Ventura Freeway (SR-134). Ambient noise levels in the Project vicinity are typical of noise levels experienced in urbanized areas.

1.5.2.1 Ambient Noise Levels

To determine the existing ambient sound level within the area that may be affected by Project development and operations, a field survey that consisted of a series of 15-minute noise measurements was conducted on April 4, 2003. During the field survey, measurement locations were selected based on their proximity to the Project site and proximity to noise sensitive uses. The four noise measurement (NM) locations are discussed below and illustrated in Figure 19 on page 196.

- NM-1: The meter was placed in the southwest corner of the Project site near the Sheraton Hotel's tennis courts. One 15-minute measurement was conducted at 3:00 P.M.

- NM-2: The meter was placed near the northwest corner of the Project site approximately 10 feet east of Marengo Avenue and 200 feet south of Green Street. One 15-minute measurement was conducted at 3:24 P.M.

- NM-3: The meter was placed east of the Concord-Pasadena apartment complex, approximately 50 feet south of the entrance road to the Sheraton Hotel. One 15-minute measurement was conducted at 3:53 P.M.

- NM-4: The meter was placed in the southeast corner of the Project site approximately 10 feet west of Euclid Avenue near the Pasadena Center underground parking west entrance. One 15-minute measurement was conducted at 4:14 P.M.

The noise measurement data in Table 19 on page 198 indicates L_{eq} levels at the monitoring locations that range from 57.6 to 67.0 dBA during the late afternoon period. NM-2 has been used to determine ambient daytime noise levels for sensitive receptors located north and west of the Project site along Green Street and Marengo Avenue, with a noise level of 67 dBA. NM-4 has been used to determine ambient daytime noise levels for the sensitive receptors east of the Project site along Euclid Avenue, with a noise level of 60 dBA. NM-1 and NM-3 have been used to determine ambient daytime noise levels for sensitive receivers located south of the Project site, with a noise level of 58 dBA.

1.5.2.2 Roadway Noise

The CNEL generated by existing traffic on local roadways was established using a version of the Federal Highway Administration (FHWA) Traffic Noise Prediction methodology

Table 19

AMBIENT NOISE MEASUREMENT DATA

Receptor Location[a]	Start Time	Duration[b]	Sound Level dBA (L_{eq})	Dominant Noise Source
NM-1	3:00 P.M.	15 minutes	57.6	Vehicles
NM-2	3:24 P.M.	15 minutes	67.0	Vehicles
NM-3	3:53 P.M.	15 minutes	58.2	Vehicles
NM-4	4:14 P.M.	15 minutes	60.1	Vehicles

[a] *Receptor locations are shown on Figure 19 on page 196.*
[b] *15-minute measurements were conducted April 4, 2003.*

Source: PCR Services Corporation, August 2003.

(FHWA-RD-77-108) and traffic data provided by the Project's traffic consultant. As indicated in Table 20 on page 199, the calculated CNEL for the analyzed roadway segments resulting from existing traffic were similar to noise levels measured in the Project vicinity, provided earlier in Table 19.

2.0 IMPACT ANALYSIS

2.1 Thresholds of Significance

The analysis of impacts related to noise considers the impacts of the Project on the surrounding environment during both construction and on-going operations.

2.1.1 Construction Impacts

In accordance with the City of Pasadena Municipal Code, construction noise impacts would be significant for uses located in areas zoned residential if construction activities occur within 500 feet of a residential zone between the hours of 9:00 P.M. of one day and 7:00 A.M. of the next day and from 9:00 P.M. on Saturday to 7:00 A.M. on Monday. In addition, construction-related impacts would be significant if any powered construction equipment exceeds a noise level of 85 dBA when measured within a distance of 100 feet from such equipment. Since the Project site and the adjoining areas are located in a commercial zone, these residential standards would not technically apply. However, since residential uses are in proximity to the Project site, the analysis conservatively incorporates these residential zone standards.

