APPENDIX F

NOISE ANALYSIS TECHNICAL MEMORANDUM

Kimley»Horn

MEMORANDUM

To:	Rita Garcia and James Thomas
	Kimley-Horn and Associates, Inc.
From:	Ryan Chiene, Melissa Thayer, and Heidi Rous
	Kimley-Horn and Associates, Inc.
Date:	October 27, 2022
Subject:	Project Ollie – Noise Analysis

Purpose

The purpose of this memorandum is to identify the noise impacts associated with construction and operations of the proposed Nash Street Data Center Expansion Project ("Project" or "proposed Project"), located at 444 North Nash Street in the City of El Segundo, California.

Project Location

The Project site is located in the northeast quadrant of the City of El Segundo (City), in the County of Los Angeles (County), approximately 18-miles southwest of downtown Los Angeles. It is approximately 0.5-mile south of Los Angeles International Airport (LAX). Regional access to the site is provided via the San Diego Freeway (Interstate 405) located approximately 1.0-mile to the west and Interstate 105 located approximately to the south. Additionally, Sepulveda Boulevard (Highway 1) is located approximately 0.5-mile to the east. The Project site is 0.5-acre of a larger 6.13-acre parcel site (Assessor's Parcel Number 4138-003-007) mid-way between East Mariposa Avenue on the north and East Grand Avenue on the south. The Project site is fully developed and is currently occupied by an approximately 116,756-SF data center and 70 parking spaces that include 3 ADA required spaces. On the east side of the parcel, there are three existing generators as well as a Southern California Edison (SCE) substation at the southeast corner of the parcel.

Project Description

The proposed Project would install up to seven emergency generators on concrete platforms on the property. Five of the generators would be located on the north side of the data center while two

would be on the east side adjacent to eight existing[1] generators on the property. The seven generators would include housing for mechanical equipment that would reduce noise and protect the equipment from outdoor conditions.

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.

[1] At the time this technical study was performed four generators were installed and operational and four generators were being installed, pursuant to adoption of an MND and City approval in 2013. The presence of eight generators is the defined baseline for this technical study.

Regulatory Setting

City of El Segundo General Plan

The Noise Element of the City's General Plan (1992) contains an overview of existing noise conditions in the City. Compared to other areas in Los Angeles County, the City of El Segundo is heavily affected by major sources of noise including the Los Angeles International Airport (LAX). The City is located in the 60-75 dBA noise contour of the LAX's noise contour map.[2]

City of El Segundo Municipal Code

The following sections of the El Segundo Municipal Code (ESMC) are applicable to the proposed project:

ESMC Section 7-2-1: (Declaration of Policy)

It is hereby declared to be the policy of the City to prohibit unnecessary, excessive and annoying noises and vibrations from all sources subject to its police power. Therefore, the City Council does ordain and declare that creating, maintaining, causing or allowing to be created, caused or maintained, any noise or vibration in a manner prohibited by or not in conformity with the provisions of this chapter, is a public nuisance as well as an infraction and shall be punishable as such. (Ord. 1242, 1-16-1996).

ESMC Section 7-2-4: Noise Standards

No person shall, at any location within the City, create any noise, nor shall any person allow the creation of any noise within the person's control on public or private property (hereinafter "noise source"), which causes the noise level when measured on any other property (hereinafter "receptor property"), to exceed the applicable noise standard, except as set forth in subsection C1 of this section.

A. Residential Property: Five (5) dBA above the ambient noise level.
B. Commercial and Industrial Property: Eight (8) dBA above the ambient noise level.
C. Adjustments:
    1. Increases to the noise standards as set forth in subsections A and B of this Section may be permitted in accordance with the following:

[2] City of Los Angeles, Los Angeles World Airports, *Los Angeles International Airport Noise Exposure Map Report Update*, August 2015.

Table 1: Noise Standards Adjustments	
Permitted Increase (dBA)	**Duration of Increase (minutes)***
0	30
5	15
10	5
15	1
20	Less than 1
*Cumulative minutes during any one hour	

2. *If the receptor property is located on a boundary between two (2) different noise zones, the lower noise level standard applicable to the quieter zone shall apply. (Ord. 1242, 1-16-1996).*

ESMC Section 7-2-7: Standards; Criteria:

The standards which shall be considered in determining whether a violation of the provisions of Section 7-2-6 of this Chapter exists shall include, but shall not be limited to, the following criteria:

A. *The frequency of the noise;*
B. *The intensity of the noise;*
C. *Whether the nature of the noise is usual or unusual;*
D. *The ambient noise level;*
E. *The proximity of the noise to residential sleeping facilities;*
F. *The nature and zoning of the area within which the noise emanates;*
G. *The density of the inhabitation of the area within which the noise emanates;*
H. *The time of the day or night the noise occurs;*
I. *The duration of the noise;*
J. *Whether the noise is recurrent, intermittent or constant; and*
K. *Whether the noise is produced by a commercial or noncommercial activity. (Ord. 1242, 1-16-1996)*

ESMC Section 7-2-8: Specific Prohibitions

The following acts, and the causing thereof, are declared to be in violation of this Chapter if they occur in such a manner as to disturb the peace, quiet and comfort of any reasonable person of normal sensitivity residing in the area; and occur:

A. *Between the Hours Of 10:00 P.M. And 7:00 A.M:*
   1. *Operating, playing or permitting the operation or playing of any radio, television, phonograph, drum, musical instrument, sound amplifier, or similar device which produces, reproduces or amplifies sound.*
   2. *Using or operating any loudspeaker, public address system or similar device.*

3. *Loading, unloading, opening, closing or other handling of boxes, crates, containers, building materials, garbage cans, or similar objects.*
4. *Repairing, building, rebuilding, adjusting or testing any motor vehicle.*

B. *Between The Hours Of 8:00 P.M. And 7:00 A.M:*
   1. *Refuse Collection Vehicles:*
      a. *Collection of refuse with a collection vehicle in a residential area or within five hundred feet (500') thereof;*
      b. *Operation or permitting the operation of the compacting mechanism of any motor vehicle which compacts refuse in a residential area or within five hundred feet (500') thereof.*
   2. *Loudspeakers/Public Address Systems: Using or operating for any commercial purpose any loudspeaker, public address system, or similar device on a public right of way or public space.*
   3. *Powered Model: Operating or permitting the operation of powered models. (Ord. 1242, 1-16-1996)*

ESMC Section 7-2-10: Exemptions

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

D. *Construction Noise: Between the Hours Of 10:00 P.M. And 7:00 A.M: Noise sources associated with or vibration created by construction, repair, or remodeling of any real property, provided said activities do not take place between the hours of six o'clock (6:00) P.M. and seven o'clock (7:00) A.M. Monday through Saturday, or at any time on Sunday or a Federal holiday, and provided the noise level created by such activities does not exceed the noise standard of sixty five (65) dBA plus the limits specified in subsection 7-2-4C of this Chapter as measured on the receptor residential property line and provided any vibration created does not endanger the public health, welfare and safety.*

