Appendix C

Noise and Vibration Impact Assessment Report

Noise and Vibration Impact Assessment for the Village Christian School Modernization Project

City of Los Angeles, California

Prepared For:

Village Christian School
8930 Village Avenue
Sun Valley, CA 91352

Prepared By:

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October 2025

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LIST OF ACRONYMS AND ABBREVIATIONS

Term	Definition
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
City	City of Los Angeles
CN	Volume Adjustment
CNEL	Community Noise Equivalent Level
dB	decibels
dBA	A-weighted decibels
ECORP	ECORP Consulting, Inc.
FHWA	Federal Highway Administration
FICON	Federal Interagency Committee on Noise
FTA	Federal Transit Administration
HVAC	Heating, Ventilation, and Air Conditioning
Hz	Hertz
in/sec	inches per second
LAMC	Los Angeles Municipal Code
L_{dn}	Day-Night Average Noise Level
L_{eq}	Equivalent Noise Level
L_{max}	the maximum A-weighted noise level during the measurement period
L_{min}	the minimum A-weighted noise level during the measurement period
N/A	Not Applicable
N_A	average number of automobiles per hour
N_B	average number of buses per hour
PPV	Peak Particle Velocity
Project	Village Christian School Modernization Project
RMS	Root Mean Square
SEL	Sound Exposure Level
SELref	Reference Sound Exposure Level
STC	Sound Transmission Class
VdB	Vibration Velocity Level

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1.0 INTRODUCTION

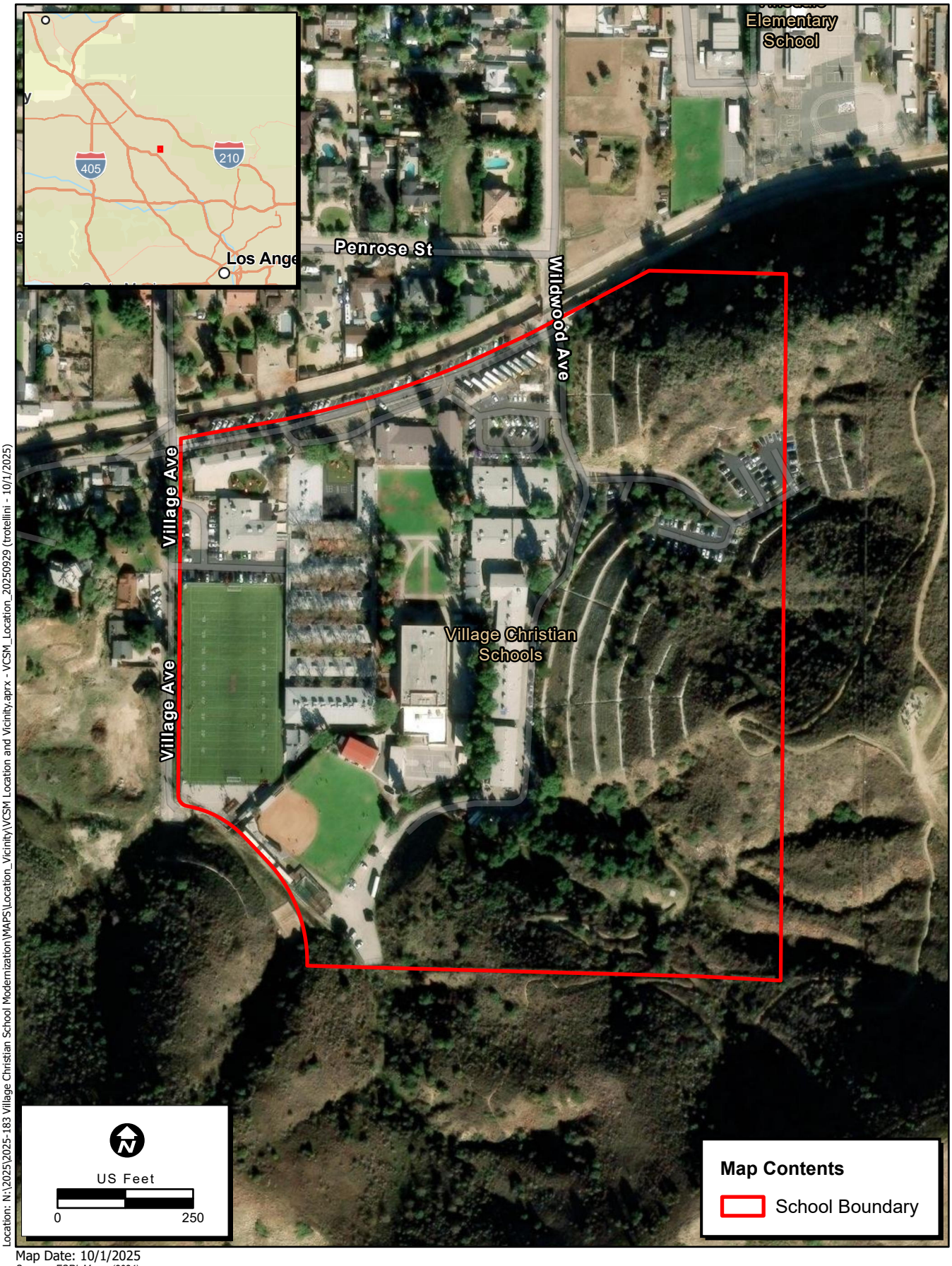
This Noise and Vibration Impact Assessment was prepared for the Village Christian School Modernization Project (Proposed Project or Project). This impact assessment characterizes existing conditions based on field noise measurements, evaluates future noise and vibration levels at surrounding sensitive receptors during construction and operation, and determines whether the Project would generate excessive levels based on the City of Los Angeles's (City's) recently adopted construction and vibration thresholds established in the *Construction Noise and Vibration Updates to Thresholds and Methodology*.

1.1 Location and Setting

The Project Site is located within the approximately 13-acre school campus in the City of Los Angeles in Los Angeles County, California as shown in Figure 1-1, which is also identified by Assessor's Identification Number 2404-001-006. The campus is located on the southern side of the La Tuna Canyon Lateral. The Proposed Project Site is bordered by hills to the south and east, and by residential uses to the west. Single-family residences can be found across La Tuna Canyon to the north. The Project Site is only accessible through Village Avenue and Wildwood Avenue.

1.2 Project Description

The Proposed Project would demolish an existing baseball field and construct a new 18,011-square foot gymnasium/training center and a 4,375-square foot annex building. Other Project components include modernization of two existing buildings: Building 10 and the Administration Building, the Chapel, and the Library Building (see Figure 1-2). Modernization of these two buildings would largely be centered on interior renovations. Therefore, the construction noise impact discussion and modeling focuses on the demolition of the existing baseball field and construction of the new gymnasium/training center and annex building. Operations of the new proposed school facilities could potentially result in an increase in student capacity, potentially resulting in an increase in student and teacher generated daily trips.



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Map Date: 10/1/2025

Sources: ESRI, Maxar (2024)

Figure 1-1. Project Location

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2025-183 Village Christian School Modernization

1 PROPOSED MASTER SITE PLAN

PROPERTY INFORMATION

ADDRESS: 8930 VILLAGE AVENUE - SUN VALLEY, CA 91352
APN: 2404031036
LEGAL DESCRIPTION:
TRACT NO TR 24256 LOTS LT 1

ZONING: A2-1-K
SPECIFIC PLAN: SAN GABRIEL/VERDUGO MOUNTAINS SCENIC PRESERVATION

EXISTING BUILDING INFORMATION:
EXISTING BUILDING INFORMATION: REFER TO CHART BELOW
EXISTING OCCUPANCY TYPE: EDUCATION, PRIVATE SCHOOL GRADES K-12
PER OPC 8447-CU (1982), A MAXIMUM OF 1950 STUDENTS

