		Pause Time	0:00:00.0

## Results

### Overall Metrics

LA <sub>eq</sub>	63.3 dB		
LAE	91.1 dB	SEA	--- dB
EA	142.9 µPa²h		
LA <sub>peak</sub>	98.4 dB	2021-06-02 10:36:03	
LAS <sub>max</sub>	73.2 dB	2021-06-02 10:38:03	
LAS <sub>min</sub>	52.6 dB	2021-06-02 10:44:13	
LA <sub>eq</sub>	63.3 dB		
LC <sub>eq</sub>	84.0 dB	LC <sub>eq</sub> - LA <sub>eq</sub>	20.6 dB
LAI <sub>eq</sub>	65.5 dB	LAI <sub>eq</sub> - LA <sub>eq</sub>	2.1 dB

### Exceedances

	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 135.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 137.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 140.0 dB	0	0:00:00.0

### Community Noise

LDN	LDay	LNight	
63.3 dB	63.3 dB	0.0 dB	
LDEN	LDay	LEve	LNight
63.3 dB	63.3 dB	--- dB	--- dB

### Any Data

Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L <sub>eq</sub>	63.3 dB		84.0 dB		--- dB	
LS <sub>(max)</sub>	73.2 dB	2021-06-02 10:38:03	--- dB		--- dB	
LS <sub>(min)</sub>	52.6 dB	2021-06-02 10:44:13	--- dB		--- dB	
L <sub>Peak(max)</sub>	98.4 dB	2021-06-02 10:36:03	--- dB		--- dB	

### Overloads

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

### Statistics

LAS 5.0	69.4 dB
LAS 10.0	69.0 dB
LAS 33.3	59.3 dB
LAS 50.0	57.1 dB
LAS 66.6	56.0 dB
LAS 90.0	54.3 dB

Time History



**Noise Measurement Field Data**

<b>Project:</b>	Southern California Hospital - Culver City ED Relocation	<b>Job Number:</b>	99131012
<b>Site No.:</b>	ST-3	<b>Date:</b>	6/2/2021
<b>Analyst:</b>	Ryan Chiene & Ace Malisos	<b>Time:</b>	10:50 AM
<b>Location:</b>	Along Hughes Avenue adjacent to mixed-use residential development.		

**Noise Sources:** Traffic on Washington Blvd and Hughes Avenue, cars coming in/out of parking structure, van loading and idling across street, people talking and walking by.

**Results (dBA):**

<b>Leq:</b>	<b>Lmin:</b>	<b>Lmax:</b>	<b>Peak:</b>
66.2	53.3	87.1	107.6

**Equipment**

<b>Sound Level Meter:</b>	LD SoundExpert LxT
<b>Calibrator:</b>	CAL200
<b>Response Time:</b>	Slow
<b>Weighting:</b>	A
<b>Microphone Height:</b>	5 feet

**Weather**

<b>Temp. (degrees F):</b>	63
<b>Wind (mph):</b>	< 5
<b>Sky:</b>	Partly Cloudy
<b>Bar. Pressure:</b>	29.94"
<b>Humidity:</b>	84%

**Photo:**



**Kimley»Horn**

# Measurement Report

## Report Summary

Meter's File Name	SCH__003	Computer's File Name	SLM_0005586_SCH__003.00.ldbin
Meter	LxT SE		
Firmware	2.404		
User		Location	
Description			
Note			
Start Time	2021-06-02 10:50:46	Duration	0:10:00.0
End Time	2021-06-02 11:00:46	Run Time	0:10:00.0
		Pause Time	0:00:00.0

## Results

### Overall Metrics

LA <sub>eq</sub>	66.2 dB		
LAE	94.0 dB	SEA	--- dB
EA	279.6 µPa²h		
LA <sub>peak</sub>	107.6 dB	2021-06-02 10:57:46	
LAS <sub>max</sub>	87.1 dB	2021-06-02 10:57:03	
LAS <sub>min</sub>	53.3 dB	2021-06-02 10:58:01	
LA <sub>eq</sub>	66.2 dB		
LC <sub>eq</sub>	76.7 dB	LC <sub>eq</sub> - LA <sub>eq</sub>	10.5 dB
LAI <sub>eq</sub>	71.6 dB	LAI <sub>eq</sub> - LA <sub>eq</sub>	5.4 dB

### Exceedances

	Count	Duration
LAS > 85.0 dB	1	0:00:01.4
LAS > 115.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 135.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 137.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 140.0 dB	0	0:00:00.0

### Community Noise

LDN	LDay	LNight	
66.2 dB	66.2 dB	0.0 dB	
LDEN	LDay	LEve	LNight
66.2 dB	66.2 dB	--- dB	--- dB

### Any Data

A		C		Z	
Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L <sub>eq</sub>	66.2 dB	76.7 dB		--- dB	
LS <sub>(max)</sub>	87.1 dB 2021-06-02 10:57:03	--- dB		--- dB	
LS <sub>(min)</sub>	53.3 dB 2021-06-02 10:58:01	--- dB		--- dB	
L <sub>Peak(max)</sub>	107.6 dB 2021-06-02 10:57:46	--- dB		--- dB	

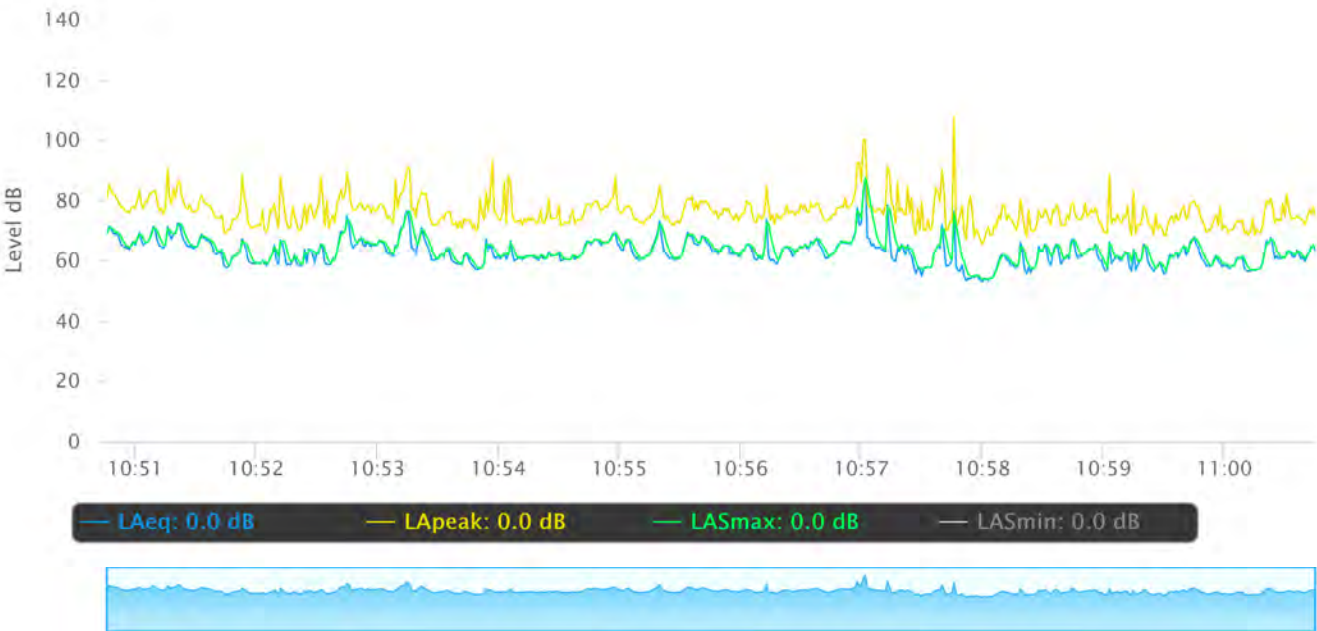
### Overloads

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

### Statistics

LAS 5.0	69.8 dB
LAS 10.0	67.9 dB
LAS 33.3	64.4 dB
LAS 50.0	62.5 dB
LAS 66.6	61.2 dB
LAS 90.0	58.4 dB

Time History





**Noise Measurement Field Data**

<b>Project:</b>	Southern California Hospital - Culver City ED Relocation	<b>Job Number:</b>	99131012
<b>Site No.:</b>	LT-1	<b>Date:</b>	6/2/2021 to 6/4/2021
<b>Analyst:</b>	Ryan Chiene & Ace Malisos	<b>Time:</b>	11:38 AM
<b>Location:</b>	Existing tree adjacent to Emergency Department at the Southern California Hospital building.		