Table 20

PREDICTED EXISTING VEHICULAR TRAFFIC NOISE LEVELS

Roadway Segment	Land Use	Predicted Existing CNEL (dBA) at Referenced Distances from Roadway Right-of-Way		
		Adjacent	50 Feet	100 Feet
Green Street, between Arroyo Parkway and Marengo Avenue	Commercial/ Residential	67.1	63.1	61.1
Green Street, between Marengo Avenue and Euclid Avenue	Commercial/ Residential	66.8	62.8	60.7
Green Street, between Euclid Avenue and Los Robles Avenue	Commercial/ Residential	67.6	63.3	61.2
Cordova Street, between Arroyo Parkway and Marengo Avenue	Commercial/ Residential	67.0	63.0	60.9
Cordova Street, between Marengo Avenue and Euclid Avenue	Commercial/ Residential	67.2	63.2	61.2
Cordova Street, between Euclid Avenue and Los Robles Avenue	Commercial/ Residential	67.4	63.4	61.4
Marengo Avenue, between Green Street and Cordova Street	Commercial/ Residential	69.0	65.0	63.0
Marengo Avenue, between Cordova Street and Del Mar Boulevard	Commercial/ Residential	68.0	64.0	61.9
Euclid Avenue, between Green Street and Cordova Street	Commercial/ Residential	58.8	54.1	51.9
Euclid Avenue, between Cordova Street and Del Mar Boulevard	Commercial/ Residential	59.2	54.4	52.2
Los Robles Avenue, between Green Street and Cordova Street	Commercial/ Residential	67.7	63.7	61.6
Los Robles Avenue, between Cordova Street and Del Mar Boulevard	Commercial/ Residential	68.4	64.4	62.3

Source: PCR Services Corporation, 2004.

2.1.2 Operations Impacts

2.1.2.1 Mobile Sources

Mobile sources of noise, such as Project-generated traffic traveling on public roadways, are exempt from the requirements of the Noise Ordinance but are still subject to CEQA. The City of Pasadena uses a Noise/Land Use Compatibility Matrix, shown earlier in Figure 18 on page 193, to define acceptable mobile source noise levels. As noted earlier, the human ear in the context of the community noise environment normally cannot detect changes in community noise of less than 3 dBA. However, most people can readily hear a change of 5 dBA in an exterior environment. As such, a significant impact would occur under the following criteria:

- Criterion 1—Project-related traffic causes a 5-dBA increase in CNEL along any roadway segment when the overall noise level remains within the acceptable range as shown on the City's Noise/Land Use Compatibility Matrix.

- Criterion 2—Project-related traffic causes a 3-dBA increase in CNEL along any roadway segment when the overall noise level changes from an acceptable range to an unacceptable range; or, the baseline noise level is already within an unacceptable range, as shown on the City's Noise/Land Use Compatibility Matrix.

2.1.2.2 On-Site Sources

In accordance with the City's Noise Ordinance, operational-related impacts for on-site sources would be significant if the ambient noise level at the property line of any property would exceed the ambient noise level by more than 5 dBA.

2.2 Project Features

The following Project Features have a potential to influence Project-related noise characteristics and, therefore, were taken into account during the analysis of potential Project impacts.

2.2.1 Project Construction

- The Project contractor(s) will equip all construction equipment, fixed or mobile, with properly operating and maintained noise mufflers, consistent with manufacturers' standards so that equipment does not exceed a noise level of 85 dBA when measured within a radius distance of 100 feet from such equipment.

2.2.2 Project Operations

- All mechanical equipment (e.g., air handling units, emergency generator, etc.) will be designed to meet the requirements of the City of Pasadena Noise Ordinance at the property line, and screened from view with parapet walls.

2.3 Impact Analysis

2.3.1 Construction Impacts

Noise disturbances in those areas located adjacent to the Project site can be expected during construction. These disturbances would occur during site preparation activities and the subsequent construction of on-site structures. As with most construction projects, construction would require the use of a number of pieces of heavy equipment such as bulldozers, backhoes, loaders, and concrete mixers. In addition, both heavy and light trucks would be required to deliver construction materials to and export construction debris from the site. Noise levels generated by typical, individual pieces of construction equipment are provided in Table 21 on page 202.

Composite construction noise, the noise from multiple pieces of construction equipment working concurrently, is best characterized in a study conducted by Bolt, Beranek, and Newman for the USEPA (USEPA December 31, 1971). In this study, construction noise during the heavier initial periods of construction of commercial development is presented as 86 dBA L_{eq} when measured at a reference distance of 50 feet from the construction activity. This value takes into account both the number of pieces and spacing of the heavy equipment used in the construction effort. In later phases during building construction, noise levels are typically reduced from this value and the physical structures that are constructed further break up the line-of-sight noise transmission. The composite noise level for typical construction stages is provided in Table 22 on page 202. In order to present a conservative worst-case analysis, the 86-dBA noise level at a reference distance of 50 feet was used to evaluate the Project's construction noise impacts.

