IV. ENVIRONMENTAL IMPACT ANALYSIS
K. NOISE

ENVIRONMENTAL SETTING

Fundamentals of Sound and Environmental Noise

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

Noise, on the other hand, is typically defined as unwanted sound. A typical noise environment consists of a base of steady ambient noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These can vary from an occasional aircraft or train passing by to virtually continuous noise from, for example, traffic on a major highway. Table IV.K-1, Representative Environmental Noise Levels, illustrates representative noise levels for the environment.

Table IV.K-1
Representative Environmental Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	—110—	Rock Band
Jet Fly-over at 100 feet		
	—100—	
Gas Lawnmower at 3 feet		
	—90—	
		Food Blender at 3 feet
Diesel Truck going 50 mph at 50 feet	—80—	Garbage Disposal at 3 feet
Noisy Urban Area during Daytime		
Gas Lawnmower 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 Area during Daytime	—50—	Dishwasher in Next Room
Quiet Urban Area during Nighttime	—40—	Theater, Large Conference Room (background)
Quiet Suburban Area during Nighttime		
	—30—	Library

Table IV.K-1 (Continued)
Representative Environmental Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Quiet Rural Area during Nighttime		Bedroom at Night, Concert Hall (background)
	—20—	
		Broadcast/Recording Studio
	—10—	
Lowest Threshold of Human Hearing	—0—	Lowest Threshold of Human Hearing

Source: California Department of Transportation, 1998.

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 upon people is largely dependent upon the total acoustical energy content of the noise, as well as the time of day when the noise occurs. Those that are applicable to this analysis are as follows:

- L_{eq}, the equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the Leq of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.

- CNEL, the Community Noise Equivalent Level, is a 24-hour average L_{eq} with a 10 dBA "penalty" added to noise during the hours of 10:00 p.m. to 7:00 a.m., and an additional 5 dBA penalty during the hours of 7:00 p.m. to 10:00 p.m. to account for noise sensitivity in the evening and nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour Leq would result in a measurement of 66.7 dBA CNEL.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day, night, or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 45 dBA, moderate in the 45–60 dBA range, and high above 60 dBA. Noise levels greater than 85 dBA can cause temporary or permanent hearing loss. Examples of low daytime levels are isolated natural settings with noise levels as low as 20 dBA and quiet suburban residential streets with noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate level noise environments are urban residential or semi-commercial areas (typically 55–60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with more noisy urban residential or residential-commercial areas (60–75 dBA) or dense urban or industrial areas (65–80 dBA). Generally, a difference of 3 dBA over 24 hours is a barely-perceptible increase to most people. A 5 dBA increase is readily noticeable, while a difference of 10 dBA would be perceived as a doubling of loudness.

Noise levels from a particular source generally decline as distance to the receptor increases. Other factors such as the weather and reflecting or shielding also intensify or reduce the noise level at any given location. A commonly used rule of thumb for roadway noise is that for every doubling of distance from the source,

the noise level is reduced by about 3 dBA. Noise from stationary or point sources is reduced by about 6 dBA for every doubling of distance. Noise levels may also be reduced by intervening structures; generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm reduces noise levels by 5 to 10 dBA. The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 dBA with closed windows. The exterior-to-interior reduction of newer homes is generally 30 dBA or more.

Noise Analysis Methodology

The analysis of the existing and future noise environments presented herein is based on noise prediction modeling and empirical observations. Noise modeling procedures involved the calculation of existing and future vehicular noise levels along individual roadway segments in the site vicinity. This task was accomplished using the Federal Highway Administration Highway Noise Prediction Model (FHWA-RD-77-108). The model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The average vehicle noise rates (energy rates) utilized in the FHWA Model has been modified to reflect average vehicle noise rates identified for California by the California Department of Transportation (Caltrans).[1] The Caltrans data show that California automobile noise is 0.8 to 1.0 dBA higher than national levels and that medium and heavy truck noise is 0.3 to 3.0 dBA lower than national levels.[2] Traffic volumes utilized as data inputs in the noise prediction model were provided by the project traffic engineer.

Existing Noise Levels

The project site and surrounding area are characterized by high-rise buildings consisting of hotel, office, retail and multi-family residential land uses. Immediately to the north of the site is the Westin Century Plaza Hotel & Spa, a luxury hotel with 727 rooms and significant banquet, spa and recreational facilities. To the north and west of the Century Plaza Hotel are Constellation Place and the Sun America building, two high-rise office towers. The Westfield Shoppingtown Century City Mall, a regional mall and entertainment complex, is also in the vicinity of the project site to the north.

