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IV. Environmental Impact Analysis

C. Noise

1. Introduction

This section analyzes the potential noise impacts that would result from the proposed Project. The analysis describes the existing noise environment within the Project area, estimates future noise levels at surrounding land uses resulting from construction and operation of the proposed Project, identifies the potential for significant impacts, and where necessary provides mitigation measures to address significant impacts. In addition, an evaluation of the potential cumulative noise impacts of the proposed Project and related projects is also provided. This Section is based primarily on information provided in the following document, which can be found in Appendix F:

- *Assessment of Environmental Noise*, prepared by Veneklasen Associates, Inc., March 2010.

2. Environmental Setting

a. Fundamentals of Sound, Environmental Noise, and Vibration

Noise is commonly defined as sound that is undesirable because it interferes with speech, communication, and hearing, or is otherwise annoying (unwanted sound). The decibel (dB) is a conventional unit for measuring the amplitude of sound because it accounts for the large variations in sound pressure amplitude and reflects the way people perceive changes in sound amplitude. The human hearing system is not equally sensitive to sound at all frequencies. Therefore, to approximate this human frequency-dependent response, the A-weighted system (dBA) is used to adjust measured sound levels. The term "A-weighted" refers to filtering the noise signal in a manner that corresponds to the way the human ear perceives sound. Definitions of the technical terms used in this analysis are presented in Table 51 on page 961. Community noise levels of typical events are presented in Table 52 on page 962.

Community noise levels usually change continuously during the day. The equivalent sound level (L_{eq}) is typically used to describe community noise. The equivalent sound level is the equivalent steady-state A-weighted sound level that would contain the same acoustical energy as the time-varying, A-weighted sound level during the same time

Table 51
Definitions of Noise-Related Terms

Term	Definitions
Decibel, dB	A unit describing the amplitude of sound equivalent to 20 times the logarithm, to the base 10, of the ratio of the pressure of the sound to the reference pressure of 20 μPa.
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured in a A-weighting filter network. The A-weighting de-emphasizes the very low frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are in the A-weighted scale.
L_0 (L_{max}), L_2, L_8, L_{25}, L_{50}	The A-weighted noise levels that are exceeded 0 percent (maximum noise level), 2 percent, 8 percent, 25 percent, and 50 percent of the time during the measurement period.
Equivalent Noise Level, L_{eq}	The average A-weighted noise level during the stated measurement period.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 P.M. to 10:00 P.M., and after addition of 10 decibels to noise levels in the night between 10:00 P.M. and 7:00 A.M.
Day-Night Noise Level, L_{dn}	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 P.M. and 7:00 A.M.
Ambient Noise Level	The composite noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Impulsive Noise	Sound of short duration. Typically associated with an abrupt onset and rapid decay (i.e., gun-shots, etc.).
Pure Tones	A sound wave, residing over a small range of frequencies, which has a sinusoidal behavior over time.

Source: Veneklasen Associates, Inc., 2010.

interval. For intermittent noise sources, the maximum noise level (L_{max}) is normally used to represent the maximum noise level measured during the measurement period.

To assess noise levels over a 24-hour time period, the Community Noise Equivalent Level (CNEL) descriptor is used. The Community Noise Equivalent Level is the time average of all A-weighted sound levels for a 24-hour period with a 10 dBA adjustment (upward) added to the sound levels which occur in the night (10:00 P.M. to 7:00 A.M.) and a 5 dBA adjustment (upward) added to the sound levels which occur in the evening (7:00 P.M.

Table 52
Typical Community Noise Levels

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

Source: California Department of Transportation, 1998.

to 10:00 P.M.). These penalties attempt to account for increased human sensitivity to noise during the quieter nighttime periods, particularly where sleep is the most probable activity. The Community Noise Equivalent Level 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 of Los Angeles for land use planning and to describe noise impacts in its *City of Los Angeles CEQA Thresholds Guide (2006)*.[62]

Noise environments and the noise effects of human activities are usually well represented by median noise levels during the day, night, or over a 24-hour period. Community Noise Equivalent Levels below 60 dBA are generally considered low, moderate Community Noise Equivalent Levels are considered to be in the 60 to 70 dBA range, and high Community Noise Equivalent Levels are considered to be above 70 dBA. People may consider louder environments adverse, but most people accept the higher levels

[62] *State of California, General Plan Guidelines, 2003.*

associated with more noisy urban residential or residential-commercial areas (60 to 75 dBA Community Noise Equivalent Level) or dense urban or industrial areas (65 to 80 dBA Community Noise Equivalent Level).

In an outdoor environment, sound levels attenuate through the air as a function of distance. Such attenuation is called “distance loss” or “geometric spreading,” and is based on the source configuration, be it a point source or line source. For a point source, such as a piece of equipment (e.g., air conditioner or bull dozer), the rate of sound attenuation is 6 decibels 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 3 decibels per doubling of distance.[63] 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 decibels (where the barrier just breaks the line-of-sight between the source and receiver) to an upper range of 20decibels with a more substantial barrier.[64]

Noise levels may also be reduced by intervening structures. Generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 decibels, while a solid wall or berm reduces noise levels by 5 to 10 decibels. The normal noise attenuation within residential structures with partially open windows is about 12-18 decibels, while the noise attenuation with closed windows is approximately 20-25 decibels.[65]

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[63] *Caltrans, Technical Noise Supplement (TeNS), 1998.*

[64] *Ibid.*

[65] *National Cooperative Highway Research Program Report 117, Highway Noise: A Design Guide for Highway Engineers, 1971.*

In the field of acoustics, there are noticeable differences and subjective responses due to changes in noise level.[66] It is widely accepted that in the community noise environment the average healthy ear can barely perceive noise level changes of 3 decibels. Noise level changes of 3 to 5 decibels may be noticed by some individuals who are extremely sensitive to changes in noise. A change in noise level of 5 decibels is readily noticeable, while the human ear perceives an increase of 10 decibels as a doubling of sound.

Ground-borne vibration is sound that is radiated through the ground. Most perceptible indoor vibration is caused by sources within buildings such as the operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads.

b. Regulatory Framework

(1) Federal Noise Standards

There are no federal noise standards that directly regulate environmental noise related to the construction or operation of the proposed Project. With regard to noise exposure and workers, the Office of Safety and Health Administration regulations safeguard the hearing of workers exposed to occupational noise.

In relation to the new residential units that would be constructed in the Mixed-Use Residential Area portion of the Project, the US Department of Housing and Development's regulations in Title 24 (under Sections 51.100 and 51.106) provide guidance on noise abatement and control. These regulations are only applicable to US Department of Housing and Development projects as indicated in Section 51.103 of the Code of Federal Regulations. The regulations set forth the goal that the interior auditory environment shall not exceed a day-night noise level (L_{dn}) of 45 dBA (24 Code of Federal Regulations 51.103(a)(8)).[67] However, the degree of acceptability of the noise environment at a site is determined by the sound levels external to a building or facility containing noise sensitive uses (24 Code of Federal Regulations 51.103(c)). Thus, the regulations state that the noise environment inside a building is acceptable if: (1) the noise environment external to the

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[66] *These variables have been explored by Fletcher, Munson, Angevine, Kryter, and Schultz, and explored further in the sub-fields of Psychological Acoustics and audiometry, and demonstrated by their publications. These variables also have been summarized in the California Department of Transportation published TeNS "Technical Noise Supplement."*

[67] *While the Guidelines use a day-night noise level measure, it is generally considered acceptable to use the Community Noise Equivalent Level as well due to the insignificant difference in noise levels between day-night noise levels and Community Noise Equivalent Level measurements.*

building complies with an exterior day-night noise level standard of 65 dBA; and (2) the building is constructed in a manner common to the area or, if of uncommon construction, has at least the equivalent noise attenuation characteristics (24 Code of Federal Regulations 51.103(c)).