Using the conservative industry standard sound attenuation rate of 6 dB per doubling of distance for point sources (e.g., construction equipment), the worst-case construction-period noise level of 86 dBA at a reference distance of 50 feet would be about 80 dBA at 100 feet, and 74 dBA at 200 feet. As such, as construction activities occur along or near the Project site perimeter, worst-case noise could potentially reach a level as high as 90 dBA L_{eq} (1-hour) or more at the Civic Auditorium and along the Sheraton Hotel property line; and as high as 82 dBA L_{eq} (1-hour) at areas within the Paseo Colorado Urban Village, as well as at the residential units east of Euclid Avenue. These areas would experience worst-case noise impacts due to: (1) their close proximity to the Project site (i.e., 75 feet or less); and (2) the lack of intervening structures between the Project site and these noise-sensitive locations that would serve as a sound barrier. There are also no intervening structures present between the Project site and the upper floors of the Concord-Pasadena senior housing and the Arpeggio Apartments, but due to longer sound-distance attenuation (i.e., approximately 130 feet), the worst-case construction-noise level would be about 4 dBA less, or 78 dBA L_{eq}. The multi-family residential units that are situated near the southwest corner of Marengo Avenue and Cordova Street would benefit from approximately

Table 21

NOISE LEVELS GENERATED BY TYPICAL CONSTRUCTION EQUIPMENT

Type of Equipment	Typical Sound Level (dBA) (50 feet)	(100 feet)
Dump truck	81	75
Portable air compressor	81	75
Concrete mixer (truck)	85	79
Jackhammer	82	76
Scraper	88	82
Dozer	80	74
Paver	80	74
Generator	78	72
Rock drill	80	74
Pump	76	70
Pneumatic tools	85	79
Backhoe	85	79

Source: USEPA, Bolt, Beranek, and Newman, Noise Control for Buildings and Manufacturing Plants, 1987; and Cowan, James P., Handbook of Environmental Acoustics, 1994.

Table 22

CONSTRUCTION AVERAGE L_{eq} NOISE LEVELS BY DISTANCE AND CONSTRUCTION STAGE

Construction Stage	Sound Level in dBA (L_{eq}) at Indicated Distance 25 Feet	50 Feet	100 Feet	150 Feet	200 Feet
Ground Clearing	88	82	76	72	70
Grading/Excavation	92	86	80	76	74
Foundations	83	77	71	67	65
Structural	89	83	77	73	71
Finishing	92	86	80	76	74

Note: Assumes a hard surface propagation path drop-off rate of 6 dB per doubling of distance, which is appropriate for use in characterizing point-source (such as construction equipment) sound attenuation.

Source: EPA, Noise from Construction Equipment and Operations, Building Equipment and Home Appliances, PB 206717, 1971; and PCR Services Corporation, August 2003.

200 feet of sound-distance attenuation and partial line-of-sight obstruction; therefore, the maximum noise level will likely remain below 69 dBA. A summary table that details the distance and orientation of each residential receptor location from the Project site, along with distance attenuation and barrier insertion loss assumptions, are provided in Appendix E to this EIR.

Regarding short-duration L_{max} noise levels, as heavy-duty equipment passes near the Project site boundary, the maximum noise level (L_{max}) at a given moment along adjacent property lines will likely exceed 90 dBA for short durations. However, as the equipment travels toward the center of the Project site, the L_{max} noise level at adjacent property line boundaries would diminish considerably into dBA levels in the 60s and 70s.

As demonstrated above, worst-case L_{eq} noise levels are expected to range from 69 to 90 dBA L_{eq} (1-hour), or more, at noise sensitive locations that surround the Project site. These construction-period noise levels would be considerably higher than ambient noise levels at the Civic Auditorium and portions of the Sheraton Hotel property, and result in a significant impact without incorporation of mitigation measures.