BUILDING NAME	SQUARE FOOTAGE	STORIES	BLDG USE
BUILDING "A"	7,904	1	EDUCATION
BUILDING "B"	7,904	1	EDUCATION
BUILDING "C"	13,940	1	EDUCATION
BUILDING "D"	7,350	2	MAINTENANCE
BUILDING "10"	5,850	1	EDUCATION
BUILDING "20"	2,500	1	EDUCATION
BUILDING "30"	4,546	1	EDUCATION
BUILDING "40"	3,750	1	EDUCATION
BUILDING "50"	3,750	1	EDUCATION
BUILDING "60"	3,750	1	EDUCATION
BUILDING "70"	15,000	2	EDUCATION
BUILDING "K"	3,991	1	EDUCATION
ADMIN BUILDING	8,600	1	ADMINISTRATION, RESOURCE, EDUCATION
PHYSICAL ED	3,748	1	EDUCATION
GYMNASIUM (700 SEATS)	12,750	2	ASSEMBLY
THEATRE BUILDING	4,662	1	ASSEMBLY AND EDUCATION
AUDITORIUM AND CAFE	7,000	1	ASSEMBLY AND SERVICE
FIELD HOUSE TRAILER	1,440	1	EDUCATION
WEIGHT FACILITY	2,160	1	EDUCATION
EXISTING TOTAL AREA	120493	"	
AREA SCOPE OF WORK			
BUILDING "10"	8,100	2	EDUCATION
ADMIN BUILDING	6,000	1	OFFICE, EDUCATION, ASSEMBLY
GYMNASIUM & TRAINING CENTER (700 SEATS)	18,500	1	PHYSICAL EDUCATION, ASSEMBLY
ANNEX BUILDING (SPECIALTY CLASSROOMS)	4,400	1	EDUCATION
PROPOSED TOTAL AREA	37000	"	
REVISED TOTAL BUILDING AREA	157493	"	

NOTE: THESE ARE GROSS SQFT AREAS

SCOPE OF WORK:
1. TENANT IMPROVEMENT WITHIN THE OFFICE ADMIN/CHAPEL/LIBRARY BUILDING. PROVIDE ADDITIONAL OFFICES, CONFERENCE ROOMS AND SPECIALTY CLASSROOMS. ADDITIONAL SF OBTAINED BY EXPANDING THE EXISTING 1ST FLOOR NORTH AND SOUTH.
2. TENANT IMPROVEMENT WITHIN BUILDING "10". PROVIDE ADDITIONAL CLASSROOMS BY WAY OF ADDING A 2ND FLOOR ONTO THE EXISTING 1-STORY BUILDING.
3. CONSTRUCT A NEW GYMNASIUM WITH ATTACHED SPORTS TRAINING CENTER. SPORTS TRAINING CENTER TO HOUSE OFFICES AND EQUIPMENT RELOCATED FROM THE "FIELD HOUSE TRAILER".
4. CONSTRUCT A NEW 1-STORY ANNEX BUILDING FOR SPECIALTY CLASSROOMS.
5. REMOVE THE FIELD HOUSE TRAILER.
6. EXTEND VILLAGE AVE FOR FIRE DEPARTMENT ACCESS TO NEW GYMNASIUM AND ANNEX BUILDING.

SITE PLAN LEGEND

- EXISTING BUILDING STRUCTURE TO REMAIN, N.I.C.
- TENANT IMPROVEMENT TO EXISTING BUILDING STRUCTURE
- NEW BUILDING STRUCTURE
- EXISTING BUILDING STRUCTURE TO BE REMOVED

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NEW SCOPE AND TENANT IMPROVEMENTS
8930 VILLAGE AVENUE
SUN VALLEY, CA 91352

REV	DESCRIPTION	DATE
	DRB MANAGEMENT MEETING	5/27/25

MASTER SITE PLAN
5/27/25
AS NOTED
A0.10

N:\2025\2025-183 Village Christian School Modernization\MAPS\CEQA

Map Date: 9/30/2025
Photo (or Base) Source: Village Christian School

Figure 1-2. Project Site Plan

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2.0 ENVIRONMENTAL NOISE AND GROUNDBORNE VIBRATION ANALYSIS

2.1 Fundamentals of Noise and Environmental Sound

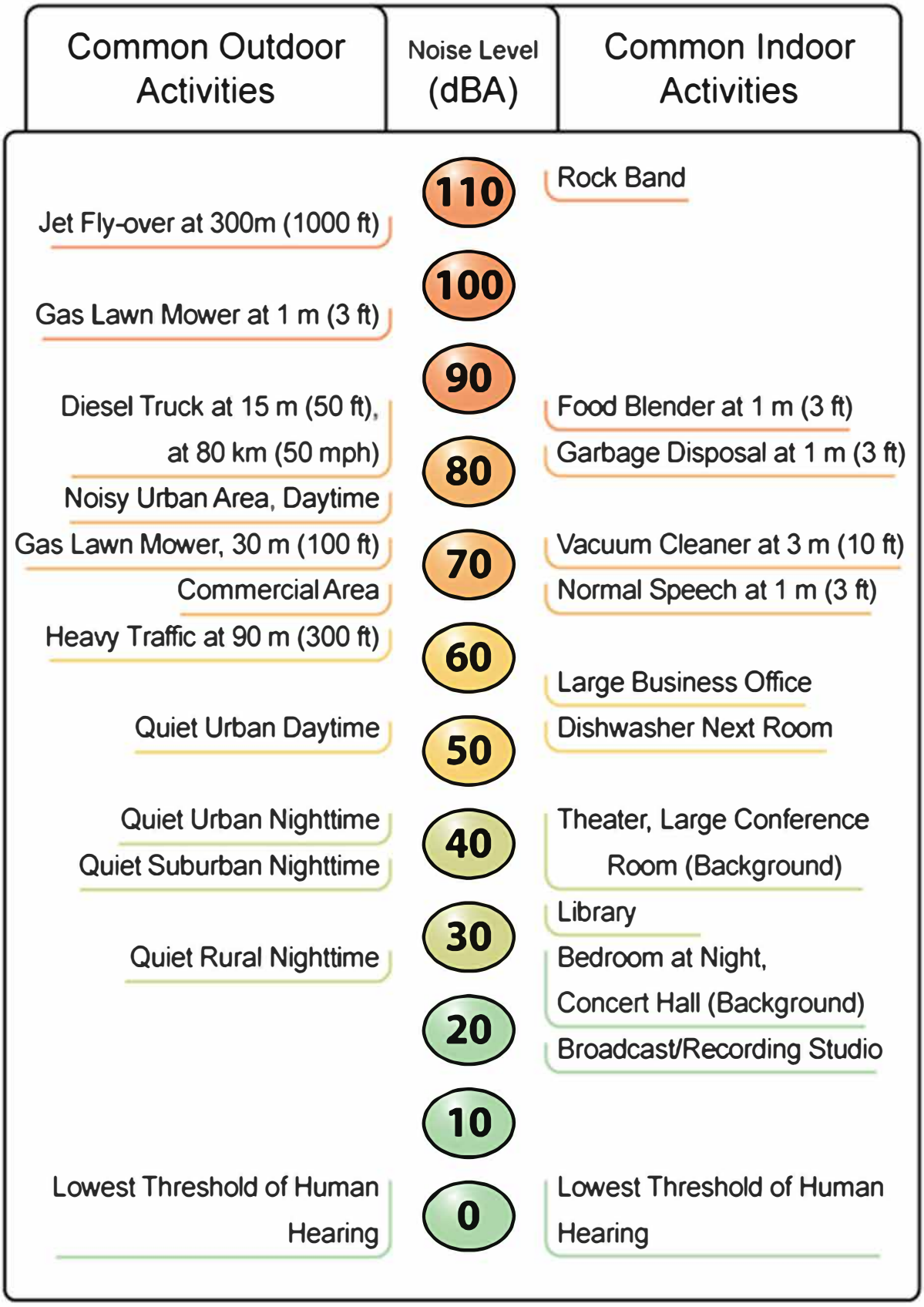
2.1.1 Addition of Decibels

The decibel (dB) scale is logarithmic, not linear, and therefore sound levels cannot be added or subtracted through ordinary arithmetic. Two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted (dBA), an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70-dBA sound is half as loud as an 80-dBA sound and twice as loud as a 60-dBA sound. When two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be three dB higher than one source under the same conditions. For example, a 65-dB source of sound, such as a truck, when joined by another 65 dB source results in a sound amplitude of 68 dB, not 130 dB (i.e., doubling the source strength increases the sound pressure by three dB). Under the decibel scale, three sources of equal loudness together would produce an increase of five dB. Typical noise levels associated with common noise sources are depicted in Figure 2-1.

