3.11 Noise and Vibration

This section describes and evaluates potential noise and vibration impacts that could result from implementation of the Proposed Project. The section contains: (1) a description of the existing noise and vibration environment at, and in the area surrounding, the Project Site; (2) a description of changes under the Adjusted Baseline to establish baseline conditions; (3) a summary of applicable noise laws, regulations, and policies; (4) estimates of future noise and vibration levels at surrounding noise- and vibration-sensitive land uses resulting from construction and operation of the Proposed Project; and (5) identification of the potential for significant impacts and associated mitigation measures, if required.

Comments received in response to the NOP for the EIR regarding noise and vibration can be found in Appendix B. Any applicable issues and concerns regarding potential impacts related to noise and vibration as a result of implementation of the Proposed Project are analyzed within this section.

The analysis included in this section was developed based on ambient noise measurements taken by ESA on Thursday, May 10, 2018 through Monday, May 14, 2018; Project-specific construction data and assumptions (including construction schedule, phasing, and equipment provided by AECOM Hunt); project characteristics described in Chapter 2, Project Description, and the transportation analysis presented in Section 3.14 and Appendix .

3.11.1 Environmental Setting

Background

Noise can be generally defined as unwanted sound. Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level) which is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude (sound power). The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the frequency/sound power level spectrum.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to low and extremely high frequencies instead of the frequency mid-range. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA). Frequency A-weighting follows an international standard methodology of frequency de-emphasis and is typically applied

to community noise measurements. Some representative noise sources and their corresponding A-weighted noise levels are shown in **Figure 3.11-1**.

Noise Exposure, Noise Level, and Community Noise

Noise *exposure* is a measure of noise over a period of time. Noise *level* is a measure of noise at a given instant in time. *Community noise* varies continuously over a period of time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic and atmospheric conditions. What makes community noise continuously variable throughout a day, besides the slowly changing background noise, is the addition of short duration single event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual receptor. These successive additions of sound to the community noise environment vary the community noise level from instant to instant, requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts.

This time-varying characteristic of environmental noise is described using statistical noise descriptors. The most frequently used noise descriptors are summarized below:

Leq: The energy-equivalent sound level is used to describe noise over a specified period of time, typically one hour, in terms of a single numerical value. The Leq is the constant sound level which would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).

Lmax: The instantaneous maximum noise level for a specified period of time.

DNL: Also abbreviated Ldn, it is a 24-hour day and night A-weighted noise exposure level which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night ("penalizing" nighttime noises). Noise between 10:00 p.m. and 7:00 a.m. is weighted (penalized) by adding 10 dBA to take into account the greater annoyance of nighttime noises.

CNEL: Similar to DNL, the Community Noise Equivalent Level (CNEL) adds a 5-dBA "penalty" for the evening hours between 7:00 p.m. and 10:00 p.m. in addition to a 10-dBA penalty between the hours of 10:00 p.m. and 7:00 a.m.

As a general rule, in areas where the noise environment is dominated by traffic, the Leq during the peak-hour is generally within two decibels of the Ldn at that location.[1]

[1] Federal Highway Administration Office of Environmental Policy, 2016. *Advanced Prediction and Abatement of Highway Traffic Noise*. November 2016. p. 4-20.

Noise Attenuation

Noise attenuates (lessens) with distance between the source and the receiver. Stationary point sources of noise, including stationary mobile sources such as idling vehicles, attenuate at a rate of 6 dBA with a doubling of distance for hard sites and 7.5 dBA for each doubling of distance for soft sites. Hard sites are those with a reflective surface between the source and the receiver such as paved parking lots or smooth bodies of water. No excess ground attenuation is assumed for hard sites and the changes in noise levels with distance (drop-off rate) is simply the geometric spreading of the noise from the source. Soft sites have an absorptive ground surface such as soft dirt, grass, or scattered bushes and trees. In addition to geometric spreading, an excess ground attenuation value of 1.5 dBA (per doubling distance) is normally assumed for soft sites. Line sources (such as traffic noise from vehicles) attenuate at a rate of 3 dBA for hard sites and 4.5 dBA for soft sites for each doubling of distance.[2]

Noise levels may also be reduced by intervening structures, such as a row of buildings, a solid wall, or a berm located between the receptor and the noise source. According to the U.S. Department of Housing and Urban Development (HUD) *Noise Guidebook*,[3] standard building construction results in an exterior-to-interior noise reduction of 20 dBA with windows closed.

Effects of Noise on People

When a new noise is introduced to an environment, human reaction can be predicted by comparing the new noise to the *ambient* noise level, which is the existing noise level comprised of all sources of noise in a given location. In general, the more a new noise exceeds the ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:[4]

- except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- outside of the laboratory, a 3 dBA change is considered a just-perceivable difference;
- a change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- a 10-dBA change is subjectively heard as approximately doubling in loudness, and can cause adverse response.

These relationships occur in part because of the logarithmic nature of sound and the decibel system. The human ear perceives sound in a non-linear fashion, hence the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, rather logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.

---

2 California Department of Transportation, 2013. *Technical Noise Supplement.* September 2013. p. 5-17.
3 U.S. Department of Housing and Urban Development, 2009. *Noise Guidebook.* March 2009. p. 14.
4 California Department of Transportation, 2013. *Technical Noise Supplement.* September 2013. p. 6-5

Health Effects of Noise

Exposure to high levels of noise can cause permanent hearing impairment. The federal Occupational Safety and Health Administration (OSHA) has an established occupational noise exposure program which includes hearing conservation standards for long-term noise exposure. Employers are required to measure noise levels; provide free annual hearing exams, hearing protection, and training; and conduct evaluations of the adequacy of the hearing protectors in use where noise environments exceed 85 dBA for an eight hour daily exposure.