(2) State Noise Standards

The California Building Code provides uniform minimum noise insulation performance standards to protect persons within several types of structures - including apartment houses and other dwellings - from the effects of excessive noise. Specifically, Section 1207.11.2 of the California Building Code prohibits interior noise levels attributable to exterior sources from exceeding 45 dB Community Noise Equivalent Level (CNEL) or L_{dn} in any habitable room. Section 1207.12 of the California Building Code also requires proof of compliance with interior noise standards upon submittal of an application for a building permit.

The California Department of Public Health Services, Office of Noise Control, has established guidelines for evaluating the compatibility of various land uses as a function of community noise exposure. These guidelines for land use and noise exposure compatibility are shown in Table 53 on page 966. Noise standards have been developed for individual land uses based upon surveys of people's reaction to their noise environment and upon information concerning activity interference.[68] For various land uses, the acceptable noise level is dependent upon the activity that is conducted and the type of building occupancy (i.e., for indoor activities). The American National Standards Institute has provided land-use compatibility guidelines for a variety of land uses based on day-night noise levels.[69]

Based on the standards shown in Table 53, an exterior Community Noise Equivalent Level of 60 dBA is considered to be a normally acceptable level for single-family, duplex, and mobile homes involving normal conventional construction without any special noise insulation requirements, and an exterior Community Noise Equivalent Level up to 65 dBA is considered normally acceptable for multi-family units and transient lodging without any special noise insulation requirements. For multi-family units, an exterior Community Noise Equivalent Level between 60 and 70 dBA is considered conditionally acceptable only if the buildings are conditioned to include noise insulation features.

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[68] *"Model Community Noise Ordinance" Office of Noise Control, California Department of Health, Berkeley, California, January, 2002.*

[69] *"Sound Level Descriptors for Determination of Compatible Level Use," ANSI S12.40 1993. American National Standards Institute.*

Table 53
Land Use Compatibility For Community Noise Environments
(in dBA)

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

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

Source: Office of Noise Control, California Department of Public Health.

(3) County of Los Angeles Noise Standards

(a) General Plan

The Los Angeles County General Plan Noise Element was established as a planning tool to develop strategies and action programs that address the multitude of noise sources and issues throughout the County. The County of Los Angeles General Plan Noise Element primarily addresses transportation noise sources such as traffic, railroad, and aircraft noise issues. The guidelines used by the County are based on the community noise compatibility guidelines established by the State of California Department of Health

Services, as described above. Specific regulations that implement these guidelines are set forth in the Los Angeles County Code as discussed below.

(b) Los Angeles County Code

The County of Los Angeles Noise Ordinance, Section 12.08.440 of the Los Angeles County Code, establishes maximum exterior noise level standards for both construction and operation for four general noise zones based on the types of receptor properties and establishes maximum exterior noise levels for each zone. These noise zones are:

1. Noise Sensitive Areas - Noise sensitive zones (e.g., hospitals, health care facilities) are areas designated by the County Health Officer in order to preserve exceptional quiet. Such areas must be clearly marked with conspicuous signs.

2. Residential Properties - The category of Residential Properties includes all types of residential developments and properties subject to residential zoning classifications, such as schools, but excludes hotels and motels.

3. Commercial Properties - The category of Commercial Properties includes all types of commercial developments including hotels and motels and also includes properties subject to commercial zoning classifications.

4. Industrial Properties - The category of Industrial Properties includes all properties developed with manufacturing uses and industrial zoning. The Project Site is zoned as industrial and is surrounded, in part, by residential zones.

Regarding construction noise, Section 12.08.440 of the County of Los Angeles Noise Ordinance defines both the working hours and maximum levels of construction equipment and activity noise that is allowable from both mobile and stationary equipment, as defined by land use. The County of Los Angeles Noise Ordinance prohibits construction activities between the hours of 7:00 P.M. and 7:00 A.M. or anytime on Sundays or holidays if the sound from that activity would create a noise disturbance across a residential or commercial real property line. It also establishes the maximum noise levels for mobile short term equipment (less than 10 days), stationary long term equipment, and general construction activity on a daily basis (excluding Sundays and Holidays) from 7:00 A.M. to 8:00 P.M., and allows limited nighttime construction activity from 8:00 P.M. to 7:00 A.M. The construction thresholds are defined by the type of construction as well as the receptor category. Regarding operational noise standards, Section 12.08.440 of the County of Los Angeles Noise Ordinance establishes noise standards based on the duration of the noise; i.e., the louder the noise, the shorter the time it can last. The County Noise Ordinance uses a number of noise metrics to define the permissible noise levels. These metrics include L_{50}, L_{25}, $L_{8.3}$, $L_{1.7}$, and L_{max}, and are based upon a 1 hour timeframe which indicates

exceedances of 50, 25, 8.3, and 1.7 percent of the time, plus the maximum sound level during that time period.

Table 54 on page 969 provides the daytime (7 A.M. to 10 P.M.) and the nighttime (10 P.M. to 7 A.M.) County of Los Angeles operational noise standards and the construction noise standards by allowable days and hours. As noted on Table 54, the applicable County Noise Ordinance standards for operational noise may be adjusted upward to reflect existing ambient noise level conditions in the receptor areas. The existing ambient noise levels constantly change during the day and night, and at many of the receptor areas the ambient noise levels exceed the County Noise Ordinance for much of the day.

As set forth in Section 12.08.570 of the Los Angeles County Code, motion picture production and related activities are exempt from the provisions of the County Noise Ordinance.

The County of Los Angeles Vibration Ordinance, Section 12.08.560, establishes maximum vibration thresholds during construction activities within the County.

Section 12.08.560 of the Los Angeles County Code prohibits the operation of any device that creates vibration above the vibration perception threshold (motion velocity of 0.01 inch per second over the range of 1 to 100 hertz at or beyond the property boundary on private property, or at 150 feet from the source if on a public space or public right-of-way).

(4) City of Los Angeles Noise Standards

(a) General Plan

The City of Los Angeles General Plan Noise Element, revised in 1999, provides objectives and policies that ensure that noise from various sources does not create an unacceptable noise environment. Overall, the General Plan Noise Element for the City of Los Angeles describes the noise environment (including noise sources) in the City, addresses noise regulations, strategies, and programs, and delineates federal, State, and City jurisdiction relative to rail, automotive, aircraft, and nuisance noise.

The City's noise standards are correlated with land use zoning classifications in order to maintain identified ambient noise levels and to limit, minimize, or eliminate intrusive noise that exceeds the ambient noise levels within a specified zone. The City has adopted local guidelines based, in part, on the community noise compatibility guidelines established by the California Department of Health Services, as described above, for use in assessing the compatibility of various land use types with a range of noise levels.