<b>Results (dBA):</b>				
<b>Lden:</b>	<b>Leq:</b>	<b>Lmin:</b>	<b>Lmax:</b>	<b>Peak:</b>
64.9	60.0	48.5	88.2	113.6

Equipment	
<b>Sound Level Meter:</b>	LD SoundExpert LxT
<b>Calibrator:</b>	CAL200
<b>Response Time:</b>	Slow
<b>Weighting:</b>	A
<b>Microphone Height:</b>	~7 feet

Weather	
<b>Temp. (degrees F):</b>	Varies
<b>Wind (mph):</b>	< 5
<b>Sky:</b>	Partly Cloudy
<b>Bar. Pressure:</b>	29.94"
<b>Humidity:</b>	84%

**Photo:****Kimley»Horn**

# Measurement Report

## Report Summary

Meter's File Name	SCH_LT.001	Computer's File Name	SLM_0005586_SCH_LT_001.00.ldbin
Meter	LxT SE		
Firmware	2.404		
User		Location	
Description			
Note			
Start Time	2021-06-02 11:38:30	Duration	48:00:03.9
End Time	2021-06-04 11:38:33	Run Time	48:00:01.8
		Pause Time	0:00:02.1

## Results

### Overall Metrics

LA <sub>eq</sub>	60.0 dB		
LAE	112.4 dB	SEA	--- dB
EA	19.4 mPa²h		
LA <sub>peak</sub>	113.6 dB	2021-06-03 10:16:17	
LAS <sub>max</sub>	88.2 dB	2021-06-02 19:57:04	
LAS <sub>min</sub>	48.5 dB	2021-06-04 04:07:48	
LA <sub>eq</sub>	60.0 dB		
LC <sub>eq</sub>	70.2 dB	LC <sub>eq</sub> - LA <sub>eq</sub>	10.1 dB
LAI <sub>eq</sub>	62.3 dB	LAI <sub>eq</sub> - LA <sub>eq</sub>	2.3 dB

### Exceedances

	Count	Duration
LAS > 85.0 dB	6	0:00:07.3
LAS > 115.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 135.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 137.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 140.0 dB	0	0:00:00.0

### Community Noise

LDN	LDay	LNight	
62.3 dB	61.6 dB	0.0 dB	
LDEN	LDay	LEve	LNight
64.9 dB	57.6 dB	67.0 dB	53.3 dB

### Any Data

Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L <sub>eq</sub>	60.0 dB		70.2 dB		--- dB	
LS <sub>(max)</sub>	88.2 dB	2021-06-02 19:57:04	--- dB		--- dB	
LS <sub>(min)</sub>	48.5 dB	2021-06-04 04:07:48	--- dB		--- dB	
L <sub>Peak(max)</sub>	113.6 dB	2021-06-03 10:16:17	--- dB		--- dB	

### Overloads

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

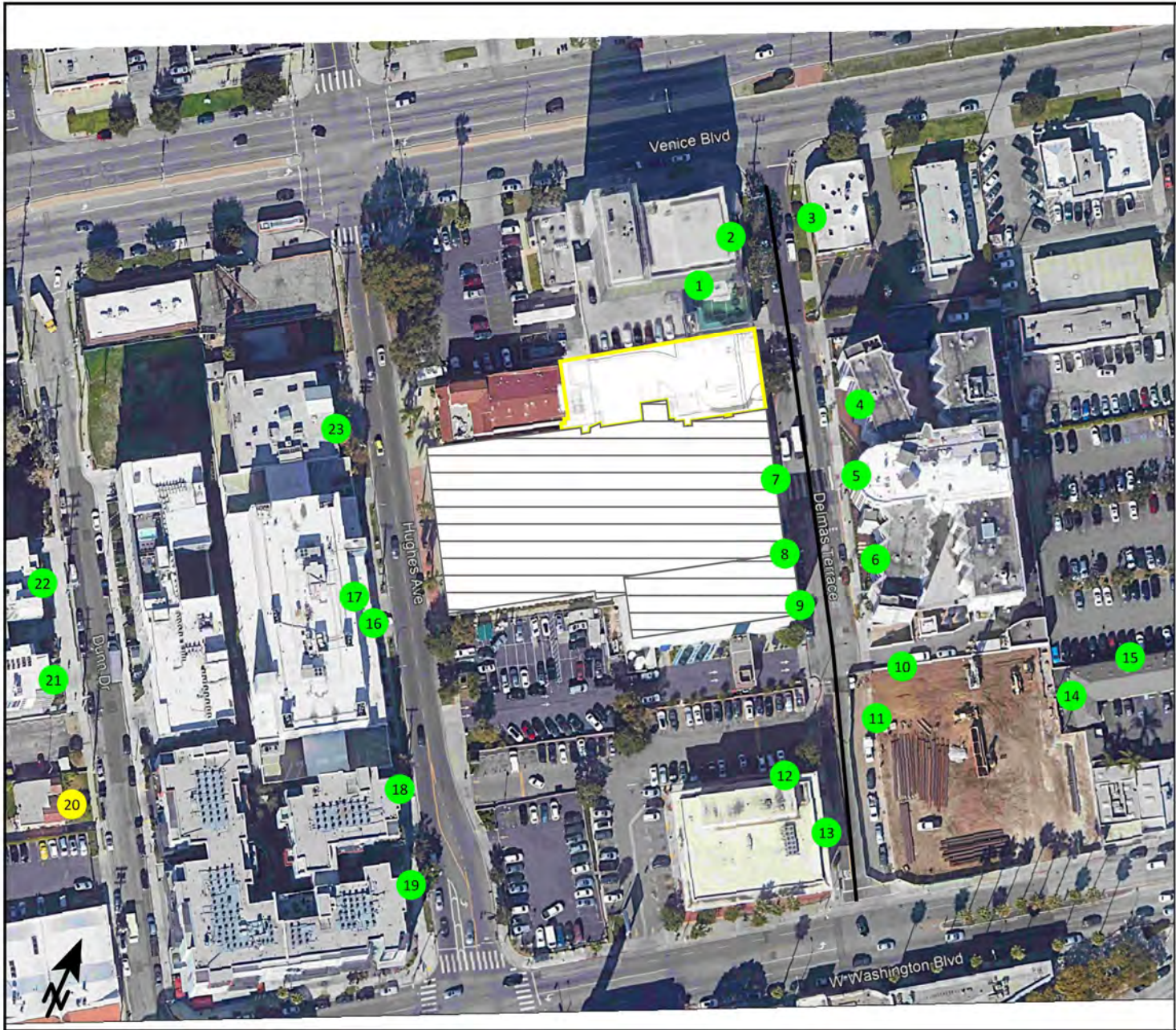
### Statistics

LAS 5.0	60.6 dB
LAS 10.0	58.4 dB
LAS 33.3	55.4 dB
LAS 50.0	54.3 dB
LAS 66.6	52.7 dB
LAS 90.0	49.8 dB

Time History







# Southern California Hospital Culver City - ER Relocation Project

## Signs and symbols

- New ED Location
- Existing Hospital Building
- Receiver
- Receiver at building
- Ambulance Line Source