Following the United States Environmental Protection Agency's elimination of its noise investigation and control program in the 1970s, the World Health Organization (WHO) has become a noted source of current knowledge regarding the health effects of noise impacts. In addition to hearing impairment, WHO documents that sleep disturbance is an effect that can affect human health. Excessive noise during sleep periods can result in difficulty falling asleep, awakenings, and alterations in sleep stages and depth (e.g., a reduction in proportion of REM-sleep (REM = rapid eye movement)). Exposure to high levels of noise during sleep can also result in increased blood pressure, increased heart rate, increased finger pulse amplitude, vasoconstriction, changes in respiration, cardiac arythmia, and an increase in body movements. Secondary physiological effects of exposure to excessive noise during sleep can occur the following day, including reduced perception of quality sleep, increased fatigue, depressed mood or well-being, and decreased performance of cognitive tasks.[5] According to WHO, sleep disturbance can occur when interior noise levels exceed 45 dBA Lmax more than 10-15 times per night, particularly if background noise is low. WHO also notes that maintaining noise levels within the recommended levels during the first part of the night is believed to be effective for the ability of people to initially fall asleep.[6]

Other potential health effects of exposure to excessive noise identified by WHO include decreased performance for complex cognitive tasks, such as reading, attention span, problem solving, and memorization; physiological effects such as hypertension and heart disease (after many years of constant exposure, often by workers, to high noise levels); and hearing impairment (again, generally after long-term occupational exposure, although shorter-term exposure to very high noise levels, for example, exposure several times a year to concert noise at 100 dBA, can also damage hearing). Finally, while environmental noise is not believed to be a direct cause of mental illness, it can cause annoyance and is known to intensify such symptoms as anxiety, headaches, emotional stress, changes in moods, and the like.[7] WHO reports that, during daytime hours, few people are seriously annoyed by activities with noise levels below 55 dBA.[8]

Vehicle traffic, aircraft noise, and continuous sources of machinery and mechanical noise contribute to ambient noise levels. Short-term noise sources, such as truck backup beepers, the crashing of

---

5 World Health Organization, *Guidelines for Community Noise, Chapter 3. Adverse Health Effects of Noise*, 1999. p. 26.
6 World Health Organization, *Guidelines for Community Noise, Chapter 3. Adverse Health Effects of Noise*, 1999. p. 28.
7 World Health Organization, *Guidelines for Community Noise, Chapter 3. Adverse Health Effects of Noise*, 1999. p. 30.
8 World Health Organization, *Guidelines for Community Noise, Chapter 3. Adverse Health Effects of Noise*, 1999. p. 38.

material being loaded or unloaded, contribute very little to 24-hour noise levels but are capable of causing sleep disturbance and annoyance. The importance of noise to receptors depends on both time and context. For example, long-term high noise levels from large traffic volumes can make conversation at a normal voice level difficult or impossible, while short-term peak noise levels, if they occur at night, can cause sleep disturbance.

Fundamentals of Vibration

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings. The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (Vdb) is commonly used to express RMS. The decibel notation acts to compress the range of numbers required to describe vibration.

Effects of Vibration on Structures

As described in the Federal Transit Administration's (FTA) *Transit Noise and Vibration Impact Assessment Manual*,[9] ground-borne vibration can be a serious concern, causing nearby buildings to shake and rumbling sounds to be heard. Some common sources of ground-borne vibration are trains, buses on rough roads, and construction activities such as blasting, sheet pile-driving and operating heavy earth-moving equipment. In contrast to airborne noise, ground-borne vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks on roadways to be perceptible, even in locations close to major roads.[10]

The effects of ground-borne vibration include movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, the vibration can cause damage to buildings. Building damage is not a factor for most projects, with the occasional exception of blasting and sheet pile-driving during construction.

Effects of Vibration on People

Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by only a small margin. A vibration level that causes annoyance can be well below the damage threshold for normal buildings. As discussed in FTA's *Transit Noise and Vibration Impact Assessment Manual*, the human response to vibration is complex and the degree of annoyance cannot always be explained by the magnitude of the vibration alone.[11] Other factors include the rattling and rumbling sounds caused by vibration, the time of day, and the visual effects such as the moving of hanging objects.

---

9 Federal Transit Administration, 2018. *Transit Noise and Vibration Impact Assessment Manual.* September 2018. p. 112.

10 Federal Transit Administration, 2018. *Transit Noise and Vibration Impact Assessment Manual.* September 2018. p. 112.

11 Federal Transit Administration, 2018. *Transit Noise and Vibration Impact Assessment Manual.* September 2018. p. 118.

Vibration Attenuation

Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Factors such as soil and subsurface conditions influence the levels of ground-borne vibration with some of the most important factors being the stiffness and internal damping of the soil and the depth to bedrock.[12] Vibration levels are higher in stiff-clay-type soil and when bedrock is 30 feet or less.[13]

Health Effects of Vibration

According to OSHA, those at risk for vibration-related health effects are workers who conduct physical work activities requiring the use of vibrating powered hand tools (e.g., chain saw, electric drill, chipping hammer, etc.) or equipment (e.g., wood planer, punch press, packaging machine, etc.) and standing or sitting in vibrating environments (e.g., driving a truck over bumpy roads, etc.) or using vibrating equipment that requires whole-body movement (e.g., jackhammers).[14] Off-site vibration-sensitive receptors would not come in physical contact with vibratory construction equipment and would not be at risk for vibration-related health effects.

Surrounding Land Uses and Sensitive Receptors

The Project Site is surrounded by a mix of commercial, industrial, office, retail, and residential uses (see Section 3.10, *Land Use and Planning* for detailed descriptions of land uses surrounding each Project Site and Figures 3.10-1, *Existing and Surrounding Land Uses: Arena Site, Well Relocation Site, and West Parking Garage Site and* 3.10-2, *Existing and Surrounding Land Uses. East Parking and Hotel Site*). Some land uses are considered more sensitive to noise than others, due to the amount of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities typically involved. Land uses considered to be noise-sensitive, as identified in the Inglewood General Plan, include residences, schools, hospitals, libraries, and parks. The Inglewood General Plan Noise Element considers residences to be especially sensitive because of the time spent by individuals at home, occurrence of outdoor activities, and the likelihood of sleep disturbance to occur.[15] See Figure 3.11-1, *Sensitive Receptors,* for the location of the sensitive receptors (identified as R1 through R17) that have been evaluated herein.

Sensitive receptors for vibration assessment include structures (especially older masonry structures), people who spend a lot of time indoors (especially residents, students, the elderly and sick), and vibration sensitive equipment such as hospital analytical equipment and equipment used in computer chip manufacturing. Additional sensitive receptors of ground-borne vibration would be historic buildings, which are more susceptible to structural damage from vibration.

---

12 Federal Transit Administration, 2018. *Transit Noise and Vibration Impact Assessment Manual.* September 2018. p. 116.

13 Federal Transit Administration, 2018. *Transit Noise and Vibration Impact Assessment Manual.* September 2018. p. 117.

14 Occupational Safety and Health Administration. Ergonomics Program Section 1910.918. Publication Date November 23, 1999. Available at: https://www.osha.gov/laws-regs/federalregister/1999-11-23 [Accessed March 2019].