Multi-family residential uses are located adjacent to the project site, just north and south of Olympic Boulevard. Specifically, to the southeast of the site are the Park Place condominiums, a medium-density housing development. To the west of the project site are the Century Woods condominiums, another medium-density residential development located at the northeast corner of Century Park West and Olympic Boulevard. Finally, immediately across Olympic Boulevard and to the south of the site lies the Fox Plaza

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[1] *Rudolf W. Hendriks, California Vehicle Noise Emission Levels, NTIS, FHWA/CA/TL-87/03.*

[2] *California Vehicle Noise Emission Levels, January 1987.*

office tower. Existing daytime noise levels were monitored at one location on the project site and three locations off-site in order to identify representative noise levels in various areas on September 1, 2005 between the hours of 12:35 P.M. and 1:56 P.M.. The noise survey was conducted using the Larson-Davis 820 precision noise meter, which meets and exceeds the minimum industry standard performance requirements for "Type 1" standard instruments as defined in the American National Standard Institute (ANSI) S1.4. Furthermore, this noise meter meets and exceeds the requirement specified in Section 111.01(l) of the LAMC that the instruments be "Type S2A" standard instruments or better. This instrument was calibrated and operated according to the manufacturer's written specifications. At the measurement sites, the microphone was placed at a height of five feet above the local grade.

At the noise measurement locations, listed in Table IV.K-2, the sound level meter was programmed to record the average sound level (L_{eq}) over a cumulative period of 15 minutes, in accordance with Section 111.01(a) of the LAMC. Existing daytime noise levels were monitored at four locations on the project site as well as offsite in order to identify representative noise levels in various areas. The average noise levels and sources of noise monitored at each location are shown in Table IV.K-2, Existing Daytime Noise Levels at Selected Onsite and Offsite Locations, with the locations identified in Figure IV.K-1. The daytime noise levels listed in Table IV.K-2 are characteristic of a typical urban residential environment.

Table IV.K-2
Existing Daytime Noise Levels at Selected Onsite and Offsite Locations

Noise Measurement Location	Primary Noise Sources	Noise Level Statistics		
		L_{eq}	L_{min}	L_{max}
1. On sidewalk at the southwest corner of St. Regis driveway and Ave. of the Stars.	Roadway Traffic	64.9	76.2	101.4
2. On sidewalk on east side of Avenue of the Stars, mid-block between Olympic Boulevard and Galaxy Way.	Roadway Traffic	68.4	55.2	85.0
3. On the rear portion of the project site between the existing hotel and the garden area.	Roadway Noise	54.5	51.2	64.6
4. Rear property boundary adjacent to Century Woods homes to the west.	Roadway Noise	52.5	49.5	59.8

Source: Christopher A Joseph and Associates, 2005

Existing roadway noise levels were calculated for the roadway links, which were identified in the traffic study, in the project vicinity with nearby noise-sensitive uses. The average daily noise levels along these roadway segments are presented in IVK-3, Existing Roadway Noise Levels Offsite.

Table IV.K-3
Existing Roadway Noise Levels Offsite

Roadway	Roadway Segment	Land Uses	dBA CNEL
Santa Monica Blvd (n)	West of Century Park West	Commercial	65.6

Table IV.K-3 (Continued)
Existing Roadway Noise Levels Offsite

Roadway	Roadway Segment	Land Uses	dBA CNEL
Santa Monica Blvd (n)	Century Park West to Avenue of the Stars	Commercial	66.3
Santa Monica Blvd (n)	Avenue of the Stars to Century Park East	Commercial	66.8
Santa Monica Blvd (n)	East of Century Park East	Commercial	67.5
Santa Monica Blvd (s)	West of Century Park West	Commercial	65.8
Santa Monica Blvd (s)	Century Park West to Avenue of the Stars	Commercial	69.1
Santa Monica Blvd (s)	Avenue of the Stars to Century Park East	Commercial	68.3
Santa Monica Blvd (s)	East of Century Park East	Commercial	68.4
Century Park West	South of Santa Monica Boulevard	Commercial	60.2
Century Park West	North of Constellation Boulevard	Residential	59.8
Century Park West	South of Constellation Boulevard	Residential	61.3
Century Park West	North of Olympic Boulevard	Residential	62.0
Avenue of the Stars	South of Santa Monica Boulevard	Commercial	64.1
Avenue of the Stars	North of Constellation Boulevard	Commercial	64.7
Avenue of the Stars	South of Constellation Boulevard	Residential	64.9
Avenue of the Stars	North of Olympic Boulevard (w/b ramp)	Residential	65.0
Avenue of the Stars	South of Olympic Boulevard (w/b ramp)	Residential	64.6
Avenue of the Stars	North of Olympic Boulevard (e/b ramp)	Residential	64.5
Avenue of the Stars	South of Olympic Boulevard (e/b ramp)	Residential	64.0
Avenue of the Stars	North of Galaxy Way	Residential	64.3
Avenue of the Stars	South of Galaxy Way	Residential	64.3
Avenue of the Stars	North of Empyrean Way	Residential	63.7
Avenue of the Stars	South of Empyrean Way	Residential	63.7
Avenue of the Stars	North of West Pico Way	Residential	63.7
Century Park East	South of Santa Monica Boulevard	Commercial	63.7
Century Park East	North of Constellation Boulevard	Residential	64.4
Century Park East	South of Constellation Boulevard	Residential	64.0
Century Park East	North of Olympic Boulevard	Residential	67.3
Century Park East	South of Olympic Boulevard	Residential	61.4
Century Park East	North of West Pico Way	Residential	62.4
Constellation Blvd.	West of Century Park West	Residential	60.5
Constellation Blvd.	East of Century Park West	Commercial	62.7
Constellation Blvd.	West of Century Park East	Commercial	62.8
Constellation Blvd.	East of Century Park East	Residential	62.2
Olympic Boulevard	West of Century Park West	Residential	69.1
Olympic Boulevard	East of Century Park West	Commercial	68.5
Olympic Boulevard	West of Century Park East	Commercial	68.5
Olympic Boulevard	East of Century Park East	Residential	68.7
West Pico Boulevard	West of Overland Avenue	Residential	68.1
West Pico Boulevard	East of Overland Avenue	Residential	69.1
West Pico Boulevard	West of Beverly Glen Boulevard	Residential	68.5
West Pico Boulevard	East of Beverly Glen Boulevard	Residential	68.8

