IV. Environmental Impact Analysis

E. Noise

1. Introduction

This section evaluates the potential for noise and groundborne vibration impacts resulting from implementation of the Proposed Project. This analysis includes the potential for the Proposed Project to result in impacts associated with a temporary and/or permanent increase in ambient noise levels in the vicinity of the Project Site; exposure of persons in the vicinity of the Project Site to excessive noise levels, groundborne vibration, or groundborne noise levels; and whether this exposure is in excess of standards established in the City's general plan, noise ordinance, or CEQA Thresholds Guide. Finally, mitigation measures intended to reduce impacts to noise and vibration are proposed, where appropriate, to avoid or reduce significant impacts of the Proposed Project. This section is based on the technical report titled "Noise Impact Study—Convention Center Modernization & Farmers Field Project," prepared by Acoustical Engineering Services, Inc., March 2012. A complete copy of this report is provided as Appendix L to this Draft EIR. In contrast to other sections in this Draft EIR, the related tables and figures noted throughout the text below are attached to the end of this section.

Data used to prepare this analysis was obtained from the City of Los Angeles General Plan Noise Element and the Los Angeles Municipal Code ("LAMC"), and by measuring and modeling existing and future noise levels at the Project Site and the surrounding land uses. Traffic information contained in the traffic study prepared for the Proposed Project (see Appendix I to this Draft EIR) was used to prepare the noise modeling for vehicular sources.

2. Environmental Setting

a. 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 dB 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 dB scale ("dBA") corresponds to the way the human ear perceives sound. Examples of various sound levels in different environments are provided in Table IV.E-1 on page IV.E-46.

Because the Proposed Project includes entertainment noise sources, the analysis analyzes entertainment noise sources using the C-Weighted sound pressure level (dBC) in addition to addressing conditions in terms of dBA levels. The dBC level is used when a project includes the type of amplified sound system and pyrotechnic displays that would occur at the Event Center, to account for both low frequency sounds (i.e., bass) and the high sound levels of the noise source.

Noise is typically defined as unwanted sound. Noise is commonly defined as sound that is undesirable because it interferes with speech communication, and hearing, causing sleep disturbance, or is otherwise annoying (unwanted sound). People judge the relative magnitude of sound sensation by subjective terms such as "loudness" or "noisiness." To the normal hearing a change in sound level of 3 dB is considered "just perceptible," a change in sound level of 5 dB is considered "clearly noticeable," and a change (i.e., increase) of 10 dB is generally recognized as "twice as loud."

(1) Outdoor Sound Propagation

In an outdoor environment, sound levels attenuate (reduce) through the air as a function of distance. Such attenuation is commonly referred to as "distance loss" or "geometric spreading," and is based on the noise source configuration (e.g., point source, or line source). For a point source, such as a piece of mechanical/electrical/construction equipment (e.g., air conditioner, electrical transformer, or bull dozer) the rate of sound attenuation is about 6 dB per doubling of distance from the noise source. For example, an outdoor condenser fan that generates a sound level of 60 dBA at a distance of 5 feet would attenuate to 54 dBA at a distance of 10 feet. For a line source, such as a constant flow of traffic on a roadway, the rate of sound attenuation is about 3 dB per doubling of distance.

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

between the noise source and receiver) to an upper range of 20 dBA with a more substantial barrier.

(2) Environmental Noise Descriptors

Several rating scales have been developed to analyze the adverse effect of community noise on people. Since environmental noise fluctuates over time, these scales consider the total acoustical energy content, as well as the time and duration of occurrence. The most frequently used noise descriptors, including those used by the City, are summarized below.

Equivalent Sound Level (L_{eq}). L_{eq} is a measurement of the acoustic energy content of noise averaged over a specified time period. Thus, the L_{eq} of a time-varying sound and that of a steady sound are the same if they deliver the same amount of energy to the receptor's ear during exposure. L_{eq}s for 1-hour periods, during the daytime or nighttime hours, and 24 hours are commonly used in environmental noise assessments. L_{eq} can be measured for any time period, but is typically measured for an increment of no less than 15 minutes for environmental studies. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or night.

Maximum Sound Level (L_{max}). L_{max} represents the maximum A-weighted sound level measured during a measurement period. It is a measure of the highest sound level at a particular point in time. L_{max} is generally used to evaluate short-duration/intermittent noise sources. For this analysis, it is used to evaluate noise effects from stadium operations (i.e., sound system and crowd cheering), parking garage operations (i.e., car alarms/horns), and firework display shows.

Community Noise Equivalent Level (CNEL). CNEL is the time average of all A-weighted sound levels for a 24-hour day period with a 10 dBA adjustment (increase) added to the sound levels that occur in the nighttime hours (10:00 P.M. to 7:00 A.M.) and a 5 dBA adjustment (increase) added to the sound levels that occur in the evening hours (7:00 P.M. to 10:00 P.M.). These penalties attempt to account for increased human sensitivity to noise during the quieter nighttime periods, when the ambient background noise is less and where sleep is the most probable activity. In comparison, the 24-hour CNEL is approximately equal to the L_{eq} plus 7 dBA, for noise sources that are constant throughout the day, such as, mechanical equipment operating on a 24-hour basis. The CNEL has been adopted by the State of California to define the community noise environment for development of the community noise element of a General Plan and is also used by the City for land use planning (i.e., the City's General Plan Noise Element) and to describe noise impacts in its L.A. CEQA Thresholds Guide (2006).

Day-Night Average Level (L_{dn} or DNL). L_{dn}, like CNEL, is the weighted 24-hour average noise level that accounts for peoples increased annoyance to noise occurring in the nighttime hours. It is the average equivalent A-Weighted sound level during a 24-hour day, calculated after adding ten (10) dBA to sound levels that occur after 10:00 P.M. and before 7:00 A.M. Typically, the L_{dn} is within 1 dBA of the CNEL.

b. Fundamentals of Environmental Groundborne Vibration

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

c. Regulatory Framework

There are numerous federal, State, and local regulations and standards regarding noise that are relevant to the Proposed Project. These regulations are provided in Appendix L of this Draft EIR. As discussed therein, federal noise standards have been set forth by the U.S. Department of Housing and Urban Development (HUD) for residential uses, while the State of California has established specific General Plan Guidelines that set forth acceptable noise categories for various types of land use. In addition, the City of Los Angeles has established guidelines and regulations regarding noise within the Noise Element of its General Plan as well as within its Noise Regulation. As discussed in Appendix L, the Federal Transit Administration (FTA) and the California Department of Transportation (Caltrans) have established standards for vibration that have been used in this analysis.

d. Existing Conditions

(1) Noise Sensitive Receptors

Some land uses are considered more sensitive to noise than others based on the types of activities typically involved at the receptor location. The L.A. CEQA Thresholds

Guide (2006) states that residences, schools, motels and hotels, libraries, religious institutions, hospitals, nursing homes, auditoriums, concert halls, amphitheaters, and parks are generally more sensitive to noise than commercial and industrial land uses. Twenty-six (26) noise-sensitive receptors were selected for the noise analysis, representing the various noise sensitive land uses (i.e., residential, hospital, school, hotel/motel, auditorium, religious institution, and parks uses) in the vicinity of the Project Site.

(2) Existing Ambient Noise Levels

Ambient noise measurements were taken at the selected 26 off-site locations in the vicinity of the Project Site for a typical weekday and weekend. The off-site noise measurement locations range from approximately 90 feet (R2—residences located on Pico Boulevard, east of Figueroa Street) to approximately 1,940 feet (R22—residences located on Toberman Street, north of 18th Street) from the Project Site. The noise measurement locations are described in Table IV.E-6 on page IV.E-50 and are shown in Figure IV.E-1 on page IV.E-120. For the weekday measurements, long-term (24-hour) measurements were conducted at nine (9) measurement locations and three short-term (15-minute) measurements were conducted at each of the remaining 17 locations. For the short-term measurements, two measurements were made during the daytime hours (between the hours of 9:00 A.M. and 4:00 P.M.) and one during the nighttime hours (between 10:00 P.M. and 1:00 A.M.). For the weekend ambient measurements, two short-term (15-minute) measurements were made at all 26 locations during the daytime hours (between 1:00 P.M. and 4:00 P.M.) and during the nighttime hours (between 10:00 P.M. and 12:00 A.M.). The weekday ambient noise measurements were conducted between July 19 and July 28, 2011, and between October 20 and October 21, 2011. The weekend ambient noise measurements were conducted on January 14, 22, and 29, 2012, and February 4, 2012.

The ambient noise monitoring program was conducted using several Quest Technologies Model 2900 Integrating/Logging Sound Level Meters, these sound level meters meet and exceed the minimum industry standard performance requirements for "Type 2" standard instruments, as defined in the American National Standard Institute (ANSI) S1.4. These sound level meters also meet the requirement specified in Section 111.01(l) of the LAMC that the instruments be "Type S2A" standard instruments or better. The sound level meters were set up to collect the average (L_{eq}) noise levels over a 15-minute period. For the 24-hour noise measurements, the sound level meters were also set up to register the ambient noise levels on a 15-minute basis (i.e., 96 15-minute L_{eq} levels for a 24-hour measurement). In accordance with the City's noise ordinance, the ambient noise measurements were conducted continuously for a period of a minimum of 15 minutes.

Table IV.E-7 on page IV.E-52 presents the measured ambient noise levels in the vicinity of the Project Site. Detailed noise measurement data are provided in Appendix L to

this Draft EIR. Based on field observation and measured sound data, the current ambient noise environment in the vicinity of the Project Site is controlled primarily by vehicular traffic on local roadways and the SR-110 Freeway, and to a lesser extent by occasional aircraft flyovers, and other typical urban noise. In general, the ambient noise levels in the vicinity of the Project Site currently exceed the City's presumed daytime and nighttime ambient noise standards, as presented in Table IV.E-2 on page IV.E-47. Therefore, the measured existing ambient noise levels are appropriate for use as the baseline conditions for the purposes of determining Project impacts.

Twenty-four-hour CNEL levels were calculated for the short-term (15-minute) measurement locations based on the measured L_{eq} noise levels. The CNEL levels were calculated based on the 15-minute L_{eq} levels following the calculation procedures prescribed by the FTA. As indicated in Table IV.E-7 on page IV.E-52, the existing noise environments at the 26 off-site sensitive receptors are classified, based on the standards set forth in Table IV.E-3 on page IV.E-48, as follows: (1) ambient noise levels at locations R6 (residences located on 12th Place, west of Albany Street), R21 (residences on Park Grove Avenue, south of Washington Boulevard) and R23 (residences on 14th Street, east of Union Avenue) are within the "normally acceptable" range; (2) ambient noise levels at locations R1 (Ritz Hotel and Residences and Marriott Hotel at L.A. LIVE), R3 (residences on Flower Street), R4 (residences on Oak Street, north of Venice Boulevard), R5 (residences located on Valencia Street, south of Pico Boulevard), R7 (residences on 11th Street, east of Albany Street), R8 (10th Street Elementary School on Valencia Street, south of Olympic Boulevard), R9 (residences on Albany Street, north of Olympic Boulevard), R13 (residences at the northeast corner of Flower and 11th Streets), R14 (residences at northwest corner of 12th Street and Grand Avenue), R15 (residences on Hope Street, north of Venice Boulevard), R17 (religious use at the northeast corner of Hope Street and Washington Boulevard), R19 (residences and religious uses on 18th Street, east of Georgia Street), R20 (residences on Bonsalio Avenue, south of Washington Boulevard), R22 (residences located on Toberman Street, north of 18th Street), R24 (residences on Pico Boulevard, east of Union Avenue), R25 (residences on 12th Street, east of Union Avenue) and R26 (residences on Wright Street, north of Venice Boulevard) are within the "conditionally acceptable" range; (3) ambient noise levels at locations R2 (residences on Pico Boulevard, east of Figueroa Street), R11 (residences on 9th Street, east of Flower Street), R12 (residences on Olympic Boulevard, west of Hope Street), and R18 (high school on 17th Street) are within the "normally unacceptable" range; and (4) ambient noise levels at locations R10 (hotel use on Figueroa Street, north of Olympic Boulevard) and R16 (residences located at the northeast corner of Grand Avenue and Venice Boulevard) are within the "clearly unacceptable" range.

(3) Existing Traffic Noise Levels

In addition to the ambient noise measurements in the vicinity of the Project Site, the existing traffic noise on local roadways in the surrounding areas near the Project Site was calculated using information taken from the Project transportation study (see Appendix I to this Draft EIR). The transportation study area is generally bounded by the 101 Freeway/ College Street on the north, Exposition Boulevard/37th Street on the south, Central Avenue on the east, and Arlington Street on the west. A total of 177 intersections were analyzed as part of the transportation study. Eighty-one (81) roadway segments were selected for the existing noise analysis, based on proximity to noise sensitive uses and the traffic volume from the Proposed Project (segments forecast to receive the highest volumes of Project traffic were selected).

Traffic noise levels were calculated using the Federal Highway Administration (FHWA) Traffic Noise Model (TNM) and traffic volume data from the Project transportation study. The TNM traffic noise prediction model calculates the hourly L_{eq} noise levels based on specific information, including the hourly traffic volume, vehicle type mix, vehicle speed, and distance between the noise receptor and the roadway. A traffic noise model calibration test was performed to establish the noise prediction model's accuracy. Seven road segments were used to calibrate the Project's traffic noise model. The traffic counts, including vehicle mix, were entered into the noise model along with the observed speed and distance to the roadway to calculate the traffic noise levels. The results of the traffic noise model calibration are provided in Appendix L. The noise model results are within ±1 dBA of the measured noise levels, which is within the standard tolerance of the noise prediction model, per Caltrans guidelines (TeNS).

The calculated existing traffic noise levels (during the Pre-Event and Post-Event hours) for typical Weekday, Saturday, and Sunday conditions are provided in Table IV.E-8 on page IV.E-59. The existing traffic noise levels for a Sunday along the majority of the analyzed roadway segments (with residential uses) would fall within the "conditionally acceptable" land use category (i.e., 60 to 70 dBA CNEL for multi-family residential uses) at a majority of the studied residential areas. However, there are also roadway segments with traffic noise levels that would be classified as "normally unacceptable" (i.e., 70 to 75 dBA CNEL for multi-family residential uses), including Alvarado Street (between 8th Street and Pico Boulevard), Union Avenue (North of Olympic Boulevard), and Adams Boulevard (West of Flower Street). The existing traffic noise levels for a Saturday would exceed the "normally acceptable" range (i.e., 65 dBA CNEL or lower for multi-family residential uses) along a majority of the studied roadway segments. The existing traffic noise levels for a Weekday would also exceed the "normally acceptable" range (i.e., 65 dBA CNEL or lower for multi-family residential uses) along a majority of the studied roadway segments.

(4) Existing Ground-Borne Vibration Environment

Based on field observations, the primary source of existing ground-borne vibration in the Project Site vicinity is vehicular travel (i.e., automobile, trucks, and transit buses) on local roadways. According to the FTA technical study "Federal Transit Administration: Transit Noise and Vibration Impacts Assessments," typical road traffic induced vibration levels are unlikely to be perceptible by people. Trucks and buses typically generate ground-borne vibration velocity levels of around 63 VdB (at 50 feet distance), and these levels could reach 72 VdB when trucks and buses pass over bumps in the road, which would be below the level of perceptibility (as indicated in Table IV.E-5 on page IV.E-49). Other ground-borne vibration sources in the Project area would be the Metro light rail lines along Flower Street and Washington Boulevard, which is part underground and part above ground. Based on the FTA's published vibration data, typical rapid transit (light rail) systems would generate vibration levels of approximately 70 VdB (lower range) to 80 VdB (upper range) at a distance of 50 feet. By comparison, 75 VdB is the dividing line between barely perceptible and distinctly perceptible.

3. Environmental Impacts

a. Methodology

(1) Construction Noise

Construction noise impacts were evaluated by calculating the construction-related noise level at selected representative sensitive receptor locations (i.e., receptor locations R1 to R26) and comparing these construction-related noise levels to the existing ambient noise levels (i.e., noise levels without construction noise from the Project). Construction noise associated with the Project was analyzed using a Project-specific construction equipment inventory, construction duration, and construction phasing, provided by ICON Venue Group and is included in Appendix L to this Draft EIR. The construction noise model for the Project is based on construction equipment noise levels published by the Federal Highway Administration (FHWA) "Roadway Construction Noise Model (FHWA 2006)." The ambient noise levels at surrounding sensitive receptor locations were based on actual field measurement data. The construction noise levels were then calculated for sensitive receptor locations based on the standard point source noise-distance attenuation factor of 6.0 dBA for each doubling of distance. Additional noise attenuation was assigned to receptor locations where their line-of-sight to the Project Site was interrupted by the presence of intervening structures.

Project related off-site construction trucks noise impacts were analyzed using the FHWA's Traffic Noise Model (TNM). The construction related off-site truck volumes were provided by ICON Venue Group. The TNM noise model calculates the hourly L_{eq} noise

levels generated by construction-related trucks. Noise impacts were determined by comparing the predicted noise level with that of the existing ambient noise levels.

(2) Construction Ground-borne Vibration

Ground-borne vibration impacts due to construction activities were evaluated by identifying potential vibration sources (i.e., construction equipment), estimating the vibration levels at the affected receptor, and comparing these vibration levels with the Project significance thresholds, as described below. The vibration source levels for various types of equipment, as used in this study, were based on data provided by the FTA (2006) and Caltrans (2004).

(3) Operation Noise

(a) Off-Site Mobile Noise Sources

Off-site roadway noise was analyzed using the FHWA's TNM, based on the roadway traffic data provided in the Project's transportation study. The TNM is the current Caltrans standard computer noise model for traffic noise studies. The model allows for the input of roadway parameters, noise receivers, and sound barriers (if any). Roadway noise attributable to the Project ("future with project") was calculated and compared to baseline noise levels that would occur under the "future without project" condition, to determine Project noise impacts.

Noise impacts attributable to the public transit system (e.g., Metro Blue Line and bus lines) were analyzed based on the anticipated increase in the number of train cars/buses that would be needed to accommodate the Project's peak capacity event. Noise impacts were forecasted based on the forecasted increase in transit operations compared to the future condition without the Proposed Project.

(b) On-Site Stationary Noise Sources

Stationary point-source noise impacts were evaluated by identifying the noise levels generated by outdoor stationary noise sources such as mechanical equipment, loading dock activities, Event Center operations (sound system and crowd cheering), and the outdoor plazas (crowds), calculating the hourly L_{eq} and/or the maximum L_{max} noise levels from each noise source at surrounding sensitive receiver property line locations, and comparing these noise levels to existing ambient noise levels.

(c) Event Center Sound System

The sound system to be used for major spectator events at the Event Center, is anticipated to be comprised of a series of distributed line-array speakers. The speakers would be suspended from the fixed roof structure or the underside of the seating overhang. Line-array speakers are used for their superior vertical acoustical coverage pattern control, allowing sound to be directed more efficiently to seating areas, and not to the roof, upper walls, and other surfaces that can produce reflections that affect sound quality and speech intelligibility. The sound system would be capable of producing a maximum sound level of 105 dBA (L_{max}) at the seating areas. The following assumptions were used for the noise analysis of the Event Center sound system:

- A total of twelve (12) to twenty (20) line-arrays would be suspended from the roof structure with small "fill" speakers placed on the seating structure to provide sound to the seating that is shadowed from the line array clusters.
- The in-house sound system produces a sound pressure level of 105 dBA at the seating areas.

The sound system for concerts would rely upon temporary, touring sound systems to provide sound from the stage to the majority of the seats. For a typical capacity attendance sized concert, "delay" speakers would be used to provide sound to the far end of the Event Center (opposite the stage). Sound levels for a typical concert range from 98 dBA to 105 dBA, averaged over 30 minutes at the audience seating areas. The following assumptions were used for the noise analysis of the concert touring sound system:

- Four line-arrays would be located at the stage, with each array composed of 16 speakers serving the Front of House (FOH), for a total of 64 speakers.
- Two towers would be placed at midfield (approx. 50 yard line), serving the far end of the Event Center. Each tower would include two line-arrays with 8 speakers each for a total of 32 speakers.
- The concert sound system would produce a sound pressure level of 105 dBA at all of the Event Center seating areas.

(d) Composite Noise Levels

The Project composite noise level was calculated to evaluate the potential increase in noise levels that may occur at the analyzed noise-sensitive receptor locations. The composite noise level is comprised of the contributions from each individual noise source associated with the daily operation of the Proposed Project. The noise analyses for the individual Project-related noise sources were made using various noise descriptors (i.e.,

24-hour CNEL, 1-hour L_{eq}, and L_{max}). The majority of the individual Project-related noise sources would occur at various times of the day. The central plant would operate throughout most of the day. In addition, noise sources associated with a typical event day (i.e., traffic, outdoor plazas, stadium sound system and crowd cheering, and fireworks) would occur at different hours of the day. Therefore, in order to evaluate the combined noise effect of all noise sources, a common noise descriptor, CNEL, was used. The Project composite noise level was determined by combining the noise levels from individual Project-related noise sources (in terms of CNEL), at each of the analyzed noise receptors. Noise impacts were determined by comparing the composite noise levels with existing ambient noise levels.

(4) Operational Ground-borne Vibration

The primary sources of Project operation-related vibration would include passenger vehicle circulation within the proposed parking facilities, on-site delivery truck activity (which would be similar to the existing conditions, including the existing on-site subterranean parking structures that would remain under the Proposed Project) and roadways adjacent to the Project Site. In addition, Project-related off-site traffic, including auto traffic and delivery trucks traveling on roadways in the vicinity of the Project Site would generate similar vibration levels as existing traffic (i.e., auto, bus, and truck). The Project would also include typical commercial-grade stationary mechanical and electrical equipment, such as air handling units, condenser units, cooling towers, exhaust air fans, and electrical power generators that would produce vibration similar to the existing Convention Center facilities. Other on-site vibration source includes the operation of the Event Center deployable roof (i.e., an electrical motor would be used to open/close the roof structure).

Typically, ground-borne vibration attenuates rapidly as a function of distance from the vibration source. Furthermore, the majority of the Project's operational-related vibration sources, such as mechanical and electrical equipment, would incorporate vibration attenuation mounts, as required by the particular equipment specifications. In addition, the Event Center deployable roof would generate vibration during opening/closing of the roof structure. However, the design of the deployable roof (i.e., the slow movement of the roof motor/track system) would limit the vibration generated through the building structure and transferred to the ground. Therefore, Project operations would not increase the existing vibration levels in the immediate vicinity of the Project Site, and as such vibration impacts associated with Project operations would be less than significant. As such, the ground-borne vibration analysis presented in this EIR is limited to Project-related construction activities.

(5) Cumulative Impacts

(a) Construction Noise

Construction activities from the Project combined with future related projects was analyzed to evaluate potential cumulative noise impacts. The potential for cumulative noise impacts to occur is in part, based on the distance between the Project and each of the related projects, and the magnitude/intensity of construction activities at each of the project sites. Noise from construction activities would normally affect the areas immediately adjacent to each of the construction sites, specifically areas that are less than 500 feet from a construction site (500 feet distance is identified by the L.A. CEQA Thresholds Guide as the Screening Criteria with respect to construction activities). That is, cumulative noise impacts could occur at receptor locations that are within 500 feet of two different construction sites. Therefore, based on the 500-foot screening criteria distance, cumulative construction noise impact analysis is limited to related projects within 1,000 feet of the Project Site. The 1,000-foot distance is based on an assumption that a noise sensitive receptor would be located halfway between the Project Site and the related project.

(b) Construction Vibration

Due to the rapid attenuation characteristics of ground-borne vibration, the potential for a cumulative construction vibration impact (with respect to building damage) would be limited to related projects that are located close to (within 100 feet of) the Project Site. Furthermore, construction vibration impacts were analyzed based on the instantaneous peak vibration level produced by each type of construction equipment.

(c) Operations Noise

With respect to long-term operations, the Project and the related projects in the surrounding area would generate noise that would contribute to cumulative noise from a number of community noise sources, including off-site vehicle travel and on-site sources such as mechanical equipment and other operational noise sources. Similar to the cumulative on-site construction noise, operational noise impacts from on-site sources attributable to cumulative development of the related projects and the Project depend on the distances between the Project and the related projects, as well as, the noise levels generated by the related projects. Detailed information regarding the on-site noise sources from the related projects is typically not available at this stage of the project. However, each related project would be designed (including mitigation measures as required) to meet the City's exterior noise limits at the property line. In addition, each related project would produce traffic volumes (off-site vehicles) that are capable of generating roadway noise impacts. Cumulative noise impacts due to off-site vehicle traffic were analyzed by comparing the projected increase in traffic noise levels from "existing" conditions to "future

cumulative" conditions to the applicable significance criteria. The off-site vehicle traffic noise analysis methodology is described above. Future cumulative conditions include traffic volumes from future ambient growth, related development projects, and the Project.

b. Thresholds of Significance

In accordance with the State CEQA Guidelines, Appendix G, a significant impact could occur if a project results in:

- 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;
- Exposure of persons to or generate excessive ground-borne vibration or ground-borne noise levels;
- A substantial permanent increase in ambient noise levels in the vicinity of the Project above levels existing without the Project; and
- A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project.

Based on the regulatory framework described above, thresholds provided by the L.A. CEQA Thresholds Guide, and in accordance with significance criteria established by Appendix G of the State CEQA Guidelines, the following thresholds of significance were used to evaluate the Project's noise and vibration impacts:

(1) Construction Noise

A project would normally have a significant impact on noise levels from construction if:

- Construction activities lasting more than one day would exceed existing ambient exterior sound levels by 10 dBA 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 or more at a noise-sensitive use; or
- Construction activities would exceed the ambient noise level by 3 dBA 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 Sunday. Although the *L.A. CEQA Thresholds Guide* provides a significance threshold of 5 dBA for

nighttime hours, the 3 dBA threshold is used as a conservative analysis, which reflects the qualitative limits set forth in Section 41.40 of the LAMC.

(2) Operations Noise

As discussed above a wide range of noise sources are analyzed and different thresholds apply depending on the duration and source of noise. Within this analysis, sources are evaluated as follows: (1) on a 24-hour basis, (2) averaged over a 1-hour time period, and (3) averaged over a 15-minute period. Sources analyzed over a 24-hour period include the composite noise analysis (i.e., all individual noise sources analyzed together), as well as the off-site roadway analysis. Sources averaged over a 1-hour period include building mechanical equipment, loading dock operations, on-site bus operations, activity within the on-site public plazas, and pyrotechnic displays within the Event Center. Sources averaged over a 15-minute period include spectator events (sound system), crowd noise (sporting and concert events) and parking operations. This analytic structure is conservative as the sources that are evaluated over a 15-minute period are based on the L_{max} noise levels for these sources.

The CNEL standards are those set forth within the L.A. CEQA Thresholds Guide, and use a sliding scale depending on the existing CNEL levels and the type of land use affected.

As discussed above with respect to the community noise environment, changes in outdoor noise levels less than 3 dBA generally are not discernible, while changes greater than 5 dBA are readily noticeable. Therefore, a significance threshold of 5 dBA (CNEL) is used where existing ambient noise conditions fall within the City's acceptable noise environment, whereas a more stringent threshold of 3 dBA (CNEL) increase, is utilized as the threshold in areas with higher existing noise levels (i.e., within the "normally unacceptable" or higher range). This threshold is therefore conservative, as it sets a significant impact at the onset of audibility in areas with relatively high existing noise levels.

The L_{max} and L_{eq} criteria are based on the City's Municipal Code. Per the City's Noise Regulation, a noise level increase of 5 dBA over the existing ambient noise level (minimum 15 minutes in any 1-hour period) is considered a noise level violation. In addition, the noise limit for noise levels that last less than 15 minutes in any 1 hour is 10 dBA above the ambient noise levels. Although the City's Noise Ordinance does not specifically describe limits in terms of the L_{max} level, the L_{max} levels described in this analysis apply to sound sources that would occur less than 15 minutes in any 1-hour period.

Therefore, the Project would have a significant noise impacts if any of the following events were to occur:

- Project operations cause the ambient noise level measured at the property line of affected noise-sensitive uses to increase by 5 dBA CNEL within the "normally acceptable" or "conditionally acceptable" category, when Project conditions do not change the receptor's land use compatibility category.

- Project operations cause the ambient noise level measured at the property line of the affected noise-sensitive uses to increase by 3 dBA CNEL within the "normally unacceptable" or "clearly unacceptable" category, where existing ambient noise conditions already fall above the City's acceptable noise environment.

- Mobile sources associated with Project operations (i.e., traffic, helicopter and public transit) increase the ambient noise level by 5 dBA (hourly L_{eq}). As described above, the LAMC does not regulate mobile sources on public streets and the threshold provided by the *L.A. CEQA Thresholds Guide* is established in terms of CNEL. Therefore, this threshold is based on a 5 dBA change in L_{eq} noise levels, Caltrans' threshold for when changes in motor vehicle noise levels are significant. This is consistent with the City's limits for other noise sources (i.e., 5 dBA above ambient). In addition, the significance threshold in terms of hourly L_{eq} is more conservative than the 24-hour CNEL significance threshold as provided by the *L.A. CEQA Thresholds Guide* for this Project since most of the Project-related traffic occurs in a 2-hour period (1 hour before and 1 hour after the event). Using a 24-hour CNEL significance threshold would average the impact that would occur over the two-hour period over a 24-hour period, resulting in less impacts than the hourly L_{eq}.

- Project-related operational (i.e., non-roadway) noise sources such as, outdoor building mechanical/electrical equipment and loading dock/refuse collection, increase the ambient noise level (hourly L_{eq}) at noise sensitive uses by 5 dBA, thus causing a violation of the City Noise Ordinance.

- The maximum noise level (L_{max}) generated from the operation of the parking garage exceeds the average ambient noise level (L_{eq}) by 5 dBA. This is the most conservative threshold, as it is based on the nighttime allowance by the Noise Regulations, while most of the parking garage operations would occur during the daytime hours (7 A.M. 10 P.M.).

- The maximum noise level (L_{max}) generated from the Event Center (crowd and sound system) exceeds the average ambient noise level (L_{eq}) at the off-site noise sensitive receptor by 10 dBA (for a sporting event) or 5 dBA (for a concert event). The noise limit for a concert event (i.e., concert sound system) is 5 dBA lower, due to the impulsive nature of sound (i.e., music bass drum sound).

- The maximum noise level (L_{max}) generated from the firework display show exceeds the average ambient noise level (L_{eq}) at the off-site noise sensitive receptors by 5 dBA. The noise limit for the firework display takes into account the impulsive sound (e.g., explosion) penalty of 5 dBA.

(3) Ground-Borne Vibration (Construction)

The City has not adopted a significance threshold to assess construction vibration impacts. Thus, the FTA standards described earlier are used to evaluate potential impacts related to Project construction. Based on this FTA guidance, impacts relative to ground-borne vibration associated with potential building damage would be considered significant if any of the following future events were to occur:

- Project construction activities cause ground-borne vibration levels to exceed 0.5 inch per second (PPV) at the nearest off-site reinforced-concrete, steel or timber building.

- Project construction activities cause ground-borne vibration levels to exceed 0.3 inch per second (PPV) at the nearest off-site engineered concrete and masonry building.

- Project construction activities cause ground-borne vibration levels to exceed 0.2 inch per second (PPV) at the nearest off-site non-engineered timber and masonry building.

- Project construction activities cause ground-borne vibration levels to exceed 0.12 inch per second (PPV) at buildings extremely susceptible to vibration damage, such as historic buildings.

The Los Angeles CEQA Thresholds Guide also does not define the levels at which construction-related ground-borne vibration would cause human annoyance at sensitive uses. Therefore, in terms of ground-borne vibration impacts associated with human annoyance during Project construction, the analysis uses the FTA's guidelines shown on Table IV.E-5 on page IV.E-49. Thus, construction vibration impacts associated with human annoyance would be significant if the following were to occur.

- Project construction activities would cause ground-borne vibration levels to exceed 72 VdB at off-site sensitive uses, including residential, hotel, hospital, and auditorium/theater (Nokia Theatre L.A. LIVE [Nokia Theatre]) uses.

c. Project Design Features

The following Project design features would avoid or reduce project-related noise effects, and therefore, were taken into account during the analysis of potential Project impacts.

(1) Construction

- Project construction would utilize drilled piles during the late evening hours (between 9 P.M. and 12 A.M.) in lieu of driven piles (that would be used during the daytime hours, between 7 A.M. and 9 P.M.), in order to reduce potential construction noise and vibration impacts.

- The Project contractor shall equip all construction equipment used at the Project Site with properly operated and maintained, commercially available noise shielding and/or muffling devices that are consistent with the manufacturer's standards.

(2) Operation

- The Event Center in-house sound system would utilize a distributed speakers system capable of aiming the sound toward the seating areas, to minimize sound spillage to the exterior of the Event Center.

- Building mechanical/electrical equipment would be designed to meet the noise limit requirements of LAMC, Chapter XI, Section 112.02.

- Loading dock and trash/recycling areas for the Event Center and STAPLES Center would be located in the subterranean level, which would preclude noise from this source at exterior locations.

- All rooftop mechanical equipment would be enclosed or screened from view with appropriate screening walls.

d. Project Impacts

(1) Construction Noise & Vibration Impacts

(a) On-Site Construction Noise Sources

Noise impacts from Project construction activities occurring within or adjacent to the Project Site would be a function of the noise generated by construction equipment, the location of the equipment, the timing and duration of the noise-generating construction activities, and the distance to noise sensitive receptors. Construction activities would

include site demolition, excavation and shoring and building construction. Each stage of construction would involve the use of various types of construction equipment and would, therefore, have its own distinct noise characteristics. Site demolition generally involves the use of backhoes, front-end loaders, and heavy-duty trucks. Excavation and shoring typically requires the use of earth moving equipment, such as excavators, front-end loaders, and heavy-duty trucks. Building construction typically involves the use of cranes, forklifts, concrete trucks, and delivery trucks. Noise from construction equipment would generate both steady-state and episodic noise that could be heard within and adjacent to the Project Site.

The Project's overall construction is currently programmed to be completed in approximately 48 consecutive months, starting with the construction of the Bond Street Garage, the New Hall, the L.A. Live Way Garage, and finishing with the Event Center. It is anticipated that overlapping construction of the four Project's components would occur. The Project's preliminary construction phasing would be as follows:

(a) Bond Street Garage—This construction phase would include the demolition of the existing Bond Street Parking Lot followed by the construction of the proposed new Bond Street Garage. Construction of the Bond Street Garage would be completed in approximately 10 months.

(b) New Hall—Construction of the New Hall, based on current plans, would commence with site demolition at approximately the same time as the start of the Bond Street Garage construction (during the Bond Street Garage's framing/structure construction phase). Construction of the New Hall would be completed in approximately 18 months.

(c) L.A. Live Way Garage—Construction of the L.A. Live Way Garage would commence at the completion of the Bond Street Garage. Construction of this Project component would include demolition of the existing two-level Cherry Street Garage and construction of the new parking garage. Construction of the L.A. Live Way Garage would be completed in approximately 15 months.

(d) Event Center—Construction of the Event Center would commence with the demolition of the existing Convention Center West Hall. Construction of the Event Center would be completed in approximately 33 months.

Individual pieces of construction equipment that would be used for construction would produce maximum noise levels of 75 dBA to 101 dBA at a reference distance of 50 feet from the noise source, as shown in Table IV.E-9 on page IV.E-63. The construction equipment noise levels at a distance of 50 feet from the equipment (Referenced Maximum Noise Levels) are based on the FHWA Roadway Construction Noise Model User's Guide

(RCNM, 2006), which is a technical report containing actual measured noise data for construction equipment. The maximum noise levels would occur when the equipment is operating under full power conditions. However, since equipment used on construction sites often operates at less than full power, an acoustical usage factor is applied. The acoustical usage factor is a percentage of time that a particular piece of equipment is anticipated to be in full power operation during a typical construction day. These acoustical usage factors are estimates and would vary based on the actual construction activities and duration.

To more accurately characterize construction-period noise levels, the average (hourly L_{eq}) noise level was calculated based on the quantity, type, and usage factors for each type of equipment that would be used during each construction phase and are typically attributable to multiple pieces of equipment operating simultaneously. Information with respect to the type and quantity of equipment anticipated to be utilized was provided by ICON Venue Group (included in Appendix L to this Draft EIR).

Project construction activities would occur between the daytime hours of 7 A.M. and 9 P.M. and the late evening hours of 9 P.M. and 12 A.M. As part of the Project Design Features, drilled piles would be used (in lieu of driven piles) during the late evening hours to minimize noise and vibration impacts. In addition, haul trucks during the site demolition and excavation phases would only occur during the daytime hours. Project construction activities would occur for more than 10 days in a three-month period. Therefore, the 5 dBA significance threshold is used for daytime hours (7 A.M. and 9 P.M.) impact analysis and the 3 dBA significance threshold is used for the late evening hours (9 P.M. and 12 A.M.) impact analysis. Table IV.E-10 on page IV.E-64 provides a summary of construction noise levels by receptor location and stages of construction activities for the Bond Street Garage. Detailed construction noise calculation data sheets, including assumptions and procedures, are provided in Appendix L to this Draft EIR. The estimated noise levels represent a conservative scenario because construction activities are analyzed as if they were occurring along the perimeter of the Project Site, whereas construction would typically occur throughout the Project Site and may be at a further distance from the receptor. The noise sensitive receptors that are located further away from the Project Site would also experience less construction noise, as sound diminishes as a function of distance from the source. In addition, the intervening buildings between the source and receiver act as sound barriers, and as a result further reduce the sound levels. As indicated in Table IV.E-10, noise levels attributable to construction of the Bond Street Garage at all off-site receptors would be 1.0 dBA (at R26) to 33.2 dBA (at R12) below the significance threshold for the daytime and 0.7 dBA (at R26) to 29.4 dBA (at R10) below the significance threshold for late evening hours during the loudest phase of construction (foundation). As such, noise impacts associated with the construction of the Bond Street Garage would be less than significant.

The noise levels associated with construction of the New Hall at the off-site receptors are presented in Table IV.E-11 on page IV.E-66. As described above, driven piles would only be used during the daytime hours (7 A.M. to 9 P.M.) and drilled piles would be used during the late evening hours (9 P.M. to 12 A.M.). As indicated in Table IV.E-11, construction-related noise levels at all off-site receptors with the exception of receptors R6 (residences located on 12th Place, west of Albany Street) and R26 (residences on Wright Street, north of Venice Boulevard) would be below the significance threshold during daytime hours (by 0.6 dBA at R1 to 22.2 dBA at R12) and during late evening hours (by 1.1 dBA at R5 to 22.3 dBA at R10) during the loudest phase of construction (foundation during the day and interior/exterior during the evening). The estimated noise levels at receptor R6 (residences located on 12th Place, west of Albany Street) would exceed the daytime significance threshold by 1.5 dBA (during the foundation phase) and the late evening significance threshold by 1.7 dBA (during the interior/exterior phase). The estimated noise levels at receptor R26 would exceed the daytime significance threshold by up to 6.7 dBA (during the foundation phase) when piles are driven and the late evening significance threshold by 3.2 dBA (during the interior/exterior phase). As such, noise impacts associated with construction of the New Hall would be significant.

Table IV.E-12 on page IV.E-68 presents construction-related noise levels associated with the building of the L.A. Live Way Garage at the off-site receptors. As indicated therein, the noise levels at all off-site sensitive receptors with the exception of Receptor R6 (residences located on 12th Place, west of Albany Street) would be below the significance threshold during daytime hours (by 4.7 dBA at R26 to 30.3 dBA at R12) and during late evening hours (by 0.1 dBA at R7 to 26.4 dBA at R18) during the loudest phase of construction (concrete/steel/precast frame). The estimated construction-related noise levels at Receptor R6 would exceed the daytime significance threshold by 1.5 dBA and the late evening significance threshold by 5.4 dBA during the concrete/steel/precast frame phase. As such, noise impacts associated with construction of the L.A. Live Way Garage would be significant.

The estimated construction noise levels for the Event Center are provided in Table IV.E-13 on page IV.E-70. With the exception of receptors R1 (Ritz Hotel and Residences and Marriott Hotel at L.A. LIVE) and R6, construction-related noise levels at all off-site receptors would be below the daytime significance threshold (by 2.5 dBA at R5 and R7 to 21.9 dBA at R16) and below the late evening significance threshold (by 1.5 dBA at R7 to 23.2 dBA at R18) during the loudest phase of construction (shoring/foundation during the day and interior/exterior during the late evening). At receptor Location R1, Event Center construction-related noise levels would exceed the significance threshold by up to 7.9 dBA during daytime hours (foundation phase) and up to 6.4 dBA during late evening hours (interior/exterior phase). At receptor R6, the estimated construction-related noise levels would exceed both the daytime and late evening significance threshold by 1.7 dBA during

the foundation phase (daytime) and the interior/exterior phase (late evening). Therefore, noise impacts associated with Event Center construction would be significant.