1 : 1467

0 5 10 20 30 40 m

## Receiver list - Existing Ambulance

No.	Receiver name	Building side	Floor	Limit			Level w/o NP			Level w NP			Difference			Conflict		
				Day	Night	Ldn	Day	Night	Ldn	Day	Night	Ldn	Day	Night	Ldn	Day	Night	Ldn
1	1	South	1.FI	-	-	-	62.7	64.2	70.4	0.0	0.0	0.0	-62.7	-64.2	-70.4	-	-	-
			2.FI	-	-	-	65.1	66.6	72.8	0.0	0.0	0.0	-65.1	-66.6	-72.8	-	-	-
			3.FI	-	-	-	66.0	67.6	73.8	0.0	0.0	0.0	-66.0	-67.6	-73.8	-	-	-
			4.FI	-	-	-	65.9	67.5	73.7	0.0	0.0	0.0	-65.9	-67.5	-73.7	-	-	-
			5.FI	-	-	-	65.8	67.3	73.5	0.0	0.0	0.0	-65.8	-67.3	-73.5	-	-	-
2	2	North e	1.FI	-	-	-	69.9	71.5	77.7	0.0	0.0	0.0	-69.9	-71.5	-77.7	-	-	-
			2.FI	-	-	-	68.8	70.3	76.5	0.0	0.0	0.0	-68.8	-70.3	-76.5	-	-	-
			3.FI	-	-	-	68.1	69.6	75.9	0.0	0.0	0.0	-68.1	-69.6	-75.9	-	-	-
			4.FI	-	-	-	67.5	69.0	75.2	0.0	0.0	0.0	-67.5	-69.0	-75.2	-	-	-
			5.FI	-	-	-	66.9	68.4	74.6	0.0	0.0	0.0	-66.9	-68.4	-74.6	-	-	-
3	3	South	1.FI	-	-	-	71.2	72.7	78.9	0.0	0.0	0.0	-71.2	-72.7	-78.9	-	-	-
4	4	South	1.FI	-	-	-	70.8	72.3	78.5	0.0	0.0	0.0	-70.8	-72.3	-78.5	-	-	-
			2.FI	-	-	-	70.8	72.3	78.5	0.0	0.0	0.0	-70.8	-72.3	-78.5	-	-	-
			3.FI	-	-	-	70.5	72.1	78.3	0.0	0.0	0.0	-70.5	-72.1	-78.3	-	-	-
			4.FI	-	-	-	69.2	70.7	76.9	0.0	0.0	0.0	-69.2	-70.7	-76.9	-	-	-
			5.FI	-	-	-	68.7	70.3	76.5	0.0	0.0	0.0	-68.7	-70.3	-76.5	-	-	-
5	5	South	1.FI	-	-	-	72.0	73.5	79.8	0.0	0.0	0.0	-72.0	-73.5	-79.8	-	-	-
			2.FI	-	-	-	71.8	73.4	79.6	0.0	0.0	0.0	-71.8	-73.4	-79.6	-	-	-
			3.FI	-	-	-	71.4	73.0	79.2	0.0	0.0	0.0	-71.4	-73.0	-79.2	-	-	-
			4.FI	-	-	-	70.1	71.6	77.8	0.0	0.0	0.0	-70.1	-71.6	-77.8	-	-	-
			5.FI	-	-	-	69.5	71.1	77.3	0.0	0.0	0.0	-69.5	-71.1	-77.3	-	-	-
			6.FI	-	-	-	69.0	70.5	76.7	0.0	0.0	0.0	-69.0	-70.5	-76.7	-	-	-
6	6	West	1.FI	-	-	-	71.2	72.8	79.0	0.0	0.0	0.0	-71.2	-72.8	-79.0	-	-	-
			2.FI	-	-	-	71.1	72.6	78.9	0.0	0.0	0.0	-71.1	-72.6	-78.9	-	-	-
			3.FI	-	-	-	70.8	72.3	78.5	0.0	0.0	0.0	-70.8	-72.3	-78.5	-	-	-
			4.FI	-	-	-	69.8	71.3	77.6	0.0	0.0	0.0	-69.8	-71.3	-77.6	-	-	-
			5.FI	-	-	-	69.3	70.8	77.1	0.0	0.0	0.0	-69.3	-70.8	-77.1	-	-	-
7	7	North e	1.FI	-	-	-	72.9	74.4	80.7	0.0	0.0	0.0	-72.9	-74.4	-80.7	-	-	-
8	8	North v	1.FI	-	-	-	69.9	71.4	77.6	0.0	0.0	0.0	-69.9	-71.4	-77.6	-	-	-
			2.FI	-	-	-	69.3	70.8	77.0	0.0	0.0	0.0	-69.3	-70.8	-77.0	-	-	-
			3.FI	-	-	-	68.6	70.2	76.4	0.0	0.0	0.0	-68.6	-70.2	-76.4	-	-	-
			4.FI	-	-	-	68.0	69.5	75.7	0.0	0.0	0.0	-68.0	-69.5	-75.7	-	-	-
			5.FI	-	-	-	67.3	68.9	75.1	0.0	0.0	0.0	-67.3	-68.9	-75.1	-	-	-
9	9	North e	1.FI	-	-	-	73.6	75.1	81.3	0.0	0.0	0.0	-73.6	-75.1	-81.3	-	-	-
			2.FI	-	-	-	72.8	74.4	80.6	0.0	0.0	0.0	-72.8	-74.4	-80.6	-	-	-
			3.FI	-	-	-	72.0	73.5	79.8	0.0	0.0	0.0	-72.0	-73.5	-79.8	-	-	-
			4.FI	-	-	-	71.2	72.8	79.0	0.0	0.0	0.0	-71.2	-72.8	-79.0	-	-	-
			5.FI	-	-	-	70.5	72.1	78.3	0.0	0.0	0.0	-70.5	-72.1	-78.3	-	-	-
10	10	North v	1.FI	-	-	-	67.2	68.7	74.9	0.0	0.0	0.0	-67.2	-68.7	-74.9	-	-	-
			2.FI	-	-	-	67.6	69.1	75.3	0.0	0.0	0.0	-67.6	-69.1	-75.3	-	-	-
			3.FI	-	-	-	67.5	69.1	75.3	0.0	0.0	0.0	-67.5	-69.1	-75.3	-	-	-
			4.FI	-	-	-	67.5	69.0	75.3	0.0	0.0	0.0	-67.5	-69.0	-75.3	-	-	-
11	11	South	1.FI	-	-	-	72.4	73.9	80.1	0.0	0.0	0.0	-72.4	-73.9	-80.1	-	-	-
			2.FI	-	-	-	72.1	73.7	79.9	0.0	0.0	0.0	-72.1	-73.7	-79.9	-	-	-
			3.FI	-	-	-	71.6	73.2	79.4	0.0	0.0	0.0	-71.6	-73.2	-79.4	-	-	-
			4.FI	-	-	-	71.0	72.5	78.8	0.0	0.0	0.0	-71.0	-72.5	-78.8	-	-	-
12	12	North v	1.FI	-	-	-	67.3	68.9	75.1	0.0	0.0	0.0	-67.3	-68.9	-75.1	-	-	-
13	13	North e	1.FI	-	-	-	74.2	75.8	82.0	0.0	0.0	0.0	-74.2	-75.8	-82.0	-	-	-
14	14	South	1.FI	-	-	-	40.3	41.8	48.1	0.0	0.0	0.0	-40.3	-41.8	-48.1	-	-	-
			2.FI	-	-	-	40.4	42.0	48.2	0.0	0.0	0.0	-40.4	-42.0	-48.2	-	-	-
15	15	North v	1.FI	-	-	-	48.7	50.3	56.5	0.0	0.0	0.0	-48.7	-50.3	-56.5	-	-	-
			2.FI	-	-	-	49.5	51.0	57.2	0.0	0.0	0.0	-49.5	-51.0	-57.2	-	-	-
16	16	North e	1.FI	-	-	-	70.3	71.8	78.0	0.0	0.0	0.0	-70.3	-71.8	-78.0	-	-	-
			2.FI	-	-	-	70.2	71.7	77.9	0.0	0.0	0.0	-70.2	-71.7	-77.9	-	-	-
			3.FI	-	-	-	69.8	71.3	77.5	0.0	0.0	0.0	-69.8	-71.3	-77.5	-	-	-
			4.FI	-	-	-	68.8	70.3	76.6	0.0	0.0	0.0	-68.8	-70.3	-76.6	-	-	-
17	17	North e	1.FI	-	-	-	61.7	63.2	69.4	0.0	0.0	0.0	-61.7	-63.2	-69.4	-	-	-
			2.FI	-	-	-	63.6	65.1	71.4	0.0	0.0	0.0	-63.6	-65.1	-71.4	-	-	-
			3.FI	-	-	-	66.3	67.8	74.1	0.0	0.0	0.0	-66.3	-67.8	-74.1	-	-	-
18	18	North e	1.FI	-	-	-	71.6	73.2	79.4	0.0	0.0	0.0	-71.6	-73.2	-79.4	-	-	-
			2.FI	-	-	-	71.0	72.6	78.8	0.0	0.0	0.0	-71.0	-72.6	-78.8	-	-	-
			3.FI	-	-	-	70.3	71.9	78.1	0.0	0.0	0.0	-70.3	-71.9	-78.1	-	-	-
			4.FI	-	-	-	69.6	71.2	77.4	0.0	0.0	0.0	-69.6	-71.2	-77.4	-	-	-
			5.FI	-	-	-	69.0	70.5	76.7	0.0	0.0	0.0	-69.0	-70.5	-76.7	-	-	-
			6.FI	-	-	-	68.3	69.9	76.1	0.0	0.0	0.0	-68.3	-69.9	-76.1	-	-	-

