4.0 Environmental Impact Analysis

4.8 Noise

4.8.1 Introduction

This section of the Final EIR analyzes the Project's potential noise and vibration impacts during construction and operation. Included in this section is a description of the existing noise environment within the Project Site area, an estimation of future noise and vibration levels at surrounding sensitive land uses associated with construction and operation of the Project, a description of the potential significant impacts, and the inclusion of mitigation measures to address any identified potential significant impacts. Additionally, this section of the Final EIR evaluates the Project's incremental contribution to potential cumulative noise and vibration impacts resulting from past, present, and probable future projects. This section summarizes the noise and vibration information analyses provided in the Noise Calculation Worksheets included in Appendix G to this Final EIR.

4.8.2 Environmental Setting

4.8.2.1 Noise and Vibration Fundamentals

4.8.2.1.1 Noise

4.8.2.1.1.1 Fundamentals of Sound and Environmental Noise

Noise is commonly defined as sound that is undesirable because it interferes with speech communication and hearing, causes sleep disturbance, or is otherwise annoying (unwanted sound). The decibel (dB) is a conventional unit for measuring the amplitude of sound as it accounts for the large variations in sound pressure amplitude and reflects the way people perceive changes in sound amplitude.[1] Human hearing is not equally sensitive to sound at all frequencies. Therefore, to approximate this human frequency-dependent response, the A-weighted filtering system is used to adjust measured sound levels (dBA). The term "A-weighted" refers to filtering the noise signal in a manner that corresponds to the way the human ear perceives sound. Examples of various sound levels in different environments are shown in Table 4.8-1 on page 4.8-2.

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[1] *All sound levels measured in decibel (dB), as identified in the noise calculation worksheets included in Appendix G of this Final EIR and in this section of the Final EIR, are relative to $2x10^{-5}$ N/m^2.*

Table 4.8-1
Typical Noise Levels

Common Outdoor Activities	Noise Levels (dBA)	Common Indoor Activities
	110	Rock Band
Jet Fly-Over at 1,000 feet		
	100	
Gas Lawn Mower at 3 feet		
	90	
Diesel Truck at 50 feet at 50 mph		Food Blender at 3 feet
	80	Garbage Disposal at 3 feet
Noisy Urban Area, Daytime		
Gas Lawn Mower at 100 feet	**70**	Vacuum Cleaner at 10 feet
Commercial Area		Normal Speech at 3 feet
Heavy Traffic at 300 feet	**60**	
		Large Business Office
Quiet Urban Daytime	**50**	Dishwasher Next Room
Quiet Urban Nighttime	**40**	Theater, Large Conference Room (background)
Quiet Suburban Nighttime		
	30	Library
Quiet Rural Nighttime		Bedroom at Night, Concert Hall (background)
	20	
		Broadcast/Recording Studio
	10	
	0	

Source: Caltrans, Technical Noise Supplement (TeNS), Table 2-5, 2013.

People commonly judge the relative magnitude of sound sensation using subjective terms, such as “loudness” or “noisiness.” A change (increase) in sound level of 3 dB is considered “just perceptible,” a change in sound level of 5 dB is considered “clearly noticeable,” and a change (increase) of 10 dB is typically recognized as “twice as loud.”[2]

4.8.2.1.1.2 Outdoor Sound Propagation

In an outdoor environment, sound energy attenuates through the air as a function of distance. Such attenuation is called “distance loss” or “geometric spreading” and is based on the type of source configuration (i.e., a point source or a line source). The rate of sound

[2] *Bies & Hansen, Engineering Noise Control, 1988, Table 2.1.*

attenuation for a point source, such as a piece of mechanical or electrical equipment (e.g., air conditioner or bulldozer), is 6 dBA per doubling of distance from the noise source to the receptor at acoustically "hard" sites and at a rate of 7.5 dBA per doubling of distance from the noise source to the receptor at acoustically "soft" sites.[3] For example, an outdoor condenser fan that generates a sound level of 60 dBA at a distance of 50 feet from a point source at an acoustically hard site would attenuate to 54 dBA at a distance of 100 feet from the point source and attenuate to 48 dBA at 200 feet from the point source. The rate of sound attenuation for a line source, such as a constant flow of traffic on a roadway, is 3 dBA and 4.5 dBA per doubling of distance from the line source to the receptor for hard and soft sites, respectively.[4]

In addition, structures (e.g., buildings and solid walls) and natural topography (e.g., hills and berms) that obstruct the line-of-sight between a noise source and a receptor further reduce the noise level if the receptor is located within the "shadow" of the obstruction, such as behind a sound wall. This type of sound attenuation is known as "barrier insertion loss." If a receptor is located behind the wall but still has a view of the source (i.e., the line-of-sight is not fully blocked), some barrier insertion loss would still occur but to a lesser extent. Additionally, a receptor located on the same side of the wall as a noise source may actually experience an increase in the perceived noise level as the wall reflects noise back to the receptor, thereby compounding the noise. Noise barriers can provide noise level reductions ranging from approximately 5 dBA (where the barrier just breaks the line-of-sight between the source and receiver) to an upper range of 20 dBA with a more substantial barrier.[5] Additionally, structures with closed windows can further attenuate exterior noise from 20 dBA to 30 dBA.[6]

Existing noise sources, such as roadway traffic that is located between a project site and the affected receptor location, would provide sound masking at the receptor location. For example, if the estimated noise level due to a proposed project at the receptor is 10 dBA lower than the existing noise level from the adjacent roadway, the proposed project noise would not result in a perceivable noise increase.[7]

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[3] *Caltrans, Technical Noise Supplement (TeNS), 2013, Chapter 2.1.4*.

[4] *Caltrans, Technical Noise Supplement (TeNS), 2013, Chapter 2.1.4.*

[5] *Caltrans, Technical Noise Supplement (TeNS), 2013, Chapter 2.1.4.*

[6] *Caltrans, Technical Noise Supplement (TeNS), 2013, Chapter 2.1.4, Table 7-1*.

[7] *Per Caltrans, TeNS, 2013, Table 2-3, when two decibel values differ by 10 dB or more, the lower value does not contribute substantially (less than 0.5 dB) to the total combined noise levels.*

4.8.2.1.1.3 Environmental Noise Descriptors

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 is dependent upon the total acoustical energy content, as well as the time and duration of occurrence. The most frequently used noise descriptors, including those used by the City of Beverly Hills (City), are summarized below.

Equivalent Sound Level (L_{eq}). L_{eq} is a measurement of the acoustic energy content of noise averaged over a specified time period. Thus, the L_{eq} of a time-varying sound and that of a steady sound are the same if they deliver the same amount of energy to the receptor's ear during exposure. L_{eq} for 1-hour periods, during the daytime or nighttime hours, and 24-hour periods are commonly used in environmental assessments. For evaluating community impacts, this rating scale does not vary regardless of whether the noise occurs during day or night.

Maximum Sound Level (L_{max}). L_{max} represents the maximum sound level measured during a measurement period.

Statistical Sound Level (L_n). L_n is a statistical description of the sound level that is exceeded over some fraction of a given period of time. For example, the L_{50} noise level represents the noise level that is exceeded 50 percent of the time. Half the time the noise level exceeds this level and half the time the noise level is less than this level. L_{90} noise level represents the noise level that is exceeded 90 percent of the time and, for environmental noise, is representative of background ambient noise level.

Community Noise Equivalent Level (CNEL). CNEL is the time average of all A-weighted sound levels for a 24-hour period with a 10-dBA adjustment (upward) added to the sound levels that occur between the hours of 10:00 P.M. and 7:00 A.M. (nighttime), and a 5-dBA adjustment (upward) added to the sound levels which occur between the hours of 7:00 P.M. and 10:00 P.M. (evening). These penalties attempt to account for increased human sensitivity to noise during the nighttime and evening periods, particularly where sleep is the most probable activity. CNEL has been adopted by the State of California to define the community noise environment for development of the community noise element of a General Plan and is also used by the City for land use planning in the City's General Plan Noise Element (2010).[8]

[8] *State of California, General Plan Guidelines, 2003; City of Beverly Hills, General Plan Noise Element, 2010.*

Day/Night Average Sound Level (L_{dn}). L_{dn} is the time average of all A-weighted sound levels for a 24-hour period, similar to the CNEL. L_{dn} includes a 10-dBA adjustment (upward) added to the sound levels that occur between the hours of 10:00 P.M. and 7:00 A.M. (nighttime). Unlike CNEL, L_{dn} does not include the 5-dBA adjustment (upward) to evening sound levels, which occur between the hours of 7:00 P.M. and 10:00 P.M. L_{dn} is typically within one dBA of CNEL, and the two measurements are often used interchangeably for the purposes of defining the community noise environment and measuring A-weighted sound levels for a 24-hour period.

4.8.2.1.2 Ground-Borne Vibration

Vibration is commonly defined as an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. The peak particle velocity (PPV) or the root-mean square (RMS) velocity is usually used to describe vibration amplitudes. PPV is defined as the maximum instantaneous peak of the vibration signal and is typically used for evaluating potential building damage.[9] The RMS velocity is defined as the square-root of the average of the squared amplitude of the vibration signal and is typically more suitable for evaluating human response to ground-borne vibration.[10] The RMS vibration velocity level can be presented in inch per second or in VdB (a decibel unit referenced to 1 micro-inch per second).[11] Ground-borne vibration generated by man-made activities (e.g., road traffic, construction operations) typically weakens with greater horizontal distance away from the source of the vibration.

4.8.2.2 Regulatory Framework

Various government agencies have established noise regulations and policies to protect residents from potential hearing damage and other adverse effects associated with noise and ground-borne vibration. The City of Beverly Hills General Plan Noise Element establishes L_{dn}/CNEL guidelines for land use compatibility and includes a number of goals, objectives, and policies for land use planning purposes. Standards and guidelines that

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[9] *Vibration levels are described in the noise calculation worksheets included in Appendix G of this Final EIR and in this section of the Final EIR in terms peak particle velocity level in the unit of inches per second.*

[10] *Federal Transit Administration, Transit Noise and Vibration Impact Assessment, September 2018, Table 5-1, Section 5.1.*

[11] *VdB (velocity level in decibel) = 20 x Log (V / V_{ref}), where V is the RMS velocity amplitude in micro-inch per second and V_{ref} is the reference velocity amplitude of $1x10^{-6}$ inch per second (1 micro-inch per second). All vibration levels described in decibel (VdB) in the noise calculation worksheets included in Appendix G of this Final EIR and in this section of the Final EIR are RMS and referenced to 1 micro-inch per second.*

may be applicable to the Project are discussed below. There are no City-adopted regulations or policies that relate to ground-borne vibration; therefore, the ground-borne building damage standards and guidelines from the California Department of Transportation (Caltrans), and the Federal Transit Administration (FTA) ground-borne vibration human annoyance standards and guidelines for off-site sensitive uses only are used for this analysis, as commercial buildings are not considered a sensitive use with respect to human annoyance. The regulations and policies that are relevant to Project construction and operation noise are discussed below.

4.8.2.2.1 Applicable State Noise Standards

The State of California has adopted noise compatibility guidelines for general land use planning. The types of land uses addressed by the state and the acceptable noise categories for each land use are included in the *State of California General Plan Guidelines,* which is published and updated by the Governor's Office of Planning and Research. California Government Code Section 65302(f) requires that each City include a Noise Element as part of its general plan, based on the state's General Plan Guidelines published by the Governor's Office of Planning and Research (OPR). The level of acceptability of the noise environment is dependent upon the activity associated with the particular land use. For example, according to the state,[12] an exterior noise environment for Residential and Transient Lodging uses are classified as follows:

- Residential—Low Density, Single Family, Duplex, Mobile Homes: up to 60 dBA CNEL is "normally acceptable," without special noise insulation construction requirements. Noise levels up to 70 dBA CNEL are "conditionally acceptable" with noise insulation features included in building design (conventional construction will normally suffice). Noise levels up to 75 dBA CNEL are "normally unacceptable" with construction generally discouraged, however if construction does proceed then a detailed analysis of noise reduction requirements must be made and needed noise insulation features included in the design. Noise levels at or above 75 dBA CNEL are "clearly unacceptable" and new construction should generally not be undertaken.

- Residential—Multi-Family: up to 65 dBA CNEL is "normally acceptable," without special noise insulation construction requirements. Noise levels up to 70 dBA CNEL are "conditionally acceptable" with noise insulation features included in building design (conventional construction will normally suffice). Noise levels up to 75 dBA CNEL are "normally unacceptable" with construction generally discouraged, however if construction does proceed then a detailed analysis of noise reduction requirements must be made and needed noise insulation

[12] *State of California, Governor's Office of Planning and Research, General Plan Guidelines, 2017, p. 374.*

features included in the design. Noise levels at or above 75 dBA CNEL are "clearly unacceptable" and new construction should generally not be undertaken.

- Transient Lodging- Motels, Hotels: up to 65 dBA CNEL is "normally acceptable," without special noise insulation construction requirements. Noise levels up to 70 dBA CNEL are "conditionally acceptable" with noise insulation features included in building design (conventional construction will normally suffice). Noise levels up to 80 dBA CNEL are "normally unacceptable" with construction generally discouraged, however if construction does proceed then a detailed analysis of noise reduction requirements must be made and needed noise insulation features included in the design. Noise levels at or above 80 dBA CNEL are "clearly unacceptable" and new construction should generally not be undertaken.

In addition, the 2019 California Building Standards Code (California Code of Regulations Title 24, Part 2, Chapter 12, Section 1206) requires that where the ambient noise environment exceeds 60 dBA CNEL, measures should be implemented to achieve an interior noise environment (i.e., a habitable room) not to exceed 45 dBA CNEL. For non-residential uses, the 2019 California Green Building Standards Code (Section 5.507.4) requires that where the ambient noise environment exceeds 65 dBA CNEL or 65 dBA L_{eq}, measures should be implemented to achieve an interior noise environment not to exceed 50 dBA $L_{eq(1\text{-}hour)}$.