15 City of Inglewood General Plan Noise Element. Adopted September 1, 1987.

Arena Site

To the east of the vacant parcel of the Arena Site (?) along West Century Boulevard is a non-operational structure (formerly the Airport Park View Motel) and a self-storage facility. To the east along South Doty Avenue are industrial and residential uses. To the north ~~of~~ across West Century Boulevard is the area planned for the City of Champions Stadium and a mix of commercial, office, retail, residential mixed use, civic, and recreational development. Residential uses, automotive body shops, and commercial uses are located to the west of the Arena Site. To the south of the Arena Site is a religious facility and residential uses.

Commented [A1]: Replace with standard reference to HPSP area.

Commented [A2]: Discuss.

As presented on Figure 3.11-1, the nearest noise-sensitive receptors to the Arena Site are the multiple family (R1) and single family (R2) residential uses located along the east side of South Prairie Avenue between West 102nd Street and West 103rd Street to the west (adjacent to the Arena Site) and the Southside Christian Church (R3) and multi-family residential (R4) uses along West 104th Street to the south (adjacent to the Arena Site). Other noise- and vibration-sensitive receptors near to the Arena Site include single family residential uses to the northwest (R5) (approximately 310 feet from the Arena Site), west (R6) (approximately 175 feet from the Arena Site), south (R7) (approximately 350 feet from the Arena Site), and southeast (R8) (approximately 90 feet from the Arena Site).

Commented [A3]: Not labeled in figure—discuss.

~~All~~ The other adjacent uses to the Arena Site consist of a self-storage facility (R9) and industrial use (R10) and are not considered noise-sensitive uses, but would be considered vibration sensitive with respect to potential structural damage.

West Parking Garage Site

To the north of the West Parking Garage Site across West Century Boulevard are commercial uses, the Holly Crest Hotel, and Motel 6. Commercial uses are located immediately to the east, a religious facility and single family residential uses are located to the south, and a motel, religious facility, and single family residential uses are located to the west.

As shown on Figure 3.11-1, the nearest noise-sensitive receptors to the West Parking Garage Site are the single family residential uses to the west (R11) (adjacent to the West Parking Garage site) and south (R6) (approximately 50 feet) of the West Parking Garage Site and the Airport Motel (4054 West Century Boulevard) to the west (R12) (adjacent to the West Parking Garage Site). Adjacent uses such as the commercial uses to the east (R11), although not traditionally considered noise-sensitive receptors, are considered vibration sensitive due to the potential for structural damage. The residential uses located along West 102nd Street (~~R9~~R11 and R6), west and south of the West Parking Garage Site, are historic-age residences (see Section 3.4, Cultural Resources, of this EIR) that could be susceptible to vibration damage ~~(see Section 3.4, Cultural Resources, of this EIR)~~.

Commented [A4]: Note, R11 is used twice, needs to be corrected.

East Parking Garage and Transportation Hub Site

The Hollywood Park Casino is located to the north of the East Parking Garage and Transportation Hub Site, north of and across West Century Boulevard. Adjacent to the East Parking Garage and

Transportation Hub Site to the east is a United Parcel Service (UPS) facility and the proposed Hotel Site. Adjacent to the East Parking Garage and Transportation Hub Site to the west is a pet store. To the south of the East Parking Garage and Transportation Hub Site are multi-family residential uses and commercial uses.

Commented [A5]: Discuss.

As presented on Figure 3.11-1, the nearest noise-sensitive receptors are the multi-family residential uses (R13) located approximately 50 feet to the south of the East Parking Garage and Transportation Hub Site on the south side of West 102nd Street. Adjacent uses such as the pet store (R14) and UPS facility (R15), although not noise-sensitive receptors, would be considered vibration sensitive due to the potential for structural damage.

Hotel Site

The Hollywood Park Casino is located to the north of the Hotel Site, across West Century Boulevard. Adjacent to the Hotel Site to the south and east is a UPS facility. Adjacent to the Hotel Site to the west is the proposed East Parking Garage and Transportation Hub Site.

The nearest noise-sensitive receptors are the multi-family residential uses (R13) located approximately 350 feet to the south of the Hotel Site on the south side of West 102nd Street. The adjacent UPS facility (R15), although not a noise-sensitive receptor, would be considered vibration sensitive due to the potential for structural damage (see Figure 3.11-1).

Well Relocation Site

To the north of the Well Relocation Site is an occupied warehousing and shipping company (UPS R10?). To the east of the Well Relocation Site are single family residential uses (R16). A vacant lot and multi-family residential uses (R8? unlabeled) are located to the south. To the west of the Well Relocation Site is an occupied commercial use. The nearest noise-sensitive receptors to the Well Relocation Site are the single family and multi-family residential uses to the east (R16) and south (R8), adjacent to and approximately 60 feet from the site, respectively. Although not a noise-sensitive use, the commercial use to the west (R17) would be considered vibration sensitive (see Figure 3.11-1).

Existing Noise Setting

All but six of the parcels ~~(approximately 23 acres)~~ that make up the Project Site are currently vacant or undeveloped (approximately 23 acres), and do not generate any noise or vibration activities. The six developed parcels, approximately 54,098 sf (1.24 acres) all within the Arena Site, include a fast food restaurant, a hotel, warehouse and light manufacturing facilities, and a groundwater well and related facilities. These uses contribute typical noise sources within the larger urban setting. The immediate area surrounding the Project Site is highly urbanized with multiple noise sources including, but not limited to, traffic on local and arterial streets, aircraft arrivals to and departures from the Los Angeles International Airport (LAX), and commercial and industrial activity (e.g., truck loading/unloading).

To quantify the existing noise environment, 6 short-term (ST) 15-minute and 5 long-term (LT) 96-hour noise level measurements were taken near noise-sensitive uses, described above, around the Project Site. The LT measurements were taken Thursday, May 10, 2018 through Monday, May 14, 2018 to capture ambient noise levels of typical weekdays and weekends. Noise measurement locations are shown in Figure 3.11-2. Results of the noise measurements are presented in **Table 3.11-1**.