## Receiver list - Existing Ambulance

No.	Receiver name	Building side	Floor	Limit			Level w/o NP			Level w NP			Difference			Conflict		
				Day	Night	Ldn	Day	Night	Ldn	Day	Night	Ldn	Day	Night	Ldn	Day	Night	Ldn
18	18	North e	7.FI	-	-	-	67.7	69.3	75.5	0.0	0.0	0.0	-67.7	-69.3	-75.5	-	-	-
19	19	North e	1.FI	-	-	-	71.1	72.7	78.9	0.0	0.0	0.0	-71.1	-72.7	-78.9	-	-	-
			2.FI	-	-	-	70.8	72.4	78.6	0.0	0.0	0.0	-70.8	-72.4	-78.6	-	-	-
			3.FI	-	-	-	70.3	71.9	78.1	0.0	0.0	0.0	-70.3	-71.9	-78.1	-	-	-
			4.FI	-	-	-	69.7	71.3	77.5	0.0	0.0	0.0	-69.7	-71.3	-77.5	-	-	-
			5.FI	-	-	-	69.1	70.6	76.8	0.0	0.0	0.0	-69.1	-70.6	-76.8	-	-	-
			6.FI	-	-	-	68.4	70.0	76.2	0.0	0.0	0.0	-68.4	-70.0	-76.2	-	-	-
			7.FI	-	-	-	67.8	69.4	75.6	0.0	0.0	0.0	-67.8	-69.4	-75.6	-	-	-
			8.FI	-	-	-	67.2	68.7	75.0	0.0	0.0	0.0	-67.2	-68.7	-75.0	-	-	-
20	20	-	1.FI	-	-	-	36.0	37.6	43.8	0.0	0.0	0.0	-36.0	-37.6	-43.8	-	-	-
21	21	North e	1.FI	-	-	-	36.2	37.8	44.0	0.0	0.0	0.0	-36.2	-37.8	-44.0	-	-	-
			2.FI	-	-	-	36.2	37.8	44.0	0.0	0.0	0.0	-36.2	-37.8	-44.0	-	-	-
			3.FI	-	-	-	36.3	37.8	44.1	0.0	0.0	0.0	-36.3	-37.8	-44.1	-	-	-
			4.FI	-	-	-	36.5	38.0	44.2	0.0	0.0	0.0	-36.5	-38.0	-44.2	-	-	-
			5.FI	-	-	-	37.0	38.5	44.8	0.0	0.0	0.0	-37.0	-38.5	-44.8	-	-	-
22	22	North e	1.FI	-	-	-	36.0	37.6	43.8	0.0	0.0	0.0	-36.0	-37.6	-43.8	-	-	-
			2.FI	-	-	-	36.0	37.6	43.8	0.0	0.0	0.0	-36.0	-37.6	-43.8	-	-	-
			3.FI	-	-	-	36.1	37.6	43.9	0.0	0.0	0.0	-36.1	-37.6	-43.9	-	-	-
			4.FI	-	-	-	36.3	37.9	44.1	0.0	0.0	0.0	-36.3	-37.9	-44.1	-	-	-
			5.FI	-	-	-	36.9	38.5	44.7	0.0	0.0	0.0	-36.9	-38.5	-44.7	-	-	-
23	23	North e	1.FI	-	-	-	68.7	70.2	76.5	0.0	0.0	0.0	-68.7	-70.2	-76.5	-	-	-
			2.FI	-	-	-	68.7	70.2	76.5	0.0	0.0	0.0	-68.7	-70.2	-76.5	-	-	-
			3.FI	-	-	-	68.3	69.9	76.1	0.0	0.0	0.0	-68.3	-69.9	-76.1	-	-	-
			4.FI	-	-	-	67.4	68.9	75.1	0.0	0.0	0.0	-67.4	-68.9	-75.1	-	-	-