The analysis of potential construction noise impacts reflects the schematic design presented in this EIR. The Applicant has indicated that it is committed that any redesign of the Project, should such a redesign occur, would incorporate a building envelope (e.g., development program, building height, setbacks, and building massing) and site access and loading dock plan that would be in substantial compliance with that set forth in this EIR. As such, any redesign would not result in construction noise impacts that are greater than those described below.

2.3.2 Operational Impacts

2.3.2.1 Roadway Noise

A forecast of roadway traffic noise, prior to Project occupancy, was performed by adding the potential trips associated with each of the 32 related projects that have been identified within the Project vicinity to existing traffic conditions. Growth in traffic due to unknown related projects was assumed to be 1.5 percent per year up through 2007 (i.e., anticipated year of Project build-out). According to the Project traffic study, which is included as Appendix B to this EIR, the Project is not anticipated to generate any net new trips, and the traffic distribution pattern to and from the Project site is anticipated to remain consistent with current conditions. As such, the future "No-Project" and future "With-Project" traffic volumes are identical. Table 23 on page 204 provides an estimate of CNEL attributable to traffic volumes based on "Existing Conditions," "Future Without-Project," and "Future With-Project" roadway traffic volumes.

Since the Project will not add to roadway traffic volumes, nor result in a change in existing circulation patterns, there would be no net increase in roadway noise levels attributable to Project development as shown in Table 23 under "Project Increment." The noise level change shown under "Cumulative Increment" is due entirely to traffic volumes associated with related projects and ambient growth. As a result, roadway noise impacts will be less than significant. No mitigation measures are necessary.

Table 23

ESTIMATE OF EXISTING AND FUTURE ROADWAY NOISE LEVELS ALONG LOCAL ROADWAY SEGMENTS IN THE PROJECT AREA

	CNEL (dBA) at Roadway Right-of-Way				
		Project Buildout (Year 2007)		CNEL Change (dBA)	
Roadway Segment	Existing	No Project	With Project	Project Increment [a]	Cumulative Increment [b]
Green Street, between Arroyo Parkway and Marengo Avenue	63.1	64.3	64.3	0.0	+1.2
Green Street, between Marengo Avenue and Euclid Avenue	62.8	64.1	64.1	0.0	+1.3
Green Street, between Euclid Avenue and Los Robles Avenue	63.3	64.5	64.5	0.0	+1.2
Cordova Street, between Arroyo Parkway and Marengo Avenue	63.0	63.5	63.5	0.0	+0.5
Cordova Street, between Marengo Avenue and Euclid Avenue	63.2	63.7	63.7	0.0	+0.5
Cordova Street, between Euclid Avenue and Los Robles Avenue	63.4	63.9	63.9	0.0	+0.5
Marengo Avenue, between Green Street and Cordova Street	65.0	65.4	65.4	0.0	+0.4
Marengo Avenue, between Cordova Street and Del Mar Boulevard	63.7	64.2	64.2	0.0	+0.4
Euclid Avenue, between Green Street and Cordova Street	54.1	54.8	54.8	0.0	+0.7
Euclid Avenue, between Cordova Street and Del Mar Boulevard	54.4	54.9	54.9	0.0	+0.4
Los Robles Avenue, between Green Street and Cordova Street	63.7	64.2	64.2	0.0	+0.5
Los Robles Avenue, between Cordova Street and Del Mar Boulevard	64.4	64.9	64.9	0.0	+0.6

[a] *This increment compares the "Future No-Project" condition to the "Future With-Project" condition. Contained in these conditions is roadway noise from traffic volumes attributed to ambient growth and related projects.*

[b] *This increment compares the "Future With-Project" condition to the "Existing" condition. The "Cumulative Increment" represents roadway noise attributed to the Project, related projects, and ambient growth, compared to Existing conditions.*

Source: PCR Services Corporation, May 2004.

The analysis of potential roadway noise impacts reflects the schematic design presented in this EIR. The Applicant has indicated that it is committed that any redesign of the Project, should such a redesign occur, would incorporate a building envelope (e.g., development program, building height, setbacks, and building massing) and site access and loading dock plan that would be in substantial compliance with that set forth in this EIR. As such, any redesign would not result in roadway noise impacts that are greater than those described below.