TABLE 3.11-1
AMBIENT NOISE MEASUREMENTS

Receptor	Monitoring Period	CNEL	Daytime Average	Nighttime Average [a]
M1	9:00 AM, Thursday, May 10 to 8:00 AM, Friday, May 11	70.8	66.0	63.7
	9:00 AM, Friday, May 11 to 8:00 AM, Saturday, May 12	68.9	64.9	61.2
	9:00 AM, Saturday, May 12 to 8:00 AM, Sunday, May 13	68.9	65.6	60.7
	9:00 AM, Sunday, May 13 to 8:00 AM, Monday, May 14	70.0	65.6	62.5
M2	10:00 AM, Thursday, May 10 to 9:00 AM, Friday, May 11	68.8	64.0	61.5
	10:00 AM, Friday, May 11 to 9:00 AM, Saturday, May 12	66.5	63.8	57.9
	10:00 AM, Saturday, May 12 to 9:00 AM, Sunday, May 13	65.7	63.7	56.1
	10:00 AM, Sunday, May 13 to 9:00 AM, Monday, May 14	67.0	64.2	58.4
M3	11:00 AM, Thursday, May 10 to 10:00 AM, Friday, May 11	69.7	64.8	62.5
	11:00 AM, Friday, May 11 to 10:00 AM, Saturday, May 12	67.9	64.5	59.9
	11:00 AM, Saturday, May 12 to 10:00 AM, Sunday, May 13	67.4	64.0	59.2
	11:00 AM, Sunday, May 13 to 10:00 AM, Monday, May 14	68.1	64.6	59.9
M4	11:00 AM, Thursday, May 10 to 10:00 AM, Friday, May 11	68.6	63.7	61.3
	11:00 AM, Friday, May 11 to 10:00 AM, Saturday, May 12	66.8	63.5	58.5
	11:00 AM, Saturday, May 12 to 10:00 AM, Sunday, May 13	65.9	63.6	56.8
	11:00 AM, Sunday, May 13 to 10:00 AM, Monday, May 14	68.0	63.8	60.3
M5	12:00 PM, Thursday, May 10 to 11:00 AM, Friday, May 11	69.5	63.9	62.5
	12:00 PM, Friday, May 11 to 11:00 AM, Saturday, May 12	67.4	64.0	59.3
	12:00 PM, Saturday, May 12 to 11:00 AM, Sunday, May 13	67.1	63.6	58.9
	12:00 PM, Sunday, May 13 to 11:00 AM, Monday, May 14	67.3	63.6	59.3
M6	8:52 AM, Thursday, May 10	-	71.8	-
M7	7:53 AM, Thursday, May 10	-	69.1	-
M8	8:12 AM, Thursday, May 10	-	69.6	-
M9	8:29 AM, Thursday, May 10	-	68.7	-
M10	11:57 AM, Thursday, May 10	-	73.5	-
M11	11:35 AM, Thursday, May 10	-	65.8	-

NOTE:
[a] Daytime hours are from 7:00 AM to 12:00 PM, and nighttime hours are from 12:00 PM to 7:00 AM.

SOURCE: ESA, 2018.

Existing Traffic-Only Noise

Ambient noise levels measured by ESA and summarized above captures noise from traffic on local and arterial streets, aircraft arrivals to and departures from LAX, and commercial and industrial activity. As recognized by the City of Inglewood General Plan Noise Element, traffic noise is considered to be the most common source of noise in urban areas.[16] As a result, noise levels associated with traffic along individual roadway segments at 50 feet from the roadway centerline ~~has~~ have been calculated to establish the existing traffic noise environment along studied roadway segments.

Existing roadway noise levels were calculated for XX segments located in the area surrounding the Project Site. The roadway segments selected for analysis are considered to be those that are expected to be most directly affected by Project-related traffic, most notably the roadways located near and immediately adjacent to the Project Site. These roadways would experience the greatest percentage increase in traffic and therefore mobile source noise generated by the Proposed Project.

Traffic volume count data collected by Fehr and Peers and presented in the TIA for existing conditions consists of traffic volumes that exist as of the collection of data. This data accounts for existing traffic volumes and trips generated by development that was currently in operation.

Calculation of roadway noise levels under existing conditions was accomplished using the methodology described below in Section 3.11.4, and relies on peak hour traffic volume data provided by the TIA. Existing peak hour traffic noise under the Weekday AM Peak Hour (7:00 – 9:00 AM), Weekday PM Peak Hour (4:00 – 6:00 PM), Weekday Pre-Event Peak Hour (6:00 – 7:00 PM), Weekday Post-Event Peak Hour (9:30 – 10:30 PM), and Weekend Peak Hour (5:00 – 6:00 PM) time periods is shown in Table 3.11-X.

[Will insert "Existing" traffic noise levels upon receipt of data]

Airport Noise

The Project Site is located approximately 1.5 miles east of LAX and approximately 1.5 miles to the north of the Jack Northrop Field/Hawthorne Municipal Airport (HHR). The Project Site is partially within the Planning Boundary/Airport Influence Area for LAX as designated within the airport land use plan (ALUP) (see further description of the relationship of the Project Site to the ALUP in Section 3.10, Land Use and Planning).

As depicted in Figure 2-6, of Chapter 2, Project Description, the majority of the Project Site is within the 65 dBA CNEL noise contour with a small amount of the southernmost portion of the Project Site within the 70 dBA CNEL noise contour. The Project Site is located along the arrival path for LAX. Los Angeles World Airports provides real-time and historic noise monitoring and

[16] City of Inglewood General Plan Noise Element. Adopted September 1, 1987.

flight tracking data via *WebTrack*.[17] The nearest noise monitoring location to the Project Site is located approximately 0.1 mile southeast of the Hotel Site, 0.12 mile east of the East Parking Garage and Transportation Hub Site, 0.3 mile east of the Arena Site and the Well Relocation Site, and 0.5 mile east of the West Parking Garage Site, near the intersection of West 102nd Street and South Yukon Avenue [Figure showing the location of this noise monitoring location is to come.]. Using *WebTrack,* the noise levels at this monitoring location peaked at 75 dBA L_{eq} while an approaching aircraft flew over the monitoring location.

The Project Site is not located within the designated Airport Influence Area for the Hawthorne Municipal Airport and therefore aircraft noise from this airport does not contribute significantly to the noise environment.

Existing Ground-borne Vibration Setting

The background ground-borne vibration level in residential areas is usually 50 VdB or lower, well below the threshold of perception for humans, which is around 65 VdB. Most perceptible indoor vibration is caused by sources within buildings such as operation of mechanical equipment, movement of people or slamming of doors. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If the roadway is smooth, the vibration from traffic is rarely perceptible. Although not sources of ground-borne vibration, noise-induced building responses such as rattling of windows and walls from aircraft flyovers contribute to the existing vibration setting. The primary sources of existing ground-borne vibration in the area surrounding the Project Site would be from adjacent industrial activities, including truck travel, heavy-duty vehicular travel (bus, refuse trucks, delivery trucks, etc.) on local roadways, and aircraft flyovers. A bus traveling at a distance of 50 feet typically generates ground-borne vibration velocity levels of 63 VdB (approximately 0.006 in/sec PPV).[18] Aircraft flyovers would generate vibration levels that would cause human annoyance; however, they would not generate building vibration levels that would cause building damage.[19]

3.11.2 Adjusted Baseline Environmental Setting

As described in Chapter 3.0, Section 3.0.5, the analysis in this section assumes the Adjusted Baseline. Related to Noise, the changes associated with the Hollywood Park Specific Plan Adjusted Baseline development include the operation of an NFL Stadium, residential, commercial, and retail uses.