Table IV.K-3 (Continued)
Existing Roadway Noise Levels Offsite

Roadway	Roadway Segment	Land Uses	dBA CNEL
West Pico Boulevard	West of Motor Avenue	Commercial	68.6
West Pico Boulevard	East of Motor Avenue	Commercial	69.3
West Pico Boulevard	West of Avenue of the Stars	Commercial	70.0
West Pico Boulevard	East of Avenue of the Stars	Commercial	69.1
West Pico Boulevard	West of Century Park East	Residential	69.1
West Pico Boulevard	East of Century Park East	Residential	69.2
Galaxy Way	East of Avenue of the Stars	Residential	55.0
Empyrean Way	East of Avenue of the Stars	Residential	49.3
Overland Avenue	North of West Pico Way	Residential	63.9
Overland Avenue	South of West Pico	Residential	66.7
Beverly Glen Boulevard	North of West Pico Way	Residential	61.3
Motor Avenue	South of West Pico	Country Club	64.5

Source: Christopher A. Joseph and Associates, 2005. Calculation data and results are provided in Appendix H.

INSERT FIGURE IV.K-1

NOISE MEASURMENT LOCATIONS

Regulatory Framework

Federal

The City of Los Angeles has not adopted any thresholds for groundborne vibration impacts. Therefore, this analysis uses the Federal Railway Administration's vibration impact thresholds during construction and operation for sensitive buildings. The Federal Railway Administration has developed vibration impact thresholds for noise-sensitive buildings, residences, and institutional land uses. These thresholds are 80 VdB at residences and buildings where people normally sleep (e.g., nearby residences and daycare facility) and 83 VdB at institutional buildings.

State

Title 24 of the California Code of Regulations codifies Sound Transmission Control requirements, which establishes uniform minimum noise insulation performance standards for new hotels, motels, dormitories, apartment houses, and dwellings other than detached single-family dwellings. Specifically, Title 24 states that interior noise levels attributable to exterior sources shall not exceed 45 dBA L_{eq} in any habitable room of new multi-family dwellings. Dwellings are to be designed so that interior noise levels will meet this standard for at least 10 years from the time of building permit application.

Local

City of Los Angeles

The City of Los Angeles is the local agency responsible for adopting and implementing policies as they relate to noise levels and its affect on land uses within its jurisdiction. Both acceptable and unacceptable noise levels associated with construction activities, roadway noise levels and ambient noise levels must all be defined and quantified. The City of Los Angeles has numerous ordinances and enforcement practices that apply to intrusive noise as well as ones that guide new construction. The City's comprehensive noise ordinance (Section 111 et seq. of the LAMC) set forth sound measurement and criteria, maximum ambient noise levels for different land use zoning classifications, sound emission levels for specific uses, hours of operation for certain uses, standards for determining when noise is deemed to be a disturbance to the peace, and legal remedies for violations. The standards are correlated with land use zoning classifications in order to maintain identified ambient noise levels and to limit, mitigate, or eliminate intrusive noise that exceeds the ambient noise levels within a specified zone. Table IV.K-4, Community Noise Exposure (CNEL), lists the noise/land use compatibility guidelines for land uses within the City of Los Angeles.