Existing Setting

Mobile sources of noise, especially aircraft and cars, are the most common and significant sources of noise in the City. Other sources of noise are the various land uses (i.e., residential, commercial, institutional, and recreational and parks activities) throughout the City that generate stationary-source noise. The primary sources of mobile traffic noise in the Project area are generated by motor vehicles traveling on North Nash Street and East Mariposa Avenue. The LAX airport is also located to the north of the Project site and is a primary source of mobile noise. According to the *Los Angeles International Airport Noise Exposure Map Report Update* (August 2015), the Project site is located outside the 65 dBA noise contour for LAX. The primary sources of stationary noise in the project vicinity are those associated with the existing generators, vehicles, and heating, ventilation, and air conditioning (HVAC) equipment. Such noise sources include idling vehicles and machinery noise. The

noise associated with these sources may represent a single-event noise occurrence or short-term noise.

The Project site is located in a highly developed area with a variey of commercial, office, and recreational uses in the surrounding area. Noise and vibration impacts are analyzed and discussed below for the nearest uses to the Project site as shown in Table 2: Noise and Vibration Receptor Distances.

Table 2: Noise and Vibration Receptor Distances

Description	Land Use	Type of Sensitivity	Distance and Direction
United States Postal Service	Commercial	Construction Noise	50 feet north of the Project construction area.
		Operational Noise	105 feet north of the proposed generators.
Campus El Segundo Soccer Fields	Recreational	Construction Noise	475 feet north of the Project construction area.
El Segundo Aquatics Center	Recreational	Construction Noise	670 feet southeast of the Project construction area.
Commercial/office building	Commercial	Construction Vibration	150 feet east of the Project construction area.
		Construction Vibration	105 feet east of the proposed generators.

Noise Measurements

In order to quantify noise levels in the Project area, Kimley-Horn conducted three short-term ambient noise measurements on Friday, December 17, 2021, using a Larson Davis SoundExpert LxT Type I sound level meter; see Appendix A: Noise Data. The measurements were taken between 7:28 a.m. and 8:53 a.m. Meteorological conditions consisted of clear skies, cool temperatures, and low wind. The average noise levels and sources of noise measured at each location are listed in Table 3: Noise Measurements and shown on Exhibit 2: Noise Measurement Locations. In addition, two noise measurements were taken to obtain reference noise levels for the operation of the proposed emergency generators. This data was used to determine impacts from the addition of future similar generators.

Table 3: Noise Measurements

No.	Location	Date	Time	Duration	L_{eq} (dBA)	L_{min} (dBA)	L_{max} (dBA)
1	The northwest corner of the El Segundo Aquatics Center at 2240 E Grand Avenue.	12/17/2021	7:28 a.m.	10 min	65.1	58.6	74.5
2	Approximately 15 feet from Generator 1 at the Project site.	12/17/2021	8:09 a.m.	5 min	60.9	54.8	71.7
3	Approximately 15 feet from Generator 1 at the Project site (reference noise level measurement with generator running).	12/17/2021	8:16 a.m.	8 min	71.8	60.4	74.2
4	Approximately 35 feet east of the on-site generator area, along Duley Road (reference noise level measurement with generator running).	12/17/2021	8:35 a.m.	8 min	63.9	57.5	74.5
5	Approximately 35 feet east of the on-site generator area, along Duley Road.	12/17/2021	8:43 a.m.	10 min	61.2	72.9	72.9

dBA = A-weighted decibel; L_{eq} = Equivalent Noise Level; L_{min} = Minimum Noise Level; L_{max} = Maximum Noise Level
Source: Noise measurements taken by Kimley-Horn on December 17, 2021. See Appendix A for noise measurement results.