The NFL Stadium is located at the southeastern corner of Pincay Drive and South Prairie Avenue and designed to provide expandable capacity to accommodate various sporting events, concerts,

---

17 Los Angeles World Airports, *WebTrack,* https://webtrak.emsbk.com/lax4. Accessed March 2019.
18 Federal Transit Administration, 2018. *Transit Noise and Vibration Impact Assessment Manual.* September 2018. p. 113.
19 National Aeronautics and Space Administration, 1992. *Building Vibrations Induced by Noise from Rotorcraft and Propeller Aircraft Flyovers.* June 1992. https://ntrs.nasa.gov/archive/nasa/casi.ntrs.nasa.gov/19920023916.pdf. Accessed March 2019.

and activities in addition to NFL games. Although the transparent glass canopy/roof is designed to provide an open-air experience while keeping crowd noise contained, the Stadium is not fully enclosed and any leakage of event noise from the Stadium, including pre- and post-event activities would contribute to the ambient noise environment, as would traffic on local and arterial streets heading to and from events.

The City of Champions Initiative imposed several mitigation measures to limit operational noise from the HPSP development and protect the existing neighborhoods, although it acknowledged that some event noise would be audible outside the boundaries of the property during a limited number of major special events occurring on the property. The key measures to address operational noise that are part of the Adjusted Baseline include:

G-7 The operation of the stadium shall comply with the provisions of Article 2 (Noise Regulations) of Chapter 5 of the Inglewood Municipal Code.

G-8 The use of vibratory rollers within 150 feet, or impact pile driving within 320 feet, of the Forum property line shall be limited to time periods that do not coincide with events occurring at the Forum.

G-9 Prior to the issuance of building permits, the Project applicant shall utilize an acoustical engineer to demonstrate to the City of Inglewood that the 45dBA interior noise standard has been achieved at residential dwelling units within the Project boundaries, as measured on a typical day, and not with respect to special events at the Stadium.

G-10 All rooftop mechanical equipment shall be enclosed or screened from view from public streets with appropriate screening walls.

G-11 Firework Shows shall be limited to a maximum of 15 events per year, and each event shall not exceed 20 minutes in duration. All such events shall comply with FAA regulations. For purposes of this mitigation measure, Firework Shows shall be defined as a single, coordinated pyrotechnic display continuing for an uninterrupted period of time lasting longer than five minutes and involving pyrotechnic devices that reach more than 100 feet above the Stadium playing field. Separate from the foregoing limit on Firework Shows, the isolated use of pyrotechnic devices during Stadium events shall be allowed.

G-12 Loading dock and trash/recycling areas for the Stadium shall be located in the subterranean level, which shall preclude noise from this source at exterior locations.

G-13 The Project's in-house sound system (including the Stadium and music for retail areas, if any) shall utilize a state of the art distributed speakers system capable of aiming the sound toward the seating areas, or other intended areas within the Project, to minimize sound spillage to the exterior of the Project.

G-14 Building mechanical / electrical equipment shall be designed such that it will not cause an increase in sound levels at any Off-Site residence of 3dBA or greater above the Base Ambient Noise Level.

Further, the stadium and performance venue were located and designed to help reduce noise by locating the stadium away from the northern edge of the property (i.e., south of the stadium location proposed in 1995), and by placing the stadium playing surface well below existing grade, which reduces line-of-sight noise impacts on adjacent uses.

The Initiative modified the City's noise ordinance such that during operation of the Stadium, noise from sporting events and for up to 12 other special events occurring at the Stadium each year (unless a higher number is otherwise permitted by the Permits and Licenses Committee) are exempt from the noise limits provided in Article 2 of the Municipal Code. However, noise exceeding code limits from these few major events is (not?) permitted to extend beyond 12:00 AM. With the exception of these limited events, the Stadium must comply with the City of Inglewood noise ordinance so that noise from the Stadium cannot cause noise inside any house in adjacent neighborhoods to exceed the Base Ambient Noise Level of 45 dBA except as follows:

Noise Level Exceeded	Maximum Duration Period
Base Ambient Noise Level (BANL)	5 minutes in any hour
5 dBA above BANL	1 minute in any hour
10 dBA above BANL	Not permitted

Charles M. Salter Associates, Inc. prepared an acoustical model which estimated that amplified music and announcements for a professional sporting event at the nearest residential property line (i.e., exterior noise) would be approximately 46 dBA on the west, 50 dBA on the east, and 51 dbA on the north. The model estimated that approximate sound levels from the Stadium at the property line would range from 65-67 dBA on the east and west, and from 64-69 dBA on the north, depending on the configuration of concert within the Stadium. The acoustical analysis estimates that these levels would drop by 5-10 dBA after the first row of houses.[20]

Retail/restaurant uses within the HPSP area will be constructed immediately northeast of the intersection of West Century Boulevard and South Prairie Avenue and include a mix of retail shops, fine dining, specialty grocery store, and outdoor plazas. A walkable promenade will provide outdoor spaces for conversation, dining, and live amplified music, and will contribute to the ambient noise environment. Based on ESA's experience conducting noise measurements for live concerts, it is assumed that live music and amplified sound would result in a noise level of

[20] [insert footnote reference to Salter Report]

95 dBA at 100 feet from the source. Conversation within the open spaces and outdoor dining areas would result in noise levels of 72 dBA at 3.3 feet from each person.[21]

Trip generation associated with the buildout and operation of the HPSP area has been estimated and traffic volumes in the area surrounding the Project Site have been projected to establish the Adjusted Baseline traffic environment. Additionally, trip generation associated with events at the NFL Stadium, The Forum, and overlapping events at both venues has been estimated and traffic volumes projected to establish the cumulative traffic environment during which one or more events are being held. Adjusted Baseline and event traffic noise, based on turning movement volumes provided in the TIA, under the following conditions have been calculated and included in Table 3.11-3, Table 3.11-4, Table 3.11-5, and Table 3.11-6.