The four Project components, as described above, would be constructed in a sequential order with overlapping of various construction stages. As a result, construction noise levels at a particular receptor could increase due to overlapping construction activities. Table IV.E-14 on page IV.E-72 and Table IV.E-15 on page IV.E-74 present the estimated construction noise levels with overlapping construction activities for daytime and late evening hours, respectively. As indicated in Table IV.E-14, the estimated noise levels due to overlapping construction activities would exceed the daytime significance threshold at receptors R1, R3, R4, R5, R6, R7, and R26 by 0.2 dBA (at R4) to 10.3 dBA (at R1). During the late evening hours, the overlapping construction would exceed the significance threshold at receptors R1, R4, R5, R6, R7, R23, and R26 by 1.9 dBA (at R23) to 9.6 dBA (at R1).

(b) Off-Site Construction Noise Sources

(i) Construction Trucks

In addition to on-site construction activities, off-site construction noise sources such as noise attributable to construction trucks (delivery, concrete mix, and haul trucks) and construction worker vehicles could also affect the 26 analyzed noise locations. Typically, construction trucks generate higher noise levels than construction worker-related traffic. While construction workers would arrive from many parts of the region, and thus, different directions, haul trucks and delivery trucks would generally access the Project Site via the regional transportation network and the planned staging areas off of L.A. Live Way (at the Bond Street and L.A. Live Way Garages). The following haul routes, subject to City approval, have been identified for the haul trucks and construction delivery trucks to access the Project Site:

(a) Haul Route Option 1: Empty haul trucks would travel from the I-110 Freeway south of the Project Site, exit northbound onto L.A, Live Way, head north on L.A. Live Way to access the Project Site. Upon departure from the Project Site, loaded haul trucks would exit the Project Site via L.A. Live Way (heading north), travel west on 11th Street, and onto the SR-110 Freeway southbound.

(b) Haul Route Option 2: Empty haul trucks would travel from the I-110 Freeway south of the Project Site, exit northbound onto L.A. Live Way, and head north on L.A. Live Way to access the Project Site. Upon departure from the Project Site, loaded haul trucks would exit the Project Site via Pico Boulevard (heading east), travel south on Grand Avenue, west on 17th Street, and onto the I-10 Freeway west bound which provides access to the regional freeway system.

(c) Haul Route Option 3: Empty haul trucks would travel from the I-10 Freeway east of the Project Site, exit northbound onto L.A. Live Way from the I-110 Freeway northbound ramp, and head north on L.A. Live Way to access the Project Site. Upon departure from the Project Site, loaded haul trucks would exit the Project Site via L.A. Live Way (heading north), travel east on Chick Hearn Court, heading south on Flower Street, and onto the I-10 eastbound.

(d) Haul Route Option 4: Empty haul trucks would travel from the I-10 Freeway east of the Project Site, exit northbound onto L.A. Live Way from the I-110 Freeway northbound ramp, and head north on L.A. Live Way to access the Project Site. Upon departure from the Project Site, loaded haul trucks would exit the Project Site via Pico Boulevard (heading east), travel south on Flower Street, and onto the I-10 eastbound.

Based on the Project's construction plan, the majority of construction truck movements would occur during excavation (haul trucks) and concrete framing (delivery and concrete trucks). Table IV.E-16 on page IV.E-76 presents the estimated numbers of construction trucks (i.e., haul, delivery, and concrete) per day and per hour for the various construction stages. As indicated in Table IV.E-16, the maximum number of haul trucks would occur during the excavation phase and maximum number of delivery/concrete trucks would occur during the framing phase. The level of construction-related truck activity would be less than that occurring during the excavation and concrete pouring phases. Therefore, to present a conservative analysis, the off-site construction truck traffic noise impacts are based on the haul truck trips during a typical day during excavation and the delivery concrete trucks during the concrete framing phase (concrete pouring). Haul truck activities during the site demolition and excavation phases would only occur during the daytime hours between 7 A.M. and 9 P.M. Delivery trucks would occur between 7 A.M. and 12 A.M. However, only concrete deliveries would occur after 7 P.M.

The estimated noise levels generated by the off-site construction trucks for the four haul routes, Options 1, 2, 3 and 4, are provided on Table IV.E-17, Table IV.E-18, Table IV.E-19, and Table IV.E-20 on pages IV.E-77, IV.E-79, IV.E-81, and IV.E-83, respectively. As shown in these tables, noise associated with off-site construction trucks would be a minimum of 1.2 dBA (Option 1), 4.8 dBA (Option 2), 7.3 dBA (Option 3), and 6.0 dBA (Option 4) below the daytime significance thresholds at the off-site receptor locations during the two construction phases with the highest number of trucks (haul trucks and concrete/delivery trucks), for all four construction truck route options. The estimated noise levels from concrete trucks (used during concrete pouring) would be a minimum of 4.6 dBA (Option 1), 4.8 dBA (Option 2), 14.3 dBA (Option 3), and 8.6 dBA (Option 4) below the late evening significance threshold. In addition, haul truck would not occur during the late evening hours. As such, noise impacts associated with off-site construction trucks during the late evening hours would be less than significant.

(ii) Construction Staging

As mentioned above, construction haul/concrete trucks would be queuing and idling at one of two planned staging areas (the Bond Street Parking and the L.A. Live Way Parking areas). It is estimated that a maximum of 10 haul/concrete trucks would be lined up within the Bond Parking area or 20 haul/concrete trucks at the L.A. Live Way Parking staging areas at any given time. The estimated noise levels generated from the construction staging areas at the off-site receptors are provided in Table IV.E-21 on page IV.E-85. Based on the data presented in Table IV.E-21, construction staging noise levels from the Bond Street Garage would be 11.1 dBA (at R6) to 37.5 dBA (at R12) below the stated significance thresholds during daytime hours and 7.2 dBA (at R6) to 33.7 dBA (at R10) below the threshold during late evening hours. Similarly, noise levels from construction staging at the L.A. Live Way Garage would be 5.8 dBA (at R6) to 33.0 dBA (at R12) below the significance thresholds for daytime hours and 1.9 dBA (at R6) to 29.2 dBA (at R18) below the significance thresholds for late evening hours. As such, significant noise impacts are not anticipated due to activities at the designated construction staging areas.

(iii) Pico Station Second Platform

As set forth in Mitigation Measure B.1-1 in Section IV.B, Transportation of this Draft EIR, a second platform to the existing Metro Blue Line Station (Pico Station), located at Flower and 12th Street would be added. The second platform would be constructed, parallel to and adjacent to the existing platform. The new platform would be approximately 12 feet wide by 400 feet long, approximately 100 feet longer than the existing platform, to facilitate passenger boarding before and after events. Table IV.E-22 on page IV.E-86 presents the estimated noise levels generated from the Pico Station construction at the off-site receptors. As indicated in Table IV.E-22, construction noise would be below the stated significance thresholds for both daytime and late evening hours at all off-site receptors (by 5.5 dBA at R13 during late evening hours to 34.4 dBA at R24 during daytime hours), except for receptors R2 and R3. The estimated construction noise levels at receptor R2 would exceed the daytime and late evening significance thresholds by 3.7 dBA (L_{eq}) and 10.5 dBA (L_{eq}), respectively. At receptor R3, the estimated construction noise levels would exceed the daytime significance threshold by 1.4 dBA (L_{eq}) and the late evening significance threshold by a maximum of 3.4 dBA. As such, significant noise impacts would be expected from the Pico Station construction activities at these locations.

(c) Composite Noise Levels from Project Construction

An evaluation of the potential composite noise level increase due to Project construction activities, including on-site construction equipment and off-site construction haul trucks, was conducted to determine the overall noise impacts. As analyzed above, the highest on-site construction noise would occur during the foundation phase for the Bond

Street Garage, the New Hall and the Event Center construction, and during the concrete/ steel/precast framing phase for the L.A. Live Way Garage construction. Therefore, to present a conservative analysis, a composite noise analysis from all construction sources during the foundation phase for the Bond Street Garage, the New Hall and the Event Center construction and during the concrete/steel/precast/framing phase for the L.A. Live Way Garage was conducted.

Table IV.E-23 on page IV.E-87 provides the composite construction noise levels at the off-site noise-sensitive receptors during the construction of the Bond Street Garage. As indicated in Table IV.E-23, the composite construction noise due to the Bond Street Garage construction would exceed the daytime ambient noise levels by a maximum of 5.6 dBA (L_{eq}) at receptor R26 (residences located on Wright Street, north of Venice Boulevard), which would exceed the daytime significance threshold. At all other receptors, the increase in ambient noise levels due to composite construction would be below the significance threshold for construction occurring during the daytime hours. The estimated composite construction noise levels would exceed the late evening significance thresholds at off-site receptors R4 (residences on Oak Street, north of Venice Boulevard), R5 (residences located on Valencia Street, south of Pico Boulevard), R6 (residences located on 12th Place, west of Albany Street), and R26 (residences on Wright Street, north of Venice Boulevard), from 3.4 dBA (at R4) to 5.6 dBA (at R6), which would be significant impacts.

The composite construction noise levels during the New Hall construction are presented in Table IV.E-24 on page IV.E-89. The composite construction noise due to the New Hall construction would exceed the daytime ambient noise levels by between 5.2 dBA and 12.0 dBA at receptors R1, R3, R5 (residences located on Valencia Street, south of Pico Boulevard), R6 (residences located on 12th Place, west of Albany Street), and R26 (residential uses on Wright Street, north of Venice Boulevard), which would exceed the 5 dBA significance threshold. During the late evening hours the composite construction noise levels would exceed ambient noise levels at off-site receptors R1, R3, R4 (residential uses on Oak Street, north of Venice Boulevard), R5, R6, R7 (residences on 11th Street, east of Albany Street), R21 (residences on Park Grove Avenue, south of Washington Boulevard), R23 (residences on 14th Street, east of Union Avenue), R25 (residences on 12th Street, east of Union Avenue), and R26 by 3.4 dBA (at R25) to 10.4 dBA (at R26), which would exceed the 3 dBA significance threshold during the late evening hours. Therefore, composite construction impacts would be significant during the late evening hours.

Table IV.E-25 on page IV.E-91 presents the composite construction noise levels due to composite construction of the L.A. Live Way Garage. As indicated in Table IV.E-25, the estimated composite construction noise levels would be below the daytime significance

threshold at all off-site noise-sensitive receptors except for R6 (residences located on 12th Place, west of Albany Street). The composite construction noise levels would increase the ambient noise levels at Receptor R6 by a maximum of 7.7 dBA (L_{eq}), which would exceed the daytime significance threshold of 5 dBA (L_{eq}). As such, composite construction noise impacts associated with the L.A. Live Way Garage would be significant during the daytime hours. During the late evening hours composite construction noise levels would exceed the ambient noise levels by 4.3 to 9.4 dBA (L_{eq}) at the following off-site receptors: R5 (residential uses located on Valencia Street, south of Pico Boulevard), R6, and R7 (residences on 11th Street, east of Albany Street). These increases would exceed the applicable 3 dBA significance threshold. Therefore, the composite construction nighttime construction impacts would be significant during the late evening hours.

The composite construction levels at the off-site noise sensitive receptors attributable to Event Center construction are provided in Table IV.E-26 on page IV.E-93. With the exception of Receptors R1 (Ritz Hotel and Residences and Marriott Hotel at L.A. LIVE), R5 (residential uses located on Valencia Street, south of Pico Boulevard), R6 (residences located on 12th Place, west of Albany Street), and R7 (residences on 11th Street, east of Albany Street), the estimated increase in daytime ambient noise due to composite construction noise levels at all off-site receptors would be below the daytime significance threshold. The composite construction noise levels would increase the ambient noise levels by 5.0 to 13.1 dBA (L_{eq}) at receptors R1, R5, R6, and R7, which would exceed the daytime significance threshold of 5 dBA (L_{eq}). As such, noise impacts from the Event Center composite construction noise would be significant during the daytime hours. The composite construction noise levels during the late evening hours would increase the ambient noise by 3.1 to 13.5 dBA (L_{eq}) at the following off-site receptor locations: R1, R3 through R8, R21, R23, and R25. The estimated increases would exceed the late evening significance threshold of 3 dBA and would represent significant impacts at these nine receptor locations. The estimated increases in late evening ambient noise due to composite construction noise levels at all other off-site receptors would be below the significance thresholds.

Table IV.E-27 on page IV.E-95 and Table IV.E-28 on page IV.E-97 present the estimated composite construction noise levels (including overlapping Project-related construction activities plus ambient noise levels) for daytime and late evening hours, respectively. As indicated in Table IV.E-27, the composite noise levels due to overlapping construction activities would exceed the daytime significance threshold (i.e., increase the ambient noise levels by 5 dBA L_{eq} or more) at receptors R1, R3, R4, R5, R6, R7, R9, and R26, by 0.3 dBA (at R9) to 10.4 dBA (at R1). During the late evening hours, the overlapping construction activities would exceed the significance threshold (i.e., increase the ambient noise levels by 3 dBA L_{eq} or more) at receptors R1 through R8, R16, R20, R21, R22, R23, R25, and R26 by 0.5 dBA (at R20) to 11.3 dBA (at R6).

(d) Construction Vibration

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

The FTA has published standard vibration velocity levels for various construction equipment operations. The reference vibration levels (peak particle velocities at a distance of 25 feet from the equipment) for construction equipment pieces anticipated to be used during Project construction are listed in Table IV.E-29 on page IV.E-99. As indicated in Table IV.E-29, vibration velocities from typical heavy construction equipment operations that would be used during construction of the Project would range from 0.003 (small bulldozer) to 0.644 (impact pile driver) inch per second (PPV) at a distance of 25 feet from the equipment based on the FTA data. Project construction would utilize two different types of pile driving system for the placement of piles for the New Hall and Event Center. Driven piles (i.e., using an impact pile driver) would be used during the daytime hours (7 A.M. and 9 P.M.) and drilled piles (i.e., using auger to drill the hole for the piles) would be used during the late evening hours (9 P.M. to 12 A.M.). Pile driving would not be required for the Bond Street and L.A. Live Way Garages. Caisson drilling, as shown in Table IV.E-29, would be used in connection with temporary shoring of the excavated areas.

The off-site building structures nearest to each of the Project building components include: the LAUSD building (located on the south side of Pico Boulevard just west of the 110 Freeway) approximately 400 feet from the Bond Street Garage, the commercial building (located on Pico Boulevard, just west of the 110 Freeway) approximately 530 feet from the New Hall, the commercial building (located at the end of the 12th Place cul-de-sac) approximately 250 feet from the L.A. Live Way Garage, and the Nokia Theater located approximately 100 feet north of the Event Center construction site. The estimated vibration levels due to construction equipment (major powered equipment) at the nearest off-site buildings are provided in Table IV.E-29 on page IV.E-99. Construction vibration impacts are based on the instantaneous peak vibration level produced by a single piece of equipment with the highest vibration level in any given phase of the construction. With regard to the construction activities proposed by the Project, the highest levels of ground-borne vibration would be generated during the use of an impact pile driver on site.

Table IV.E-4 on page IV.E-49 provides vibration criteria set forth by the FTA. As indicated in Table IV.E-29, the estimated ground-borne vibration levels at the nearest off-site building structure (Nokia Theatre), approximately 100 feet from the nearest on-site construction equipment, would be approximately 0.0004 inch per second (PPV) (due to small bulldozer) to 0.0805 inch per second (PPV) (due to vibratory roller). In addition to the on-site construction equipment, the construction trucks (loaded haul trucks) along the Project haul routes would generate vibration levels up to 0.076 inch per second (PPV) at the nearby building structures (25 feet from the haul trucks travel pathways). As each of the estimated vibration levels at the nearest off-site building structure is below the 0.12 inch per second (PPV) significance threshold (most stringent criteria), vibration impacts (with respect to building damage) associated with construction equipment would be less than significant.

Table IV.E-30 on page IV.E-100 presents the estimated ground-borne vibration levels due to construction equipment at the nearest off-site sensitive uses to the various Project construction areas. The off-site sensitive uses nearest to each of the Project building components include: the single-family residence located at the southwest corner of 14th Street and Oak Street, approximately 400 from the Bond Street Garage; the multi-family residential use located at the southeast corner of Pico Boulevard and Figueroa Street, approximately 550 feet from the New Hall; the single-family residential use located near the 12th Place cul-de-sac, approximately 250 feet from the L.A. Live Way Garage; and the Nokia Theatre, located approximately 100 feet from the Event Center construction site. As indicated in Table IV.E-30, the estimated ground-borne vibration levels at the nearest off-site sensitive uses would be below the significance threshold during the construction of the Bond Street Garage and the New Hall. The vibration levels generated by the impact pile driver would range from 74 VdB (L.A. Live Way Garage construction) to 86 VdB (Event Center construction) at the Nokia Theatre (nearest off-site sensitive receptor), which would exceed the 72 VdB significance threshold. The ground-borne vibration from the impact pile driver would be reduced to 71 VdB (below the significance threshold) when the impact pile driver is operating at a minimum 320 feet distance from the Nokia Theatre building. In addition, the estimated vibration level of 76 VdB, due to a vibratory roller operating 100 feet from the Nokia Theatre building, which would exceed the human perception significance threshold of 72 VdB. The ground-borne vibration would be reduced to 71 VdB (below the significance threshold) when the vibratory roller is operating at a minimum 150 feet distance from the Nokia Theatre building. Vibration generated by other construction equipment would be below the significance threshold at the Nokia Theatre.

Operation of construction equipment used for the Pico Station Second Platform, such as a bulldozer or loader would generate ground-borne vibration in close proximity to the construction equipment. The off-site structures nearest the Pico Station Second Platform construction area include commercial buildings located on the east side of Flower

Street, approximately 50 feet from the construction area. Ground-borne vibration generated by the construction equipment at these structures would be up to 0.032 inch per second (PPV), which would be below the 0.12 inch per second (PPV) significance threshold (i.e., the most stringent criteria) with respect to building damage. The off-site sensitive uses closest to the construction area are the residential use along Pico Boulevard, just west of Flower Street (adjacent to R2), which is approximately 100 feet from the construction boundary and the Multi-family residential uses located at the southeast corner of Pico Boulevard and Figueroa Street (R2), which are approximately 350 from the construction boundary. The estimated ground-borne vibration levels at the nearest off-site sensitive uses would be 53 VdB (at 350 feet distance) and 69 VdB (at 100 feet distance), which would be below the 72 VdB significance threshold. As such, vibration impacts (with respect to human perception) associated with construction activities from the Pico Station Second Platform would be less than significant.

(2) Operation Impacts

As the Project builds out, on- and off-site noise levels could increase with contributions from Project-related on-site noise sources including: building mechanical equipment (central plant and outdoor mounted exhaust fans), parking garage operations, loading dock and refuse collection operations (i.e., delivery trucks and trash compactors), outdoor plazas uses (crowd noise), Event Center operations (crowd, public address system, concert sound system, and fireworks), and off-site noise sources including Project-generated traffic, increase in metro transit operations, and overhead helicopters (during Event Center events). These potential noise impacts are discussed below.

(a) On-Site Noise Sources

(i) Building Mechanical Equipment

Project operation would require building mechanical equipment, including indoor air handling units, outdoor cooling towers, chillers, and exhaust-air fans to support the intended functions of the Project. The Project's major building mechanical equipment, including chillers and pumps, would be placed inside a dedicated central plant building. Cooling towers and exhaust air fans would be located outside of the building. The Project would replace the existing central plants serving the Convention Center and the STAPLES Center with two new central plants, one serving the Convention Center and one serving the Event Center and STAPLES Center. The central plant serving the Convention Center would be located at the southwest corner of New Hall (Ground Level) and the central plant serving the Event Center/STAPLES Center would be located at the southeast corner of the Event Center (at Level 1). The chillers and pumps would be located within the enclosed central plant rooms, which would contain the equipment generated noise. The cooling towers, however, would be located outdoors. The building exhaust fans (serving the New

Hall and the Pico Passage) would be located on the roof level of the New Hall. Sound levels generated by the Project's mechanical equipment were estimated based on forecasted mechanical equipment capacity. Table IV.E-31 on page IV.E-101 presents the estimated mechanical equipment noise levels at the off-site receptors. The significance thresholds shown on Table IV.E-31 are based on the lowest measured ambient noise levels (daytime and nighttime) plus 5 dBA to provide a conservative analysis since ambient noise levels are typically lower during the nighttime hours. As shown on Table IV.E-31, the noise levels generated by the new central plants and exhaust fans would be 6.5 dBA (at R23) to 43.8 dBA (at R12) below the stated significance thresholds for both daytime and nighttime hours. As such, noise impacts associated with building mechanical equipment operations would be less than significant.

(ii) Parking

The Project includes two new parking garages, the Bond Street Garage, which would replace the existing Bond Street surface parking lot and the L.A. Live Way Garage, which would replace the existing Cherry Street Garage. The Bond Street Garage would have seven above grade parking levels, with 928 parking spaces. The L.A. Live Way Garage would have eight above grade and one below grade parking levels, with 2,967 parking spaces. Various noise events would occur periodically from the parking facilities. Such periodic events would include activation of car alarms, sounding of car horns, slamming of car doors, engine revs, and tire squeals. Automobile movements would comprise the most continuous noise source and would generate a noise level of approximately 69 dBA at a distance of 25 feet. Car alarm and horn noise events generate sound levels as high as 83 dBA at a reference distance of 25 feet.

Table IV.E-32 on page IV.E-102 presents the estimated maximum noise levels at the off-site noise sensitive receptors from the operations of the Bond Street and the L.A. Live Way Garages. As indicated in Table IV.E-32, the estimated maximum noise levels generated by the proposed parking garages would be below the significance threshold during the daytime hours (7 A.M. to 10 P.M.) at all off-site receptors, except for receptors R5 (residences located on Valencia Street, south of Pico Boulevard) and R6 (residences located on 12th Place, west of Albany Street). The estimated maximum noise levels at receptors R5 and R6 would exceed the daytime significance threshold by 1.8 and 6.7 dBA, respectively. The estimated noise levels from the parking operations would exceed the late evening significance threshold by 1.3 dBA to up to 8.6 dBA at sensitive receptors R4, R5, R6, R7, R23, and R25. Therefore, noise impacts associated with the proposed parking garage operations would be potentially significant at these locations. Noise impacts, however, would only occur intermittently in an event of car alarm triggered (which would typically be shut off in a few minutes).

(iii) Loading Dock and Refuse Collection Operations

The Project includes three loading dock areas, one for the Event Center, one for the New Hall, and one involving an expansion to the existing South Hall loading dock. The new loading dock for the Event Center would be located at the northeast corner of the building on Level 1, which is below grade and would be effectively shielded from off-site receptors. The Event Center loading dock would provide space for up to 10 delivery trucks. Access to the Event Center loading dock would be from the Pico Boulevard. In addition, the existing STAPLES Center loading dock access and location would be reconfigured and accessed using the same driveway as the Event Center. Under the Proposed Project, the existing South Hall loading dock would be expanded (at the southwest side of the New Hall) to provide additional loading docks for the New Hall. The expanded loading dock at the South Hall would serve both the South Hall and the New Hall, and would include 21 additional spaces for delivery trucks. The third loading dock (with four spaces) would be located on the north side of Pico Boulevard to primarily serve the New Hall's central kitchen facilities. This loading dock is accessed off the driveway that provides access to the Event Center and STAPLES Center loading docks.

The refuse collection (i.e., trash compactors) for the Event Center and New Hall would be located at the loading dock areas. Based on measured noise levels from loading dock facilities, delivery trucks (while idling at the loading dock) would generate noise levels of approximately 64 dBA (L_{eq}) at a distance of 100 feet. In addition, trash compactors would generate noise levels of approximately 66 dBA (L_{eq}) at a distance of 50 feet.

Table IV.E-33 on page IV.E-103 presents the noise levels as generated by the Project loading docks and refuse collection operations at the off-site receptors. Although, loading dock activity would occur during daytime hours (with the peak hour between 8:00 A.M. and 9:00 A.M.), the noise analysis evaluated potential impacts for both daytime and nighttime hours. As shown on Table IV.E-33, the noise levels generated by the loading dock and refuse collection operations would be 9.7 dBA (at R26) to 52.5 dBA (at R12) below the significance thresholds for both daytime and nighttime hours (based on which of the two operations yields the higher noise level at each given receptor). As such, noise impacts associated with loading dock and refuse collection operations would be less than significant.

(iv) Buses (Convention Center)

The existing bus loading areas at the Gilbert Lindsay Plaza would be relocated to a new area along the Pico Passage (under the New Hall). It is anticipated that there would be up to 20 buses loading/unloading along the Pico Passage at any given time. Noise from the buses would mostly be shielded from the off-site receptor as this area is located toward the middle of the Pico Passage. Table IV.E-34 on page IV.E-104 presents the estimated

noise levels from the buses idling within the Pico Passage at the off-site receptors. It is anticipated that bus operations (i.e., loading and unloading passengers) would occur primarily during the daytime hours. Nevertheless, the analysis evaluated noise impacts for both daytime and nighttime hours. As shown on Table IV.E-34, the noise levels generated by bus operations would be 12.5 dBA (at R3) to 53.2 dBA (at R10) below the significance thresholds for daytime hours and 12.5 dBA (at R3) to 48.3 dBA (at R18) below the significance thresholds for nighttime hours. As such, noise impacts associated with bus operations would be less than significant.

(v) Outdoor Plazas

Gilbert Lindsay Plaza, Event Center Plaza, and L.A. Live Way Plaza all provide outdoor gathering places for visitors to the Event Center and would be used during the Pre-Event and Post-Event hours. For the purposes of this analysis, it is forecasted that up to 20,000 people could gather within the Event Center and Gilbert Lindsay Plazas (i.e., 10,000 at the Event Center Plaza and 10,000 at the Gilbert Lindsay Plaza). Sound levels generated by the people in the plazas would vary depending on the background environments (e.g., amplified sound, traffic), the result of the sport event (e.g., local team win or lose), and individuals' voice efforts (e.g., loud voice, laughing, shouting). Sound levels generated by an individual's voice effort vary from 50 dBA (L_{eq} at 3.3 feet) for a female speaking in casual voice to 88 dBA (L_{eq} at 3.3 feet) for a male person in shouting voice.[1] To represent a conservative scenario, the upper range noise levels of 88 dBA and 82 dBA (L_{eq} at 3.3 feet distance) for a male and female shouting, respectively, were used for analyzing noise from the use of these areas. Also, to present a worst-case analysis, it was assumed that all of the patrons (75 percent male and 25 percent female) would be talking (in a shouting voice) at the same time. In addition to noise from the patrons (i.e., people talking), other potential noise sources would include amplified program sound (music or other spoken sound broadcast through a loudspeaker system). This program sound could be broadcast during the Pre-Event and Post-Event hours and could include, but is not limited to, music sound and announcements intended to be heard by patrons in the immediate vicinity of the of the outdoor plazas. To evaluate noise levels from the amplified program sound, it was assumed that the speaker systems (distributed within the outdoor plaza areas) would be designed with an output sound level of 90 dBA (L_{eq}) at a distance of 50 feet. Table IV.E-35 on page IV.E-105 presents the estimated noise levels from the outdoor plazas at the off-site sensitive receptors. It is anticipated that outdoor plazas activities would occur primarily during the daytime hours. However, as a conservative analysis, the forecasted noise levels were compared with both daytime and nighttime ambient noise levels to determine potential noise impacts. As shown in

[1] *Refer to Page 129 of Appendix L.*

Table IV.E-35, the estimated noise levels would exceed the daytime significance threshold at R1, R2, R3 and R13, by 7.4 dBA at R13 (residences at the northeast corner of Flower and 11th Streets) to 13.7 dBA at receptor R1 (Ritz Hotel and Residences and Marriott Hotel at L.A. LIVE). The estimated outdoor plazas noise levels would exceed the nighttime significance threshold at receptors R1, R2, R3, R13, and R14 (residences at northwest corner of 12th Street and Grand Avenue), from 6.5 dBA at R14 to 16.1 dBA at R2. Therefore, impacts associated with the outdoor plazas would be potentially significant at these locations.

(vi) Event Center—Sport Event

Table IV.E-36 on page IV.E-106 presents the estimated noise levels from a typical sports event occurring within the Event Center at the off-site noise-sensitive receptors. It is anticipated that sports events at the Event Center would occur primarily during daytime hours. However, as a conservative analysis, the estimated noise levels from the sport events were compared with both the daytime and the nighttime ambient noise levels to determine potential noise impacts. As indicated in Table IV.E-36, sound levels from the in-house sound system used during the sports event would exceed the daytime significance thresholds at receptors R1 (Ritz Hotel and Residences and Marriott Hotel at L.A. LIVE), R3 (residences located Flower Street, south of Pico Boulevard), R5 (residences located on Valencia Street, south of Pico Boulevard), R6 (residences located on 12th Place, west of Albany Street), and R9 (residences located on Albany Street, north of Olympic Boulevard) by up to 3.2 dBA (L_{max}). The crowd cheering noise levels would exceed the daytime significance thresholds at receptors R1, R5, R6 (residences located on 12th Place, west of Albany Street), R7 (residences located on 11th Street, east of Albany Street) and R8 (10th Street Elementary School) by up to 7.7 dBA (L_{max}). At other receptors, both the sound system and crowd related noise levels would be below the daytime significance threshold. When compared with the nighttime significance threshold, the in-house sound system would exceed the nighttime significance threshold at receptors R1, R3 (residences on Flower Street), R5 through R9 (residences on Albany Street, north of Olympic Boulevard), R14 (residences at northwest corner of 12th Street and Grand Avenue), R21 (residences on Park Grove Avenue, south of Washington Boulevard), R23 (residences on 14th Street, east of Union Avenue), and R25 (residences on 12th Street, east of Union Avenue) by up to 6.9 dBA (L_{max}). The crowd cheering noise levels would exceed the nighttime significance thresholds at receptors R1, R5 through R9, R13, R23, R24 (residences on Pico Boulevard, east of Union Avenue), and R25 by up to 8.1 dBA (L_{max}). Therefore, noise levels associated with a sports event at the Event Center would result in potentially significant impacts at these locations.

(vii) Event Center—Concert Event

For a typical concert, the touring company will use a temporary touring sound system in lieu of the Event Center in-house sound system. As previous described, sound levels associated with a typical concert would range from 98 dBA to 105 dBA, averaged over 30 minutes. For the noise analysis, it was assumed that the touring sound system would generate a sound level of up to 105 dBA at all of the Event Center seating areas. In addition, the noise analysis was based on typical rock/hip-hop types of music, which typically has a higher low frequency sound spectrum.[2] The estimated noise levels at the off-site noise-sensitive receptors from a concert touring sound system at the Event Center are shown in Table IV.E-37 on page IV.E-107. The estimated noise levels in terms of dBC (L_{max}) are provided for information purpose only. Sound levels from audiences (i.e., crowd cheering noise) for a music concert would be similar or lower than those analyzed for the sports event, which was analyzed in the previous section. It is estimated that the sound levels from the concert touring sound system (at the Event Center) would exceed the daytime significance thresholds at receptors R1, R3 through R9, R17, R21, R22, R23, R25, and R26 by 0.4 dBA (at R22) to 10.5 dBA (at R9). When compared with the late evening hours, the sound levels from the concert touring sound system would exceed the significance thresholds at receptors R1 through R10, R14, R15, R17, and R21 through R26, by 0.5 dBA (at R24 and R26) to 13.0 dBA (at R9). Crowd noise levels are estimated to be similar to those of the sports event, which would exceed the significance thresholds at receptors R1, R5, R6, R7, R8, R9, R13, R23, R24, and R25, as described above. As such, noise impacts associated with the music concert event at the Event Center would be potentially significant at these locations.

(viii) Event Center—Fireworks

It is anticipated that there would be up to 35 firework shows annually associated with events occurring at the Event Center. Each show would not exceed 20 minutes in duration. Based on a literature review and actual measurements, firework shows would generate noise levels on the order of 90 to 105 dBA (A-weighted maximum sound level, L_{max}) and 125 to 135 dBC (C-weighted peak sound level). The upper range of the reference sound levels were used for this analysis as a conservative assumption. The height of the firework display would be approximately 15 feet to 200 feet high, relative to the Event Center ground elevation. Table IV.E-38 on page IV.E-108 presents the predicted noise levels from a firework show at the Event Center at the off-site noise receptors. The firework shows would occur before 11:30 P.M. however, the analysis includes both daytime and nighttime

[2] *Refer to page 132 of Noise Impact Study—Convention Center Modernization & Farmers Field Project, included as Appendix L.*

hours. As indicated in Table IV.E-38, the predicted noise levels at the off-site receptors ranged from 80.2 dBA (L_{max}) at receptor R15 (residences on Hope Street, north of Venice Boulevard) to 101.3 dBA (L_{max}) at receptor R3 (residences on Flower Street). The C-weighted peak sound levels (dBC) from the firework display would vary from 106.2 dBC (peak) at receptor R15 to 127.3 dBC (peak) at receptor R3. The estimated dBC sound levels are provided for informational purposes. The firework noise levels would exceed the stated significance threshold at all off-site receptors by 8.9 dBA (at R12) to 45.4 dBA (at R5) and would result in temporary and intermittent but significant impacts.

(b) Off-Site Mobile Noise Sources

(i) Motor Vehicle Travel

Future roadway noise levels were calculated along 81 off-site roadway segments in the vicinity of the Project Site. As described above, the roadway segments selected for the noise analysis were based the proximity to noise sensitive uses along the roadway segments and with the most increases in traffic volume from the proposed Project, to represent the worst case conditions. According to the Project transportation study, the Project is expected to generate approximately 19,560 inbound and 19,560 outbound trips for a typical event. The majority of the Project generated trips would occur during the Pre- and Post-Event hours. The inbound trips during the Pre-Event hour would be approximately 50 percent of the total trips on all event days. The outbound trips during the Post-Event hour would be about 75 percent of the total trips for all event days. Therefore, noise impacts are evaluated based on the potential increase in traffic volumes during the Pre-Event and Post-Event hours. The off-site traffic noise impacts for an event on a typical Saturday, Sunday, and Weekday are presented in Table IV.E-39 on page IV.E-109. Additional scenarios (i.e., Project with Convention Center Dark and Project concurrent with Coliseum and Dodger Stadium events) are presented in detail in Appendix L, and summarized below.

Roadway noise levels would be less than significant on most segments for all analysis scenarios (Proposed Project and Proposed Project with Convention Center Dark), event days (Sunday, Saturday, and weekday), and time periods. However, significant roadway noise impacts are forecasted on five roadway segments, as discussed below.

1. Grand Avenue—between 17th Street and Washington Avenue:

   - Sunday Event Day (Post-Event Hour)—Proposed Project and Proposed Project with Convention Center Dark (up to 5.0 dBA increase).

   - Weekday Event Day (Post-Event Day)—Proposed Project and Proposed Project with Convention Center Dark (up to 5.8 dBA increase).

2. West 11th Street—between Blaine Street and L.A. Live Way:

   - Weekday Event Day (Post-Event Day)—Proposed Project and Proposed Project with Convention Center Dark (up to 6.1 dBA increase).

3. West 18th Street—West of Flower Street:

   - Sunday Event Day (Post-Event Hour)—Proposed Project (up to 6.8 dBA increase) and Proposed Project with Convention Center Dark (up to 7.6 dBA).

4. West 18th Street—West of Grand Avenue:

   - Sunday Event Day (Post-Event Hour)—Proposed Project and Proposed Project with Convention Center Dark (up to 7.0 dBA increase).

5. West 39th Street—east of I-110 Freeway:

   - Weekday Event Day (Post-Event Day)—Proposed Project and Proposed Project with Convention Center Dark (up to 5.5 dBA increase).

(ii) Public Transit

As described in the Project's Transportation Study, it is estimated that 20 percent of the Event Center's patrons would use public transit on a weekday and 15 percent would use public transit on a weekend. Similar to the roadway traffic analysis, the increase in the use of the public transit systems would occur generally in the hours immediately before (Pre-Event) and after (Post-Event) the events. Indirect noise impacts from the Project would occur from increases in public transit usage (i.e., noise associated with an increased number of train or bus trips that would otherwise not occur if the Project was not constructed). The Metro Red Line, Purple Line, and part of the Blue and Gold Lines operate as underground subway systems; therefore, any noise generated by these rail-systems would be contained within the underground structure and would not impact any noise-sensitive receptors.

The estimated additional Metro rail cars and buses that would be needed for the Pre-Event and Post-Event hours are provided on Table IV.E-40 on page IV.E-112. As indicated in this table, the estimated increase in noise from the transit operations during the Pre-Event hour would be 4.8 dBA (hourly L_{eq}) or less, which would be below the significance threshold. The estimated maximum increase in noise from the Red Line during the Weekday Post-Event hour would be 3.2 dBA (hourly L_{eq}). However, the Red Line is an underground subway system, and as such the noise from the Red Line operation would be contained within the underground subway structure. Thus, significant noise

impacts would not be expected from the increase in the number of cars for the Red Line. The estimated maximum increase in noise from the Green Line during the Weekday Post-Event hour would be 4.8 dBA. However, the Green Line is located along the center of the 105 Freeway (with high ambient noise levels) and currently has no nearby sensitive receptors. Therefore, noise impacts from the increase in the Green Line operation would be less than significant. The increase in the number of buses along the Silver Line would result in a maximum increase of 6.0 dBA (hourly L_{eq}), from the bus operation only, as compared to the future without Project condition. The estimated noise level from the bus operation alone would be up to 57 dBA (hourly L_{eq}), which would be lower than the existing ambient noise levels along the bus line (as the bus lines are along major roadways such as Figueroa Street, with high ambient noise levels from existing traffic volumes). The Expo and Blue Lines would result in an increase of 4.3 dBA and 6.0 dBA (hourly L_{eq}) along the lines, respectively. The increase to the Blue Line would exceed the stated significance threshold and result in a significant impact. The noise impacts would occur for sensitive receptors that are located along the Blue Line, approximately 300 feet (unobstructed) or 175 feet (with intervening buildings between the rail and the receptors) from the rail center line.

(iii) Helicopters

Although not operated by the Project Applicants, it is anticipated that there would be media helicopters flying near the Event Center for news or event coverage. Based on measurements from a nearby stadium (Los Angeles Memorial Coliseum), helicopter noise levels during a football game was measured at up to 70 dBA in the adjacent residential community. Therefore, noise from helicopters would be anticipated to be at an equivalent level in the communities adjacent to the Event Center. These noise levels would be similar to existing conditions when there is media coverage for events at the STAPLES Center, Nokia Theatre, L.A. LIVE and the Convention Center). The noise levels from media helicopters to the nearby noise sensitive receptors are expected to be similar to existing conditions; however, it is anticipated that the number of media helicopters would increase due to the events at the Event Center. Helicopter noise would be temporary in nature but would exceed the ambient noise levels at all nearby noise sensitive receptors by 5 dBA (L_{eq}) or more, on a temporary and intermittent basis, which would exceed the stated significance threshold. Therefore, noise impacts associated with media helicopters would be considered significant.

(c) Composite Noise Level Impacts from Project Operations

An evaluation of composite noise levels, including all Project-related noise sources plus the existing ambient level, was conducted to identify the potential Project-related noise level increase that may occur at studied noise-sensitive receptor locations. The overall sound environment at the areas surrounding the Project Site would include contributions

from each on-site and off-site individual noise source associated with the typical event day operation of the Project. Principal on-site noise sources associated with the Project for a typical event day would include mechanical equipment, parking facilities, loading docks, outdoor plazas, and Event Center crowds and sound systems. The noise analysis for the various Project noise sources was made using various noise descriptors (i.e., L_{eq} and instantaneous L_{max}). In addition, noise from various sources would occur at different times (i.e., traffic/parking/outdoor plazas noise would occur during the Pre-Event/Post-Event hours, and Event Center related noise would occur in between). In order to evaluate the combined noise effect of all noise sources, a common noise descriptor, CNEL, is used. The composite noise analysis was performed for two typical event days, one with and one without a firework show. For the event day without the firework show, the analysis assumed that the event would occur during the daytime hours and would end before 10 P.M. To evaluate a worst-case scenario, the event day with a firework show assumed the event would occur in the evening hours with the firework show ending by 11:30 P.M.

Table IV.E-41 on page IV.E-113 presents the estimated composite noise at the off-site noise sensitive receptors for typical event days without a firework show. As indicated in Table IV.E-41, the Project's composite noise impacts would be below 3 dBA at all off-site noise-sensitive receptors, except for receptors R1 (Ritz Hotel and Residences and Marriott Hotel at L.A. LIVE), R2 (residences on Pico Boulevard, east of Figueroa Street), R3 (residences on Flower Street, south of Pico Boulevard), R13 (residences at the northeast corner of Flower and 11th Streets), and R23 (residences on 14th Street, east of Union Avenue). The Project would result in a maximum increase of 3.1 dBA CNEL at receptor R23, to 4.0 dBA CNEL at receptor R13, 7.8 dBA CNEL at receptor R3, 8.1 dBA CNEL at receptor R1, and 8.2 dBA CNEL at receptor R2, respectively. The increase in ambient noise levels at receptor R23 would be below the 5 dBA significance threshold, which would not result in a significant impact. However, the increase in ambient noise levels at receptors R1, R2, R3, and R13 would be above the significance threshold of 3 dBA CNEL, as the ambient noise levels with the Project would be within the "normally unacceptable" or "clearly unacceptable" land use category. Therefore, the composite noise level impacts due to the Project would be significant at four receptor locations for typical event days without a fireworks show.