Table 54
County of Los Angeles Noise Ordinance Standards Summary

Los Angeles County Noise Ordinance – Operation Standards (dBA)			
		Allowed Level (Residential)	
Statistical Noise Metric	Duration	Daytime (7:00 A.M.10:00 P.M.)	Nighttime (10:00 P.M. 7:00 A.M.)
L_{50}	30 min/hr	50	45
L_{25}	15 min/hr	55	50
L_8	5 min/hr	60	55
L_2	1 min/hr	65	60
L_0	0 min/hr	70	65
L_0 (impulsive or pure tone)	0 min/hr	65	60

Los Angeles County Noise Ordinance – Construction Standards (dBA)						
	Affected Land Use – Residential					
	Single-Family		Multi-Family		Semi-Residential/ Commercial	
Allowable Work Dates & Hours	Mobile Equipment [c]	Stationary Equipment	Mobile Equipment [c]	Stationary Equipment	Mobile Equipment [c]	Stationary Equipment
Daily 7:00 A.M.to 8: 00 P.M. [a]	75	60	80	65	85	70
Daily 8:00 P.M. to 7:00 A.M.[b]	60	50	65	55	70	60
Affected Land Use – Business						
Daily [b]	85					

Note: Noise levels for Operation Standards may be increased to reflect the existing measured ambient noise level in the receiving area.

[a] *Exception for Sundays and legal Holidays.*
[b] *Includes all day Sunday and legal Holidays.*
[c] *Restricted to equipment used for less than 10 days.*

Source: County of Los Angeles, County Code Section 12.08.440.

In accordance with the Noise Element of the City of Los Angeles General Plan, a Community Noise Equivalent Level of up to 60 dBA is considered to be the most desirable target for the exterior of noise-sensitive land uses, or sensitive receptors, such as homes, schools, churches, libraries, etc. It is also recognized that such a level may not always be possible in areas of substantial traffic levels. Community Noise Equivalent Level exposures of up to 70 dBA for noise-sensitive uses are considered conditionally acceptable

if features or measures to reduce such exposure have been incorporated. Community Noise Equivalent Levels above 70 dBA are normally unacceptable for sensitive receptors except in unusual circumstances.

(b) Los Angeles Municipal Code

Regarding construction, Section 112.05 of the Los Angeles Municipal Code specifies the maximum noise level for powered equipment or powered hand tools. Any powered equipment or powered hand tool that produces a maximum noise level exceeding 75 dBA in any residential zone or within 500 feet of a residential zone, when measured at a distance of 50 feet from the source, is prohibited. However, the above noise limitation does not apply where compliance is technically infeasible (Section 112.05 of the Los Angeles Municipal Code). Technically infeasible means that the above noise limitation cannot be complied with despite the use of mufflers, shields, sound barriers and/or any other noise reduction device or techniques during the operation of equipment. In addition, construction activities which make loud noises to the disturbances of persons occupying sleeping quarters in any dwelling, hotel, or apartment or other place of residence are not allowed between the hours of 9:00 P.M. to 7:00 A.M. (Los Angeles Municipal Code Section 41.40). In addition to these restrictions, Los Angeles Municipal Code Section 41.40(c) also prohibits construction activities, except for emergency repairs, within 500 feet of land occupied with residential buildings between 6:00 P.M. to 8:00 A.M. on any Saturday or national holiday or at any time on any Sunday.

As discussed above, any increase of 3 decibels or less in the ambient noise level would not be discernable to the average ear, as it is widely accepted that the average healthy ear can barely perceive noise level changes of 3 decibels or less. Accordingly, because such an increase would not be discernable to the average human ear, a 3 decibel increase over ambient noise is a proper measure to analyze whether nighttime construction would disturb persons occupying sleeping quarters in any dwelling, hotel, or apartment or other place of residence nearby the Project Site.

With regards to operational noise, the City's noise standards are correlated with the type of land use (e.g., residential, commercial, etc.) in order to maintain identified ambient noise levels and to limit, mitigate, or eliminate intrusive noise that exceeds prescribed noise levels for different land use types. Increases of 5 decibels above the existing measured or presumed ambient noise levels caused by regulated equipment are in violation of the City Noise Ordinance. Where the existing measured ambient noise level is less than the presumed ambient noise level designated in the City Noise Ordinance,[70] the increase is

[70] *The presumed ambient noise level is deemed to be 50 dBA during the day and 40 dBA during the night for residential uses, and 60 dBA during the day and 55 dBA during the night for commercial uses.*

measured from the presumed ambient noise level. Additionally, the City Noise Ordinance allows for the adjustment of the source level by +/– 5 decibels as determined by the duration of operation in any given hour and/or whether the source is impulsive or tonal in sound quality.

The Los Angeles Municipal Code (see Section 91.1200) also adopts by reference the California Building Code, including the minimum noise insulation performance standards, with certain exceptions, modifications and additions.

(c) City of Los Angeles CEQA Thresholds Guide

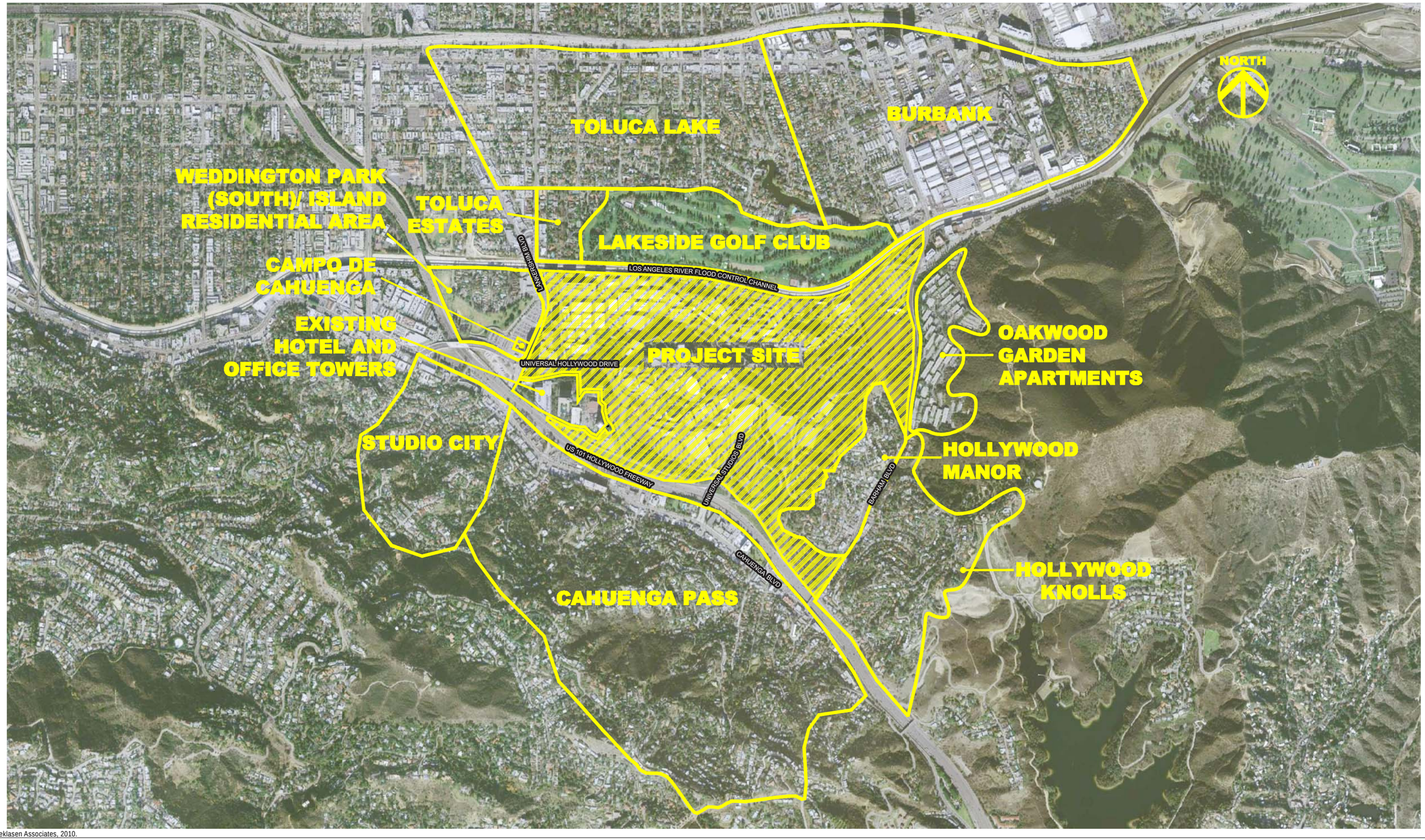
With regards to construction, the City of Los Angeles CEQA Thresholds Guide states that a project would normally have a significant impact on noise from construction if: (a) construction activities lasting more than one day would exceed existing ambient exterior noise levels by 10 dBA or more at a noise sensitive use; (b) 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 (c) construction activities would exceed the ambient noise level by 5 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 anytime on Sunday.