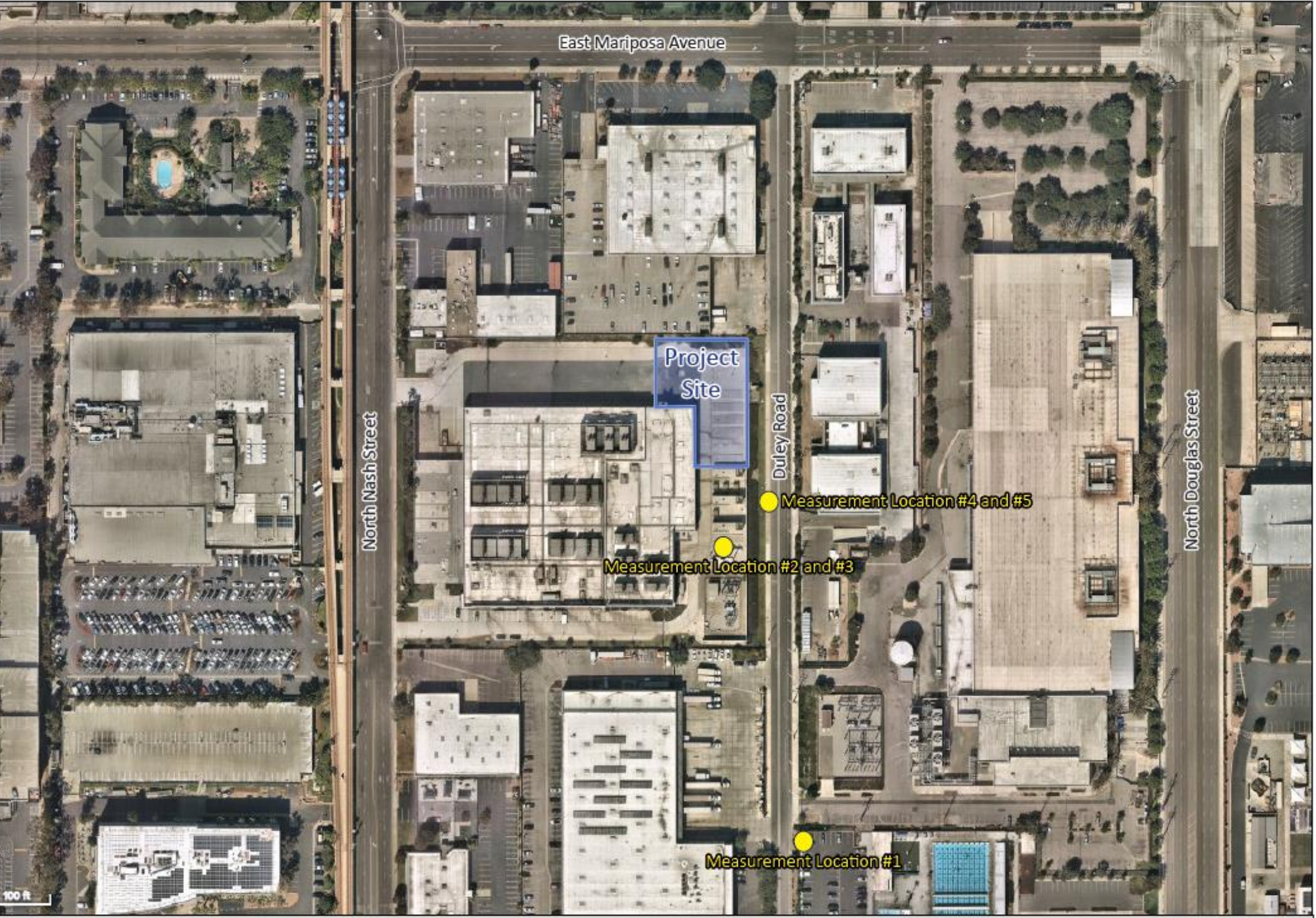

EXHIBIT 1: Noise Measurement Location Map

NOT TO SCALE

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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 sensitive receptors near the construction site. Construction activities may include demolition, trenching, geneator installation, and concrete pouring. Such activities may require concrete/industrial saws, backhoes during demolition; cranes, forklifts, generators, and tractors during gnerator installation;. 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 e quipment 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
Backhoe	80
Concrete Mixer	85
Crane, Mobile	83
Dozer	85
Generator	82
Concrete Saw	76
Truck	84

Note:
1. Calculated using the inverse square law formula for sound attenuation: $dBA_2 = dBA_1 + 20Log(d_1/d_2)$
   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, *Transit Noise and Vibration Impact Assessment Manual*, September 2018.

Following the methodology for quantitative construction noise assessments in the Federal Transit Administration's (FTA's) *Transit Noise and Vibration Impact Assessment Manual* (September 2018) (FTA Noise and Vibration Manual), the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM) was used to predict construction noise at the nearest receptors (i.e., the commercial and recreational uses located approximately 80 feet and 670 feet, respectively, from the Project construction area). Table 5: Project Construction Noise Levels shows the estimated exterior construction noise levels at the nearest sensitive receptors.

Table 5: Project Construction Noise Levels

Construction Phase	Receptor Location			Worst Case Modeled Exterior Noise Level (dBA L_{eq})[2]	Noise Threshold (dBA L_{eq})[3]	Exceeded?
	Land Use	Direction	Distance (feet)[1]			
Demolition	Commercial	North	80	79.7	85	No
	Recreational	Southeast	670	61.3	85	No
Grading	Commercial	North	80	78.6	85	No
	Recreational	Southeast	670	60.1	85	No
Building Construction	Commercial	North	80	76.7	85	No
	Recreational	Southeast	670	60.1	85	No
Paving	Commercial	North	80	72.6	85	No
	Recreational	Southeast	670	54.1	85	No

Notes:
1. Per the methodology described in the FTA Noise and Vibration Manual (September 2018), distances are measured from the nearest receptors to the center of the Project construction site.
2. Assumes a 5 dBA reduction from intervening perimeter walls along the northern and eastern property boundary.
3. The City does not have a quantitative noise threshold for construction noise for commercial uses (they have construction noise standards for residential uses only). Therefore, the construction noise thresholds from the FTA Noise and Vibration Manual (September 2018) are used for this analysis.

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

As shown in Table 5, the highest anticipated construction noise level of 79.7 dBA (during the demolition phase) would not exceed the FTA noise threshold of 85 dBA for commercial uses. In addition, compliance with ESMC Section 7-2-10(D) would further minimize impacts from construction noise, as construction would be limited to the hours of 7:00 a.m. to 6:00 p.m. Monday through Saturday, and is prohibited at any time on Sunday or a Federal holiday. Therefore, because Project construction noise levels would not exceed FTA noise standards and construction activities would be required to comply with ESMC provisions, noise impacts would be less than significant noise impact in this regard. Further, although construction noise levels may exceed the existing ambient levels in the area, construction would be temporary and would not result in a permanent increase in ambient noise levels in the area.

Operational Noise

Implementation of the proposed Project would create new sources of noise in the Project vicinity. The primary noise sources associated with the project that could potentially impact nearby sensitive uses include emergency generator equipment.

Stationary Noise from Generators

The primary noise sources associated with the Project would consist of the periodic testing of seven new generators, of which five generators (3516C, 2,500 kW) would be located on the north side of the building and two generators (C-32, 1,250 kW) would be positioned on the east side of the building adjacent to eight existing generators on the property. The seven proposed generators would include housing for mechanical equipment that would reduce noise and protect the equipment from outdoor conditions. The generators shall normally be operated only during staff training and equipment maintenance/testing (between the hours of 7:00 a.m. and 10:00 p.m.) and would not operate on a constant basis. In addition, it is noted that during periodic generator maintenance/testing would occur sequentially (one at a time), so that no more than one generator is tested at a time; see Project Design Feature 1 (PDF-1).

Based on the reference noise levels obtained by Kimley-Horn on December 17, 2021, one generator would produce noise levels up to 63.9 dBA L_{eq} at 35 feet (see Table 3) with attenuation from the perimeter wall. The nearest off-site property is a United States Post Service (USPS) facility located approximately 50 feet to the north of the proposed generators at the Project site. Noise has a decay rate due to distance attenuation, which is calculated based on the Inverse Square Law of sound propagation. Based upon the Inverse Square Law, sound levels decrease by 6 dBA for each doubling of distance from the source. As a result, generator noise would attenuate to approximately 60.8 dBA L_{eq} at the nearest property to the north, which is below the existing measured ambient noise level of 61.2 dBA L_{eq} for off-site uses (see Table 3). Per ESMC Section 7-2-4(B), the noise standard for commercial and industrial properties is eight (8) dBA over the ambient noise level. Therefore, since Project-generated noise levels from periodic generator maintenance/testing (60.8 dBA L_{eq}) would not exceed the threshold of 69.2 dBA (i.e., the measured ambient noise level [61.2 dBA L_{eq}] plus 8 dBA) at the nearest off-site uses, generator noise levels from the Project would comply with the provisions of the ESMC and a less than significant impact would occur in this regard.

Project Design Features

PDF-1 As is standard operating procedures for the Applicant/operator, maintenance/testing for each individual generator will occur sequentially (one at a time) and during normal daytime hours (i.e., between 7:00 a.m. and 10:00 p.m.). Simultaneous generator maintenance/testing of two or more generators will be prohibited.

Vibration Impacts

Construction Vibration

Increases in ground-borne vibration levels attributable to the proposed project would be primarily associated with short-term construction-related activities. Construction on the Project site would

have the potential to result in varying degrees of temporary ground-borne vibration, depending on the specific construction equipment used and the operations involved.