Table IV.E-42 on page IV.E-115 presents the composite operation noise levels for an event day with fireworks at the off-site noise sensitive receptors. The estimated composite noise levels would increase the ambient noise level by less than 3 dBA at receptors R10, R12, R15 and R18, which would be below the stated significance thresholds. However, the increase in estimated composite noise levels at receptors R1 through R9, R11, R13, R14, R16, R17, and R19 through R26 as compared to ambient noise levels would range from 4.5 dBA CNEL (at R11) to 17.9 dBA CNEL (at R3), which would be above the applicable significance thresholds. Therefore, the composite operation noise levels would result in potentially significant impacts at these locations.

4. Cumulative Impacts

The Project, together with the related projects, would contribute to cumulative noise impacts. The potential for cumulative noise impacts to occur is specific to the distance between each related project and its stationary noise sources, including the cumulative traffic that these projects would add to the surrounding roadway network.

a. Construction Noise

Noise from construction activities would normally affect the areas immediately adjacent to the Project Site, meaning those that are less than 500 feet from the construction site, due to sound attenuation provided by the distance and the intervening buildings located between the construction sites and the noise sensitive receptors. Therefore, noise from construction activities for two projects within 1,000 feet of each other could contribute to a cumulative noise impact for receptors located between the two construction sites or near the construction sites if the construction sites are close together.

As indicated in the Project's transportation study, a total of 133 related projects have been identified. While the majority of these related projects are located farther than 1,000 feet from the Project Site, there are four related projects within 1,000 feet of the Project construction areas. These include Related Project No. 27, the Los Angeles Sports and Entertainment District, a mixed-use development at Figueroa Street and 11th Street (which is partially completed); Related Project No. 60, a high rise condominium project at 1360 Figueroa Street (approximately 100 feet west of the Project Site); Related Project No. 64, a condominium/restaurant project located at 1133 Hope Street (approximately 700 feet west of the Project Site); and Related Project No. 91, a condominium development located at 1360 Figueroa Street (approximately 100 feet west of the Project Site).

Since the timing of the construction activities for these related projects cannot be defined, any quantitative analysis that assumes multiple, concurrent construction projects would be entirely speculative. Concurrent construction activities from the nearby related projects would generate noise at each site and cumulative construction noise could exceed ambient noise levels at the nearest noise sensitive uses between the Project and the related project sites. Most of the construction of Related Project No. 27 has been completed with the exception of 600 KSF office building to be built on the north side of Olympic between Georgia and Francisco. If construction of the office building (of the Related Project No. 27) was to occur concurrently with the Project construction, the construction noise from the Related Project No. 27 and the Project could together contribute to a cumulative impact on the nearby noise sensitive receptors R1 (Ritz Hotel and Residences and Marriott Hotel at L.A. LIVE) and R10 (hotel use on Figueroa Street, north of Olympic Boulevard) (as these two receptors are located within 500 feet of either

the Related Project No. 27 or the Project). If construction of Related Project No. 60 and Related Project No. 91 were to occur concurrently with Project construction, the construction noise from these related projects and the Project could together contribute to a significant cumulative impact on the noise-sensitive receptors closest to these project sites, specifically Receptors R2 (residences on Pico Boulevard, east of Figueroa Street) and R3 (residences on Flower Street). Receptors R13 (residences at the northeast corner of Flower and 11th Streets) and R14 (residences at northwest corner of 12th Street and Grand Avenue) are located approximately 300 feet from Related Project No. 64. Therefore, if construction of Related Project No. 64 were to occur concurrently with Project construction, the construction noise from Related Project No. 64 and the Project could together contribute to a significant cumulative impact on the noise-sensitive receptors closest to these project sites (R13 and R14). However, as with the Project, construction-related noise levels from the related projects would be intermittent, temporary, and would comply with time restrictions and other relevant provisions in the City's Municipal Code. As required of the Project, noise associated with cumulative construction activities would be reduced through proposed mitigation measures for each individual related project and through compliance with locally adopted and enforced noise ordinances. Construction activities for each of the other related projects in the vicinity would be required to comply with the City's Noise Ordinance and would be temporary. Even so, if construction of the nearest related projects were to occur concurrently with the Project's construction, the Project's contribution to cumulative construction related noise impacts could be considerable and would thus represent a significant cumulative impact.

In addition to on-site construction activities, noise from off-site construction haul/deliver trucks could contribute to the cumulative noise impacts. It is anticipated that due to the size and locations of the related projects, construction management plans would be prepared and submitted to LADOT for approval. The construction traffic management plans would be based on the nature and timing of the specific construction and other projects in the vicinity of the Project Site. Even so, if construction trucks from the related projects were to travel on the same routes and within the same hours as the Project, the Project's contribution to cumulative off-site construction related truck traffic noise impacts could be considerable and would thus represent a significant cumulative impact.

Based on the analysis presented above, construction noise from the Project together with the Related Projects could increase ambient noise levels at receptors that are located within 500 feet from the construction sites by 5 dBA or more. Therefore, it is conservatively concluded that the Project's construction noise impacts could be cumulatively considerable, even after imposition of mitigation measures. However, the occurrence of this impact is uncertain at this time, as it would depend upon the timing of the related projects' construction, which is currently unknown.

b. Construction Vibration

As previously discussed, ground-borne vibration decreases rapidly with distance. Potential vibration impacts due to construction activities are generally limited to buildings/structures that are located in close proximity to the construction site (i.e., less than 25 feet). As indicated above, the nearest related project is approximately 100 feet away from the Project Site. Therefore, due to the rapid attenuation characteristics of ground-borne vibration, there is no potential for a cumulative construction impact with respect to building damages from the ground-borne vibration. However, ground-borne vibration from heavy construction equipment, such as impact pile drivers and vibratory rollers, could impact nearby vibration-sensitive uses (i.e., residential uses or the Nokia Theater), if used within 320 feet of this vibration sensitive use. Although there could be construction equipment operating at a related project site and the Project site (assuming concurrent construction), the vibration levels from each piece of construction equipment would likely not be additive (in terms of the maximum levels), due to the rapid rate that vibration levels attenuate and the likelihood of multiple pieces of equipment impacting the ground surface with the same vibration characteristics (i.e., frequency and amplitude) and at the same time is low, if not improbable. Therefore, cumulative construction impacts with respect to vibration sensitive uses would be less than significant.

c. Operation Noise

Once developed, the Project along with overall development in the surrounding area would generate noise that would contribute to cumulative noise from a number of community noise sources, including vehicle travel and mechanical equipment (e.g., heating, ventilating, and air-conditioning systems). Noise levels from stationary sources, such as outdoor air-conditioning equipment, would be less than significant at the property line for each related project due to the City's exterior noise limits. However, since noise from the Project's on-site stationary-sources (i.e., Event Center operations including crowds, use of sound systems, parking garage operations, and use of outdoor plazas) would potentially result in significant impacts and there are related projects within 500 feet of the Project Site (Related Project Nos. 60 and No. 91), on-site stationary-sources noise impacts attributable to cumulative development of the related projects and the Project would potentially result in significant impacts at noise-sensitive receptors located between the Project and these related projects.

The Project and other related development in the area would produce traffic volumes (off-site mobile sources) that would generate roadway noise. Cumulative noise impacts due to off-site traffic were analyzed by comparing the projected increase in traffic noise levels from "existing" conditions to "future cumulative" conditions to the applicable significance criteria. Future cumulative conditions include traffic volumes from future ambient growth, and related development projects, with and without the Project.

The calculated traffic noise levels under "existing" and "future cumulative" conditions for the Sunday, Saturday, and Weekday scenarios are presented in Table IV.E-43 on page IV.E-117. Additional scenarios are presented in Appendix L, (e.g., Project with Convention Center Dark and Project events concurrent with Coliseum and Dodger Stadium events). As indicated in this table, significant cumulative noise impacts would occur at 11 analyzed roadway segments for the Sunday scenario, with a maximum increase of 9.9 dBA along 18th Street (west of Grand Avenue). For the Saturday scenario, significant cumulative noise impacts would occur at eight roadway segments, with a maximum increase of up to 8.5 dBA along 11th Street (west of Grand Avenue). In addition during the Weekday scenario, significant cumulative noise impacts would occur at 12 roadway segments, with a maximum increase of 8.8 dBA along Grand Avenue (between 17th Street and Washington Avenue). Therefore, cumulative traffic from the Project and the related projects would result in significant cumulative noise impacts.

5. Project Design Features and Mitigation Measures

a. Project Design Features

(1) Construction

Project Design Feature E-1: Project construction shall utilize drilled piles during the late evening hours (between 9 P.M. and 12 A.M.), in order to reduce potential construction noise and vibration impacts.

Project Design Feature E-2: Project contractor shall equip all construction equipment used at the Project Site with properly operated and maintained, commercially available noise shielding and/or muffling devices that are consistent with the manufacturer's standards.

(2) Operation

Project Design Feature E-3: The Event Center in-house sound system would utilize a distributed speakers system capable of aiming the sound toward the seating areas, to minimize sound spillage to the exterior of the Event Center.

Project Design Feature E-4: Building mechanical/electrical equipment shall be designed to meet the noise limit requirements of LAMC, Chapter XI, Section 112.02.

Project Design Feature E-5: Loading dock and trash/recycling areas for the Event Center and STAPLES Center shall be located in the subterranean level, which shall preclude noise from this source at exterior locations.

Project Design Feature E-6: All rooftop mechanical equipment shall be enclosed or screened from view with appropriate screening walls.

b. Mitigation Measures

(1) Construction

Project construction-related noise has the potential to result in significant impacts. Thus, the following measures are recommended to reduce the construction-related noise impact.

Mitigation Measure E-1: A temporary, continuous and impermeable noise barrier shall be provided as follows:

A) During the Event Center constriction, a noise barrier wall providing a minimum 5 dBA noise reduction at the first-floor level shall be erected along the Project northern boundary along the Project northern boundary between the Event Center construction area and Receptor R1 (Ritz Hotel and Residences and Marriott Hotel at L.A. LIVE).

B) During construction of the New Hall, a noise barrier wall providing a minimum 7 dBA noise reduction shall be erected between the New Hall construction area and off-site noise sensitive receptor R26 (southern boundary of New Hall construction area).

C) During construction of the Pico Station Second Platform, a noise barrier wall providing a minimum 11 dBA noise reduction shall be erected between the Pico Station Second Platform construction area and off-site noise sensitive receptors R2 and R3, along Pico Boulevard (southern construction area boundary) and a portion of Flower Street (extending approximately 100 feet from Pico Boulevard).

Mitigation Measure E-2: Power construction equipment shall be equipped with noise shielding and muffling devices. All equipment shall be properly maintained to assure that no additional noise, due to worn or improperly maintained parts, would be generated.

Mitigation Measure E-3: Stationary source construction equipment that may have a flexible specific location on-site (e.g., generators and compressors) shall be located so as to maintain the greatest distance from sensitive land uses and unnecessary idling of equipment shall be prohibited.

Mitigation Measure E-4: Engine idling from construction equipment such as bulldozers and haul trucks shall be limited. Idling of haul trucks shall be limited to five (5) minutes at any given location as established by the South Coast Air Quality Management District.

Mitigation Measure E-5: The use of vibratory rollers within 150 feet, or impact pile driving within 320 feet, of the Nokia Theatre shall be limited to time periods that do not coincide with events occurring at the Nokia Theatre.

Mitigation Measure E-6: The use of impact pile drivers within 320 feet of the Nokia Theater shall be coordinated with the Nokia Theatre to avoid conflicts.

6. Level of Significance After Mitigation

a. Construction Noise

Compliance with the recommended mitigation measures would reduce Project and cumulative construction noise levels to the extent feasible. In particular, implementation of Mitigation Measure J-1 would reduce construction-related noise at receptor R1 (Ritz Hotel and Residences and Marriott Hotel at L.A. LIVE) by a minimum 5 dBA, at receptor R26 (residences at Wright Street) by 7 dBA, and R2 (residences on Pico Boulevard, between Figueroa Street and Flower Street) and R3 (residences on Flower Street, south of Pico Boulevard) by 11 dBA. The recommended noise barriers would reduce the noise impacts at R2, R3 and R26 to a less than significant level. However, the temporary construction noise barrier would only be effective in reducing the construction noise impacts at the ground level. It would not be technically feasible to construct a noise barrier that would effectively reduce the construction-related noise to the upper floors of the Ritz Hotel and Residences and Marriott Hotel (Receptor R1). Noise sensitive receptors R4, R5, R6, R7 and R23 are located west of the elevated I-110 Freeway and, thus, are shielded from the Project Site by the intervening freeway structure. Therefore, it would not be technically feasible to construct a noise barrier that would provide additional noise reduction (in addition to the noise reduction provided by the I-110 Freeway structure) to the receptors west of the I-110 Freeway. Noise level reductions attributable to Mitigation Measures J-2 and J-3, although not easily quantifiable, would also provide that the noise impacts associated with construction activities would be reduced to the extent practicable. Implementation of Mitigation Measure J-4 would further limit the noise generated by hauling trucks idling at the staging areas. Vibration impacts at the Nokia Theatre associated with the use of impact pile driver and vibratory roller for the Event Center construction would be reduced to a less than significant level. Implementation of all described mitigation measures would reduce noise impacts associated with Project construction activities to the extent feasible; however, such impacts would remain significant and unavoidable.

As previously discussed, if the identified related projects were to occur concurrently with the Project's construction, cumulative construction noise impacts could be significant. Noise impacts would be reduced through proposed mitigation measures for each individual related project and compliance with locally adopted and enforced noise ordinances. Therefore, the noise impacts generated by the construction activities for each of the related projects would likely be reduced, but given the dense urban environment found within the Project area, impacts of the related projects are likely to be significant and, thus, cumulative impacts would be significant as well.

b. Operation Noise

Implementation of Project design features would provide that the on-site building mechanical equipment, bus loading at the Pico Passage, and loading docks would not result in any significant noise impacts to off-site noise sensitive receptors during long-term Project operations.

There are no feasible mitigation measures to reduce the outdoor amplified sound system or crowd cheering noise to a less than significant level. Noise mitigation in the form of barriers would reduce the potential noise impacts from the outdoor plazas to the off-site sensitive receptors. However, the noise barriers would be constructed along the Project Site to block the line-of-site between the sound sources and the off-site receptors, which would not be feasible with respect to architectural/functional design of the outdoor plazas. Other mitigation measures, such as limiting the sound levels from the outdoor amplified sound system would preclude creating the environment required pursuant to the Project objectives. Therefore, noise impacts associated with the outdoor plazas would be significant and unavoidable.

There are no feasible mitigation measures that would reduce the impacts from the Event Center operations to a less than significant level. Mitigation measures in the form of specifications to limit the in-house sound system (to reduce the impacts associated with the sound-system) or fully enclosing the stadium with a solid roof structure (to reduce both crowd and sound system noise) would not be feasible for the following reasons: (a) enclosing the stadium with a solid roof would not meet the basic Project objective of developing an Event Center with an open roof design that takes advantage of the Southern California climate; and (b) limiting the sound levels from the sound system would not allow for the intended operation of the Event Center for sporting events and concerts pursuant to the Project objectives. Therefore, noise impacts associated with Event Center operations would be significant and unavoidable.

There are no feasible mitigation measures that would reduce impacts associated with the parking garage and firework displays to a less than significant level. Impacts

related to fireworks displays would be limited (up to 35 shows per year) and of short duration (up to 20 minutes per display show) but would still be significant and unavoidable.

Mitigation measures such as the construction of noise barrier walls to reduce the off-site traffic noise impacts would not be feasible as the barriers would obstruct access to private property. In addition, construction of noise barriers to reduce the impacts along the Metro Lines would be not feasible, as the Applicants have no control over the properties adjacent to the lines. There are no feasible mitigation measures to reduce the media helicopter noise to a less than significant level since the Applicants do not control the operation of media helicopters in the area. As such, noise impacts from Project operations would be significant and unavoidable.

Table IV.E-1
Typical Noise Levels

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

Source: Caltrans, Technical Noise Supplement (TeNS), 2009.

Table IV.E-2
City of Los Angeles Presumed Ambient Noise Levels

Zone	Daytime (7 A.M. to 10 P.M.) L_{eq} (dBA)	Nighttime (10 P.M. to 7 A.M.) L_{eq} (dBA)
Residential, School, Hospital, Hotels	50	40
Commercial	60	55
Manufacturing (M1, MR1 and MR2)	60	55
Heavy Manufacturing (M2 and M3)	65	65

Source: LAMC, Section 111.03.

Table IV.E-3
City of Los Angeles Land Use Compatibility for Community Noise

Noise Level (dBA)	Community Noise Exposure CNEL, dBA			
	Normally Acceptable[a]	**Conditionally Acceptable**[b]	**Normally Unacceptable**[c]	**Clearly Unacceptable**[d]
Single-Family, Duplex, Mobile Homes	50 to 60	55 to 70	70 to 75	Above 70
Multi-Family Homes	50 to 65	60 to 70	70 to 75	Above 70
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 to 70	60 to 70	70 to 80	Above 80
Transient Lodging—Motels, Hotels	50 to 65	60 to 70	70 to 80	Above 80
Auditoriums, Concert Halls, Amphitheaters	—	50 to 70	—	Above 65
Sports Arena, Outdoor Spectator Sports	—	50 to 75	—	Above 70
Playgrounds, Neighborhood Parks	50 to 70	—	67 to 75	Above 72
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 to 75	—	70 to 80	Above 80
Office Buildings, Business and Professional Commercial	50 to 70	67 to 77	Above 75	—
Industrial, Manufacturing, Utilities, Agriculture	50 to 75	70 to 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 necessary noise insulation features included in the design.*

[d] *Clearly Unacceptable: New construction or development should generally not be undertaken.*

Source: L.A. CEQA Thresholds Guide, 2006.

Table IV.E-4
FTA Construction Vibration Damage Criteria

Building Category	Construction Vibration Damage Criteria	
	PPV (inch per second)	RMS in decibels (VdB)
I. Reinforced-concrete, steel or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Non-engineered timber and masonry buildings	0.2	94
IV. Buildings extremely susceptible to vibration damage	0.12	90

Source: Refer to page 24 of Noise Impact Study—Convention Center Modernization & Farmers Field Project, included as Appendix L.

Table IV.E-5
FTA Ground-Borne Vibration Criteria for Sensitive Uses

Land Use Category	Ground-Borne Vibration Impact Levels, VdB (referenced 1 micro-inch per second)		
	Frequent Events[a]	Occasional Events[b]	Infrequent Events[c]
Category 1: Buildings where vibration would interfere with interior operations	65[d]	65[d]	65[d]
Category 2: Residences and buildings where people normally sleep	72	75	80
Category 3: Institutional land uses with primarily daytime use	75	78	83
Auditoriums	72	80	80

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

[b] *"Occasional Events" are defined as between 30 and 70 vibration events of the same source per day.*

[c] *"Infrequent Events" are defined as fewer than 30 vibration events of the same source per day.*

[d] *This criterion limit is based on the levels that are acceptable for most moderately sensitive equipment such as optical microscopes.*

Source: Refer to page 25 of Noise Impact Study—Convention Center Modernization & Farmers Field Project, included as Appendix L.

Table IV.E-6
Description of Noise Measurement Locations

Location	At Grade Level Outside of and Adjacent to	Approximate Distance to Project Site[a] (feet)	Representing Nearby Land Uses	Sensitive Receptor
R1	Ritz Hotel and Residences/Marriott Hotel/Nokia Theatre located on Georgia Street, north of Chick Hearn Court	300	Residential/ Hotel/ Auditorium	Yes
R2	Multi-family residential uses located on Pico Boulevard, east of Figueroa Street	90	Residential	Yes
R3	Multi-family residential uses located on Flower Street	275	Residential	Yes
R4	Single-family residential uses located on Oak Street, north of Venice Boulevard	490	Residential	Yes
R5	Single-family residential uses located on Valencia Street, south of Pico Boulevard	890	Residential	Yes
R6	Multi-family residential uses located on 12th Place, west of I-110 Freeway	275	Residential	Yes
R7	Multi-family residential uses located on 11th Street, west of I-110 Freeway	250	Residential	Yes
R8	10th Street Elementary School, located on Valencia Street, south of Olympic Boulevard	1,200	School	Yes
R9	Multi-family residential uses located on Albany Street/Loyola Law School/Olympic Primary Center (school), north of Olympic Boulevard	1,200	Residential/ School	Yes
R10	Figueroa Hotel/Residential use located on Figueroa Street, north of Olympic Boulevard	775	Residential/ Hotel	Yes
R11	Multi-family residential uses located on 9th Street, east of Flower Street	1,460	Residential	Yes
R12	Multi-family residential uses located on Olympic Street, west of Hope Street	1,040	Residential	Yes
R13	Multi-family residential uses located at the northeast corner of Flower and 11th Streets	520	Residential	Yes
R14	Multi-family residential uses located at the northwest corner of 12th Street and Grand Avenue	1,100	Residential	Yes
R15	Multi-family residential and hospital (California Hospital Medical Center) uses located on Hope Street, north of Venice Boulevard	820	Residential/ Hospital	Yes
R16	Multi-family residential uses located at the northeast corner of Grand Avenue and Venice Boulevard	1,400	Residential	Yes
R17	Religious use located at the northeast corner of Hope Street and Washington Boulevard	1,450	Religious	Yes
R18	High school located on 17th Street, east of Georgia Street	475	School	Yes

Table IV.E-6 (Continued)
Description of Noise Measurement Locations

Location	At Grade Level Outside of and Adjacent to	Approximate Distance to Project Site[a] (feet)	Representing Nearby Land Uses	Sensitive Receptor
R19	Multi-family residential and religious uses on 18th Street, east of Georgia Street	840	Residential/ Religious	Yes
R20	Single-family residential uses located on Bonsallo Avenue, south of Washington Boulevard	1,715	Residential	Yes
R21	Single-family residential/Toberman Park uses located on Park Grove Avenue, south of Washington Boulevard	1,840	Residential	Yes
R22	Single-family residential/Toberman Park uses located on Toberman Street, north of 18th Street	1,940	Residential/ Park	Yes
R23	Single-family residential uses located on 14th Street, east of Union Avenue	1,480	Residential	Yes
R24	Multi-family residential uses on Pico Boulevard, east of Union Avenue	1,250	Residential	Yes
R25	Single-family residential uses on 12th Street, east of Union Avenue	1,250	Residential	Yes
R26	Multi-family residential uses at Wright Street cul-de-sac, north of Venice Boulevard	200	Residential	Yes

[a] *Distances are estimated based on Google Earth map and are referenced to the Project nearest boundary.*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-7
Existing Ambient Noise Levels

Location	Measurement Duration	Measurement Date	Time of Measurement	Measured Noise Levels[a] L_{eq} (dBA)		CNEL[b] (dBA)	Lowest Ambient Noise Levels during Project Anticipated Construction Hours dBA (L_{eq})		Compatibility Based on Existing Land Use and Ambient Noise Level[c] (from Table 6)
				Daytime Hours (7 A.M. to 10 P.M.)	Nighttime Hours (10 P.M. to 7 A.M.)		Daytime Hours (7 A.M. to 9 P.M.)	Late Evening Hours (9 P.M. to 12 A.M.)	
R1	15-Minute (Weekday)	10/21/2011 10/20/2011 10/20/2011	9:15–9:30 A.M. 1:45–2:00 P.M. 11:00–11:15 P.M.	63.5 62.2 —	— — 61.8	66.7	62.2	61.8	Conditionally Acceptable
	15-Minute (Weekend)	1/14/2012	12:47–1:02 P.M. 11:33–11:48 P.M.	62.6 —	— 64.5	68.9			
R2	15-Minute (Weekday)	7/27/2011	9:35–9:50 A.M. 1:31–1:46 P.M. 10:36–10:51 P.M.	76.1 68.7 —	— — 67.4	74.3	68.7	63.9	Normally Unacceptable
	15-Minute (Weekend)	1/22/2012	1:26 – 1:41 P.M. 10:02–10:17 P.M.	68.9 —	— 63.9	70.1			
R3	15-Minute (Weekday)	7/27/2011	9:14–9:29 A.M. 1:13–1:18 P.M. 10:36–10:51 P.M.	65.2 62.2 —	— — 56.8	64.0	56.2	56.2	Conditionally Acceptable
	15-Minute (Weekend)	1/22/2012	2:03–2:18 P.M. 10:21–10:36 P.M.	56.2 —	— 56.2	60.9			

Table IV.E-7 (Continued)
Existing Ambient Noise Levels

Location	Measurement Duration	Measurement Date	Time of Measurement	Measured Noise Levels[a] L_{eq} (dBA)		CNEL[b] (dBA)	Lowest Ambient Noise Levels during Project Anticipated Construction Hours dBA (L_{eq})		Compatibility Based on Existing Land Use and Ambient Noise Level[c] (from Table 6)
				Daytime Hours (7 A.M. to 10 P.M.)	Nighttime Hours (10 P.M. to 7 A.M.)		Daytime Hours (7 A.M. to 9 P.M.)	Late Evening Hours (9 P.M. to 12 A.M.)	
R4	15-Minute (Weekday)	7/25/2011	11:35–11:50 A.M. 2:35–2:50 P.M. 11:46 P.M.–12:01 A.M.	60.1 60.1 —	— — 56.2	61.9	58.9	56.2	Conditionally Acceptable
	15-Minute (Weekend)	1/29/2012	2:19–2:34 P.M. 11:11–11:26 P.M.	58.9 —	— 56.9	62.0			
R5	24-Hour (Weekday)	7/21/2011 to 7/22/2011	12:00 P.M.–12:00 P.M.	54.3–67.2	50.6–59.8	64.3	54.3	52.1	Conditionally Acceptable
	15-Minute (Weekend)	1/29/2012	1:59–2:14 P.M. 10:51–11:06 P.M.	61.3 —	— 52.1	60.6			
R6	15-Minute (Weekday)	7/25/2011	9:48–10:03 A.M. 2:59–3:14 P.M. 10:47–11:03 P.M.	56.1 57.7 —	— — 54.2	59.6	56.1	54.2	Normally Acceptable
	15-Minute (Weekend)	1/14/2012	1:48–2:03 P.M. 11:01–11:16 P.M.	59.7 —	— 58.0	63.1			
R7	15-Minute (Weekday)	7/25/2011	10:12–10:27 A.M. 1:10–1:25 P.M. 10:28–10:43 P.M.	63.5 64.9 —	— — 60.6	66.3	63.5	60.6	Conditionally Acceptable
	15-Minute (Weekend)	1/14/2012	1:05–1:20 P.M. 11:41–11:58 P.M.	66.6 —	— 71.3	75.4			

Table IV.E-7 (Continued)
Existing Ambient Noise Levels

Location	Measurement Duration	Measurement Date	Time of Measurement	Measured Noise Levels[a] L_{eq} (dBA)		CNEL[b] (dBA)	Lowest Ambient Noise Levels during Project Anticipated Construction Hours dBA (L_{eq})		Compatibility Based on Existing Land Use and Ambient Noise Level[c] (from Table 6)
				Daytime Hours (7 A.M. to 10 P.M.)	Nighttime Hours (10 P.M. to 7 A.M.)		Daytime Hours (7 A.M. to 9 P.M.)	Late Evening Hours (9 P.M. to 12 A.M.)	
R8	15-Minute (Weekday)	7/25/2011	10:31–10:46 A.M. 1:28–1:43 P.M. 10:04–10:19 P.M.	59.5 60.0 —	— — 56.8	62.2	57.3	56.2	Conditionally Acceptable
	15-Minute (Weekend)	1/14/2012	12:37–12:52 P.M. 10:20–10:35 P.M.	57.3 —	— 56.2	61.1			
R9	24-Hour (Weekday)	7/21/2011 to 7/22/2011	1:00 P.M. to 1:00 P.M.	62.6–67.0	54.5–62.2	67.6	57.0	59.3	Conditionally Acceptable
	15-Minute (Weekend)	1/14/2012	12:17–12:32 P.M. 10:01–10:16 P.M.	57.0 —	— 59.3	63.6			
R10	24-Hour (Weekday)	7/20/2011 to 7/21/2011	11:00 A.M.–11:00 A.M.	69.7–78.8	62.9–72.4	76.1	69.7	68.1	Clearly Unacceptable
	15-Minute (Weekend)	1/14/2012	1:12–1:27 P.M. 10:01–10:16 P.M.	69.7 —	— 68.9	73.7			
R11	15-Minute (Weekday)	7/27/2011	9:59–10:14 A.M. 2:22–2:37 P.M. 11:26–11:41 P.M.	67.1 67.4 —	— — 65.2	70.4	66.7	65.2	Normally Unacceptable
	15-Minute (Weekend)	1/14/2012	1:35–1:50 P.M. 10:27–10:42 P.M.	66.7 —	— 66.9	71.5			

Table IV.E-7 (Continued)
Existing Ambient Noise Levels

Location	Measurement Duration	Measurement Date	Time of Measurement	Measured Noise Levels[a] L_{eq} (dBA)		CNEL[b] (dBA)	Lowest Ambient Noise Levels during Project Anticipated Construction Hours dBA (L_{eq})		Compatibility Based on Existing Land Use and Ambient Noise Level[c] (from Table 6)
				Daytime Hours (7 A.M. to 10 P.M.)	Nighttime Hours (10 P.M. to 7 A.M.)		Daytime Hours (7 A.M. to 9 P.M.)	Late Evening Hours (9 P.M. to 12 A.M.)	
R12	15-Minute (Weekday)	7/27/2011	10:40–10:55 A.M. 2:41–2:56 P.M. 11:44–11:59 P.M.	69.5 68.8 —	— — 64.1	70.3	68.8	64.1	Normally Unacceptable
	15-Minute (Weekend)	1/14/2012	1:57–2:12 P.M. 10:49–11:04 P.M.	68.9 —	— 68.1	72.9			
R13	15-Minute (Weekday)	7/27/2011 7/28/2011	10:20–10:35 A.M. 2:02–2:17 P.M. 12:03–12:18 A.M.	67.0 67.2 —	— — 62.4	68.5	65.2	62.4	Conditionally Acceptable
	15-Minute (Weekend)	1/14/2012	2:17–2:32 P.M. 11:09–11:24 P.M.	65.2 —	— 65.7	70.3			
R14	24-Hour (Weekday)	7/20/2011 to 7/21/2011	12:00 P.M. to 12:00 P.M.	62.3–72.3	53.0–65.2	69.3	62.3	59.6	Conditionally Acceptable
	15-Minute (Weekend)	1/22/2012	3:12–3:27 P.M. 11:22–11:37 P.M.	68.3 —	— 59.6	67.8			
R15	24-Hour (Weekday)	7/19/2011 to 7/20/2011	10:00 A.M.– 10:00 A.M.	61.4–66.4	57.6–63.0	67.7	61.5	58.4	Conditionally Acceptable
	15-Minute (Weekend)	1/22/2012	2:26–2:41 P.M. 10:42–10:57 P.M.	61.5 —	— 58.4	63.9			

Table IV.E-7 (Continued)
Existing Ambient Noise Levels

Location	Measurement Duration	Measurement Date	Time of Measurement	Measured Noise Levels[a] L_{eq} (dBA)		CNEL[b] (dBA)	Lowest Ambient Noise Levels during Project Anticipated Construction Hours dBA (L_{eq})		Compatibility Based on Existing Land Use and Ambient Noise Level[c] (from Table 6)
				Daytime Hours (7 A.M. to 10 P.M.)	Nighttime Hours (10 P.M. to 7 A.M.)		Daytime Hours (7 A.M. to 9 P.M.)	Late Evening Hours (9 P.M. to 12 A.M.)	
R16	24-Hour (Weekday)	7/20/2011 to 7/21/2011	12:00 P.M.–12:00 P.M.	67.9–74.9	62.7–73.2	76.1	67.9	63.0	Clearly Unacceptable
	15-Minute (Weekend)	1/22/2012	2:47–3:02 P.M. 11:01–11:16 P.M.	68.4 —	— 63.0	69.4			
R17	15-Minute (Weekday)	7/26/2011	10:25–10:40 A.M. 2:02–2:17 P.M. 10:20–20:35 P.M.	61.3 59.7 —	— — 58.1	63.4	59.7	58.1	Conditionally Acceptable
	15-Minute (Weekend)	2/4/2012	1:32–1:47 P.M. 10:04–10:19 P.M.	60.4 —	— 62.2	66.6			
R18	24-Hour (Weekday)	7/19/2011 to 7/20/2011	11:00 A.M. to 11:00 A.M.	67.2–71.8	66.9–72.7	76.2	67.2	68.7	Normally Unacceptable
	15-Minute (Weekend)	2/4/2012	1:54–2:09 P.M. 10:23–10:38 P.M.	70.3 —	— 69.4	74.3			
R19	15-Minute (Weekday)	7/26/2011 7/27/2011	10:25–10:40 A.M. 2:02–2:17 P.M. 12:51–1:06 A.M.	61.2 66.8 —	— — 59.2	65.7	61.2	59.2	Conditionally Acceptable
	15-Minute (Weekend)	2/4/2012	2:12–2:27 P.M. 10:41–10:56 P.M.	61.7 —	— 59.6	64.8			

Table IV.E-7 (Continued)
Existing Ambient Noise Levels

Location	Measurement Duration	Measurement Date	Time of Measurement	Measured Noise Levels[a] L_{eq} (dBA)		CNEL[b] (dBA)	Lowest Ambient Noise Levels during Project Anticipated Construction Hours dBA (L_{eq})		Compatibility Based on Existing Land Use and Ambient Noise Level[c] (from Table 6)
				Daytime Hours (7 A.M. to 10 P.M.)	Nighttime Hours (10 P.M. to 7 A.M.)		Daytime Hours (7 A.M. to 9 P.M.)	Late Evening Hours (9 P.M. to 12 A.M.)	
R20	24-Hour (Weekday)	7/19/2011 to 7/20/2011	11:00 A.M.–11:00 A.M.	59.6–66.0	58.3–66.1	68.9	57.0	58.6	Conditionally Acceptable
	15-Minute (Weekend)	2/4/2012	2:33–2:48 P.M. 11:03–11:18 P.M.	57.0 —	— 58.6	63.0			
R21	15-Minute (Weekday)	7/26/2011 7/27/2011	10:04–10:19 A.M. 1:42–1:57 P.M. 12:33–12:48 A.M.	55.0 57.1 —	— — 49.2	56.3	55.0	49.2	Normally Acceptable
	15-Minute (Weekend)	2/4/2012	2:58–3:13 P.M. 11:23–11:38 P.M.	55.2 —	— 54.7	59.5			
R22	15-Minute (Weekday)	7/26/2011 7/27/2011	9:42–9:57 A.M. 1:19–1:34 P.M. 12:10–12:25 A.M.	63.1 64.1 —	— — 54.2	62.8	61.6	54.2	Conditionally Acceptable
	15-Minute (Weekend)	1/29/2012	1:10–1:25 P.M. 10:08–10:23 P.M.	61.6 —	— 62.1	66.7			
R23	15-Minute (Weekday)	7/25/2011	10:52–11:07 A.M. 1:53–2:08 P.M. 11:08–11:23 P.M.	57.5 56.7 —	— — 49.5	57.0	56.7	49.5	Normally Acceptable
	15-Minute (Weekend)	1/29/2012	1:35–1:50 P.M. 10:27–10:42 P.M.	59.4 —	— 55.0	60.9			

Table IV.E-7 (Continued)
Existing Ambient Noise Levels

Location	Measurement Duration	Measurement Date	Time of Measurement	Measured Noise Levels[a] L_{eq} (dBA)		CNEL[b] (dBA)	Lowest Ambient Noise Levels during Project Anticipated Construction Hours dBA (L_{eq})		Compatibility Based on Existing Land Use and Ambient Noise Level[c] (from Table 6)
				Daytime Hours (7 A.M. to 10 P.M.)	Nighttime Hours (10 P.M. to 7 A.M.)		Daytime Hours (7 A.M. to 9 P.M.)	Late Evening Hours (9 P.M. to 12 A.M.)	
R24	15-Minute (Weekday)	7/25/2011	11:12–11:27 A.M. 2:13–2:28 P.M. 11:27–11:42 P.M.	66.4 68.1 —	— — 60.2	67.4	66.4	60.2	Conditionally Acceptable
	15-Minute (Weekend)	1/14/2012	2:06–2:21 P.M. 11:19–11:34 P.M.	66.5 —	— 62.3	68.2			
R25	24-Hour (Weekday)	7/25/2011 to 7/26/2011	10:00 A.M.–10:00 A.M.	57.6–64.7	49.9–63.5	63.3	56.3	54.5	Conditionally Acceptable
	15-Minute (Weekend)	1/14/2012	1:28–1:43 P.M. 10:39–10:54 P.M.	56.3 —	— 54.9	59.9			
R26	15-Minute (Weekday)	11/10/2011	10:35–10:50 A.M. 1:00–1:15 P.M. 10:20–10:35 P.M.	64.1 63.3 —	— — 63.1	67.9	60.1	61.8	Conditionally Acceptable
	15-Minute (Weekend)	1/29/2012	2:40–2:55 P.M. 11:33–11:48 P.M.	60.1 —	— 61.8	66.2			

[a] *Detailed measured noise data, including hourly L_{eq} levels, are included in Appendix L.*

[b] *The 24-hour average CNEL levels for the 24-hour measurement locations were calculated based on the measured 24 hourly L_{eq} levels. For the short-term measurement locations, the CNEL levels were estimated based on the short-term measurements using the FTA (2006) procedures.*

[c] *Land use noise compatibility is based on the more stringent land use, where there are multiple land uses.*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-8
Existing Roadway Traffic Noise Levels

Roadway Segment	Adjacent Noise-Sensitive Land Uses	Approximate Distance to Roadway Centerline (feet)	Calculated Traffic Noise Levels[a]									Compatibility Based on Existing Land Use and Ambient Noise Level
			Saturday			Sunday			Weekday			
			12:00–1:00 P.M. Hour L_{eq} (dBA)	4:30–5:30 P.M. Hour L_{eq} (dBA)	24-Hour CNEL (dBA)	12:00–1:00 P.M. Hour L_{eq} (dBA)	4:30–5:30 P.M. Hour L_{eq} (dBA)	24-Hour CNEL (dBA)	4:30–5:30 P.M. Hour L_{eq} (dBA)	9:00–10:00 P.M. Hour L_{eq} (dBA)	24-Hour CNEL (dBA)	
Grand Avenue												
North of 1st St.	Concert Hall	45	66.5	68.1	67.2	67.1	66.8	65.9	72.2	65.5	71.2	Normally Unacceptable
South of 1st St.	Concert Hall	45	66.0	67.0	66.1	66.8	66.6	65.6	71.2	64.4	70.2	Normally Unacceptable
North of 11th St.	Residential	45	65.3	65.6	64.7	64.2	64.0	63.0	70.6	63.7	69.6	Conditionally Acceptable
Between 11th and 12th St.	Residential	35	66.3	66.6	65.6	65.1	64.9	64.0	71.8	64.2	70.9	Normally Unacceptable
Between 12th St. and Venice Ave.	Residential/Hospital	35	66.6	66.6	65.6	65.0	65.4	64.5	72.0	64.2	71.0	Normally Unacceptable
Between Venice Ave. and 17th St.	Residential	35	66.6	66.8	65.8	65.3	65.9	64.9	72.2	64.4	71.3	Normally Unacceptable
Between 17th St. and Washington Ave.	Religious	35	65.6	65.0	64.0	64.2	64.0	63.0	70.2	62.0	69.2	Conditionally Acceptable
South of Washington Ave.	School	35	66.8	65.8	64.8	63.7	64.2	63.2	70.6	63.8	69.7	Conditionally Acceptable
Figueroa Street												
Between 2nd St. and 5th St.	Residential/Hotel	45	67.9	68.3	67.3	67.6	68.4	67.4	73.2	68.0	72.2	Normally Unacceptable
Between 5th St. and Wilshire Blvd.	Office[b]	45	70.1	71.1	70.1	68.6	69.1	68.1	73.7	69.4	72.8	Conditionally Acceptable
Between Wilshire Blvd. and 9th St.	Hotel	45	69.2	70.9	69.9	67.7	68.2	67.2	72.1	67.1	71.2	Normally Unacceptable
Between 9th St. and Olympic Blvd.	Residential/Hotel	45	69.5	70.6	69.7	67.5	67.7	66.7	71.2	65.8	70.2	Normally Unacceptable
Between Olympic Blvd. and Pico Blvd.	Hotel	45	70.3	71.6	70.6	68.2	68.6	67.7	71.7	66.3	70.7	Normally Unacceptable
South of Pico Blvd.	Residential	45	70.7	72.0	71.0	68.7	69.2	68.3	72.3	66.4	71.4	Normally Unacceptable
Flower Street												
North of 6th St.	Residential	45	65.5	67.3	66.3	65.2	64.6	63.6	70.6	65.5	69.6	Conditionally Acceptable
Between 6th St. and 8th St.	Residential	40	67.5	68.5	67.5	66.8	67.5	66.5	71.7	66.5	70.7	Normally Unacceptable
Between 8th and Pico Blvd.	Residential	40	66.9	67.1	66.1	65.2	65.6	64.6	70.9	64.2	69.9	Conditionally Acceptable
South of Pico Blvd.	Hotel	30	67.1	67.7	66.8	65.2	66.6	65.6	71.8	63.9	70.8	Normally Unacceptable
South of 18th St.	Residential	30	64.4	64.9	64.0	61.7	62.5	61.5	69.8	63.7	68.8	Conditionally Acceptable
Hope Street												
North of 1st St.	Concert Hall	40	64.7	66.4	65.4	65.9	66.7	65.7	70.5	63.6	69.5	Conditionally Acceptable
South of 1st St.	Concert Hall	45	64.9	65.5	64.5	64.6	66.7	65.7	70.8	64.1	69.8	Conditionally Acceptable
1st Street												
Between Hope St. and Grand Ave.	Concert Hall	50	67.4	68.7	67.7	67.3	67.5	66.5	71.3	64.5	70.3	Normally Unacceptable
2nd Street												
West of Figueroa St.	Residential	50	69.1	69.3	68.3	65.7	66.0	65.0	70.3	65.4	69.3	Conditionally Acceptable
East of Figueroa St.	Residential	45	68.1	68.1	67.1	65.1	65.8	64.8	69.2	64.5	68.3	Conditionally Acceptable