2.1.2 Noise Descriptors

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Several rating scales have been developed to analyze the adverse effect of community noise on people. Because 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. The noise descriptors most often encountered when dealing with traffic, community, and environmental noise include the Equivalent Noise Level (L_{eq}) as well as the Day-Night Average Noise Level (L_{dn}) and Community Noise Equivalent Level (CNEL). The L_{eq} is a measure of ambient noise, while the L_{dn} and CNEL are measures of community noise. Each is applicable to this analysis and defined as follows:

- *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. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
- *L_{dn}* is a 24-hour average L_{eq} with a 10-dBA "weighting" added to noise during the hours of 10:00 pm to 7:00 am to account for noise sensitivity in the nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.4 dBA L_{dn}.
- *CNEL* is a 24-hour average L_{eq} with a 5-dBA weighting during the hours of 7:00 pm to 10:00 pm and a 10-dBA weighting added to noise during the hours of 10:00 pm to 7:00 am to account for noise sensitivity in the evening and nighttime, respectively.



Source: California Department of Transportation (Caltrans) 2020a

Figure 2-1. Common Noise Levels

Table 2-1 provides a list of other common acoustical descriptors.

Table 2-1. Common Acoustical Descriptors

Descriptor	Definition
Decibel (dB)	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micropascals (or 20 micronewtons per square meter), where 1 pascal is the pressure resulting from a force of 1 newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micropascals). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency, Hertz (Hz)	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sounds are below 20 Hz and ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level (dBA)	The sound pressure level in decibels is measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high-frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level (L_{eq})	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. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
L_{max}, L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
L01, L10, L50, L90	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Day-Night Average Noise Level (L_{dn})	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 logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.4 dBA L_{dn}.
Community Noise Equivalent Level (CNEL)	A 24-hour average L_{eq} with a 5 dBA "weighting" during the hours of 7:00 p.m. to 10:00 p.m. and 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 evening and nighttime, respectively. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.7 dBA CNEL.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends on its amplitude, duration, frequency, and time of occurrence and tonal or informational content, as well as the prevailing ambient noise level.

The A-weighted decibel sound level scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the

variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within about ±1 dBA. Various computer models are used to predict environmental noise levels from sources, such as roadways and airports. The accuracy of the predicted models depends on the distance between the receptor and the noise source. Close to the noise source, the models are accurate to within about ±1 to 2 dBA.

2.1.3 Sound Propagation and Attenuation

Noise can be generated by a number of sources, including mobile sources such as automobiles, trucks and airplanes, and stationary sources such as construction sites, machinery, and industrial operations. Sound spreads (propagates) uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately 6 dB (dBA) for each doubling of distance from a stationary or point source (Federal Highway Administration [FHWA] 2017a). Sound from a line source, such as a highway, propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of approximately 3 dBA for each doubling of distance from a line source, such as a roadway, depending on ground surface characteristics (FHWA 2017a). No excess attenuation is assumed for hard surfaces like a parking lot or a body of water. Soft surfaces, such as soft dirt or grass, can absorb sound, so an excess ground-attenuation value of 1.5 dBA per doubling of distance is normally assumed. For line sources, an overall attenuation rate of three dB per doubling of distance is assumed (FHWA 2017a).

Noise levels may also be reduced by intervening structures; generally, a single row of detached buildings between the receptor and the noise source reduces the noise level by about five dBA (FHWA 2006), while a solid wall or berm generally reduces noise levels by 5 to 10 dBA (FHWA 2017b). According to the FHWA (2017b), noise barriers can reduce noise levels by 15 dBA in certain instances, yet this level of noise reduction is very difficult to achieve. To achieve the most potent noise-reducing effect, a noise enclosure/barrier must physically fit in the available space, must completely break the “line of sight” between the noise source and the receptors, must be free of degrading holes or gaps, and must not be flanked by nearby reflective surfaces. Noise barriers must be sizable enough to cover the entire noise source and extend lengthwise and vertically as far as feasibly possible to be most effective. The limiting factor for a noise barrier is not the component of noise transmitted through the material, but rather the amount of noise flanking around and over the barrier. In general, barriers contribute to decreasing noise levels only when the structure breaks the "line of sight" between the source and the receiver.

The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows (California Department of Transportation [Caltrans] 2002). The exterior-to-interior reduction of newer residential units is generally 30 dBA or more (Harris Miller, Miller & Hanson Inc. 2006). Generally, in exterior noise environments ranging from 60 dBA CNEL to 65 dBA CNEL, interior noise levels can typically be maintained below 45 dBA, a typical residential interior noise standard, with the incorporation of an adequate forced air mechanical ventilation system in each residential building, and standard thermal-pane residential windows/doors with a minimum rating of Sound Transmission Class (STC) 28. (STC is an integer rating of how well a building

partition attenuates airborne sound. In the U.S., it is widely used to rate interior partitions, ceilings, floors, doors, windows, and exterior wall configurations). In exterior noise environments of 65 dBA CNEL or greater, a combination of forced-air mechanical ventilation and sound-rated construction methods is often required to meet the interior noise level limit. Attaining the necessary noise reduction from exterior to interior spaces is readily achievable in noise environments experiencing less than 75 dBA CNEL with proper wall construction techniques following California Building Code methods, the selections of proper windows and doors, and the incorporation of forced-air mechanical ventilation systems.

2.1.4 Human Response to Noise

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day or night or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL or L_{dn} is below 60 dBA, moderate in the 60 to 70 dBA range, and high above 70 dBA. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet, suburban, residential streets with noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with noisier urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA). Regarding increases in A-weighted noise levels (dBA), the following relationships should be noted in understanding this analysis:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived by humans.
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference.
- A change in level of at least 5 dBA is required before any noticeable change in community response would be expected. An increase of 5 dBA is typically considered substantial.
- A 10-dBA change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

2.1.5 Effects of Noise on People

2.1.5.1 Hearing Loss

While physical damage to the ear from an intense noise impulse is rare, a degradation of auditory acuity can occur even within a community noise environment. Hearing loss occurs mainly due to chronic

exposure to excessive noise but may be due to a single event such as an explosion. Natural hearing loss associated with aging may also be accelerated from chronic exposure to loud noise.

The Occupational Safety and Health Administration has a noise exposure standard that is set at the noise threshold where hearing loss may occur from long-term exposures. The maximum allowable level is 90 dBA averaged over eight hours. If the noise is above 90 dBA, the allowable exposure time is correspondingly shorter.

2.1.5.2 Annoyance

Attitude surveys are used for measuring the annoyance felt in a community for noises intruding into homes or affecting outdoor activity areas. In these surveys, it was determined that causes of annoyance include interference with speech, radio and television, house vibrations, and interference with sleep and rest. The L_{dn} as a measure of noise has been found to provide a valid correlation between noise level and the percentage of people annoyed. People have been asked to judge the annoyance caused by aircraft noise and ground transportation noise. There continues to be disagreement about the relative annoyance of these different sources.

2.2 Fundamentals of Environmental Groundborne Vibration

2.2.1 Vibration Sources and Characteristics

Sources of earthborne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or manmade causes (explosions, machinery, traffic, trains, construction equipment, etc.). Vibration sources may be continuous (e.g., factory machinery) or transient (e.g., explosions).

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude. One is the Peak Particle Velocity (PPV); another is the Root Mean Square (RMS) velocity. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. The RMS velocity is defined as the average of the squared amplitude of the signal. The PPV and RMS vibration velocity amplitudes are used to evaluate human response to vibration.

PPV is generally accepted as the most appropriate descriptor for evaluating the potential for building damage. For human response, however, an average vibration amplitude is more appropriate because it takes time for the human body to respond to the excitation (the human body responds to an average vibration amplitude, not a peak amplitude). Because the average particle velocity over time is zero, the RMS amplitude is typically used to assess human response. The RMS value is the average of the amplitude squared over time, typically a 1- sec. period.

Table 2-2 displays the reactions of people and the effects on buildings produced by continuous vibration levels. The annoyance levels shown in the table should be interpreted with care since vibration may be found to be annoying at much lower levels than those listed, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Low-level vibrations frequently cause irritating secondary vibration, such as a slight

rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage. In high-noise environments, which are more prevalent where groundborne vibration approaches perceptible levels, this rattling phenomenon may also be produced by loud airborne environmental noise causing induced vibration in exterior doors and windows.