The FTA has published standard vibration velocities for construction equipment operations. In general, the FTA architectural damage criterion for continuous vibrations (i.e., 0.2 in/sec) appears to be conservative. The types of construction vibration impacts include human annoyance and building damage. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. Building damage can be cosmetic or structural. Ordinary buildings that are not particularly fragile would not experience any cosmetic damage (e.g., plaster cracks) at distances beyond 30 feet. This distance can vary substantially depending on the soil composition and underground geological layer between vibration source and receiver. In addition, not all buildings respond similarly to vibration generated by construction equipment. For example, for a building that is constructed with reinforced concrete with no plaster, the FTA guidelines show that a vibration level of up to 0.20 in/sec is considered safe and would not result in any construction vibration damage. This analysis uses the FTA architectural damage criterion for continuous vibrations at non-engineered timber and masonry buildings of 0.2 inch-per-second peak particle velocity (PPV) and human annoyance criterion of 0.4 inch-per-second PPV in accordance with Caltrans guidance[3] to evaluate potential construction vibration impacts.

Table 6: Typical Construction Equipment Vibration Levels, lists vibration levels at 25 feet for typical construction equipment. The nearest off-site building/structure is the industrial building located approximately 150 feet to the east of the Project construction area. Groundborne vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. As indicated in Table 6, based on FTA data, vibration velocities from typical heavy construction equipment operations that would be used during project construction range from 0.003 to 0.089 in/sec PPV at 25 feet from the source of activity.

Table 6: Typical Construction Equipment Vibration Levels

Equipment	Peak Particle Velocity at 25 Feet (in/sec)	Peak Particle Velocity at 150 Feet (in/sec)
Large Bulldozer	0.089	0.0061
Loaded Trucks	0.076	0.0052
Jackhammer	0.035	0.0024
Small Bulldozer/Tractors	0.003	0.0002

Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, 2018.

[3] California Department of Transportation, *Transportation and Construction Vibration Guidance Manual, Table 20*, September 2013.

As shown in Table 6, at 150 feet the vibration velocities from construction equipment would not exceed 0.12 in/sec PPV, which is below the FTA's 0.20 in/sec PPV threshold for building damage and Caltrans' 0.4 in/sec PPV threshold for human annoyance. It is also acknowledged that construction activities would occur throughout the Project site and would not be concentrated at the point closest to the nearest off-site structures. Therefore, construction vibration impacts associated with the proposed Project would be less than significant.

Operational Vibration

Once operational, the proposed Project would include minimal vibration-generating uses or operations. The nearest off-site structures are located 105 feet from the proposed generator location(s) and would not be exposed to high vibration levels. Therefore, operational vibration impacts from the proposed Project would be less than significant.

Conclusion

Project implementation would result in less than significant short- and long-term noise and vibration impacts. No mitigation measures would be required.

References

California Department of Transportation, *Transportation and Construction Vibration Guidance Manual, Table 20*, September 2013.

City of El Segundo, *El Segundo, California Municipal Code,* current through Ordinance 1628, passed August 17, 2021.

City of El Segundo, *The City of El Segundo General Plan 1992*, adopted December 1, 1992.

City of Los Angeles, Los Angeles World Airports, *Los Angeles International Airport Noise Exposure Map Report Update*, August 2015.

Federal Highway Administration, *Roadway Construction Noise Model, 2006.*

Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, September 2018.

Appendix A

Noise Data

Noise Measurement Field Data

Project:	Project Ollie	**Job Number:**	197492001
Site No.:	1	**Date:**	12/17/2021
Analyst:	Alex Howard and Heidi Rous	**Time:**	7:28 - 7:38 AM
Location:	The northwest corner of the El Segundo Aquatics Center at 2240 E Grand Ave		
Noise Sources:	Airplanes/LAX airport, parking lot/talking at aquatic center, traffic on Duley Rd		
Comments:			

Results (dBA):

Leq:	Lmin:	Lmax:	Peak:
65.1	58.6	74.5	93.7

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

Weather	
Temp. (degrees F):	49°
Wind (mph):	< 5
Sky:	Clear
Bar. Pressure:	30.11
Humidity:	79%

Photo:

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Measurement Report

Report Summary

Meter's File Name	OLLIE.001	Computer's File Name	SLM_0005586_OLLIE_001.00.ldbin
Meter	LxT SE		
Firmware	2.404		
User	Alex Howard	Location	
Description	Project Ollie Data Center		
Note			
Start Time	2021-12-17 07:28:27	Duration	0:10:00.0
End Time	2021-12-17 07:38:27	Run Time	0:10:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	65.1 dB		
LAE	92.9 dB	SEA	--- dB
EA	216.7 µPa²h		
LA_{peak}	93.7 dB	2021-12-17 07:31:10	
LAS_{max}	74.5 dB	2021-12-17 07:31:10	
LAS_{min}	58.6 dB	2021-12-17 07:37:39	
LA_{eq}	65.1 dB		
LC_{eq}	76.3 dB	LC_{eq} - LA_{eq}	11.2 dB
LAI_{eq}	67.1 dB	LAI_{eq} - LA_{eq}	1.9 dB

Exceedances

	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
65.1 dB	65.1 dB	0.0 dB

LDEN	LDay	LEve	LNight
65.1 dB	65.1 dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	65.1 dB		76.3 dB		--- dB	
$LS_{(max)}$	74.5 dB	2021-12-17 07:31:10	--- dB		--- dB	
$LS_{(min)}$	58.6 dB	2021-12-17 07:37:39	--- dB		--- dB	
$L_{Peak(max)}$	93.7 dB	2021-12-17 07:31:10	--- dB		--- dB	