Table IV.E-8 (Continued)
Existing Roadway Traffic Noise Levels

Roadway Segment	Adjacent Noise-Sensitive Land Uses	Approximate Distance to Roadway Centerline (feet)	Calculated Traffic Noise Levels[a]									Compatibility Based on Existing Land Use and Ambient Noise Level
			Saturday			Sunday			Weekday			
			12:00–1:00 P.M. Hour L_{eq} (dBA)	4:30–5:30 P.M. Hour L_{eq} (dBA)	24-Hour CNEL (dBA)	12:00–1:00 P.M. Hour L_{eq} (dBA)	4:30–5:30 P.M. Hour L_{eq} (dBA)	24-Hour CNEL (dBA)	4:30–5:30 P.M. Hour L_{eq} (dBA)	9:00–10:00 P.M. Hour L_{eq} (dBA)	24-Hour CNEL (dBA)	
6th Street												
West of Lucas Ave.	Hospital	30	71.4	71.1	70.1	69.9	70.0	69.0	73.4	69.2	72.4	Normally Unacceptable
Between Lucas Ave. & Bixel St.	Residential	30	71.0	70.5	69.6	69.1	69.4	68.4	73.4	68.4	72.4	Normally Unacceptable
East of Bixel St.	Residential	30	71.1	70.7	69.7	68.8	69.1	68.1	73.1	67.7	72.1	Normally Unacceptable
East of Flower St.	Residential	30	71.3	70.9	69.9	70.2	68.4	67.4	72.0	68.9	71.1	Normally Unacceptable
West of Main St.	Residential	30	70.1	69.3	68.3	69.3	67.9	66.9	70.9	66.9	70.0	Normally Unacceptable
East of Main St.	Residential	30	69.4	68.6	67.6	68.7	66.7	65.7	70.5	65.5	69.5	Conditionally Acceptable
Olympic Boulevard												
West of Alvarado St.	Commercial[b]	50	72.1	71.6	70.6	70.6	70.8	69.9	73.0	69.1	72.1	Conditionally Acceptable
Between Alvarado St. & Union Ave.	Religious	50	71.8	71.1	70.1	70.5	70.4	69.4	72.6	69.0	71.7	Normally Unacceptable
Between Union Ave. & Blaine St.	School/Religious	50	71.6	70.9	69.9	69.9	69.7	68.7	72.1	68.2	71.1	Normally Unacceptable
Between Blaine St. & Georgia St.	School	50	71.9	71.4	70.4	70.2	69.6	68.6	71.8	68.2	70.8	Normally Unacceptable
Between Georgia St. & Francisco St.	Residential/Hotel	50	71.9	71.6	70.6	70.5	69.6	68.6	71.8	68.3	70.8	Normally Unacceptable
Between Francisco St. & Figueroa St.	Hotel	50	71.6	71.5	70.6	70.2	69.7	68.7	71.9	68.1	70.9	Normally Unacceptable
Between Figueroa St. and Flower St.	Commercial[b]	45	71.8	71.4	70.5	70.3	69.7	68.7	72.0	67.6	71.0	Conditionally Acceptable
East of Flower St.	Residential	45	71.0	70.6	69.7	69.3	68.8	67.9	71.3	66.6	70.3	Normally Unacceptable
W. 11th Street												
West of Blaine St.	Residential	30	66.3	67.8	66.9	66.6	66.1	65.1	67.6	64.7	66.6	Conditionally Acceptable
Between Blaine St. & L A Live Wy.	Residential	30	68.3	69.4	68.4	68.0	67.3	66.3	68.8	63.6	67.8	Conditionally Acceptable
East of L A Live Wy.	Auditorium	40	66.3	67.1	66.2	64.8	62.5	61.5	64.6	60.1	63.6	Conditionally Acceptable
West of Grand Ave.	Residential	30	64.1	65.6	64.6	63.9	63.5	62.6	67.0	61.8	66.0	Conditionally Acceptable
East of Grand Ave.	Residential	30	62.0	65.2	64.2	63.3	62.9	61.9	67.2	60.0	66.3	Conditionally Acceptable
Pico Boulevard												
West of Alvarado St.	Religious	40	71.5	71.5	70.6	71.0	70.8	69.8	71.9	67.7	70.9	Normally Unacceptable
Between Alvarado St. & Union Ave.	Commercial[b]	40	71.5	71.5	70.5	71.4	71.2	70.2	71.9	67.7	71.0	Conditionally Acceptable
Between Union Ave. & Figueroa St.	Residential	40	71.0	71.0	70.1	70.2	70.4	69.4	72.3	66.6	71.3	Normally Unacceptable
Between Figueroa St. & Flower St.	Residential/Hotel	45	68.3	68.8	67.9	67.6	68.3	67.3	71.3	64.0	70.3	Normally Unacceptable
East of Hill St.	Motel	35	68.5	67.6	66.6	66.9	66.2	65.3	70.0	61.0	69.0	Conditionally Acceptable
Blaine Street												
North of I-110 SB Off-Ramp	Residential	30	69.8	69.2	68.2	68.6	67.3	66.3	69.0	67.3	68.0	Conditionally Acceptable
Between I-110 SB Off-Ramp & 11th St.	Residential	30	68.7	68.8	67.8	68.5	67.6	66.6	69.1	66.7	68.1	Conditionally Acceptable

Table IV.E-8 (Continued)
Existing Roadway Traffic Noise Levels

Roadway Segment	Adjacent Noise-Sensitive Land Uses	Approximate Distance to Roadway Centerline (feet)	Calculated Traffic Noise Levels[a]									Compatibility Based on Existing Land Use and Ambient Noise Level
			Saturday			Sunday			Weekday			
			12:00–1:00 P.M. Hour L_{eq} (dBA)	4:30–5:30 P.M. Hour L_{eq} (dBA)	24-Hour CNEL (dBA)	12:00–1:00 P.M. Hour L_{eq} (dBA)	4:30–5:30 P.M. Hour L_{eq} (dBA)	24-Hour CNEL (dBA)	4:30–5:30 P.M. Hour L_{eq} (dBA)	9:00–10:00 P.M. Hour L_{eq} (dBA)	24-Hour CNEL (dBA)	
Venice Boulevard												
East of Olive St.	School	30	67.6	66.9	65.9	66.3	65.6	64.7	70.7	62.0	69.7	Conditionally Acceptable
W. 12th Street												
West of Grand Ave.	Residential	30	62.7	61.1	60.2	59.8	59.5	58.5	63.8	60.0	62.9	Conditionally Acceptable
E. 17th Street												
West of Grand Ave.	Residential	30	70.3	70.3	69.3	68.9	68.7	67.8	73.3	66.7	72.3	Normally Unacceptable
W. 18th Street												
West of Flower St.	Residential	30	58.9	60.8	59.8	56.5	56.4	55.4	59.7	54.4	58.7	Normally Acceptable
West of Grand Ave.	Church	30	58.1	60.5	59.6	56.5	55.7	54.7	60.8	52.3	59.8	Normally Acceptable
Washington Boulevard												
West of Flower St.	School/Religious	50	70.2	69.7	68.7	68.9	68.1	67.1	71.4	66.2	70.4	Normally Unacceptable
Between Flower St. & Grand Ave.	School/Religious	50	69.7	69.0	68.1	68.1	67.3	66.3	70.8	65.1	69.8	Conditionally Acceptable
Between Grand Ave. & Los Angeles St.	School/Religious	50	69.1	68.5	67.5	67.4	66.7	65.7	71.2	64.8	70.2	Normally Unacceptable
East of Los Angeles St..	Residential	50	68.8	68.1	67.2	67.0	66.3	65.3	71.5	64.2	70.5	Normally Unacceptable
W. 39th Street												
West of I-110 Freeway	Residential	45	64.7	65.2	64.2	62.9	64.1	63.1	69.0	60.0	68.0	Conditionally Acceptable
East of I-110 Freeway	Residential	35	64.5	64.6	63.6	61.8	63.1	62.1	69.5	59.4	68.5	Conditionally Acceptable
Alvarado Street												
North of 8th St.	Commercial/Park	40	71.6	71.6	70.6	70.8	71.7	70.7	72.7	69.2	71.7	Normally Unacceptable
Between 8th St. & Olympic Blvd.	Motel	40	71.7	71.7	70.7	70.8	71.4	70.4	72.6	68.9	71.6	Normally Unacceptable
Between Olympic Blvd. & Pico Blvd.	Residential	40	71.3	71.4	70.5	70.7	71.0	70.1	71.9	68.0	70.9	Normally Unacceptable
Between Pico Blvd. & Hoover St.	Residential/Religious	40	70.5	70.8	69.8	70.2	70.7	69.7	71.7	68.1	70.7	Normally Unacceptable
Union Avenue												
North of Olympic Blvd.	Religious	30	71.8	71.3	70.3	71.0	71.7	70.7	72.3	68.2	71.3	Normally Unacceptable
Between Olympic Blvd. & Pico Blvd.	Residential	30	71.2	70.9	69.9	70.9	71.6	70.6	71.7	67.6	70.7	Normally Unacceptable
South of Pico Blvd.	Residential	30	70.2	69.6	68.6	70.9	71.4	70.4	70.8	66.3	69.9	Conditionally Acceptable
Lucas Ave.												
North of 6th St.	Residential/School	30	66.0	66.6	65.6	66.0	66.0	65.0	70.4	64.6	69.4	Conditionally Acceptable
South of 6th St.	Hospital	30	64.4	64.2	63.3	64.1	64.4	63.4	69.7	62.2	68.8	Conditionally Acceptable
Bixel Street												
North of 8th St.	Residential	30	65.7	65.1	64.1	63.8	63.9	62.9	68.7	63.2	67.7	Conditionally Acceptable
Between 8th St. & Wilshire Blvd.	Residential	30	66.4	66.4	65.4	65.0	64.9	64.0	69.5	64.7	68.5	Conditionally Acceptable
Between Wilshire Blvd. & 6th St.	Residential	30	69.0	68.7	67.8	68.1	68.5	67.5	69.6	68.3	68.6	Conditionally Acceptable

Table IV.E-8 (Continued)
Existing Roadway Traffic Noise Levels

Roadway Segment	Adjacent Noise-Sensitive Land Uses	Approximate Distance to Roadway Centerline (feet)	Calculated Traffic Noise Levels[a]									Compatibility Based on Existing Land Use and Ambient Noise Level
			Saturday			Sunday			Weekday			
			12:00–1:00 P.M. Hour L_{eq} (dBA)	4:30–5:30 P.M. Hour L_{eq} (dBA)	24-Hour CNEL (dBA)	12:00–1:00 P.M. Hour L_{eq} (dBA)	4:30–5:30 P.M. Hour L_{eq} (dBA)	24-Hour CNEL (dBA)	4:30–5:30 P.M. Hour L_{eq} (dBA)	9:00–10:00 P.M. Hour L_{eq} (dBA)	24-Hour CNEL (dBA)	
Adams Boulevard												
West of Flower St.	Religious	35	72.7	72.8	71.8	71.0	71.1	70.1	73.9	70.0	73.0	Normally Unacceptable
Between Flower St. & Grand Ave.	Hospital	35	71.6	71.4	70.4	70.0	69.9	68.9	72.5	68.2	71.6	Normally Unacceptable
Between Grand Ave. & Main St.	Commercial[b]	35	70.9	70.0	69.0	69.4	68.9	67.9	71.6	66.6	70.7	Conditionally Acceptable
East of Main St.	Residential	35	70.8	69.8	68.8	69.2	68.7	67.7	71.4	66.7	70.4	Normally Unacceptable
Wilshire Boulevard												
West of Bixel St.	Residential	35	70.4	70.4	69.5	69.8	69.9	68.9	72.6	68.9	71.7	Normally Unacceptable
Between Bixel St. & Figueroa St.	Residential/Hotel	35	69.9	70.0	69.1	69.2	69.2	68.3	72.4	68.5	71.4	Normally Unacceptable
East of Figueroa St.	Office[b]	35	68.6	68.8	67.8	67.9	67.8	66.8	71.3	67.7	70.3	Normally Unacceptable

[a] *Detailed calculation worksheets are included in Appendix L.*
[b] *Not considered as noise-sensitive uses, per LA CEQA Threshold Guides.*
Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-9
Noise Emission Reference Levels and Usage Factors

Type of Equipment	Acoustical Usage Factor (%)	Reference Maximum Noise Levels at 50 Feet[a] L_{max} (dBA)
Backhoe	40	78
Concrete Pump	20	81
Concrete Truck	40	79
Crane, Mobile	16	81
Dozer	40	82
Drill Rig	20	84
Excavator	40	81
Forklift	50	75
Impact Pile Driver	20	101
Loader	40	79
Skid Steer Loader	40	79
Dump/Haul/Delivery Truck	40	76
Water Truck	20	82

[a] *Construction equipment noise levels are based on the FHWA RCNM. These levels are based on actual measurement of construction equipment made in the 1990s for the Central Artery/Tunnel project in Boston, Massachusetts, which are newer data than those published in the L.A. CEQA Thresholds Guide, which is based on the 1971 EPA (Environmental Protection Agency) document. Use of FHWA RCNM noise data is consistent with the L.A. CEQA Thresholds Guide allowance for the use of other applicable references.*

Source: Refer to page 89 of Noise Impact Study—Convention Center Modernization & Farmers Field Project, included as Appendix L.

Table IV.E-10
Construction Noise Levels—Bond Street Garage

Location	Distance to Project's Nearest Boundary of Construction Site[a] (feet)	Estimated Construction Noise Levels by Construction Activities Hourly L_{eq} (dBA)						Significance Threshold[b] L_{eq} (dBA)		Significant Impacts?	
		Demolition	Excavation/ Grading	Foundation	Concrete/ Steel/ Precast Frame	Interior/ Exterior	Sitework/ Landscaping	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.– 12:00 A.M.)	Daytime Hours (7:00 A.M.– 9:00 P.M.)	Late Evening Hours (9:00 P.M.– 12:00 A.M.)
R1	1,700	41.7	42.1	45.6	43.8	42.4	44.8	67.2	64.8	No	No
R2	1,400	43.4	43.7	47.3	45.4	44.1	46.4	73.7	66.9	No	No
R3	1,530	42.6	43.0	46.5	44.7	43.3	45.7	61.2	59.2	No	No
R4	525	51.9	52.3	55.8	54.0	52.6	55.0	63.9	59.2	No	No
R5	900	47.2	47.6	51.1	49.3	47.9	50.3	59.3	55.1	No	No
R6	590	50.9	51.2	54.8	52.9	51.6	53.9	61.1	57.2	No	No
R7	1,315	43.9	44.3	47.8	46.0	44.6	47.0	68.5	63.6	No	No
R8	1,945	40.5	40.9	44.4	42.6	41.2	43.6	62.3	59.2	No	No
R9	2,190	39.5	39.9	43.4	41.6	40.2	42.6	62.0	62.3	No	No
R10	2,655	37.8	38.2	41.7	39.9	38.5	40.9	74.7	71.1	No	No
R11	3,120	36.4	36.8	40.3	38.5	37.1	39.5	71.7	68.2	No	No
R12	3,000	36.8	37.1	40.6	38.8	37.5	39.8	73.8	67.1	No	No
R13	2,435	38.6	38.9	42.5	40.6	39.3	41.6	70.2	65.4	No	No
R14	2,590	38.0	38.4	41.9	40.1	38.8	41.1	67.3	62.6	No	No
R15	2,105	39.8	40.2	43.7	41.9	40.6	42.9	66.5	61.4	No	No
R16	2,745	37.5	37.9	41.4	39.6	38.3	40.6	72.9	66.0	No	No
R17	2,895	37.1	37.4	41.0	39.1	37.8	40.1	64.7	61.1	No	No
R18	1,575	42.4	42.7	46.2	44.4	43.1	45.4	72.2	71.7	No	No
R19	1,880	40.8	41.2	44.7	42.9	41.5	43.9	66.2	62.2	No	No

Table IV.E-10 (Continued)
Construction Noise Levels—Bond Street Parking Garage

Location	Distance to Project's Nearest Boundary of Construction Site[a] (feet)	Estimated Construction Noise Levels by Construction Activities Hourly L_{eq} (dBA)						Significance Threshold[b] L_{eq} (dBA)		Significant Impacts?	
		Demolition	Excavation/ Grading	Foundation	Concrete/ Steel/ Precast Frame	Interior/ Exterior	Sitework/ Landscaping	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.– 12:00 A.M.)	Daytime Hours (7:00 A.M.– 9:00 P.M.)	Late Evening Hours (9:00 P.M.– 12:00 A.M.)
R20	2,425	38.6	39.0	42.5	40.7	39.3	41.7	62.0	61.6	No	No
R21	2,450	38.5	38.9	42.4	40.6	39.2	41.6	60.0	52.2	No	No
R22	1,865	40.9	41.2	44.8	42.9	41.6	44.0	66.6	57.2	No	No
R23	1,510	42.7	43.1	46.6	44.8	43.4	45.8	61.7	52.5	No	No
R24	1,395	43.4	43.8	47.3	45.5	44.1	46.5	71.4	63.2	No	No
R25	1,515	42.7	43.1	46.6	44.8	43.4	45.8	61.3	57.5	No	No
R26	640	60.2	60.5	64.1	62.2	60.9	63.2	65.1	64.8	No	No

[a] *Represents shortest distance between the noise-sensitive receptor and construction area. Estimated based on Google Earth Map.*

[b] *Significance threshold is equal to ambient plus 5 dBA during the daytime hours and ambient plus 3 dBA during the late evening hours.*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-11
Construction Noise Levels—New Hall

Location	Distance to Project's Nearest Boundary of Construction Site[a] (feet)	Estimated Construction Noise Levels by Construction Activities Hourly L_{eq} (dBA)							Significance Threshold[b] L_{eq} (dBA)		Significant Impacts?	
		Demolition	Excavation/ Grading	Deep Foundation (Driven Piles)	Deep Foundation (Drilled Piles)	Concrete/ Steel/ Precast Frame	Interior/ Exterior	Sitework/ Landscaping	Daytime Hours (7:00 A.M.– 9:00 P.M.)	Late Evening Hours (9:00 P.M.– 12:00 A.M.)	Daytime Hours (7:00 A.M.– 9:00 P.M.)	Late Evening Hours (9:00 P.M.– 12:00 A.M.)
R1	1,247	59.0	57.2	66.6	58.2	59.0	62.9	58.0	67.2	64.8	No	No
R2	620	55.1	53.3	62.7	54.2	55.1	58.9	54.1	73.7	66.9	No	No
R3	880	52.0	50.2	59.7	51.2	52.0	55.9	51.0	61.2	59.2	No	No
R4	755	53.4	51.5	61.0	52.5	53.4	57.2	52.4	63.9	59.2	No	No
R5	1,090	50.2	48.4	57.8	49.3	50.2	54.0	49.2	59.3	55.1	No	No
R6	625	55.0	53.2	62.6	54.2	55.0	58.9	54.0	61.1	57.2	Yes	Yes
R7	1,065	50.4	48.6	58.0	49.5	50.4	54.2	49.4	68.5	63.6	No	No
R8	1,830	45.7	43.8	53.3	44.8	45.7	49.5	44.7	62.3	59.2	No	No
R9	1,965	45.1	43.2	52.7	44.2	45.1	48.9	44.0	62.0	62.3	No	No
R10	1,990	45.0	43.1	52.6	44.1	45.0	48.8	43.9	74.7	71.1	No	No
R11	2,701	42.3	40.5	49.9	41.4	42.3	46.1	41.3	71.7	68.2	No	No
R12	2,220	44.0	42.2	51.6	43.2	44.0	47.8	43.0	73.8	67.1	No	No
R13	1,630	46.7	44.9	54.3	45.8	46.7	50.5	45.7	70.2	65.4	No	No
R14	1,755	46.0	44.2	53.7	45.2	46.0	49.9	45.0	67.3	62.6	No	No
R15	1,400	48.0	46.2	55.6	47.2	48.0	51.8	47.0	66.5	61.4	No	No
R16	2,150	44.3	42.4	51.9	43.4	44.3	48.1	43.3	72.9	66.0	No	No
R17	2,640	42.5	40.7	50.1	41.6	42.5	46.3	41.5	64.7	61.1	No	No
R18	1,520	47.3	45.5	54.9	46.4	47.3	51.1	46.3	72.2	71.7	No	No
R19	1,855	45.6	43.7	53.2	44.7	45.6	49.4	44.5	66.2	62.2	No	No

Table IV.E-11 (Continued)
Construction Noise Levels—New Hall

Location	Distance to Project's Nearest Boundary of Construction Site[a] (feet)	Estimated Construction Noise Levels by Construction Activities Hourly L_{eq} (dBA)							Significance Threshold[b] L_{eq} (dBA)		Significant Impacts?	
		Demolition	Excavation/ Grading	Deep Foundation (Driven Piles)	Deep Foundation (Drilled Piles)	Concrete/ Steel/ Precast Frame	Interior/ Exterior	Sitework/ Landscaping	Daytime Hours (7:00 A.M.– 9:00 P.M.)	Late Evening Hours (9:00 P.M.– 12:00 A.M.)	Daytime Hours (7:00 A.M.– 9:00 P.M.)	Late Evening Hours (9:00 P.M.– 12:00 A.M.)
R20	2,555	42.8	41.0	50.4	41.9	42.8	46.6	41.8	62.0	61.6	No	No
R21	2,595	42.6	40.8	50.3	41.8	42.6	46.5	41.6	60.0	52.2	No	No
R22	2,090	44.5	42.7	52.2	43.7	44.5	48.4	43.5	66.6	57.2	No	No
R23	1,720	46.2	44.4	53.9	45.4	46.2	50.1	45.2	61.7	52.5	No	No
R24	1,600	46.8	45.0	54.5	46.0	46.8	50.7	45.8	71.4	63.2	No	No
R25	1,590	46.9	45.1	54.5	46.1	46.9	50.7	45.9	61.3	57.5	No	No
R26	690	64.2	62.3	71.8	63.3	64.2	68.0	63.1	65.1	64.8	Yes	Yes

[a] *Represents shortest distance between the noise-sensitive receptor and construction area. Estimated based on Google Earth Map.*

[b] *Significance threshold is equal to ambient plus 5 dBA during the daytime hours and ambient plus 3 dBA during the late evening hours.*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-12
Construction Noise Levels—L.A. Live Way Garage

Location	Distance to Project's Nearest Boundary of Construction Site[a] (feet)	Estimated Construction Noise Levels by Construction Activities Hourly L_{eq} (dBA)						Significance Threshold[b] L_{eq} (dBA)		Significant Impacts?	
		Demolition	Excavation/ Shoring	Foundation	Concrete/ Steel/ Precast Frame	Interior/ Exterior	Sitework/ Landscaping	Daytime Hours (7:00 A.M.– 9:00 P.M.)	Late Evening Hours (9:00 P.M.– 12:00 A.M.)	Daytime Hours (7:00 A.M.– 9:00 P.M.)	Late Evening Hours (9:00 P.M.– 12:00 A.M.)
R1	855	52.4	51.9	51.5	52.8	48.8	51.0	67.2	64.8	No	No
R2	1,455	47.8	47.3	46.9	48.2	44.2	46.4	73.7	66.9	No	No
R3	1,700	46.5	46.0	45.6	46.8	42.8	45.1	61.2	59.2	No	No
R4	890	52.1	51.6	51.2	52.4	48.5	50.7	63.9	59.2	No	No
R5	810	52.9	52.4	52.0	53.3	49.3	51.5	59.3	55.1	No	No
R6	275	62.3	61.8	61.4	62.6	58.7	60.9	61.1	57.2	Yes	Yes
R7	250	63.1	62.6	62.2	63.5	59.5	61.7	68.5	63.6	No	No
R8	1,155	49.8	49.3	48.9	50.2	46.2	48.4	62.3	59.2	No	No
R9	1,080	50.4	49.9	49.5	50.8	46.8	49.0	62.0	62.3	No	No
R10	1,925	45.4	44.9	44.5	45.7	41.8	44.0	74.7	71.1	No	No
R11	2,710	42.4	41.9	41.5	42.8	38.8	41.0	71.7	68.2	No	No
R12	2,480	43.2	42.7	42.3	43.5	39.6	41.8	73.8	67.1	No	No
R13	2,065	44.8	44.3	43.9	45.1	41.1	43.4	70.2	65.4	No	No
R14	2,570	42.9	42.4	42.0	43.2	39.2	41.5	67.3	62.6	No	No
R15	1,450	47.9	47.4	47.0	48.2	44.2	46.5	66.5	61.4	No	No
R16	2,670	42.6	42.1	41.7	42.9	38.9	41.2	72.9	66.0	No	No
R17	3,280	40.8	40.3	39.9	41.1	37.1	39.4	64.7	61.1	No	No
R18	2,015	45.0	44.5	44.1	45.3	41.4	43.6	72.2	71.7	No	No
R19	2,315	43.8	43.3	42.9	44.1	40.2	42.4	66.2	62.2	No	No

Table IV.E-12 (Continued)
Construction Noise Levels—L.A. LIVE Way Parking Garage

Location	Distance to Project's Nearest Boundary of Construction Site[a] (feet)	Estimated Construction Noise Levels by Construction Activities Hourly L_{eq} (dBA)						Significance Threshold[b] L_{eq} (dBA)		Significant Impacts?	
		Demolition	Excavation/ Shoring	Foundation	Concrete/ Steel/ Precast Frame	Interior/ Exterior	Sitework/ Landscaping	Daytime Hours (7:00 A.M.– 9:00 P.M.)	Late Evening Hours (9:00 P.M.– 12:00 A.M.)	Daytime Hours (7:00 A.M.– 9:00 P.M.)	Late Evening Hours (9:00 P.M.– 12:00 A.M.)
R20	2,910	41.8	41.3	40.9	42.1	38.2	40.4	62.0	61.6	No	No
R21	2,925	41.8	41.3	40.9	42.1	38.1	40.4	60.0	52.2	No	No
R22	2,190	44.3	43.8	43.4	44.6	40.6	42.9	66.6	57.2	No	No
R23	1,495	47.6	47.1	46.7	47.9	44.0	46.2	61.7	52.5	No	No
R24	1,235	49.3	48.8	48.4	49.6	45.6	47.9	71.4	63.2	No	No
R25	1,210	49.4	48.9	48.5	49.8	45.8	48.0	61.3	57.5	No	No
R26	1,120	60.1	59.6	59.2	60.4	56.5	58.7	65.1	64.8	No	No

[a] *Represent shortest distance between the noise-sensitive receptor and construction area. Estimated based on Google Earth Map.*

[b] *Significance threshold is equal to ambient plus 5 dBA during the daytime hours and ambient plus 3 dBA during the late evening hours.*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-13
Construction Noise Levels—Event Center

Location	Distance to Project's Nearest Boundary of Construction Site[a] (feet)	Estimated Construction Noise Levels by Construction Activities Hourly L_{eq} (dBA)							Significance Threshold[b] L_{eq} (dBA)		Significant Impacts?	
		Demolition	Excavation	Shoring/Deep Foundation (Driven Piles)	Shoring/Deep Foundation (Drilled Piles)	Concrete/ Steel/ Precast Frame	Interior/ Exterior	Sitework/ Landscaping	Daytime Hours (7:00 A.M.– 9:00 P.M.)	Late Evening Hours (9:00 P.M.– 12:00 A.M.)	Daytime Hours (7:00 A.M.– 9:00 P.M.)	Late Evening Hours (9:00 P.M.– 12:00 A.M.)
R1	465	67.3	68.2	75.1	66.2	68.3	71.2	68.2	67.2	64.8	Yes	Yes
R2	680	54.0	54.9	61.8	52.9	55.0	57.9	54.9	73.7	66.9	No	No
R3	1,125	49.6	50.5	57.5	48.5	50.6	53.5	50.5	61.2	59.2	No	No
R4	1,220	48.9	49.8	56.8	47.8	49.9	52.8	49.8	63.9	59.2	No	No
R5	1,215	48.9	49.9	56.8	47.9	50.0	52.9	49.8	59.3	55.1	No	No
R6	610	54.9	55.8	62.8	53.9	56.0	58.9	55.8	61.1	57.2	Yes	Yes
R7	420	58.2	59.1	66.0	57.1	59.2	62.1	59.1	68.5	63.6	No	No
R8	1,385	47.8	48.7	55.7	46.7	48.8	51.7	48.7	62.3	59.2	No	No
R9	1,270	48.6	49.5	56.4	47.5	49.6	52.5	49.5	62.0	62.3	No	No
R10	1,300	48.4	49.3	56.2	47.3	49.4	52.3	49.3	74.7	71.1	No	No
R11	2,075	44.3	45.2	52.2	43.2	45.3	48.2	45.2	71.7	68.2	No	No
R12	1,725	45.9	46.8	53.8	44.8	46.9	49.8	46.8	73.8	67.1	No	No
R13	1,245	48.7	49.6	56.6	47.7	49.8	52.7	49.6	70.2	65.4	No	No
R14	1,730	45.9	46.8	53.7	44.8	46.9	49.8	46.8	67.3	62.6	No	No
R15	1,575	46.7	47.6	54.6	45.6	47.7	50.6	47.6	66.5	61.4	No	No
R16	2,365	43.2	44.1	51.0	42.1	44.2	47.1	44.1	72.9	66.0	No	No
R17	2,965	41.2	42.1	49.1	40.1	42.2	45.1	42.1	64.7	61.1	No	No
R18	2,000	44.6	45.5	52.5	43.5	45.6	48.5	45.5	72.2	71.7	No	No
R19	2,365	43.2	44.1	51.0	42.1	44.2	47.1	44.1	66.2	62.2	No	No

Table IV.E-13 (Continued)
Construction Noise Levels—Event Center

Location	Distance to Project's Nearest Boundary of Construction Site[a] (feet)	Estimated Construction Noise Levels by Construction Activities Hourly L_{eq} (dBA)							Significance Threshold[b] L_{eq} (dBA)		Significant Impacts?	
		Demolition	Excavation	Shoring/Deep Foundation (Driven Piles)	Shoring/Deep Foundation (Drilled Piles)	Concrete/ Steel/ Precast Frame	Interior/ Exterior	Sitework/ Landscaping	Daytime Hours (7:00 A.M.– 9:00 P.M.)	Late Evening Hours (9:00 P.M.– 12:00 A.M.)	Daytime Hours (7:00 A.M.– 9:00 P.M.)	Late Evening Hours (9:00 P.M.– 12:00 A.M.)
R20	3,115	40.8	41.7	48.6	39.7	41.8	44.7	41.7	62.0	61.6	No	No
R21	3,155	40.7	41.6	48.5	39.6	41.7	44.6	41.6	60.0	52.2	No	No
R22	2,555	42.5	43.4	50.3	41.4	43.5	46.4	43.4	66.6	57.2	No	No
R23	1,905	45.0	46.0	52.9	44.0	46.1	49.0	45.9	61.7	52.5	No	No
R24	1,590	46.6	47.5	54.5	45.5	47.6	50.5	47.5	71.4	63.2	No	No
R25	1,530	46.9	47.9	54.8	45.9	48.0	50.9	47.8	61.3	57.5	No	No
R26	1,250	48.7	49.6	56.6	47.6	49.7	52.6	49.6	65.1	64.8	No	No

[a] *Represent shortest distance between the noise-sensitive receptor and construction area. Estimated based on Google Earth Map.*

[b] *Significance threshold is equal to ambient plus 5 dBA during the daytime hours and ambient plus 3 dBA during the late evening hours.*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-14
Overlapping Construction Noise Levels—Daytime Hours (7:00 A.M.–9:00 P.M.)

Location	Estimated Construction Noise Levels by Month with Overlapping of Construction Activities[a] Hourly L_{eq} (dBA)																							Significance Threshold[b] L_{eq} (dBA)	Significant Impacts?
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
R1	59.2	61.3	61.3	67.1	66.6	**67.3**	**67.3**	**68.7**	**68.7**	64.5	64.7	64.7	64.9	64.8	63.2	**69.2**	**69.2**	**69.1**	**70.9**	**70.0**	**76.3**	**76.3**	**76.3**	**76.9**	67.2	**Yes**
R2	55.7	57.7	57.7	63.2	62.8	63.5	63.5	64.8	64.8	60.7	60.6	60.6	60.8	60.8	59.2	61.5	61.5	61.3	58.0	57.2	63.1	63.2	63.2	63.8	73.7	No
R3	52.9	54.9	54.9	60.3	59.8	60.5	60.5	**61.9**	**61.9**	57.8	57.7	57.7	58.0	57.9	56.3	58.4	58.4	58.2	54.0	53.4	58.9	59.0	59.0	59.6	61.2	**Yes**
R4	57.4	58.7	58.7	62.2	61.8	62.4	62.4	**64.1**	**64.1**	60.9	59.6	59.6	60.2	60.1	58.2	60.3	60.3	59.8	55.4	55.0	59.0	59.4	59.4	59.8	63.9	**Yes**
R5	53.3	54.8	54.8	58.8	58.4	59.0	59.0	**60.6**	**60.6**	57.2	57.4	57.4	58.6	58.4	56.1	58.9	58.9	58.0	55.9	55.6	59.2	**59.7**	**59.7**	**60.1**	59.3	**Yes**
R6	57.6	59.2	59.2	**63.5**	**63.0**	**63.7**	**63.7**	**65.3**	**65.3**	**61.7**	**64.5**	**64.5**	**66.3**	**66.0**	**63.3**	**66.6**	**66.6**	**65.0**	**64.0**	**63.8**	**66.3**	**67.0**	**67.0**	**67.4**	61.1	**Yes**
R7	52.1	53.8	53.8	58.7	58.3	58.9	58.9	60.4	60.4	56.5	63.8	63.8	66.3	65.9	62.8	66.9	66.9	65.1	65.7	65.4	**68.7**	**69.2**	**69.2**	**69.6**	68.5	**Yes**
R8	47.8	49.5	49.5	54.1	53.7	54.3	54.3	55.8	55.8	52.1	53.5	53.5	54.9	54.6	52.2	55.6	55.6	54.5	53.8	53.3	57.7	58.0	58.0	58.5	62.3	No
R9	47.1	48.8	48.8	53.5	53.0	53.7	53.7	55.2	55.2	51.4	53.4	53.4	55.0	54.7	52.2	55.8	55.8	54.7	54.5	54.0	58.4	58.7	58.7	59.2	62.0	No
R10	46.5	48.3	48.3	53.3	52.8	53.5	53.5	54.9	54.9	51.0	51.5	51.5	52.4	52.2	50.2	53.7	53.7	53.2	52.8	52.1	57.6	57.8	57.8	58.3	74.7	No
R11	44.2	45.9	45.9	50.6	50.2	50.9	50.9	52.3	52.3	48.6	48.8	48.8	49.6	49.4	47.4	50.6	50.6	50.0	49.0	48.4	53.7	53.8	53.8	54.4	71.7	No
R12	45.4	47.3	47.3	52.3	51.8	52.5	52.5	53.9	53.9	50.0	50.3	50.3	51.0	50.8	48.9	52.0	52.0	51.5	50.4	49.7	55.2	55.4	55.4	55.9	73.8	No
R13	47.9	49.8	49.8	54.9	54.5	55.2	55.2	56.6	56.6	52.6	52.8	52.8	53.3	53.2	51.4	54.5	54.5	54.1	53.0	52.3	58.0	58.1	58.1	58.7	70.2	No
R14	47.2	49.1	49.1	54.3	53.9	54.5	54.5	56.0	56.0	52.0	52.0	52.0	52.4	52.3	50.6	53.1	53.1	52.8	50.3	49.7	55.1	55.3	55.3	55.8	67.3	No
R15	49.2	51.1	51.1	56.2	55.8	56.5	56.5	57.9	57.9	53.9	54.4	54.4	55.2	55.0	53.0	55.6	55.6	55.0	52.3	51.8	56.4	56.7	56.7	57.2	66.5	No
R16	45.9	47.6	47.6	52.6	52.1	52.8	52.8	54.3	54.3	50.4	50.4	50.4	51.0	50.9	49.0	51.5	51.5	51.0	48.2	47.6	52.6	52.8	52.8	53.4	72.9	No
R17	44.5	46.2	46.2	50.9	50.4	51.1	51.1	52.6	52.6	48.8	48.6	48.6	49.2	49.1	47.2	49.7	49.7	49.2	46.3	45.7	50.7	50.9	50.9	51.5	64.7	No
R18	49.5	51.2	51.2	55.7	55.3	55.9	55.9	57.4	57.4	53.8	53.3	53.3	53.8	53.7	51.9	54.1	54.1	53.7	49.9	49.4	54.2	54.5	54.5	55.0	72.2	No
R19	47.9	49.5	49.5	54.0	53.6	54.2	54.2	55.8	55.8	52.1	51.7	51.7	52.3	52.2	50.3	52.6	52.6	52.1	48.6	48.1	52.8	53.0	53.0	53.6	66.2	No
R20	45.3	46.9	46.9	51.3	50.8	51.5	51.5	53.0	53.0	49.4	49.0	49.0	49.7	49.6	47.6	50.1	50.1	49.5	46.3	45.8	50.4	50.7	50.7	51.2	62.0	No
R21	45.2	46.8	46.8	51.2	50.7	51.4	51.4	52.9	52.9	49.3	48.9	48.9	49.6	49.5	47.6	50.0	50.0	49.4	46.3	45.8	50.4	50.6	50.6	51.1	60.0	No
R22	47.3	48.9	48.9	53.1	52.7	53.3	53.3	54.9	54.9	51.4	50.9	50.9	51.7	52.3	50.8	52.7	52.7	51.4	48.4	47.9	52.3	52.6	52.6	53.1	66.6	No
R23	49.1	50.6	50.6	54.8	54.4	55.0	55.0	56.6	56.6	53.1	53.0	53.0	54.0	53.8	51.7	54.4	54.4	53.6	51.2	50.8	55.0	55.3	55.3	55.8	61.7	No
R24	49.7	51.2	51.2	55.4	55.0	55.6	55.6	57.2	57.2	53.7	54.0	54.0	55.1	54.9	52.7	55.6	55.6	54.7	52.9	52.4	56.6	56.9	56.9	57.4	71.4	No
R25	49.4	51.0	51.0	55.4	54.9	55.6	55.6	57.1	57.1	53.5	54.0	54.0	55.2	55.0	52.7	55.7	55.7	54.8	53.1	52.7	56.9	57.2	57.2	57.7	61.3	No
R26	66.8	**68.4**	**68.4**	**72.7**	**72.3**	**72.9**	**72.9**	**74.4**	**74.4**	**70.9**	**70.0**	**70.0**	**70.4**	**70.3**	**68.5**	**70.2**	**70.2**	**69.8**	61.0	60.9	62.3	63.3	63.3	63.5	65.1	**Yes**

[a] *Refer to Table 18 of the Noise Study provided in Appendix L for the Project construction schedule..*

[b] *Significance threshold is equal to ambient plus 5 dBA.*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-14 (Continued)
Overlapping Construction Noise Levels—Daytime Hours (7:00 A.M.–9:00 P.M.)