With regards to operations, the City of Los Angeles CEQA Thresholds Guide states that a project would normally have a significant impact on noise from operations if the project causes the ambient noise level measured at the property line of affected uses to increase by 3 dBA in Community Noise Equivalent Levels to or within the "normally unacceptable" or "clearly unacceptable" category, or any 5 dBA or greater noise increase.

c. Existing Ambient Noise Environment

(1) Areas Surrounding the Project Site

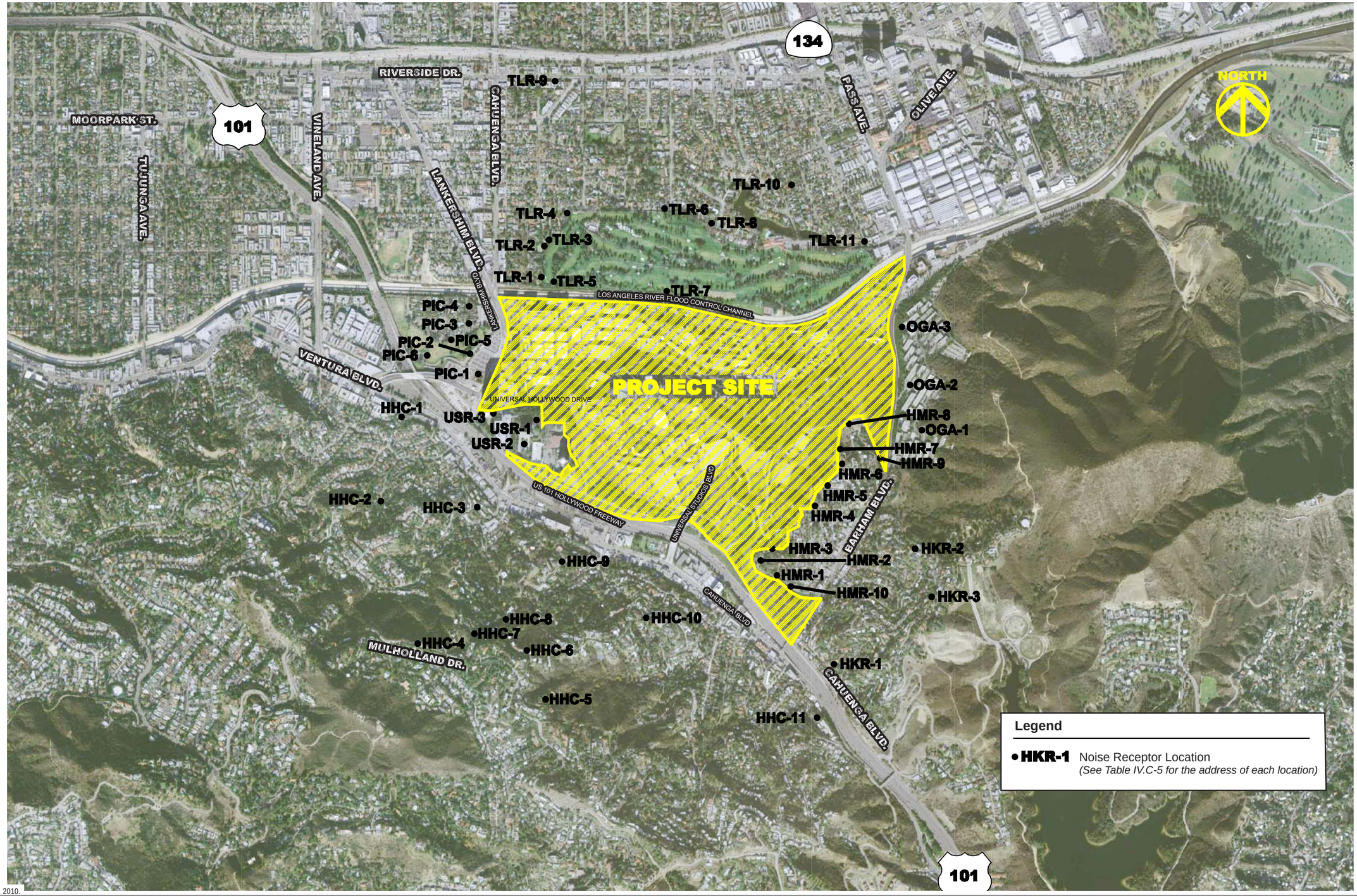
The noise environment surrounding the Project Site is defined by a variety of noise sources, including Hollywood Freeway traffic, local street traffic, existing activities throughout the Project area, and occasional aircraft overflights. The extent to which the ambient noise level at any particular location is affected by one or more of these sources depends upon, among other things, the distance of the location to a specific noise source, the presence of intervening structures, and topography. Reflecting the diversity of conditions found around the Project Site, a total of twelve (12) receptor areas around the Project Site, as shown in Figure 92 on page 972, have been identified and are described below. Within these twelve (12) receptor areas, a total of forty-seven (47) receptor locations, as shown in Figure 93 on page 973, were chosen in order to obtain a broad understanding of the existing ambient noise environment in the Project area.



Source: Veneklasen Associates, 2010.

matrix environmental

Figure 92
Noise Receptor Areas



Source: Veneklasen Associatesl, 2010.

Figure 93
Noise Receptor Locations

To establish existing ambient noise levels in areas surrounding the Project Site, a continuous 24-hour noise monitoring study was conducted between February and July 2007 at all 47 receptor locations. The 47 monitoring locations are comprised of the following:

- 41 residential receptors;
- 1 public school – Valley View Elementary School;
- 3 commercial properties - 10 Universal City Plaza, Sheraton Universal & Universal Hilton;
- 1 public park – Weddington Park (South); and
- 1 landmark location – Campo de Cahuenga (PIC 1).

These areas are listed below in Table 55 on page 975.