[Will insert traffic noise levels under following traffic conditions upon receipt of data:]

- Baseline No Project No Event at NFL Stadium or The Forum
- Baseline No Project with NFL Game
- Baseline No Project with Concert at The Forum
- Baseline No Project with NFL Game and with Concert at The Forum

The Adjusted Baseline traffic conditions include consideration of uses within the HPSP and events held at the NFL Stadium. In addition, traffic conditions take into account uses at The Forum. These uses result in greater traffic volumes when events there are occurring. Determining Project impacts based on the Proposed Project's contribution to the higher Adjusted Baseline would potentially make Project impacts less noticeable, because project-related noise would occur against the backdrop of a "noisier" environment. Therefore, although the noise and vibration changes associated with developments within the HPSP area and events held at the NFL Stadium and The Forum are considered for the cumulative traffic noise analysis, they are not considered as part of the baseline Environmental Setting from which to determine Project impacts in order to ensure a conservative Project impact analysis.

3.11.3 Regulatory Setting

Federal, State, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies. Local regulation of noise involves implementation of general plan policies and noise ordinance standards. Local general plans identify general principles intended to guide and influence development plans; local noise ordinances establish standards and procedures for addressing specific noise sources and activities. Noise issues relevant to the proposed Project are addressed in Title 24 of the *California Code of*

[21] U.S. Environmental Protection Agency, 1974. *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety.*

Regulations, City of Inglewood General Plan policies and the City of Inglewood noise ordinance standards.

Federal

In 1972, the Noise Control Act (42 United States Code section 4901 et seq.) was passed by congress to promote limited noise environments in support of public health and welfare. It also established the U.S. Environmental Protection Agency (US EPA) Office of Noise Abatement and Control to coordinate federal noise control activities. US EPA established guidelines for noise levels that would be considered safe for community exposure without the risk of adverse health or welfare effects. **Table 3.11-7**, Summary of Noise Levels Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety, presents important noise exposure levels highlighted by the guidelines.

TABLE 3.11-7
SUMMARY OF NOISE LEVELS REQUISITE TO PROTECT PUBLIC HEALTH AND WELFARE WITH AN ADEQUATE MARGIN OF SAFETY

Effect	Level Needed to Avoid Effect	Area
Hearing loss	< 70 dBA[a] (Leq, 24 hour)	All areas.
Outdoor activity interference and annoyance	< 55 dBA (Ldn)	Outdoor residential areas and farms as well as other outdoor areas where people spend varying amounts of time and places where quiet is a basis for use.
Outdoor activity interference and annoyance	< 55 dBA (Leq, 24 hour)	Outdoor areas where people spend limited amounts of time, such as school yards, playgrounds, etc.
Indoor activity interference and annoyance	< 45 dBA (Ldn)	Indoor residential areas.
Indoor activity interference and annoyance	< 45 dBA (Leq, 24 hour)	Other indoor areas with human activities, such as schools, etc.

NOTE:
a Yearly average equivalent sound levels in decibels; the exposure period that results in hearing loss at the identified level is 40 years.

SOURCE: U.S. Environmental Protection Agency, Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety, 1974, http://nepis.epa.gov/Exe/ZyPDF.cgi/2000L3LN.PDF?Dockey=2000L3LN.PDF, accessed March 13, 2019.

US EPA found that to prevent hearing loss over the lifetime of exposure, the yearly average Leq should not exceed 70 dBA. To prevent interference and annoyance, the US EPA found that the Ldn should not exceed 55 dBA outdoors or 45 dBA indoors.[22] In 1982, noise control was largely passed to state and local governments.

Federal regulations establish noise limits for medium and heavy trucks (more than 4.8 tons, gross vehicle weight rating) under 40 Code of Federal Regulations (CFR), Part 205, Subpart B. The federal truck pass-by noise standard is 80 dBA at 50 feet (approximately 15 meters) from the

[22] U.S. Environmental Protection Agency, 1974. *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety,* March 1974.

vehicle pathway centerline under specified test procedures. These requirements are implemented through regulatory controls on truck manufacturers. There are no comparable federal standards for vibration, which tend to be specific to the roadway surface, the vehicle load, and other factors.

Federal Transit Administration and Federal Railroad Administration

The mission of the Federal Railroad Administration (FRA) is to enable the safe, reliable, and efficient movement of people and goods within the Unite States. With respect to railroad noise emissions, the FRA works in concert with the FTA. FTA has published guidance for assessing noise and vibration impacts from rail sources.[23] Additionally, this guidance provides methodologies for assessing the potential noise impacts from construction.

The FTA's Transit Noise and Vibration Impact Assessment is specifically developed for determining significant noise and vibration impacts for transit projects involving rail or bus facilities, and includes noise impact criteria. **Table 3.11-8** presents vibration impact criteria.

TABLE 3.11-8
FTA GROUNDBORNE VIBRATION IMPACT CRITERIA

Land Use Category	Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]
Category I: Buildings where vibration would interfere with interior operations	65 VdB[4]	65 VdB[4]	65 VdB[4]
Category II: Residences and buildings where people normally sleep	72 VdB	75 VdB	80 VdB
Category III: Institutional land uses with primarily daytime use	75 VdB	78 VdB	83 VdB

NOTES:
1 More than 70 vibration events of the same source per day.
2 Between 30 and 70 vibration events of the same source per day.
3 Less than 30 vibration events of the same source per day.
4 This criterion is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration sensitive manufacturing or research should always require detailed evaluation to define the acceptable vibration levels.

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

State

The State of California establishes noise limits for vehicles licensed to operate on public roads. For heavy trucks, the State pass-by standard is consistent with the federal limit of 80 dBA. The State pass-by standard for light trucks and passenger cars (less than 4.8 tons, gross vehicle rating) is also 80 dBA at 50 feet (approximately 15 meters) from the centerline. These standards are implemented through controls on vehicle manufacturers and by legal sanction of vehicle operators by state and local law enforcement officials.

The State also has established noise insulation standards for new multi-family residential units, hotels, and motels that would be subject to relatively high levels of transportation-related noise.

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

These requirements are collectively known as the California Noise Insulation Standards (Title 24, California Code of Regulations). The noise insulation standards set forth an interior standard of DNL 45 dBA in any habitable room. They require an acoustical analysis demonstrating how dwelling units have been designed to meet this interior standard where such units are proposed in areas subject to noise levels greater than DNL 60 dBA. Title 24 standards are typically enforced by local jurisdictions through the building permit application process.