2.3.2.2 Stationary-Source Noise

The analysis of potential stationary source noise impacts reflects the schematic design presented in this EIR. The Applicant has indicated that it is committed that any redesign of the Project, should such a redesign occur, would incorporate a building envelope (e.g., development program, building height, setbacks, and building massing) and site access and loading dock plan that would be in substantial compliance with that set forth in this EIR. As such, any redesign would not result in stationary-source noise impacts that are greater than those described below. Furthermore, ongoing compliance with the City of Pasadena Noise Ordinance would further preclude the occurrence of significant stationary-source noise impacts.

Proposed Parking Structure

Various noise events, including noise related to automobile movements, car alarms, car horns, door slams, and tire squeals; may occur within the proposed Parking Structure. The activation of car alarms, sounding of car horns, slamming of car doors, and tire squeals would occur periodically and would likely be audible at areas outside of the Parking Structure. Noise from these sources, although intermittent and short-term in nature, may be intermittently audible to nearby sensitive land uses. A summary of maximum noise levels related to typical parking structure-related noise events is provided in Table 24 on page 206. As shown therein, the composite noise level from all individual noise sources, when averaged over a one-hour time period would be approximately 60 dBA L_{eq} (1-hour) at a reference distance of 50 feet, for each parking level. At a distance of 100 feet, the composite noise level due to distance attenuation would be reduced to approximately 54 dBA.[47] In addition, perimeter parapet walls would provide a minimum barrier insertion loss of 3 dBA to noise emanating from the ground parking level, and an insertion loss of 5 dBA to 12 dBA to noise emanating from upper parking levels.[48]

The composite noise level from the proposed Parking Structure would be approximately 54.2 dBA to 54.6 dBA (100-foot reference distance) depending on whether the proposed structure is five or seven levels.[49] When added to the baseline ambient noise level of 60.1 dBA, this would result in a noise level increase of 1.0 dBA to 1.1 dBA (i.e., 61.1 dBA to 61.2 dBA).[50]

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[47] *The 100-foot reference distance is used to represent the distance from a sensitive receptor location (e.g., residential uses located east of Euclid Avenue) and the nearest traffic lane from within the parking structure.*

[48] *At higher parking levels, the barrier insertion loss would increase from approximately 5 dBA (2nd level) to 12 dBA (4th level and above) due to source-barrier-receiver geometry, where the parapet wall (i.e., barrier) would more effectively obstruct the line-of-sight between noise source (from upper parking levels) and receiver location.*

[49] *Refer to Appendix E (Noise), Parking Structure Noise Analysis, for supporting calculations.*

[50] *The baseline ambient noise level of 60.1 dBA Leq was established based on measurement data collected at Receptor Location NM-4 as identified earlier in Figure 19 on page 196 .*

Table 24

TYPICAL MAXIMUM NOISE LEVEL FROM INDIVIDUAL PARKING STRUCTURE-RELATED NOISE EVENTS

Source	Reference Sound Level[a]	Reference Distance	Maximum Sound Level at 50 Feet[b]	Frequency of Occurrence	1-Hour L_{eq} Noise Level at 50 Feet
Automobile at 14 mph	65 dBA	25 feet	59 dBA	50 percent	56 dBA
Car Alarm	75 dBA	25 feet	69 dBA	1 percent	49 dBA
Car Horn	75 dBA	25 feet	69 dBA	0.5 percent	46 dBA
Door Slam	70 dBA	25 feet	64 dBA	5 percent	51 dBA
Tire Squeal	80 dBA	10 feet	70 dBA	10 percent	56 dBA
Composite L_{eq} (1-hour)					**60 dBA**

[a] *Reference noise levels are based on actual measurement data.*
[b] *Since parking structure-related noise is more akin to a point-source, rather than a line-source, the 6-dBA per doubling of distance attenuation factor was used to distance-adjust all reference noise levels.*

Source: PCR Services Corporation, 2004.

These noise levels would likely peak during the morning pre-event period (approximately 7:30 A.M. to 9:30 A.M.) and during the evening post-event period (approximately 5:00 P.M. to 7:00 P.M.). Noise level increases during all other time periods would be less than 1.1 dBA. Since noise level increases with the 5- or 7-level Parking Structure would not exceed the 5-dBA significance threshold, potential impacts at all identified sensitive receptors would be less than significant.