Table 2-2. Human Reaction and Damage to Buildings for Continuous or Frequent Intermittent Vibration Levels

Peak Particle Velocity (in/sec)	Approximate Vibration Velocity Level (VdB)	Human Reaction	Effect on Buildings
0.006–0.019	64–74	Range of threshold of perception	Vibrations unlikely to cause damage of any type
0.08	87	Vibrations readily perceptible	Threshold at which there is a risk of architectural damage to extremely fragile historic buildings, ruins, ancient monuments
0.10	92	Level at which continuous vibrations may begin to annoy people, particularly those involved in vibration sensitive activities	Threshold at which there is a risk of architectural damage to fragile buildings. Virtually no risk of architectural damage to normal buildings
0.25	94	Vibrations may begin to annoy people in buildings	Threshold at which there is a risk of architectural damage to historic and some old buildings
0.30	96	Vibrations may begin to feel severe to people in buildings	Threshold at which there is a risk of architectural damage to older residential structures
0.50	103	Vibrations considered unpleasant by people subjected to continuous vibrations	Threshold at which there is a risk of architectural damage to new residential structures and Modern industrial/commercial buildings

Notes: in/sec = inches per second; VdB = vibration decibels

Source: California Department of Transportation 2020b

Ground vibration can be a concern in instances where buildings shake, and substantial rumblings occur. However, it is unusual for vibration from typical urban sources such as buses and heavy trucks to be perceptible. For instance, heavy-duty trucks generally generate groundborne vibration velocity levels of 0.006 PPV at 50 feet under typical circumstances, which as identified in Table 2-2 is considered very unlikely to cause damage to buildings of any type. Common sources for groundborne vibration are planes, trains, and construction activities such as earthmoving which requires the use of heavy-duty earth moving equipment.

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3.0 EXISTING ENVIRONMENTAL NOISE SETTING

3.1 Noise Sensitive Land Uses

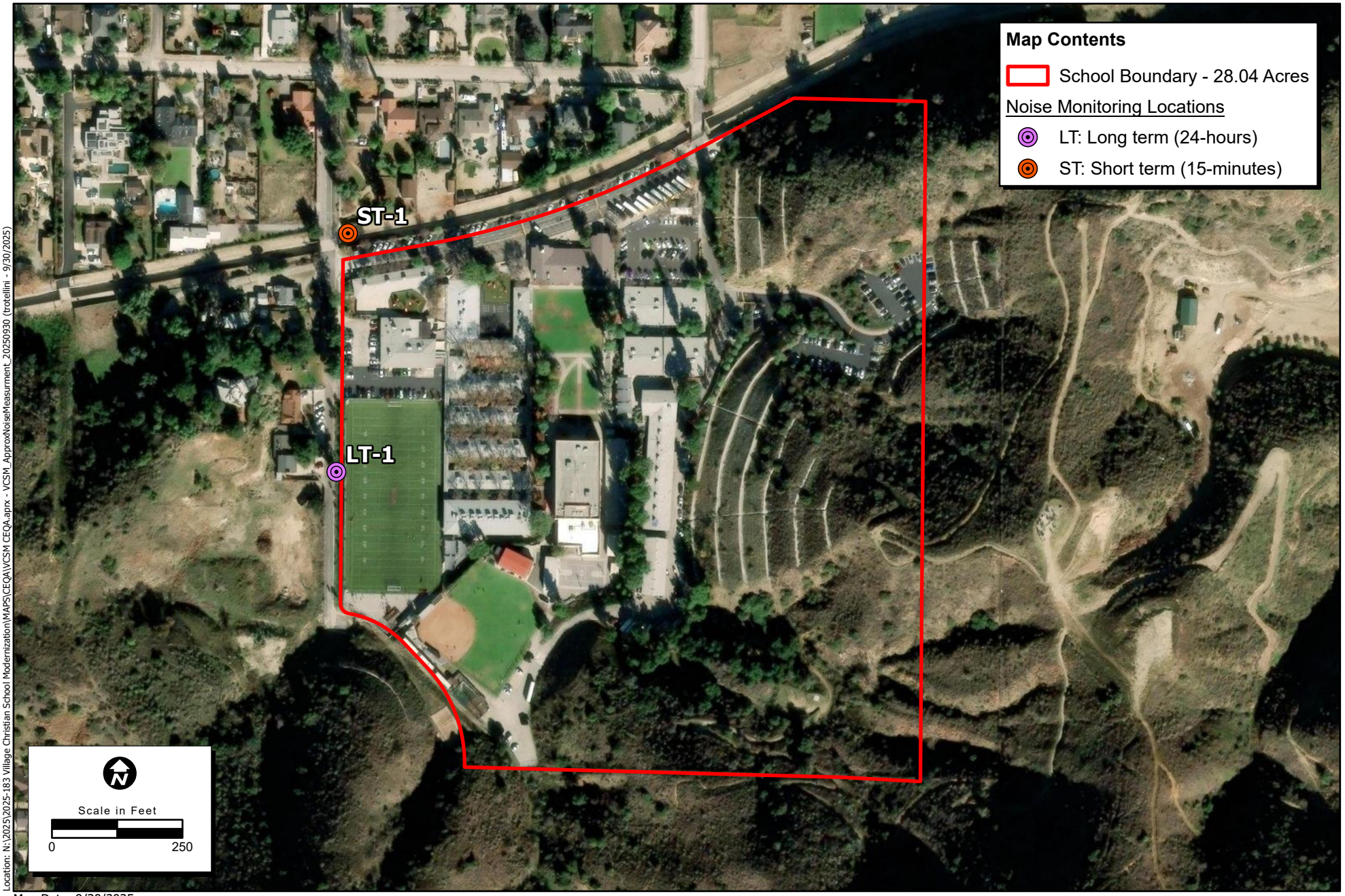
Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in adverse risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as historic sites, hotels, schools, health care centers, libraries, churches, senior homes, recreational areas, and cemeteries are also commonly considered sensitive to increases in exterior noise levels. The nearest sensitive receptors to the Project Site are single-family residences west of the Project Site across Village Avenue. These single-family homes are approximately 380 feet from the edge of the new construction footprint (gymnasium/training center and annex building).

3.1.1 Existing Ambient Noise Environment

The existing noise environment within the Project Site is primarily characterized by school operations and on-site campus intermittent activities, such as student drop-off and pick-up, athletic events and practices, parking lot activities, and roadway noise along Village Avenue. Secondary, noise sources in the Project Vicinity are associated with surrounding residential land uses (i.e., pedestrians walking, landscaping, dogs barking).

3.1.2 Existing Ambient Noise Measurements

In order to quantify existing ambient noise levels within the Project Site, ECORP Consulting, Inc. (ECORP) conducted one short-term (15-minutes) and one long-term (24-hours) noise measurement in the Project Vicinity. The short-term (ST-1) measurement was collected between 11:36 a.m. and 11:51 a.m. on Tuesday, September 23, 2025. The long-term (LT-1) measurement was conducted beginning Tuesday, September 23, through Wednesday, September 24, 2025. Figure 3-1 depicts the approximate noise monitoring locations and Table 3-1 summarizes the result of the ambient noise monitoring survey.



Location: N:\2025\2025-183 Village Christian School Modernization\MAPS\CEQA\VCSM CEQA.aprx - VCSM_ApproxNoiseMeasurment_20250930 (trotellini - 9/30/2025)

Map Date: 9/30/2025

Sources: ESRI, MAxar (2024), Village Christian School (2025)

Figure 3-1. Approximate Noise Monitoring Locations

Table 3-1. Existing Ambient Noise Measurements (dBA)						
Location Number	**Location**	**CNEL**	**L_{eq}**	**L_{min}**	**L_{max}**	**Time**
Short-Term Measurements						
ST-1	North of Village Christian School	N/A	59.6	52.0	71.9	11:36 a.m.–11:51 a.m
Location Number	**Location**	**CNEL**	**Highest 1-hour L_{eq}**	**Lowest 1-hour L_{min}**	**Highest 1-hour L_{max}**	**Time**
Long-Term Measurement						
LT-1	Next to Village Christian School, along Village Avenue	56.9	58.0	35.0	68.0	9/23–9/24/2025 12:00 p.m.–12:00 p.m.

Notes: CNEL = Community Noise Equivalent Level; dBA = A-weighted decibels; N/A = Not Applicable
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. L_{min} is the minimum noise level during the measurement period and L_{max} is the maximum noise level during the measurement period. L_{dn} is a 24-hour average L_{eq} with a 10-dBA "weighting" added to noise during the hours of 10:00 pm to 7:00 am to account for noise sensitivity in the nighttime.

Source: Measurements were taken by ECORP Consulting, Inc. with a Larson Davis LxT SE sound level meter, which satisfies the American National Standards Institute for general environmental noise measurement instrumentation. Prior to the measurements, the LxT SE sound level meter was calibrated according to manufacturer specifications with a Larson Davis CAL200 Class I Calibrator. See Appendix A for noise measurement outputs.