Location	Estimated Construction Noise Levels by Month with Overlapping of Construction Activities[a] Hourly L_{eq} (dBA)																							Significance Threshold[b] L_{eq} (dBA)	Maximum Exceedance	Significant Impacts?
	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48			
R1	**76.9**	**76.9**	**76.9**	**76.9**	**76.9**	**77.5**	**77.2**	**73.0**	**73.0**	**73.0**	**73.0**	**73.0**	**73.0**	**73.0**	**73.0**	**71.2**	**71.2**	**71.2**	**71.2**	**71.2**	**73.0**	**73.0**	**73.0**	**68.2**	67.2	10.3	**Yes**
R2	63.7	63.6	63.6	63.6	63.6	64.2	63.9	59.7	59.7	59.7	59.7	59.7	59.7	59.7	59.7	57.9	57.9	57.9	57.9	58.1	59.8	59.8	59.8	54.9	73.7	0.0	No
R3	59.5	59.3	59.3	59.3	59.3	59.8	59.5	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	53.5	53.5	53.5	53.5	53.8	55.5	55.5	55.5	50.5	61.2	0.7	**Yes**
R4	59.6	58.6	58.6	58.6	58.6	59.1	58.8	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	52.8	52.8	52.8	52.8	53.1	54.8	54.8	54.8	49.8	63.9	0.2	**Yes**
R5	**59.8**	58.6	58.6	58.6	58.6	59.1	58.9	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	52.9	52.9	52.9	52.9	53.2	54.8	54.8	54.8	49.8	59.3	1.3	**Yes**
R6	**66.9**	**64.6**	**64.6**	**64.6**	**64.6**	**65.1**	**64.9**	60.7	60.7	60.7	60.7	60.7	60.7	60.7	60.7	58.9	58.9	58.9	58.9	59.1	60.8	60.8	60.8	55.8	61.1	6.3	**Yes**
R7	**69.2**	67.8	67.8	67.8	67.8	68.4	68.1	63.9	63.9	63.9	63.9	63.9	63.9	63.9	63.9	62.1	62.1	62.1	62.1	62.3	64.0	64.0	64.0	59.1	68.5	1.1	**Yes**
R8	58.3	57.5	57.5	57.5	57.5	58.0	57.7	53.5	53.5	53.5	53.5	53.5	53.5	53.5	53.5	51.7	51.7	51.7	51.7	52.0	53.7	53.7	53.7	48.7	62.3	0.0	No
R9	59.0	58.2	58.2	58.2	58.2	58.8	58.5	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3	52.5	52.5	52.5	52.5	52.8	54.5	54.5	54.5	49.5	62.0	0.0	No
R10	58.3	58.0	58.0	58.0	58.0	58.5	58.3	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1	52.3	52.3	52.3	52.3	52.6	54.3	54.3	54.3	49.3	74.7	0.0	No
R11	54.3	54.0	54.0	54.0	54.0	54.5	54.2	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	48.2	48.2	48.2	48.2	48.6	50.2	50.2	50.2	45.2	71.7	0.0	No
R12	55.9	55.6	55.6	55.6	55.6	56.1	55.8	51.6	51.6	51.6	51.6	51.6	51.6	51.6	51.6	49.8	49.8	49.8	49.8	50.1	51.8	51.8	51.8	46.8	73.8	0.0	No
R13	58.6	58.4	58.4	58.4	58.4	58.9	58.7	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	52.7	52.7	52.7	52.7	53.0	54.6	54.6	54.6	49.6	70.2	0.0	No
R14	55.8	55.5	55.5	55.5	55.5	56.1	55.8	51.6	51.6	51.6	51.6	51.6	51.6	51.6	51.6	49.8	49.8	49.8	49.8	50.2	51.8	51.8	51.8	46.8	67.3	0.0	No
R15	57.0	56.4	56.4	56.4	56.4	56.9	56.6	52.4	52.4	52.4	52.4	52.4	52.4	52.4	52.4	50.6	50.6	50.6	50.6	50.9	52.6	52.6	52.6	47.6	66.5	0.0	No
R16	53.3	52.8	52.8	52.8	52.8	53.4	53.1	48.9	48.9	48.9	48.9	48.9	48.9	48.9	48.9	47.1	47.1	47.1	47.1	47.5	49.1	49.1	49.1	44.1	72.9	0.0	No
R17	51.3	50.9	50.9	50.9	50.9	51.4	51.1	46.9	46.9	46.9	46.9	46.9	46.9	46.9	46.9	45.1	45.1	45.1	45.1	45.5	47.1	47.1	47.1	42.1	64.7	0.0	No
R18	54.8	54.3	54.3	54.3	54.3	54.8	54.5	50.3	50.3	50.3	50.3	50.3	50.3	50.3	50.3	48.5	48.5	48.5	48.5	48.9	50.5	50.5	50.5	45.5	72.2	0.0	No
R19	53.4	52.8	52.8	52.8	52.8	53.4	53.1	48.9	48.9	48.9	48.9	48.9	48.9	48.9	48.9	47.1	47.1	47.1	47.1	47.5	49.1	49.1	49.1	44.1	66.2	0.0	No
R20	51.1	50.4	50.4	50.4	50.4	51.0	50.7	46.5	46.5	46.5	46.5	46.5	46.5	46.5	46.5	44.7	44.7	44.7	44.7	45.1	46.8	46.8	46.8	41.7	62.0	0.0	No
R21	51.0	50.3	50.3	50.3	50.3	50.8	50.6	46.4	46.4	46.4	46.4	46.4	46.4	46.4	46.4	44.6	44.6	44.6	44.6	45.0	46.7	46.7	46.7	41.6	60.0	0.0	No
R22	52.9	52.1	52.1	52.1	52.1	52.7	52.4	48.2	48.2	48.2	48.2	48.2	48.2	48.2	48.2	46.4	46.4	46.4	46.4	46.8	48.4	48.4	48.4	43.4	66.6	0.0	No
R23	55.6	54.7	54.7	54.7	54.7	55.2	55.0	50.8	50.8	50.8	50.8	50.8	50.8	50.8	50.8	49.0	49.0	49.0	49.0	49.4	51.0	51.0	51.0	45.9	61.7	0.0	No
R24	57.2	56.3	56.3	56.3	56.3	56.8	56.5	52.3	52.3	52.3	52.3	52.3	52.3	52.3	52.3	50.5	50.5	50.5	50.5	50.9	52.5	52.5	52.5	47.5	71.4	0.0	No
R25	57.5	56.6	56.6	56.6	56.6	57.1	56.9	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	50.9	50.9	50.9	50.9	51.3	52.9	52.9	52.9	47.8	61.3	0.0	No
R26	62.7	58.4	58.4	58.4	58.4	58.9	58.6	54.4	54.4	54.4	54.4	54.4	54.4	54.4	54.4	52.6	52.6	52.6	52.6	53.0	54.6	54.6	54.6	49.6	65.1	9.3	**Yes**

[a] *Refer to Table 18 of the Noise Study provided in Appendix L for the Project construction schedule..*

[b] *Significance threshold is equal to ambient plus 5 dBA.*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-15
Overlapping Construction Noise Levels—Late Evening Hours (9:00 P.M.–12:00 A.M.)

Location	Estimated Construction Noise Levels by Month with Overlapping of Construction Activities[a] Hourly L_{eq} (dBA)																							Significance Threshold[b] L_{eq} (dBA)	Significant Impacts?
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
R1	59.2	61.3	61.3	60.8	58.4	61.7	61.7	**65.4**	**65.4**	64.5	64.7	64.7	**64.9**	64.8	63.2	**69.2**	**69.2**	**69.1**	**70.9**	**70.0**	**71.5**	**71.6**	**71.6**	**73.2**	64.8	**Yes**
R2	55.7	57.7	57.7	57.1	54.7	57.9	57.9	61.6	61.6	60.7	60.6	60.6	60.8	60.8	59.2	61.5	61.5	61.3	58.0	57.2	58.6	58.8	58.8	60.3	66.9	No
R3	52.9	54.9	54.9	54.2	52.1	55.0	55.0	58.7	58.7	57.8	57.7	57.7	58.0	57.9	56.3	58.4	58.4	58.2	54.0	53.4	54.6	54.9	54.9	56.2	59.2	No
R4	57.4	58.7	58.7	57.6	56.3	58.1	58.1	**61.7**	**61.7**	**60.9**	**59.6**	**59.6**	**60.2**	**60.1**	58.2	**60.3**	**60.3**	**59.8**	55.4	55.0	55.8	56.5	56.5	57.4	59.2	**Yes**
R5	53.3	54.8	54.8	53.8	52.3	54.4	54.4	**58.0**	**58.0**	57.2	**57.4**	**57.4**	**58.6**	**58.4**	56.1	**58.9**	**58.9**	**58.0**	55.9	55.6	56.2	57.0	57.0	**57.8**	55.1	**Yes**
R6	**57.6**	**59.2**	**59.2**	**58.2**	56.6	**58.9**	**58.9**	**62.5**	**62.5**	**61.7**	**64.5**	**64.5**	**66.3**	**66.0**	**63.3**	**66.6**	**66.6**	**65.0**	**64.0**	**63.8**	**64.2**	**65.3**	**65.3**	**65.8**	57.2	**Yes**
R7	52.1	53.8	53.8	53.0	51.1	53.8	53.8	57.4	57.4	56.5	**63.8**	**63.8**	**66.3**	**65.9**	62.8	**66.9**	**66.9**	**65.1**	**65.7**	**65.4**	**66.0**	**66.9**	**66.9**	**67.6**	63.6	**Yes**
R8	47.8	49.5	49.5	48.6	46.8	49.3	49.3	53.0	53.0	52.1	53.5	53.5	54.9	54.6	52.2	55.6	55.6	54.5	53.8	53.3	54.2	54.8	54.8	55.8	59.2	No
R9	47.1	48.8	48.8	47.9	46.1	48.6	48.6	52.3	52.3	51.4	53.4	53.4	55.0	54.7	52.2	55.8	55.8	54.7	54.5	54.0	54.9	55.5	55.5	56.5	62.3	No
R10	46.5	48.3	48.3	47.5	45.5	48.3	48.3	51.9	51.9	51.0	51.5	51.5	52.4	52.2	50.2	53.7	53.7	53.2	52.8	52.1	53.4	53.7	53.7	55.1	71.1	No
R11	44.2	45.9	45.9	45.1	43.2	45.8	45.8	49.4	49.4	48.6	48.8	48.8	49.6	49.4	47.4	50.6	50.6	50.0	49.0	48.4	49.5	49.9	49.9	51.2	68.2	No
R12	45.4	47.3	47.3	46.5	44.5	47.3	47.3	50.9	50.9	50.0	50.3	50.3	51.0	50.8	48.9	52.0	52.0	51.5	50.4	49.7	50.9	51.3	51.3	52.6	67.1	No
R13	47.9	49.8	49.8	49.1	46.9	49.8	49.8	53.5	53.5	52.6	52.8	52.8	53.3	53.2	51.4	54.5	54.5	54.1	53.0	52.3	53.6	53.8	53.8	55.3	65.4	No
R14	47.2	49.1	49.1	48.4	46.4	49.2	49.2	52.9	52.9	52.0	52.0	52.0	52.4	52.3	50.6	53.1	53.1	52.8	50.3	49.7	50.9	51.2	51.2	52.6	62.6	No
R15	49.2	51.1	51.1	50.4	48.3	51.2	51.2	54.8	54.8	53.9	54.4	54.4	55.2	55.0	53.0	55.6	55.6	55.0	52.3	51.8	52.8	53.3	53.3	54.4	61.4	No
R16	45.9	47.6	47.6	46.8	44.9	47.6	47.6	51.3	51.3	50.4	50.4	50.4	51.0	50.9	49.0	51.5	51.5	51.0	48.2	47.6	48.7	49.1	49.1	50.3	66.0	No
R17	44.5	46.2	46.2	45.4	43.5	46.1	46.1	49.7	49.7	48.8	48.6	48.6	49.2	49.1	47.2	49.7	49.7	49.2	46.3	45.7	46.8	47.2	47.2	48.4	61.1	No
R18	49.5	51.2	51.2	50.3	48.5	51.0	51.0	54.6	54.6	53.8	53.3	53.3	53.8	53.7	51.9	54.1	54.1	53.7	49.9	49.4	50.4	50.9	50.9	52.0	71.7	No
R19	47.9	49.5	49.5	48.6	46.9	49.3	49.3	52.9	52.9	52.1	51.7	51.7	52.3	52.2	50.3	52.6	52.6	52.1	48.6	48.1	49.1	49.6	49.6	50.7	62.2	No
R20	45.3	46.9	46.9	46.0	44.4	46.7	46.7	50.3	50.3	49.4	49.0	49.0	49.7	49.6	47.6	50.1	50.1	49.5	46.3	45.8	46.8	47.4	47.4	48.4	61.6	No
R21	45.2	46.8	46.8	45.9	44.3	46.5	46.5	50.2	50.2	49.3	48.9	48.9	49.6	49.5	47.6	50.0	50.0	49.4	46.3	45.8	46.7	47.3	47.3	48.3	52.2	No
R22	47.3	48.9	48.9	47.9	46.3	48.5	48.5	52.2	52.2	51.4	50.9	50.9	51.7	52.3	50.8	52.7	52.7	51.4	48.4	47.9	48.8	49.4	49.4	50.4	57.2	No
R23	49.1	50.6	50.6	49.7	48.1	50.3	50.3	**53.9**	**53.9**	**53.1**	**53.0**	**53.0**	**54.0**	**53.8**	51.7	**54.4**	**54.4**	**53.6**	51.2	50.8	51.6	52.3	52.3	**53.3**	52.5	**Yes**
R24	49.7	51.2	51.2	50.3	48.8	50.9	50.9	54.6	54.6	53.7	54.0	54.0	55.1	54.9	52.7	55.6	55.6	54.7	52.9	52.4	53.2	53.9	53.9	54.8	63.2	No
R25	49.4	51.0	51.0	50.1	48.5	50.8	50.8	54.4	54.4	53.5	54.0	54.0	55.2	55.0	52.7	55.7	55.7	54.8	53.1	52.7	53.5	54.2	54.2	55.2	57.5	No
R26	**66.8**	**68.4**	**68.4**	**67.4**	65.8	**68.1**	**68.1**	**71.7**	**71.7**	**70.9**	**70.0**	**70.0**	**70.4**	**70.3**	**68.5**	**70.2**	**70.2**	**69.8**	61.0	60.9	61.1	62.4	62.4	62.6	64.8	**Yes**

[a] *Refer to Table 18 of the Noise Study provided in Appendix L for the Project construction schedule..*

[b] *Significance threshold is equal to ambient plus 3 dBA.*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-15 (Continued)
Overlapping Construction Noise Levels—Late Evening Hours (9:00 P.M.–12:00 A.M.)

Location	Estimated Construction Noise Levels by Month with Overlapping of Construction Activities[a] Hourly L_{eq} (dBA)																							Significance Threshold[b] L_{eq} (dBA)	Maximum Exceedance	Significant Impacts?
	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48			
R1	**73.2**	**73.2**	**73.2**	**73.2**	**73.2**	**74.4**	**73.8**	**73.0**	**73.0**	**73.0**	**73.0**	**73.0**	**73.0**	**73.0**	**73.0**	**71.2**	**71.2**	**71.2**	**71.2**	**71.2**	**73.0**	**73.0**	**73.0**	**68.2**	64.8	9.6	**Yes**
R2	60.2	59.9	59.9	59.9	59.9	61.1	60.5	59.7	59.7	59.7	59.7	59.7	59.7	59.7	59.7	57.9	57.9	57.9	57.9	58.1	59.8	59.8	59.8	54.9	66.9	0.0	No
R3	56.1	55.5	55.5	55.5	55.5	56.7	56.1	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	53.5	53.5	53.5	53.5	53.8	55.5	55.5	55.5	50.5	59.2	0.0	No
R4	56.9	54.8	54.8	54.8	54.8	56.0	55.4	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	52.8	52.8	52.8	52.8	53.1	54.8	54.8	54.8	49.8	59.2	2.5	**Yes**
R5	**57.3**	54.9	54.9	54.9	54.9	**56.1**	**55.5**	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	52.9	52.9	52.9	52.9	53.2	54.8	54.8	54.8	49.8	55.1	3.8	**Yes**
R6	**65.0**	**60.8**	**60.8**	**60.8**	**60.8**	**62.1**	**61.5**	**60.7**	**60.7**	**60.7**	**60.7**	**60.7**	**60.7**	**60.7**	**60.7**	**58.9**	**58.9**	**58.9**	**58.9**	**59.1**	**60.8**	**60.8**	**60.8**	55.8	57.2	9.4	**Yes**
R7	**66.9**	**64.1**	**64.1**	**64.1**	**64.1**	**65.3**	**64.7**	**63.9**	**63.9**	**63.9**	**63.9**	**63.9**	**63.9**	**63.9**	**63.9**	62.1	62.1	62.1	62.1	62.3	**64.0**	**64.0**	**64.0**	59.1	63.6	4.0	**Yes**
R8	55.4	53.7	53.7	53.7	53.7	54.9	54.3	53.5	53.5	53.5	53.5	53.5	53.5	53.5	53.5	51.7	51.7	51.7	51.7	52.0	53.7	53.7	53.7	48.7	59.2	0.0	No
R9	56.1	54.5	54.5	54.5	54.5	55.7	55.1	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3	52.5	52.5	52.5	52.5	52.8	54.5	54.5	54.5	49.5	62.3	0.0	No
R10	54.9	54.3	54.3	54.3	54.3	55.5	54.9	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1	52.3	52.3	52.3	52.3	52.6	54.3	54.3	54.3	49.3	71.1	0.0	No
R11	51.0	50.2	50.2	50.2	50.2	51.4	50.8	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	48.2	48.2	48.2	48.2	48.6	50.2	50.2	50.2	45.2	68.2	0.0	No
R12	52.4	51.8	51.8	51.8	51.8	53.0	52.4	51.6	51.6	51.6	51.6	51.6	51.6	51.6	51.6	49.8	49.8	49.8	49.8	50.1	51.8	51.8	51.8	46.8	67.1	0.0	No
R13	55.1	54.6	54.6	54.6	54.6	55.9	55.3	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	52.7	52.7	52.7	52.7	53.0	54.6	54.6	54.6	49.6	65.4	0.0	No
R14	52.4	51.8	51.8	51.8	51.8	53.0	52.4	51.6	51.6	51.6	51.6	51.6	51.6	51.6	51.6	49.8	49.8	49.8	49.8	50.2	51.8	51.8	51.8	46.8	62.6	0.0	No
R15	54.0	52.6	52.6	52.6	52.6	53.8	53.2	52.4	52.4	52.4	52.4	52.4	52.4	52.4	52.4	50.6	50.6	50.6	50.6	50.9	52.6	52.6	52.6	47.6	61.4	0.0	No
R16	50.1	49.1	49.1	49.1	49.1	50.3	49.7	48.9	48.9	48.9	48.9	48.9	48.9	48.9	48.9	47.1	47.1	47.1	47.1	47.5	49.1	49.1	49.1	44.1	66.0	0.0	No
R17	48.1	47.1	47.1	47.1	47.1	48.3	47.7	46.9	46.9	46.9	46.9	46.9	46.9	46.9	46.9	45.1	45.1	45.1	45.1	45.5	47.1	47.1	47.1	42.1	61.1	0.0	No
R18	51.7	50.5	50.5	50.5	50.5	51.7	51.1	50.3	50.3	50.3	50.3	50.3	50.3	50.3	50.3	48.5	48.5	48.5	48.5	48.9	50.5	50.5	50.5	45.5	71.7	0.0	No
R19	50.4	49.1	49.1	49.1	49.1	50.3	49.7	48.9	48.9	48.9	48.9	48.9	48.9	48.9	48.9	47.1	47.1	47.1	47.1	47.5	49.1	49.1	49.1	44.1	62.2	0.0	No
R20	48.1	46.7	46.7	46.7	46.7	47.9	47.3	46.5	46.5	46.5	46.5	46.5	46.5	46.5	46.5	44.7	44.7	44.7	44.7	45.1	46.8	46.8	46.8	41.7	61.6	0.0	No
R21	48.0	46.6	46.6	46.6	46.6	47.8	47.2	46.4	46.4	46.4	46.4	46.4	46.4	46.4	46.4	44.6	44.6	44.6	44.6	45.0	46.7	46.7	46.7	41.6	52.2	0.0	No
R22	50.0	48.4	48.4	48.4	48.4	49.6	49.0	48.2	48.2	48.2	48.2	48.2	48.2	48.2	48.2	46.4	46.4	46.4	46.4	46.8	48.4	48.4	48.4	43.4	57.2	0.0	No
R23	**52.8**	51.0	51.0	51.0	51.0	52.2	51.6	50.8	50.8	50.8	50.8	50.8	50.8	50.8	50.8	49.0	49.0	49.0	49.0	49.4	51.0	51.0	51.0	45.9	52.5	1.9	**Yes**
R24	54.4	52.5	52.5	52.5	52.5	53.7	53.1	52.3	52.3	52.3	52.3	52.3	52.3	52.3	52.3	50.5	50.5	50.5	50.5	50.9	52.5	52.5	52.5	47.5	63.2	0.0	No
R25	54.7	52.9	52.9	52.9	52.9	54.1	53.5	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	50.9	50.9	50.9	50.9	51.3	52.9	52.9	52.9	47.8	57.5	0.0	No
R26	61.7	54.6	54.6	54.6	54.6	55.8	55.2	54.4	54.4	54.4	54.4	54.4	54.4	54.4	54.4	52.6	52.6	52.6	52.6	53.0	54.6	54.6	54.6	49.6	64.8	6.9	**Yes**

[a] *Refer to Table 18 of the Noise Study provided in Appendix L for the Project construction schedule..*

[b] *Significance threshold is equal to ambient plus 3 dBA. {Note to City: 3dBA is used for late evening hours}*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-16
Off-Site Construction Truck Volumes

Construction Component	Maximum Numbers of Construction Trucks (Haul/Concrete/Delivery) Number of Trucks per Day/Number of Trucks per Hour[a]							
	Demolition	**Excavation**	**Caisson/ Foundation**	**Shoring**	**Framing**	**Interior/ Exterior**	**Playing Field**	**Land-scaping**
Bond Street Garage	11/2	4/1	13/2	N/A	25/3	2/1	N/A	6/1
New Hall	12/2	37/5	23/2	N/A	37/4	24/2	N/A	10/1
L.A. Live Way Garage	27/4	160/20	13/2	N/A	33/3	4/1	N/A	8/1
Event Center	84/11	256/32	37/4	15/2	72/6	12/1	14/2	6/1

[a] *The number of trucks per hour for the Demolition and Excavation phases (primarily haul trucks) are based on the daily volumes divided by 8 hours per day and the number of trucks per hour for all other phases (primarily concrete trucks and delivery trucks) are based on the daily volumes divided by 12 hours per day. Although construction activities would extend from 7 A.M. to 12 A.M. (17 hours), the number of haul trucks were averaged over an 8-hour period and the concrete/delivery trucks were average over a 12-hour period to represent a conservative analysis (on an hourly basis).*

Source: ICON and Acoustical Engineering Services, Inc., 2012.

Table IV.E-17
Off-Site Construction Truck Noise Levels—Option 1

Receptor	Calculated Noise Levels Generated by Project-Related Construction Trucks, dBA (L_{eq})								Significance Threshold[a] dBA (L_{eq})		Significant Impacts?	
	Bond Street Garage		New Hall		L.A. Live Way Garage		Event Center					
	Excavation	Concrete Pouring	Excavation	Concrete Pouring	Excavation	Concrete Pouring	Excavation	Concrete Pouring	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)
R1	28.0	31.0	35.0	34.0	41.0	32.8	43.1	35.8	67.2	64.8	No	No
R2	8.8	11.8	15.8	14.8	21.8	13.6	23.9	16.6	73.7	66.9	No	No
R3	27.6	30.6	34.6	33.6	40.6	32.4	42.7	35.4	61.2	59.2	No	No
R4	42.7	45.7	49.7	48.7	55.7	47.5	57.8	50.5	63.9	59.2	No	No
R5	38.4	41.4	45.4	44.4	51.4	43.2	53.5	46.2	59.3	55.1	No	No
R6	44.8	47.8	51.8	50.8	57.8	49.6	59.9	52.6	61.1	57.2	No	No
R7	50.5	53.5	57.5	56.5	63.5	55.3	65.6	58.3	68.5	63.6	No	No
R8	33.7	36.7	40.7	39.7	46.7	38.5	48.8	41.5	62.3	59.2	No	No
R9	34.3	37.3	41.3	40.3	47.3	39.1	49.4	42.1	62.0	62.3	No	No
R10	17.6	20.6	24.6	23.6	30.6	22.4	32.7	25.4	74.7	71.1	No	No
R11	17.5	20.5	24.5	23.5	30.5	22.3	32.6	25.3	71.7	68.2	No	No
R12	12.9	15.9	19.9	18.9	25.9	17.7	28.0	20.7	73.8	67.1	No	No
R13	21.8	24.8	28.8	27.8	34.8	26.6	36.9	29.6	70.2	65.4	No	No
R14	21.0	24.0	28.0	27.0	34.0	25.8	36.1	28.8	67.3	62.6	No	No
R15	21.6	24.6	28.6	27.6	34.6	26.4	36.7	29.4	66.5	61.4	No	No
R16	23.2	26.2	30.2	29.2	36.2	28.0	38.3	31.0	72.9	66.0	No	No
R17	26.5	29.5	33.5	32.5	39.5	31.3	41.6	34.3	64.7	61.1	No	No
R18	39.4	42.4	46.4	45.4	52.4	44.2	54.5	47.2	72.2	71.7	No	No

Table IV.E-17 (Continued)
Off-Site Construction Truck Noise Levels—Option 1

Receptor	Calculated Noise Levels Generated by Project-Related Construction Trucks, dBA (L_{eq})								Significance Threshold[a] dBA (L_{eq})		Significant Impacts?	
	Bond Street Garage		New Hall		L.A. Live Way Garage		Event Center					
	Excavation	Concrete Pouring	Excavation	Concrete Pouring	Excavation	Concrete Pouring	Excavation	Concrete Pouring	Daytime Hours (7:00 A.M.– 9:00 P.M.)	Late Evening Hours (9:00 P.M.– 12:00 A.M.)	Daytime Hours (7:00 A.M.– 9:00 P.M.)	Late Evening Hours (9:00 P.M.– 12:00 A.M.)
R19	41.0	44.0	48.0	47.0	54.0	45.8	56.1	48.8	66.2	62.2	No	No
R20	41.4	44.4	48.4	47.4	54.4	46.2	56.5	49.2	62.0	61.6	No	No
R21	38.7	41.7	45.7	44.7	51.7	43.5	53.8	46.5	60.0	52.2	No	No
R22	33.9	36.9	40.9	39.9	46.9	38.7	49.0	41.7	66.6	57.2	No	No
R23	33.7	36.7	40.7	39.7	46.7	38.5	48.8	41.5	61.7	52.5	No	No
R24	34.4	37.4	41.4	40.4	47.4	39.2	49.5	42.2	71.4	63.2	No	No
R25	33.4	36.4	40.4	39.4	46.4	38.2	48.5	41.2	61.3	57.5	No	No
R26	45.5	48.5	52.5	51.5	58.5	50.3	60.6	53.3	65.1	64.8	No	No

[a] *Significance threshold is equal to ambient plus 5 dBA during the daytime hours and ambient plus 3 dBA during the late evening hours.*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-18
Off-Site Construction Truck Noise Levels—Option 2

Receptor	Calculated Noise Levels Generated by Project-Related Construction Trucks, dBA (L_{eq})								Significance Threshold[a] dBA (L_{eq})		Significant Impacts?	
	Bond Street Garage		New Hall		L.A. Live Way Garage		Event Center					
	Excavation	Concrete Pouring	Excavation	Concrete Pouring	Excavation	Concrete Pouring	Excavation	Concrete Pouring	Daytime Hours (7:00 A.M.–9:00 P.M.)	Hours (9:00 P.M.–12:00 A.M.)	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)
R1	26.5	29.5	33.5	32.5	39.5	31.3	41.6	34.3	67.2	64.8	No	No
R2	50.6	53.6	57.6	56.6	63.6	55.4	65.7	58.4	73.7	66.9	No	No
R3	36.3	39.3	43.3	42.3	49.3	41.1	51.4	44.1	61.2	59.2	No	No
R4	40.0	43.0	47.0	46.0	53.0	44.8	55.1	47.8	63.9	59.2	No	No
R5	31.3	34.3	38.3	37.3	44.3	36.1	46.4	39.1	59.3	55.1	No	No
R6	26.1	29.1	33.1	32.1	39.1	30.9	41.2	33.9	61.1	57.2	No	No
R7	31.8	34.8	38.8	37.8	44.8	36.6	46.9	39.6	68.5	63.6	No	No
R8	24.1	27.1	31.1	30.1	37.1	28.9	39.2	31.9	62.3	59.2	No	No
R9	26.3	29.3	33.3	32.3	39.3	31.1	41.4	34.1	62.0	62.3	No	No
R10	24.1	27.1	31.1	30.1	37.1	28.9	39.2	31.9	74.7	71.1	No	No
R11	21.3	24.3	28.3	27.3	34.3	26.1	36.4	29.1	71.7	68.2	No	No
R12	20.8	23.8	27.8	26.8	33.8	25.6	35.9	28.6	73.8	67.1	No	No
R13	29.2	32.2	36.2	35.2	42.2	34.0	44.3	37.0	70.2	65.4	No	No
R14	31.7	34.7	38.7	37.7	44.7	36.5	46.8	39.5	67.3	62.6	No	No
R15	35.2	38.2	42.2	41.2	48.2	40.0	50.3	43.0	66.5	61.4	No	No
R16	49.9	52.9	56.9	55.9	62.9	54.7	65.0	57.7	72.9	66.0	No	No
R17	31.4	34.4	38.4	37.4	44.4	36.2	46.5	39.2	64.7	61.1	No	No
R18	39.2	42.2	46.2	45.2	52.2	44.0	54.3	47.0	72.2	71.7	No	No

Table IV.E-18 (Continued)
Off-Site Construction Truck Noise Levels—Option 2

Receptor	Calculated Noise Levels Generated by Project-Related Construction Trucks, dBA (L_{eq})								Significance Threshold[a] dBA (L_{eq})		Significant Impacts?	
	Bond Street Garage		New Hall		L.A. Live Way Garage		Event Center					
	Excavation	Concrete Pouring	Excavation	Concrete Pouring	Excavation	Concrete Pouring	Excavation	Concrete Pouring	Daytime Hours (7:00 A.M.–9:00 P.M.)	Hours (9:00 P.M.–12:00 A.M.)	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)
R19	40.8	43.8	47.8	46.8	53.8	45.6	55.9	48.6	66.2	62.2	No	No
R20	42.1	45.1	49.1	48.1	55.1	46.9	57.2	49.9	62.0	61.6	No	No
R21	39.6	42.6	46.6	45.6	52.6	44.4	54.7	47.4	60.0	52.2	No	No
R22	35.0	38.0	42.0	41.0	48.0	39.8	50.1	42.8	66.6	57.2	No	No
R23	30.7	33.7	37.7	36.7	43.7	35.5	45.8	38.5	61.7	52.5	No	No
R24	28.3	31.3	35.3	34.3	41.3	33.1	43.4	36.1	71.4	63.2	No	No
R25	26.5	29.5	33.5	32.5	39.5	31.3	41.6	34.3	61.3	57.5	No	No
R26	44.5	47.5	51.5	50.5	57.5	49.3	59.6	52.3	65.1	64.8	No	No

[a] *Significance threshold is equal to ambient plus 5 dBA during the daytime hours and ambient plus 3 dBA during the late evening hours.*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-19
Off-Site Construction Truck Noise Levels—Option 3

Receptor	Calculated Noise Levels Generated by Project-Related Construction Trucks, dBA (L_{eq})								Significance Threshold[a] dBA (L_{eq})		Significant Impacts?	
	Bond Street Garage		New Hall		L.A. Live Way Garage		Event Center					
	Excavation	Concrete Pouring	Excavation	Concrete Pouring	Excavation	Concrete Pouring	Excavation	Concrete Pouring	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)
R1	35.4	38.4	42.4	41.4	48.4	40.2	50.5	43.2	67.2	64.8	No	No
R2	34.8	37.8	41.8	40.8	47.8	39.6	49.9	42.6	73.7	66.9	No	No
R3	36.6	39.6	43.6	42.6	49.6	41.4	51.7	44.4	61.2	59.2	No	No
R4	35.3	38.3	42.3	41.3	48.3	40.1	50.4	43.1	63.9	59.2	No	No
R5	26.8	29.8	33.8	32.8	39.8	31.6	41.9	34.6	59.3	55.1	No	No
R6	26.4	29.4	33.4	32.4	39.4	31.2	41.5	34.2	61.1	57.2	No	No
R7	34.9	37.9	41.9	40.9	47.9	39.7	50.0	42.7	68.5	63.6	No	No
R8	25.0	28.0	32.0	31.0	38.0	29.8	40.1	32.8	62.3	59.2	No	No
R9	26.9	29.9	33.9	32.9	39.9	31.7	42.0	34.7	62.0	62.3	No	No
R10	27.4	30.4	34.4	33.4	40.4	32.2	42.5	35.2	74.7	71.1	No	No
R11	25.0	28.0	32.0	31.0	38.0	29.8	40.1	32.8	71.7	68.2	No	No
R12	24.1	27.1	31.1	30.1	37.1	28.9	39.2	31.9	73.8	67.1	No	No
R13	42.0	45.0	49.0	48.0	55.0	46.8	57.1	49.8	70.2	65.4	No	No
R14	28.7	31.7	35.7	34.7	41.7	33.5	43.8	36.5	67.3	62.6	No	No
R15	34.0	37.0	41.0	40.0	47.0	38.8	49.1	41.8	66.5	61.4	No	No
R16	36.9	39.9	43.9	42.9	49.9	41.7	52.0	44.7	72.9	66.0	No	No
R17	37.7	40.7	44.7	43.7	50.7	42.5	52.8	45.5	64.7	61.1	No	No
R18	33.2	36.2	40.2	39.2	46.2	38.0	48.3	41.0	72.2	71.7	No	No

Table IV.E-19 (Continued)
Off-Site Construction Truck Noise Levels—Option 3

Receptor	Calculated Noise Levels Generated by Project-Related Construction Trucks, dBA (L_{eq})								Significance Threshold[a] dBA (L_{eq})		Significant Impacts?	
	Bond Street Garage		New Hall		L.A. Live Way Garage		Event Center					
	Excavation	Concrete Pouring	Excavation	Concrete Pouring	Excavation	Concrete Pouring	Excavation	Concrete Pouring	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)
R19	34.0	37.0	41.0	40.0	47.0	38.8	49.1	41.8	66.2	62.2	No	No
R20	24.7	27.7	31.7	30.7	37.7	29.5	39.8	32.5	62.0	61.6	No	No
R21	26.4	29.4	33.4	32.4	39.4	31.2	41.5	34.2	60.0	52.2	No	No
R22	27.8	30.8	34.8	33.8	40.8	32.6	42.9	35.6	66.6	57.2	No	No
R23	25.5	28.5	32.5	31.5	38.5	30.3	40.6	33.3	61.7	52.5	No	No
R24	25.4	28.4	32.4	31.4	38.4	30.2	40.5	33.2	71.4	63.2	No	No
R25	24.3	27.3	31.3	30.3	37.3	29.1	39.4	32.1	61.3	57.5	No	No
R26	42.7	45.7	49.7	48.7	55.7	47.5	57.8	50.5	65.1	64.8	No	No

[a] *Significance threshold is equal to ambient plus 5 dBA during the daytime hours and ambient plus 3 dBA during the late evening hours.*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-20
Off-Site Construction Truck Noise Levels—Option 4

Receptor	Calculated Noise Levels Generated by Project-Related Construction Trucks, dBA (L_{eq})								Significance Threshold[a] dBA (L_{eq})		Significant Impacts?	
	Bond Street Garage		New Hall		L.A. Live Way Garage		Event Center					
	Excavation	Concrete Pouring	Excavation	Concrete Pouring	Excavation	Concrete Pouring	Excavation	Concrete Pouring	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)
R1	24.1	27.1	31.1	30.1	37.1	28.9	39.2	31.9	67.2	64.8	No	No
R2	50.5	53.5	57.5	56.5	63.5	55.3	65.6	58.3	73.7	66.9	No	No
R3	40.1	43.1	47.1	46.1	53.1	44.9	55.2	47.9	61.2	59.2	No	No
R4	35.2	38.2	42.2	41.2	48.2	40.0	50.3	43.0	63.9	59.2	No	No
R5	26.2	29.2	33.2	32.2	39.2	31.0	41.3	34.0	59.3	55.1	No	No
R6	25.5	28.5	32.5	31.5	38.5	30.3	40.6	33.3	61.1	57.2	No	No
R7	31.9	34.9	38.9	37.9	44.9	36.7	47.0	39.7	68.5	63.6	No	No
R8	21.4	24.4	28.4	27.4	34.4	26.2	36.5	29.2	62.3	59.2	No	No
R9	26.5	29.5	33.5	32.5	39.5	31.3	41.6	34.3	62.0	62.3	No	No
R10	26.1	29.1	33.1	32.1	39.1	30.9	41.2	33.9	74.7	71.1	No	No
R11	21.7	24.7	28.7	27.7	34.7	26.5	36.8	29.5	71.7	68.2	No	No
R12	20.8	23.8	27.8	26.8	33.8	25.6	35.9	28.6	73.8	67.1	No	No
R13	30.0	33.0	37.0	36.0	43.0	34.8	45.1	37.8	70.2	65.4	No	No
R14	28.6	31.6	35.6	34.6	41.6	33.4	43.7	36.4	67.3	62.6	No	No
R15	35.6	38.6	42.6	41.6	48.6	40.4	50.7	43.4	66.5	61.4	No	No
R16	37.1	40.1	44.1	43.1	50.1	41.9	52.2	44.9	72.9	66.0	No	No
R17	37.7	40.7	44.7	43.7	50.7	42.5	52.8	45.5	64.7	61.1	No	No
R18	33.3	36.3	40.3	39.3	46.3	38.1	48.4	41.1	72.2	71.7	No	No

Table IV.E-20
Off-Site Construction Truck Noise Levels—Option 4

Receptor	Calculated Noise Levels Generated by Project-Related Construction Trucks, dBA (L_{eq})								Significance Threshold[a] dBA (L_{eq})		Significant Impacts?	
	Bond Street Garage		New Hall		L.A. Live Way Garage		Event Center					
	Excavation	Concrete Pouring	Excavation	Concrete Pouring	Excavation	Concrete Pouring	Excavation	Concrete Pouring	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)
R19	34.2	37.2	41.2	40.2	47.2	39.0	49.3	42.0	66.2	62.2	No	No
R20	24.8	27.8	31.8	30.8	37.8	29.6	39.9	32.6	62.0	61.6	No	No
R21	26.4	29.4	33.4	32.4	39.4	31.2	41.5	34.2	60.0	52.2	No	No
R22	27.7	30.7	34.7	33.7	40.7	32.5	42.8	35.5	66.6	57.2	No	No
R23	25.0	28.0	32.0	31.0	38.0	29.8	40.1	32.8	61.7	52.5	No	No
R24	24.6	27.6	31.6	30.6	37.6	29.4	39.7	32.4	71.4	63.2	No	No
R25	22.9	25.9	29.9	28.9	35.9	27.7	38.0	30.7	61.3	57.5	No	No
R26	42.7	45.7	49.7	48.7	55.7	47.5	57.8	50.5	65.1	64.8	No	No

[a] *Significance threshold is equal to ambient plus 5 dBA during the daytime hours and ambient plus 3 dBA during the late evening hours.*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-21
Construction Staging Noise Levels

Receptor	Estimated Noise Levels from the Construction Staging, dBA (L_{eq})		Significance Thresholds, dBA (L_{eq})[c]		Significant Impacts?	
	Staging at the Bond Garage[a]	Staging at the L.A. Live Way Garage[b]	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)
R1	41.2	43.9	67.2	64.8	No	No
R2	42.8	45.2	73.7	66.9	No	No
R3	42.1	43.9	61.2	59.2	No	No
R4	50.9	49.2	63.9	59.2	No	No
R5	46.5	49.9	59.3	55.1	No	No
R6	50.0	55.3	61.1	57.2	No	No
R7	43.3	58.6	68.5	63.6	No	No
R8	40.0	47.1	62.3	59.2	No	No
R9	39.0	47.6	62.0	62.3	No	No
R10	37.4	42.9	74.7	71.1	No	No
R11	36.0	40.1	71.7	68.2	No	No
R12	36.3	40.8	73.8	67.1	No	No
R13	38.1	42.3	70.2	65.4	No	No
R14	37.6	40.5	67.3	62.6	No	No
R15	39.4	45.3	66.5	61.4	No	No
R16	37.1	40.2	72.9	66.0	No	No
R17	36.6	38.4	64.7	61.1	No	No
R18	41.8	42.5	72.2	71.7	No	No
R19	40.3	41.4	66.2	62.2	No	No
R20	38.2	39.5	62.0	61.6	No	No
R21	38.1	39.4	60.0	52.2	No	No
R22	40.4	41.8	66.6	57.2	No	No
R23	42.2	45.0	61.7	52.5	No	No
R24	42.8	46.6	71.4	63.2	No	No
R25	42.1	46.7	61.3	57.5	No	No
R26	49.3	47.3	65.1	64.8	No	No