In accordance with the Noise Element of the City of Los Angeles General Plan, a 60 dB CNEL exposure is considered to be the most desirable target for the exterior of noise-sensitive land uses, or sensitive receptors, such as homes, schools, churches, libraries, etc. It is also recognized that such a level may not always be possible in areas of substantial traffic noise intrusion. Exposures up to 70 dB CNEL for noise-sensitive uses

are considered conditionally acceptable if all measures to reduce such exposure have been taken. Noise levels above 70 dB CNEL are normally unacceptable for sensitive receptors except in unusual circumstances.

Table IV.K-4
Community Noise Exposure CNEL

Land Use	Normally Acceptable[a]	Conditionally Acceptable[b]	Normally Unacceptable[c]	Clearly Unacceptable[d]
Single-family, Duplex, Mobile Homes	50 - 60	55 - 70	70 - 75	above 70
Multi-Family Homes	50 - 65	60 - 70	70 - 75	above 70
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 - 70	60 - 70	70 - 80	above 80
Transient Lodging – Motels, Hotels	50 - 65	60 - 70	70 - 80	above 80
Auditoriums, Concert Halls, Amphitheaters	---	50 - 70	---	above 65
Sports Arena, Outdoor Spectator Sports	---	50 - 75	---	above 70
Playgrounds, Neighborhood Parks	50 - 70	---	67 - 75	above 72
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 - 75	---	70 - 80	above 80
Office Buildings, Business and Professional Commercial	50 - 70	67 - 77	above 75	---
Industrial, Manufacturing, Utilities, Agriculture	50 - 75	70 - 80	above 75	---

[a] Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.
[b] Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
[c] Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
[d] Clearly Unacceptable: New construction or development should generally not be undertaken.

Source: Office of Noise Control, California Department of Health Services (DHS).

Existing Groundborne Vibration

Aside from seismic events, the greatest regular sources of groundborne vibration at the project site and immediate vicinity are roadway truck and bus traffic on Olympic Boulevard. Periodic groundborne vibrations may also come from the adjacent project sites. Trucks and buses typically generate groundborne vibration velocity levels of around 63 VdB. These levels could reach 72 VdB where trucks and buses pass over bumps in the road.[3]

[3] *Federal Railroad Administration, 1998.*

ENVIRONMENTAL IMPACTS

Thresholds of Significance

In accordance with Appendix G to the State CEQA Guidelines, a project would have a significant effect on the environment if it would:

(a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;

(b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;

(c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;

(d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;

(e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airstrip, expose people residing or working in the project area to excessive noise levels; and

(f) For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

As discussed in the Initial Study (see Appendix A to the Draft EIR), the proposed project would have no impact with respect to Thresholds (e) and (f) listed above. As such, no further analysis of these topics are required (see also Section IV.A of this Draft EIR).

The State CEQA Guidelines do not define the levels at which groundborne vibration or groundborne noises are considered "excessive". This analysis uses the Federal Railway Administration's vibration impact thresholds for sensitive buildings, residences, and institutional land uses. These thresholds are 65 VdB at buildings where vibration would interfere with interior operations, 80 VdB at residences and buildings where people normally sleep and 83 VdB at other institutional buildings.[4]

The State CEQA Guidelines also do not define the levels at which permanent and temporary increases in ambient noise are considered "substantial". Therefore, for the purposes of this analysis, noise impacts are

[4] *Ibid.*

subject to the Draft L.A. CEQA Thresholds Guide[5], which states that a project would normally have a significant impact on noise from construction if:

- Construction activities lasting more than one day would exceed existing ambient exterior noise levels by 10 dBA L_{eq} or more at a noise sensitive use;
- Construction activities lasting more than 10 days in a three month period would exceed existing ambient exterior noise levels by 5 dBA Leq or more at a noise sensitive use; or
- Construction activities would exceed the ambient noise level by 5 dBA Leq 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 anytime on Sunday.

In the Draft L.A. CEQA Thresholds Guide, CNEL is utilized as a noise descriptor for quantifying the noise impact from construction activities. However, construction typically occurs during the daytime hours, while CNEL describes the overall ambient sound levels over a 24-hour period, including nighttime hours. As supported by the LAMC Section 112.05,6 the Leq metric is more applicable when describing the potential noise impact from construction activities, and is likely to be a more conservative criteria than CNEL. Therefore, in this study, the three significant construction thresholds outlined above are be described in terms of Leq.

Section 112.05 of the LAMC specifies the maximum noise level of powered equipment or powered hand tools. Any powered equipment or powered hand tool that produces a maximum noise level exceeding 75 dBA at a distance of 50 feet from construction and industrial machinery is prohibited. However, the above noise limitation does not apply where compliance is technically infeasible (Section 112.05of the LAMC). Technically infeasible means that the above noise limitation cannot be complied with despite the use of mufflers, shields, sound barriers and/or any other noise reduction device or techniques during the operation of the equipment. An inability to reduce construction equipment noise exposure to 75 dBA or less at any off-site, noise-sensitive use would be considered a significant temporary noise impact.