## Receiver list - Proposed Ambulance

No.	Receiver name	Building side	Floor	Limit			Level w/o NP			Level w NP			Difference			Conflict		
				Day	Night	Ldn	Day	Night	Ldn	Day	Night	Ldn	Day	Night	Ldn	Day	Night	Ldn
1	1	South	1.FI	-	-	-	65.6	67.2	73.4	0.0	0.0	0.0	-65.6	-67.2	-73.4	-	-	-
			2.FI	-	-	-	66.8	68.3	74.6	0.0	0.0	0.0	-66.8	-68.3	-74.6	-	-	-
			3.FI	-	-	-	68.6	70.2	76.4	0.0	0.0	0.0	-68.6	-70.2	-76.4	-	-	-
			4.FI	-	-	-	68.4	69.9	76.1	0.0	0.0	0.0	-68.4	-69.9	-76.1	-	-	-
			5.FI	-	-	-	68.1	69.6	75.8	0.0	0.0	0.0	-68.1	-69.6	-75.8	-	-	-
2	2	North e	1.FI	-	-	-	73.1	74.7	80.9	0.0	0.0	0.0	-73.1	-74.7	-80.9	-	-	-
			2.FI	-	-	-	71.9	73.5	79.7	0.0	0.0	0.0	-71.9	-73.5	-79.7	-	-	-
			3.FI	-	-	-	71.3	72.8	79.0	0.0	0.0	0.0	-71.3	-72.8	-79.0	-	-	-
			4.FI	-	-	-	70.6	72.2	78.4	0.0	0.0	0.0	-70.6	-72.2	-78.4	-	-	-
			5.FI	-	-	-	70.0	71.5	77.8	0.0	0.0	0.0	-70.0	-71.5	-77.8	-	-	-
3	3	South	1.FI	-	-	-	74.4	76.0	82.2	0.0	0.0	0.0	-74.4	-76.0	-82.2	-	-	-
4	4	South	1.FI	-	-	-	73.1	74.7	80.9	0.0	0.0	0.0	-73.1	-74.7	-80.9	-	-	-
			2.FI	-	-	-	73.1	74.7	80.9	0.0	0.0	0.0	-73.1	-74.7	-80.9	-	-	-
			3.FI	-	-	-	72.8	74.4	80.6	0.0	0.0	0.0	-72.8	-74.4	-80.6	-	-	-
			4.FI	-	-	-	71.8	73.4	79.6	0.0	0.0	0.0	-71.8	-73.4	-79.6	-	-	-
			5.FI	-	-	-	71.4	73.0	79.2	0.0	0.0	0.0	-71.4	-73.0	-79.2	-	-	-
5	5	South	1.FI	-	-	-	74.5	76.0	82.2	0.0	0.0	0.0	-74.5	-76.0	-82.2	-	-	-
			2.FI	-	-	-	74.2	75.8	82.0	0.0	0.0	0.0	-74.2	-75.8	-82.0	-	-	-
			3.FI	-	-	-	73.8	75.4	81.6	0.0	0.0	0.0	-73.8	-75.4	-81.6	-	-	-
			4.FI	-	-	-	72.6	74.2	80.4	0.0	0.0	0.0	-72.6	-74.2	-80.4	-	-	-
			5.FI	-	-	-	72.1	73.6	79.9	0.0	0.0	0.0	-72.1	-73.6	-79.9	-	-	-
			6.FI	-	-	-	71.5	73.0	79.3	0.0	0.0	0.0	-71.5	-73.0	-79.3	-	-	-
6	6	West	1.FI	-	-	-	73.7	75.2	81.4	0.0	0.0	0.0	-73.7	-75.2	-81.4	-	-	-
			2.FI	-	-	-	73.5	75.1	81.3	0.0	0.0	0.0	-73.5	-75.1	-81.3	-	-	-
			3.FI	-	-	-	73.2	74.7	81.0	0.0	0.0	0.0	-73.2	-74.7	-81.0	-	-	-
			4.FI	-	-	-	72.3	73.8	80.0	0.0	0.0	0.0	-72.3	-73.8	-80.0	-	-	-
			5.FI	-	-	-	71.8	73.3	79.6	0.0	0.0	0.0	-71.8	-73.3	-79.6	-	-	-
7	7	North e	1.FI	-	-	-	75.5	77.0	83.3	0.0	0.0	0.0	-75.5	-77.0	-83.3	-	-	-
8	8	North v	1.FI	-	-	-	72.3	73.9	80.1	0.0	0.0	0.0	-72.3	-73.9	-80.1	-	-	-
			2.FI	-	-	-	71.7	73.3	79.5	0.0	0.0	0.0	-71.7	-73.3	-79.5	-	-	-
			3.FI	-	-	-	71.1	72.6	78.9	0.0	0.0	0.0	-71.1	-72.6	-78.9	-	-	-
			4.FI	-	-	-	70.5	72.0	78.2	0.0	0.0	0.0	-70.5	-72.0	-78.2	-	-	-
			5.FI	-	-	-	69.8	71.3	77.6	0.0	0.0	0.0	-69.8	-71.3	-77.6	-	-	-
9	9	North e	1.FI	-	-	-	76.1	77.7	83.9	0.0	0.0	0.0	-76.1	-77.7	-83.9	-	-	-
			2.FI	-	-	-	75.4	76.9	83.1	0.0	0.0	0.0	-75.4	-76.9	-83.1	-	-	-
			3.FI	-	-	-	74.5	76.1	82.3	0.0	0.0	0.0	-74.5	-76.1	-82.3	-	-	-
			4.FI	-	-	-	73.8	75.3	81.5	0.0	0.0	0.0	-73.8	-75.3	-81.5	-	-	-
			5.FI	-	-	-	73.1	74.6	80.8	0.0	0.0	0.0	-73.1	-74.6	-80.8	-	-	-
10	10	North v	1.FI	-	-	-	69.6	71.1	77.3	0.0	0.0	0.0	-69.6	-71.1	-77.3	-	-	-
			2.FI	-	-	-	70.0	71.5	77.7	0.0	0.0	0.0	-70.0	-71.5	-77.7	-	-	-
			3.FI	-	-	-	69.9	71.5	77.7	0.0	0.0	0.0	-69.9	-71.5	-77.7	-	-	-
			4.FI	-	-	-	69.8	71.3	77.6	0.0	0.0	0.0	-69.8	-71.3	-77.6	-	-	-
11	11	South	1.FI	-	-	-	74.9	76.4	82.6	0.0	0.0	0.0	-74.9	-76.4	-82.6	-	-	-
			2.FI	-	-	-	74.6	76.2	82.4	0.0	0.0	0.0	-74.6	-76.2	-82.4	-	-	-
			3.FI	-	-	-	74.1	75.6	81.9	0.0	0.0	0.0	-74.1	-75.6	-81.9	-	-	-
			4.FI	-	-	-	73.4	75.0	81.2	0.0	0.0	0.0	-73.4	-75.0	-81.2	-	-	-
12	12	North v	1.FI	-	-	-	69.7	71.3	77.5	0.0	0.0	0.0	-69.7	-71.3	-77.5	-	-	-
13	13	North e	1.FI	-	-	-	76.9	78.4	84.6	0.0	0.0	0.0	-76.9	-78.4	-84.6	-	-	-
14	14	South	1.FI	-	-	-	42.2	43.7	50.0	0.0	0.0	0.0	-42.2	-43.7	-50.0	-	-	-
			2.FI	-	-	-	42.3	43.9	50.1	0.0	0.0	0.0	-42.3	-43.9	-50.1	-	-	-
15	15	North v	1.FI	-	-	-	50.9	52.5	58.7	0.0	0.0	0.0	-50.9	-52.5	-58.7	-	-	-
			2.FI	-	-	-	51.7	53.2	59.4	0.0	0.0	0.0	-51.7	-53.2	-59.4	-	-	-
16	16	North e	1.FI	-	-	-	53.8	55.3	61.5	0.0	0.0	0.0	-53.8	-55.3	-61.5	-	-	-
			2.FI	-	-	-	55.6	57.2	63.4	0.0	0.0	0.0	-55.6	-57.2	-63.4	-	-	-
			3.FI	-	-	-	56.3	57.8	64.0	0.0	0.0	0.0	-56.3	-57.8	-64.0	-	-	-
			4.FI	-	-	-	56.8	58.3	64.5	0.0	0.0	0.0	-56.8	-58.3	-64.5	-	-	-
17	17	North e	1.FI	-	-	-	57.0	58.5	64.7	0.0	0.0	0.0	-57.0	-58.5	-64.7	-	-	-
			2.FI	-	-	-	57.7	59.2	65.4	0.0	0.0	0.0	-57.7	-59.2	-65.4	-	-	-
			3.FI	-	-	-	58.0	59.5	65.8	0.0	0.0	0.0	-58.0	-59.5	-65.8	-	-	-
18	18	North e	1.FI	-	-	-	55.0	56.6	62.8	0.0	0.0	0.0	-55.0	-56.6	-62.8	-	-	-
			2.FI	-	-	-	55.6	57.2	63.4	0.0	0.0	0.0	-55.6	-57.2	-63.4	-	-	-
			3.FI	-	-	-	55.9	57.5	63.7	0.0	0.0	0.0	-55.9	-57.5	-63.7	-	-	-
			4.FI	-	-	-	56.5	58.0	64.2	0.0	0.0	0.0	-56.5	-58.0	-64.2	-	-	-
			5.FI	-	-	-	56.9	58.4	64.6	0.0	0.0	0.0	-56.9	-58.4	-64.6	-	-	-
			6.FI	-	-	-	57.3	58.9	65.1	0.0	0.0	0.0	-57.3	-58.9	-65.1	-	-	-