[a] *Maximum 10 trucks queuing/idling at any given time.*
[b] *Maximum 20 trucks queuing/idling at any given time.*
[c] *Significance threshold is equal to ambient plus 5 dBA.*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-22
Pico Station Construction Noise Levels

Receptor	Estimated Noise Levels from the Construction Staging, dBA (L_{eq})	Significance Thresholds, dBA (L_{eq})[a]		Significant Impacts?	
		Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)
R1	47.8	67.2	64.8	No	No
R2	77.4	73.7	66.9	**Yes**	**Yes**
R3	62.6	61.2	59.2	**Yes**	**Yes**
R4	39.8	63.9	59.2	No	No
R5	38.8	59.3	55.1	No	No
R6	40.1	61.1	57.2	No	No
R7	40.5	68.5	63.6	No	No
R8	37.3	62.3	59.2	No	No
R9	37.8	62.0	62.3	No	No
R10	43.9	74.7	71.1	No	No
R11	41.8	71.7	68.2	No	No
R12	45.1	73.8	67.1	No	No
R13	59.9	70.2	65.4	No	No
R14	51.8	67.3	62.6	No	No
R15	49.3	66.5	61.4	No	No
R16	44.5	72.9	66.0	No	No
R17	39.8	64.7	61.1	No	No
R18	41.8	72.2	71.7	No	No
R19	40.1	66.2	62.2	No	No
R20	37.0	62.0	61.6	No	No
R21	36.8	60.0	52.2	No	No
R22	36.3	66.6	57.2	No	No
R23	36.8	61.7	52.5	No	No
R24	37.0	71.4	63.2	No	No
R25	37.0	61.3	57.5	No	No
R26	42.8	65.1	64.8	No	No

[a] *Significance threshold is equal to ambient plus 5 dBA during the daytime hours and ambient plus 3 dBA during the late evening hours.*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-23
Composite Construction Noise Levels—Bond Street Garage

Receptor	Individual Construction Component Noise Levels[a] dBA (L_{eq})			Composite Construction Noise Levels, dBA (L_{eq})	Ambient Noise Levels dBA (L_{eq})		Composite Construction + Ambient Noise Levels dBA (L_{eq})		Increase Due to Project Construction dBA (L_{eq})	
	On-Site Equipment	Haul Trucks Staging	Off-Site Haul Trucks[b]		Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)
R1	45.6	43.9	38.4	48.3	62.2	61.8	62.4	62.0	0.2	0.2
R2	47.3	45.2	53.6	55.0	68.7	63.9	68.9	64.4	0.2	0.5
R3	46.5	43.9	43.1	49.5	56.2	56.2	57.0	57.0	0.8	0.8
R4	55.8	49.2	45.7	57.0	58.9	56.2	61.1	59.6	2.2	**3.4**
R5	51.1	49.9	41.4	53.8	54.3	52.1	57.1	56.1	2.8	**4.0**
R6	54.8	55.3	47.8	58.5	56.1	54.2	60.4	59.8	4.3	**5.6**
R7	47.8	58.6	53.5	60.1	63.5	60.6	65.1	63.4	1.6	2.8
R8	44.4	47.1	36.7	49.2	57.3	56.2	57.9	57.0	0.6	0.8
R9	43.4	47.6	37.3	49.3	57.0	59.3	57.7	59.7	0.7	0.4
R10	41.7	42.9	30.4	45.5	69.7	68.1	69.7	68.1	0.0	0.0
R11	40.3	40.1	28.0	43.3	66.7	65.2	66.7	65.2	0.0	0.0
R12	40.6	40.8	27.1	43.8	68.8	64.1	68.8	64.1	0.0	0.0
R13	42.5	42.3	45.0	48.2	65.2	62.4	65.3	62.6	0.1	0.2
R14	41.9	40.5	34.7	44.7	62.3	59.6	62.4	59.7	0.1	0.1
R15	43.7	45.3	38.6	48.1	61.5	58.4	61.7	58.8	0.2	0.4
R16	41.4	40.2	52.9	53.4	67.9	63.0	68.1	63.5	0.2	0.5
R17	41.0	38.4	40.7	45.0	59.7	58.1	59.8	58.3	0.1	0.2
R18	46.2	42.5	42.4	48.9	67.2	68.7	67.3	68.7	0.1	0.0
R19	44.7	41.4	44.0	48.4	61.2	59.2	61.4	59.5	0.2	0.3

Table IV.E-23 (Continued)
Composite Construction Noise Levels—Bond Street Parking Garage

Receptor	Individual Construction Component Noise Levels[a] dBA (L_{eq})			Composite Construction Noise Levels, dBA (L_{eq})	Ambient Noise Levels dBA (L_{eq})		Composite Construction + Ambient Noise Levels dBA (L_{eq})		Increase Due to Project Construction dBA (L_{eq})	
	On-Site Equipment	Haul Trucks Staging	Off-Site Haul Trucks[b]		Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)
R20	42.5	39.5	45.1	47.7	57.0	58.6	57.5	58.9	0.5	0.3
R21	42.4	39.4	42.6	46.5	55.0	49.2	55.6	51.1	0.6	1.9
R22	44.8	41.8	38.0	47.1	61.6	54.2	61.8	55.0	0.2	0.8
R23	46.6	45.0	36.7	49.1	56.7	49.5	57.4	52.3	0.7	2.8
R24	47.3	46.6	37.4	50.2	66.4	60.2	66.5	60.6	0.1	0.4
R25	46.6	46.7	36.4	49.9	56.3	54.5	57.2	55.8	0.9	1.3
R26	64.1	47.3	48.5	64.3	60.1	61.8	65.7	66.2	**5.6**	**4.4**

[a] *Project construction-related noise levels during concrete/structural framing phase.*

[b] *Based on the highest noise levels generated by one of the proposed construction truck routes.*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-24
Composite Construction Noise Levels—New Hall

Receptor	Individual Construction Component Noise Levels[a] dBA (L_{eq})			Composite Construction Noise Levels dBA (L_{eq})	Ambient Noise Levels dBA (L_{eq})		Composite Construction + Ambient Noise Levels dBA (L_{eq})		Increase Due to Project Construction dBA (L_{eq})	
	On-Site Equipment	Haul Trucks Staging	Off-Site Haul Trucks[b]		Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)
R1	66.6	43.9	38.4	66.6	62.2	61.8	68.0	67.9	**5.8**	**6.1**
R2	62.7	45.2	53.6	63.3	68.7	63.9	69.8	66.6	1.1	2.7
R3	59.7	43.9	43.1	59.9	56.2	56.2	61.4	61.4	**5.2**	**5.2**
R4	61.0	49.2	45.7	61.4	58.9	56.2	63.3	62.5	4.4	**6.3**
R5	57.8	49.9	41.4	58.5	54.3	52.1	59.9	59.4	**5.6**	**7.3**
R6	62.6	55.3	47.8	63.5	56.1	54.2	64.2	63.9	**8.1**	**9.7**
R7	58.0	58.6	53.5	62.0	63.5	60.6	65.8	64.4	2.3	**3.8**
R8	53.3	47.1	36.7	54.3	57.3	56.2	59.1	58.4	1.8	2.2
R9	52.7	47.6	37.3	54.0	57.0	59.3	58.8	60.4	1.8	1.1
R10	52.6	42.9	30.4	53.1	69.7	68.1	69.8	68.2	0.1	0.1
R11	49.9	40.1	28.0	50.4	66.7	65.2	66.8	65.3	0.1	0.1
R12	51.6	40.8	27.1	52.0	68.8	64.1	68.9	64.4	0.1	0.3
R13	54.3	42.3	45.0	55.0	65.2	62.4	65.6	63.1	0.4	0.7
R14	53.7	40.5	34.7	54.0	62.3	59.6	62.9	60.6	0.6	1.0
R15	55.6	45.3	38.6	56.1	61.5	58.4	62.6	60.4	1.1	2.0
R16	51.9	40.2	52.9	55.6	67.9	63.0	68.1	63.7	0.2	0.7
R17	50.1	38.4	40.7	50.8	59.7	58.1	60.2	58.8	0.5	0.7
R18	54.9	42.5	42.4	55.4	67.2	68.7	67.5	68.9	0.3	0.2
R19	53.2	41.4	44.0	53.9	61.2	59.2	61.9	60.3	0.7	1.1

Table IV.E-24 (Continued)
Composite Construction Noise Levels—New Hall

Receptor	Individual Construction Component Noise Levels[a] dBA (L_{eq})			Composite Construction Noise Levels dBA (L_{eq})	Ambient Noise Levels dBA (L_{eq})		Composite Construction + Ambient Noise Levels dBA (L_{eq})		Increase Due to Project Construction dBA (L_{eq})	
	On-Site Equipment	Haul Trucks Staging	Off-Site Haul Trucks[b]		Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)
R20	50.4	39.5	45.1	51.8	57.0	58.6	58.1	59.4	1.1	0.8
R21	50.3	39.4	42.6	51.3	55.0	49.2	56.5	53.4	1.5	**4.2**
R22	52.2	41.8	38.0	52.7	61.6	54.2	62.1	56.5	0.5	2.3
R23	53.9	45.0	36.7	54.5	56.7	49.5	58.7	55.7	2.0	**6.2**
R24	54.5	46.6	37.4	55.2	66.4	60.2	66.7	61.4	0.3	1.2
R25	54.5	46.7	36.4	55.2	56.3	54.5	58.8	57.9	2.5	**3.4**
R26	71.8	47.3	48.5	71.8	60.1	61.8	72.1	72.2	**12.0**	**10.4**

[a] *Project construction-related noise levels during concrete/structural framing phase.*

[b] *Based on the highest noise levels generated by one of the proposed construction truck routes.*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-25
Composite Construction Noise Levels—L.A. Live Way Garage

Receptor	Individual Construction Component Noise Levels[a] dBA (L_{eq})			Composite Construction Noise Levels dBA (L_{eq})	Ambient Noise Levels, dBA (L_{eq})		Composite Construction + Ambient Noise Levels dBA (L_{eq})		Increase due to Project Construction dBA (L_{eq})	
	On-Site Equipment	Haul Trucks Staging	Off-Site Haul Trucks[b]		Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)
R1	52.8	41.2	40.2	53.3	62.2	61.8	62.7	62.4	0.5	0.6
R2	48.2	42.8	55.4	56.3	68.7	63.9	68.9	64.6	0.2	0.7
R3	46.8	42.1	44.9	49.8	56.2	56.2	57.1	57.1	0.9	0.9
R4	52.4	50.9	47.5	55.5	58.9	56.2	60.5	58.9	1.6	2.7
R5	53.3	46.5	43.2	54.5	54.3	52.1	57.4	56.4	3.1	**4.3**
R6	62.6	50.0	49.6	63.0	56.1	54.2	63.8	63.6	**7.7**	**9.4**
R7	63.5	43.3	55.3	64.1	63.5	60.6	66.8	65.7	3.3	**5.1**
R8	50.2	40.0	38.5	50.9	57.3	56.2	58.2	57.3	0.9	1.1
R9	50.8	39.0	39.1	51.3	57.0	59.3	58.0	59.9	1.0	0.6
R10	45.7	37.4	32.2	46.5	69.7	68.1	69.7	68.1	0.0	0.0
R11	42.8	36.0	29.8	43.8	66.7	65.2	66.7	65.2	0.0	0.0
R12	43.5	36.3	28.9	44.4	68.8	64.1	68.8	64.1	0.0	0.0
R13	45.1	38.1	46.8	49.4	65.2	62.4	65.3	62.6	0.1	0.2
R14	43.2	37.6	36.5	44.9	62.3	59.6	62.4	59.7	0.1	0.1
R15	48.2	39.4	40.4	49.3	61.5	58.4	61.8	58.9	0.3	0.5
R16	42.9	37.1	54.7	55.0	67.9	63.0	68.1	63.6	0.2	0.6
R17	41.1	36.6	42.5	45.5	59.7	58.1	59.9	58.3	0.2	0.2
R18	45.3	41.8	44.2	48.8	67.2	68.7	67.3	68.7	0.1	0.0
R19	44.1	40.3	45.8	48.7	61.2	59.2	61.4	59.6	0.2	0.4

Table IV.E-25 (Continued)
Composite Construction Noise Levels—L.A. LIVE Way Parking Garage

Receptor	Individual Construction Component Noise Levels[a] dBA (L_{eq})			Composite Construction Noise Levels dBA (L_{eq})	Ambient Noise Levels, dBA (L_{eq})		Composite Construction + Ambient Noise Levels dBA (L_{eq})		Increase due to Project Construction dBA (L_{eq})	
	On-Site Equipment	Haul Trucks Staging	Off-Site Haul Trucks[b]		Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)
R20	42.1	38.2	46.9	48.5	57.0	58.6	57.6	59.0	0.6	0.4
R21	42.1	38.1	44.4	47.0	55.0	49.2	55.6	51.2	0.6	2.0
R22	44.6	40.4	39.8	46.9	61.6	54.2	61.7	54.9	0.1	0.7
R23	47.9	42.2	38.5	49.3	56.7	49.5	57.4	52.4	0.7	2.9
R24	49.6	42.8	39.2	50.7	66.4	60.2	66.5	60.7	0.1	0.5
R25	49.8	42.1	38.2	50.7	56.3	54.5	57.4	56.0	1.1	1.5
R26	60.4	49.3	50.3	61.1	60.1	61.8	63.6	64.5	3.5	2.7

[a] *Project construction-related noise levels during concrete/structural framing phase.*

[b] *Based on the highest noise levels generated by one of the proposed construction truck routes..*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-26
Composite Construction Noise Levels—Event Center

Receptor	Individual Construction Component Noise Levels[a] dBA (L_{eq})			Composite Construction Noise Levels dBA (L_{eq})	Ambient Noise Levels dBA (L_{eq})		Composite Construction + Ambient Noise Levels dBA (L_{eq})		Increase due to Project Construction dBA (L_{eq})	
	On-Site Equipment	Haul Trucks Staging	Off-Site Haul Trucks[b]		Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)
R1	75.1	43.9	38.4	75.1	62.2	61.8	75.3	75.3	**13.1**	**13.5**
R2	61.8	45.2	53.6	62.5	68.7	63.9	69.6	66.3	0.9	2.4
R3	57.5	43.9	43.1	57.8	56.2	56.2	60.1	60.1	3.9	**3.9**
R4	56.8	49.2	45.7	57.8	58.9	56.2	61.4	60.1	2.5	**3.9**
R5	56.8	49.9	41.4	57.7	54.3	52.1	59.3	58.8	**5.0**	**6.7**
R6	62.8	55.3	47.8	63.6	56.1	54.2	64.3	64.1	**8.2**	**9.9**
R7	66.0	58.6	53.5	66.9	63.5	60.6	68.6	67.8	**5.1**	**7.2**
R8	55.7	47.1	36.7	56.3	57.3	56.2	59.8	59.3	2.5	**3.1**
R9	56.4	47.6	37.3	57.0	57.0	59.3	60.0	61.3	3.0	2.0
R10	56.2	42.9	30.4	56.4	69.7	68.1	69.9	68.4	0.2	0.3
R11	52.2	40.1	28.0	52.5	66.7	65.2	66.9	65.4	0.2	0.2
R12	53.8	40.8	27.1	54.0	68.8	64.1	68.9	64.5	0.1	0.4
R13	56.6	42.3	45.0	57.0	65.2	62.4	65.8	63.5	0.6	1.1
R14	53.7	40.5	34.7	54.0	62.3	59.6	62.9	60.6	0.6	1.0
R15	54.6	45.3	38.6	55.2	61.5	58.4	62.4	60.1	0.9	1.7
R16	51.0	40.2	52.9	55.2	67.9	63.0	68.1	63.7	0.2	0.7
R17	49.1	38.4	40.7	50.0	59.7	58.1	60.1	58.7	0.4	0.6
R18	52.5	42.5	42.4	53.3	67.2	68.7	67.4	68.8	0.2	0.1
R19	51.0	41.4	44.0	52.2	61.2	59.2	61.7	60.0	0.5	0.8

Table IV.E-26 (Continued)
Construction Noise Levels—Event Center

Receptor	Individual Construction Component Noise Levels[a] dBA (L_{eq})			Composite Construction Noise Levels dBA (L_{eq})	Ambient Noise Levels dBA (L_{eq})		Composite Construction + Ambient Noise Levels dBA (L_{eq})		Increase due to Project Construction dBA (L_{eq})	
	On-Site Equipment	Haul Trucks Staging	Off-Site Haul Trucks[b]		Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)	Daytime Hours (7:00 A.M.–9:00 P.M.)	Late Evening Hours (9:00 P.M.–12:00 A.M.)
R20	48.6	39.5	45.1	50.6	57.0	58.6	57.9	59.2	0.9	0.6
R21	48.5	39.4	42.6	49.9	55.0	49.2	56.2	52.6	1.2	**3.4**
R22	50.3	41.8	38.0	51.1	61.6	54.2	62.0	55.9	0.4	1.7
R23	52.9	45.0	36.7	53.6	56.7	49.5	58.4	55.1	1.7	**5.6**
R24	54.5	46.6	37.4	55.2	66.4	60.2	66.7	61.4	0.3	1.2
R25	54.8	46.7	36.4	55.5	56.3	54.5	58.9	58.0	2.6	**3.5**
R26	56.6	47.3	48.5	57.7	60.1	61.8	62.1	63.2	2.0	1.4

[a] *Project construction-related noise levels during concrete/structural framing phase.*

[b] *Based on the highest noise levels generated by one of the proposed construction truck routes.*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-27
Overlapping Composite Construction Noise Levels—Daytime Hours (7:00 A.M.–9:00 P.M.)

Location	Estimated Construction Noise Levels by Month with Overlapping of Construction Activities[a] Hourly L_{eq} (dBA)																							Significance Threshold[b] L_{eq} (dBA)	Significant Impacts?
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
R1	64.1	64.9	64.9	**68.4**	**68.0**	**68.5**	**68.5**	**69.7**	**69.7**	66.6	66.7	66.7	66.9	66.9	65.8	**70.1**	**70.1**	**70.0**	**71.4**	**70.8**	**76.5**	**76.5**	**76.5**	**77.1**	67.2	**Yes**
R2	69.3	69.6	69.6	70.3	70.0	70.3	70.3	70.8	70.8	69.8	69.9	69.9	70.9	70.8	69.4	70.5	70.5	70.3	71.3	71.0	71.6	71.6	71.6	71.9	73.7	No
R3	58.7	59.5	59.5	**62.2**	**61.7**	**62.3**	**62.3**	**63.4**	**63.4**	60.8	60.7	60.7	**61.6**	**61.5**	59.7	**61.5**	**61.5**	61.2	60.8	60.4	**62.3**	**62.5**	**62.5**	**62.9**	61.2	**Yes**
R4	62.2	62.8	62.8	**64.6**	**64.1**	**64.6**	**64.6**	**66.0**	**66.0**	**64.0**	63.3	63.3	**64.5**	**64.4**	62.3	**64.4**	**64.4**	63.8	63.5	63.2	**64.4**	**64.6**	**64.6**	**65.1**	63.9	**Yes**
R5	59.1	**59.7**	**59.7**	**61.4**	**60.7**	**61.5**	**61.5**	**63.0**	**63.0**	**61.0**	**60.6**	**60.6**	**61.8**	**61.6**	59.3	**61.9**	**61.9**	**61.3**	**60.9**	**60.6**	**62.3**	**62.7**	**62.7**	**63.2**	59.3	**Yes**
R6	**63.3**	**64.1**	**64.1**	**66.0**	**65.1**	**66.1**	**66.1**	**67.6**	**67.6**	**65.4**	**66.3**	**66.3**	**68.1**	**67.9**	**64.9**	**68.3**	**68.3**	**67.2**	**67.1**	**66.8**	**68.5**	**69.0**	**69.0**	**69.5**	61.1	**Yes**
R7	67.1	67.6	67.6	68.0	66.9	67.9	67.9	**69.2**	**69.2**	68.1	**68.6**	**68.6**	**70.6**	**70.3**	67.3	**70.6**	**70.6**	**69.8**	**71.0**	**70.6**	**72.1**	**72.4**	**72.4**	**72.9**	68.5	**Yes**
R8	58.8	59.0	59.0	59.9	59.5	59.9	59.9	60.8	60.8	59.7	59.5	59.5	60.2	60.1	58.9	60.5	60.5	60.1	60.0	59.8	61.4	61.6	61.6	62.0	62.3	No
R9	58.7	58.9	58.9	59.7	59.2	59.7	59.7	60.6	60.6	59.5	59.4	59.4	60.1	60.0	58.7	60.5	60.5	60.1	60.1	59.9	61.7	61.9	61.9	**62.3**	62.0	**Yes**
R10	69.7	69.8	69.8	69.8	69.8	69.8	69.8	69.9	69.9	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8	70.0	70.0	70.0	70.1	74.7	No
R11	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.9	66.9	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	67.0	67.0	67.0	67.0	71.7	No
R12	68.8	68.9	68.9	68.9	68.9	68.9	68.9	69.0	69.0	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	69.0	69.0	69.0	69.1	73.8	No
R13	65.4	65.6	65.6	65.8	65.7	65.8	65.8	66.1	66.1	65.7	65.7	65.7	66.1	66.0	65.5	66.0	66.0	65.9	66.3	66.2	66.7	66.7	66.7	66.9	70.2	No
R14	62.5	62.6	62.6	63.0	63.0	63.1	63.1	63.4	63.4	62.8	62.8	62.8	62.9	62.9	62.6	63.0	63.0	62.9	62.8	62.7	63.3	63.3	63.3	63.4	67.3	No
R15	62.1	62.2	62.2	63.0	62.7	63.0	63.0	63.5	63.5	62.6	62.6	62.6	62.9	62.8	62.2	62.9	62.9	62.8	62.6	62.5	63.2	63.3	63.3	63.5	66.5	No
R16	68.3	68.5	68.5	68.7	68.4	68.6	68.6	68.8	68.8	68.5	68.6	68.6	69.7	69.6	68.2	69.1	69.1	69.0	70.3	70.0	70.2	70.2	70.2	70.5	72.9	No
R17	60.1	60.2	60.2	60.6	60.4	60.6	60.6	60.9	60.9	60.4	60.4	60.4	60.8	60.8	60.1	60.7	60.7	60.6	61.0	60.9	61.2	61.2	61.2	61.4	64.7	No
R18	67.4	67.4	67.4	67.6	67.5	67.6	67.6	67.8	67.8	67.5	67.5	67.5	67.7	67.6	67.4	67.6	67.6	67.6	67.6	67.6	67.7	67.8	67.8	67.8	72.2	No
R19	61.7	61.9	61.9	62.4	62.1	62.4	62.4	62.8	62.8	62.1	62.1	62.1	62.8	62.7	61.8	62.5	62.5	62.4	63.0	62.8	63.2	63.2	63.2	63.5	66.2	No
R20	58.1	58.6	58.6	59.2	58.6	59.1	59.1	59.7	59.7	58.8	58.9	58.9	60.5	60.3	58.1	59.8	59.8	59.5	61.2	60.8	61.2	61.2	61.2	61.6	62.0	No
R21	56.2	56.7	56.7	57.5	57.0	57.5	57.5	58.2	58.2	57.1	57.1	57.1	58.5	58.4	56.3	58.0	58.0	57.7	59.1	58.7	59.2	59.3	59.3	59.7	60.0	No
R22	61.9	62.0	62.0	62.4	62.3	62.4	62.4	62.7	62.7	62.2	62.2	62.2	62.4	62.4	62.1	62.5	62.5	62.3	62.3	62.2	62.6	62.6	62.6	62.7	66.6	No
R23	58.2	58.4	58.4	59.5	59.1	59.6	59.6	60.5	60.5	59.1	58.9	58.9	59.5	59.4	58.3	59.6	59.6	59.3	59.0	58.8	60.0	60.1	60.1	60.5	61.7	No
R24	66.6	66.7	66.7	66.9	66.8	66.9	66.9	67.1	67.1	66.8	66.8	66.8	66.9	66.9	66.7	66.9	66.9	66.9	66.8	66.8	67.1	67.1	67.1	67.2	71.4	No
R25	58.2	58.5	58.5	59.7	59.3	59.8	59.8	60.8	60.8	59.4	59.1	59.1	59.8	59.7	58.4	60.1	60.1	59.7	59.3	59.1	60.7	60.9	60.9	61.3	61.3	No
R26	**67.9**	**69.3**	**69.3**	**73.0**	**72.6**	**73.2**	**73.2**	**74.8**	**74.8**	**71.4**	**70.6**	**70.6**	**71.2**	**71.2**	**69.3**	**71.0**	**71.0**	**70.6**	**66.1**	**65.8**	**66.4**	**67.0**	**67.0**	**67.3**	65.1	**Yes**

[a] *Refer to Table 18 of the Noise Study provided in Appendix L for the Project construction schedule..*

[b] *Significance threshold is equal to ambient plus 5 dBA.*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-27 (Continued)
Overlapping Composite Construction Noise Levels—Daytime Hours (7:00 A.M.–9:00 P.M.)

Location	Estimated Construction Noise Levels by Month with Overlapping of Construction Activities[a] Hourly L_{eq} (dBA)																							Significance Threshold[b] L_{eq} (dBA)	Maximum Exceedance	Significant Impacts?
	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48			
R1	**77.0**	**77.0**	**77.0**	**77.0**	**77.0**	**77.6**	**77.3**	**73.3**	**73.3**	**73.3**	**73.3**	**73.3**	**73.3**	**73.3**	**73.3**	**71.7**	**71.7**	**71.7**	**71.7**	**71.7**	**73.3**	**73.3**	**73.3**	**69.2**	67.2	10.4	**Yes**
R2	71.8	71.7	71.7	71.7	71.7	70.7	70.4	69.7	69.7	69.7	69.7	69.7	69.7	69.7	69.7	69.1	69.1	69.1	69.1	69.3	69.5	69.5	69.5	69.0	73.7	0.0	No
R3	**62.9**	**62.5**	**62.5**	**62.5**	**62.5**	**62.1**	**61.7**	59.4	59.4	59.4	59.4	59.4	59.4	59.4	59.4	58.3	58.3	58.3	58.3	58.7	59.5	59.5	59.5	57.5	61.2	2.2	**Yes**
R4	**64.9**	**64.2**	**64.2**	**64.2**	**64.2**	63.3	62.9	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	60.3	60.3	60.3	60.3	60.8	61.5	61.5	61.5	59.9	63.9	2.1	**Yes**
R5	**63.0**	**62.3**	**62.3**	**62.3**	**62.3**	**62.0**	**61.4**	59.1	59.1	59.1	59.1	59.1	59.1	59.1	59.1	57.6	57.6	57.6	57.6	58.4	**59.5**	**59.5**	**59.5**	56.7	59.3	3.9	**Yes**
R6	**69.1**	**67.7**	**67.7**	**67.7**	**67.7**	**67.3**	**66.8**	**63.9**	**63.9**	**63.9**	**63.9**	**63.9**	**63.9**	**63.9**	**63.9**	**61.9**	**61.9**	**61.9**	**61.9**	**63.0**	**64.4**	**64.4**	**64.4**	60.6	61.1	8.4	**Yes**
R7	**72.7**	**72.1**	**72.1**	**72.1**	**72.1**	**71.3**	**70.7**	68.4	68.4	68.4	68.4	68.4	68.4	68.4	68.4	66.7	66.7	66.7	66.7	67.6	**68.7**	**68.7**	**68.7**	65.9	68.5	4.4	**Yes**
R8	61.9	61.5	61.5	61.5	61.5	61.5	61.2	59.4	59.4	59.4	59.4	59.4	59.4	59.4	59.4	58.7	58.7	58.7	58.7	59.1	59.7	59.7	59.7	58.2	62.3	0.0	No
R9	**62.2**	61.8	61.8	61.8	61.8	61.8	61.5	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	58.7	58.7	58.7	58.7	59.1	59.9	59.9	59.9	58.1	62.0	0.3	**Yes**
R10	70.1	70.0	70.0	70.0	70.0	70.1	70.0	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.9	69.9	69.9	69.7	74.7	0.0	No
R11	67.0	67.0	67.0	67.0	67.0	67.0	67.0	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.7	71.7	0.0	No
R12	69.1	69.0	69.0	69.0	69.0	69.1	69.0	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.8	73.8	0.0	No
R13	66.9	66.8	66.8	66.8	66.8	66.4	66.3	65.7	65.7	65.7	65.7	65.7	65.7	65.7	65.7	65.5	65.5	65.5	65.5	65.6	65.7	65.7	65.7	65.4	70.2	0.0	No
R14	63.4	63.4	63.4	63.4	63.4	63.4	63.3	62.7	62.7	62.7	62.7	62.7	62.7	62.7	62.7	62.6	62.6	62.6	62.6	62.6	62.8	62.8	62.8	62.5	67.3	0.0	No
R15	63.5	63.3	63.3	63.3	63.3	63.2	63.0	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3	61.9	61.9	61.9	61.9	62.1	62.3	62.3	62.3	61.8	66.5	0.0	No
R16	70.4	70.3	70.3	70.3	70.3	68.9	68.6	68.4	68.4	68.4	68.4	68.4	68.4	68.4	68.4	68.0	68.0	68.0	68.0	68.2	68.2	68.2	68.2	68.0	72.9	0.0	No
R17	61.4	61.3	61.3	61.3	61.3	60.7	60.6	60.2	60.2	60.2	60.2	60.2	60.2	60.2	60.2	59.9	59.9	59.9	59.9	60.0	60.1	60.1	60.1	59.8	64.7	0.0	No
R18	67.8	67.8	67.8	67.8	67.8	67.6	67.5	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.3	67.3	67.3	67.3	67.3	67.4	67.4	67.4	67.3	72.2	0.0	No
R19	63.4	63.2	63.2	63.2	63.2	62.4	62.2	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.4	61.4	61.4	61.4	61.6	61.7	61.7	61.7	61.4	66.2	0.0	No
R20	61.5	61.3	61.3	61.3	61.3	59.4	59.0	58.3	58.3	58.3	58.3	58.3	58.3	58.3	58.3	57.5	57.5	57.5	57.5	57.8	58.1	58.1	58.1	57.3	62.0	0.0	No
R21	59.6	59.4	59.4	59.4	59.4	57.7	57.3	56.5	56.5	56.5	56.5	56.5	56.5	56.5	56.5	55.6	55.6	55.6	55.6	55.9	56.3	56.3	56.3	55.4	60.0	0.0	No
R22	62.7	62.6	62.6	62.6	62.6	62.4	62.3	61.9	61.9	61.9	61.9	61.9	61.9	61.9	61.9	61.8	61.8	61.8	61.8	61.9	62.0	62.0	62.0	61.7	66.6	0.0	No
R23	60.4	60.0	60.0	60.0	60.0	59.8	59.5	58.2	58.2	58.2	58.2	58.2	58.2	58.2	58.2	57.6	57.6	57.6	57.6	57.9	58.4	58.4	58.4	57.3	61.7	0.0	No
R24	67.2	67.1	67.1	67.1	67.1	67.0	67.0	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.6	66.6	66.6	66.6	66.6	66.7	66.7	66.7	66.5	71.4	0.0	No
R25	61.1	60.7	60.7	60.7	60.7	60.7	60.3	58.6	58.6	58.6	58.6	58.6	58.6	58.6	58.6	57.8	57.8	57.8	57.8	58.2	58.9	58.9	58.9	57.3	61.3	0.0	No
R26	**66.9**	**65.4**	**65.4**	**65.4**	**65.4**	63.9	63.5	62.2	62.2	62.2	62.2	62.2	62.2	62.2	62.2	61.1	61.1	61.1	61.1	61.6	62.1	62.1	62.1	60.8	65.1	9.7	**Yes**

[a] *Refer to Table 18 of the Noise Study provided in Appendix L for the Project construction schedule..*

[b] *Significance threshold is equal to ambient plus 5 dBA.*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-28
Overlapping Composite Construction Noise Levels—Late Evening Hours (9:00 P.M.–12:00 A.M.)

Location	Estimated Construction Noise Levels by Month with Overlapping of Construction Activities[a] Hourly L_{eq} (dBA)																							Significance Threshold[b] L_{eq} (dBA)	Significant Impacts?
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
R1	63.8	64.7	64.7	64.5	63.6	**64.9**	**64.9**	**67.1**	**67.1**	**66.5**	**66.6**	**66.6**	**66.8**	**66.8**	**65.6**	**70.0**	**70.0**	**69.9**	**71.4**	**70.7**	**72.0**	**72.0**	**72.0**	**73.6**	64.8	**Yes**
R2	65.4	66.2	66.2	66.3	65.3	66.2	66.2	**67.3**	**67.3**	66.7	66.9	66.9	**68.6**	**68.5**	65.8	**67.9**	**67.9**	**67.7**	**69.3**	**68.8**	**69.0**	**69.1**	**69.1**	**69.6**	66.9	**Yes**
R3	58.7	**59.5**	**59.5**	**59.4**	58.3	**59.6**	**59.6**	**61.5**	**61.5**	**60.8**	**60.7**	**60.7**	**61.6**	**61.5**	**59.7**	**61.5**	**61.5**	**61.2**	**60.8**	**60.4**	**60.8**	**61.0**	**61.0**	**61.7**	59.2	**Yes**
R4	**61.2**	**61.9**	**61.9**	**61.5**	**60.4**	**61.7**	**61.7**	**64.1**	**64.1**	**63.3**	**62.5**	**62.5**	**63.9**	**63.7**	**61.3**	**63.7**	**63.7**	**63.1**	**62.8**	**62.4**	**62.9**	**63.3**	**63.3**	**63.8**	59.2	**Yes**
R5	**58.5**	**59.2**	**59.2**	**58.8**	**57.5**	**59.0**	**59.0**	**61.3**	**61.3**	**60.6**	**60.1**	**60.1**	**61.4**	**61.3**	**58.7**	**61.6**	**61.6**	**60.9**	**60.5**	**60.1**	**60.8**	**61.3**	**61.3**	**62.0**	55.1	**Yes**
R6	**63.0**	**63.8**	**63.8**	**63.5**	**61.9**	**63.6**	**63.6**	**66.2**	**66.2**	**65.3**	**66.2**	**66.2**	**68.0**	**67.8**	**64.7**	**68.2**	**68.2**	**67.0**	**66.9**	**66.7**	**67.2**	**67.9**	**67.9**	**68.5**	57.2	**Yes**
R7	**66.1**	**66.6**	**66.6**	**66.7**	**65.2**	**66.6**	**66.6**	**68.2**	**68.2**	**67.3**	**67.9**	**67.9**	**70.1**	**69.8**	**66.3**	**70.2**	**70.2**	**69.3**	**70.7**	**70.2**	**70.7**	**71.1**	**71.1**	**71.8**	63.6	**Yes**
R8	58.1	58.3	58.3	58.2	57.6	58.3	58.3	**59.5**	**59.5**	59.1	58.9	58.9	**59.6**	**59.5**	58.2	**60.0**	**60.0**	**59.6**	**59.4**	59.2	**59.7**	**60.0**	**60.0**	**60.6**	59.2	**Yes**
R9	60.4	60.5	60.5	60.5	60.1	60.5	60.5	61.3	61.3	60.9	60.9	60.9	61.4	61.3	60.4	61.7	61.7	61.4	61.4	61.2	61.6	61.8	61.8	62.3	62.3	No
R10	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.3	68.3	68.2	68.2	68.2	68.3	68.3	68.2	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.4	71.1	No
R11	65.3	65.3	65.3	65.3	65.3	65.3	65.3	65.4	65.4	65.3	65.3	65.3	65.4	65.4	65.3	65.4	65.4	65.4	65.4	65.3	65.4	65.4	65.4	65.4	68.2	No
R12	64.2	64.3	64.3	64.2	64.2	64.3	64.3	64.4	64.4	64.3	64.3	64.3	64.4	64.4	64.3	64.4	64.4	64.4	64.3	64.3	64.4	64.4	64.4	64.5	67.1	No
R13	62.9	63.1	63.1	63.1	62.8	63.1	63.1	63.5	63.5	63.3	63.3	63.3	63.9	63.9	62.9	63.8	63.8	63.7	64.3	64.1	64.3	64.3	64.3	64.6	65.4	No
R14	60.0	60.2	60.2	60.1	59.9	60.2	60.2	60.7	60.7	60.5	60.5	60.5	60.7	60.6	60.2	60.7	60.7	60.7	60.5	60.4	60.6	60.6	60.6	60.9	62.6	No
R15	59.5	59.8	59.8	59.7	59.3	59.8	59.8	60.8	60.8	60.4	60.3	60.3	60.9	60.8	59.8	60.9	60.9	60.7	60.4	60.3	60.6	60.7	60.7	61.1	61.4	No
R16	64.1	64.7	64.7	64.8	64.0	64.7	64.7	65.2	65.2	64.7	64.9	64.9	**67.1**	**66.9**	64.0	**66.1**	**66.1**	65.8	**68.2**	**67.7**	**67.8**	**68.0**	**68.0**	**68.4**	66.0	**Yes**
R17	58.6	58.8	58.8	58.8	58.5	58.8	58.8	59.3	59.3	59.0	59.0	59.0	59.7	59.6	58.6	59.4	59.4	59.3	59.9	59.7	59.8	59.9	59.9	60.1	61.1	No
R18	68.8	68.9	68.9	68.8	68.8	68.8	68.8	69.0	69.0	68.9	68.9	68.9	69.0	69.0	68.8	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.1	71.7	No
R19	60.0	60.3	60.3	60.3	59.9	60.3	60.3	61.0	61.0	60.6	60.6	60.6	61.5	61.4	60.1	61.2	61.2	61.0	61.8	61.5	61.7	61.8	61.8	62.1	62.2	No
R20	59.4	59.8	59.8	59.8	59.3	59.7	59.7	60.3	60.3	59.9	60.0	60.0	61.3	61.1	59.4	60.7	60.7	60.5	**61.9**	61.5	**61.7**	**61.8**	**61.8**	**62.1**	61.6	**Yes**
R21	**52.7**	**53.8**	**53.8**	**53.8**	**52.4**	**53.8**	**53.8**	**55.3**	**55.3**	**54.4**	**54.4**	**54.4**	**56.8**	**56.6**	**52.9**	**55.9**	**55.9**	**55.5**	**57.6**	**57.0**	**57.3**	**57.5**	**57.5**	**58.0**	52.2	**Yes**
R22	55.8	56.2	56.2	56.0	55.5	56.1	56.1	**57.4**	**57.4**	56.9	56.7	56.7	**57.5**	**57.6**	56.2	**57.6**	**57.6**	57.1	57.2	56.9	57.2	**57.4**	**57.4**	**57.9**	57.2	**Yes**
R23	**54.4**	**55.0**	**55.0**	**54.7**	**53.6**	**55.0**	**55.0**	**57.2**	**57.2**	**56.4**	**55.9**	**55.9**	**57.0**	**57.0**	**54.7**	**57.3**	**57.3**	**56.7**	**56.2**	**55.8**	**56.5**	**56.9**	**56.9**	**57.5**	52.5	**Yes**
R24	61.1	61.3	61.3	61.2	60.9	61.2	61.2	62.0	62.0	61.7	61.6	61.6	62.0	61.9	61.2	62.1	62.1	61.9	61.7	61.6	61.8	62.0	62.0	62.3	63.2	No
R25	57.2	**57.6**	**57.6**	57.4	56.6	57.5	57.5	**59.1**	**59.1**	**58.6**	**58.3**	**58.3**	**59.1**	**58.9**	57.4	**59.4**	**59.4**	**58.9**	**58.4**	**58.2**	**58.8**	**59.1**	**59.1**	**59.7**	57.5	**Yes**
R26	**68.2**	**69.5**	**69.5**	**68.8**	**67.5**	**69.3**	**69.3**	**72.3**	**72.3**	**71.6**	**70.8**	**70.8**	**71.4**	**71.3**	**69.5**	**71.1**	**71.1**	**70.8**	**66.6**	**66.4**	**66.6**	**67.0**	**67.0**	**67.3**	64.8	**Yes**

[a] *Refer to Table 18 of the Noise Study provided in Appendix L for the Project construction schedule..*
[b] *Significance threshold is equal to ambient plus 3 dBA.*
Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-28 (Continued)
Overlapping Composite Construction Noise Levels—Late Evening Hours (9:00 P.M.–12:00 A.M.)