As shown in Table 3-1, the ambient recorded noise level north of the Project Site is 59.6 dBA L_{eq} over the course of the short-term noise measurement taken in September of 2025. The ambient noise level recorded over the long-term measurement indicates that the Project Site currently experiences a noise level of 56.9 dBA CNEL. The most common noise in the Project vicinity is produced by vehicle traffic entering and exiting the campus and residential activities, such as the use of yard maintenance equipment, along Village Avenue.

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4.0 REGULATORY FRAMEWORK

4.1 Federal

4.1.1 Federal Transit Administration

The Federal Transit Administration (FTA) provides a guidance manual that contains procedures for predicting and assessing noise and vibration impacts of proposed transit projects. This manual acknowledges that noise and vibration are among the primary concerns of the surrounding communities. Project construction noise criteria should account for the existing noise environment, the absolute noise levels during construction activities, the duration of the construction, and the surrounding land use. The FTA provides guidelines that are typically considered applicable criteria for construction noise assessments in a California Environmental Quality Act (CEQA) analysis. The FTA considers a daytime exterior construction noise level of 80 dBA L_{eq} and a nighttime exterior construction noise level of 70 dBA L_{eq} as a reasonable threshold for noise sensitive residential land uses.

4.1.2 Federal Interagency Committee on Noise

The Federal Interagency Committee on Noise (FICON) thresholds of significance assist in the evaluation of increased traffic noise. The 2000 FICON findings provide guidance as to the significance of changes in ambient noise levels due to transportation noise sources. FICON recommendations are based on studies that relate aircraft and traffic noise levels to the percentage of persons highly annoyed by the noise. FICON's measure of substantial increase for transportation noise exposure is as follows:

- if the existing ambient noise levels at existing and future noise-sensitive land uses (e.g., residential, etc.) are less than 60 dBA L_{dn} and the project creates a readily perceptible 5 dBA L_{dn} or greater noise level increase; or
- if the existing noise levels range from 60 to 65 dBA L_{dn} and the project creates a barely perceptible 3 dBA L_{dn} or greater noise level increase; or
- if the existing noise levels already exceed 65 dBA L_{dn} and the project creates a community noise level increase of greater than 1.5 dBA L_{dn}.

4.2 State

4.2.1 California Building Code

The State of California provides a minimum standard for building design through Title 24, Part 2, of the California Code of Regulations, commonly referred to as the California Building Code. The California Building Code is updated every three years. It is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions.

The State of California's noise insulation standards for non-residential uses are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 11, California Green Building Standards Code (CALGreen). CALGreen noise standards are applied to new or renovation construction

projects in California to control interior noise levels resulting from exterior noise sources. Future individual projects may use either the prescriptive method (Section 5.507.4.1) or the performance method (5.507.4.2) to show compliance. Under the prescriptive method, a project must demonstrate transmission loss ratings for the wall and roof-ceiling assemblies and exterior windows when located within a noise environment of 65 dBA CNEL or higher. Under the performance method, a project must demonstrate that interior noise levels do not exceed 50 dBA L_{eq} (1-hour).

4.2.2 California Department of Transportation

In 2020, Caltrans published the Transportation and Construction Vibration Manual (2020b). The manual provides general guidance on vibration issues associated with the construction and operation of projects concerning human perception and structural damage. Table 2-2 above presents recommendations for levels of vibration that could result in damage to structures exposed to continuous vibration.

4.3 Local

4.3.1 City of Los Angeles General Plan Noise Element

The Noise Element of the City of Los Angeles General Plan establishes the framework for noise management through goals, objectives, policies, and implementation measures. Consistent with the General Plan Guidelines issued by the Governor's Office of Planning and Research (1999), goals provide overall direction, objectives identify steps toward achieving those goals, policies serve as guides for decision-making, and programs and implementation measures describe the means of achieving and monitoring those policies. Together, these provisions are intended to regulate unnecessary or disruptive noise and vibration and to protect noise-sensitive uses from excessive exposure.

The General Plan Noise Element defines noise-sensitive land uses for the purpose of implementing its policies and programs. These include single-family and multi-unit dwellings, long-term care facilities (including convalescent and retirement facilities), dormitories, motels, hotels, transient lodgings and other residential uses; houses of worship; hospitals; libraries; schools; auditoriums; concert halls; outdoor theaters; nature and wildlife preserves; and parks. The following goals, objectives, and policies are applicable to the Proposed Project:

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

4.3.2 City of Los Angeles Municipal Code

4.3.2.1 Construction Noise

Construction and powered equipment-related noise in the City of Los Angeles is regulated under several provisions of the Los Angeles Municipal Code (LAMC). These sections establish allowable hours for construction activities, set limits on the use of powered equipment, and define maximum permissible noise levels in residential areas. Applicable noise standards to the Project are summarized below.

- *Section 41.40(a)* of the LAMC prohibits construction between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, 6:00 p.m. and 8:00 a.m. on Saturday or any national holiday, and at any time on Sunday (i.e., construction is allowed Monday through Friday between 7:00 a.m. to 9:00 p.m. and Saturdays and national holidays between 8:00 a.m. to 6:00 p.m.).
- *Section 41.40(c)* identifies additional allowable hours of construction for activities conducted within 500 feet of residentially developed land. Except for individual homeowners working on their own single-family dwellings, no person may perform construction, repair, or earth grading for any building or structure in these areas before 8:00 a.m. or after 6:00 p.m. on Saturdays or national holidays, nor at any time on Sundays.
- *Section 112.04* of the LAMC limits the use of powered equipment intended for repetitive use in residential areas. Between the hours of 10:00 p.m. and. 7:00 a.m. of the following day, no person shall operate any lawn mower, backpack blower, lawn edger, riding tractor, or any other machinery, equipment, or other mechanical or electrical device, or any hand tool which creates a loud, raucous or impulsive sound, within any residential zone or within 500 feet of a residence.
- *Section 112.05* of the LAMC limits the use of powered equipment and hand tools in residential areas. Between 7:00 a.m. and 10:00 p.m., in any residential zone of the City or within 500 feet thereof, such equipment may not produce a maximum noise level exceeding 75 dBA at a distance of 50 feet. This limitation does not apply when compliance is technically infeasible. Technically infeasible means the above noise limitation cannot be met despite the use of mufflers, shields, sound barriers and/or any other noise reduction device or techniques during the operation of equipment.

4.3.2.2 Minimum Ambient Noise Levels

Exterior ambient noise levels are regulated under Section 111.03 of the LAMC. The nearest sensitive receptors to the Project Site are residential uses. The minimum presumed daytime ambient noise level for residential uses is 50 dBA during the daytime (7:00 a.m. to 10:00 p.m.) and 40 dBA during the nighttime (10:00 p.m. to 7:00 a.m.). Where the ambient noise level is less than the presumed ambient noise level designated in this section, the presumed ambient noise level in this section shall be deemed to be the minimum ambient noise level. In addition, Section 112.02 of the LAMC limits increases in noise levels from air conditioning, refrigeration, heating, pumping, and filtering equipment. These sources may not be operated in a manner that causes noise levels at any other occupied property—or, in the case of condominiums, apartment houses, duplexes, or attached businesses, within any adjoining unit—to exceed the ambient noise level by more than 5 dB.

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5.0 IMPACT ASSESSMENT

5.1 Thresholds of Significance

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance. The Project would result in a significant noise-related impact if it would result in the:

1) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

2) Generation of excessive groundborne vibration or groundborne noise levels.

3) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

5.2 Construction Noise and Vibration Thresholds

The City of Los Angeles updated their L.A. CEQA Thresholds Guide construction noise and vibration thresholds in September of 2024 (City 2024). These thresholds are meant for use in environmental review under CEQA and the Department of City Planning in assessing the environmental impacts of projects in accordance with CEQA the thresholds are intended to be suited to the generally urban nature of the City, while still recognizing the importance of human health, including sleep disruption. They are based on input from the City's Technical Advisory Committee noise experts and a review of thresholds used by other agencies, including FTA and Caltrans.

5.2.1 Construction Noise Increase Over Ambient

For construction activities that occur between 7:00 a.m. and 7:00 p.m. Monday through Friday, and between 8:00 a.m. and 6:00 p.m. on Saturdays, there is no numerical threshold above ambient noise levels.

5.2.2 Absolute Construction Noise Thresholds

On- and off-site construction noise during daytime hours (7:00 a.m. and 7:00 p.m. Monday through Friday, and 8:00 a.m. to 6:00 p.m. on Saturdays) are limited to a maximum 80 dBA L_{eq} (8-hour) absolute threshold at sensitive uses (at the property line or at the exterior of the building), including outdoor public recreational areas owned or maintained by a public agency. This standard does not apply to private residential balconies which may or may not extend past the exterior of a building, or to private residential recreational areas.