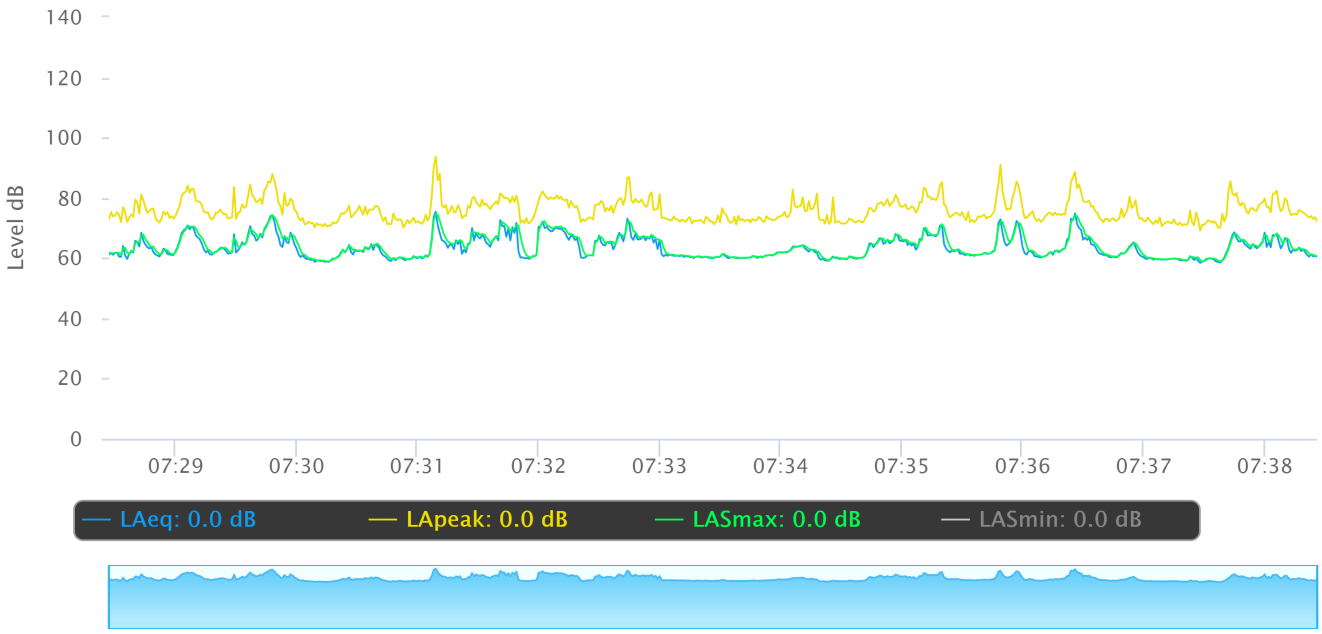
Overloads

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

Statistics

LAS 5.0	70.1 dB
LAS 10.0	68.5 dB
LAS 33.3	64.9 dB
LAS 50.0	62.7 dB
LAS 66.6	61.1 dB
LAS 90.0	59.8 dB

Time History



Noise Measurement Field Data

Project:	Project Ollie	**Job Number:**	197492001
Site No.:	2	**Date:**	12/17/2021
Analyst:	Alex Howard and Heidi Rous	**Time:**	8:09 - 8:14 AM
Location:	Onsite at 444 Nash St 15 feet from Generator 1,		
Noise Sources:	Construction adajcent to site, traffic on Duley Rd		
Comments:	Baseline (5 Minute Measurements)		

Results (dBA):

Leq:	Lmin:	Lmax:	Peak:
60.9	54.8	71.7	88.3

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

Weather	
Temp. (degrees F):	52°
Wind (mph):	< 5
Sky:	Clear
Bar. Pressure:	30.13
Humidity:	71%

Photo:

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Measurement Report

Report Summary

Meter's File Name	OLLIE.002	Computer's File Name	SLM_0005586_OLLIE_002.00.ldbin
Meter	LxT SE		
Firmware	2.404		
User	Alex Howard	Location	
Description	Project Ollie Data Center		
Note			
Start Time	2021-12-17 08:09:06	Duration	0:05:08.2
End Time	2021-12-17 08:14:14	Run Time	0:05:08.2
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	60.9 dB		
LAE	85.8 dB	SEA	--- dB
EA	42.4 µPa²h		
LA_{peak}	88.3 dB	2021-12-17 08:14:10	
LAS_{max}	71.7 dB	2021-12-17 08:09:30	
LAS_{min}	54.8 dB	2021-12-17 08:10:21	
LA_{eq}	60.9 dB		
LC_{eq}	71.9 dB	LC_{eq} - LA_{eq}	10.9 dB
LAI_{eq}	63.5 dB	LAI_{eq} - LA_{eq}	2.5 dB

Exceedances

	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
60.9 dB	60.9 dB	0.0 dB

LDEN	LDay	LEve	LNight
60.9 dB	60.9 dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	60.9 dB		71.9 dB		--- dB	
$LS_{(max)}$	71.7 dB	2021-12-17 08:09:30	--- dB		--- dB	
$LS_{(min)}$	54.8 dB	2021-12-17 08:10:21	--- dB		--- dB	
$L_{Peak(max)}$	88.3 dB	2021-12-17 08:14:10	--- dB		--- dB	

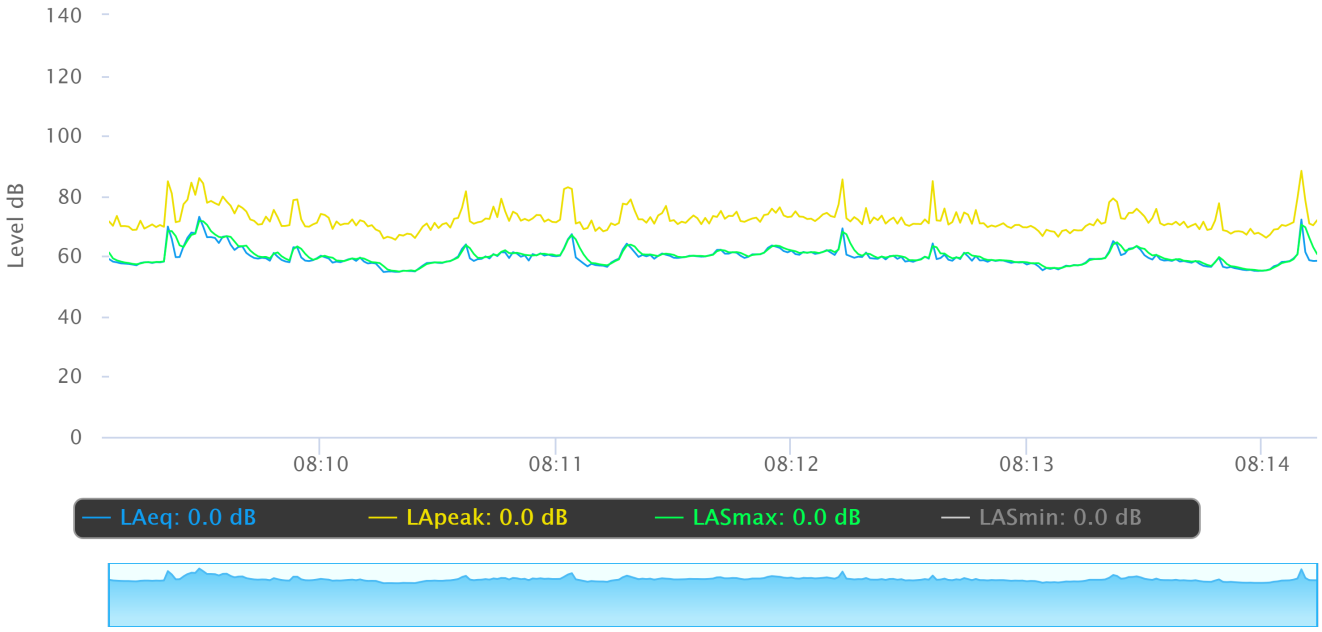
Overloads

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

Statistics

LAS 5.0	65.6 dB
LAS 10.0	63.1 dB
LAS 33.3	60.3 dB
LAS 50.0	59.5 dB
LAS 66.6	58.5 dB
LAS 90.0	56.5 dB