Location	Estimated Construction Noise Levels by Month with Overlapping of Construction Activities[a] Hourly L_{eq} (dBA)																							Significance Threshold[b] L_{eq} (dBA)	Maximum Exceedance	Significant Impacts?
	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48			
R1	**73.6**	**73.5**	**73.5**	**73.5**	**73.5**	**74.6**	**74.1**	**73.3**	**73.3**	**73.3**	**73.3**	**73.3**	**73.3**	**73.3**	**73.3**	**71.7**	**71.7**	**71.7**	**71.7**	**71.7**	**73.3**	**73.3**	**73.3**	**69.1**	64.8	9.8	**Yes**
R2	**69.5**	**69.4**	**69.4**	**69.4**	**69.4**	**67.3**	66.7	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3	65.1	65.1	65.1	65.1	65.5	66.0	66.0	66.0	64.6	66.9	2.7	**Yes**
R3	**61.5**	**61.2**	**61.2**	**61.2**	**61.2**	**60.4**	**60.0**	**59.4**	**59.4**	**59.4**	**59.4**	**59.4**	**59.4**	**59.4**	**59.4**	58.3	58.3	58.3	58.3	58.7	**59.5**	**59.5**	**59.5**	57.5	59.2	2.5	**Yes**
R4	**63.7**	**62.7**	**62.7**	**62.7**	**62.7**	**61.4**	**60.7**	**60.0**	**60.0**	**60.0**	**60.0**	**60.0**	**60.0**	**60.0**	**60.0**	58.5	58.5	58.5	58.5	**59.3**	**60.2**	**60.2**	**60.2**	57.9	59.2	4.9	**Yes**
R5	**61.8**	**60.7**	**60.7**	**60.7**	**60.7**	**60.2**	**59.4**	**58.4**	**58.4**	**58.4**	**58.4**	**58.4**	**58.4**	**58.4**	**58.4**	**56.7**	**56.7**	**56.7**	**56.7**	**57.7**	**59.0**	**59.0**	**59.0**	**55.6**	55.1	6.9	**Yes**
R6	**68.1**	**66.2**	**66.2**	**66.2**	**66.2**	**65.6**	**64.7**	**63.6**	**63.6**	**63.6**	**63.6**	**63.6**	**63.6**	**63.6**	**63.6**	**61.5**	**61.5**	**61.5**	**61.5**	**62.7**	**64.2**	**64.2**	**64.2**	**60.0**	57.2	11.3	**Yes**
R7	**71.6**	**70.7**	**70.7**	**70.7**	**70.7**	**69.5**	**68.6**	**67.7**	**67.7**	**67.7**	**67.7**	**67.7**	**67.7**	**67.7**	**67.7**	**65.6**	**65.6**	**65.6**	**65.6**	**66.6**	**68.0**	**68.0**	**68.0**	**64.5**	63.6	8.2	**Yes**
R8	**60.4**	**59.8**	**59.8**	**59.8**	**59.8**	**59.9**	**59.4**	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	57.9	57.9	57.9	57.9	58.4	59.1	59.1	59.1	57.4	59.2	1.4	**Yes**
R9	62.1	61.7	61.7	61.7	61.7	61.7	61.4	61.0	61.0	61.0	61.0	61.0	61.0	61.0	61.0	60.4	60.4	60.4	60.4	60.7	61.2	61.2	61.2	60.0	62.3	0.0	No
R10	68.4	68.3	68.3	68.3	68.3	68.4	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.2	68.2	68.2	68.2	68.2	68.3	68.3	68.3	68.2	71.1	0.0	No
R11	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.3	65.3	65.3	65.3	65.3	65.4	65.4	65.4	65.3	68.2	0.0	No
R12	64.5	64.4	64.4	64.4	64.4	64.5	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.3	64.3	64.3	64.3	64.3	64.4	64.4	64.4	64.2	67.1	0.0	No
R13	64.6	64.4	64.4	64.4	64.4	63.8	63.6	63.4	63.4	63.4	63.4	63.4	63.4	63.4	63.4	62.9	62.9	62.9	62.9	63.1	63.3	63.3	63.3	62.7	65.4	0.0	No
R14	60.8	60.7	60.7	60.7	60.7	60.7	60.6	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.1	60.1	60.1	60.1	60.2	60.4	60.4	60.4	59.9	62.6	0.0	No
R15	61.0	60.7	60.7	60.7	60.7	60.4	60.2	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.3	59.3	59.3	59.3	59.5	59.9	59.9	59.9	59.0	61.4	0.0	No
R16	**68.2**	**68.1**	**68.1**	**68.1**	**68.1**	65.3	64.8	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.4	63.3	63.3	63.3	63.3	63.7	64.0	64.0	64.0	63.3	66.0	2.4	**Yes**
R17	60.1	59.9	59.9	59.9	59.9	59.1	58.9	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.4	58.4	58.4	58.4	58.5	58.7	58.7	58.7	58.3	61.1	0.0	No
R18	69.1	69.0	69.0	69.0	69.0	68.9	68.9	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.7	71.7	0.0	No
R19	62.0	61.8	61.8	61.8	61.8	60.6	60.3	60.1	60.1	60.1	60.1	60.1	60.1	60.1	60.1	59.6	59.6	59.6	59.6	59.8	60.0	60.0	60.0	59.5	62.2	0.0	No
R20	**62.0**	**61.8**	**61.8**	**61.8**	**61.8**	60.1	59.8	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	58.9	58.9	58.9	58.9	59.2	59.4	59.4	59.4	58.8	61.6	0.5	**Yes**
R21	**57.8**	**57.5**	**57.5**	**57.5**	**57.5**	**54.7**	**53.9**	**53.2**	**53.2**	**53.2**	**53.2**	**53.2**	**53.2**	**53.2**	**53.2**	51.1	51.1	51.1	51.1	52.0	**52.9**	**52.9**	**52.9**	50.6	52.2	5.8	**Yes**
R22	**57.7**	**57.3**	**57.3**	**57.3**	**57.3**	56.6	56.2	55.8	55.8	55.8	55.8	55.8	55.8	55.8	55.8	55.1	55.1	55.1	55.1	55.4	55.9	55.9	55.9	54.8	57.2	0.7	**Yes**
R23	**57.4**	**56.5**	**56.5**	**56.5**	**56.5**	**56.2**	**55.5**	**54.6**	**54.6**	**54.6**	**54.6**	**54.6**	**54.6**	**54.6**	**54.6**	**53.0**	**53.0**	**53.0**	**53.0**	**53.9**	**55.0**	**55.0**	**55.0**	52.1	52.5	5.0	**Yes**
R24	62.2	61.8	61.8	61.8	61.8	61.7	61.5	61.2	61.2	61.2	61.2	61.2	61.2	61.2	61.2	60.8	60.8	60.8	60.8	61.0	61.4	61.4	61.4	60.6	63.2	0.0	No
R25	**59.5**	**58.8**	**58.8**	**58.8**	**58.8**	**58.7**	**58.3**	**57.6**	**57.6**	**57.6**	**57.6**	**57.6**	**57.6**	**57.6**	**57.6**	56.6	56.6	56.6	56.6	57.1	**58.0**	**58.0**	**58.0**	55.9	57.5	2.2	**Yes**
R26	**67.0**	**65.6**	**65.6**	**65.6**	**65.6**	64.1	63.7	63.3	63.3	63.3	63.3	63.3	63.3	63.3	63.3	62.5	62.5	62.5	62.5	62.9	63.2	63.2	63.2	62.3	64.8	7.5	**Yes**

[a] *Refer to Table 18 of the Noise Study provided in Appendix L for the Project construction schedule...*

[b] *Significance threshold is equal to ambient plus 3 dBA.*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-29
Construction Vibration Impacts—Building Damage

Construction Equipment (major powered equipment)	Reference Vibration Levels at 25 feet PPV	Estimated Vibration Levels at the Nearest Off-Site Buildings to the Project Construction Sites PPV[a] (inch per second)				Significance Threshold, PPV[b]
		Bond Street Garage (400 feet)	New Hall (530 feet)	L.A. Live Way Garage (250 feet)	Event Center (100 feet)	
Impact Pile Driver (typical)	0.644	0.0101	0.0066	0.0204	0.0805	0.12 to 0.50
Vibratory Roller	0.210	0.0033	0.0022	0.0066	0.0263	0.12 to 0.50
Large Bulldozer	0.089	0.0014	0.0009	0.0028	0.0111	0.12 to 0.50
Caisson Drilling	0.089	0.0014	0.0009	0.0028	0.0111	0.12 to 0.50
Loaded Trucks	0.076	0.0012	0.0008	0.0024	0.0095	0.12 to 0.50
Jackhammer	0.035	0.0005	0.0004	0.0011	0.0044	0.12 to 0.50
Small Bulldozer	0.003	<0.0001	<0.0001	0.0001	0.0004	0.12 to 0.50

[a] *PPV at distance D = PPVref x (25/D)$^{1.5}$. Distance shown is a distance from the nearest off-site building to the closest point of the construction area.*

[b] *Significance thresholds are based on the construction conditions of the affected building structures, as described in Section 4.2.3 of the Noise Impact Study—Convention Center Modernization & Farmers Field Project, included as Appendix L.*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-30
Construction Vibration Impacts—Sensitive Uses

Construction Equipment (major powered equipment)	Reference Vibration Levels at 25 feet VdB	Estimated Vibration Levels at the Nearest Off-Site Vibration Sensitive Uses to the Project Construction Sites VdB (inch per second)[a]				Significance Threshold VdB[b]
		Bond Street Garage (400 feet)	New Hall (550 feet)	L.A. Live Way Garage (250 feet)	Event Center (100 feet)	
Impact Pile Driver	104	68	64	74	86	72
Vibratory Roller	94	57	54	62	76	72
Large Bulldozer	87	50	47	55	69	72
Caisson Drilling	87	50	47	55	69	72
Loaded Trucks	86	49	46	54	68	72
Jackhammer	79	42	39	47	61	72
Small Bulldozer	58	21	18	26	40	72

[a] *VdB at distance D = VdBref – 30*Log (D/25).*

[b] *Significance thresholds are based on the construction conditions of the affected building structures, as described in Section 4.2.3 of the Noise Impact Study.*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-31
Building Mechanical Equipment Noise Levels

Location	Estimated Noise Levels dBA (L_{eq})			Significance Threshold[a] dBA (L_{eq})		Significant Impacts?	
	Central Plant	New Hall and Pico Passage Exhaust Fans	Central Plant + Exhaust Fans	Daytime Hours (7 A.M–10 P.M.)	Nighttime Hours (10 P.M.–7 A.M.)	Daytime Hours (7 A.M.—10 P.M.)	Nighttime Hours (10 P.M.–7 A.M.)
R1	34.3	20.3	34.5	67.2	66.8	No	No
R2	47.6	30.4	47.7	73.7	68.9	No	No
R3	47.1	33.4	47.3	61.2	61.2	No	No
R4	52.3	25.1	52.3	63.9	61.2	No	No
R5	47.3	25.5	47.3	59.3	55.6	No	No
R6	39.4	24.1	39.5	61.1	59.2	No	No
R7	33.8	16.9	33.9	68.5	65.6	No	No
R8	32.1	18.3	32.3	62.3	61.2	No	No
R9	42.5	18.5	42.5	62.0	59.5	No	No
R10	33.1	17.3	33.2	74.7	67.9	No	No
R11	35.1	19.6	35.2	71.7	70.2	No	No
R12	29.9	14.4	30.0	73.8	69.1	No	No
R13	46.4	28.2	46.5	70.2	67.4	No	No
R14	46.3	30.8	46.4	67.3	58.0	No	No
R15	33.0	17.1	33.1	66.4	62.6	No	No
R16	43.6	27.3	43.7	72.9	67.7	No	No
R17	45.6	23.2	45.6	64.7	63.1	No	No
R18	43.0	22.6	43.0	72.2	71.9	No	No
R19	45.9	23.2	45.9	66.2	64.2	No	No
R20	45.1	23.6	45.1	62.0	63.3	No	No
R21	45.0	23.9	45.0	60.0	54.2	No	No
R22	46.8	24.9	46.8	66.6	59.2	No	No
R23	48.0	25.0	48.0	61.7	54.5	No	No
R24	39.6	25.7	39.8	71.4	65.2	No	No
R25	35.3	26.4	35.8	61.3	54.9	No	No
R26	53.0	24.8	53.0	65.1	66.8	No	No

[a] *Significance threshold is equal to ambient noise levels plus 5 dBA. The ambient noise levels are provided in Table IV.E-7.*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-32
Parking Operations Noise Levels

Location	Estimated Parking Operations Noise Levels dBA (L_{max})	Significance Threshold[a] dBA (L_{max})		Significant Impacts?	
		Daytime Hours (7 A.M– 10 P.M.)	Nighttime Hours (10 P.M.– 7 A.M.)	Daytime Hours (7 A.M.— 10 P.M.)	Nighttime Hours (10 P.M.– 7 A.M.)
R1	55.1	67.2	66.8	No	No
R2	39.4	73.7	68.9	No	No
R3	37.6	61.2	61.2	No	No
R4	62.5	63.9	61.2	No	**Yes**
R5	61.1	59.3	55.6	**Yes**	**Yes**
R6	67.8	61.1	59.2	**Yes**	**Yes**
R7	68.1	68.5	65.6	No	**Yes**
R8	57.4	62.3	61.2	No	No
R9	56.8	62.0	59.5	No	No
R10	42.7	74.7	67.9	No	No
R11	41.2	71.7	70.2	No	No
R12	32.0	73.8	69.1	No	No
R13	35.3	70.2	67.4	No	No
R14	33.7	67.3	58.0	No	No
R15	34.4	66.4	62.6	No	No
R16	32.6	72.9	67.7	No	No
R17	42.1	64.7	63.1	No	No
R18	42.4	72.2	71.9	No	No
R19	46.3	66.2	64.2	No	No
R20	48.5	62.0	63.3	No	No
R21	48.4	60.0	54.2	No	No
R22	52.1	66.6	59.2	No	No
R23	55.9	61.7	54.5	No	**Yes**
R24	58.0	71.4	65.2	No	No
R25	57.5	61.3	54.9	No	**Yes**
R26	59.0	65.1	66.8	No	No

[a] *Significance threshold is based on ambient noise levels plus 5 dBA. The ambient noise levels are provided in Table IV.E-7.*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-33
Loading Dock and Refuse Collection Operations Noise Levels

Location	Estimated Noise Levels dBA (L_{eq})		Significance Threshold[c] dBA (L_{eq})		Significant Impacts?	
	Loading Dock[a]	Refuse Collection[b]	Daytime Hours (7 A.M.–10 P.M.)	Nighttime Hours (10 P.M.–7 A.M.)	Daytime Hours (7 A.M.–10 P.M.)	Nighttime Hours (10 P.M.–7 A.M.)
R1	29.3	22.7	67.2	66.8	No	No
R2	34.1	22.7	73.7	68.9	No	No
R3	31.9	21.5	61.2	61.2	No	No
R4	40.9	36.5	63.9	61.2	No	No
R5	31.4	22.9	59.3	55.6	No	No
R6	33.2	24.2	61.1	59.2	No	No
R7	28.3	18.9	68.5	65.6	No	No
R8	23.8	15.2	62.3	61.2	No	No
R9	23.0	14.3	62.0	59.5	No	No
R10	22.7	13.3	74.7	67.9	No	No
R11	19.5	10.6	71.7	70.2	No	No
R12	21.3	11.9	73.8	69.1	No	No
R13	24.6	14.5	70.2	67.4	No	No
R14	24.4	14.4	67.3	58.0	No	No
R15	27.5	17.4	66.4	62.6	No	No
R16	23.5	14.6	72.9	67.7	No	No
R17	33.0	25.5	64.7	63.1	No	No
R18	33.9	21.1	72.2	71.9	No	No
R19	34.4	19.2	66.2	64.2	No	No
R20	32.3	25.7	62.0	63.3	No	No
R21	32.8	28.0	60.0	54.2	No	No
R22	36.0	33.2	66.6	59.2	No	No
R23	27.0	18.8	61.7	54.5	No	No
R24	27.1	19.1	71.4	65.2	No	No
R25	25.4	17.0	61.3	54.9	No	No
R26	55.4	29.1	65.1	66.8	No	No

[a] *Based on maximum of 10 delivery trucks at the new Event Center loading dock, 21 delivery trucks at the expanded South Hall loading dock, and 4 delivery trucks at the new Kitchen loading dock (inside Pico Passage).*

[b] *Based on maximum of 4 trash compactors at the new Event Center loading dock and 4 trash compactors at the expanded South Hall loading dock.*

[c] *Significance threshold is based on ambient noise levels plus 5 dBA. The ambient noise levels are provided in Table IV.E-7.*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-34
Convention Center Buses Noise Levels

Location	Estimated Convention Center Buses Operations Noise Levels dBA (L_{eq})	Significance Threshold[a] dBA (L_{eq})		Significant Impacts?	
		Daytime Hours (7 A.M–10 P.M.)	Nighttime Hours (10 P.M.–7 A.M.)	Daytime Hours (7 A.M.— 10 P.M.)	Nighttime Hours (10 P.M.–7 A.M.)
R1	24.8	67.2	66.8	No	No
R2	56.3	73.7	68.9	No	No
R3	48.7	61.2	61.2	No	No
R4	27.5	63.9	61.2	No	No
R5	26.7	59.3	55.6	No	No
R6	30.6	61.1	59.2	No	No
R7	26.9	68.5	65.6	No	No
R8	21.4	62.3	61.2	No	No
R9	21.9	62.0	59.5	No	No
R10	21.5	74.7	67.9	No	No
R11	24.2	71.7	70.2	No	No
R12	21.2	73.8	69.1	No	No
R13	41.1	70.2	67.4	No	No
R14	35.5	67.3	58.0	No	No
R15	26.1	66.4	62.6	No	No
R16	27.0	72.9	67.7	No	No
R17	31.7	64.7	63.1	No	No
R18	23.6	72.2	71.9	No	No
R19	21.9	66.2	64.2	No	No
R20	28.6	62.0	63.3	No	No
R21	29.1	60.0	54.2	No	No
R22	19.5	66.6	59.2	No	No
R23	22.0	61.7	54.5	No	No
R24	32.3	71.4	65.2	No	No
R25	22.2	61.3	54.9	No	No
R26	28.0	65.1	66.8	No	No

[a] *Significance threshold is based on ambient noise levels plus 5 dBA. The ambient noise levels are provided in Table IV.E-7.*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-35
Outdoor Plazas Noise Levels

Location	Estimated Outdoor Plazas Noise Levels dBA (L_{eq})	Significance Threshold[a] dBA (L_{eq})		Significant Impacts?	
		Daytime Hours (7 A.M.–10 P.M.)	Nighttime Hours (10 P.M.–7 A.M.)	Daytime Hours (7 A.M.— 10 P.M.)	Nighttime Hours (10 P.M.–7 A.M.)
R1	80.9	67.2	66.8	**Yes**	**Yes**
R2	85.0	73.7	68.9	**Yes**	**Yes**
R3	74.8	61.2	61.2	**Yes**	**Yes**
R4	50.6	63.9	61.2	No	No
R5	49.9	59.3	55.6	No	No
R6	54.0	61.1	59.2	No	No
R7	59.1	68.5	65.6	No	No
R8	58.6	62.3	61.2	No	No
R9	57.4	62.0	59.5	No	No
R10	64.7	74.7	67.9	No	No
R11	52.5	71.7	70.2	No	No
R12	53.8	73.8	69.1	No	No
R13	77.6	70.2	67.4	**Yes**	**Yes**
R14	64.5	67.3	58.0	No	**Yes**
R15	54.1	66.4	62.6	No	No
R16	54.1	72.9	67.7	No	No
R17	56.2	64.7	63.1	No	No
R18	49.4	72.2	71.9	No	No
R19	47.5	66.2	64.2	No	No
R20	43.9	62.0	63.3	No	No
R21	43.4	60.0	54.2	No	No
R22	44.4	66.6	59.2	No	No
R23	46.5	61.7	54.5	No	No
R24	48.2	71.4	65.2	No	No
R25	48.3	61.3	54.9	No	No
R26	52.7	65.1	66.8	No	No

[a] *Significance threshold is based on ambient noise levels plus 5 dBA. The ambient noise levels are provided in Table IV.E-7.*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-36
Event Center—Sports Event Noise Levels

Location	Estimated Noise Levels dBA (L_{max})		Significance Threshold[a] dBA (L_{max})		Significant Impacts?	
	Event Center In-House Sound System	Crowd Cheering	Daytime Hours (7 A.M.–10 P.M.)	Nighttime Hours (10 P.M.–7 A.M.)	Daytime Hours (7 A.M.—10 P.M.)	Nighttime Hours (10 P.M.–7 A.M.)
R1	73.3	79.9	72.2	71.8	**Yes**	**Yes**
R2	67.4	66.2	78.7	73.9	No	No
R3	67.1	62.4	66.2	66.2	**Yes**	**Yes**
R4	65.1	62.2	68.9	66.2	No	No
R5	67.5	66.4	64.3	60.6	**Yes**	**Yes**
R6	66.9	68.2	66.1	64.2	**Yes**	**Yes**
R7	72.1	75.9	73.5	70.6	**Yes**	**Yes**
R8	67.1	71.1	67.3	66.2	**Yes**	**Yes**
R9	67.6	64.6	67.0	64.5	**Yes**	**Yes**
R10	58.6	61.4	79.7	72.9	No	No
R11	63.7	60.0	76.7	75.2	No	No
R12	50.8	58.6	78.8	74.1	No	No
R13	63.8	73.0	75.2	72.4	No	**Yes**
R14	64.7	59.7	72.3	63.0	No	**Yes**
R15	49.8	59.6	71.4	67.6	No	No
R16	62.1	57.0	77.9	72.7	No	No
R17	59.6	53.3	69.7	68.1	No	No
R18	57.5	59.4	77.2	76.9	No	No
R19	60.7	58.9	71.2	69.2	No	No
R20	60.2	56.7	67.0	68.3	No	No
R21	59.7	55.8	65.0	59.2	No	**Yes**
R22	61.4	54.9	71.6	64.2	No	No
R23	64.2	66.4	66.7	59.5	No	**Yes**
R24	65.7	70.5	76.4	70.2	No	**Yes**
R25	65.2	60.1	66.3	59.9	No	**Yes**
R26	61.4	62.8	70.1	71.8	No	No

[a] *Significance threshold is equal to ambient noise levels plus 10 dBA. The ambient noise levels are provided in Table IV.E-7.*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-37
Event Center—Concert Event Noise Levels

Location	Estimated Noise Levels from Concert Touring Sound System		Significance Threshold[a] dBA (L_{max})		Significant Impacts?	
	A-Weighted dBA (L_{max})	C-Weighted dBC (L_{max})	Daytime Hours (7 A.M.–10 P.M.)	Nighttime Hours (10 P.M.–7 A.M.)	Daytime Hours (7 A.M.—10 P.M.)	Nighttime Hours (10 P.M.–7 A.M.)
R1	73.7	92.2	67.2	66.8	**Yes**	**Yes**
R2	70.0	89.2	73.7	68.9	No	**Yes**
R3	67.8	87.6	61.2	61.2	**Yes**	**Yes**
R4	71.6	91.5	63.9	61.2	**Yes**	**Yes**
R5	67.0	86.5	59.3	55.6	**Yes**	**Yes**
R6	71.5	90.4	61.1	59.2	**Yes**	**Yes**
R7	74.6	93.9	68.5	65.6	**Yes**	**Yes**
R8	66.7	86.2	62.3	61.2	**Yes**	**Yes**
R9	72.5	92.4	62.0	59.5	**Yes**	**Yes**
R10	71.6	91.5	74.7	67.9	No	**Yes**
R11	68.8	88.7	71.7	70.2	No	No
R12	64.9	84.5	73.8	69.1	No	No
R13	67.4	86.8	70.2	67.4	No	No
R14	65.5	85.0	67.3	58.0	No	**Yes**
R15	65.4	85.2	66.4	62.6	No	**Yes**
R16	62.8	82.7	72.9	67.7	No	No
R17	65.9	85.9	64.7	63.1	**Yes**	**Yes**
R18	64.3	84.2	72.2	71.9	No	No
R19	63.3	83.2	66.2	64.2	No	No
R20	61.4	81.3	62.0	63.3	No	No
R21	61.2	81.2	60.0	54.2	**Yes**	**Yes**
R22	67.0	86.9	66.6	59.2	**Yes**	**Yes**
R23	64.2	83.9	61.7	54.5	**Yes**	**Yes**
R24	65.7	85.2	71.4	65.2	No	**Yes**
R25	65.8	85.3	61.3	54.9	**Yes**	**Yes**
R26	67.3	86.9	65.1	66.8	**Yes**	**Yes**

[a] *Significance threshold is equal to ambient noise levels plus 5 dBA. The ambient noise levels are provided in Table IV.E-7.*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-38
Firework Display Noise Levels

Location	Estimated Noise Levels from Firework Display Shows		Significance Threshold[a] dBA (L_{max})		Significant Impacts?	
	A-Weighted Maximum Sound Level dBA (L_{max})	C-Weighted Peak Sound Level dBC	Daytime Hours (7 A.M.– 10 P.M.)	Nighttime Hours (10 P.M.– 7 A.M.)	Daytime Hours (7 A.M.— 10 P.M.)	Nighttime Hours (10 P.M.– 7 A.M.)
R1	90.9	116.9	67.2	66.8	Yes	Yes
R2	100.3	126.3	73.7	68.9	Yes	Yes
R3	101.3	127.3	61.2	61.2	Yes	Yes
R4	101.0	127.0	63.9	61.2	Yes	Yes
R5	101.0	127.0	59.3	55.6	Yes	Yes
R6	96.4	122.4	61.1	59.2	Yes	Yes
R7	93.1	119.1	68.5	65.6	Yes	Yes
R8	100.2	126.2	62.3	61.2	Yes	Yes
R9	100.6	126.6	62.0	59.5	Yes	Yes
R10	92.3	118.3	74.7	67.9	Yes	Yes
R11	96.7	122.7	71.7	70.2	Yes	Yes
R12	82.7	108.7	73.8	69.1	Yes	Yes
R13	97.1	123.1	70.2	67.4	Yes	Yes
R14	99.0	125.0	67.3	58.0	Yes	Yes
R15	80.2	106.2	66.4	62.6	Yes	Yes
R16	95.5	121.5	72.9	67.7	Yes	Yes
R17	93.5	119.5	64.7	63.1	Yes	Yes
R18	94.2	120.2	72.2	71.9	Yes	Yes
R19	96.0	122.0	66.2	64.2	Yes	Yes
R20	93.4	119.4	62.0	63.3	Yes	Yes
R21	93.2	119.2	60.0	54.2	Yes	Yes
R22	94.9	120.9	66.6	59.2	Yes	Yes
R23	97.5	123.5	61.7	54.5	Yes	Yes
R24	99.4	125.4	71.4	65.2	Yes	Yes
R25	99.4	125.4	61.3	54.9	Yes	Yes
R26	99.0	125.0	65.1	66.8	Yes	Yes

[a] *Significance threshold is equal to ambient noise levels plus 5 dBA. The ambient noise levels are provided in Table IV.E-7.*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-39
Off-Site Roadway Traffic Noise Impacts

Roadway Segment	Adjacent Land Uses	Future Without Project Traffic Noise Levels[a] dBA (Hourly L_{eq})						Future With Project Traffic Noise Levels[a] dBA (Hourly L_{eq})						Increase in Traffic Noise Levels due to Project dBA (Hourly L_{eq})						Significant Impacts?[c]
		Saturday		Sunday		Weekday		Saturday		Sunday		Weekday		Saturday		Sunday		Weekday		
		Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	
Grand Avenue																				
North of 1st St.	Concert Hall	68.8	69.8	69.0	69.0	73.1	67.6	70.2	71.6	70.3	71.0	73.7	70.4	1.4	1.8	1.3	2.0	0.6	2.8	No
South of 1st St.	Concert Hall	69.2	69.6	69.2	69.1	72.6	67.1	70.5	69.6	70.6	69.1	73.3	67.1	1.3	0.0	1.4	0.0	0.7	0.0	No
North of 11th St.	Residential	68.1	68.2	67.2	67.3	72.1	66.0	68.4	69.4	67.5	68.2	72.2	66.8	0.3	1.2	0.3	0.9	0.1	0.8	No
Between 11th and 12th St.	Residential	69.8	69.9	68.9	69.0	73.5	67.8	70.6	72.1	69.9	71.1	74.1	70.6	0.8	2.2	1.0	2.1	0.6	2.8	No
Between 12th St. and Venice Ave.	Residential/ Hospital	69.8	69.9	68.7	69.1	73.6	67.8	70.1	73.3	68.8	72.6	73.9	72.0	0.3	3.4	0.1	3.5	0.3	4.2	No
Between Venice Ave. and 17th St.	Residential	69.7	69.8	68.8	69.2	73.8	67.8	70.3	74.0	68.8	73.5	73.9	72.7	0.6	4.2	0.0	4.3	0.1	4.9	No
Between 17th St. and Washington Ave.	Church	67.8	67.5	66.4	66.3	71.8	65.0	68.2	71.6	66.6	71.3	72.1	70.8	0.4	4.1	0.2	5.0	0.3	5.8	Yes
South of Washington Ave.	School	68.4	67.6	65.5	66.0	71.9	66.0	68.7	69.8	66.3	68.8	72.0	69.5	0.3	2.2	0.8	2.8	0.1	3.5	No
Figueroa Street																				
Between 2nd St. and 5th St.	Residential/Hotel	69.3	69.6	68.9	69.5	73.8	69.2	69.9	72.7	69.4	72.4	74.0	72.3	0.6	3.1	0.5	2.9	0.2	3.1	No
Between 5th St. and Wilshire Blvd.	Office[b]	71.8	72.5	70.5	70.8	74.8	70.9	72.0	74.8	70.6	73.7	75.0	73.2	0.2	2.3	0.1	2.9	0.2	2.3	No
Between Wilshire Blvd. and 9th St.	Hotel	71.1	72.4	69.9	70.2	73.3	69.3	72.2	74.1	71.3	72.8	73.8	71.8	1.1	1.7	1.4	2.6	0.5	2.5	No
Between 9th St. and Olympic Blvd.	Residential/Hotel	71.6	72.3	70.0	70.2	72.6	68.8	72.3	72.5	70.8	70.7	73.1	69.7	0.7	0.2	0.8	0.5	0.5	0.9	No
Between Olympic Blvd. and Pico Blvd.	Hotel	72.3	73.1	70.5	70.8	73.1	69.2	72.8	72.9	71.5	71.0	73.3	69.2	0.5	-0.2	1.0	0.2	0.2	0.0	No
South of Pico Blvd.	Residential	72.3	73.1	70.5	70.9	73.4	68.7	72.8	73.1	71.7	71.5	73.7	69.1	0.5	0.0	1.2	0.6	0.3	0.4	No
Flower Street																				
North of 6th St.	Residential	67.9	68.9	67.3	66.9	71.5	67.1	69.9	69.0	69.5	67.0	72.6	67.3	2.0	0.1	2.2	0.1	1.1	0.2	No
Between 6th St. and 8th St.	Residential	70.3	70.7	69.2	69.6	73.0	68.8	72.6	71.3	72.0	70.3	74.2	69.5	2.3	0.6	2.8	0.7	1.2	0.7	No
Between 8th and Pico Blvd.	Residential	69.9	70.0	68.7	68.7	72.4	67.6	70.7	70.6	69.5	69.6	72.9	68.0	0.8	0.6	0.8	0.9	0.5	0.4	No
South of Pico Blvd.	Hotel	70.6	70.9	69.7	69.9	73.4	68.4	70.8	72.5	69.4	71.9	73.4	70.2	0.2	1.6	-0.3	2.0	0.0	1.8	No
South of 18th St.	Residential	68.9	69.2	67.9	67.7	72.0	67.6	68.9	70.7	67.9	69.8	72.0	69.9	0.0	1.5	0.0	2.1	0.0	2.3	No
Hope Street																				
North of 1st St.	Concert Hall	66.8	67.9	67.3	67.9	71.5	65.8	69.0	70.1	69.3	70.1	72.3	69.0	2.2	2.2	2.0	2.2	0.8	3.2	No
South of 1st St.	Concert Hall	66.3	66.7	65.6	67.5	71.6	65.8	68.5	67.4	68.0	67.8	72.3	66.2	2.2	0.7	2.4	0.3	0.7	0.4	No
1st Street																				
Between Hope St. and Grand Ave.	Concert Hall	70.0	70.8	69.4	69.6	72.9	67.3	70.1	71.4	69.6	70.2	73.0	68.3	0.1	0.6	0.2	0.6	0.1	1.0	No
2nd Street																				
West of Figueroa St.	Residential	69.4	69.6	66.2	66.5	70.6	65.9	69.4	71.2	66.3	69.1	70.7	68.9	0.0	1.6	0.1	2.6	0.1	3.0	No
East of Figueroa St.	Residential	68.5	68.4	65.6	66.2	69.6	65.0	68.5	68.7	65.7	66.7	69.7	65.8	0.0	0.3	0.1	0.5	0.1	0.8	No
6th Street																				
West of Lucas Ave.	Hospital	73.1	73.0	71.6	71.6	74.7	70.7	73.2	73.1	71.7	71.7	74.7	70.7	0.1	0.1	0.1	0.1	0.0	0.0	No
Between Lucas Ave. & Bixel St.	Residential	73.3	73.1	71.6	71.8	75.0	70.7	73.8	73.2	72.2	71.9	75.3	70.7	0.5	0.1	0.6	0.1	0.3	0.0	No
East of Bixel St.	Residential	73.5	73.3	71.6	71.7	74.9	70.4	74.0	73.5	72.2	71.9	75.2	70.5	0.5	0.2	0.6	0.2	0.3	0.1	No
East of Flower St.	Residential	72.7	72.3	71.6	70.1	73.4	70.2	73.9	73.1	73.1	71.3	74.7	71.1	1.2	0.8	1.5	1.2	1.3	0.9	No
West of Main St.	Residential	71.6	70.9	70.8	69.6	72.2	68.6	71.6	72.0	70.8	70.9	72.2	70.4	0.0	1.1	0.0	1.3	0.0	1.8	No
East of Main St.	Residential	70.8	69.9	70.0	68.3	71.5	67.3	70.8	70.0	70.0	68.4	71.5	67.3	0.0	0.1	0.0	0.1	0.0	0.0	No

Table IV.E-39 (Continued)
Off-Site Roadway Traffic Noise Impacts

Roadway Segment	Adjacent Land Uses	Future Without Project Traffic Noise Levels[a] dBA (Hourly L_{eq})						Future With Project Traffic Noise Levels[a] dBA (Hourly L_{eq})						Increase in Traffic Noise Levels due to Project dBA (Hourly L_{eq})						Significant Impacts?[c]
		Saturday		Sunday		Weekday		Saturday		Sunday		Weekday		Saturday		Sunday		Weekday		
		Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	
Olympic Boulevard																				
West of Alvarado St.	Commercial[b]	72.9	72.5	71.4	71.6	73.7	70.5	73.2	73.1	71.9	72.2	74.1	71.5	0.3	0.6	0.5	0.6	0.4	1.0	No
Between Alvarado St. & Union Ave.	Religious	72.8	72.2	71.4	71.4	73.6	70.5	73.4	72.9	72.3	72.1	74.0	71.4	0.6	0.7	0.9	0.7	0.4	0.9	No
Between Union Ave. & Blaine St.	School/Religious	72.6	72.1	71.0	70.9	73.1	70.0	73.4	73.0	72.1	71.6	73.8	71.0	0.8	0.9	1.1	0.7	0.7	1.0	No
Between Blaine St. & Georgia St.	School	73.0	72.7	71.4	71.1	73.2	70.3	74.1	74.1	72.8	72.4	73.8	71.4	1.1	1.4	1.4	1.3	0.6	1.1	No
Between Georgia St. & Francisco St.	Residential/Hotel	72.9	72.6	71.6	70.9	72.8	70.2	74.1	73.9	72.8	72.1	73.4	71.1	1.2	1.3	1.2	1.2	0.6	0.9	No
Between Francisco St. & Figueroa St.	Hotel	72.9	72.8	71.5	71.1	73.3	70.3	74.4	74.3	73.3	72.9	74.3	71.6	1.5	1.5	1.8	1.8	1.0	1.3	No
Between Figueroa St. and Flower St.	Commercial[b]	73.0	72.7	71.5	71.2	73.5	70.0	74.3	74.3	72.9	72.8	74.4	71.2	1.3	1.6	1.4	1.6	0.9	1.2	No
East of Flower St.	Residential	72.4	72.1	70.8	70.6	72.8	69.3	73.4	73.4	72.2	71.5	73.5	70.2	1.0	1.3	1.4	0.9	0.7	0.9	No
W. 11th Street																				
West of Blaine St.	Residential	66.6	68.0	66.8	66.3	67.8	64.9	65.4	66.3	67.0	63.3	64.5	62.4	-1.2	-1.7	0.2	-3.0	-3.3	-2.5	No
Between Blaine St. & L A Live Wy.	Residential	69.5	70.4	69.0	68.5	69.8	65.9	67.6	72.0	68.4	72.0	68.3	72.0	-1.9	1.6	-0.6	3.5	-1.5	6.1	Yes
East of L A Live Wy.	Auditorium	68.0	68.5	66.7	65.2	66.6	63.7	64.2	66.6	63.1	65.7	63.4	65.0	-3.8	-1.9	-3.6	0.5	-3.2	1.3	No
West of Grand Ave.	Residential	68.9	69.4	67.9	67.8	69.7	67.0	68.2	68.2	67.5	66.2	68.9	65.7	-0.7	-1.2	-0.4	-1.6	-0.8	-1.3	No
East of Grand Ave.	Residential	69.5	70.0	68.8	68.4	70.5	67.7	70.5	69.9	70.2	68.1	71.7	68.4	1.0	-0.1	1.4	-0.3	1.2	0.7	No
Pico Boulevard																				
West of Alvarado St.	Religious	72.1	72.1	71.6	71.4	72.5	68.6	72.4	72.5	71.9	71.9	72.8	69.6	0.3	0.4	0.3	0.5	0.3	1.0	No
Between Alvarado St. & Union Ave.	Commercial[b]	72.1	72.1	71.9	71.7	72.5	68.6	72.7	72.8	72.6	72.8	73.4	70.5	0.6	0.7	0.7	1.1	0.9	1.9	No
Between Union Ave. & Figueroa St.	Residential	71.8	71.8	71.0	71.1	72.8	67.9	72.5	72.4	72.0	72.1	73.5	70.2	0.7	0.6	1.0	1.0	0.7	2.3	No
Between Figueroa St. & Flower St.	Residential/Hotel	69.5	69.9	68.7	69.3	71.9	65.8	70.8	70.4	70.5	70.3	72.5	68.4	1.3	0.5	1.8	1.0	0.6	2.6	No
East of Hill St.	Motel	69.6	68.8	68.1	67.4	71.0	64.4	70.4	69.5	69.0	68.3	71.4	66.3	0.8	0.7	0.9	0.9	0.4	1.9	No
Blaine Street																				
North of I-110 SB Off-Ramp	Residential	70.8	70.2	69.5	68.5	70.3	68.5	72.0	72.1	70.6	70.3	70.3	69.0	1.2	1.9	1.1	1.8	0.0	0.5	No
Between I-110 SB Off-Ramp & 11th St.	Residential	69.4	69.6	69.1	68.6	70.1	67.8	71.8	69.5	72.0	69.5	73.2	68.4	2.4	-0.1	2.9	0.9	3.1	0.6	No
Venice Boulevard																				
East of Olive St.	School	68.0	67.3	66.6	66.2	70.9	62.9	69.7	72.4	69.3	72.3	71.9	71.7	1.7	5.1	2.7	6.1	1.0	8.8	No
W. 12th Street																				
West of Grand Ave.	Residential	66.9	66.6	65.2	65.2	66.8	65.5	66.9	67.9	65.2	67.0	66.7	66.5	0.0	1.3	0.0	1.8	-0.1	1.0	No
E. 17th Street																				
West of Grand Ave.	Residential	71.9	71.9	70.8	70.7	74.4	69.4	72.4	74.2	71.3	72.9	74.7	71.4	0.5	2.3	0.5	2.2	0.3	2.0	No
W. 18th Street																				
West of Flower St.	Residential	61.1	62.1	59.7	58.9	61.2	57.6	61.6	62.5	61.6	65.7	64.1	57.6	0.5	0.4	1.9	6.8	2.9	0.0	Yes
West of Grand Ave.	Church	60.7	61.9	59.7	58.6	62.0	56.7	61.2	62.3	61.6	65.6	64.5	56.7	0.5	0.4	1.9	7.0	2.5	0.0	Yes
Washington Boulevard																				
West of Flower St.	School/Religious	70.7	70.3	69.5	68.7	71.9	67.8	71.1	72.2	69.9	71.2	72.5	70.1	0.4	1.9	0.4	2.5	0.6	2.3	No
Between Flower St. & Grand Ave.	School/Religious	70.4	69.8	68.8	68.1	71.5	67.6	70.8	71.6	69.2	70.7	71.9	69.5	0.4	1.8	0.4	2.6	0.4	1.9	No
Between Grand Ave. & Los Angeles St.	School/Religious	69.9	69.4	68.2	67.6	71.8	66.9	70.2	70.7	68.7	69.5	72.1	68.8	0.3	1.3	0.5	1.9	0.3	1.9	No
East of Los Angeles St..	Residential	69.5	69.0	67.8	67.2	71.9	65.7	69.7	70.5	68.2	69.1	72.1	68.5	0.2	1.5	0.4	1.9	0.2	2.8	No