As discussed above, the individual noise receptor locations were grouped into the twelve (12) receptor areas defined earlier. Table 56 on page 976 presents the lowest measured ambient hourly L_{50} and L_{max} values for each of the 47 locations within the twelve (12) receptor areas during the hours from 7:00 A.M. to 10:00 P.M. and from 10:00 P.M. to 2:00 A.M. These two time periods coincide with the County Noise Ordinance's differentiation between noise standards for daytime (7 A.M. to 10 P.M.) and nighttime (10 P.M. to 7 A.M.) regulations. In addition, these time periods coincide with the different normal operating hours of the Theme Park (7:00 A.M. to 10:00 P.M.) and the public areas such as Universal CityWalk (7:00 A.M. to 2:00 A.M.). Table 56 also presents the measured Community Noise Equivalent Level for each of the 47 receptor locations.

As shown in Table 56, the noise environment in the receptor areas surrounding the Project Site is typical of an urban setting. The lowest ambient hourly L_{50} were measured in areas which are not located close to major roadways. Higher ambient noise levels prevail as the distance to major roadways decreases.

Receptor locations which receive substantial noise from the Hollywood Freeway include portions of Hollywood Manor (HMR 1, HMR 2), Hollywood Knolls (HKR 1), Cahuenga Pass (HHC 3, HHC 11), Campo de Cahuenga and Weddington Park (South)/Island residential area (PIC 5). Receptor locations north of the Project Site in Toluca Estates and Toluca Lake receive relatively little freeway noise but are exposed to local traffic noise. Receptor location TLR 9 in the Toluca Lake receptor area receives noise from Riverside Drive and from the Ventura Freeway (CA 134). Receptor location TLR 11 in Burbank receives noise from Pass Avenue/Barham Boulevard. All receptor locations are

Table 55
Listing of Community Receptor Area Noise Monitoring and Receiver Locations

Community Receptor Area	Location Designation[a]	Location Site Address
Studio City	HHC 1	Studio Inn Place
Cahuenga Pass	HHC 2	3600 Lankershim Boulevard
	HHC 3	3878 Fredonia Drive
	HHC 4	Mulholland Scenic Overlook Park
	HHC 5	7523 Mulholland Drive
	HHC 6	3518 Multiview Drive
	HHC 7	3579 Multiview Drive
	HHC 8	3608 Multiview Drive
	HHC 9	3782 Multiview Drive
	HHC 10	3401 Bonnie Hill Drive
	HHC 11	Valley View Elementary School
Hollywood Knolls	HKR 1	3211 Benda Place
	HKR 2	3090 Lake Hollywood Drive
	HKR 3	3445 Tareco Drive
Hollywood Manor	HMR 1	Near Gate 42
	HMR 2	3325 Blair Drive
	HMR 3	3341 Blair Drive
	HMR 4	Behind 3405 Blair Drive
	HMR 5	Fire Road Across 3424 Blair Dr.
	HMR 6	Fire Road Across 3480 Blair Dr
	HMR 7	3509 Blair Drive
	HMR 8	Near Gate 38
	HMR 9	Behind 3234 Craig Drive
	HMR 10	3257 Blair Drive
Oakwood Garden Apartments	OGA 1	Oakwood (South Parking)
	OGA 2	Oakwood (Dark Canyon Drive Parking)
	OGA 3	Oakwood (North Club Poolside)
Campo de Cahuenga	PIC 1	Adobe de Cahuenga
Weddington Park (South)/Island	PIC 2	Southend of Bluffside
	PIC 3	10645 Valleyheart Drive
	PIC 4	4042 Willowcrest Avenue
	PIC 5	Denny & Valleyheart
	PIC 6	S. Weddington Park (Parking Area)
Toluca Estates	TLR 1	24 Toluca Estates
	TLR 2	12 Toluca Estates
	TLR 3	4201 Toluca Road
	TLR 4	10424 Valley Spring Lane
Toluca Lake	TLR 6	10211 Valley Spring Lane
	TLR 8	10098 Valley Spring Lane
	TLR 9	10428 Riverside
Lakeside Golf Club	TLR 5	Lakeside Golf Club Hole 13
	TLR 7	Lakeside Golf Club Hole 5
Burbank	TLR 10	4251 Warner Blvd
	TLR 11	4202 West Hood Avenue
Existing Hotel and Office Towers	URS 1	Sheraton Universal Northside
	URS 2	Sheraton Universal Southside
	URS 3	10 Universal City Plaza 10 UCP (Parking Structure)

Notes: HHC = Hollywood Hills Community; HKR = Hollywood Knolls Residences; HMR = Hollywood Manor Residences; OGA = Oakwood Garden Apartments; TLR = Toluca Lake Residences; URS = Hotel and Office Towers Receptor Site; PIC = Weddington Park (South)/Island Residential Area and Campo de Cahuenga

[a] *Location Designations correspond to those shown in Figure 93 on page 973.*

Source: Veneklasen Associates, Inc., 2010.

Table 56
Listing of Community Noise Monitoring and Receiver Locations Existing Lowest Measured L_{50} and Community Noise Equivalent Level in dBA

Community Receptor Location	Location of Description [a]	Community Noise Equivalent Level	Lowest Measured L_{50} 7 A.M. – 10 P.M.	Lowest Measured L_{50} 10 P.M. – 2 A.M.	Lowest Measured L_{max} 7 A.M. – 10 P.M.	Lowest Measured L_{max} 10 P.M. – 2 A.M.
Studio City	HHC 1	68	59	55	73	71
Cahuenga Pass	HHC 2	60	42	37	72	69
	HHC 3	73	61	64	70	71
	HHC 4	67	55	48	81	77
	HHC 5	56	43	44	64	61
	HHC 6	65	57	55	67	66
	HHC 7	63	53	51	67	69
	HHC 8	59	47	47	64	61
	HHC 9	60	48	48	68	59
	HHC 10	61	51	46	71	72
	HHC 11	74	65	64	74	79
Hollywood Knolls	HKR 1	64	56	52	75	70
	HKR 2	63	45	39	77	76
	HKR 3	58	46	40	74	77
Hollywood Manor	HMR 1	65	54	56	69	68
	HMR 2	66	57	56	69	71
	HMR 3	60	49	50	67	65
	HMR 4	57	47	46	63	56
	HMR 5	56	47	45	65	61
	HMR 6	57	47	45	66	55
	HMR 7	56	47	43	65	61
	HMR 8	58	49	45	65	64
	HMR 9	70	63	57	77	75
	HMR 10	60	51	49	70	64
Oakwood Garden Apartments	OGA 1	58	51	49	69	70
	OGA 2	65	58	52	74	73
	OGA 3	68	61	54	75	68
Campo de Cahuenga	PIC 1	66	58	54	72	75
Weddington Park (South)/Island	PIC 2	65	54	55	71	74
	PIC 3	64	53	48	72	60
	PIC 4	59	50	46	68	66
	PIC 5	64	56	54	73	70
	PIC 6	66	57	53	74	72
Toluca Estates	TLR 1	57	46	47	70	54
	TLR 2	58	45	44	74	62
	TLR 3	55	45	45	65	54
	TLR 4	58	47	46	61	57
Toluca Lake	TLR 6	60	43	42	70	61
	TLR 8	62	42	43	73	64
	TLR 9	74	66	58	81	79
Lakeside Golf Club	TLR 5	60	51	51	69	61
	TLR 7	58	49	47	66	57
Burbank	TLR 10	56	46	44	70	60
	TLR 11	63	49	43	72	71
Existing Hotel and Office Towers	URS 1	68	60	56	76	69
	URS 2	76	66	65	77	76
	URS 3	68	59	57	74	73

[a] *Location Designations correspond to those shown in Figure 93 on page 973.*

Source: Veneklasen Associates, Inc., 2010.

impacted by frequent aircraft overflights during the daytime hours that are unrelated to the Project Site.