Loading Dock Areas

Marengo Avenue Loading Dock and Staging Area

Under existing conditions, the Marengo Avenue loading docks are seldom used due to ingress and egress constraints. Most trucks avoid the loading dock areas altogether by driving onto the Project site to load and unload. Following Project completion, the primary loading and unloading activities for the reconfigured Conference Center would be provided via the loading docks accessed from Marengo Avenue. The exiting, subterranean, loading dock area would be expanded to provide five loading docks for large trucks, two loading docks for smaller trucks, five crate storage/RV parking spaces, and 24 new parking spaces for employee use.

Loading dock-related noise at nearby residential locations was calculated using the sound-distance attenuation formula of 6 dB per doubling of distance discussed earlier. Based on a noise survey that was conducted at a loading dock facility that is similar to the loading dock proposed for the Project, loading dock activity (namely idling semi-trucks and backup alarm

beeps) will generate noise levels that range from approximately 70 to 75 dBA L_{eq} at a reference distance of 50 feet from the noisiest portion of the truck (i.e., to the side behind the cab and in line with the engine and exhaust stacks). The Project property line to the nearest residential use is approximately 130 feet south of the general loading dock area. Based on a noise level of 75 dBA at a reference distance of 50 feet and not accounting for any other noise attenuation features, loading dock noise would be reduced to approximately 66.7 dBA L_{eq}. However, the loading dock area would remain entirely below grade, which would provide 20 dB or more of additional sound attenuation. Therefore, based on distance attenuation and barrier insertion loss, the noise from loading dock activities will be reduced to approximately 47.2 dBA at the closest residential receptor location. When added to the baseline ambient noise level of 57.6 dBA, this would result in a noise level increase of 0.3 dBA, to 57.9 dBA.[51] As this would not exceed the 5-dBA significance threshold, impacts to surrounding noise-sensitive uses would be less than significant, and no mitigation measures are required.

Euclid Avenue Loading Dock

The existing loading dock area that is currently accessed from Euclid Avenue would undergo minor renovations as part of the Project, but would remain in its current subterranean configuration (i.e., number of loading spaces). Therefore, sensitive receptors located adjacent to the loading dock area would not be exposed to noise from loading, unloading or forklift activity within the loading dock area. As such impacts would be less than significant.

Trash Compaction and Collection

The existing trash compaction and collection area that is currently adjacent to the Marengo Avenue loading dock area would undergo minor renovations as part of the Project, but would remain in its current subterranean location. As such, there is no potential for noise impacts related to refuse compaction and collection activities. Impacts would be less than significant.

Rooftop Mechanical Equipment

Mechanical equipment (i.e., air handling units, heaters, and exhaust fans) would be located on the rooftops of proposed structures in order to provide for ventilation and temperature control. The rooftop mechanical equipment that would be located on top of the Exhibition Hall and Ballroom building would be approximately 50 feet from the Project site's southern property line. This represents the shortest distance between any mechanical equipment proposed for the

[51] *The baseline ambient noise level of 57.1 dBA Leq was established based on measurement data collected at Receptor Location NM-1 as identified earlier in Figure 19 on page 196.*

Project and any property line location. New rooftop mechanical equipment would typically generate a noise level that is no louder than 60 dBA (L_{eq}) at a reference distance of 50 feet. Due to the fact that all mechanical equipment would be screened by parapet walls, this noise level would be reduced by an additional 10 dB or more. Consequently, noise levels will be reduced to 50 dBA or less at the closest property line location. As this would not exceed the lowest daytime ambient noise level of 57.6 dBA by 5 dB or more, impacts to surrounding uses would be less than significant.

3.0 MITIGATION MEASURES

The following mitigation measures are prescribed to reduce noise impacts to the extent feasible.

3.1 Construction

N1. A 10-foot temporary sound barrier shall be erected along the Project site's southern boundary when construction activity occurs within 250 feet of said property line.

N2. The Project Applicant shall coordinate construction activities with Civic Auditorium management such that construction-period noise impacts will not disrupt scheduled performances.

N3. During all Project site preparation, grading, and construction, the Project contractor(s) shall equip all construction equipment, fixed or mobile, with properly operating and maintained noise mufflers, consistent with manufacturers' standards.

N4. Sound blankets shall be used on all construction equipment for which use of sound blankets is technically feasible.