With respect to operational noise, the Draft L.A. CEQA Thresholds Guide states the following:

- A project would normally have a significant impact on noise levels from project operations if the project causes the ambient noise level measured at the property line of affected uses to

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[5] *City of Los Angeles Draft L.A. CEQA Thresholds Guide, May 14, 1998, pages I.2-3 and I.2-4.*

[6] *City of Los Angeles Municipal Code, Chapter XI Noise Regulation, Article 1 General Provisions, Section 112.05, Rev. No. 63 – 1996.*

increase by 3 dBA in CNEL to or within the "normally unacceptable" of "clearly unacceptable" category, or any 5 dBA or greater noise increase (see Table IV.K-4, Community Noise Exposure CNEL).

Project Impacts

Construction Noise

Project development would require the use of heavy equipment for site grading and excavation, installation of utilities, paving, and building fabrication. Development activities would also involve the use of smaller power tools, generators, and other sources of noise. During each stage of development, there would be a different mix of equipment operating and noise levels would vary based on the amount of equipment in operation and the location of the activity.

The U.S. Environmental Protection Agency (U.S. EPA) has compiled data regarding the noise generating characteristics of specific types of construction equipment and typical construction activities. These data are presented Table IV.K-5 and IV.K-6. These noise levels would diminish rapidly with distance from the construction site at a rate of approximately 6 dBA per doubling of distance. For example, a noise level of 84 dBA L_{eq} measured at 50 feet from the noise source to the receptor would reduce to 78 dBA L_{eq} at 100 feet from the source to the receptor, and reduce by another 6 dBA L_{eq} to 72 dBA L_{eq} at 200 feet from the source to the receptor.

During construction, three basic types of activities would be expected to occur and generate noise. First, the existing hotel would be demolished and removed. The demolition of the existing building would be generally approached floor-by-floor, starting from the top floor of the building and progressing downward. The existing exterior walls would remain in place during "soft" demolition work (i.e., interior walls and equipment). Light-duty excavators with hydraulic breakers would be then be used to break up concrete and steel floors and walls. The elevator shafts in the existing building would be used as chutes to drop debris from the upper floors. The debris would be caught by a diaphragm designed to deflect the material out onto one of three levels located equidistantly throughout the building. The demolition equipment would be mostly hidden behind scaffolding and scrim fabric at the top 250 feet of the building.

Table IV.K-5
Noise Range of Typical Construction Equipment

Construction Equipment	Noise Levels in dBA L_{eq} at 50 feet[a]
Front Loader	73–86
Trucks	82–95
Cranes (moveable)	75–88
Cranes (derrick)	86–89
Vibrator	68–82
Saws	72–82
Pneumatic Impact Equipment	83–88
Jackhammers	81–98
Pumps	68–72
Generators	71–83
Compressors	75–87
Concrete Mixers	75–88
Concrete Pumps	81–85
Back Hoe	73–95
Pile Driving (peaks)	95–107
Tractor	77–98
Scraper/Grader	80–93
Paver	85–88

[a] *Machinery equipped with noise control devices or other noise-reducing design features does not generate the same level of noise emissions as that shown in this table.*
Source: U.S. EPA, 1971.

The portions of the building that extend from the ground to approximately 50 feet high would be demolished with heavy equipment, including conventional excavators with hydraulic breaking, and shearing and pulverizing attachments. The building foundations would then be removed with heavy equipment. Demolition of the existing building would occur over an approximately 12-month period, which would consist of three to four months for removal of soft finishes, six to seven months for removal of the above-grade structure, and two months for removal of the below-grade structure. Approximately two to three months overlap is anticipated during concurrent activities. During demolition activities, trucks would be staged offsite in a location determined by the City of Los Angeles Bureau of Street Services. It is anticipated that approximately 30 to 40 daily truck loads would be needed during demolition activities.

Second, the development site would be prepared, excavated, and graded to accommodate building foundations and subterranean parking. Grading would include approximately 76,070 cubic yards of excavation, comprised of approximately 39,370 cubic yards of fill material and approximately 36,700 cubic yards of material to be exported. Although most of the 39,370 cubic yards of fill material would be reused from other areas on the project site, it is anticipated that approximately 5,000 cubic yards would be imported during construction activities.

Third, 147 luxury residential condominium units with associated amenities in one high-rise structure (see Figure III-2, Proposed Site Plan) would be constructed and readied for use. The proposed project would also include roughly 581,000 square feet of Floor Area and would extend approximately 480 feet in height plus approximately 17 feet of mechanical equipment on the rooftop.