Table IV.E-39 (Continued)
Off-Site Roadway Traffic Noise Impacts

Roadway Segment	Adjacent Land Uses	Future Without Project Traffic Noise Levels[a] dBA (Hourly L_{eq})						Future With Project Traffic Noise Levels[a] dBA (Hourly L_{eq})						Increase in Traffic Noise Levels due to Project dBA (Hourly L_{eq})						Significant Impacts?[c]
		Saturday		Sunday		Weekday		Saturday		Sunday		Weekday		Saturday		Sunday		Weekday		
		Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	
W. 39th Street																				
West of I-110 Freeway	Residential	65.3	65.7	63.6	64.7	69.2	60.1	65.6	66.4	64.0	65.7	69.3	61.8	0.3	0.7	0.4	1.0	0.1	1.7	No
East of I-110 Freeway	Residential	64.6	64.7	61.9	63.1	69.5	59.5	66.1	66.5	64.7	65.5	70.3	65.0	1.5	1.8	2.8	2.4	0.8	5.5	Yes
Alvarado Street																				
North of 8th St.	Commercial/Park	72.4	72.4	71.4	72.3	73.3	69.9	72.5	72.6	71.6	72.5	73.4	70.2	0.1	0.2	0.2	0.2	0.1	0.3	No
Between 8th St. & Olympic Blvd.	Motel	72.4	72.4	71.5	72.0	73.2	69.7	72.5	72.8	71.5	72.4	73.3	70.4	0.1	0.4	0.0	0.4	0.1	0.7	No
Between Olympic Blvd. & Pico Blvd.	Residential	72.2	72.4	71.5	71.8	72.9	69.1	72.8	73.1	72.1	72.4	73.3	70.4	0.6	0.7	0.6	0.6	0.4	1.3	No
Between Pico Blvd. & Hoover St.	Residential/ Religious	71.3	71.5	70.8	71.3	72.4	68.9	71.8	72.0	71.3	71.7	72.7	69.8	0.5	0.5	0.5	0.4	0.3	0.9	No
Union Avenue																				
North of Olympic Blvd.	Religious	71.9	71.4	71.1	71.8	72.4	68.3	71.9	71.4	71.3	71.8	72.4	68.5	0.0	0.0	0.2	0.0	0.0	0.2	No
Between Olympic Blvd. & Pico Blvd.	Residential	71.2	70.9	71.0	71.6	71.8	67.6	71.4	71.2	71.4	71.8	72.3	68.0	0.2	0.3	0.4	0.2	0.5	0.4	No
South of Pico Blvd.	Residential	70.3	69.7	71.0	71.4	70.9	66.4	70.3	69.7	71.2	71.6	71.2	66.7	0.0	0.0	0.2	0.2	0.3	0.3	No
Lucas Ave.																				
North of 6th St.	Residential/ School	69.1	69.4	68.2	68.2	71.9	66.7	70.8	69.7	70.1	68.7	72.8	67.0	1.7	0.3	1.9	0.5	0.9	0.3	No
South of 6th St.	Hospital	67.9	68.1	66.6	67.0	71.3	65.0	68.8	68.5	68.1	67.6	71.6	65.4	0.9	0.4	1.5	0.6	0.3	0.4	No
Bixel Street																				
North of 8th St.	Residential	66.6	66.2	64.9	65.1	69.3	64.2	66.6	66.2	64.9	65.1	69.3	64.2	0.0	0.0	0.0	0.0	0.0	0.0	No
Between 8th St. & Wilshire Blvd.	Residential	67.5	67.6	66.4	66.3	70.1	65.8	67.5	67.9	66.4	66.7	70.1	66.0	0.0	0.3	0.0	0.4	0.0	0.2	No
Between Wilshire Blvd. & 6th St.	Residential	70.1	69.9	69.1	69.4	70.9	68.8	70.1	70.4	69.1	69.9	70.9	69.0	0.0	0.5	0.0	0.5	0.0	0.2	No
Adams Boulevard																				
West of Flower St.	Religious	73.1	73.1	71.5	71.5	74.2	70.4	73.1	73.2	71.6	71.5	74.3	70.4	0.0	0.1	0.1	0.0	0.1	0.0	No
Between Flower St. & Grand Ave.	Hospital	72.1	71.9	70.6	70.4	73.1	68.8	73.0	72.2	71.8	70.8	73.8	69.6	0.9	0.3	1.2	0.4	0.7	0.8	No
Between Grand Ave. & Main St.	Commercial[b]	71.5	70.7	69.9	69.5	72.3	67.4	72.3	70.9	71.0	69.7	72.9	67.7	0.8	0.2	1.1	0.2	0.6	0.3	No
East of Main St.	Residential	71.2	70.3	69.6	69.2	71.7	67.3	71.2	70.3	69.6	69.2	71.7	67.3	0.0	0.0	0.0	0.0	0.0	0.0	No
Wilshire Boulevard																				
West of Bixel St.	Residential	71.9	72.0	70.9	71.0	73.7	70.0	72.4	72.2	71.5	71.2	74.0	70.4	0.5	0.2	0.6	0.2	0.3	0.4	No
Between Bixel St. & Figueroa St.	Residential/Hotel	71.4	71.6	70.3	70.5	73.7	69.8	71.9	72.0	71.1	71.0	74.0	70.3	0.5	0.4	0.8	0.5	0.3	0.5	No
East of Figueroa St.	Office[b]	69.7	70.0	68.8	68.8	72.3	68.7	70.8	70.9	70.3	69.8	72.9	69.9	1.1	0.9	1.5	1.0	0.6	1.2	No

[a] *Detailed calculation worksheets are included in Appendix L.*
[b] *Not considered noise-sensitive uses, per LA CEQA Threshold Guides.*
[c] *Significance threshold is equal to an increase of 5 dBA or more.*
Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-40
Off-Site Transit Noise Impacts

Transit Line	Estimated Increase Noise Levels[b] (dBA)						Significant Impacts?
	Saturday		Sunday		Weekday		
	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	
Red[a]	0.2	1.0	0.0	1.1	0.0	3.2	No
Purple[a]	0.0	0.0	0.0	0.0	0.0	0.0	No
Red/Purple[a]	0.0	0.0	0.0	0.0	0.0	0.5	No
Blue	1.0	2.0	0.8	1.9	0.0	6.0	**Yes**
Expo	0.0	0.3	0.0	0.0	0.0	4.3	No
Green (East)	0.0	0.0	0.0	0.0	0.0	4.3	No
Green (West)	0.0	0.0	0.0	0.0	0.0	4.8	No
Gold (Pasadena)	0.0	0.0	0.0	0.0	0.0	2.2	No
Gold (East LA)	0.0	0.0	0.0	0.0	0.0	4.0	No
Metrolink	0.0	0.8	1.0	1.8	0.0	0.0	No
Silver Line (Artesia T.C.)	1.8	3.0	4.8	6.0	0.0	3.0	No[a]
Silver Line (El Monte)	1.2	2.2	3.0	4.0	0.0	4.0	No[a]
Metro Bus							
Rapid	0.0	0.0	0.0	0.2	0.0	2.7	No
Express	1.0	1.5	2.2	2.4	0.0	5.4	No
Local	0.0	0.0	0.0	0.0	0.0	0.0	No

[a] *Underground subway system.*

[b] *Represent the increase in noise from public transit component (i.e., rail, bus) only, not the ambient noise levels.*

Source: The Mobility Group, 2001; Acoustical Engineering Services, Inc., 2012.

Table IV.E-41
Composite Operation Noise Levels—Without Firework Show

Receptor	Individual Component Noise Levels dBA (CNEL)							Composite Noise Levels dBA (CNEL)	Ambient Noise Levels dBA (CNEL)	Composite + Ambient Noise Levels dBA (CNEL)	Increase due to Project dBA (CNEL)	Significant Impacts?[a]
	Traffic	Mechanical	Parking	Loading/ Refuse	Buses	Outdoor Plazas	Event Center					
R1	61.7	41.1	35.3	21.1	18.4	73.3	64.1	74.1	66.7	74.8	**8.1**	Yes
R2	62.9	54.4	22.2	25.4	49.6	77.4	53.2	77.6	70.1	78.3	**8.2**	Yes
R3	57.3	54.0	21.2	23.3	42.0	67.2	51.7	67.9	60.9	68.7	**7.8**	Yes
R4	54.1	59.0	42.1	32.8	21.0	43.0	50.2	60.8	61.9	64.4	2.5	No
R5	50.0	54.0	41.2	22.9	20.2	42.3	53.3	57.8	60.6	62.4	1.8	No
R6	51.2	46.2	47.0	24.6	24.0	46.4	53.9	57.1	59.6	61.5	1.9	No
R7	54.1	40.6	47.0	20.0	20.4	51.5	60.7	62.2	66.3	67.7	1.4	No
R8	50.5	38.9	38.2	16.1	15.2	51.0	55.9	58.1	61.1	62.9	1.8	No
R9	51.5	49.2	37.6	15.5	15.7	49.8	52.7	57.1	63.6	64.5	0.9	No
R10	61.9	39.9	24.8	15.2	15.3	57.1	46.6	63.3	73.7	74.1	0.4	No
R11	56.4	41.9	24.6	13.1	17.8	44.9	48.6	57.5	70.4	70.6	0.2	No
R12	62.4	36.7	16.8	14.2	15.1	46.2	42.6	62.6	70.3	71.0	0.7	No
R13	56.4	53.1	19.4	16.7	34.4	69.9	56.8	70.4	68.5	72.5	**4.0**	Yes
R14	64.8	53.1	19.2	16.5	28.8	56.8	49.2	65.8	67.8	69.9	2.1	No
R15	52.8	39.8	17.1	19.2	19.6	46.5	43.4	54.2	63.9	64.3	0.4	No
R16	69.1	50.4	19.9	15.9	20.5	46.5	46.6	69.2	69.4	72.3	2.9	No
R17	53.7	52.3	25.1	24.6	25.1	48.6	43.8	57.0	63.4	64.3	0.9	No
R18	49.2	49.7	28.2	25.1	17.2	41.8	44.9	53.5	74.3	74.3	0.0	No
R19	50.8	52.6	30.0	25.6	15.7	39.9	46.2	55.5	64.8	65.3	0.5	No
R20	52.2	51.8	30.9	24.0	22.0	36.3	45.1	55.5	63.0	63.7	0.7	No
R21	52.5	51.7	30.8	24.8	22.5	35.8	44.5	55.5	56.3	58.9	2.6	No

Table IV.E-41 (Continued)
Composite Operation Noise Levels—Without Firework Show

Receptor	Individual Component Noise Levels dBA (CNEL)							Composite Noise Levels dBA (CNEL)	Ambient Noise Levels dBA (CNEL)	Composite + Ambient Noise Levels dBA (CNEL)	Increase due to Project dBA (CNEL)	Significant Impacts?[a]
	Traffic	Mechanical	Parking	Loading/ Refuse	Buses	Outdoor Plazas	Event Center					
R22	51.1	53.5	33.8	28.3	13.6	36.8	45.6	56.0	62.8	63.6	0.8	No
R23	48.7	54.7	36.8	18.9	15.8	38.9	51.8	57.3	57.0	60.1	**3.1**	No
R24	63.1	46.4	38.6	19.0	25.7	40.6	55.1	63.9	67.4	69.0	1.6	No
R25	45.5	42.5	38.2	17.5	16.0	40.7	49.7	52.2	59.9	60.6	0.7	No
R26	55.5	59.7	38.7	46.4	21.4	45.0	48.5	61.6	66.2	67.5	1.3	No

[a] *Significance threshold is equal to an increase of 3 dBA or more when the composite + ambient noise levels falls within the "normally unacceptable" range or higher (i.e., 70 dBA CNEL for residential use) and 5 dBA or more when the composite + ambient noise levels remains within the "conditionally acceptable" range or lower (i.e., below 70 dBA CNEL for residential uses).*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-42
Composite Operation Noise Levels—With Firework Show

Receptor	Individual Component Noise Levels dBA (CNEL)								Composite Noise Levels dBA (CNEL)	Ambient Noise Levels dBA (CNEL)	Composite + Ambient Noise Levels dBA (CNEL)	Increase due to Project dBA (CNEL)	Significant Impacts?[a]
	Traffic	Mechanical	Parking	Loading/ Refuse	Buses	Outdoor Plazas	Event Center	Firework Show					
R1	61.7	41.1	40.3	21.1	22.2	78.3	66.7	67.1	79.0	66.7	79.2	**12.5**	Yes
R2	62.9	54.4	27.1	25.4	53.7	82.4	55.8	76.5	83.4	70.1	83.6	**13.5**	Yes
R3	57.3	54.0	26.1	23.3	46.1	72.2	54.3	77.5	78.7	60.9	78.8	**17.9**	Yes
R4	54.1	59.0	47.1	32.8	24.9	48.0	52.9	77.2	77.3	61.9	77.4	**15.5**	Yes
R5	50.0	54.0	46.2	22.9	24.1	47.3	56.0	77.2	77.3	60.6	77.3	**16.7**	Yes
R6	51.2	46.2	52.0	24.6	28.0	51.4	56.6	72.6	72.8	59.6	73.0	**13.4**	Yes
R7	54.1	40.6	52.0	20.0	24.3	56.5	63.4	69.3	70.6	66.3	72.0	**5.7**	Yes
R8	50.5	38.9	43.2	16.1	18.8	56.0	58.5	76.4	76.5	61.1	76.6	**15.5**	Yes
R9	51.5	49.2	42.6	15.5	19.3	54.8	55.3	76.8	76.9	63.6	77.1	**13.5**	Yes
R10	61.9	39.9	29.8	15.2	18.9	62.1	49.2	68.5	70.1	73.7	75.3	1.6	No
R11	56.4	41.9	29.6	13.1	21.6	49.9	51.2	72.9	73.0	70.4	74.9	**4.5**	Yes
R12	62.4	36.7	21.5	14.2	18.6	51.2	45.2	58.9	64.3	70.3	71.3	1.0	No
R13	56.4	53.1	24.2	16.7	38.5	74.9	59.5	73.3	77.3	68.5	77.8	**9.3**	Yes
R14	64.8	53.1	24.0	16.5	32.9	61.8	51.9	75.2	75.8	67.8	76.4	**8.6**	Yes
R15	52.8	39.8	21.8	19.2	23.5	51.5	46.0	56.4	59.1	63.9	65.1	1.2	No
R16	69.1	50.4	24.7	15.9	24.4	51.5	49.2	71.7	73.7	69.4	75.0	**5.6**	Yes
R17	53.7	52.3	30.1	24.6	29.1	53.6	46.5	69.7	70.0	63.4	70.9	**7.5**	Yes
R18	49.2	49.7	33.2	25.1	21.0	46.8	47.5	70.4	70.5	74.3	75.8	1.5	No
R19	50.8	52.6	35.0	25.6	19.3	44.9	48.9	72.2	72.3	64.8	73.0	**8.2**	Yes
R20	52.2	51.8	35.9	24.0	26.0	41.3	47.8	69.6	69.8	63.0	70.6	**7.6**	Yes

Table IV.E-42 (Continued)
Composite Operation Noise Levels—With Firework Show

Receptor	Individual Component Noise Levels dBA (CNEL)								Composite Noise Levels dBA (CNEL)	Ambient Noise Levels dBA (CNEL)	Composite + Ambient Noise Levels dBA (CNEL)	Increase due to Project dBA (CNEL)	Significant Impacts?[a]
	Traffic	Mechanical	Parking	Loading/ Refuse	Buses	Outdoor Plazas	Event Center	Firework Show					
R21	52.5	51.7	35.8	24.8	26.5	40.8	47.2	69.4	69.6	56.3	69.8	**13.5**	Yes
R22	51.1	53.5	38.8	28.3	16.9	41.8	48.2	71.1	71.2	62.8	71.8	**9.0**	Yes
R23	48.7	54.7	41.8	18.9	19.4	43.9	54.4	73.7	73.8	57.0	73.9	**16.9**	Yes
R24	63.1	46.4	43.6	19.0	29.7	45.6	57.7	75.6	75.9	67.4	76.5	**9.1**	Yes
R25	45.5	42.5	43.2	17.5	19.6	45.7	52.3	75.6	75.6	59.9	75.7	**15.8**	Yes
R26	55.5	59.7	43.7	46.4	25.4	50.0	51.1	75.2	75.4	66.2	75.9	**9.7**	Yes

[a] *Significance threshold is equal to an increase of 3 dBA or more when the composite + ambient noise levels falls within the "normally unacceptable" range or higher (i.e., 70 dBA CNEL for residential use) and 5 dBA or more when the composite + ambient noise levels remains within the "conditionally acceptable" range or lower (i.e., below 70 dBA CNEL for residential uses).*

Source: Acoustical Engineering Services, Inc., 2012.

Table IV.E-43
Cumulative Off-Site Roadway Traffic Noise Impacts

Roadway Segment	Adjacent Land Uses	Existing Traffic Noise Levels[a] dBA (Hourly L_{eq})						Future Cumulative Traffic Noise Levels[a] dBA (Hourly L_{eq})						Cumulative Increase in Traffic Noise Levels dBA (Hourly L_{eq})						Significant Impacts?[c]
		Saturday		Sunday		Weekday		Saturday		Sunday		Weekday		Saturday		Sunday		Weekday		
		Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	
Grand Avenue																				
North of 1st St.	Concert Hall	66.5	68.1	67.1	66.8	72.2	65.5	70.2	71.6	70.3	71.0	73.7	70.4	3.7	3.5	3.2	4.2	1.5	4.9	No
South of 1st St.	Concert Hall	66.0	67.0	66.8	66.6	71.2	64.4	70.5	69.6	70.6	69.1	73.3	67.1	4.5	2.6	3.8	2.5	2.1	2.7	No
North of 11th St.	Residential	65.3	65.6	64.2	64.0	70.6	63.7	68.4	69.4	67.5	68.2	72.2	66.8	3.1	3.8	3.3	4.2	1.6	3.1	No
Between 11th and 12th St.	Residential	66.3	66.6	65.1	64.9	71.8	64.2	70.6	72.1	69.9	71.1	74.1	70.6	4.3	5.5	4.8	6.2	2.3	6.4	Yes
Between 12th St. and Venice Ave.	Residential/ Hospital	66.6	66.6	65.0	65.4	72.0	64.2	70.1	73.3	68.8	72.6	73.9	72.0	3.5	6.7	3.8	7.2	1.9	7.8	Yes
Between Venice Ave. and 17th St.	Residential	66.6	66.8	65.3	65.9	72.2	64.4	70.3	74.0	68.8	73.5	73.9	72.7	3.7	7.2	3.5	7.6	1.7	8.3	Yes
Between 17th St. and Washington Ave.	Church	65.6	65.0	64.2	64.0	70.2	62.0	68.2	71.6	66.6	71.3	72.1	70.8	2.6	6.6	2.4	7.3	1.9	8.8	Yes
South of Washington Ave.	School	66.8	65.8	63.7	64.2	70.6	63.8	68.7	69.8	66.3	68.8	72.0	69.5	1.9	4.0	2.6	4.6	1.4	5.7	No
Figueroa Street																				
Between 2nd St. and 5th St.	Residential/Hotel	67.9	68.3	67.6	68.4	73.2	68.0	69.9	72.7	69.4	72.4	74.0	72.3	2.0	4.4	1.8	4.0	0.8	4.3	No
Between 5th St. and Wilshire Blvd.	Office[b]	70.1	71.1	68.6	69.1	73.7	69.4	72.0	74.8	70.6	73.7	75.0	73.2	1.9	3.7	2.0	4.6	1.3	3.8	No
Between Wilshire Blvd. and 9th St.	Hotel	69.2	70.9	67.7	68.2	72.1	67.1	72.2	74.1	71.3	72.8	73.8	71.8	3.0	3.2	3.6	4.6	1.7	4.7	No
Between 9th St. and Olympic Blvd.	Residential/Hotel	69.5	70.6	67.5	67.7	71.2	65.8	72.3	72.5	70.8	70.7	73.1	69.7	2.8	1.9	3.3	3.0	1.9	3.9	No
Between Olympic Blvd. and Pico Blvd.	Hotel	70.3	71.6	68.2	68.6	71.7	66.3	72.8	72.9	71.5	71.0	73.3	69.2	2.5	1.3	3.3	2.4	1.6	2.9	No
South of Pico Blvd.	Residential	70.7	72.0	68.7	69.2	72.3	66.4	72.8	73.1	71.7	71.5	73.7	69.1	2.1	1.1	3.0	2.3	1.4	2.7	No
Flower Street																				
North of 6th St.	Residential	65.5	67.3	65.2	64.6	70.6	65.5	69.9	69.0	69.5	67.0	72.6	67.3	4.4	1.7	4.3	2.4	2.0	1.8	No
Between 6th St. and 8th St.	Residential	67.5	68.5	66.8	67.5	71.7	66.5	72.6	71.3	72.0	70.3	74.2	69.5	5.1	2.8	5.2	2.8	2.5	3.0	Yes
Between 8th and Pico Blvd.	Residential	66.9	67.1	65.2	65.6	70.9	64.2	70.7	70.6	69.5	69.6	72.9	68.0	3.8	3.5	4.3	4.0	2.0	3.8	No
South of Pico Blvd.	Hotel	67.1	67.7	65.2	66.6	71.8	63.9	70.8	72.5	69.4	71.9	73.4	70.2	3.7	4.8	4.2	5.3	1.6	6.3	Yes
South of 18th St.	Residential	64.4	64.9	61.7	62.5	69.8	63.7	68.9	70.7	67.9	69.8	72.0	69.9	4.5	5.8	6.2	7.3	2.2	6.2	Yes
Hope Street																				
North of 1st St.	Concert Hall	64.7	66.4	65.9	66.7	70.5	63.6	69.0	70.1	69.3	70.1	72.3	69.0	4.3	3.7	3.4	3.4	1.8	5.4	Yes
South of 1st St.	Concert Hall	64.9	65.5	64.6	66.7	70.8	64.1	68.5	67.4	68.0	67.8	72.3	66.2	3.6	1.9	3.4	1.1	1.5	2.1	No
1st Street																				
Between Hope St. and Grand Ave.	Concert Hall	67.4	68.7	67.3	67.5	71.3	64.5	70.1	71.4	69.6	70.2	73.0	68.3	2.7	2.7	2.3	2.7	1.7	3.8	No
2nd Street																				
West of Figueroa St.	Residential	69.1	69.3	65.7	66.0	70.3	65.4	69.4	71.2	66.3	69.1	70.7	68.9	0.3	1.9	0.6	3.1	0.4	3.5	No
East of Figueroa St.	Residential	68.1	68.1	65.1	65.8	69.2	64.5	68.5	68.7	65.7	66.7	69.7	65.8	0.4	0.6	0.6	0.9	0.5	1.3	No
6th Street																				
West of Lucas Ave.	Hospital	71.4	71.1	69.9	70.0	73.4	69.2	73.2	73.1	71.7	71.7	74.7	70.7	1.8	2.0	1.8	1.7	1.3	1.5	No
Between Lucas Ave. & Bixel St.	Residential	71.0	70.5	69.1	69.4	73.4	68.4	73.8	73.2	72.2	71.9	75.3	70.7	2.8	2.7	3.1	2.5	1.9	2.3	No
East of Bixel St.	Residential	71.1	70.7	68.8	69.1	73.1	67.7	74.0	73.5	72.2	71.9	75.2	70.5	2.9	2.8	3.4	2.8	2.1	2.8	No
East of Flower St.	Residential	71.3	70.9	70.2	68.4	72.0	68.9	73.9	73.1	73.1	71.3	74.7	71.1	2.6	2.2	2.9	2.9	2.7	2.2	No
West of Main St.	Residential	70.1	69.3	69.3	67.9	70.9	66.9	71.6	72.0	70.8	70.9	72.2	70.4	1.5	2.7	1.5	3.0	1.3	3.5	No
East of Main St.	Residential	69.4	68.6	68.7	66.7	70.5	65.5	70.8	70.0	70.0	68.4	71.5	67.3	1.4	1.4	1.3	1.7	1.0	1.8	No

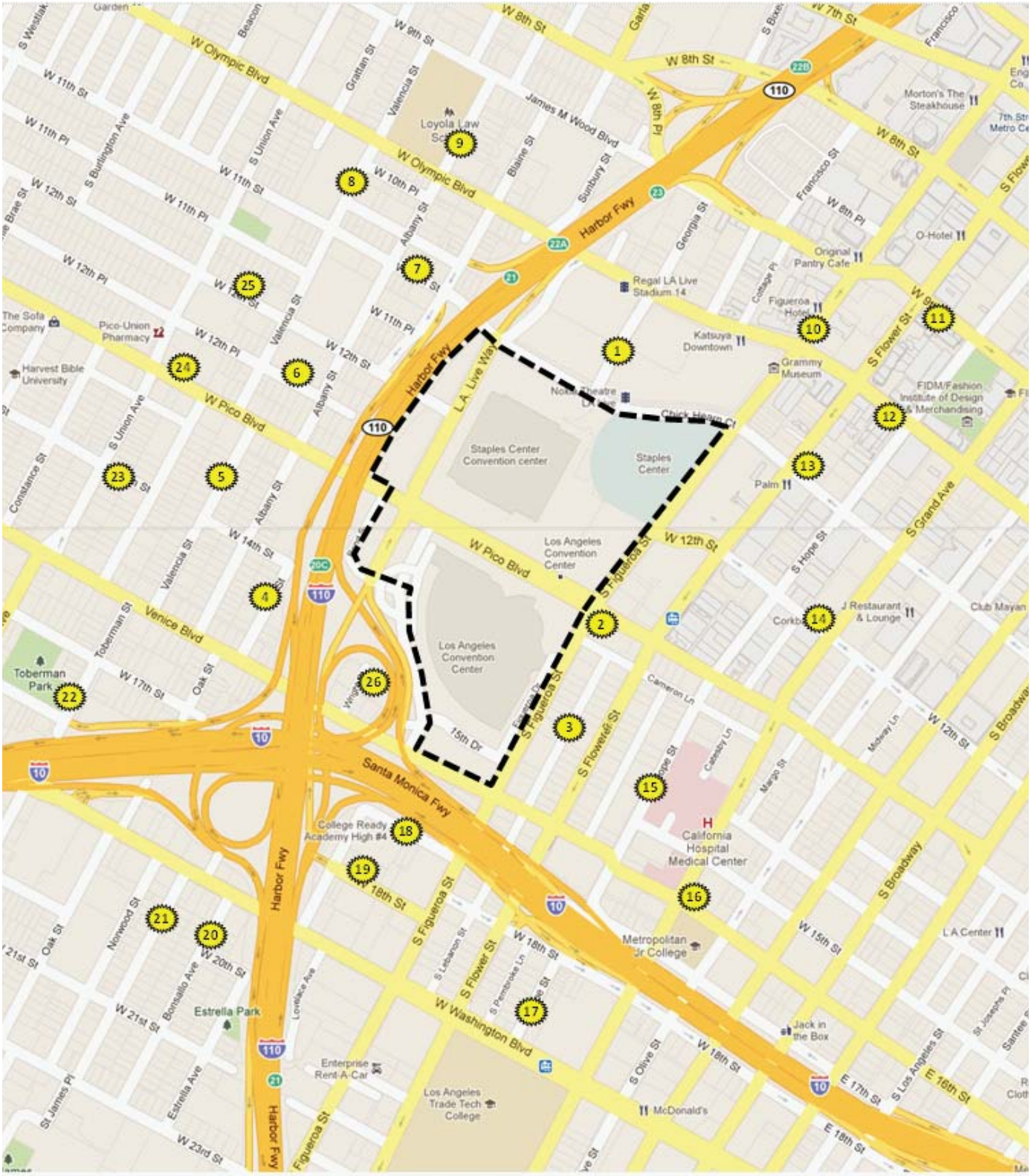
Table IV.E-43 (Continued)
Cumulative Off-Site Roadway Traffic Noise Impacts

Roadway Segment	Adjacent Land Uses	Existing Traffic Noise Levels[a] dBA (Hourly L_{eq})						Future Cumulative Traffic Noise Levels[a] dBA (Hourly L_{eq})						Cumulative Increase in Traffic Noise Levels dBA (Hourly L_{eq})						Significant Impacts?[c]
		Saturday		Sunday		Weekday		Saturday		Sunday		Weekday		Saturday		Sunday		Weekday		
		Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	
Olympic Boulevard																				
West of Alvarado St.	Commercial[b]	72.1	71.6	70.6	70.8	73.0	69.1	73.2	73.1	71.9	72.2	74.1	71.5	1.1	1.5	1.3	1.4	1.1	2.4	No
Between Alvarado St. & Union Ave.	Religious	71.8	71.1	70.5	70.4	72.6	69.0	73.4	72.9	72.3	72.1	74.0	71.4	1.6	1.8	1.8	1.7	1.4	2.4	No
Between Union Ave. & Blaine St.	School/Religious	71.6	70.9	69.9	69.7	72.1	68.2	73.4	73.0	72.1	71.6	73.8	71.0	1.8	2.1	2.2	1.9	1.7	2.8	No
Between Blaine St. & Georgia St.	School	71.9	71.4	70.2	69.6	71.8	68.2	74.1	74.1	72.8	72.4	73.8	71.4	2.2	2.7	2.6	2.8	2.0	3.2	No
Between Georgia St. & Francisco St.	Residential/Hotel	71.9	71.6	70.5	69.6	71.8	68.3	74.1	73.9	72.8	72.1	73.4	71.1	2.2	2.3	2.3	2.5	1.6	2.8	No
Between Francisco St. & Figueroa St.	Hotel	71.6	71.5	70.2	69.7	71.9	68.1	74.4	74.3	73.3	72.9	74.3	71.6	2.8	2.8	3.1	3.2	2.4	3.5	No
Between Figueroa St. and Flower St.	Commercial[b]	71.8	71.4	70.3	69.7	72.0	67.6	74.3	74.3	72.9	72.8	74.4	71.2	2.5	2.9	2.6	3.1	2.4	3.6	No
East of Flower St.	Residential	71.0	70.6	69.3	68.8	71.3	66.6	73.4	73.4	72.2	71.5	73.5	70.2	2.4	2.8	2.9	2.7	2.2	3.6	No
W. 11th Street																				
West of Blaine St.	Residential	66.3	67.8	66.6	66.1	67.6	64.7	65.4	66.3	67.0	63.3	64.5	62.4	-0.9	-1.5	0.4	-2.8	-3.1	-2.3	No
Between Blaine St. & L A Live Wy.	Residential	68.3	69.4	68.0	67.3	68.8	63.6	67.6	72.0	68.4	72.0	68.3	72.0	-0.7	2.6	0.4	4.7	-0.5	8.4	Yes
East of L A Live Wy.	Auditorium	66.3	67.1	64.8	62.5	64.6	60.1	64.2	66.6	63.1	65.7	63.4	65.0	-2.1	-0.5	-1.7	3.2	-1.2	4.9	No
West of Grand Ave.	Residential	64.1	65.6	63.9	63.5	67.0	61.8	68.2	68.2	67.5	66.2	68.9	65.7	4.1	2.6	3.6	2.7	1.9	3.9	No
East of Grand Ave.	Residential	62.0	65.2	63.3	62.9	67.2	60.0	70.5	69.9	70.2	68.1	71.7	68.4	8.5	4.7	6.9	5.2	4.5	8.4	Yes
Pico Boulevard																				
West of Alvarado St.	Religious	71.5	71.5	71.0	70.8	71.9	67.7	72.4	72.5	71.9	71.9	72.8	69.6	0.9	1.0	0.9	1.1	0.9	1.9	No
Between Alvarado St. & Union Ave.	Commercial[b]	71.5	71.5	71.4	71.2	71.9	67.7	72.7	72.8	72.6	72.8	73.4	70.5	1.2	1.3	1.2	1.6	1.5	2.8	No
Between Union Ave. & Figueroa St.	Residential	71.0	71.0	70.2	70.4	72.3	66.6	72.5	72.4	72.0	72.1	73.5	70.2	1.5	1.4	1.8	1.7	1.2	3.6	No
Between Figueroa St. & Flower St.	Residential/Hotel	68.3	68.8	67.6	68.3	71.3	64.0	70.8	70.4	70.5	70.3	72.5	68.4	2.5	1.6	2.9	2.0	1.2	4.4	No
East of Hill St.	Motel	68.5	67.6	66.9	66.2	70.0	61.0	70.4	69.5	69.0	68.3	71.4	66.3	1.9	1.9	2.1	2.1	1.4	5.3	Yes
Blaine Street																				
North of I-110 SB Off-Ramp	Residential	69.8	69.2	68.6	67.3	69.0	67.3	72.0	72.1	70.6	70.3	70.3	69.0	2.2	2.9	2.0	3.0	1.3	1.7	No
Between I-110 SB Off-Ramp & 11th St.	Residential	68.7	68.8	68.5	67.6	69.1	66.7	71.8	69.5	72.0	69.5	73.2	68.4	3.1	0.7	3.5	1.9	4.1	1.7	No
Venice Boulevard																				
East of Olive St.	School	67.6	66.9	66.3	65.6	70.7	62.0	69.7	72.4	69.3	72.3	71.9	71.7	2.1	5.5	3.0	6.7	1.2	9.7	No
W. 12th Street																				
West of Grand Ave.	Residential	62.7	61.1	59.8	59.5	63.8	60.0	66.9	67.9	65.2	67.0	66.7	66.5	4.2	6.8	5.4	7.5	2.9	6.5	Yes
E. 17th Street																				
West of Grand Ave.	Residential	70.3	70.3	68.9	68.7	73.3	66.7	72.4	74.2	71.3	72.9	74.7	71.4	2.1	3.9	2.4	4.2	1.4	4.7	No
W. 18th Street																				
West of Flower St.	Residential	58.9	60.8	56.5	56.4	59.7	54.4	61.6	62.5	61.6	65.7	64.1	57.6	2.7	1.7	5.1	9.3	4.4	3.2	Yes
West of Grand Ave.	Church	58.1	60.5	56.5	55.7	60.8	52.3	61.2	62.3	61.6	65.6	64.5	56.7	3.1	1.8	5.1	9.9	3.7	4.4	Yes
Washington Boulevard																				
West of Flower St.	School/Religious	70.2	69.7	68.9	68.1	71.4	66.2	71.1	72.2	69.9	71.2	72.5	70.1	0.9	2.5	1.0	3.1	1.1	3.9	No
Between Flower St. & Grand Ave.	School/Religious	69.7	69.0	68.1	67.3	70.8	65.1	70.8	71.6	69.2	70.7	71.9	69.5	1.1	2.6	1.1	3.4	1.1	4.4	No
Between Grand Ave. & Los Angeles St.	School/Religious	69.1	68.5	67.4	66.7	71.2	64.8	70.2	70.7	68.7	69.5	72.1	68.8	1.1	2.2	1.3	2.8	0.9	4.0	No
East of Los Angeles St..	Residential	68.8	68.1	67.0	66.3	71.5	64.2	69.7	70.5	68.2	69.1	72.1	68.5	0.9	2.4	1.2	2.8	0.6	4.3	No

Table IV.E-43 (Continued)
Cumulative Off-Site Roadway Traffic Noise Impacts

Roadway Segment	Adjacent Land Uses	Existing Traffic Noise Levels[a] dBA (Hourly L_{eq})						Future Cumulative Traffic Noise Levels[a] dBA (Hourly L_{eq})						Cumulative Increase in Traffic Noise Levels dBA (Hourly L_{eq})						Significant Impacts?[c]
		Saturday		Sunday		Weekday		Saturday		Sunday		Weekday		Saturday		Sunday		Weekday		
		Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	Pre-Event	Post-Event	
W. 39th Street																				
West of I-110 Freeway	Residential	64.7	65.2	62.9	64.1	69.0	60.0	65.6	66.4	64.0	65.7	69.3	61.8	0.9	1.2	1.1	1.6	0.3	1.8	Yes
East of I-110 Freeway	Residential	64.5	64.6	61.8	63.1	69.5	59.4	66.1	66.5	64.7	65.5	70.3	65.0	1.6	1.9	2.9	2.4	0.8	5.6	Yes
Alvarado Street																				
North of 8th St.	Commercial/Park	71.6	71.6	70.8	71.7	72.7	69.2	72.5	72.6	71.6	72.5	73.4	70.2	0.9	1.0	0.8	0.8	0.7	1.0	No
Between 8th St. & Olympic Blvd.	Motel	71.7	71.7	70.8	71.4	72.6	68.9	72.5	72.8	71.5	72.4	73.3	70.4	0.8	1.1	0.7	1.0	0.7	1.5	No
Between Olympic Blvd. & Pico Blvd.	Residential	71.3	71.4	70.7	71.0	71.9	68.0	72.8	73.1	72.1	72.4	73.3	70.4	1.5	1.7	1.4	1.4	1.4	2.4	No
Between Pico Blvd. & Hoover St.	Residential/ Religious	70.5	70.8	70.2	70.7	71.7	68.1	71.8	72.0	71.3	71.7	72.7	69.8	1.3	1.2	1.1	1.0	1.0	1.7	No
Union Avenue																				
North of Olympic Blvd.	Religious	71.8	71.3	71.0	71.7	72.3	68.2	71.9	71.4	71.3	71.8	72.4	68.5	0.1	0.1	0.3	0.1	0.1	0.3	No
Between Olympic Blvd. & Pico Blvd.	Residential	71.2	70.9	70.9	71.6	71.7	67.6	71.4	71.2	71.4	71.8	72.3	68.0	0.2	0.3	0.5	0.2	0.6	0.4	No
South of Pico Blvd.	Residential	70.2	69.6	70.9	71.4	70.8	66.3	70.3	69.7	71.2	71.6	71.2	66.7	0.1	0.1	0.3	0.2	0.4	0.4	No
Lucas Ave.																				
North of 6th St.	Residential/ School	66.0	66.6	66.0	66.0	70.4	64.6	70.8	69.7	70.1	68.7	72.8	67.0	4.8	3.1	4.1	2.7	2.4	2.4	No
South of 6th St.	Hospital	64.4	64.2	64.1	64.4	69.7	62.2	68.8	68.5	68.1	67.6	71.6	65.4	4.4	4.3	4.0	3.2	1.9	3.2	No
Bixel Street																				
North of 8th St.	Residential	65.7	65.1	63.8	63.9	68.7	63.2	66.6	66.2	64.9	65.1	69.3	64.2	0.9	1.1	1.1	1.2	0.6	1.0	No
Between 8th St. & Wilshire Blvd.	Residential	66.4	66.4	65.0	64.9	69.5	64.7	67.5	67.9	66.4	66.7	70.1	66.0	1.1	1.5	1.4	1.8	0.6	1.3	No
Between Wilshire Blvd. & 6th St.	Residential	69.0	68.7	68.1	68.5	69.6	68.3	70.1	70.4	69.1	69.9	70.9	69.0	1.1	1.7	1.0	1.4	1.3	0.7	No
Adams Boulevard																				
West of Flower St.	Religious	72.7	72.8	71.0	71.1	73.9	70.0	73.1	73.2	71.6	71.5	74.3	70.4	0.4	0.4	0.6	0.4	0.4	0.4	No
Between Flower St. & Grand Ave.	Hospital	71.6	71.4	70.0	69.9	72.5	68.2	73.0	72.2	71.8	70.8	73.8	69.6	1.4	0.8	1.8	0.9	1.3	1.4	No
Between Grand Ave. & Main St.	Commercial[b]	70.9	70.0	69.4	68.9	71.6	66.6	72.3	70.9	71.0	69.7	72.9	67.7	1.4	0.9	1.6	0.8	1.3	1.1	No
East of Main St.	Residential	70.8	69.8	69.2	68.7	71.4	66.7	71.2	70.3	69.6	69.2	71.7	67.3	0.4	0.5	0.4	0.5	0.3	0.6	No
Wilshire Boulevard																				
West of Bixel St.	Residential	70.4	70.4	69.8	69.9	72.6	68.9	72.4	72.2	71.5	71.2	74.0	70.4	2.0	1.8	1.7	1.3	1.4	1.5	No
Between Bixel St. & Figueroa St.	Residential/Hotel	69.9	70.0	69.2	69.2	72.4	68.5	71.9	72.0	71.1	71.0	74.0	70.3	2.0	2.0	1.9	1.8	1.6	1.8	No
East of Figueroa St.	Office[b]	68.6	68.8	67.9	67.8	71.3	67.7	70.8	70.9	70.3	69.8	72.9	69.9	2.2	2.1	2.4	2.0	1.6	2.2	No

[a] *Detailed calculation worksheets are included in Noise Impact Study—Convention Center Modernization & Farmers Field Project, included as Appendix L.*
[b] *Not considered noise-sensitive uses, per LA CEQA Threshold Guides.*
[c] *Significance threshold is equal to an increase of 5 dBA or more.*
Source: Acoustical Engineering Services, Inc., 2012.



Source: AES, 2011.

Figure IV.E-1
Noise Measurement Locations