4.8.2.2.2 City of Beverly Hills Regulations and Policies

4.8.2.2.2.1 City of Beverly Hills General Plan Noise Element

The overall purpose of the General Plan is to guide policy makers in making land use determinations and in preparing noise ordinances that would limit exposure of citizens to excessive noise levels. The Noise Element of the General Plan provides policies regarding stationary, ambient, and mobile sources of noise through state-mandated and approved standards and noise thresholds. The following Noise Element goals and policies are applicable to the Project:[13]

- **N 1.4 Limit Hours of Truck Deliveries**: Limit the hours of truck deliveries to commercial uses abutting residential neighborhoods and other noise-sensitive receptors in order to minimize exposure to excessive noise, unless there is no feasible alternative or there are overriding transportation benefits by scheduling deliveries at other hours.

[13] *City of Beverly Hills, General Plan Noise Element, 2010.*

- **N 1.5 Noise Mitigation Measures**: Require noise mitigation measures for noise-sensitive receptors when a significant noise impact is identified. A significant noise impact occurs when there is an increase in CNEL, as shown in Table 4.8-2 on page 4.8-9.

- **N 1.6 Construction**: In Beverly Hills, it is against the law to operate equipment or perform any outside construction or repair work on any building, structure, pneumatic hammer, derrick, steam or electric hoist, or other construction type devices, between the hours of 6:00 P.M. of one day and 8:00 A.M. of the next day, or at any time on any public holiday so as to cause discomfort or annoyance in a residential zone, unless beforehand a permit therefore has been obtained.

- **N 2.1 Sensitive Land Uses Adjacent to Heavy Arterials**: Require that the design of new residential or other new noise sensitive land uses within the 60 dBA and 65 dBA CNEL (and higher) roadway contours demonstrate that the project will meet interior and exterior noise standards. Require the use of interior noise insulation, double paned windows, or other noise mitigation measures, as appropriate, to achieve required standards.

- **N 3.1 Protection from Stationary Noise Sources**: Continue to enforce interior and exterior noise standards to ensure that sensitive noise receptors are not exposed to excessive noise levels from stationary noise sources such as machinery, equipment, fans, and air conditioning equipment.

- **N 3.2 Regulation of Sound-Amplifying Equipment**: Continue to regulate the use of sound-amplifying equipment.

- **N 4.1 Enforce Hours of Construction Activity**: Continue to enforce restrictions on hours of construction activity to minimize the impact of noise and vibration from trucks, heavy drilling equipment, and other heavy machinery on adjacent noise-sensitive receptors, particularly in and near residential areas.

Table 4.8-3 on page 4.8-9 provides the City's noise/land use compatibility guidelines for various land use categories.

Table 4.8-2
Significance of Changes in Operational Noise Exposure

Existing Noise Exposure, CNEL (dBA)	Significant Noise Increase at Sensitive Receptor Location, (dBA)
55	3
60	2
65	1
70	1
Over 75	1

Source: City of Beverly Hills, General Plan Noise Element, 2010.

Table 4.8-3
City of Beverly Hills Noise/Land Use Compatibility Matrix

Land Use	Exterior Noise Levels—Community Noise Equivalent Noise Level (CNEL, dBA)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential (Low density, Single Family, Duplex, Mobile Homes)	50–60	55–70	70–75	75–85
Residential (Multiple Family)	50–65	60–70	70–75	70–85
Transient Lodging (Motel, Hotel)	50–65	60–70	70–80	80–85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50–70	60–70	70–80	80–85
Auditoriums, Concert Halls, Amphitheaters	N/A	50–70	N/A	65–85
Sports Arenas, Outdoor Spectator Sports	N/A	50–75	N/A	70–85
Playgrounds, Neighborhood Parks	50–70	N/A	67.5–75	72.5–85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50–70	N/A	70–80	80–85
Office Buildings, Business Commercial and Professional	50–75	67.5–77.5	75–85	N/A
Industrial, Manufacturing, Utilities, Agriculture,	50–75	70–80	75–85	N/A

N/A = Not Applicable

Source: City of Beverly Hills, Beverly Hills General Plan, Appendix B, Table N-2: Land Use Compatibility Matrix, 2010.

4.8.2.2.2.2 City of Beverly Hills Municipal Code

The City's Noise Regulations (Beverly Hills Municipal Code [BHMC] Sections 5-1-101 through 5-1-210) provide noise standards and regulations. The following sections of the Noise Regulations are applicable to the Project:

- **Section 5-1-104: General Standards Relative to Disturbance of Peace**: Notwithstanding any other provision of this chapter, and in addition thereto, it shall be unlawful for any person to willfully make or continue, or cause to be made or continued, any loud, unnecessary, excessive, or unusual noise which unreasonably disturbs the peace and quiet or which cause discomfort or annoyance to any reasonable person of normal sensitiveness. The factors which may be considered in determining whether such noise violates the provisions of this section shall include, but are not limited to, the following:

  A. The volume of the noise;

  B. The intensity of the noise;

  C. Whether the nature of the noise is usual or unusual;

  D. Whether the origin of the noise is natural or unnatural;

  E. The volume and intensity of the background noise, if any;

  F. The proximity of the noise to residential sleeping facilities;

  G. The natural and zoning of the area within which the noise emanates;

  H. The density of the inhabitation of the area within which the noise emanates;

  I. The time of the day or night the noise occurs;

  J. The duration of the noise;

  K. Whether the noise is recurrent, intermittent, or constant; and

  L. Whether the noise is produced by a commercial or noncommercial activity.

- **Section 5-1-202: Machinery, Equipment, Fans, and Air Conditioning:** It shall be unlawful for any person to operate any machinery, equipment, pump, fan, air conditioning apparatus, or similar mechanical device in any manner so as to create any noise which cause the noise level at the property line of any property to exceed the ambient noise level by more than five decibels based on a reference sound pressure level of 0.0002 microbars, as measured in any octave band center frequency, in cycles per second, as follows: 63, 125, 500, 1,000, 2,000, 4,000, and 8,000 and for the combined frequency bands (all pass).

- **Section 5-1-205: Restrictions on Construction Activity:**

A. No person shall engage in construction, maintenance or repair work which requires a City permit between the hours of six o'clock (6:00) P.M. and eight o'clock (8:00) A.M. of any day, or at any time on a Sunday or public holiday unless such person has been issued an after hours construction permit issued pursuant to subsection C of this section. In addition, no person shall engage in such work within a residential zone, or within five hundred feet (500') of a residential zone, at any time on a Saturday unless such person has been issued an after hours construction permit issued pursuant to subsection C of this section. For the purpose of this section, "public holiday" shall mean:

1. New Year's Day.
2. Martin Luther King Jr. Day.
3. Presidents Day.
4. Memorial Day.
5. Independence Day.
6. Labor Day.
7. Yom Kippur.
8. Veterans Day.
9. Thanksgiving Day.
10. The Friday following Thanksgiving Day.
11. Christmas Day.

Nothing in this section shall restrict the performance of "emergency work" as that term is defined in section 5-1-102 of this chapter.

B. No person employed for the purposes of construction, maintenance, or repair work which requires a City permit shall enter a site on which such work will be done prior to 8:00 a.m. Any violation of this subsection shall be deemed to be an infraction.

C. The City building official, after consultation with appropriate City officials, may issue an after hours construction permit authorizing work and/or entrance to a work site otherwise prohibited by this section if the City building official determines that the public interest will be served by such a permit. Situations in which the public interest may be served by the issuance of such an after

hours construction permit includes, but are not limited to, construction near school grounds, and construction that may interfere with vehicular or pedestrian traffic in heavily traveled public rights-of-way.

D. Applications for an after-hours construction permit issued pursuant to subsection C of this section shall be in writing and shall set forth how the public interest will be served by issuing the permit. An after-hours construction permit may be revoked or suspended by the city building official if the city building official determines that activity conducted pursuant to the permit detrimentally affects the public health, safety or welfare.

- **Section 5-1-206: Noise in Proximity of Schools, Hospitals, and Churches:** It shall be unlawful for any person to create any noise on any street, sidewalk, or public place adjacent to any school, institution of learning, or church while the same is in use, or adjacent to any hospital; which noise substantially and unreasonably interferes with the workings of such institutions or which disturbs or unduly annoys patients in the hospital, provided that conspicuous signs are displayed on such street, sidewalk, or public place indicating the presence of a school, church, or hospital.

- **Section 5-1-209: Portable Gasoline Engine Powered Blowers:** It shall be unlawful for any person within the City to use or operate any portable machine powered with a gasoline engine used to blow leaves, dirt, and other debris off sidewalks, driveways, lawns, or other surfaces.

4.8.2.2.3 Ground-Borne Vibration

The City currently does not have any adopted standards, guidelines, or thresholds relative to ground-borne vibration. As such, available guidelines from Caltrans and FTA are utilized to assess impacts due to ground-borne vibration. As discussed above, in most circumstances common ground-induced vibrations related to roadway traffic and construction activities pose no threat to buildings or structures.[14]

Caltrans provides guidance associated with construction-related ground-borne vibration in its Transportation and Construction Vibration Guidance Manual (2020).[15] With respect to potential building damage, Caltrans provides limit on ground-borne vibration based on the age and/or physical condition of the structures that are located in close proximity to construction activity. Table 4.8-4 on page 4.8-13 presents the Caltrans guidelines with respect to vibration damage threshold criteria. As indicated therein, modern

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[14] *Caltrans, Transportation Related Earthborne Vibrations, February 2002.*

[15] *California Department of Transportation (Caltrans), Transportation and Construction Vibration Guidance Manual, April 2020, Table 19, p. 38.*

Table 4.8-4
Caltrans Vibration Damage Potential Threshold Criteria

Building Category	Maximum PPV (in/sec) from Continuous/Frequent Intermittent Sources
Extremely Fragile Buildings, Ruins, Ancient Monuments	0.08
Fragile Buildings	0.10
Historic and Some Old Buildings	0.25
Older Residential Structures	0.30
New Residential Structures	0.50
Modern Industrial/Commercial Buildings	0.50

Source: Caltrans, 2020.

industrial/commercial buildings can endure vibration levels up to a maximum of 0.5 PPV, older residential structures have a lower vibration limit of 0.3 PPV, and historic structures have a much lower vibration limit of 0.25 PPV.

In addition, the FTA provides vibration criteria for human annoyance for various uses.[16] Table 4.8-5 on page 4.8-14 presents the FTA criteria with respect to human annoyance for frequent events. As indicated in Table 4.8-5, vibration limits for residential and school/church (institutional land) uses would be 72 VdB and 75 VdB, respectively.

4.8.2.2.4 City of Los Angeles Off-Site Construction Noise Significance Threshold

The proposed haul routes for the Project would include roadway segments which are in the City of Los Angeles. Therefore, the noise significance threshold from the City of Los Angles is used to evaluate potential noise impacts at noise sensitive receptors along the haul route segments in the City of Los Angeles. The *L.A. CEQA Thresholds Guide* provides the following criteria to evaluate construction related noise:[17]

- Construction activities lasting more than one day would exceed existing ambient exterior sound levels by 10 dBA (hourly L_{eq}) or more at a noise-sensitive use;

[16] *Federal Transit Administration, Transit Noise and Vibration Impact Assessment, September 2018, Table 6-3, p. 126.*

[17] *L.A. CEQA Thresholds Guide, p. I-1.3.*

Table 4.8-5
FTA Construction Vibration Impact Criteria for Human Annoyance

Land Use Category[18]	Maximum Vibration Levels (VdB) from Frequent Events[19]
Category 1: Building where vibration would interfere with interior operations	65
Category 2: Residences and buildings where people normally sleep	72
Category 3: Institutional land uses with primarily daytime uses	75

Source: FTA, 2018.

- Construction activities lasting more than 10 days in a three-month period would exceed existing ambient exterior noise levels by 5 dBA (hourly L_{eq}) or more at a noise-sensitive use; or

- Construction activities of any duration would exceed the ambient noise level by 5 dBA (hourly L_{eq}) at a noise-sensitive use between the hours of 9:00 P.M. and 7:00 A.M. Monday through Friday, before 8:00 A.M. or after 6:00 P.M. on Saturday, or at any time on Sunday.

4.8.2.3 Existing Conditions

The Project Site is located in a highly urbanized area with a mix of commercial uses and is subject to typical urban noises, such as noise generated by traffic, heavy machinery from construction at other sites, and day-to-day outdoor activities. Existing ambient noise sources in the vicinity of the Project Site include traffic on local roadways, commercial activities, and other miscellaneous noise sources associated with typical urban activities. The predominant source of noise in the vicinity of the Project Site is vehicular traffic on adjacent and nearby roadways. Adjacent roadways are North Rodeo Drive along the western Project Site boundary, South Santa Monica Boulevard on the northern Project Site boundary, and North Beverly Drive on the eastern Project Site boundary. In addition, North Santa Monica Boulevard runs parallel to and approximately 100 feet to the north of South Santa Monica Boulevard; North Santa Monica Boulevard is a major thoroughfare roadway that has high volumes of traffic.

[18] *The City only applies the vibration impact criteria for human annoyance to off-site sensitive uses, e.g., school (Category 3), residential and hotel uses (Category 2). The City does not apply this standard to commercial structures that are not sensitive.*

[19] *Frequent Events are defined as more than 70 vibration events of the same source per day.*

Some land uses are considered more sensitive to intrusive noise than others based on the types of activities typically involved at the receptor location. The General Plan states that residences (including residences for the elderly), schools, churches, and libraries are considered sensitive because these are uses that have associated human activities that may be subject to stress or significant interference from noise. Based on a review of the land uses in the Project area, two noise sensitive receptor locations were identified that are located between 280 feet and 525 feet from the Project Site.

To establish baseline noise conditions, existing ambient noise levels were monitored at the two representative noise sensitive receptor locations in the vicinity of the Project Site. Baseline noise measurements were also conducted at the Project Site. The locations of the noise monitoring locations are shown in Figure 4.8-1 on page 4.8-16 and described in Table 4.8-6 on page 4.8-17. The baseline noise monitoring program was conducted on July 7, 2021, using two Bruel & Kjaer Model 2250 sound level meters and one Rion Model NL-52 Integrating/Logging sound level meter.[20] A 24-hour ambient noise measurement was conducted at each of the receptor locations.