Table IV.K-6
Typical Outdoor Construction Noise Levels

Construction Phase	Noise Levels at 50 Feet (dBA L_{eq})	Noise Levels at 50 Feet with Mufflers (dBA L_{eq})
Ground Clearing	84	82
Excavation, Grading	89	86
Foundations	78	77
Structural	85	83
Finishing	89	86

Source: U.S. EPA 1971.

The nearest and most notable sensitive receptors to the project site is the Century Woods condominiums, a low-rise, multi-family residential development located directly adjacent to the project site at the northeast corner of Century Park West and Olympic Boulevard. Project construction-related noise levels at these residences may exceed 86 dBA L_{eq} during site grading, excavation, and finishing. Based on criteria established in the Draft L.A. CEQA Threshold Guide, construction activities lasting more than one day, which would increase ambient exterior noise levels by 10 dBA or more at a noise sensitive use, may result in a potentially significant impact.

However, Section 41.40 of the LAMC regulates noise from demolition and construction activities. Exterior demolition and construction activities that generate noise are prohibited between the hours of 9:00 P.M. and 7:00 A.M. Monday through Friday, and between 6:00 P.M. and 8:00 A.M. on Saturday. Demolition and construction are prohibited on Sundays and all federal holidays. Therefore, even though demolition and construction activities would last more than one day and may have the potential to increase the ambient noise levels at the Century Woods condominiums, construction of the proposed project would be limited to the hours of 7:00 A.M. and 6:00 P.M., thus complying with Section 41.40 of the LAMC and reducing this impact to a less-than-significant-level. Nevertheless, even though the construction of the proposed project would be limited to the hours outlined above, activities at the residential building may be impacted during evening hours when residents generally require a quieter environment.

In addition, vibration-sensitive land uses generally include residential units, hospitals, schools, and religious institutions. Construction activities that would occur under the proposed project have the potential to generate low levels of groundborne vibration at the multi-family residences mentioned previously. Thresholds identified by the Federal Railway Administration (FRA) state that those vibration levels which exceed 80 VdB during recognized sleep hours may constitute a significant impact.

With the presence of a sensitive receptor within close proximity to the demolition and construction activities associated with the proposed project, the potential for exposure to excessive vibration levels could increase. However, even though construction activities may exceed the Federal Railway Administration 80 VdB threshold, they would be limited to between the hours of 7:00 A.M. and 6:00 P.M. on Monday through Friday and from 8:00 A.M. and 6:00 P.M. on Saturdays in accordance with the City of Los Angeles Noise Ordinance. Therefore, demolition and construction would not occur during recognized sleep hours. Nevertheless, because sensitive noise receptors may be in close proximity to active construction during early evening hours, a potentially significant impact could occur.

Operational Noise – Vehicular

Long-term noise concerns from the development of the proposed project have the potential to affect offsite locations, resulting primarily from vehicular traffic utilizing the local roadways along affected roadway segments analyzed in the project traffic study. These concerns were addressed using the FHWA Highway Traffic Noise Prediction Model (FHWA-RD-77-108) which calculates the CNEL noise level for a particular reference set of input conditions, based on site-specific traffic volumes, distances, speeds and/or noise barriers. Based on the traffic report prepared for the proposed project in conjunction with an analysis of the surrounding land uses, roadway noise levels were forecasted to determine if the proposed project's vehicular traffic would result in a significant impact at offsite noise-sensitive receptor locations.

Offsite locations in the vicinity would experience increased noise caused by traffic generated by the proposed project. The increases in noise levels at noise-sensitive locations along the study-area roadway segments are identified in Table IV.K-7, Project Traffic Noise Impacts. As shown, the proposed project would increase local noise levels by a maximum of 0.7 dBA CNEL for the roadway segments of Olympic Boulevard; east of Century Park West, when compared with the future traffic volumes without the project. Because this is below the 3.0 dBA threshold, this impact would be less than significant.

Table IV.K-7
Future Project Traffic Noise Impacts

Roadway	Roadway Segment	Noise Levels in dBA CNEL			
		Future Without Project Traffic	Future Plus Project Traffic	Increase	Significance Threshold
Santa Monica Blvd (n)	West of Century Park West	70.7	70.7	0.0	3.0
Santa Monica Blvd (n)	Century Park West to Avenue of the Stars	71.1	71.1	0.0	3.0
Santa Monica Blvd (n)	West of Century Park West	70.7	70.7	0.0	3.0
Santa Monica Blvd (n)	Avenue of the Stars to Century Park East	70.7	70.7	0.0	3.0
Santa Monica Blvd (n)	East of Century Park East	71.0	71.0	0.0	3.0