## Receiver list - Proposed Ambulance

No.	Receiver name	Building side	Floor	Limit			Level w/o NP			Level w NP			Difference			Conflict		
				Day	Night	Ldn	Day	Night	Ldn	Day	Night	Ldn	Day	Night	Ldn	Day	Night	Ldn
18	18	North e	7.FI	-	-	-	57.7	59.3	65.5	0.0	0.0	0.0	-57.7	-59.3	-65.5	-	-	-
19	19	North e	1.FI	-	-	-	53.5	55.1	61.3	0.0	0.0	0.0	-53.5	-55.1	-61.3	-	-	-
			2.FI	-	-	-	54.2	55.8	62.0	0.0	0.0	0.0	-54.2	-55.8	-62.0	-	-	-
			3.FI	-	-	-	54.7	56.3	62.5	0.0	0.0	0.0	-54.7	-56.3	-62.5	-	-	-
			4.FI	-	-	-	55.1	56.6	62.9	0.0	0.0	0.0	-55.1	-56.6	-62.9	-	-	-
			5.FI	-	-	-	55.7	57.2	63.4	0.0	0.0	0.0	-55.7	-57.2	-63.4	-	-	-
			6.FI	-	-	-	56.2	57.7	63.9	0.0	0.0	0.0	-56.2	-57.7	-63.9	-	-	-
			7.FI	-	-	-	56.6	58.1	64.4	0.0	0.0	0.0	-56.6	-58.1	-64.4	-	-	-
			8.FI	-	-	-	57.0	58.6	64.8	0.0	0.0	0.0	-57.0	-58.6	-64.8	-	-	-
20	20	-	1.FI	-	-	-	33.7	35.3	41.5	0.0	0.0	0.0	-33.7	-35.3	-41.5	-	-	-
21	21	North e	1.FI	-	-	-	33.9	35.5	41.7	0.0	0.0	0.0	-33.9	-35.5	-41.7	-	-	-
			2.FI	-	-	-	34.0	35.5	41.7	0.0	0.0	0.0	-34.0	-35.5	-41.7	-	-	-
			3.FI	-	-	-	34.0	35.5	41.7	0.0	0.0	0.0	-34.0	-35.5	-41.7	-	-	-
			4.FI	-	-	-	34.4	35.9	42.1	0.0	0.0	0.0	-34.4	-35.9	-42.1	-	-	-
			5.FI	-	-	-	35.4	37.0	43.2	0.0	0.0	0.0	-35.4	-37.0	-43.2	-	-	-
22	22	North e	1.FI	-	-	-	34.0	35.5	41.7	0.0	0.0	0.0	-34.0	-35.5	-41.7	-	-	-
			2.FI	-	-	-	34.0	35.5	41.7	0.0	0.0	0.0	-34.0	-35.5	-41.7	-	-	-
			3.FI	-	-	-	34.0	35.6	41.8	0.0	0.0	0.0	-34.0	-35.6	-41.8	-	-	-
			4.FI	-	-	-	34.6	36.1	42.4	0.0	0.0	0.0	-34.6	-36.1	-42.4	-	-	-
			5.FI	-	-	-	35.8	37.4	43.6	0.0	0.0	0.0	-35.8	-37.4	-43.6	-	-	-
23	23	North e	1.FI	-	-	-	46.1	47.7	53.9	0.0	0.0	0.0	-46.1	-47.7	-53.9	-	-	-
			2.FI	-	-	-	50.9	52.5	58.7	0.0	0.0	0.0	-50.9	-52.5	-58.7	-	-	-
			3.FI	-	-	-	53.4	55.0	61.2	0.0	0.0	0.0	-53.4	-55.0	-61.2	-	-	-
			4.FI	-	-	-	54.1	55.6	61.8	0.0	0.0	0.0	-54.1	-55.6	-61.8	-	-	-