Table 4.8-7 on page 4.8-18 provides a summary of the ambient noise measurements taken at the three noise receptor locations (i.e., the two representative receptor locations and the Project Site). Based on field observations, the ambient noise at the measurement locations is dominated by local traffic (from adjacent roadways) and, to a lesser extent, helicopter flyovers and other typical urban noises. As indicated in Table 4.8-7, the existing average daytime ambient noise levels at the off-site noise receptor locations ranged from 58.1 dBA (L_{eq}) at receptor location R2 to 71.3 dBA (L_{eq}) at receptor location R1. The average nighttime ambient noise levels ranged from 53.5 dBA (L_{eq}) at receptor location R2 to 66.2 dBA (L_{eq}) at receptor location R1.

In addition to the ambient noise measurements in the vicinity of the Project Site, the existing traffic noise on local roadways in the surrounding area was calculated to quantify the 24-hour CNEL noise levels using information provided in the Transportation Impact Report prepared for the Project included in Appendix H of this Final EIR, including the trip generation rate estimates included in Appendix B, Detailed Trip Generation Rates, of the Transportation Impact Report.[21] Fifteen (15) roadway segments were selected for the existing off-site traffic noise analysis included in this section based on proximity to noise-sensitive uses along the roadway segments and potential increases in traffic volumes

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[20] *These sound meters meet and exceed the minimum industry standard performance requirements for "Type 1" standard instruments as defined in the American National Standard Institute (ANSI) S1.4.*

[21] *Fehr & Peers, Transportation Impact Report, Appendix B, Detailed Trip Generation Rates ~~and Traffic Forecasts for Cheval Blanc Beverly Hills Specific Plan~~, September 2021.*

Figure 4.8-1
Noise Measurement Locations

Source: Eyestone Environmental, 2021.

Table 4.8-6
Description of Noise Measurement Locations

Receptor Location	Description	Approximate Distance from Measurement Location to Nearest Project Site Boundary[a]	Land Use(s)
R1	Beverly Hills Presbyterian Church at the northwest corner of North Santa Monica Boulevard North and Rodeo Drive	280 feet	Church, School
R2	Single-family residential uses on the north side of Parkway	525 feet	Residential
R3	Project Site	At Project Site	Hotel (Future)

[a] *Distances are estimated using Google Earth.*

Source: Acoustical Engineering Services (AES), 2022.

from the Project. Traffic noise levels were calculated using the Federal Highway Administration (FHWA) Traffic Noise Model (TNM) and traffic volume data from the Transportation Impact Report prepared for the Project. The TNM traffic noise prediction model calculates the hourly L_{eq} noise levels based on specific information including the hourly traffic volume, vehicle type mix, vehicle speed, and lateral distance between the noise receptor and the roadway. To calculate the 24-hour CNEL levels, the hourly L_{eq} levels were calculated during daytime hours (7:00 A.M. to 7:00 P.M.), evening hours (7:00 P.M. to 10:00 P.M.), and nighttime hours (10:00 P.M. to 7:00 A.M.). The traffic noise prediction model calculates the 24-hour CNEL noise levels based on specific information, including Average Daily Traffic (ADT); percentages of day, evening, and nighttime traffic volumes relative to ADT; vehicle speed; and distance between the noise receptor and the roadway. Vehicle mix/distribution information used in the noise calculations is shown in Table 4.8-8 on page 4.8-18.

Table 4.8-9 on page 4.8-19 provides the calculated CNEL for the analyzed local roadway segments based on existing traffic volumes. As shown in Table 4.8-9, the existing CNEL due to surface street traffic volumes ranges from 63.1 dBA CNEL along Rodeo Drive (between Carmelita Avenue and North Santa Monica Boulevard) to 71.6 dBA CNEL along South Santa Monica Boulevard (between Rodeo Drive and Beverly Drive).

Table 4.8-7
Existing Ambient Noise Levels

Receptor Location	Existing Land Use	Measured Noise Levels (L_{eq} (dBA))		CNEL (24-hour)
		Daytime Hours[a] (7:00 A.M.–10:00 P.M.)	Nighttime Hours[a] (10:00 P.M.–7:00 A.M.)	
R1	Church	71.3	66.2	74.7
R2	Single Residential	58.1	53.5	61.6
R3	Commercial	69.0	63.7	72.4

[a] *Levels shown represent the average for the entire daytime and nighttime periods.*

Source: Morgner, 2021. See Appendix G of this Final EIR.

Table 4.8-8
Vehicle Mix for Traffic Noise Model

Vehicle Type	Percent of Average Daily Traffic (ADT)			Total Percent of ADT per Vehicle Type
	Daytime Hours (7 A.M.–7 P.M.)	Evening Hours (7 P.M.–10 P.M.)	Nighttime Hours (10 P.M.–7 A.M.)	
Automobile	77.6	9.7	9.7	97.0
Medium Truck[a]	1.6	0.2	0.2	2.0
Heavy Truck[b]	0.8	0.1	0.1	1.0
Total	80.0	10.0	10.0	100.0

[a] *Medium Truck—Trucks with 2 axles.*

[b] *Heavy Truck—Trucks with 3 or more axles.*

Source: AES, 2022. See Appendix G of this Final EIR.

Table 4.8-9
Existing Roadway Traffic Noise Levels

Roadway Segment	Adjacent Land Use	Approximate Distance to Roadway Center Line (feet)	Calculated Traffic Noise Levels[a] (CNEL (dBA))	Noise-Sensitive Land Uses	Existing Noise Exposure Compatibility Category[b]
Rodeo Drive					
– Between Carmelita Ave. and N. Santa Monica Blvd.	Residential, Church	55	63.1	Yes	Conditionally Acceptable
– Between S. Santa Monica Blvd. and Brighton Wy.	Commercial	33	66.7	No	Normally Acceptable
– Between Brighton Wy. and Wilshire Blvd.	Commercial	33	65.9	No	Normally Acceptable
Beverly Drive					
– Between Carmelita Ave. and N. Santa Monica Blvd.	Residential	50	66.2	Yes	Conditionally Acceptable
– Between S. Santa Monica Blvd. and Brighton Wy.	Commercial	35	69.0	No	Conditionally Acceptable
– Between Brighton Wy. and Wilshire Blvd.	Hotel, Commercial	35	68.8	Yes	Conditionally Acceptable
North Santa Monica Boulevard					
– Between Camden Dr. and Rodeo Dr.	Church	55	70.6	Yes	Normally Unacceptable
– Between Rodeo Dr. and Beverly Dr.	Park	55	70.6	No	Normally Unacceptable
– Between Beverly Dr. and Canon Dr.	Park	55	70.7	No	Normally Unacceptable
South Santa Monica Boulevard					
– Between Camden Dr. and Rodeo Dr.	Commercial	35	71.4	No	Conditionally Acceptable
– Between Rodeo Dr. and Beverly Dr.	Commercial	35	71.6	No	Conditionally Acceptable
– Between Beverly Dr. and Canon Dr.	Commercial	35	71.3	No	Conditionally Acceptable
Brighton Way					
– Between Camden Dr. and Rodeo Dr.	Commercial	25	65.6	No	Normally Acceptable
– Between Rodeo Dr. and Beverly Dr.	Commercial	25	65.1	No	Normally Acceptable
– Between Beverly Dr. and Canon Dr.	Commercial	25	64.9	No	Normally Acceptable

[a] *Detailed calculation worksheets are included in Appendix G of this Final EIR.*

[b] *Noise compatibility is based on the most stringent land use, per City's land use compatibility as provided in Table 4.8-3 on page 4.8-9.*

Source: AES, 2022.

4.8.3 Project Impacts

4.8.3.1 Thresholds of Significance

The Project would have a significant impact related to noise if it would result in the:

Threshold (a): 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;

Threshold (b): Generation of excessive ground-borne vibration or ground-borne noise levels;

Threshold (c): 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, expose people residing or working in the project area to excessive noise levels.

With regard to Threshold (c), as evaluated in the Initial Study prepared for the Project, included in Appendix A of this Final EIR, the Project Site is not located within an airport land use plan or within 2 miles of a public or private airport or within the vicinity of a private airstrip. The nearest airport to the Project Site is the Santa Monica Airport, located approximately 4.4 miles to the southwest. Therefore, the Project would not expose people residing or working in the Project area to excessive noise levels associated with a public or private airport or from a private airstrip. As such, as determined in the Initial Study, no impact would occur, and no further analysis of airport operation-related noise is included herein.

Provided below are specific considerations applicable to the Project to assist in evaluating the remaining thresholds of significance.

4.8.3.1.1 Construction Noise

- *On-site Construction Noise:* Per BHMC Section 5-1-205, construction activities are limited to the hours of 8:00 A.M. and 6:00 P.M., Monday through Friday (excluding public holidays), unless the City has issued an after-hours construction permit for the project. Consistent with the City's approach in previous environmental documentation regarding significant construction-related noise impacts, construction noise would be significant if construction activities occurring at the Project Site would result in a noise exceedance of 5 dBA above the ambient, outside the hours permitted by the City's Noise Regulations at the Project Site (i.e., between 6:00 P.M. and 8:00 A.M. on weekdays or at any time on

Saturday, Sunday, or a public holiday) or would increase noise levels by 5 dBA or more during daytime hours at a school, hospital, church, or institute of learning.[22] Therefore, the Project would result in a significant noise impact if:

  - On-site construction activities exceed the existing ambient exterior sound levels by 5 dBA (hourly L_{eq}) or more at a noise-sensitive use outside of the permitted hours.

- *Off-Site Construction Noise*: Pursuant to the significant impact criteria identified in City of Beverly Hills General Plan Noise Element Policy N1.5, there is a significant impact from off-site construction traffic if:

  - Off-site construction traffic increases the existing ambient noise levels at a noise-sensitive use along the anticipated haul route by: 1 dBA (CNEL) where the existing ambient noise level is greater than 65 dBA CNEL; 2 dBA (CNEL) where the existing ambient noise level is between 60 and 65 dBA CNEL; or 3 dBA (CNEL) where the existing ambient noise level is less than 60 dBA CNEL.

4.8.3.1.2 Construction Vibration

The City of Beverly Hills currently does not have a significance threshold to assess vibration impacts during construction. Caltrans' guidelines set forth in Caltrans' Transportation and Construction Vibration Guidance Manual, dated April 2020, are used to evaluate potential impacts related to construction vibration for potential building damage. In addition to the FTA Construction Vibration Impact Criteria for Building Damage, the FTA guidance manual also provides vibration criteria for human annoyance for various uses. The Caltrans guidelines regarding construction vibration are the most current guidelines and are commonly used in evaluating vibration impacts.

Based on this Caltrans guidance, impacts relative to ground-borne vibration associated with potential building damage would be considered significant if any of the following future events were to occur:

- Project construction activities cause ground-borne vibration levels to exceed 0.5 PPV at the nearest off-site modern industrial/commercial buildings and newer residential structures.

- Project construction activities cause ground-borne vibration levels to exceed 0.3 PPV at the nearest off-site older residential structures.

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[22] *City of Beverly Hills, One Beverly Hills Overlay Specific Plan FSEIR, March 2021, p. 4.8-18*

- Project construction activities cause ground-borne vibration levels to exceed 0.25 PPV at the nearest off-site historic buildings.

- Project construction activities cause ground-borne vibration levels to exceed 0.10 PPV at fragile buildings.

- Project construction activities cause ground-borne vibration levels to exceed 0.08 PPV at extremely fragile historic buildings, ruins, and ancient monuments.

Based on the Transit Noise and Vibration Impact Assessment Manual by the FTA, construction vibration impacts associated with human annoyance would be significant if the following were to occur:

- Project construction activities cause ground-borne vibration levels to exceed 72 VdB at off-site sensitive uses, including residential and hotel uses.

- Project construction activities cause ground-borne vibration levels to exceed 75 VdB at off-site church and school uses.

4.8.3.1.3 Operational Noise

Pursuant to Policy N 1.5 of the City's General Plan Noise Element and the BHMC, a project would normally have a significant impact on noise levels from operations if:

- The proposed project (off-site traffic and composite noise) causes ambient noise levels to increase as follows:

  - Where the existing ambient noise level is less than 60 dBA CNEL, a project-related permanent increase in ambient noise levels of 3 dBA CNEL or greater; or

  - Where the existing ambient noise level is greater than 60 but less than 65 dBA CNEL, a project-related permanent increase in ambient noise levels of 2 dBA CNEL; or

  - Where the existing ambient noise level is greater than 65 dBA CNEL, a project-related permanent increase in ambient noise levels of 1 dBA CNEL.

As indicated above, the significance thresholds are based on the existing ambient noise levels at the affected noise-receptor locations. That is, the significance threshold is more stringent where the existing ambient noise level is higher (greater than 65 dBA CNEL) and less where existing ambient noise level is lower (less than 60 dBA CNEL).

As described above, BHMC Section 5-1-104 prohibits the generation of noise which results in disturbance of the peace and quiet or causes discomfort or annoyance. However, the BHMC does not include quantitative noise limits associated with use of outdoor areas. As described above, a change (increase) in sound level of 3 dB is considered "just perceptible." Therefore, to ensure compliance with BHMC Section 5-1-104, it has been determined that the significance threshold for the people gathering in the proposed outdoor areas or from use of an outdoor amplified sound system would be an increase of 3 dBA at the property line of the affected noise-sensitive receptor during the nighttime hours (i.e., between 10:00 P.M. and 8:00 A.M.). Therefore, the Project would have a significant impact on noise levels from people gathering or from outdoor amplified sound systems if:

- The noise level generated from the outdoor uses, including people gathering and amplified sound systems, increases the ambient noise levels by 3 dBA at the property line of a noise-sensitive use, during the nighttime hours between 10:00 P.M. and 8:00 A.M.

4.8.3.2 Methodology

4.8.3.2.1 On-Site Construction Activities

Construction noise impacts due to on-site construction activities associated with the Project were evaluated by calculating the construction-related noise levels at representative sensitive receptor locations and comparing these estimated construction-related noise levels associated with construction of the Project to the existing ambient noise levels (i.e., noise levels without construction noise from the Project). Construction noise associated with the Project was analyzed based on the Project's anticipated construction equipment inventory, construction durations, and construction schedule. The construction noise model for the Project is based on construction equipment noise levels as published by the FHWA's "Roadway Construction Noise Model (FHWA 2006)." The ambient noise levels at surrounding sensitive receptor locations were based on field measurement data (see Table 4.8-7 on page 4.8-18). The construction noise levels were then calculated for sensitive receptor locations based on the standard point source noise-distance attenuation factor of 6.0 dBA for each doubling of distance (as described above in Section 4.8.2.1.1.2, Outdoor Sound Propagation, on page 4.8-2). Additional noise attenuation was assigned to receptor locations where the line-of-sight to the Project Site was interrupted by the presence of intervening structures.