5.2.3 Vibration Thresholds

For construction activities that occur between 7:00 a.m. and 7:00 p.m. Monday through Friday, and between 8:00 a.m. and 6:00 p.m. on Saturdays, there is no numerical threshold related to human annoyance.

For architectural building damage, construction activities shall not exceed the following building damage thresholds for the identified structures:

- Fragile Buildings: 0.1 inches per second (in/sec) PPV
- Historic Buildings: 0.25 in/sec PPV
- Older Residential Structures: 0.3 in/sec PPV
- New Residential Structures: 0.5 in/sec PPV
- Modern Industrial/Commercial Buildings: 0.5 in/sec PPV

The off-site structures to the Project Site are residential. Therefore, this impact analysis uses 0.3 in/sec PPV threshold for a conservative analysis.

5.3 Operational Noise Thresholds

The operational (stationary source) noise significance criterion is based on Section 111.03 of the LAMC, which establishes that an increase of 5 dBA (hourly L_{eq}) above the ambient noise level at noise-sensitive uses would be considered a significant impact.

Based on the L.A. CEQA Thresholds Guide, a project would result in a significant off-site traffic noise impact if operations cause the ambient noise level, measured at the property line of affected uses, to increase by 3 dBA CNEL into or within the "normally unacceptable" or "clearly unacceptable" community noise exposure categories. For single-family residential uses, "normally unacceptable" conditions occur between 70 and 75 dBA CNEL, while levels above 75 dBA CNEL are considered "clearly unacceptable."

5.4 Methodology

This noise and vibration analysis is based on empirical observations and noise prediction modeling. The Project construction equipment mix and phasing was generated using the California Emissions Estimator Model (CalEEMod). CalEEMod is designed to calculate air pollutant emissions from construction activity but contains default construction equipment and usage parameters for typical construction projects based on several construction surveys conducted in order to identify such parameters. Noise levels generated by the construction equipment mix is then modeled using Federal Highway Administration's Roadway Construction Noise Model (FHWA 2006). On-site stationary noise sources associated with the Project were evaluated using reference noise measurements collected by ECORP and adjusted for distance to estimate noise levels at the nearest receptor. Groundborne vibration generated by construction equipment at sensitive receptors were evaluated by using reference vibration levels published by the FTA (2018).

5.5 Impact Analysis

5.5.1 Would the Project Result in Short-Term Construction-Generated Noise in Excess of City Standards?

5.5.1.1 Construction Noise Analysis

Construction noise associated with the Proposed Project would be temporary and would vary depending on the specific nature of the activities being performed. Noise generated would primarily be associated with the operation of off-road equipment for onsite construction activities as well as construction vehicle traffic on area roadways. Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., site preparation, excavation, paving). Noise generated by construction equipment, including earth movers, pile drivers, and portable generators, can reach high levels. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. 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). During construction, exterior noise levels could negatively affect sensitive land uses in the vicinity of the construction site.

As discussed in Regulatory Framework above, construction activities are permitted between 7:00 a.m. and 9:00 p.m. Monday through Friday, and between 8:00 a.m. and 6:00 p.m. on Saturdays and national holidays. No construction is permitted on Sundays. Within 500 feet of residential uses, additional restrictions apply, limiting Saturday and holiday work to between 8:00 a.m. and 6:00 p.m. In order to remain compliant with the City's regulations, Project construction would be required to operate within the allowable hours of construction.

A previous Fifth District of Appeal decision held that the use of an absolute noise threshold for evaluating all ambient noise impacts violated CEQA because it did not provide a "complete picture" of the noise impacts that may result from implementation of the ordinance. As such, the Proposed Project's construction noise is estimated and then added to the highest recorded ambient noise level within the Project Site as determined by the baseline noise survey conducted by ECORP (see Table 3-1). As previously described, the dB scale is logarithmic, not linear, and therefore sound levels cannot be added or subtracted through ordinary arithmetic. For instance, when combining two separate sources where one of the noise sources is 10 dB or more greater than then other noise source, the noise contribution of the quieter source is virtually completely obscured by the louder source.

5.5.1.2 Project-Related Construction Noise

Construction noise levels were modeled using the top three loudest pieces of equipment per construction phase, and by measuring the distance from the acoustical center of the Project Site to the nearest noise-sensitive receptor. This is in accordance with FTA guidance, which evaluates construction noise at sensitive receptors based on the distance from the acoustical center of the Project Site. This is because construction equipment is mobile and operates at various locations throughout the Project Site. The nearest existing noise-sensitive land use to the Project Site are single-family home located approximately 430 feet from

the Project's acoustical center (across Village Avenue). Average short-term construction noise levels at the nearest receptor for each phase of construction are presented in Table 5-1.

Table 5-1. Construction Average (dBA) Noise Levels at Nearest Receptors

Construction Phase	Ambient Noise Level* (dBA L_{eq})	Exterior Construction Noise Level @ Closest Noise Sensitive Receptor (dBA L_{eq})	Existing Ambient Noise + Exterior Construction Noise Levels (dBA L_{eq})	Construction Noise Standard (dBA L_{eq})	Exceeds Standards?
Site Preparation	58.0	65.9	66.6	80.0	No
Grading		66.5	67.1	80.0	No
Building Construction, Paving, and Painting		66.9	67.4	80.0	No

Notes: dBA = A-weighted decibels; FHWA = Federal Highway Administration; L_{eq} = Equivalent Noise Level
*Ambient noise level within the Proposed Project Site was estimated using the recorded L_{eq} at Long-Term Measurement Location 1 as identified in Table 3-1. This location is the most representative of the noise environment at the residential area located north of the Project Site.

Source: Construction noise levels were calculated by ECORP Consulting, Inc. using the FHWA Roadway Noise Construction Model (FHWA 2006). Refer to Appendix B for Model Data Outputs.

As shown in Table 5-1, the Project's contribution of construction noise combined with the ambient noise environment would not exceed the 80 dBA construction noise threshold promulgated by the L.A. CEQA Thresholds Guide during any phase of construction at the nearby noise-sensitive receptors. It is noted that construction noise was modeled on a worst-case basis and is considered in addition to ambient noise levels currently experienced within the Project Site. It is very unlikely that all pieces of construction equipment would be operating at the same time for the various phases of Project construction.

5.5.1.3 Offsite Construction Worker Trips

Project construction would result in additional traffic on adjacent roadways over the period that construction occurs. According to the California Emissions Estimator Model, which is used to predict the number of construction-related automotive trips, the maximum number of Project construction trips traveling to and from the Project Site during a single construction phase would not be expected to exceed 46 daily trips in total (46 construction worker and vendor trips and 0 hauling trips). According to Caltrans Technical Noise Supplement to the Traffic Noise Analysis Protocol (2013), a doubling of traffic on a roadway is required to result in an increase of 3 dB (outside of the laboratory, a 3-dBA change is considered a just-perceivable difference). The Project Site would be accessible via Village Avenue and Wildwood Avenue during construction. According to the Village Christian School website, current enrollment at the school is 1,200 students (Village Christian School 2025). With the addition of school staff and administrators, it is reasonable to assume that an additional 46 trips to the Project Site during construction would not double the daily traffic volume experienced during current operations. Therefore, the Proposed Project's contribution to existing traffic noise would not be perceptible. Additionally, it is

noted that construction is temporary, and construction-related trips would cease upon completion of construction.

5.5.2 Would the Project Result in a Substantial Permanent Increase in Ambient Noise Levels in Excess of City Standards during Operations?

The nearest sensitive receptors to the Project Site are single-family residences west of the Project Site across Village Avenue. These single-family homes are approximately 380 feet from the edge of the new construction footprint (gymnasium/training center and annex building).

5.5.2.1 Operational Offsite Traffic Noise

Future Project generated trips were based on CalEEMod operational outputs. The Project is estimated to generate approximately 60 new employee trips and 113 daily student trips for a total of 173 new daily trips. These are based on conservative modeling inputs.