Table IV.K-7 (Continued)
Future Project Traffic Noise Impacts

Roadway	Roadway Segment	Noise Levels in dBA CNEL			
Santa Monica Blvd (s)	West of Century Park West	65.6	65.6	0.0	3.0
Santa Monica Blvd (s)	Century Park West to Avenue of the Stars	69.1	69.1	0.0	3.0
Santa Monica Blvd (s)	Avenue of the Stars to Century Park East	68.3	68.3	0.0	3.0
Santa Monica Blvd (s)	East of Century Park East	68.4	68.4	0.0	3.0
Century Park West	South of Santa Monica Boulevard	61.5	61.5	0.0	3.0
Century Park West	North of Constellation Boulevard	60.8	60.8	0.0	3.0
Century Park West	South of Constellation Boulevard	62.1	62.1	0.0	3.0
Century Park West	North of Olympic Boulevard	62.4	62.4	0.0	3.0
Avenue of the Stars	South of Santa Monica Boulevard	64.6	64.6	0.0	3.0
Avenue of the Stars	North of Constellation Boulevard	65.1	65.1	0.0	3.0
Avenue of the Stars	South of Constellation Boulevard	65.8	65.8	0.0	3.0
Avenue of the Stars	North of Olympic Boulevard (w/b ramp)	65.3	65.8	0.5	3.0
Avenue of the Stars	South of Olympic Boulevard (w/b ramp)	65.4	65.5	0.1	3.0
Avenue of the Stars	North of Olympic Boulevard (e/b ramp)	65.3	65.3	0.0	3.0
Avenue of the Stars	South of Olympic Boulevard (e/b ramp)	64.8	64.8	0.0	3.0
Avenue of the Stars	North of Galaxy Way	65.0	65.0	0.0	3.0
Avenue of the Stars	South of Galaxy Way	65.0	65.0	0.0	3.0
Avenue of the Stars	North of Empyrean Way	64.6	64.6	0.0	3.0
Avenue of the Stars	South of Empyrean Way	64.5	64.5	0.0	3.0
Avenue of the Stars	North of West Pico Way	64.6	64.6	0.0	3.0
Century Park East	South of Santa Monica Boulevard	64.4	64.4	0.0	3.0
Century Park East	North of Constellation Boulevard	65.1	65.1	0.0	3.0
Century Park East	South of Constellation Boulevard	64.9	64.9	0.0	3.0
Century Park East	North of Olympic Boulevard	64.8	64.8	0.0	3.0

Table IV.K-7 (Continued)
Future Project Traffic Noise Impacts

Roadway	Roadway Segment	Noise Levels in dBA CNEL			
Century Park East	South of Olympic Boulevard	64.8	61.8	0.0	3.0
Century Park East	North of West Pico Way	62.9	62.9	0.0	3.0
Constellation Blvd.	West of Century Park West	60.7	60.7	0.0	3.0
Constellation Blvd.	East of Century Park West	63.8	63.8	0.0	3.0
Constellation Blvd.	West of Century Park East	63.5	63.5	0.0	3.0
Constellation Blvd.	East of Century Park East	62.7	62.7	0.0	3.0
Olympic Boulevard	West of Century Park West	69.9	68.7	0.0	3.0
Olympic Boulevard	East of Century Park West	69.0	69.7	0.7	3.0
Olympic Boulevard	West of Century Park East	69.0	69.3	0.3	3.0
Olympic Boulevard	East of Century Park East	69.2	69.6	0.4	3.0
West Pico Boulevard	West of Overland Avenue	68.7	68.7	0.0	3.0
West Pico Boulevard	East of Overland Avenue	69.7	69.7	0.0	3.0
West Pico Boulevard	West of Beverly Glen Boulevard	69.3	69.3	0.0	3.0
West Pico Boulevard	East of Beverly Glen Boulevard	69.6	69.6	0.0	3.0
West Pico Boulevard	West of Motor Avenue	69.3	69.3	0.0	3.0
West Pico Boulevard	East of Motor Avenue	70.1	70.1	0.0	3.0
West Pico Boulevard	West of Avenue of the Stars	70.7	70.7	0.0	3.0
West Pico Boulevard	East of Avenue of the Stars	69.8	69.8	0.0	3.0
West Pico Boulevard	West of Century Park East	69.9	69.9	0.0	3.0
West Pico Boulevard	East of Century Park East	70.0	70.0	0.0	3.0
Galaxy Way	East of Avenue of the Stars	54.8	54.8	0.0	3.0
Empyrean Way	East of Avenue of the Stars	49.5	49.5	0.0	3.0
Overland Avenue	North of West Pico Way	64.1	64.1	0.0	3.0
Overland Avenue	South of West Pico	67.0	67.0	0.0	3.0
Beverly Glen Boulevard	North of West Pico Way	61.7	61.7	0.0	3.0

Table IV.K-7 (Continued)
Future Project Traffic Noise Impacts

Roadway	Roadway Segment	Noise Levels in dBA CNEL			
Motor Avenue	South of West Pico	64.9	64.9	0.0	3.0

Source: Christopher A. Joseph and Associates, 2005.
Traffic Information Source: Overland Traffic Consultants, Inc., August 2005.