A brief description of the twelve (12) receptor areas and existing ambient noise levels follows:

(a) Hollywood Manor (Blair Drive)

The Hollywood Manor receptor area is located immediately east of the Project Site, west of Barham Boulevard, and north of the Hollywood Freeway. This receptor area is bounded by Blair Drive to the south and west, Craig Drive to the north, and Barham Boulevard to the east. This receptor area consists primarily of single family dwellings, except for commercial land uses and multi-family residences that exist along portions of Barham Boulevard.

The Hollywood Manor receptor area exhibits a wide range of measured L_{50} hourly values. During daytime hours, the noise levels that registered lowest occurred at receptor locations HMR 4–7 along Blair Drive (47 dBA). The lowest measured L_{50} hourly noise levels that registered highest were measured at receptor location HMR 9 (63 dBA) which is along Blair Drive.

(b) Hollywood Knolls

The Hollywood Knolls receptor area is located east of the Project Site and the Hollywood Manor receptor area, and is bounded by Barham Boulevard to the west, Cahuenga Boulevard East and the Hollywood Freeway to the south, Wonder View Drive to the east, and Lake Hollywood Drive to the north. This receptor area consists of single family dwellings except along Barham and Cahuenga East Boulevards where commercial uses and multi-family dwellings exist.

During daytime hours, the receptor location at HKR 1 in the Hollywood Knolls receptor area had the lowest measured L_{50} hourly noise level (56 dBA) that registered the highest level in this area. This receptor location is impacted by traffic noise on the Hollywood Freeway. Receptors HKR 2 and HKR 3 registered the lowest L_{50} hourly ambient noise levels in this area (45 dBA and 46 dBA, respectively) as they are located away from major roadways and are, thus, shielded from traffic noise from Barham Boulevard and the Hollywood Freeway.

(c) Oakwood Garden Apartments

The Oakwood Garden Apartments receptor area is located east of the Project Site and is bounded by Barham Boulevard to the west, Forest Lawn Drive to the north, and

Coyote Canyon Road to the east and south. This receptor area consists of multi-family dwellings.

The Oakwood Garden Apartments receptor area has direct noise exposure to Barham Boulevard. During daytime hours, the highest noise level for the lowest measured hourly L_{50} was at the Oakwood Garden Apartment's North Club Poolside (OGA 3) with a noise level of 61 dBA. The South Parking lot (OGA 1) and Dark Canyon Drive Parking lot (OGA 2) within the Oakwood Garden Apartments registered the lowest L_{50} hourly ambient noise levels at 51 and 58 dBA, respectively.

(d) Cahuenga Pass

The Cahuenga Pass receptor area is located south of the Project Site and is bounded by the Hollywood Freeway to the north, Mulholland Drive to the east and south and Lankershim Boulevard to the west. This receptor area consists of single family dwellings except along Cahuenga Boulevard West, where commercial land uses exist. Located within this receptor area are a school, Valley View Elementary, which is situated off Cahuenga Boulevard East on Woodrow Wilson Drive, a church, United Armenian Congressional Church, and a park, El Paseo de Cahuenga Park, which are south of and adjacent to the Hollywood Freeway.

The entire Cahuenga Pass receptor area is exposed to Hollywood Freeway noise to some degree. Freeway noise is audible even at receptor locations farthest from the freeway. During daytime hours, the Valley View Elementary School (HHC 11) registered the highest hourly noise levels for the lowest measured hourly L_{50} (65 dBA) in the Cahuenga Pass receptor area. Ambient noise levels registered lowest at HHC 2 with an L_{50} noise level of 42 dBA.

(e) Studio City

The Studio City receptor area is located generally southwest of the Project Site, and is bounded by Lankershim Boulevard to the east, Wrightwood Lane to the south, Wrightwood Drive to the west, and Ventura Boulevard to the north. This receptor area consists of single-family dwellings except along Fruitland Drive and Ventura Boulevard**,** which consist of commercial land uses and multi-family dwellings.

The Studio City receptor area has a similar noise exposure as the Cahuenga Pass receptor area mainly due to the Hollywood Freeway. During daytime hours, the Studio Inn Place Motel (HHC 1), which is near the intersection of Ventura Boulevard and Universal Hollywood Drive and has a direct line of site (and sound) to the Hollywood Freeway, registered a lowest measured L_{50} hourly noise level of 59 dBA.

(f) Weddington Park (South)/Island

The Weddington Park (South)/Island receptor area is located west of and adjacent to the Universal City Metro Red Line station. This receptor area includes Weddington Park (South), the residential area known as the Island residential area, and the City View Lofts apartments. This receptor area is west of the Project Site, and is bounded by Lankershim Boulevard and the Universal City Metro Red Line station to the east, the Los Angeles River Flood Control Channel to the north and the Hollywood Freeway (I-101) to the south and west.

The Weddington Park (South)/Island receptor area has direct noise exposure to Lankershim Boulevard and the Hollywood Freeway. During daytime hours, the highest noise levels for the lowest measured hourly L_{50} were registered at the parking area within Weddington Park (South)/Island (PIC 6) with a L_{50} hourly noise level of 57 dBA. Receptor locations at PIC 3 and PIC 4 registered the lowest measured L_{50} hourly noise levels of 53 and 50 dBA respectively, as they are shielded from Lankershim Boulevard and the Hollywood Freeway.

(g) Campo de Cahuenga

The Campo de Cahuenga receptor area is located directly west of the Project Site at the Universal City Metro Red Line Station, near the northwest corner of Lankershim Boulevard and Campo de Cahuenga Way. Campo de Cahuenga is listed on the National Register of Historic Places, listed as a California Historical Landmark, and locally designated as a City of Los Angeles Historical-Cultural Monument.

The Campo de Cahuenga receptor area has direct noise exposure to Lankershim Boulevard and the Hollywood Freeway. During daytime hours the lowest measured hourly L_{50} is 58 dBA (PIC 1).

(h) Toluca Estates

The Toluca Estates receptor area is located north of the Project Site and is bounded by Cahuenga Boulevard to the west, Valley Spring Lane to the north, Toluca Road and Lakeside Golf Club to the east, and the Los Angeles River Flood Control Channel to the south. This receptor area is comprised of single-family dwellings.

The Toluca Estates receptor area receives noise from traffic on Lankershim and Cahuenga Boulevards. Activities at the Project Site contribute slightly to the existing lowest measured ambient noise in the Toluca Estates receptor area. During daytime hours, the lowest measured L_{50} hourly noise levels within this receptor area ranged from 45 dBA, at TLR 2 and TLR 3, to 46 dBA, at TLR 1 and 47 dBA at TLR 4.

(i) Toluca Lake

The Toluca Lake receptor area is north of the Project Site and is bounded by Lankershim Boulevard to the west, the Ventura Freeway to the north, Clybourn Avenue to the east, and Valley Spring Lane to the south. The type of land uses in this receptor area varies from single family dwellings to multi-family dwellings and commercial uses.