# Receiver list - Proposed ED Parking Lot

No.	Receiver name	Building side	Floor	Limit			Level w/o NP			Level w NP			Difference			Conflict		
				Day	Night	Ldn	Day	Night	Ldn	Day	Night	Ldn	Day	Night	Ldn	Day	Night	Ldn
1	1	South	1.FI	-	-	-	40.8	37.8	44.8	0.0	0.0	0.0	-40.8	-37.8	-44.8	-	-	-
			2.FI	-	-	-	42.4	39.4	46.4	0.0	0.0	0.0	-42.4	-39.4	-46.4	-	-	-
			3.FI	-	-	-	43.2	40.2	47.2	0.0	0.0	0.0	-43.2	-40.2	-47.2	-	-	-
			4.FI	-	-	-	43.5	40.5	47.5	0.0	0.0	0.0	-43.5	-40.5	-47.5	-	-	-
			5.FI	-	-	-	43.4	40.4	47.4	0.0	0.0	0.0	-43.4	-40.4	-47.4	-	-	-
2	2	North e	1.FI	-	-	-	27.3	24.3	31.3	0.0	0.0	0.0	-27.3	-24.3	-31.3	-	-	-
			2.FI	-	-	-	28.2	25.2	32.2	0.0	0.0	0.0	-28.2	-25.2	-32.2	-	-	-
			3.FI	-	-	-	29.4	26.4	33.4	0.0	0.0	0.0	-29.4	-26.4	-33.4	-	-	-
			4.FI	-	-	-	30.1	27.1	34.1	0.0	0.0	0.0	-30.1	-27.1	-34.1	-	-	-
			5.FI	-	-	-	30.6	27.6	34.6	0.0	0.0	0.0	-30.6	-27.6	-34.6	-	-	-
3	3	South	1.FI	-	-	-	35.7	32.7	39.7	0.0	0.0	0.0	-35.7	-32.7	-39.7	-	-	-
4	4	South	1.FI	-	-	-	42.1	39.1	46.1	0.0	0.0	0.0	-42.1	-39.1	-46.1	-	-	-
			2.FI	-	-	-	42.4	39.4	46.4	0.0	0.0	0.0	-42.4	-39.4	-46.4	-	-	-
			3.FI	-	-	-	42.5	39.5	46.5	0.0	0.0	0.0	-42.5	-39.5	-46.5	-	-	-
			4.FI	-	-	-	42.4	39.4	46.4	0.0	0.0	0.0	-42.4	-39.4	-46.4	-	-	-
			5.FI	-	-	-	42.1	39.1	46.1	0.0	0.0	0.0	-42.1	-39.1	-46.1	-	-	-
5	5	South	1.FI	-	-	-	38.3	35.3	42.3	0.0	0.0	0.0	-38.3	-35.3	-42.3	-	-	-
			2.FI	-	-	-	39.1	36.1	43.1	0.0	0.0	0.0	-39.1	-36.1	-43.1	-	-	-
			3.FI	-	-	-	39.6	36.6	43.6	0.0	0.0	0.0	-39.6	-36.6	-43.6	-	-	-
			4.FI	-	-	-	39.9	36.9	43.9	0.0	0.0	0.0	-39.9	-36.9	-43.9	-	-	-
			5.FI	-	-	-	40.1	37.1	44.1	0.0	0.0	0.0	-40.1	-37.1	-44.1	-	-	-
			6.FI	-	-	-	40.2	37.2	44.2	0.0	0.0	0.0	-40.2	-37.2	-44.2	-	-	-
6	6	West	1.FI	-	-	-	33.2	30.2	37.2	0.0	0.0	0.0	-33.2	-30.2	-37.2	-	-	-
			2.FI	-	-	-	34.4	31.4	38.4	0.0	0.0	0.0	-34.4	-31.4	-38.4	-	-	-
			3.FI	-	-	-	35.1	32.1	39.1	0.0	0.0	0.0	-35.1	-32.1	-39.1	-	-	-
			4.FI	-	-	-	35.8	32.8	39.7	0.0	0.0	0.0	-35.8	-32.8	-39.7	-	-	-
			5.FI	-	-	-	36.1	33.1	40.0	0.0	0.0	0.0	-36.1	-33.1	-40.0	-	-	-
7	7	North e	1.FI	-	-	-	36.4	33.4	40.4	0.0	0.0	0.0	-36.4	-33.4	-40.4	-	-	-
8	8	North v	1.FI	-	-	-	35.8	32.8	39.8	0.0	0.0	0.0	-35.8	-32.8	-39.8	-	-	-
			2.FI	-	-	-	37.1	34.0	41.0	0.0	0.0	0.0	-37.1	-34.0	-41.0	-	-	-
			3.FI	-	-	-	38.2	35.2	42.2	0.0	0.0	0.0	-38.2	-35.2	-42.2	-	-	-
			4.FI	-	-	-	38.8	35.8	42.8	0.0	0.0	0.0	-38.8	-35.8	-42.8	-	-	-
			5.FI	-	-	-	39.3	36.3	43.3	0.0	0.0	0.0	-39.3	-36.3	-43.3	-	-	-
9	9	North e	1.FI	-	-	-	30.4	27.4	34.4	0.0	0.0	0.0	-30.4	-27.4	-34.4	-	-	-
			2.FI	-	-	-	30.9	27.9	34.9	0.0	0.0	0.0	-30.9	-27.9	-34.9	-	-	-
			3.FI	-	-	-	31.4	28.4	35.4	0.0	0.0	0.0	-31.4	-28.4	-35.4	-	-	-
			4.FI	-	-	-	31.6	28.5	35.5	0.0	0.0	0.0	-31.6	-28.5	-35.5	-	-	-
			5.FI	-	-	-	31.9	28.9	35.9	0.0	0.0	0.0	-31.9	-28.9	-35.9	-	-	-
10	10	North v	1.FI	-	-	-	26.7	23.7	30.7	0.0	0.0	0.0	-26.7	-23.7	-30.7	-	-	-
			2.FI	-	-	-	27.9	24.9	31.9	0.0	0.0	0.0	-27.9	-24.9	-31.9	-	-	-
			3.FI	-	-	-	28.9	25.9	32.8	0.0	0.0	0.0	-28.9	-25.9	-32.8	-	-	-
			4.FI	-	-	-	29.5	26.5	33.5	0.0	0.0	0.0	-29.5	-26.5	-33.5	-	-	-
11	11	South	1.FI	-	-	-	26.0	23.0	30.0	0.0	0.0	0.0	-26.0	-23.0	-30.0	-	-	-
			2.FI	-	-	-	26.7	23.7	30.7	0.0	0.0	0.0	-26.7	-23.7	-30.7	-	-	-
			3.FI	-	-	-	27.6	24.6	31.6	0.0	0.0	0.0	-27.6	-24.6	-31.6	-	-	-
			4.FI	-	-	-	28.2	25.1	32.1	0.0	0.0	0.0	-28.2	-25.1	-32.1	-	-	-
12	12	North v	1.FI	-	-	-	18.5	15.5	22.5	0.0	0.0	0.0	-18.5	-15.5	-22.5	-	-	-
13	13	North e	1.FI	-	-	-	15.7	12.7	19.7	0.0	0.0	0.0	-15.7	-12.7	-19.7	-	-	-
14	14	South	1.FI	-	-	-	12.4	9.4	16.4	0.0	0.0	0.0	-12.4	-9.4	-16.4	-	-	-
			2.FI	-	-	-	12.8	9.8	16.8	0.0	0.0	0.0	-12.8	-9.8	-16.8	-	-	-
15	15	North v	1.FI	-	-	-	13.2	10.2	17.2	0.0	0.0	0.0	-13.2	-10.2	-17.2	-	-	-
			2.FI	-	-	-	13.2	10.2	17.2	0.0	0.0	0.0	-13.2	-10.2	-17.2	-	-	-
16	16	North e	1.FI	-	-	-	23.2	20.1	27.1	0.0	0.0	0.0	-23.2	-20.1	-27.1	-	-	-
			2.FI	-	-	-	27.1	24.1	31.1	0.0	0.0	0.0	-27.1	-24.1	-31.1	-	-	-
			3.FI	-	-	-	28.1	25.1	32.1	0.0	0.0	0.0	-28.1	-25.1	-32.1	-	-	-
			4.FI	-	-	-	29.0	26.0	32.9	0.0	0.0	0.0	-29.0	-26.0	-32.9	-	-	-
17	17	North e	1.FI	-	-	-	30.5	27.4	34.4	0.0	0.0	0.0	-30.5	-27.4	-34.4	-	-	-
			2.FI	-	-	-	31.2	28.2	35.2	0.0	0.0	0.0	-31.2	-28.2	-35.2	-	-	-
			3.FI	-	-	-	31.7	28.7	35.7	0.0	0.0	0.0	-31.7	-28.7	-35.7	-	-	-
18	18	North e	1.FI	-	-	-	25.0	22.0	29.0	0.0	0.0	0.0	-25.0	-22.0	-29.0	-	-	-
			2.FI	-	-	-	25.7	22.7	29.7	0.0	0.0	0.0	-25.7	-22.7	-29.7	-	-	-
			3.FI	-	-	-	26.2	23.2	30.2	0.0	0.0	0.0	-26.2	-23.2	-30.2	-	-	-
			4.FI	-	-	-	26.7	23.7	30.7	0.0	0.0	0.0	-26.7	-23.7	-30.7	-	-	-
			5.FI	-	-	-	27.2	24.2	31.2	0.0	0.0	0.0	-27.2	-24.2	-31.2	-	-	-
			6.FI	-	-	-	27.9	24.9	31.9	0.0	0.0	0.0	-27.9	-24.9	-31.9	-	-	-

## Receiver list - Proposed ED Parking Lot

No.	Receiver name	Building side	Floor	Limit			Level w/o NP			Level w NP			Difference			Conflict		
				Day	Night	Ldn	Day	Night	Ldn	Day	Night	Ldn	Day	Night	Ldn	Day	Night	Ldn
18	18	North e	7.FI	-	-	-	28.5	25.4	32.4	0.0	0.0	0.0	-28.5	-25.4	-32.4	-	-	-
19	19	North e	1.FI	-	-	-	20.6	17.6	24.6	0.0	0.0	0.0	-20.6	-17.6	-24.6	-	-	-
			2.FI	-	-	-	23.4	20.4	27.4	0.0	0.0	0.0	-23.4	-20.4	-27.4	-	-	-
			3.FI	-	-	-	24.0	21.0	28.0	0.0	0.0	0.0	-24.0	-21.0	-28.0	-	-	-
			4.FI	-	-	-	24.6	21.5	28.5	0.0	0.0	0.0	-24.6	-21.5	-28.5	-	-	-
			5.FI	-	-	-	25.0	22.0	29.0	0.0	0.0	0.0	-25.0	-22.0	-29.0	-	-	-
			6.FI	-	-	-	25.5	22.5	29.4	0.0	0.0	0.0	-25.5	-22.5	-29.4	-	-	-
			7.FI	-	-	-	25.8	22.8	29.8	0.0	0.0	0.0	-25.8	-22.8	-29.8	-	-	-
			8.FI	-	-	-	26.2	23.2	30.2	0.0	0.0	0.0	-26.2	-23.2	-30.2	-	-	-
20	20	-	1.FI	-	-	-	8.6	5.6	12.6	0.0	0.0	0.0	-8.6	-5.6	-12.6	-	-	-
21	21	North e	1.FI	-	-	-	8.7	5.7	12.6	0.0	0.0	0.0	-8.7	-5.7	-12.6	-	-	-
			2.FI	-	-	-	8.8	5.8	12.8	0.0	0.0	0.0	-8.8	-5.8	-12.8	-	-	-
			3.FI	-	-	-	9.5	6.5	13.5	0.0	0.0	0.0	-9.5	-6.5	-13.5	-	-	-
			4.FI	-	-	-	10.2	7.2	14.2	0.0	0.0	0.0	-10.2	-7.2	-14.2	-	-	-
			5.FI	-	-	-	11.0	8.0	15.0	0.0	0.0	0.0	-11.0	-8.0	-15.0	-	-	-
22	22	North e	1.FI	-	-	-	9.4	6.4	13.4	0.0	0.0	0.0	-9.4	-6.4	-13.4	-	-	-
			2.FI	-	-	-	9.5	6.5	13.4	0.0	0.0	0.0	-9.5	-6.5	-13.4	-	-	-
			3.FI	-	-	-	10.3	7.3	14.3	0.0	0.0	0.0	-10.3	-7.3	-14.3	-	-	-
			4.FI	-	-	-	11.0	8.0	15.0	0.0	0.0	0.0	-11.0	-8.0	-15.0	-	-	-
			5.FI	-	-	-	11.9	8.9	15.9	0.0	0.0	0.0	-11.9	-8.9	-15.9	-	-	-
23	23	North e	1.FI	-	-	-	24.3	21.3	28.3	0.0	0.0	0.0	-24.3	-21.3	-28.3	-	-	-
			2.FI	-	-	-	25.2	22.2	29.2	0.0	0.0	0.0	-25.2	-22.2	-29.2	-	-	-
			3.FI	-	-	-	28.3	25.3	32.3	0.0	0.0	0.0	-28.3	-25.3	-32.3	-	-	-
			4.FI	-	-	-	29.9	26.9	33.9	0.0	0.0	0.0	-29.9	-26.9	-33.9	-	-	-

## Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 8/5/2021  
Case Description: 01 Demolition

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)													
		Daytime	Evening	Night											
North	Residential	55	50	45											
		Equipment													
Description	Impact Device	Usage(%)	Spec Lmax	Actual Lmax	Receptor Distance	Estimated Shielding									
			(dBA)	(dBA)	(feet)	(dBA)									
Dozer	No		40		81.7	95	0								
Concrete Saw	No		20		89.6	95	0								
Tractor	No		40	84		95	0								
		Results													
		Calculated (dBA)		Noise Limits (dBA)				Noise Limit Exceedance (dBA)							
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer		76.1		72.1	N/A	N/A		N/A		N/A		N/A		N/A	
Concrete Saw		84		77	N/A	N/A		N/A		N/A		N/A		N/A	
Tractor		78.4		74.4	N/A	N/A		N/A		N/A		N/A		N/A	
	Total	84		79.7	N/A	N/A		N/A		N/A		N/A		N/A	
		*Calculated Lmax is the Loudest value.													

---- Receptor #2 ----

Description	Land Use	Baselines (dBA)											
		Daytime	Evening	Night									
Northeast	Residential	55	50	45									
Description		Equipment											
		Impact		Spec	Actual	Receptor	Estimated						
		Device	Usage(%)	Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)						
Dozer		No	40		81.7	230	0						
Concrete Saw		No	20		89.6	230	0						
Tractor		No	40	84		230	0						
		Results											
		Calculated (dBA)		Noise Limits (dBA)			Noise Limit Exceedance (dBA)						
				Day		Evening	Night	Day	Evening	Night			
		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq		
Equipment													
Dozer		68.4	64.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw		76.3	69.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor		70.7	66.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	76.3	72.1	N/A	N/A	N/A	N/A	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	45										
West	Residential	55	50	45											
Description	Impact Device	Usage(%)	Equipment				Estimated Shielding (dBA)								
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)										
Dozer	No		40		81.7	280	0								
Concrete Saw	No		20		89.6	280	0								
Tractor	No		40	84		280	0								
Equipment	Results														
	Calculated (dBA)			Noise Limits (dBA)				Noise Limit Exceedance (dBA)							
				Day		Evening		Night		Day		Evening		Night	
	*Lmax	Leq		Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer	66.7		62.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	74.6		67.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	69		65.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	74.6		70.4	N/A	N/A	N/A	N/A	N/A	N/A	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 date: 8/5/2021  
Case Description: 02 Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
North	Residential	55	50	45

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Crane	No	16		80.6	95	0
All Other Equipment > 5 HP	No	50		85	95	0
Tractor	No	40		84	95	0

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Crane	75		67	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 HP	79.4		76.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	78.4		74.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	79.4		78.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

\*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Northeast	Residential	55	50	45

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Crane	No	16		80.6	230	0
All Other Equipment > 5 HP	No	50		85	230	0
Tractor	No	40		84	230	0

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Crane	67.3		59.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 HP	71.7		68.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	70.7		66.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	71.7		71.2	N/A	N/A	N/A	N/A	N/A	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
West	Residential	55	50	45

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec	Actual		
			Lmax (dBA)	Lmax (dBA)		
Crane	No	16		80.6	280	0
All Other Equipment > 5 HP	No	50	85		280	0
Tractor	No	40	84		280	0

		Results																
		Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)							
		*Lmax	Leq	Day	Leq	Evening		Lmax	Leq	Night	Lmax	Leq	Day		Evening		Night	
Lmax	Leq			Lmax		Leq	Lmax			Leq			Lmax	Leq	Lmax	Leq		
Equipment																		
Crane		65.6	57.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 HP		70	67	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor		69	65.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	70	69.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	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 date: 8/5/2021  
Case Description: 03 Paving

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
North	Residential	55	50	45

Description	Impact Device	Usage(%)	Equipment Spec		Receptor Distance (feet)	Estimated Shielding (dBA)
			Lmax (dBA)	Actual Lmax (dBA)		
Paver	No	50		77.2	95	0
Front End Loader	No	40		79.1	95	0
Front End Loader	No	40		79.1	95	0
Roller	No	20		80	95	0
Tractor	No	40	84		95	0

Results

Equipment	Calculated (dBA)			Noise Limits (dBA)				Noise Limit Exceedance (dBA)						
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Paver	71.6	68.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	73.5	69.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	73.5	69.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	74.4	67.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	78.4	74.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	78.4	77.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

\*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Northeast	Residential	55	50	45

Description	Impact Device	Usage(%)	Equipment Spec		Receptor Distance (feet)	Estimated Shielding (dBA)
			Lmax (dBA)	Actual Lmax (dBA)		
Paver	No	50		77.2	230	0
Front End Loader	No	40		79.1	230	0
Front End Loader	No	40		79.1	230	0
Roller	No	20		80	230	0
Tractor	No	40	84		230	0

Results

Equipment	Calculated (dBA)			Noise Limits (dBA)				Noise Limit Exceedance (dBA)						
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Paver	64	61	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	65.9	61.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	65.9	61.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	66.7	59.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	70.7	66.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	70.7	70	N/A	N/A	N/A	N/A	N/A	N/A	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
West	Residential	55	50	45

			Equipment			
Description	Impact Device	Usage(%)	Spec	Actual	Receptor	Estimated
			Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Paver	No	50		77.2	280	0
Front End Loader	No	40		79.1	280	0
Front End Loader	No	40		79.1	280	0
Roller	No	20		80	280	0
Tractor	No	40	84		280	0

		Results												
		Calculated (dBA)			Noise Limits (dBA)				Noise Limit Exceedance (dBA)					
Equipment		*Lmax	Leq	Day	Lmax	Leq	Evening	Lmax	Leq	Night	Lmax	Leq	Evening	Night
				Lmax									Lmax	
Paver		62.3	59.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader		64.1	60.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader		64.1	60.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller		65	58	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor		69	65.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	69	68.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		*Calculated Lmax is the Loudest value.												

\*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 8/5/2021  
Case Description: 04 AC

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
North	Residential	55	50	45

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Compressor (air)	No	40		77.7	95	0

Equipment	Calculated (dBA)	Results										Noise Limit Exceedance (dBA)			
				Noise Limits (dBA)											
		*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Compressor (air)		72.1	68.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total		72.1	68.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

\*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Northeast	Residential	55	50	45

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Compressor (air)	No	40		77.7	230	0

Equipment	Calculated (dBA)	Results										Noise Limit Exceedance (dBA)			
				Noise Limits (dBA)											
		*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Compressor (air)		64.4	60.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total		64.4	60.4	N/A	N/A	N/A	N/A	N/A	N/A	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
West	Residential	55	50	45

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Compressor (air)	No	40		77.7	280	0

Equipment	Calculated (dBA)	Results										Noise Limit Exceedance (dBA)			
				Noise Limits (dBA)											
		*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Compressor (air)		62.7	58.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total		62.7	58.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

\*Calculated Lmax is the Loudest value.