The Project's classroom expansion (annex building) and addition of 35 new parking stalls could result in increased trips in the Project vicinity. In the absence of a traffic report, trip generation assumptions were developed based on the existing student enrollment of 1,200 students. According to the *Institute of Transportation Engineers Trip Generation Manual, 10th Edition*, the daily trip generation rate for a private K–12 school is 2.48 trips per student (Palm Beach County Engineering and Public Works 2020). Accordingly, the existing daily trips generated by the school are estimated at 2,976. To estimate traffic noise increases attributable to the Project, the *existing plus project (3,149)* trips were logarithmically compared to the *no project (2,976)*. This was calculated using the following logarithmic equation:

dB increase = 10*log(*existing plus project* / *existing no project*)

The increase of 113 new daily trips would result in a 0.2 dBA Increase. Therefore, in accordance with Section 111.03 of the LAMC, the Project would not result in a 5 dBA increase over existing conditions at nearby sensitive receptors.

5.5.2.2 Operational Onsite Noise

The Project involves construction and operation of a new gymnasium/training center and annex building. No new outdoor athletic uses are proposed; therefore, the primary new operational noise source would be Heating, Ventilation, and Air Conditioning (HVAC) equipment associated with the new facilities. In addition, the Project would add 35 parking spaces, increasing the existing supply from 359 to 394 total spaces. Parking-related noise was modeled in accordance with FTA guidance.

Reference field noise measurements conducted by ECORP indicate that mechanical HVAC equipment generates noise levels of approximately 45 dBA at 20 feet. At the nearest sensitive receptors, single-family homes located approximately 355 feet to the north across Village Avenue, the attenuated noise level would be 20 dBA. The attenuated noise from the proposed unenclosed parking stalls combined with the existing ambient daytime noise level would result in an imperceptible increase in noise at the nearest sensitive receptor (20.0 dBA L_{eq} + 58.0 dBA L_{eq} = 68.0 dBA L_{eq}). Therefore, in accordance with Section

111.03 of the LAMC, the Project would not result in a 5 dBA increase over existing conditions at nearby sensitive receptors.

Parking lot activity noise for the 35 additional parking spots was calculated using the FTA's reference Sound Exposure Level (SEL) for park & ride lots at 50 feet (FTA 2018). SEL is a measure of energy that considers both received levels of noise and the duration of noise exposure. This reference level is converted to a L_{eq} using the conversion formula outlined in Table 5-2, which details the conversion of SEL to L_{eq} for parking lot noise. The table illustrates how to calculate L_{eq} at a distance of 50 feet from the parking lot, based on vehicle noise and traffic volume.

Table 5-2. Conversion of SEL to L_{eq} for Park & Ride Lot Noise at 50 Feet

Description	Input Values	Calculated Values
Reference Sound Exposure Level (SELref)	101 dB	–
Average number of automobiles per hour (N_A)	35	–
Average number of buses per hour (N_B)	0	–
Volume Adjustment (CN)	$10\log_{10}((35/2000)+(0/24))$	-17.6 dBA L_{eq}
Calculated Parking Lot L_{eq} at 50 feet	101 dB+ (-17.6 dB) – 35.6 dB	47.8 dBA L_{eq}

Notes: dB = decibels; dBA = A-weighted decibels; L_{eq} = Equivalent Noise Level; SEL = Sound Exposure Level
CN is calculated using the logarithmic scale to adjust the SEL based on traffic volume per hour. The final L_{eq} reflects the adjusted noise level considering both traffic volume and standard noise attenuation over distance.

Equation: L_{eq} at 50 = SELref + CN – 35.6

Source: Federal Transit Administration 2018

The Project Site Plan includes 35 new parking stalls around the proposed new gymnasium/training center. The nearest residential receptor to the new proposed parking area is approximately 355 feet to the west, across Village Avenue. For this assessment, a worst-case scenario is assumed, with each stall experiencing one turnover per hour, resulting in a volume of 35 automobiles per hour. As shown in Table 5-2, parking noise associated with the new 35 parking stalls would be 47.8 dBA L_{eq} at a distance of 50 feet. At 355 feet, parking lot noise levels would attenuate to approximately 31 dBA L_{eq}. The attenuated noise from the proposed unenclosed parking stalls combined with the existing ambient daytime noise level would result in an imperceptible increase in noise at the nearest sensitive receptor (47.8 dBA L_{eq} + 58.0 dBA L_{eq} = 58.4 dBA L_{eq}). Therefore, in accordance with Section 111.03 of the LAMC, the Project would not result in a 5 dBA increase over existing conditions at nearby sensitive receptors.

5.5.3 Would the Project Expose Structures to Substantial Groundborne Vibration during Construction?

Excessive groundborne vibration impacts result from continuously occurring vibration levels. Increases in groundborne vibration levels attributable to the Project would be primarily associated with short-term construction-related activities. Construction within the Project Site would have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment

used and the operations involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance.

Construction-related ground vibration is normally associated with impact equipment such as pile drivers, jackhammers, and the operation of some heavy-duty construction equipment, such as dozers and trucks. The nearest structure to the Project Site is a single-family home approximately 380 feet west from the edge of the construction site boundary. Table 5-3 presents FTA reference vibration levels at 25 feet, along with attenuated levels at the nearest off-site structure located 380 feet away and compares it against the L.A. CEQA Thresholds Guide of 0.3 in/sec PPV for older residential structures.

Based on the representative vibration levels presented for various construction equipment types in Table 5-5 and the construction vibration assessment methodology published by the FTA, it is possible to estimate the potential Project construction vibration levels. The FTA provides the following equation:

$$[PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}]$$

Table 5-3. Construction Vibration Levels at Nearest Receptor

Construction Equipment	Vibration Levels (PPV in in/sec)		Exceed Threshold of 0.3 in/sec PPV?
	Construction Vibration Levels at Nearest Receptor	Construction Vibration Levels at Nearest Receptor	
Vibratory Roller	0.210	0.004	No
Clam Shovel	0.202	0.003	No
Hoe Ram/Large Bulldozer/Caisson Drilling	0.089	0.002	No
Loaded Trucks	0.089	0.076	No
Jackhammer	0.089	0.035	No
Small Bulldozer	0.076	0.003	No

Notes: FTA = Federal Transit Administration; PPV = Peak Particle Velocity; in/sec = inches per second
[1]FTA vibration attenuation equation = $[PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$.

Source: FTA 2018

As shown in Table 5-3, vibration as a result of onsite Project construction activities would not exceed 0.3 in/sec PPV threshold.

5.5.4 Would the Project Expose Structures to Substantial Groundborne Vibration during Operations?

Project operations would not include the use of any stationary equipment that would result in excessive vibration levels. While the Project could accommodate heavy-duty trucks, these vehicles would not generate groundborne vibrations that would result in excessive vibration levels. Therefore, the Project would result in negligible groundborne vibration impacts during operations.

5.5.5 Would the Project Expose People Residing or Working on the Project Site to Excessive Airport Noise?

The Project Site is located approximately 1.35 miles north of the Hollywood Burbank Airport. The Project Site is located outside of the 60 dBA CNEL noise-level contour boundary of the Hollywood Burbank Airport (Los Angeles, County of 2024). Therefore, the Proposed Project would not expose those visiting or working on the Project Site to excessive airport noise.

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LIST OF APPENDICES

Appendix A – Baseline (Existing) Noise Measurements – Project Site and Vicinity

Appendix B – Construction Noise and Vibration Model Outputs – Project Construction

APPENDIX A

Baseline (Existing) Noise Measurements – Project Site and Vicinity

Long-Term 24-Hour Noise Measurement Field Data Sheet	
Recorded By: C. Uminski	**Date:** 9/23 – 9/24, 2025
Site Number: Long-Term-1 (LT-1)	**Job Number:** 2025-183
Start Time: 12:00 p.m. 9/23/2025	**End Time:** 12:00 p.m. 9/24/2025
Location/Address: Village Avenue, near Village Christian School	
Primary Noise Source: Village Christian School	
Secondary Noise Source: Standard Residential Activities on Village Avenue	

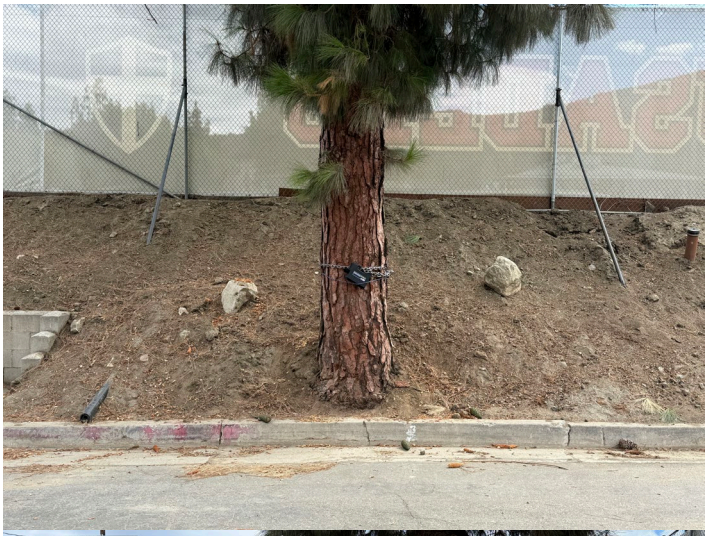
Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Soft dB**	**Piccolo II**	**P02250-30305**	**03/03/2025**	
	Microphone					
	Preamp					
	Calibrator	**Larson Davis**	**CAL200**	**17325**	**10/03/2024**	