During daytime hours, the receptor location at TLR 9 registered the highest hourly noise levels for the lowest measured hourly L_{50} (66 dBA) in the Toluca Lake receptor area. This receptor location is exposed to traffic noise from Riverside Drive. Receptors at TLR 6 and TLR 8 registered the lowest measured hourly L_{50} noise levels (43 and 42 dBA, respectively) as they are shielded from direct noise exposure from major roadways. Activities at the Project Site contribute slightly to the existing lowest measured ambient noise in this area.

(j) Lakeside Golf Club

The Lakeside Golf Club receptor area is located north of the Project Site. This property is a private golf course and is bounded by the Toluca Estates community to the west, Valley Spring Lane to the north, and the Los Angeles River Flood Control Channel to the south and east.

The Lakeside Golf Club receptor area locations at TLR 5 and TLR 7 registered the lowest measured hourly L_{50} noise levels (of 51 and 49 dBA, respectively), as they are shielded from direct noise exposure from major roadways. Activities at the Project Site contribute slightly to the existing lowest measured ambient noise on the golf course during the late night hours. However, the golf course is not in use at that time.

(k) Burbank

The Burbank receptor area is located northeast of the Project Site. This receptor area is bounded by Clybourn Avenue to the west, the Ventura Freeway to the north, Bob Hope Drive to the east, and the Los Angeles River Flood Control Channel to the south. Warner Brothers Studios is located within this receptor area. Commercial land uses exist along Pass Avenue and Riverside Drive in this receptor area, and single and multi-family dwellings are located east of Pass Avenue and south of Riverside Drive.

L_{50} hourly noise levels measured at locations in this receptor area, TLR 10 and TLR 11, are low during daytime hours (46 and 49 dBA, respectively) as these receptor locations are shielded from direct noise exposure of major roadways.

(l) Existing Hotel and Office Towers

The Existing Hotel and Office Towers receptor area is located at the immediate southwest edge of the Project Site. This receptor area is bounded by the Project Site to the north, east, and southeast. The Lankershim Boulevard off-ramp of the Hollywood Freeway and Lankershim Boulevard itself bound this receptor area to the west and south. This receptor area consists of two hotels (Sheraton Universal and Universal Hilton), a commercial high-rise building (10 Universal City Plaza) and associated parking.

In the Existing Hotel and Office Towers receptor area, the receptor location at URS 2 registered the highest noise levels for the lowest measured hourly L_{50} during daytime and nighttime hours (66 dBA and 65 dBA, respectively). The receptor location at URS 1 registered L_{50} noise levels of 60 dBA and 56 dBA during daytime and nighttime hours, respectively. The receptor location at URS 3 registered L_{50} noise levels of 59 dBA and 57 dBA during daytime and nighttime hours, respectively.

(2) Existing Project Site Noise Sources

(a) Types of Noise

There are a number and variety of noise sources currently located within the Project Site, but the majority of the noise sources do not impact the nearby community. Existing noise sources at the Project Site include the following: (1) maintenance/operations; (2) traffic; (3) parking areas; (4) building mechanical and electrical equipment; (5) Universal Studios Hollywood attractions; (6) Universal CityWalk tenants and public areas; (7) special events; and (8) outdoor filming.

(b) Major Existing Contributing Noise Sources

The majority of noise sources on the Project Site, as discussed above, would not impact nearby communities, as they do not generate enough noise to be audible above ambient noise levels at the sensitive receptors in the Project area. However, noise generated by on-site attractions, heating, ventilation, and air conditioning equipment, car alarms, and special events are audible at off-site locations. These noise sources are thus determined to be the major existing contributing noise sources.

The attractions at Universal Studios Hollywood make up most of the major sound sources at the Project Site. These sources currently include the Water World Show, Jurassic Park the Ride, Studio Backlot Tram Tour, Fear Factor Live, Nickelodeon Blast Zone, Hollywood Animal Actors Show, the Wild West Show, and the Fast and the Furious Show. Normal operating hours for these venues and attractions are from 7:00 A.M. to 10:00 P.M. closing.

There are various different heating, ventilation, and air conditioning systems currently being utilized on the Project Site – some are roof top mounted systems and other buildings are being served by a central plant design. Most of the Project Site's existing heating, ventilation, air conditioning equipment produces lower noise levels than the Universal Studios Hollywood attractions, and is generally located away from residences.

Car alarms also constitute a notable source of noise on the Project Site. It was assumed that one alarm will sound for approximately 15 minutes out of a 1/2 hour, and could potentially be audible until the Project Site's public areas, such as Universal CityWalk, are closed at 2:00 A.M.

In addition, occasionally there are special events that occur at Universal Studios Hollywood or the studio backlot. These special events take place for short periods of time (usually one evening or weekend) and are typically over by 10:00 P.M. Special events have been modeled at locations where events were previously held within Universal Studios Hollywood or the studio backlot using event sound levels normally experienced to evaluate the operational noise sources within the Project Site.

To assess noise levels attributable to the major existing contributing noise sources identified above, a separate modeling effort was conducted to determine if the major existing contributing sources result in noise levels higher than used in the County Noise Ordinance. This modeling effort assumed that all major noise sources including tour trams are operating simultaneously, which would rarely, if ever, occur. Furthermore, 23 tour trams per hour, the maximum number, are assumed between 7:00 A.M. to 10:00 P.M., which is also a very conservative assumption, as the typical number of operational trams per hour is less than 23. The County Noise Ordinance, as described in detail below, provides the most conservative regulations regarding Project operations. In order to provide a very conservative analysis, the lowest measured L_{50} and L_{max} hourly ambient noise level, measured between the hours of 7:00 A.M. to 2:00 A.M. (which is consistent with the regular hours of operation at the Project Site), was used for the purposes of this analysis. Based on the results of detailed modeling, noise levels from the major existing contributing noise sources did not exceed the established thresholds.

3. Environmental Impacts

a. Methodology

Implementation of the proposed Project could result in the introduction of noise levels that may exceed permitted County or City noise levels. The primary sources of noise associated with the proposed Project would be temporary construction activities at the Project Site as well as Project-related noise sources associated with operation of the

proposed Project. On-site sources include, but are not limited to, new stationary sources (such as heating, ventilation, and air conditioning units) and increased human activity throughout the Project Site. The net increase in Project Site noise levels generated by these activities and other sources have been quantitatively forecasted and compared to the thresholds of significance (see IV.C.3.b below for a description of these significance thresholds).

(1) Noise Modeling

The primary noise model used to calculate future Project noise levels was the LimA Noise Model, developed by Brüel & Kjar, with the cooperation of Stapelfeldt Ingenieurgesellschaft mbH. The LimA Noise Model allows for the inclusion of building structures, terrain, and sound sources, and uses the calculation methods documented in International Standard ISO 9613-1 to calculate noise at defined receptor locations. So that the LimA noise modeling software accurately represented the surrounding conditions, a three-dimensional replica of the Project Site was entered into the software. The terrain of the area, including the surrounding neighborhoods, was entered and based on data from the US Geological Survey. The heights and locations of the major buildings on and around the Project Site were entered based on field observations and aerial photographs. Only major buildings which are between sources and receptor areas were entered into the model.