Time History



Noise Measurement Field Data

Project:	Project Ollie	**Job Number:**	197492001
Site No.:	3	**Date:**	12/17/2021
Analyst:	Alex Howard and Heidi Rous	**Time:**	8:16- 8:24 AM
Location:	Onsite at 444 Nash St 15 feet from Generator 1,		
Noise Sources:	Generator 1, Airplanes, Construction, Trucks		
Comments:			

Results (dBA):

Leq:	Lmin:	Lmax:	Peak:
71.8	60.4	74.2	91.7

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

Weather	
Temp. (degrees F):	53°
Wind (mph):	< 5
Sky:	Clear
Bar. Pressure:	30.13
Humidity:	71%

Photo:

Kimley»Horn

Measurement Report

Report Summary

Meter's File Name	OLLIE.003	Computer's File Name	SLM_0005586_OLLIE_003.00.ldbin
Meter	LxT SE		
Firmware	2.404		
User	Alex Howard	Location	
Description	Project Ollie Data Center		
Note			
Start Time	2021-12-17 08:16:35	Duration	0:07:46.6
End Time	2021-12-17 08:24:21	Run Time	0:07:46.6
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	71.8 dB		
LAE	98.5 dB	SEA	--- dB
EA	781.3 µPa²h		
LA_{peak}	91.7 dB	2021-12-17 08:16:36	
LAS_{max}	74.2 dB	2021-12-17 08:16:36	
LAS_{min}	60.4 dB	2021-12-17 08:24:21	
LA_{eq}	71.8 dB		
LC_{eq}	85.2 dB	LC_{eq} - LA_{eq}	13.4 dB
LAI_{eq}	72.4 dB	LAI_{eq} - LA_{eq}	0.6 dB

Exceedances

	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
71.8 dB	71.8 dB	0.0 dB

LDEN	LDay	LEve	LNight
71.8 dB	71.8 dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	71.8 dB		85.2 dB		--- dB	
$LS_{(max)}$	74.2 dB	2021-12-17 08:16:36	--- dB		--- dB	
$LS_{(min)}$	60.4 dB	2021-12-17 08:24:21	--- dB		--- dB	
$L_{Peak(max)}$	91.7 dB	2021-12-17 08:16:36	--- dB		--- dB	

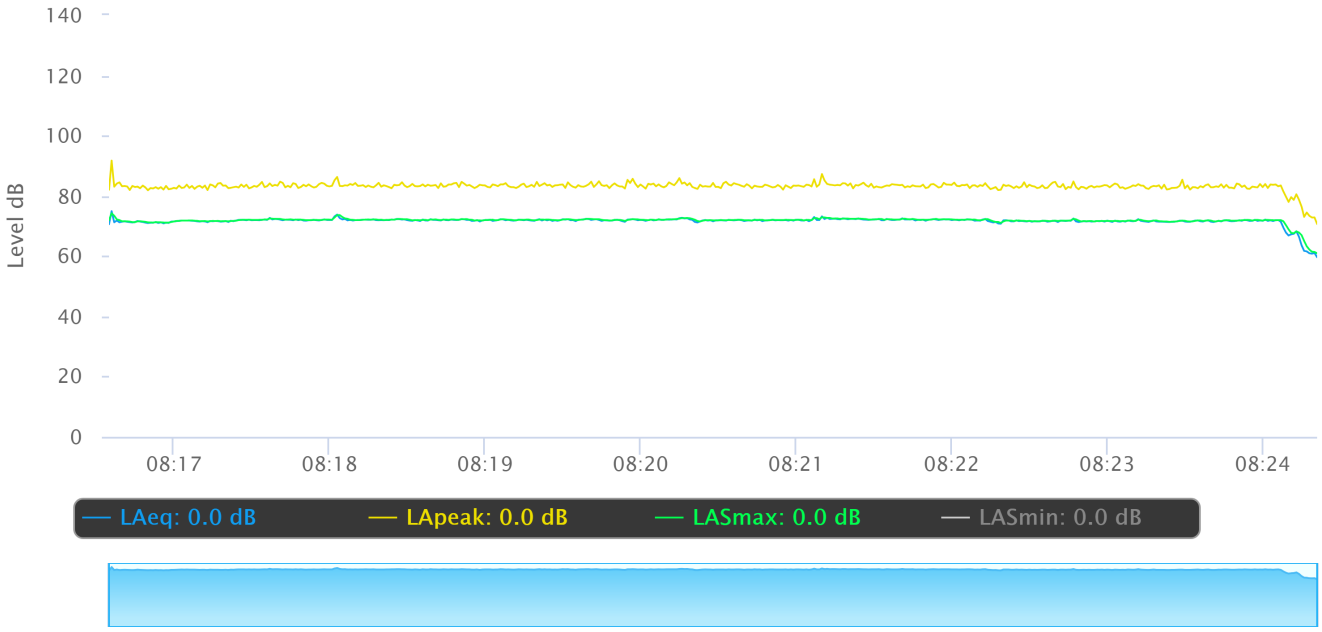
Overloads

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

Statistics

LAS 5.0	72.3 dB
LAS 10.0	72.2 dB
LAS 33.3	72.0 dB
LAS 50.0	71.9 dB
LAS 66.6	71.7 dB
LAS 90.0	71.4 dB

Time History



Noise Measurement Field Data

Project:	Project Ollie	**Job Number:**	197492001
Site No.:	4	**Date:**	12/17/2021
Analyst:	Alex Howard and Heidi Rous	**Time:**	8:35- 8:43 AM
Location:	Offsite behind Generator R1 on Duley Road.		
Noise Sources:	Generator R1, Airplanes, Construction, Trucks		
Comments:			

Results (dBA):

Leq:	Lmin:	Lmax:	Peak:
63.9	57.5	74.5	91.1

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

Weather	
Temp. (degrees F):	54°
Wind (mph):	< 5
Sky:	Clear
Bar. Pressure:	30.13
Humidity:	71%

Photo:

Kimley»Horn

Measurement Report

Report Summary

Meter's File Name	OLLIE.004	Computer's File Name	SLM_0005586_OLLIE_004.00.ldbin
Meter	LxT SE		
Firmware	2.404		
User	Alex Howard	Location	
Description	Project Ollie Data Center		
Note			
Start Time	2021-12-17 08:35:17	Duration	0:07:56.6
End Time	2021-12-17 08:43:14	Run Time	0:07:56.6
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	63.9 dB		
LAE	90.7 dB	SEA	--- dB
EA	129.2 µPa²h		
LA_{peak}	91.1 dB	2021-12-17 08:36:27	
LAS_{max}	74.5 dB	2021-12-17 08:41:23	
LAS_{min}	57.5 dB	2021-12-17 08:43:11	
LA_{eq}	63.9 dB		
LC_{eq}	77.5 dB	LC_{eq} - LA_{eq}	13.6 dB
LAI_{eq}	64.9 dB	LAI_{eq} - LA_{eq}	1.0 dB

Exceedances

	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
63.9 dB	63.9 dB	0.0 dB

LDEN	LDay	LEve	LNight
63.9 dB	63.9 dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	63.9 dB		77.5 dB		--- dB	
$LS_{(max)}$	74.5 dB	2021-12-17 08:41:23	--- dB		--- dB	
$LS_{(min)}$	57.5 dB	2021-12-17 08:43:11	--- dB		--- dB	
$L_{Peak(max)}$	91.1 dB	2021-12-17 08:36:27	--- dB		--- dB	

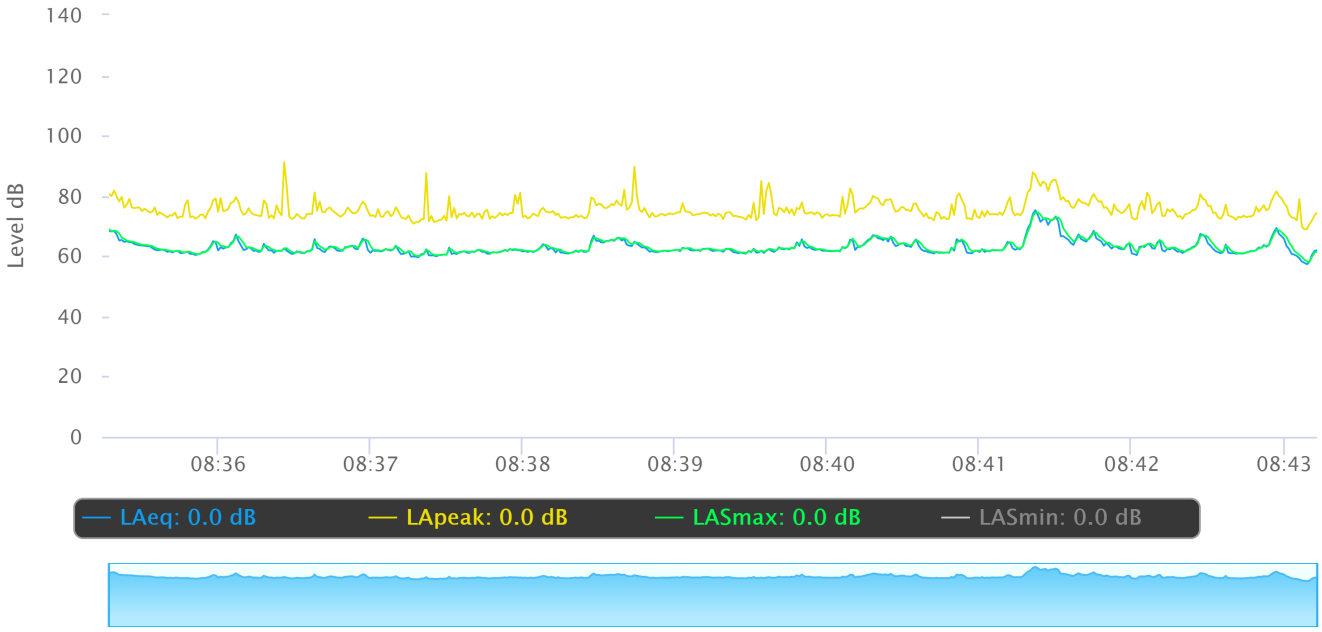
Overloads

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

Statistics

LAS 5.0	67.2 dB
LAS 10.0	65.7 dB
LAS 33.3	63.1 dB
LAS 50.0	62.2 dB
LAS 66.6	61.7 dB
LAS 90.0	61.1 dB

Time History



Noise Measurement Field Data

Project:	Project Ollie	**Job Number:**	197492001
Site No.:	5	**Date:**	12/17/2021
Analyst:	Alex Howard and Heidi Rous	**Time:**	8:43- 8:53 AM
Location:	Offsite behind Generator R1 on Duley Road.		
Noise Sources:	Airplanes, Construction, Trucks on Duley Road		
Comments:	Baseline		

Results (dBA):

Leq:	Lmin:	Lmax:	Peak:
61.2	54.1	72.9	100.5

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

Weather	
Temp. (degrees F):	54°
Wind (mph):	< 5
Sky:	Clear
Bar. Pressure:	30.13
Humidity:	71%

Photo:

Kimley»Horn

Measurement Report

Report Summary

Meter's File Name	OLLIE.005	Computer's File Name	SLM_0005586_OLLIE_005.00.ldbin
Meter	LxT SE		
Firmware	2.404		
User	Alex Howard	Location	
Description	Project Ollie Data Center		
Note			
Start Time	2021-12-17 08:43:41	Duration	0:10:00.0
End Time	2021-12-17 08:53:41	Run Time	0:10:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	61.2 dB		
LAE	89.0 dB	SEA	--- dB
EA	87.5 µPa²h		
LA_{peak}	100.5 dB	2021-12-17 08:47:24	
LAS_{max}	72.9 dB	2021-12-17 08:48:10	
LAS_{min}	54.1 dB	2021-12-17 08:51:51	
LA_{eq}	61.2 dB		
LC_{eq}	72.3 dB	LC_{eq} - LA_{eq}	11.1 dB
LAI_{eq}	64.0 dB	LAI_{eq} - LA_{eq}	2.9 dB

Exceedances	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	61.2 dB	61.2 dB	0.0 dB