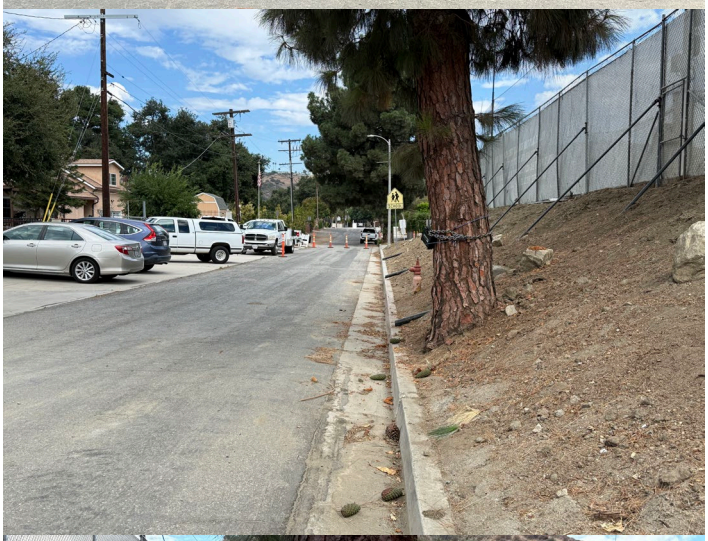
Calibration Data	
Offset Before Measurement Period	**Offset After Measurement Period**
Calibration Time:	**Calibration Time:** 2:21 p.m. 9/24/2025
Calibration Offset (+-):	**Calibration Offset (+-):**

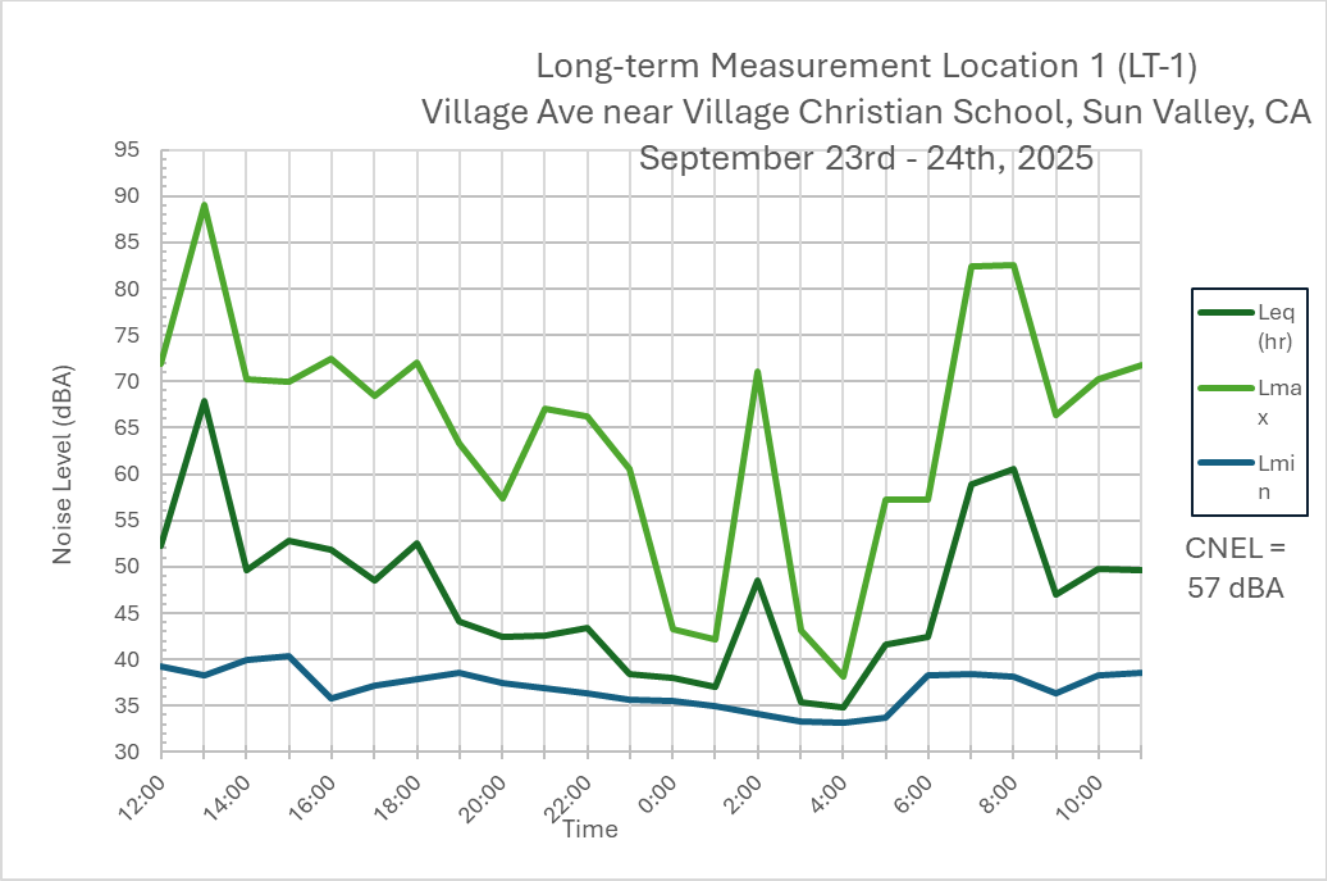
Weather Data				
Est.	**Sky Conditions:** Clear and Sunny			
	Avg Wind Speed (mph)	**Max Wind Speed**	**Temperature º F**	**Humidity %**
	1.3	4.2	96.6	42.5

Noise Data				
CNEL	**Daytime Leq**	**Nighttime Leq**	**Lmin**	**Lmax**
56.9	58.0	43.0	35.0	68.0
Additional Notes				

Photo(s) of Measurement Location






Long-term Measurement Location 1 (LT-1)
Village Ave near Village Christian School, Sun Valley, CA
September 23rd - 24th, 2025
Noise Level (dBA)
95
90
85
80
75
70
65
60
55
50
45
40
35
30
12:00
14:00
16:00
18:00
20:00
22:00
0:00
2:00
4:00
6:00
8:00
10:00
Time
Leq (hr)
Lmax
Lmin
CNEL = 57 dBA

APPENDIX B

Construction Noise and Vibration Model Outputs – Project Construction

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 10/9/2025
Case Description: Village Christian School Modernization Project: 01 - Site Preparation

Description	**Affected Land Use**
Site Preparation	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**	**Estimated Shielding (dBA)**
Grader	No	40	85		430	0
Tractor	No	40	84		430	0
Dozer	No	40		81.7	430	0

Results

Calculated (dBA)

Equipment	***Lmax**	**Leq**
Grader	66.3	62.3
Tractor	65.3	61.3
Dozer	63	59
Total	66.3	**65.9**

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 10/9/2025
Case Description: Village Christian School Modernization Project: 02 - Grading

Description	**Land Use**
Grading	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**	**Estimated Shielding (dBA)**
Grader	No	40	85		430	0
Tractor	No	40	84		430	0
Tractor	No	40	84		430	0

Results

Calculated (dBA)

Equipment	***Lmax**	**Leq**
Grader	66.3	62.3
Tractor	65.3	61.3
Tractor	65.3	61.3
Total	66.3	**66.5**

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 10/9/2025

Case Description: Village Christian School Modernization Project: 03 - Building Constructi

Description	**Affected Land Use**
Building Construction, Paving, and Painting	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**
Gradall	No	40		83.4	430
Tractor	No	40	84		430
Pavement Scarafier	No	20		89.5	430

Results

Calculated (dBA)

Equipment	***Lmax**	**Leq**
Gradall	64.7	60.7
Tractor	65.3	61.3
Pavement Scarafier	70.8	63.8
Total	70.8	**66.9**

*Calculated Lmax is the Loudest value.