4.8.3.2.2 Off-Site Construction Activities

Off-site construction noise impacts from haul trucks associated with the Project were analyzed using the FHWA's TNM computer noise model. The TNM is the current Caltrans

standard computer noise model for traffic noise studies. The model allows for the input of roadway, noise receivers, and sound barriers, if applicable. The construction-related off-site truck volumes were obtained from the ~~transportation assessment~~ Transportation Impact Report prepared for the Project, which is included in Appendix H of this Final EIR. The TNM noise model calculates the hourly L_{eq} noise levels generated by construction-related haul trucks. Noise impacts were determined by comparing the predicted noise level with that of the existing ambient noise levels along the Project's anticipated haul routes, from the Project Site to the freeway access.

4.8.3.2.3 On-Site Stationary Noise Sources (Operation)

On-site stationary point-source noise impacts were evaluated by: (1) identifying the noise levels that would be generated by the Project's stationary noise sources, including rooftop mechanical equipment, outdoor activities (e.g., use of outdoor terraces, pool deck, and outdoor amplification), parking facility, and loading dock; (2) calculating the noise level from each noise source at surrounding noise-sensitive receptor property line locations; and (3) comparing such noise levels to ambient noise levels to determine significance. The onsite stationary noise sources were calculated using the SoundPLAN (Version 8.2) computer noise prediction model.[23] SoundPLAN is widely used by acoustical engineers as a noise modeling tool for environmental noise analysis.

4.8.3.2.4 Off-Site Mobile Noise Sources (Operation)

As discussed in Section 4.8.2.3, Existing Conditions, on page 4.8-14, off-site roadway noise was analyzed using the FHWA TNM model and traffic data from the Project's transportation assessment. Roadway noise levels were calculated for various roadway segments, based on the intersection traffic volumes. Roadway noise conditions without the Project were calculated and compared to noise levels that would occur with implementation of the Project to determine Project-related noise impacts for operational off-site roadway noise.

4.8.3.2.5 Construction Vibration

Ground-borne vibration impacts due to the Project's construction activities were evaluated for on-site construction activities by identifying potential vibration sources (i.e., construction equipment), estimating the vibration levels at the potentially affected receptor, and comparing the Project's activities to the applicable vibration significance thresholds, as

[23] *SoundPLAN GmbH, SoundPLAN version 8.2, 2020.*

described below. The ground-borne vibration levels were estimated based on the reference vibration levels and procedures provided by Caltrans and FTA.[24, 25]

4.8.3.2.6 Operational Vibration

The primary source of vibration related to operation of the Project would include vehicle circulation within the proposed subterranean parking garage and off-site vehicular trips. However, vehicular-induced vibration is unlikely to be perceptible by people because of the significant attenuation provided by these uses being located underground. The Project would also include typical commercial-grade stationary mechanical equipment, such as air-handling units (mounted at the roof level), that would include appropriate vibration-attenuation mounts to reduce the vibration transmission.

4.8.3.3 Project Design Features

The following project design features are proposed with regard to noise and vibration:

Project Design Feature NOI-PDF-1: Power construction equipment (including combustion engines), fixed or mobile, will be equipped with state-of-the-art noise shielding and muffling devices (consistent with manufacturers' standards). All equipment will be properly maintained to assure that no additional noise, due to worn or improperly maintained parts, would be generated.

Project Design Feature NOI-PDF-2: Project construction will not include the use of driven (impact) pile systems.

Project Design Feature NOI-PDF-3: Outdoor amplified sound systems will be designed such that the average ambient noise level at the off-site noise sensitive receptors (refer to Table 4.8-7) will not increase by more than 3 dBA. Specifically, the amplified sound systems will include controls that will prevent the volume from exceeding the maximum noise level of 80 dBA ($L_{eq\text{-}1hr}$) at a distance of 15 feet from the amplified sound systems at the Level 7 and Level 8 terraces and 80 dBA ($L_{eq\text{-}1hr}$) at a distance of 25 feet at Level 6 and Penthouse pool terraces.

Project Design Feature NOI-PDF-4: A 6-foot solid (visually transparent) acoustics barrier will be provided at the Level 6, Level 7, Level 8 and Penthouse

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[24] *Caltrans, Transportation and Construction Vibration Guidance Manual, Chapter 7, September 2013.*

[25] *FTA, Transit Noise and Vibration Impact Assessment Manual, Chapter 7.2, September 2018.*

terraces to acoustically screen the outdoor spaces from off-site noise-sensitive receptors to the north (receptors R1 and R2).

Project Design Feature NOI-PDF-5: The Project's building façade will incorporate sound insulation such that the interior background noise within the hotel suites will not exceed 45 dBA CNEL per the 2019 California Building Code (Section 1206.04) and within the retail/commercial space will not exceed 50 dBA $L_{eq(1\text{-}hour)}$ per the 2019 California Green Code (Section 5.507).

4.8.3.4 Analysis of Project Impacts

Threshold (a): Would the Project result in 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?

4.8.3.4.1 Impact Analysis

4.8.3.4.1.1 Construction Noise

Construction of the Project is anticipated to commence in 2022 and would occur in two phases, which would overlap in their duration. Phase 1 would involve demolition of on-site structures and construction of the subterranean parking structure to grade and opening of the relocated alley with overhead protection. Phase 2 would include the balance of the Project. The overall duration of construction is estimated to be approximately 38 months with Project buildout in 2026. Project construction activities would include demolition, site preparation, grading, building construction, paving, and architectural coating activities. Construction of Phase 1 would take approximately 7.5 months. Construction of Phase 2 would overlap Phase 1 by approximately 1.5 months and is estimated to last approximately 32 months. It is estimated that up to approximately 124,920 cubic yards of export material would be hauled from the Project Site during excavation. The designated haul routes would be as follows:

1. Haul Truck Activities Between 7:00 P.M. and 10:00 P.M.

    a. Outbound: Exit the Project Site heading eastbound on South Santa Monica Boulevard, continue to Burton Way and San Vicente Boulevard, and turn right heading southbound on La Cienega Boulevard to the I-10 Freeway.

    b. Inbound: From I-10 Freeway exit La Cienega Boulevard via Cadillac Avenue, turn right heading northbound on La Cienega Boulevard, turn left heading westbound on San Vicente Boulevard to Burton Way to South Santa Monica Boulevard, and turn left into the Project Site.

2. Haul Truck Activities Between 10:00 P.M. and 7:30 A.M.

    a. Outbound: Exit the Project Site heading southbound on Beverly Drive, turn left heading eastbound on Wilshire Boulevard, and turn right heading southbound on La Cienega Boulevard to the I-10 Freeway.

    b. Inbound: From I-10 Freeway exit La Cienega Boulevard via Cadillac Avenue, turn right heading northbound on La Cienega Boulevard, turn left heading westbound on Wilshire Boulevard, turn right heading northbound on Camden Drive, turn right heading eastbound on South Santa Monica Boulevard, and turn right into the Project Site from South Santa Monica Boulevard.

It is noted that intermittent lane closures associated with construction of the future Metro D (formerly Purple) Line Rodeo Station are anticipated to occur on Beverly Drive through 2024. When periodic lane closures associated with the Metro station construction occur on Beverly Drive and/or Wilshire Boulevard, the nighttime haul trucks would utilize the evening (7:00 P.M. to 10:00 P.M.) haul route described above.

Work time is anticipated to be between the hours of 7:00 P.M. and 7:30 A.M. for the demolition, excavation and dirt export operations. The remainder of the work will be conducted between the hours of 8:00 A.M. and 4:00 P.M. Per the BHMC, a permit would be required for construction activities outside of the allowed working hours (8:00 A.M. to 6:00 P.M.).

4.8.3.4.1.1.1 On-Site Construction Noise

Noise impacts from Project-related construction activities occurring within or adjacent to the Project Site would be a function of the noise generated by construction equipment, the location of the equipment, the timing and duration of the noise-generating construction activities, and the relative distance to noise-sensitive receptors. Construction activities for the Project would generally include demolition, site grading and excavation for the subterranean parking garage, and building construction. Each stage of construction would involve the use of various types of construction equipment and would, therefore, have its own distinct noise characteristics. Demolition generally involves the use of backhoes, front-end loaders, and heavy-duty trucks. Grading and excavation typically requires the use of earth-moving equipment, such as excavators, front-end loaders, and heavy-duty trucks. Building construction typically involves the use of cranes, forklifts, concrete trucks, pumps, and delivery trucks. Individual pieces of construction equipment anticipated to be used during construction of the Project could produce maximum noise levels (L_{max}) of between 74 dBA to 90 dBA at a reference distance of 50 feet from the noise source, as shown in Table 4.8-10 on page 4.8-28. These maximum noise levels would occur when equipment is operating under full power conditions (i.e., the equipment engine at maximum speed). However, equipment used on construction sites typically operates

Table 4.8-10
Construction Equipment Noise Levels

Equipment	Estimated Usage Factor[a] (%)	Typical Noise Level at 50 feet from Equipment (dBA (L_{max}))
Air Compressor	40	78
Asphalt Concrete Grinder	20	90
Cement and Mortar Mixer	50	80
Concrete Mixer Truck	40	79
Concrete Saw	20	90
Crane	16	81
Drill Rig	20	84
Forklift	10	75
Generator	50	81
Grader	40	85
Dump/Haul Truck	40	76
Excavator	40	81
Paver	50	77
Pump	50	81
Roller	20	80
Rubber Tired Loader	40	79
Tractor/Loader/Backhoe	40	80
Delivery Truck	40	74
Welders	40	74

[a] *Usage factor represents the percentage of time the equipment would be operating at full speed.*

Source: FHWA Roadway Construction Noise Model User's Guide, January 2006, Table 1, p. 3.

under less than full power conditions. To more accurately characterize construction-period noise levels, the average (Hourly L_{eq}) noise level associated with each construction stage is calculated based on the quantity, type, and usage factors for each type of equipment that would be used during each construction stage.[26] These noise levels are typically associated with multiple pieces of equipment operating on part power, simultaneously.

[26] *Pursuant to the FHWA Roadway Construction Noise Model User's Guide, January 2006, page 7, the usage factor is the percentage of time during a construction noise operation that a piece of construction is operating at full power.*

The existing noise-sensitive receptors in the vicinity of the Project Site would be mostly shielded from the construction areas by the presence of existing commercial buildings along the north side of South Santa Monica Boulevard. The noise analysis assumed a minimum of 5 dBA and 10 dBA noise reduction to the receptors R1 and R2, respectively due to the intervening buildings. To present a conservative impact analysis, the estimated noise levels were calculated for a scenario in which all pieces of construction equipment were assumed to operate at part power simultaneously and be located at the construction area nearest to the affected receptors. These assumptions represent the worst-case noise scenario because construction activities would typically be spread out throughout the Project Site, and, thus, some equipment would be farther away from the affected receptors. In addition, the noise modeling assumes that construction noise is constant, when, in fact, construction activities and associated noise levels would fluctuate and generally be brief and sporadic, depending on the type, intensity, and location of construction activities. Table 4.8-11 on page 4.8-30 provides the estimated construction noise levels at the off-site noise-sensitive receptors.

As presented in Table 4.8-11, the maximum estimated noise levels associated with construction of the Project would be below the significance threshold at all off-site noise-sensitive receptor locations. Therefore, noise impacts from on-site construction activities would be less than significant.

4.8.3.4.1.1.2 Off-Site Construction Noise

In addition to on-site construction noise sources, other noise sources may include materials delivery, concrete mixing, and haul trucks (construction trucks), as well as construction worker vehicles accessing the Project Site during construction. Typically, construction trucks generate higher noise levels than construction worker vehicles. The major noise sources associated with off-site construction trucks would be associated with delivery/haul trucks. As discussed in detail in Subsection 4.8.3.4.1.1, Construction Noise, above, the Project's haul routes would utilize South Santa Monica Boulevard, Burton Way, San Vicente Boulevard, La Cienega Boulevard, Cadillac Avenue, Camden Drive, Beverly Drive, and Wilshire Boulevard. There are no noise-sensitive uses located along the roadway segments of San Vicente Boulevard (between Burton Way and La Cienega Boulevard) and Camden Drive (between Wilshire Boulevard and South Santa Monica Boulevard). There are noise-sensitive uses located along the remaining segments of the proposed haul routes described in detail above.

The peak period of construction with the highest number of construction trucks would occur during the site grading and excavation stage. It is estimated that there would be a maximum of 60 construction trucks coming to and leaving the Project Site (equal to 120 total trips) per day. The hourly haul truck trips were calculated based on a 12.5 hour workday and a uniform distribution of trips, which would result in a maximum of 10 truck

Table 4.8-11
Construction Noise Impacts

Off-Site Noise-Sensitive Receptor Location	Approximate Distance from Receptor to Project Construction Area (feet)	Estimated Construction Noise Levels by Construction Stage,[a] L_{eq} (dBA)						Existing Nighttime Ambient Noise Levels (L_{eq} (dBA))	Significance Threshold[a] (L_{eq} (dBA))	Maximum Noise Exceedance Above the Threshold (L_{eq} (dBA))	Significant Impact?
		Phase 1 & Phase 2 Demolition	Phase 1 & Phase 2 Grading/ Excavation	Phase 1 Garage Const.	Phase 2 Garage Const.	Phase 2 Building Construction	Paving/ Landscape				
R1	280	66.3	65.3	66.1	66.1	66.8	61.1	66.2	71.2	0.0	No
R2	525	56.1	55.5	56.2	56.2	56.8	51.0	53.5	58.5	0.0	No

[a] *Anticipated construction work hours: between 7:00 P.M. and 7:30 A.M. for the demolition and excavation operations and between 8:00 A.M. and 4:00 P.M. for the remainder of the work.*

[b] *Significance thresholds are equivalent to the measured nighttime ambient noise levels (see Table 4.8-7 on page 4.8-4.8-18) plus 5 dBA. If the estimated construction noise levels exceed those significance thresholds, a construction-related noise impact is identified.*

Source: AES, 2022. See Appendix G of this Final EIR.

trips per hour. In addition, there would be up to 136 worker trips to and from the Project Site on a daily basis during the grading stage. For construction trucks during other phases, the number of hourly trips is based on an hourly average, assuming a uniform distribution of trips over an 8-hour workday.