Note: The future traffic volumes without the proposed project reflect the continued operation of the St. Regis Hotel.

Operational Noise - Periodic

Temporary or periodic increases in ambient noise levels could occur from the heating, ventilation, and air conditioning (HVAC) systems which would be installed in the proposed buildings. Residential HVAC systems would result in noise levels that average between 40 and 50 dBA L_{eq} at 50 feet from the equipment. However, project development, while contributing to an overall increase in ambient noise levels in the project area, would result in land uses that are consistent with the General Plan land use designation for the project site and would generate noise levels which are similar to surrounding land uses.

Noise would also be generated by activities within the proposed subterranean parking. It is anticipated that sources of noise from the subterranean parking would include tires squealing, engines accelerating, doors slamming, and car alarms.[7] Noise levels within the parking structure would fluctuate with the amount of automobile and human activity. Noise levels would be highest in the morning and evening when the largest number of people would enter and exit the parking structure. During these times, the noise levels would range from 60 to 70 dBA L_{eq}. There would be times in the middle of the day when very little activity occurs and the noise levels average 50 to 60 dBA L_{eq}. These conditions would be similar to the existing conditions with vehicles parking at the existing onsite subterranean parking lot. In addition, exterior-to-interior reduction of newer residential units in California is generally 30 dBA or more. Therefore, impacts associated with noise generated as a result of the operation of the proposed project would be less than significant.

CUMULATIVE IMPACTS

Development of the proposed project in conjunction with the related projects would result in an increase in construction-related and traffic-related noise in this already urbanized area of the City of Los Angeles. However, each of the related projects would be subject to the City of Los Angeles Noise Ordinance No. 144,331, which reduces construction noise impacts to the maximum extent feasible by prohibiting loud, unnecessary, and unusual construction noise within 500 feet from any residential zone, and LAMC Section

[7] *The proposed subterranean parking would be primarily operated by valet, which would slightly lessen noise in the subterranean parking area.*

41.40, which limits the hours of allowable construction activities. Conformance with these City policies would reduce construction-related noise for the related projects.

With respect to operational noise, all related projects would require exterior walls to be constructed to provide a Sound Transmission Class of 50 or greater as defined in UBC No. 35-1, 1979 edition or any amendment thereto, or to mitigate interior noise levels below a CNEL of 45 dBA in any habitable room. Conformance with these requirements would reduce operational-related noise. As such, the proposed project would not contribute to a cumulatively considerable noise impact and cumulative noise impacts would be expected to be less than significant.

In addition, the future with project traffic conditions, previously shown in Table IV.K-7, reflect traffic from the related projects. The cumulative increase in roadway noise would be below the significance threshold. Furthermore, with Noise Ordinance compliance, the combined impact of the operational noise levels from the proposed project and existing noise levels on interior and exterior noise levels on adjacent properties would be less than significant and, therefore, not cumulatively considerable.

MITIGATION MEASURES

The following mitigation measures are recommended to address construction-related noise and vibration impacts:

(K-1) All construction equipment engines shall be properly tuned and muffled according to manufacturers' specifications.

(K-2) Noise construction activities whose specific location on the site may be flexible (e.g., operation of compressors and generators, cement mixing, general truck idling) shall be conducted as far as possible from the nearest noise-sensitive land uses, and natural and/or manmade barriers (e.g., intervening construction trailers) shall be used to screen propagation of noise from such activities towards these land uses to the maximum extent possible.

(K-3) The use of those pieces of construction equipment or construction methods with the greatest peak noise generation potential shall be minimized. Examples include the use of drills, jackhammers, and pile drivers.

(K-4) Barriers such as plywood structures or flexible sound control curtains shall be erected along Olympic Blvd. and between the project site and Century Woods condominiums to minimize the amount of noise the residential units shall be subject to.

(K-5) Equipment warm-up areas, water tanks, and equipment storage areas shall be located a minimum of 150 feet from the multi-family residential units.

(K-6) Flexible sound control curtains shall be placed around drilling apparatuses and drill rigs, if sensitive receptors are located nearby.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the implementation of the mitigation measures listed above, construction-related noise impacts associated with the proposed project would be reduced to a less-than-significant level.

Operational noise impacts associated with the project would be less than significant; therefore, no mitigation measures are necessary for operation-related noise.