Regional

Los Angeles County Airport Land Use Plan

The Project Site is located approximately two miles east of the LAX and approximately 1.5 miles to the north of the HHR. Pursuant to Division 9, Part 1, Chapter 4, Article 3.5, Sections 21670 – 21679.5 of the California Public Utilities Code, each county in California in which there is an airport served by a scheduled airline and each county with an airport operated for the benefit of the general public, with certain exceptions, is required to establish an airport land use commission (ALUC). Each ALUC must develop a plan for promoting and ensuring compatibility between each airport in the county and surrounding land uses. In Los Angeles County, the Los Angeles County Regional Planning Commission also acts as the ALUC. ALUC's purpose is to coordinate planning for the area around public airports to protect the public health, safety and welfare from land uses that do not minimize the public's exposure to excessive noise and safety hazards. This is achieved through review of proposed development surrounding airports and through policy and guidance provided in the Los Angeles County ALUP, which was adopted on December 19, 1991.[24]

In formulating the Los Angeles County ALUP, the ALUC establishes provisions to ensure safe airport operations, through the delineation of Runway Protections Zones (RPZs) and height restriction boundaries, and to reduce excessive noise exposure to sensitive uses through noise insulation or land reuse. The extent of the planning boundary designated for the airports in the Los Angeles County ALUP is determined by CNEL noise contours. CFR Part 150, Airport Noise Compatibility Planning, sets forth the methodology and procedures to be followed when preparing aircraft noise exposure maps and developing airport /airport environs land use compatibility programs. CFR Part 150 studies typically consist of two primary components: (1) the Noise Exposure Map (NEM) report, which contains detailed information regarding existing and 5-year future airport/aircraft noise exposure patterns, and (2) the Noise Compatibility Program (NCP), which includes descriptions and an evaluation of noise abatement and noise mitigation options/programs applicable to an airport.[25] Per the CFR Part 150 Land Use Compatibility Guidelines, residential uses are identified as non-compatible land uses for parcels

[24] Los Angeles County Airport Land Use Commission, Los Angeles County Airport Land Use Plan, prepared by the Department of Regional Planning, adopted December 19, 1991. Available: http://planning.lacounty.gov/view/alup/. Accessed September 2018.

[25] City of Los Angeles, Los Angeles World Airports, Noise Management LAX, LAX Part 150 Noise Exposure Map Update, https://lawa.org/en/lawa-environment/noise-management/lawa-noise-management-lax/lax-part-150-noise-exposure-map-update. Accessed September 2018.

exposed to 65 dBA CNEL or higher.[26] Commercial land uses are identified as compatible with 65 and 70 dBA CNEL noise levels. The CFR Part 150 Land Use Compatibility Guidelines does not identify a noise level at which hotel uses would be compatible. According to the LAX *Noise Control and Land Use Compatibility Study*, a noise level of 70 dBA CNEL is normally acceptable for transient lodging uses (e.g., hotel).[27]

The Project Site is partially located within the Planning Boundary/Airport Influence Area for the LAX Airport as designated within the Los Angeles County ALUP. As depicted in Figure 2-6 in Chapter 2, Project Description, the Project Site falls within the Airport Influence Area and Airport Compatibility Zone for LAX for the southern LAX runway. As shown, the majority of the Project Site is within the 65 dBA CNEL noise contour with a small amount of the southernmost portion of the Project Site within the 70 dBA CNEL noise contour. The Project Site is not located within the designated Airport Influence Area for the Hawthorne Municipal Airport. Additional discussion of the Los Angeles County ALUP, including consistency with policies related to safety, are addressed in Section 3.8, Hazards and Hazardous Materials. The following policies related to noise from the Los Angeles County ALUP are applicable to the Proposed Project:

ALUP Policies Related to Noise:

> ***Policy N-1:*** Use the CNEL method for measuring noise impacts near airports in determining suitability for various types of land uses.
>
> ***Policy N-2:*** Require sound insulation to insure a maximum interior 45 db CNEL in new residential, educational, and health-related uses in areas subject to exterior noise levels of 65 CNEL or greater.
>
> ***Policy N-3:*** Utilize the Table Listing Land Use Compatibility for Airport Noise Environments in evaluation projects within the planning boundaries.
>
> ***Policy N-4:*** Encourage local agencies to adopt procedures to ensure that prospective property owners in aircraft noise exposure areas above a current or anticipate 60 db CNEL are informed of these noise levels and of any land use restrictions associated with high noise exposure.

Consistent with Policy N-1, the analysis herein uses the CNEL method for measuring noise impact near airports in determining suitability for various types of land uses. The Proposed Project does not include residential uses but does include a hotel at the Hotel Site and a medical facility at the Arena Site that would require sound insulation that would ensure a maximum interior and exterior noise levels of 45 dB and 65 dBA, respectively. The appropriate sound insulation techniques needed to ensure that maximum interior and exterior noise levels are not

---

[26] Federal Aviation Administration, Land Use Compatibility and Airports. Available: https://www.faa.gov/about/office_org/headquarters_offices/apl/noise_emissions/planning_toolkit/media/III.B.pdf. Accessed September 2018.

[27] Los Angeles County Airport Land Use Commission, Noise Control and Land Use Compatibility Study Phase Two Report, 1983. Available: https://www.lawa.org/-/media/lawa-web/noise-management/files/150-noise-exposure/ancluc-phase-ii.ashx?la=en&hash=F1076F9ED79B75E68F5B84A6C992AE71D011F26F. Accessed March 2019.

exceeded would be employed during the design and construction of the proposed hotel use and medical facility. The Project Site falls within the Airport Influence Area and Airport Compatibility Zone for LAX for the southern LAX runway. Consistent with Policy N-3, the Los Angeles County ALUP Land Use Compatibility Chart is used to evaluate projects within airport planning boundaries. Consistent with Policy N-4, prospective property owners would be informed of the Project Site's exposure to noise levels of 60 dB CNEL or above and of any land use restrictions associated with high noise exposure.

Local

City of Inglewood General Plan

The City of Inglewood General Plan Noise Element, adopted September 1, 1987, is designed to manage noise within the City and to protect sensitive uses from excessive noise-related impacts. According to the General Plan, noise-sensitive uses include residential dwellings, schools, churches, and hospitals. **Table 3.11-9** presents the Noise/Land Use Compatibility Matrix from the General Plan Noise Element. Noise levels of up to 70 dBA CNEL for single- and multi-family residential use and 65 dBA CNEL for schools, churches, and hospitals are considered "Normally Compatible".