Table 4.8-12 on page 4.8-32 provides the estimated number of construction-related truck trips for the various construction phases, including haul/concrete/material delivery trucks and worker vehicles, and the estimated noise levels along the anticipated truck route(s) within the City of Beverly Hills. As discussed above, haul truck activities are anticipated to occur between the hours of 7:00 P.M. and 7:30 A.M. As indicated in Table 4.8-12, the estimated noise levels generated by construction trucks during all stages of Project construction would be below the 1 dBA CNEL significance criteria for the haul routes within the City of Beverly Hills that utilize the following roadways: South Santa Monica Boulevard, Burton Way, Beverly Drive, and Wilshire Boulevard. The estimated increased noise level from haul trucks along the Camden Drive segment and La Cienega Boulevard segment within the City of Beverly Hills (between Wilshire Boulevard and Olympic Boulevard) would increase the ambient noise level by up to 2.1 and 2.0 dBA CNEL, respectively. However, there are no noise-sensitive use along these roadway segments.

The estimated increased noise levels generated by construction haul trucks along the haul route segments within the City of Los Angeles, including: Burton Way/San Vicente Boulevard (between Robertson Boulevard and La Cienega Boulevard), La Cienega Boulevard (between San Vicente Boulevard and Clifton Way and between Olympic Boulevard and I-10), and Cadillac Avenue (between I-10 and La Cienega Boulevard, as provided in Appendix G of this Final EIR would result in a maximum noise increase of 2.3 dBA, 1.8 dBA and 2.1 dBA during the nighttime hauling, respectively. The estimated noise levels due to the construction trucks during the daytime hours would increase the ambient noise levels along Burton Way/San Vicente Boulevard, La Cienega Boulevard, and Cadillac Avenue by maximum of 1.1 dBA, 0.9 dBA and 1.0 dBA Leq, respectively. The estimated noise levels increase due to the Project construction trucks would be below the City of Los Angeles' 5 dBA L_{eq} significance criteria. Therefore, noise impacts from off-site construction traffic would be less than significant.

4.8.3.4.1.2 Operational Noise

This section provides a discussion of potential operational noise impacts on nearby noise-sensitive receptors. Specific operational noise sources addressed herein include: (1) on-site stationary noise sources, including operation of the mechanical equipment (e.g., HVAC equipment), activities within the proposed outdoor spaces (e.g., terraces, pool decks, and outdoor amplification), and activities at the loading dock; and (2) off-site mobile (roadway traffic) noise sources.

Table 4.8-12
Off-Site Construction Truck Noise Levels—within City of Beverly Hills

Construction Phase	Estimated Number of Construction Truck/ Worker Trips per Day	Estimated Number of Construction Truck/Worker Trips per Hour[a]	Estimated Truck Noise Levels Plus Ambient Along the Project Truck Routes, (CNEL (dBA)) (Project/Project + Ambient)						
			South SMB (Camden Dr. to Burton Way)	Burton Way (South SMB to Robertson Blvd.)	La Cienega Blvd. (Clifton Way to Wilshire Blvd.)	La Cienega Blvd. (Wilshire Blvd. to Olympic Blvd.)	Camden Dr. (Wilshire Blvd. to South SMB)	Beverly Dr. (Project Site to Wilshire Blvd.)	Wilshire Blvd. (Camden Dr. to La Cienega Blvd.)
Phase 1 Demolition	60/50	5/20	55.6/72.8	51.7/65.0	54.0/69.5	64.0/70.5	60.6/66.8	61.0/73.0	63.6/75.0
Phase 1 Grading	120/136	10/55	58.6/72.9	54.7/65.2	57.0/69.6	67.0/71.4	63.6/67.7	64.0/73.2	66.6/75.3
Phase 1 Garage Construction	100/200	13/80	59.1/72.9	55.2/65.3	57.6/69.7	57.4/69.7	54.5/65.9	55.3/72.8	57.6/74.8
Phase 2 Demolition	60/50	5/20	55.6/72.8	51.7/65.0	54.0/69.5	64.0/70.5	60.6/66.8	61.0/73.0	63.6/75.0
Phase 2 Grading	120/136	10/55	58.6/72.9	54.7/65.2	57.0/69.6	67.0/71.4	63.6/67.7	64.0/73.2	66.6/75.3
Phase 2 Garage Construction	100/200	13/80	59.1/72.9	55.2/65.3	57.6/69.7	57.4/69.7	54.5/65.9	55.3/72.8	57.6/74.8
Phase 2 Hotel Construction	50/650	7/260	58.0/72.8	54.0/65.1	56.3/69.6	55.5/69.6	53.3/65.8	55.0/72.8	56.3/74.8
Phase 2 Finishes	20/300	3/120	54.4/72.8	50.5/65.0	52.8/69.5	51.9/69.5	49.7/65.7	51.5/72.7	52.8/74.7
Phase 2 Landscape	20/50	3/20	52.8/72.7	48.9/64.9	51.2/69.5	51.0/69.5	48.2/65.7	49.0/72.7	51.2/74.7
Existing Ambient Noise Levels along the Project Haul Routes,[b] CNEL (dBA)			72.7	64.8	69.4	69.4	65.6	72.7	74.7
Significance Criteria,[c] CNEL (dBA)			73.7	66.8	70.4	70.4	—[e]	73.7	75.7
Maximum noise Increase, CNEL (dBA)			0.2	0.5	0.3	2.0	2.1	0.5	0.6
Significant Impact?			No	No	No[d]	No[d]	No	No	No

[a] *The number of haul trucks during demolition and grading is based on an hourly average, assuming a uniform distribution of trips over a 12.5 hour workday. For construction trucks during other phases, the number of hourly trips is based on an hourly average, assuming a uniform distribution of trips over an 8-hour work day. For worker vehicles, the number of hourly trips is based on 40% of the worker trips arriving in one hour to represent a conservative analysis.*

Table 4.8-12 (Continued)
Off-Site Construction Truck Noise Levels—within City of Beverly Hills

Construction Phase	Estimated Number of Construction Truck/ Worker Trips per Day	Estimated Number of Construction Truck/Worker Trips per Hour[a]	Estimated Truck Noise Levels Plus Ambient Along the Project Truck Routes, (CNEL (dBA)) (Project/Project + Ambient)						
			South SMB (Camden Dr. to Burton Way)	Burton Way (South SMB to Robertson Blvd.)	La Cienega Blvd. (Clifton Way to Wilshire Blvd.)	La Cienega Blvd. (Wilshire Blvd. to Olympic Blvd.)	Camden Dr. (Wilshire Blvd. to South SMB)	Beverly Dr. (Project Site to Wilshire Blvd.)	Wilshire Blvd. (Camden Dr. to La Cienega Blvd.)

[b] *Ambient noise levels along the truck routes are based on: 1) Measured ambient at nearby receptor locations, i.e., ambient along South Santa Monica Boulevard and along Beverly Drive is based on measured ambient at the Project Site; 2) Along Wilshire Boulevard the ambient is assumed to be similar to ambient along North Santa Monica Boulevard, based on measured ambient noise levels from the One Beverly Hills Overlay Specific Plan Project, which is located along the Wilshire Boulevard and North Santa Monica Boulevard, (City of Beverly Hills, page 4.8-6, 2020); 3) The ambient along Camden Drive is assumed to be similar to the estimated traffic noise level along Brighton Way (see Table 4.8-7 on page 4.8-18), and; 4) Ambient along Burton Way, San Vicente Boulevard, and La Cienega Boulevard are from the Our Lady of Mt. Lebanon Project Draft EIR (City of Los Angeles, page IV.G-23 and page IV.G-43, 2021).*

[c] *Significance criteria (for the haul route segments within the City of Beverly Hills) are equivalent to the measured ambient noise levels plus 1 dBA, as the existing ambient noise levels are greater 65 dBA CNEL, except for Burton Way, which is equivalent to the ambient noise level plus 2 dBA (as the existing ambient noise level is between 60 and 65 dBA CNEL).*

[d] *Not significant as there are no noise-sensitive uses along the La Cienega Boulevard segment within the City of Beverly Hills (i.e., between Wilshire Boulevard and Olympic Boulevard).*

[e] *Not applicable, as the noise increase criteria is only applicable when there are noise-sensitive uses (i.e., residential, hotel and church uses) present.*

Source: AES, 2022. See Appendix G of this Final EIR.

4.8.3.4.1.2.1 On-Site Stationary Noise Sources

4.8.3.4.1.2.1.1 Mechanical Equipment

As part of the Project, new mechanical equipment (e.g., air ventilation and cooling equipment) would be located on the roof level and in the interior of the building (e.g., mechanical room). Project-related outdoor mechanical equipment would be designed so as not to increase the existing ambient noise levels by 5 dBA in accordance with the City's Municipal Code. Specifically, the Project would comply with BHMC Section 5-1-202, which prohibits noise from machinery, equipment, fans and air conditioning equipment from exceeding the ambient noise levels by more than 5 dBA, as measured in any octave band center frequency from 63 to 8,000 Hertz and the combined frequency bands (all pass).[27] Table 4.8-13 on page 4.8-35 presents the estimated noise levels at the off-site receptor locations from operation of the Project's mechanical equipment. As indicated in Table 4.8-13, the estimated noise levels from the mechanical equipment would range from 32.1 dBA (L_{eq}) at receptor location R2 to 33.6 dBA (L_{eq}) at receptor location R1, which would not result in measurable noise increase at the off-site sensitive receptors. Accordingly, the estimated noise levels at all off-site receptor locations would be below the significance threshold of 5 dBA (L_{eq}) increase above ambient noise levels. Therefore, noise impacts from mechanical equipment would be less than significant.

4.8.3.4.1.2.1.2 Outdoor Spaces

As discussed in Section 2.0, Project Description, of this Final EIR, the Project would include various outdoor spaces, including an outdoor pool terrace at Level 6; outdoor terraces at Levels 7 and 8; and an outdoor pool terrace on the penthouse level (Level 9). Noise sources associated with outdoor uses typically include noise from people gathering and conversing. For this operational noise analysis, reference noise levels of 65 dBA for a male and 62 dBA for a female, both speaking in a raised voice, were used for analyzing potential noise impacts from people gathering at the outdoor spaces.[28] In order to analyze a typical noise scenario, it was assumed that up to 50 percent of the people (half of which would be male and the other half female) would be talking at the same time. In addition, the hours of operation for use of the outdoor areas were assumed to be from 7:00 A.M. to 2:00 A.M.

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[27] *In addition, the Project's compliance with this Municipal Code requirement will be confirmed during the plan check review process for the Project.*

[28] *Cyril M. Harris, Handbook of Acoustical Measurements and Noise Control, Third Edition, 1991, Table 16.1.*

Table 4.8-13
Estimated Noise Levels from Mechanical Equipment

Receptor Location	Existing Ambient Noise Levels (dBA (L_{eq}))	Estimated Noise Levels from Mechanical Equipment (dBA (L_{eq}))	Ambient + Project Noise Levels (dBA (L_{eq}))	Significance Threshold[a] (dBA (L_{eq}))	Exceedance over Significance Threshold	Significant Impact?
R1	66.2	33.6	66.2	71.2	0.0	No
R2	53.5	32.1	53.5	58.5	0.0	No

[a] *Significance thresholds are equivalent to the measured daytime or nighttime ambient noise levels, whichever is lower (see Table 4.8-7 on page 4.8-18) plus 5 dBA, per the City of Beverly Hills Noise Regulations.*

Source: AES, 2022. See Appendix G of this Final EIR.

An additional potential noise source associated with uses at the outdoor terraces would be the use of an outdoor sound system (e.g., music or other sounds broadcast through an outdoor mounted speaker system). As part of the Project and as set forth above in Project Design Feature PDF-NOI-3, the amplified sound system used in outdoor areas would be designed such that the ambient noise level at the off-site noise sensitive receptors will not increase by more than 3 dBA. Specifically, the amplified sound systems will include controls that will prevent the volume from exceeding the maximum noise level of 80 dBA ($L_{eq\text{-}1hr}$) at a distance of 15 feet from the amplified sound systems at the Level 7 and Level 8 terraces and 80 dBA ($L_{eq\text{-}1hr}$) at a distance of 25 feet at Level 6 and Penthouse pool terraces. As indicated in Table 4.8-14 on page 4.8-36 with incorporation of this project design feature, the amplified sound system would not exceed the significance threshold at any off-site noise-sensitive receptor location. Table 4.8-15 on page 4.8-37 presents the estimated noise levels at the off-site sensitive receptors, resulting from the use of outdoor areas. As set forth above in Project Design Feature PDF-NOI-4, the Project has been designed to incorporate a 6-foot solid acoustics barrier at the Level 6, Level 7, Level 8, and Penthouse terraces. The estimated noise levels were calculated with the assumption that all of the outdoor spaces would be fully occupied and operating concurrently to represent a worst-case noise analysis. As presented in Table 4.8-15, the estimated noise levels from the outdoor spaces would be 52.4 dBA (L_{eq}) at receptor locations R1 and R2. The estimated composite ambient noise levels with the addition of the noise levels generated by the Project's outdoor spaces would be below the significance criteria of 3 dBA (L_{eq}) above nighttime ambient noise levels (based on the measured ambient noise level) at all off-site receptor locations. As such, noise impacts from the use of the outdoor spaces would be less than significant.

Table 4.8-14
Outdoor Uses Assumptions

Outdoor Space	Approximate Area (sf)	Estimated Total Number of People[a]	Amplified Sound System Levels (dBA (L_{eq}))
Level 6—Pool Terrace	13,077	872	80 dBA at 25 feet
Level 7—Terrace	2,260	151	80 dBA at 15 feet
Level 8—Terrace	2,995	200	80 dBA at 15 feet
Penthouse—Pool Terrace	6,190	413	80 dBA at 25 feet

[a] *Based on maximum 15 square feet per person, per the Building Code.*

Source: Gruen Associates, 2020; AES, 2022.