N5. Construction activities shall be scheduled so as to avoid operating several pieces of equipment simultaneously, which causes high noise levels.

N6. The construction contractor shall locate equipment staging areas in the central portion of the site to create the greatest distance between construction-related noise sources and sensitive receptors during all Project site preparation, grading, and construction activities.

N7. The Project contractor(s) shall place all stationary construction equipment as far as feasible from the Civic Auditorium and the Sheraton Hotel and situated so that emitted noise is directed away from those sensitive receptors.

3.2 Operations

The Project would not result in any significant impacts due to long-term Project operations. As such, no mitigation measures are recommended or required.

4.0 NET UNAVOIDABLE IMPACTS

4.1 Construction

The 10-foot temporary sound barrier prescribed in the first mitigation measure can achieve a barrier insertion loss of 9 dBA or more. Assuming the minimum noise reduction of 9 dBA, the worst-case construction-period L_{max} and L_{eq} would be reduced to a level below approximately 85 and 81 dBA, respectively, at areas along the adjoining property line within the Sheraton Hotel property. However, as construction activity moves away from the southern property line towards the center and northern areas of the Project site, L_{max} and L_{eq} noise levels would attenuate considerably from these worst-case levels. Overall, noise impacts during construction at outdoor areas within the Sheraton Hotel property would be less than significant with implementation of the first mitigation measure. The second mitigation measure, coordinating construction activities with Civic Auditorium management such that construction-period noise impacts will not disrupt scheduled performances, would reduce potential noise impacts during construction with respect to Civic Auditorium events to a level that is less than significant. Implementation of the balance of the mitigation measures would reduce potential noise impacts during construction with respect to the Civic Auditorium, Sheraton Hotel guests and the residential uses within the Project vicinity to a level that is less than significant.

4.2 Operations

As demonstrated above, Project development would not result in any significant noise impacts during long-term operations.

5.0 CUMULATIVE IMPACTS

All of the identified related projects have been considered for the purposes of assessing cumulative noise impacts. The potential for noise impacts to occur are specific to the location of each related project as well as the cumulative traffic on the surrounding roadway network.

5.1 Noise from Cumulative Construction

There are 32 related projects located within the Project vicinity that have a potential to produce construction-period noise impacts. Since the Project Applicant has no control over the timing of construction activities for these related projects, any quantitative analysis that assumes multiple, concurrent construction projects would be entirely speculative. Construction-period noise for the proposed Project and each of the 32 related projects (that has not already been built) would be localized. In addition, it is likely that each of the related projects would have to comply with the local noise ordinance, as well as mitigation measures that may be prescribed pursuant to CEQA provisions that require significant impacts to be reduced to the extent feasible.

The closest related project that has not already been built, to the proposed Project is Union Village, proposed at 77 North Oak Knoll Avenue. This Project site is located off of Cordova Avenue, approximately one block west of the proposed Project site. If both projects were to be constructed concurrently, the residential uses that are located on Cordova Avenue, west of Marengo Avenue may experience construction-noise levels well above ambient noise levels. However, as each project would be required to comply with the local noise ordinance, cumulative impacts would be less than significant.

5.2 Noise from Cumulative Operations

Each of the 32 related projects that have been identified within the general Project vicinity would generate stationary-source and mobile-source noise due to ongoing day-to-day operations. The related projects are of a residential, retail, commercial, or institutional nature and these uses are not typically associated with excessive exterior noise; however, each project would produce traffic volumes that are capable of generating a roadway noise impact.

As discussed previously, the project would not result in any additional traffic along the surrounding roadways. However, the traffic from the 32 related projects, combined with ambient growth traffic was evaluated and presented previously in Table 23 on page 204. Cumulative traffic volumes would result in a maximum increase of 1.3 dBA CNEL, which is well below the 3-dBA significance threshold. As such, roadway noise impacts due to cumulative traffic volumes would be less than significant.

Due to municipal noise ordinance requirements and CEQA provisions that require for significant noise impacts to be mitigated to the extent feasible, stationary-source noise from items such as rooftop mechanical equipment and emergency generators would generally be reduced to a level that is less than significant at the property line for each related project. It is unlikely for on-site noise produced by any related project to be additive to Project-related noise levels. As such, stationary-source noise impacts attributable to cumulative development would be less than significant.