	LDEN	LDay	LEve	LNight
	61.2 dB	61.2 dB	--- dB	--- dB

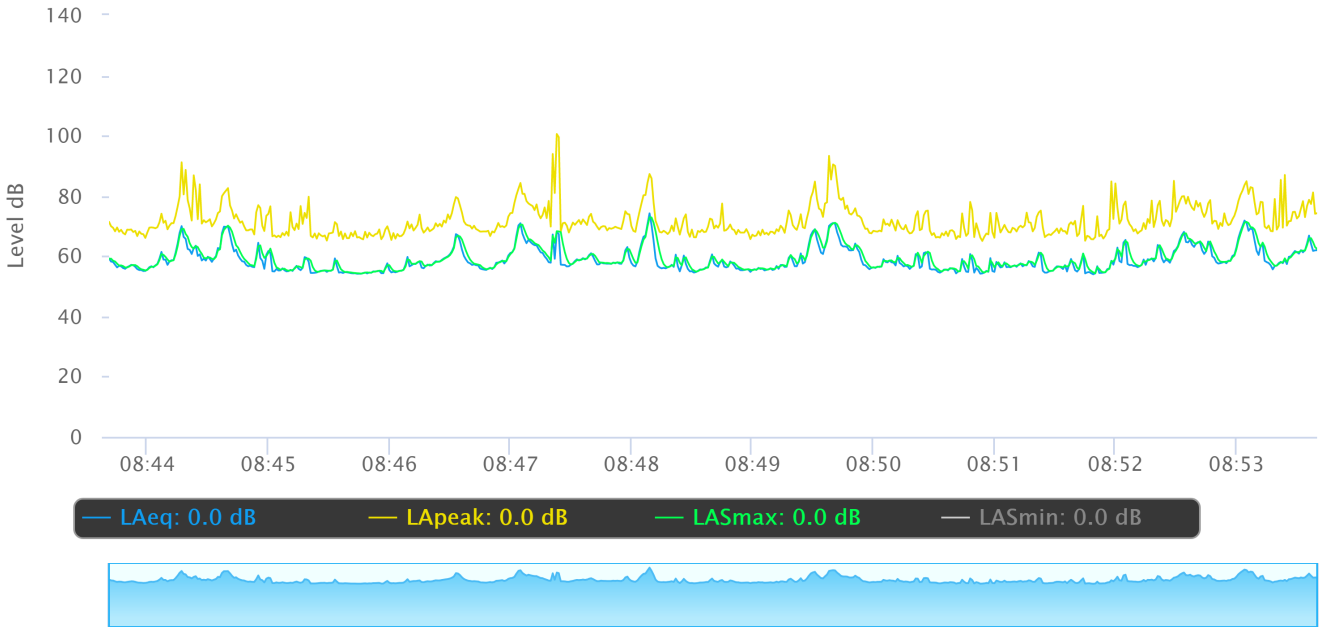
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	61.2 dB		72.3 dB		--- dB	
$LS_{(max)}$	72.9 dB	2021-12-17 08:48:10	--- dB		--- dB	
$LS_{(min)}$	54.1 dB	2021-12-17 08:51:51	--- dB		--- dB	
$L_{Peak(max)}$	100.5 dB	2021-12-17 08:47:24	--- dB		--- dB	

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

Statistics

LAS 5.0	67.1 dB
LAS 10.0	64.7 dB
LAS 33.3	59.1 dB
LAS 50.0	57.8 dB
LAS 66.6	56.7 dB
LAS 90.0	55.1 dB

Time History



Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 04/27/2022
Case Description: Demolition

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Commercial - N	Commercial	1.0	1.0	1.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	80.0	0.0
Dozer	No	40		81.7	80.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Night	Day	Calculated (dBA) Evening	Night	Day Evening	Night
Equipment	Lmax Leq	Lmax Leq	Lmax Leq	Lmax Leq	Lmax Leq	Lmax Leq
Concrete Saw	85.5 78.5	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A
Dozer	77.6 73.6	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A
Total	85.5 79.7	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A

**** Receptor #2 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Hotel - NW	Commercial	1.0	1.0	1.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	640.0	0.0
Dozer	No	40		81.7	640.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Saw	67.4	60.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	59.5	55.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	67.4	61.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #3 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Recreational - SE	Commercial	1.0	1.0	1.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	670.0	0.0
Dozer	No	40		81.7	670.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Concrete Saw	67.0	60.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	59.1	55.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	67.0	61.3	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 date: 04/27/2022
Case Description: Grading

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Commercial - N	Commercial	1.0	1.0	1.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85.0		80.0	0.0
Dozer	No	40		81.7	80.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Night	Day	Calculated (dBA) Evening	Night	Day Evening	Night
Equipment		Lmax Leq	Lmax Leq	Lmax Leq	Lmax Leq
Grader		80.9 76.9	N/A N/A	N/A N/A	N/A N/A
Dozer		77.6 73.6	N/A N/A	N/A N/A	N/A N/A
	Total	80.9 78.6	N/A N/A	N/A N/A	N/A N/A

**** Receptor #2 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Hotel - NW	Commercial	1.0	1.0	1.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85.0		640.0	0.0
Dozer	No	40		81.7	640.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Grader	62.9	58.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	59.5	55.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	62.9	60.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #3 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Recreational - SE	Commercial	1.0	1.0	1.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85.0		670.0	0.0
Dozer	No	40		81.7	670.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Grader	62.5	58.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	59.1	55.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	62.5	60.1	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 date: 04/27/2022
Case Description: Grading

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Commercial - N	Commercial	1.0	1.0	1.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85.0		80.0	0.0
Dozer	No	40		81.7	80.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Night	Day	Calculated (dBA) Evening	Night	Day Evening	Night
Equipment		Lmax Leq	Lmax Leq	Lmax Leq	Lmax Leq
Grader		80.9 76.9	N/A N/A	N/A N/A	N/A N/A
Dozer		77.6 73.6	N/A N/A	N/A N/A	N/A N/A
	Total	80.9 78.6	N/A N/A	N/A N/A	N/A N/A

**** Receptor #2 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Hotel - NW	Commercial	1.0	1.0	1.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85.0		640.0	0.0
Dozer	No	40		81.7	640.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Grader	62.9	58.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	59.5	55.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	62.9	60.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #3 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Recreational - SE	Commercial	1.0	1.0	1.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85.0		670.0	0.0
Dozer	No	40		81.7	670.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Grader	62.5	58.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	59.1	55.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	62.5	60.1	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 date: 04/27/2022
Case Description: Paving

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Commercial - N	Commercial	1.0	1.0	1.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	80.0	0.0
Roller	No	20		80.0	80.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Night	Day	Calculated (dBA) Evening	Night	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Lmax
Equipment		Lmax Leq	Lmax Leq	Lmax Leq	Lmax Leq					
Paver		73.1 70.1		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
Roller		75.9 68.9		N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A
	Total	75.9 72.6		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

**** Receptor #2 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Hotel - NW	Commercial	1.0	1.0	1.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	640.0	0.0
Roller	No	20		80.0	640.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Calculated (dBA)

Equipment	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Paver	55.1	52.1	N/A	N/A	N/A	N/A
Roller	57.9	50.9	N/A	N/A	N/A	N/A
Total	57.9	54.5	N/A	N/A	N/A	N/A

Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night 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

**** Receptor #3 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Recreational - SE	Commercial	1.0	1.0	1.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	670.0	0.0
Roller	No	20		80.0	670.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Paver	54.7	51.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	57.5	50.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	57.5	54.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A