4.8.3.4.1.2.1.3 Parking Facility

As discussed in Section 2.0, Project Description, of this Final EIR, the Project would provide ~~178~~185 vehicular parking spaces, within three subterranean parking levels. Sources of noise within the parking garage would primarily include vehicular movements and engine noise, doors opening and closing, and intermittent car alarms. Since the subterranean parking levels would be fully enclosed on all sides, noise generated within the parking garage would be effectively shielded from offsite sensitive receptor locations in the immediate vicinity of the Project Site. Therefore, the Project's noise impact from the parking facilities would be less than significant.

4.8.3.4.1.2.1.4 Loading Dock

The Project's full-size loading dock would be located at the south side of the building at the ground level.[29] Noise sources associated with the loading dock would include delivery/trash collection trucks operation. Based on measured noise levels from typical loading dock facilities, delivery trucks could generate noise levels of approximately 71 dBA (L_{eq}) dBA (L_{eq}) at a distance of 50 feet. However, noise generated within the loading dock would be effectively shielded from the off-site sensitive receptors, as it is located at the south side of the building, while the off-site noise-sensitive receptors are located north of the Project Site. Table 4.8-16 on page 4.8-37 presents the estimated noise levels at the off-site receptor locations from the loading dock operation. As indicated in Table 4.8-16, the estimated noise from the loading dock ranges from 20.9 dBA (L_{eq}) at noise-sensitive receptor location R2 to 28.6. dBA (L_{eq}) at noise-sensitive receptor location R1, which would

[29] *Two smaller format, van size loading spaces are located in the subterranean parking garage.*

Table 4.8-15
Estimated Noise Levels from Outdoor Uses

Receptor Location	Existing Ambient Noise Levels (dBA (L_{eq}))	Estimated Noise Levels from Outdoor Uses (dBA (L_{eq}))	Ambient + Project Noise Levels (dBA (L_{eq}))	Significance Threshold[a]	Exceedance Over Significance Threshold	Significant Impact?
R1	66.2	52.4	66.4	69.2	0.0	No
R2	53.5	52.4	56.0	56.5	0.0	No

[a] *Significance thresholds are equivalent to the measured daytime or nighttime ambient noise levels, whichever is lower (see Table 4.8-7 on page 4.8-18) plus 3 dBA.*

Source: AES, 2022. See Appendix G of this Final EIR.

Table 4.8-16
Estimated Noise Levels from Loading Dock

Receptor Location	Existing Ambient Noise Levels (dBA (CNEL))	Estimated Noise Levels from Loading Dock (dBA (CNEL))	Ambient + Project Noise Levels (dBA (CNEL))	Significance Threshold[a]	Exceedance Over Significance Threshold	Significant Impact?
R1	66.2	28.6	66.2	71.2	0.0	No
R2	53.5	20.9	53.5	58.5	0.0	No

[a] *Significance thresholds are equivalent to the measured daytime or nighttime ambient noise levels, whichever is lower (see Table 4.8-7 on page 4.8-18) plus 5 dBA.*

Source: AES, 2022. See Appendix G of this Final EIR.

be well below the existing ambient noise levels and the "5-dBA increase over the ambient" significance criteria. Therefore, noise impacts from loading dock operations would be less than significant.

4.8.3.4.1.2.2 Off-Site Mobile Noise Sources

4.8.3.4.1.2.2.1 Future Plus Project Condition

Future roadway noise levels were calculated along 15 roadway segments in the vicinity of the Project Site. The roadway noise levels were calculated using the traffic data provided in the ~~transportation assessment~~ Transportation Impact Report prepared for the Project, which is included in Appendix H of this Final EIR. As discussed in the Transportation Impact Report, the Project is expected to generate a net increase of 2,361 daily trips. As such, Project-related traffic would increase the existing traffic volumes along the roadway segments in the study area when compared with Future without Project

conditions. This increase in roadway traffic was analyzed to determine if any traffic-related noise impacts would result from operation of the Project.

Table 4.8-17 on page 4.8-39 provides a summary of the roadway noise impact analysis. The calculated CNEL levels are conservatively calculated along the roadways and do not account for the presence of any physical sound barriers or intervening structures. As shown in Table 4.8-17, the Project would result in a maximum increase of up to 0.4 dBA (CNEL) in traffic-related noise levels along Beverly Drive (between South Santa Monica Boulevard and Brighton Way). At other analyzed roadway segments, the increase in traffic-related noise levels would be 0.2 dBA or lower. The increase in traffic noise levels would be well below the most stringent 1-dBA CNEL significance threshold (applicable when existing noise levels are greater than 65 dBA CNEL at noise sensitive receptors). Therefore, traffic noise impacts under Future Plus Project conditions would be less than significant.

4.8.3.4.1.2.2.2 Existing Plus Project Condition

The analysis of traffic noise impacts provided above was based on the incremental increase in traffic noise levels attributable to the Project as compared to the Future Without Project conditions. An additional analysis was performed to determine the potential noise impacts based on the increase in noise levels due to Project-related traffic compared with the existing baseline traffic noise conditions. This is a conservative approach with respect to Project-related impacts, as the existing baseline traffic volumes do not include the ambient growth and related projects that would occur at the Project build-out year.

As shown in Table 4.8-18 on page 4.8-40, when compared with existing conditions, the Project would result in a maximum of 0.3 dBA (CNEL) increase in traffic noise along Beverly Drive (between South Santa Monica Boulevard and Brighton Way). At other analyzed roadway segments, the increase in traffic-related noise levels would be 0.2 dBA or lower. The increase in traffic noise levels would be well below the most stringent 1-dBA CNEL significance threshold (applicable when existing noise levels are greater than 65 dBA CNEL at noise sensitive receptors). Therefore, traffic noise impacts under Existing Plus Project conditions would be less than significant.

4.8.3.4.1.2.3 Composite Noise Level Impacts from Project Operations

In addition to considering the potential noise impacts to neighboring noise-sensitive receptors from each specific on-site and off-site noise source (e.g., mechanical equipment, outdoor areas, loading dock, and off-site traffic), an evaluation of potential composite noise level increases (i.e., noise levels from all on-site noise sources combined) at the analyzed noise-sensitive receptor locations was also performed. This evaluation of composite noise levels from all on-site noise sources, evaluated using the CNEL noise metric, was

Table 4.8-17
Roadway Traffic Noise Impacts—Future Plus Project Condition

Roadway Segment	Adjacent Land Use	Calculated Traffic Noise Levels[a] (dBA (CNEL))		Increase in Noise Levels due to Project (dBA (CNEL))	Noise Increase Threshold, dBA (CNEL)	Significant Impact?
		Future Without Project	Future Plus Project			
Rodeo Drive						
– Between Carmelita Ave. and N. Santa Monica Blvd.	Residential, Church	63.5	63.5	0.0	2	No
– Between S. Santa Monica Blvd. and Brighton Wy.	Commercial	67.2	67.3	0.1	—[b]	—[b]
– Between Brighton Wy. and Wilshire Blvd.	Commercial	66.4	66.5	0.1	—[b]	—[b]
Beverly Drive						
– Between Carmelita Ave. and N. Santa Monica Blvd.	Residential	66.5	66.5	0.0	1	No
– Between S. Santa Monica Blvd. and Brighton Wy.	Commercial	69.2	69.6	0.4	—[b]	—[b]
– Between Brighton Wy. and Wilshire Blvd.	Hotel, Commercial	69.0	69.1	0.1	1	No
North Santa Monica Boulevard						
– Between Camden Dr. and Rodeo Dr.	Church	71.5	71.5	0.0	1	No
– Between Rodeo Dr. and Beverly Dr.	Park	71.5	71.5	0.0	—[b]	—[b]
– Between Beverly Dr. and Canon Dr.	Park	71.6	71.6	0.0	—[b]	—[b]
South Santa Monica Boulevard						
– Between Camden Dr. and Rodeo Dr.	Commercial	71.8	71.8	0.0	—[b]	—[b]
– Between Rodeo Dr. and Beverly Dr.	Commercial	72.0	72.2	0.2	—[b]	—[b]
– Between Beverly Dr. and Canon Dr.	Commercial	71.7	71.8	0.1	—[b]	—[b]
Brighton Way						
– Between Camden Dr. and Rodeo Dr.	Commercial	65.9	66.0	0.1	—[b]	—[b]
– Between Rodeo Dr. and Beverly Dr.	Commercial	65.4	65.5	0.1	—[b]	—[b]
– Between Beverly Dr. and Canon Dr.	Commercial	65.2	65.4	0.2	—[b]	—[b]

[a] *Detailed calculation worksheets are included in Appendix G of this Final EIR.*

[b] *Not applicable, as noise increase threshold only applicable at noise-sensitive uses, i.e., residential, hotel, church and daycare.*

Source: AES, 2022.

Table 4.8-18
Roadway Traffic Noise Impacts—Existing Plus Project Condition

Roadway Segment	Adjacent Land Use	Calculated Traffic Noise Levels[a] (dBA (CNEL))		Increase in Noise Levels due to Project (dBA (CNEL))	Noise Increase Threshold, dBA (CNEL)	Significant Impact?
		Existing	Existing Plus Project			
Rodeo Drive						
– Between Carmelita Ave. and N. Santa Monica Blvd.	Residential, Church	63.1	63.2	0.1	2	No
– Between S. Santa Monica Blvd. and Brighton Wy.	Commercial	66.7	66.9	0.2	—[b]	—[b]
– Between Brighton Wy. and Wilshire Blvd.	Commercial	65.9	66.1	0.2	—[b]	—[b]
Beverly Drive						
– Between Carmelita Ave. and N. Santa Monica Blvd.	Residential	66.2	66.2	0.0	1	No
– Between S, Santa Monica Blvd. and Brighton Wy.	Commercial	69.0	69.3	0.3	—[b]	—[b]
– Between Brighton Wy. and Wilshire Blvd.	Hotel, Commercial	68.8	68.9	0.1	1	No
North Santa Monica Boulevard						
– Between Camden Dr. and Rodeo Dr.	Church	70.6	70.6	0.0	1	No
– Between Rodeo Dr. and Beverly Dr.	Park	70.6	70.7	0.1	1	No
– Between Beverly Dr. and Canon Dr.	Park	70.7	70.8	0.1	1	No
South Santa Monica Boulevard						
– Between Camden Dr. and Rodeo Dr.	Commercial	71.4	71.4	0.0	—[b]	—[b]
– Between Rodeo Dr. and Beverly Dr.	Commercial	71.6	71.8	0.2	—[b]	—[b]
– Between Beverly Dr. and Canon Dr.	Commercial	71.3	71.4	0.1	—[b]	—[b]
Brighton Way						
– Between Camden Dr. and Rodeo Dr.	Commercial	65.6	65.7	0.1	—[b]	—[b]
– Between Rodeo Dr. and Beverly Dr.	Commercial	65.1	65.1	0.0	—[b]	—[b]
– Between Beverly Dr. and Canon Dr.	Commercial	64.9	65.1	0.2	—[b]	—[b]

[a] *Detailed calculation worksheets are included in Appendix G of this Final EIR.*

[b] *Not applicable, as noise increase threshold only applicable at noise-sensitive uses, i.e., residential, hotel, church and daycare.*

Source: AES, 2022.

conducted to determine the Project's contributions at the noise-sensitive receptor locations in the vicinity of the Project Site.

Table 4.8-19 on page 4.8-41 presents the estimated composite noise levels in terms of CNEL at the off-site noise-sensitive receptor locations from the Project-related noise sources. As indicated in Table 4.8-19, the Project would result in no measurable noise increase at noise-sensitive receptor location R1 and a maximum increase in composite noise levels of 1.3 dBA at noise-sensitive receptor location R2. The composite noise levels increase from Project operation would be below the 1-dBA (applicable when existing noise levels are greater than 65 dBA CNEL) and 2-dBA (applicable when existing noise levels are between 60 and 65 dBA CNEL) significance threshold at off-site noise-sensitive receptor locations R1 and R2, respectively. As such, composite noise level impacts due to Project operations would be less than significant.

4.8.3.4.2 Mitigation Measures

As evaluated above, noise impacts associated with on-site and off-site construction activities and on-site and off-site operation of the Project would be less than significant. Therefore, no mitigation measures are required.

4.8.3.4.3 Level of Significance After Mitigation

Project impacts associated with on-site and off-site construction and operational noise were determined to be less than significant without mitigation. Therefore, no mitigation measures were required or included, and the impact level would remain less than significant.

Table 4.8-19
Composite Noise Impacts

Receptor Location	Existing Ambient Noise Levels (CNEL (dBA))	Calculated Project-Related Noise Sources (dBA (CNEL))				Project Composite Noise Levels (dBA (CNEL))	Ambient plus Project Noise Levels (dBA (CNEL))	Increase in Noise Levels due to Project (dBA (CNEL))	Noise Increase Threshold, (dBA (CNEL))	Sig. Impact?
		Traffic	Mechanical	Loading Dock	Outdoor Spaces[a]					
R1	74.7	53.5	40.3	25.8	56.5	58.3	74.8	0.1	1	No
R2	61.6	46.4	38.8	18.3	56.5	57.0	62.9	1.3	2	No

[a] *Although receptor locations R1 and R2 are located at different distances to the Project Site, the calculated noise levels from the Project's outdoor spaces are the same due to the relative locations of the noise sources (i.e., amplified sound and people) and the 6-foot high acoustics barriers at Level 6, Level 7, Level 8, and the Penthouse terraces.*

Source: AES, 2022. See Appendix G of this Final EIR.

Threshold (b): Would the Project result in the generation of excessive groundborne vibration or groundborne noise levels?

4.8.3.4.4 Impact Analysis

4.8.3.4.4.1 Construction Vibration

Construction activities can generate varying degrees of ground vibration, depending on the construction procedures and the type of construction equipment used. The operation of construction equipment generates vibrations that spread through the ground and diminish in amplitude with distance from the source. The effect on buildings located in the vicinity of the construction site often varies, depending on soil type, ground strata, and construction characteristics of the receptor buildings. The results from vibration can range from no perceptible effects at the lowest vibration levels to low rumbling sounds and perceptible vibration at moderate levels, to slight damage at the highest levels. However, ground-borne vibrations from construction activities rarely reach levels that damage structures.