TABLE 3.11-9
NOISE/LAND USE COMPATIBILITY MATRIX

Land Use Categories		Community Noise Equivalent Level (CNEL)						
Categories	**Uses**	**<55**	**60**	**65**	**70**	**75**	**80>**	
RESIDENTIAL	Single Family, Duplex, Multiple Family	A	A	B	B	C	D	D
RESIDENTIAL	Mobile Home	A	A	B	C	C	D	D
COMMERCIAL Regional, District	Hotel, Motel, Transient Lodging	A	A	B	B	C	C	D
COMMERCIAL Regional, Village District, Special	Commercial Retail, Bank, Restaurant, Movie Theatre	A	A	A	A	B	B	C
COMMERCIAL INDUSTRIAL INSTITUTIONAL	Office Building, Research and Development, Professional Offices, City Office Building	A	A	A	B	B	C	D
COMMERCIAL Recreation INSTITUTIONAL Civic Center	Amphitheatre, Concert Hall Auditorium, Meeting Hall	B	B	C	C	D	D	D
COMMERCIAL Recreation	Children's Amusement Park, Miniature Golf Course, Go-cart Track, Equestrian Center, Sports Club	A	A	A	B	B	D	D
COMMERCIAL General, Special INDUSTRIAL, INSTITUTIONAL	Automobile Service Station, Auto Dealership, Manufacturing, Warehousing, Wholesale, Utilities	A	A	A	A	B	B	B
INSTITUTIONAL General	Hospital, Church, Library Schools Classroom	A	A	B	C	C	D	D

Land Use Categories		Community Noise Equivalent Level (CNEL)						
Categories	**Uses**	**<55**	**60**	**65**	**70**	**75**	**80>**	
OPEN SPACE	Parks	A	A	A	B	C	D	D
OPEN SPACE	Golf Course, Cemeteries, Nature Centers, Wildlife Reserves, Wildlife Habitat	A	A	A	A	B	C	C
AGRICULTURE	Agriculture	A	A	A	A	A	A	A

NOTES:

* Construction of new residential uses will not be allowed in the 65 CNEL for airport noise.

INTERPRETATION

Zone A Clearly Compatible	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.
Zone B Normally Compatible	New construction or development should be undertaken only after detailed analysis of the noise reduction requirements are made and needed noise insulation features in the design are determined. Conventional construction, with closed windows and fresh air supply systems or air conditioning, will normally suffice.
Zone C Normally Incompatible	New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of noise reduction requirements must be made and needed noise insulation features included in the design.
Zone D Clearly Incompatible	New construction or development should generally not be undertaken.

SOURCE: City of Inglewood, 1987. Noise Element of the General Plan. Exhibit 6. Adopted September 1, 1987 per Resolution No. 87-61.

The following goals and policies from the City of Inglewood General Plan Noise Element are applicable to the Proposed Project:

Goal 1: Provide for the reduction of noise where the noise environment represents a threat to public health and welfare. In those areas where the environment represents a threat to the public health and welfare, it is the objective of the City to reduce environmental hazards to levels consistent with the protection of the public health and welfare.

Goal 3: Protect and maintain those areas having acceptable noise environments. In those areas where a quality environment now exists, it is the objective of the City to prevent degradation of that environment.

Goal 4: Provide sufficient information concerning the community noise levels so that noise can be objectively considered in land use planning decisions. Noise and land use incompatibilities can be avoided for new developments when noise is properly considered in the planning and design of the project. It is the objective of the City to prevent future land use and noise conflicts through the planning process.

***Policy 4.2*:** Incorporate noise considerations into land use planning decisions.

Ensure acceptable noise levels near schools, hospitals, convalescent homes, and other noise sensitive areas.

Encourage acoustical design in new construction.

***Policy 4.3*:** Develop measures to control non-transportation noise impacts.

Evaluate noise generated by construction activities.

***Policy 4.4*:** Reduce noise conflicts at the source.

Actively support the FAR Part 150 Noise Compatibility Program as described in the "Noise Control and Land Use Compatibility Study, Los Angeles International Airport," (March 1984).

Policy 4.5: Reduce noise conflicts at the receiver.

Policy 4.6: Protect those who live and work in the City from dangerous on-the-job noise exposure.

The Proposed Project would generate temporary construction noise and permanent operational noise that would potentially increase ambient noise levels in the area, resulting in potential inconsistencies with Goals 1 and 3 of the Noise Element. Consistent with Goal 4, the analysis in this section of the EIR provides objective information concerning existing and projected future community noise levels to ensure that community noise levels are considered in the design, land use planning and decision-making process for the Proposed Project. Ultimately, it is within the authority of the City Council to determine whether the Proposed Project is consistent with the City of Inglewood General Plan Noise Element.

City of Inglewood Municipal Code

Chapter 5, Article 2 of the City's Municipal Code contains the City's noise regulations. Section 5-27 establishes base ambient noise levels within respective times and zones. Where actual noise measurements exceed base ambient noise levels as designated by Section 5-27, the measured noise level shall be employed as the base ambient noise level.[28] Exterior noise in residential zones may not exceed the base ambient noise level for more than 30 minutes in any hour or 5 dBA above base ambient noise levels for more than 15 minutes in any hour.

Section 5-41 of the Code prohibits construction or repair work and the operation of any pile driver, pneumatic hammer, derrick, excavation or earth moving equipment, or other construction equipment within a residential zone or within a 500-foot radius of a residential zone between the hours of 8:00 PM and 7:00 AM.

Section 5-51 of the Code states that the commercial and noncommercial use of sound amplifying equipment shall be subject to the following regulations:

a. The only sounds permitted shall be either music or human speech, or both.

b. The operation of sound amplifying equipment shall only occur between the hours of eight a.m. and ten p.m. each day. No operation of sound amplifying equipment for commercial purposes shall be permitted on Sundays or legal holidays.

c. No sound emanating from sound amplifying equipment shall exceed fifteen (15) dB(A) above the ambient noise base level as measured at any property line.

---

28 City of Inglewood Municipal Code, Chapter 5, Article 2, Section 5-27.

d. Notwithstanding the provisions of subsection (c) of this Section, sound amplifying equipment shall not be operated within two hundred (200) feet of churches, schools and hospitals.

e. In any event, the volume of sound shall be so controlled that it will not be unreasonably loud, raucous, jarring, disturbing, or a nuisance to persons of normal sensitiveness within the area of audibility.

[INSERT DISCUSSION AFTER RECEIPT OF INFORMATION FROM TEAM REGARDING ANY PROPOSED VARIANCES FROM NOISE ORDINANCE]

3.11.4 Analysis, Impacts and Mitigation

Significance Criteria

A significant impact would occur if the Proposed Project would:

1. 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;

2. Generate excessive groundborne vibration or groundborne noise levels; or

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