4.8.3.4.4.1.1 Building Damage Impacts from On-Site Construction

With regard to potential building damage, the Project would generate ground-borne construction vibration during building demolition and site excavation/grading activities when heavy construction equipment, such as large bulldozers, drill rigs, and loaded trucks, would be used. Caltrans has published typically expected vibration velocities for various construction equipment operations. Table 4.8-20 on page 4.8-44 provides the estimated vibration levels (in terms of inch per second PPV) at the nearest off-site structures to the Project Site. It is noted that since impact pile driving methods would not be used during construction of the Project, in accordance with Project Design Feature PDF-NOI-2 provided above, impact pile driving vibration is not included in the on-site construction vibration analysis. Installation of piles for shoring and foundation would utilize a drilling method to minimize vibration generation.

As provided in the Historic Resources Reports prepared for the Project and included in Appendix D of this Final EIR, the nearest historical resource to the Project Site is the Writers and Artists Building located at 9507 South Santa Monica Boulevard, approximately 100 feet west of the Project Site. Other historical resources, including the Beverly Gardens Park, the Union 76 Station, the Beverly Hills City Hall, the Beverly Post Office building, and the Anderton Court retail building, are located approximately 250 feet to 980 feet from the Project Site. Based on the distance attenuation, other than the Writers and Artists Building, these historical resources would not be exposed to vibration generated by the Project construction activities.

Table 4.8-20
Construction Vibration Impacts—Building Damage

Nearest Off-Site Building Structure[a]	Estimated Vibration Velocity Levels at the Outside of and Adjacent to the Nearest Off-Site Structures from the Project Construction Equipment[b] (inch/second ((PPV))					Significance Threshold (PPV)	Significant Impact?
	Large Bulldozer	Caisson Drilling	Loaded Trucks	Jack-hammer	Small Bulldozer		
Caltrans Reference Vibration Levels at 25 Feet	0.089	0.089	0.076	0.035	0.003	—	—
Single-Story Commercial Building to the North	0.029	0.029	0.025	0.011	0.001	0.3[c]	No
Single-Story Commercial Building to the East	0.025	0.025	0.021	0.010	0.001	0.3[c]	No
Single-Story Commercial Building to the West	0.022	0.022	0.019	0.009	0.001	0.3[c]	No
Multi-Story Commercial Buildings to the South	0.523	0.523	0.446	0.206	0.018	0.5[d]	Yes
Writers and Artists Building (historic structure)	0.019	0.019	0.017	0.008	0.001	0.25[e]	No

[a] *Represents off-site building structures located nearest to the Project Site to the north, east, south, and west.*

[b] *Vibration level calculated based on Caltrans reference vibration level at a distance of 25 feet.*

[c] *Caltrans criteria for older residential buildings, applicable to the single- and two-story residential and commercial buildings.*

[d] *Caltrans criteria for newer residential structures and modern commercial buildings, applicable to multi-story (3 stories and higher) residential and commercial buildings.*

[e] *Caltrans criteria for historic and some old buildings, applicable to the Writers and Artists Building.*

Source: Caltrans 2020; AES, 2022. See Appendix G of this Final EIR.

As indicated in Table 4.8-20, the estimated vibration velocity levels from all construction equipment would be well below the building damage significance threshold of 0.25 PPV for the Writers and Artists Building to the west and the 0.3 PPV for the single-story commercial building structures to the north, east and west. However, the estimated vibration levels at the multi-story commercial buildings immediately abutting the Project Site to the south would exceed the 0.5-PPV significance threshold. Therefore, vibration impacts associated with potential building damage would be significant without mitigation measures. This potential vibration impact would only occur when heavy construction equipment operates within 6 feet of the commercial buildings to the south. At a distance of 6 feet or greater, the estimated vibration from the construction equipment would be below the 0.5-PPV threshold. Where heavy construction equipment is used within 6 feet from the commercial buildings to the south, Mitigation Measure MM-NOI-1 (as described below) would reduce impacts to less than significant.

4.8.3.4.4.1.2 Human Annoyance Impacts from On-Site Construction

Table 4.8-21 below provides the estimated vibration levels at the off-site sensitive uses due to construction equipment operation and compares the estimated vibration levels to the specified significance thresholds for human annoyance. Per FTA guidance, the threshold of significance for human annoyance are 72 VdB at residential use and 75 VdB at school and church uses. As indicated in Table 4.8-21, the estimated ground-borne vibration levels from construction equipment would be well below the significance thresholds for human annoyance at off-site noise-sensitive receptor locations R1 and R2. Therefore, vibration impacts during construction of the Project would be less than significant.

Table 4.8-21
Construction Vibration Impacts—Human Annoyance

Off-Site Receptor Location	Estimated Vibration Velocity Levels at the Off-Site Sensitive Uses due to On-Site Construction Equipment Operation[a] (VdB)					Significance Threshold (VdB)	Significant Impact?
	Large Bulldozer	Caisson Drilling	Loaded Trucks	Jack-hammer	Small Bulldozer		
FTA Reference Vibration Levels at 25 feet	87	87	86	79	58	—	—
R1	56	56	55	48	27	75[b]	No
R2	47	47	46	39	18	72[b]	No

[a] *Vibration levels calculated based on FTA reference vibration level at a distance of 25 feet.*

[b] *FTA criteria for human annoyance.*

Source: FTA, 2018; AES, 2022. See Appendix G of this Final EIR.

4.8.3.4.4.2 Operational Vibration

As described above, sources of vibration related to operation of the Project would include vehicle circulation, delivery trucks, and building mechanical equipment. As also discussed above, vehicular-induced vibration, including vehicle circulation within the subterranean parking area, would not generate perceptible vibration levels at off-site sensitive uses. Building mechanical equipment installed as part of the Project would include typical commercial-grade stationary mechanical equipment, which would incorporate vibration-attenuation mounts to reduce vibration transmission so vibration would not be perceptible at the off-site sensitive receptors. Therefore, operation of the Project would not result in the generation of excessive ground-borne vibration levels that would be perceptible in the vicinity of the Project Site. As such, vibration impacts associated with operation of the Project would be less than significant.

4.8.3.4.5 Mitigation Measures

4.8.3.4.5.1 Construction Vibration

As discussed above, Project vibration levels generated from on-site construction activities would result in significant impacts with respect to building damage at buildings adjacent to the Project Site to the south. Therefore, the following mitigation measure is provided to reduce vibration impacts:

Mitigation Measure NOI-MM-1: Prior to start of construction, the Applicant shall retain the services of a structural engineer to visit the two off-site buildings adjacent to the Project Site to the south to inspect and document (video and/or photographic) the apparent physical condition of the buildings. In addition, the structural engineer shall establish baseline structural conditions of the buildings and prepare a shoring design.

Prior to construction, the Applicant shall retain the services of a qualified acoustical engineer to review proposed construction equipment and develop and implement a vibration monitoring program capable of recording and documenting the construction-related ground vibration levels at the two off-site buildings during demolition, shoring and excavation phase, as follows:

The vibration monitoring system shall measure (in vertical and horizontal directions) and continuously store the peak particle velocity (PPV) in inch/second. The system shall also be programmed for two preset velocity levels: a warning level of 0.4 inch/second (PPV) and a regulatory level of 0.5 inch/second (PPV). The system shall also provide real-time alert when the vibration levels exceed the two preset levels.

The vibration monitoring program shall be submitted to the Community Development Department, prior to initiating any construction activities.

In the event the warning level 0.4 inch/second (PPV) is triggered, the contractor shall identify the source of vibration generation and provide feasible steps to reduce the vibration level, including but not limited to staggering concurrent activities (if doing so would not pose a safety risk to personnel or damage risk to buildings) and utilizing lower vibratory techniques. The additional measures shall be submitted to the Building Official for review and approval.

In the event the regulatory level 0.5 inch/second (PPV) is triggered, the contractor shall halt the construction activities in the vicinity of the building and visually inspect the building for any damage. Results of the inspection must be logged. The contractor shall identify the source of vibration generation and provide feasible steps to reduce the

vibration level. Construction activities may then restart once the vibration level is re-measured and below the warning level. The additional measures shall be submitted to the Building Office for review and approval.

4.8.3.4.5.2 Operational Vibration

As discussed above, operation of the Project would not result in a significant vibration impact. Therefore, no mitigation measures are required.

4.8.3.4.6 Level of Significance After Mitigation

4.8.3.4.6.1 Construction Vibration

Implementation of Mitigation Measure NOI-MM-1 would ensure the vibration levels at the exterior of the two commercial buildings adjacent to the Project Site would not exceed the significance criterion of 0.5 PPV. Therefore, potential building damage impacts to the two commercial buildings adjacent to the Project Site to the south would be reduced to less than significant levels.

The Project's vibration impacts from on-site construction activities with respect to human annoyance were determined to be less than significant without mitigation. Therefore, no mitigation measures were required or included, and the impact level remains less than significant.

4.8.3.4.6.2 Operational Vibration

As discussed above, the vibration impact associated with Project operation would be less than significant without mitigation. Therefore, no mitigation measures were required or included, and the impact level remains less than significant.

4.8.3.5 Cumulative Impacts

4.8.3.5.1 Impact Analysis

As indicated in Section 3.0, Environmental Setting, of this Final EIR, there are 47 related projects identified in the vicinity of the Project Site. The Project, together with the related projects and future growth, could contribute to cumulative noise impacts. The potential for cumulative noise impacts to occur is specific to the distance between each related project and their stationary noise sources, as well as the cumulative traffic that these projects would add to the surrounding roadway network.

4.8.3.5.1.1 Construction Noise

4.8.3.5.1.1.1 On-Site Construction Noise

Noise from construction of development projects is typically localized and has the potential to affect noise-sensitive uses within 500 feet from the construction site, as construction noise would be attenuated by distance and intervening buildings, typical in an urban setting.[30] Thus, noise from construction activities for two projects within 1,000 feet of each other can contribute to a cumulative noise impact for receptors located midway between the two construction sites. As indicated in Section 3.0, Environmental Setting, of this Final EIR, a total of 47 related projects have been identified in the vicinity of the Project Site, including: 24 related projects within the City of Beverly Hills, 17 related projects within the City of West Hollywood, and 6 related projects within the City of Los Angeles. All of the related projects within the Cities of West Hollywood and Los Angeles are, at a minimum, 4,500 feet from the Project Site and would not contribute to the cumulative on-site construction noise. Twenty two (22) of the 24 related projects within the City of Beverly Hills are located more than 1,000 feet from the Project Site. The following two related projects are located within the City of Beverly Hills and are within 1,000 feet of the Project Site:

- Related Project No. 11 is a commercial development located at 370 North Rodeo Drive and is located approximately 500 feet southeast of the Project Site. There are no existing noise-sensitive uses located between the Project Site and the Related Project No. 11 site. The nearest noise sensitive uses to the Project Site and Related Project No. 11 would be the Beverly Hills Presbyterian Church (represented by receptor R1) and the residential uses along the north side of Park Way (represented by receptor R2). As indicated in Table 4.8-11 on page 4.8-30, the estimated noise from Project construction activities at both receptors R1 and R2 would be below the existing daytime ambient noise levels. Related Project No. 11 is located approximately 915 and 1,180 feet from receptors R1 and R2 and are also shielded by intervening building structures along Rodeo Drive. Based on distance attenuation and noise reduction provided by intervening structures, the construction noise levels from the Related Project No. 11 to receptors R1 and R2 are estimated to be 44.8 dBA and 42.5 dBA, respectively. When added to the Project-related construction noise levels at receptors R1 (66.8 dBA L_{eq}) and R2 (56.8 dBA L_{eq}), the cumulative construction noise levels at receptors R1 and R2 would be approximately 66.8 dBA L_{eq} and 57.0 dBA L_{eq}, respectively. The cumulative construction noise would be below the nighttime significance thresholds of 71.2 dBA L_{eq} and 58.5 dBA L_{eq} at receptors R1 and R2, respectively. Therefore, no cumulative noise impacts

[30] *City of Los Angeles, L.A. CEQA Thresholds Guide, 2006, Chapter I.1, Construction Noise.*

would be expected in the event of concurrent construction of the Project and Related Project No. 11.

- Related Project No. 12 is a commercial development located at 400 North Rodeo Drive and is located approximately 390 feet southeast of the Project Site. There are no existing noise-sensitive uses located between the Project Site and the Related Project No. 12 site. The nearest noise sensitive uses to the Project Site and Related Project No. 12 would be the Beverly Hills Presbyterian Church (represented by receptor R1) and the residential uses along the north side of Park Way (represented by receptor R2). As indicated in Table 4.8-11 on page 4.8-30, the estimated noise from Project construction activities at both receptors R1 and R2 would be below the existing daytime ambient noise levels. The Related Project No. 12 is located approximately 800 and 1065 feet from receptors R1 and R2 and are also shielded by intervening building structures along Rodeo Drive. Based on distance attenuation and noise reduction provided by intervening structures, the construction noise levels from the Related Project No. 12 to receptors R1 and R2 are estimated to be 45.9 dBA and 43.4 dBA, respectively. When added to the Project-related construction noise levels at receptors R1 (66.8 dBA L_{eq}) and R2 (56.8 dBA L_{eq}), the cumulative construction noise levels at receptors R1 and R2 would be approximately 66.8 dBA L_{eq} and 57.0 dBA L_{eq}, respectively. The cumulative construction noise would be below the nighttime significance thresholds of 71.2 dBA L_{eq} and 58.5 dBA L_{eq} at receptors R1 and R2, respectively. Therefore, no cumulative noise impacts would be expected in the event of concurrent construction of the Project and Related Project No. 12.

Based on the above, there would not be cumulative noise impacts at the nearby noise sensitive receptors located in proximity to the Project Site and Related Project No. 11 and Related Project No. 12. As such, cumulative construction noise impacts from the Project and the nearby related projects would be less than significant.

4.8.3.5.1.1.2 Off-Site Construction Noise

In addition to the cumulative impacts of on-site construction activities, off-site construction haul trucks could have a potential to result in cumulative impacts if the trucks for the related projects and the Project were to utilize the same haul route and would be constructed at the same time. As analyzed above (refer to Table 4.8-12 on page 4.8-32), the estimated off-site construction noise levels from the Project would be below the significance thresholds along the anticipated haul routes, including: via South Santa Monica Boulevard, Burton Way, San Vicente Boulevard, La Cienega Boulevard, Cadillac Avenue, Camden Drive, Beverly Drive, and Wilshire Boulevard. Based on a review of the nearby related projects, there are related projects along Wilshire Boulevard, including Related Project Nos. 1, 16, 18, and 19, which could also utilize Wilshire Boulevard, La Cienega Boulevard and Cadillac Avenue.

Related Project Nos. 1 and 16 would contribute up to 18 and 20 daily truck trips, respectively.[31, 32] Haul truck trips for Related Project Nos. 18 and 19 were assumed to contribute up to 15 daily truck trips as these related projects are adaptive re-use projects and are not anticipated to have a large number of hauling trips. In addition, Related Project Nos. 11 and 12 (located on Rodeo Drive) could utilize Beverly Drive, Camden Avenue, South Santa Monica Boulevard and Burton Way concurrently with the Project. Related Project Nos. 11 and 12 would contribute up to 19 and 24 daily truck trips, respectively.[33, 34] Based on a review of the available information for the related projects, hauling activities for the related projects would occur during the daytime hours between 8:00 A.M. and 6:00 P.M., outside of the Project anticipated hauling hours (between 7:00 P.M. and 7:30 A.M.).

Table 4.8-22 on page 4.8-51 provides the estimated cumulative off-site construction noise impacts. As indicated in Table 4.8-22, the estimated cumulative noise levels generated by construction trucks would be below the 1 dBA CNEL significance criteria for the following haul routes within the City of Beverly Hills: South Santa Monica Boulevard, Burton Way, Beverly Drive, and Wilshire Boulevard. The estimated noise levels from haul trucks along Camden Drive (between Wilshire Boulevard and South Santa Monica Boulevard) and the La Cienega Boulevard haul route segment within the City of Beverly Hills (between Wilshire Boulevard and Olympic Boulevard) would increase the ambient noise level by up to 2.3 and 2.1 dBA CNEL, respectively. However, there are no noise-sensitive uses along these roadway segments.

The estimated noise levels generated by construction haul trucks along the haul route segments within the City of Los Angeles, including: Burton Way/San Vicente Boulevard (between Robertson Boulevard and La Cienega Boulevard), La Cienega Boulevard (between San Vicente Boulevard and Clifton Way and between Olympic Boulevard and I-10), and Cadillac Avenue (between I-10 and La Cienega Boulevard), as provided in Appendix G of this Final EIR would result in a maximum noise increase of 1.6 dBA, 1.4 dBA and 2.0 dBA during the daytime hours, respectively. As previously described, construction for the related projects along the anticipated haul routes would occur during the daytime hours, with no nighttime hours construction. As such, the estimated cumulative noise level increase due to the construction trucks would be below the 5 dBA L_{eq} significance criteria. Therefore, cumulative noise impacts from off-site construction traffic would be less than significant.

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[31] *City of Beverly Hills, 100 North Crescent Drive Beverly Hills Media Center Project, Recirculated Draft Environmental Impact Report, October 2018, p. 118.*

[32] *City of Beverly Hills, 8633 Wilshire Boulevard Project, Planning Commission Report, July 2020, p. 3-22.*

[33] *Per communication with City's planning staff, August 21, 2021.*

[34] *City of Beverly Hills, Chanel Project CEQA Class 32 Categorical Exemption, July 2019, p. 22.*

Table 4.8-22
Cumulative Off-Site Construction Noise Impacts

Haul Route Segment	Ambient Noise Levels,[a] (CNEL (dBA))	Estimated Noise Levels from Cumulative Construction Trucks, (CNEL (dBA))	Ambient + Cumulative Construction Truck Noise Levels (CNEL (dBA))	Significance Threshold[b] (CNEL (dBA))	Maximum Noise Increase, (CNEL (dBA))	Significant Impact?
South Santa Monica Boulevard (Camden Dr. to Burton Way)	72.7	60.5	73.0	73.7	0.3	No
Burton Way/San Vicente Blvd. (South SMB to La Cienega Blvd.)	64.8	56.6	65.4	66.8	0.6	No
La Cienega (San Vicente to Wilshire Blvd.)	69.4	59	69.8	70.4	0.4	No
La Cienega (Wilshire to I-10)	69.4	67.3	71.5	70.4	2.1	No[c]
Beverly Drive (Project Site to Wilshire Blvd.)	72.7	64.4	73.3	73.7	0.6	No
Wilshire Blvd. (Camden Dr. to La Cienega Blvd.)	74.7	66.9	75.4	75.7	0.7	No
Camden Dr. (Wilshire Blvd. to South SMB)	65.6	64.1	67.9	-[d]	2.3	No

[a] *Ambient noise levels along the truck routes are based on measured ambient at nearby receptor locations, as follows: Ambient along South Santa Monica Boulevard Beverly Drive is based on measured ambient noise levels at the Project Site. Ambient along Wilshire Boulevard is assumed to be similar to ambient along North Santa Monica Boulevard, based on measured ambient noise levels from the One Beverly Hills Overlay Specific Plan Project, which is located along the Wilshire Boulevard and North Santa Monica Boulevard, (City of Beverly Hills, page 4.8-6, 2020). Ambient along Camden Drive is assumed to be similar to the estimated traffic noise level along Brighton Way (see Table 4.8-7 on page 4.8-18). Ambient noise levels along Burton Way, San Vicente Boulevard, La Cienega Boulevard, and Cadillac Avenue are from the Our Lady of Mt. Lebanon Project (City of Los Angeles, page IV.G-23 and page IV.G-43, 2021).*

[b] *Significance criteria (for the haul route segments within the City of Beverly Hills) are equivalent to the measured ambient noise levels plus 1 dBA, as the existing ambient noise levels are greater 65 dBA CNEL, except for Burton Way, where the significance criteria is equivalent to ambient noise level plus 2 dBA (as the existing ambient noise level is between 60 and 65 dBA CNEL).*

[c] *Not applicable as there are no noise-sensitive uses along the La Cienega Boulevard segment within the City of Beverly Hills (between Wilshire Boulevard and Olympic Boulevard).*

[d] *Not applicable, as noise increase threshold only applicable at noise-sensitive uses, i.e., residential, hotel, church and daycare.*

Source: AES, 2022. See Appendix G of this Final EIR.

4.8.3.5.1.1.3 Summary of Cumulative Construction Noise Impacts

As discussed above, on-site and off-site construction activities from the Project and related projects would not result in generation of noise levels in excess of standards established by the City. Therefore, cumulative noise impacts from on-site and off-site construction activities would be less than significant.

4.8.3.5.1.2 Operational Noise

The Project Site and surrounding area have been developed with uses that have previously generated, and would continue to generate, noise from a number of community noise sources, including mechanical equipment (e.g., HVAC systems), outdoor activity areas, and vehicle travel. Similar to the Project, each of the related projects that has been identified in the vicinity of the Project Site would also generate stationary-source and mobile-source noise due to on-going day-to-day operations. All related projects are of a residential, retail, or commercial nature, and these uses are not typically associated with excessive exterior noise levels. However, each project would produce traffic volumes that are capable of generating roadway noise impacts. The potential cumulative noise impacts associated with on-site and off-site noise sources are addressed below.

4.8.3.5.1.2.1 On-Site Operational Noise

Due to provisions set forth in the BHMC that limit stationary-source noise from items, such as roof-top mechanical equipment, noise levels would be less than significant at the property line for each related project. In addition, as discussed above, noise impacts associated with operations within the Project Site would be less than significant. Therefore, based on the distance of the related projects from the Project Site and the operational noise levels associated with the Project, cumulative stationary-source noise impacts associated with operation of the Project and related projects would be less than significant.

4.8.3.5.1.2.2 Off-Site Operational Noise

The Project and related projects in the area would produce traffic volumes that would generate roadway noise. Cumulative noise impacts due to off-site traffic were analyzed by comparing the projected increase in traffic noise levels from "Existing" conditions to "Future Plus Project" conditions to the applicable significance criteria. Future Plus Project conditions include traffic volumes from future ambient growth, related projects, and the Project. The calculated traffic noise levels under "Existing" and "Future Plus Project" conditions are presented in Table 4.8-23 on page 4.8-53. As shown therein, cumulative traffic volumes would result in a maximum increase of 0.9 dBA (CNEL) along North Santa Monica Boulevard (between Camden Drive and Canon Drive), which would be below the relevant 1-dBA significance threshold (applicable when existing noise levels are greater than 65 dBA CNEL). The noise increase at all other roadway segments would be 0.6 dBA or lower. Therefore, cumulative noise impacts due to off-site mobile noise sources associated with the Project, future growth, and related projects would be less than significant.

Table 4.8-23
Cumulative Roadway Traffic Noise Impacts

Roadway Segment	Adjacent Land Use	Calculated Traffic Noise Levels[a] (dBA (CNEL))		Increase in Noise Levels due to Project (dBA (CNEL))	Noise Increase Threshold, dBA (CNEL)	Significant Impact?
		Existing	Future Plus Project			
Rodeo Drive						
– Between Carmelita Ave. and N. Santa Monica Blvd.	Residential, Church	63.1	63.5	0.4	2	No
– Between S. Santa Monica Blvd. and Brighton Wy.	Commercial	66.7	67.3	0.6	—[b]	—[b]
– Between Brighton Wy. and Wilshire Blvd.	Commercial	65.9	66.5	0.6	—[b]	—[b]
Beverly Drive						
– Between Carmelita Ave. and N. Santa Monica Blvd.	Residential	66.2	66.5	0.3	1	No
– Between S. Santa Monica Blvd. and Brighton Wy.	Commercial	69.0	69.6	0.6	—[b]	—[b]
– Between Brighton Wy. and Wilshire Blvd.	Hotel, Commercial	68.8	69.1	0.3	1	No
North Santa Monica Boulevard						
– Between Camden Dr. and Rodeo Dr.	Church	70.6	71.5	0.9	1	No
– Between Rodeo Dr. and Beverly Dr.	Park	70.6	71.5	0.9	1	No
– Between Beverly Dr. and Canon Dr.	Park	70.7	71.6	0.9	1	No
South Santa Monica Boulevard						
– Between Camden Dr. and Rodeo Dr.	Commercial	71.4	71.8	0.4	—[b]	—[b]
– Between Rodeo Dr. and Beverly Dr.	Commercial	71.6	72.2	0.6	—[b]	—[b]
– Between Beverly Dr. and Canon Dr.	Commercial	71.3	71.8	0.5	—[b]	—[b]
Brighton Way						
– Between Camden Dr. and Rodeo Dr.	Commercial	65.6	66.0	0.4	—[b]	—[b]
– Between Rodeo Dr. and Beverly Dr.	Commercial	65.1	65.5	0.4	—[b]	—[b]
– Between Beverly Dr. and Canon Dr.	Commercial	64.9	65.4	0.5	—[b]	—[b]

[a] *Detailed calculation worksheets are included in Appendix G of this Final EIR.*

[b] *Not applicable, as noise increase threshold only applicable at noise-sensitive uses, i.e., residential, hotel, church, and daycare.*

Source: AES, 2022.

4.8.3.5.1.2.3 Summary of Cumulative Operational Noise Impacts

As discussed above, cumulative operational noise impacts from on-site and off-site sources would be less than significant.

4.8.3.5.1.3 Construction Vibration

As previously discussed, ground-borne vibration decreases rapidly with distance. Potential vibration impacts due to construction activities are generally limited to buildings/structures that are located in proximity to the construction site (i.e., within 10 feet as related to building damage and 60 feet as related to human annoyance at residential uses).[35] As indicated above, the nearest related project to the Project Site is Related Project No. 12, which is located approximately 390 feet southeast of the Project Site. Due to the rapid attenuation characteristics of ground-borne vibration and given the distance of the nearest related project to the Project Site, there is no potential for a cumulative construction vibration impact with respect to building damage associated with ground-borne vibration from on-site sources.

With regard to human annoyance, as previously discussed, the estimated vibration levels for the Project would be well below the 72 VdB (at the residential uses) and 75 VdB (at the daycare and church uses) significance threshold. Furthermore, the nearest residential uses to the Project are located on the north side of Park Way approximately 525 feet from the Project and approximately 1,000 feet from Related Project No. 12. Due to the rapid attenuation characteristics of ground-borne vibration and given the distance of the nearest related project to the Project Site, there is no potential for a cumulative construction vibration impact with respect to human annoyance from on-site sources. Therefore, cumulative construction vibration impacts related to the threshold for human annoyance would be less than significant.

4.8.3.5.2 Mitigation Measures

4.8.3.5.2.1 Noise

As discussed above, on-site and off-site construction and operational activities from the Project and related projects would result in less-than-significant cumulative noise impacts. Therefore, no mitigation measures are required.

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[35] *Distances calculated based on estimated vibration levels for typical construction equipment at a distance which would be below the 0.04 PPV significance threshold with respect to human annoyance and 0.3 PPV significance threshold applicable to older residential structures.*

4.8.3.5.2.2 Vibration

Cumulative construction vibration impacts with respect to building damage would be less than significant, and no mitigation measures are required.

Cumulative construction vibration impacts with respect to human annoyance would be less than significant, and no mitigation measures are required.

4.8.3.5.3 Level of Significance after Mitigation

4.8.3.5.3.1 Noise

Cumulative construction and operational noise impacts associated with on-site and off-site noise sources were determined to be less than significant without mitigation. Therefore, no mitigation measures were required or included, and the impact level remains less than significant.

4.8.3.5.3.2 Vibration

Cumulative construction vibration impacts with respect to building damage were determined to be less than significant without mitigation. Therefore, no mitigation measures were required or included, and the impact level remains less than significant.

Cumulative construction vibration impacts with respect to human annoyance were determined to be less than significant without mitigation. Therefore, no mitigation measures were required or included, and the impact level remains less than significant.

Cumulative impacts related to operational vibration were determined to be less than significant without mitigation. Therefore, no mitigation measures were required or included, and the impact level remains less than significant.