All acoustic noise volumes predicted by the LimA model were then field verified using noise source tests at the Project Site. The noise levels generated by these tests were measured at the Toluca Lake and Hollywood Manor area. The results of these tests were compared to the acoustic model for accuracy. In addition, the calculations of hourly averages and maximum noise levels from the model were reviewed for all receptor locations. Although direct comparison between the predicted and measured values was not always possible, all values were reasonable and correspond well to measured noise levels.

(2) Construction Noise and Vibration

The City of Los Angeles CEQA Thresholds Guide construction data was utilized to model the potential construction noise impact that may result from the development of the Project.

As background, the City of Los Angeles CEQA Thresholds Guide provides a list of typical types of construction equipment and the associated sound levels that can be expected. This table lists the noise emission levels of construction equipment at a distance of 50 feet. The typical noise levels generated by construction equipment are presented in Table 57 on page 984.

Table 57
Typical Construction Equipment Noise Levels Reported by City of Los Angeles CEQA Thresholds Guide

Construction Equipment	Sound Level dBA @ 50'
Front Loader	73-86
Trucks	82-95
Cranes (moveable)	75-88
Cranes (derrick)	86-89
Vibrator	68-82
Saws	72-82
Pneumatic Impact Equipment	83-88
Jackhammers	81-98
Pumps	68-72
Generators	71-83
Compressors	75-87
Concrete Mixers	75-88
Concrete Pumps	81-85
Back Hoe	73-95
Pile Driving (peaks)	95-107
Tractor	77-98
Scraper/Grade	80-93
Paver	85-88

Source: City of Los Angeles, CEQA Thresholds Guide, 2006.

The EPA has also developed sound pressure levels of various construction phases. Specifically, the EPA guidance breaks all construction activities into five (5) different phases, with specified noise levels for each of the following five (5) phases of construction:

1. Ground Clearing;
2. Excavation;
3. Foundation;
4. Erection; and
5. Finishing.

Noise levels generated by each of these phases are included in the City of Los Angeles CEQA Thresholds Guide and shown in Table 58 on page 985. These noise levels in Table 58 are the basis for the calculation of Project noise construction impacts.

Project design features (discussed below in IV.C.3.c of this Draft EIR) would be incorporated into construction activities in order to comply with the applicable City and County Noise Ordinance regulations. While these project design features would have a substantial effect in reducing construction noise, to be conservative, the noise-reducing impact of these project design features has not been included in the noise analysis.

Table 58
Outdoor Construction Noise Levels Reported by
City of Los Angeles CEQA Thresholds Guide

	Noise Level dBA at 50 feet	
Construction Phase	**Standard Equipment**	**Equipment with Mufflers**
Ground Clearing	84	82
Excavation, Grading	89	86
Foundations	78	77
Erection	85	83
Finishing	89	86

Source: City of Los Angeles, CEQA Thresholds Guide, 2006.

Accordingly, the construction noise analysis overestimates potential noise levels related to construction activity.

The Studio, Entertainment, Business, and Mixed-Use Residential Areas were broken down into potential construction areas and each area was modeled both separately and combined. The modeling of construction throughout the Project Site (i.e., all four development areas) was conducted using the LimA modeling software to determine the potential construction noise impacts at all 47 receptor locations during the nosiest construction phase. The resulting predicted construction noise levels were then evaluated against the established thresholds in this Section to determine if a significant impact would result. Additional detail regarding the assumptions used in the Project's construction analysis is also provided below under separate subheadings.

(a) Studio, Entertainment, and Business Area Construction Zones

The Studio, Entertainment, and Business Areas were divided into seven (7) construction zones, with each of these zones divided further into construction modules that consist of one or more individual buildings. In order to provide a conservative analysis, it was assumed that two of the specified construction modules can be under construction at the same time. Two modes of construction noise source distribution were also assumed – horizontal work, including ground clearing, excavation and foundation work; and vertical work, including erection and finishing. In order to identify the maximum construction noise impacts at each of the 47 receptor locations, the specified combinations of construction zones that have the potential to generate the highest construction noise levels were located closest to each of the 47 receptor locations.

(b) Mixed-Use Residential Area Construction Zones

Two conceptual grading scenarios have been identified for the Mixed-Use Residential Area. Specifically, the Mixed-Use Residential Area would be graded in either a single phase or in three phases. As the timing and geographic areas within which grading would occur is different under these two scenarios, separate noise analyses have been conducted for both the one-phase and three-phase grading scenarios. While two different grading scenarios are analyzed, once grading is completed, there would be just a single construction program leading to buildout of development within the Mixed-Use Residential Area. The construction analysis also took into consideration that on-site topography would change as a result of Project grading activities. As such, the analysis of grading is based on existing topography, whereas the analysis of constructing the buildings themselves reflects the future on-site topography once the grading scenario for the Mixed-Use Residential Area is completed.

(c) Construction Vibration

Ground-borne vibration impacts were analyzed by identifying the potential construction equipment (vibration sources) that may be used during Project construction, measuring the distance between the vibration sources and surrounding structure locations, accounting for the type and quality of soils between the vibration sources and structure locations, calculating the potential vibration in peak particle velocity that may be experienced at the off-site structure, and comparing that potential vibration to the significance threshold (discussed below in IV.C.3.b of this Draft EIR). The Federal Transit Administration published the report *Transit Noise and Vibration Impact Assessment* in May 2006. As detailed in Table 59 on page 987, Section 12.2 of the Federal Transit Administration Report provides vibration source levels for various types of construction equipment based on measured data.

As Table 59 shows, the most significant vibration source is produced by a pile driver. As discussed in Section IV.C.5.a below, despite resulting in a less efficient and more costly construction equipment mix, the Project has chosen to not include pile driving as part of its construction equipment mix in order to minimize noise and vibration impacts to the surrounding community. Thus, the analysis of construction vibration assumes that no pile driving equipment would be included in the construction equipment mix during any construction activities.

(3) Operational Noise

New major on-site noise sources were incorporated into the LimA model based on the Project's Conceptual Plan. Measurements were performed to evaluate the directionality of the Project noise sources and the sound power for each source.

Table 59
Typical Construction Equipment Vibration
Levels as Reported by the Federal Transit Administration

Equipment	Peak Particle Velocity at 25 feet
Pile Driver (upper range)	1.518 inches/second
Pile Driver (typical)	0.644 inches/second
Large Bulldozer	0.089 inches/second
Caisson Drilling	0.089 inches/second
Loaded Trucks	0.076 inches/second
Jackhammer	0.035 inches/second
Small Bulldozer	0.003 inches/second

Source: Transit Noise and Vibration Impact Assessment. Federal Transit Administration. May 2006.

Information entered into the model was then used to calculate noise levels at the above identified receptor locations. After completion of the computer model, the accuracy was checked with field noise measurements at some of the receptor locations. The model provided noise levels for the Project sources at all 47 receptor locations.

As discussed in the following section, the County Noise Ordinance provides the most restrictive noise regulations pertaining to Project operations; thus, predicted noise levels were evaluated against the County Noise Ordinance to determine if Project operations would result in a significant noise impact.

(4) Roadway Noise Levels

The Federal Highway Administration's Traffic Noise Model was used to predict future roadway noise levels, as it is more suited for the modeling of this particular noise source than the LimA Noise model. To determine the potential noise impacts due to increases in traffic volume through the year 2030, a computer model of the area surrounding the Project Site was constructed using the Federal Highway Administration's Traffic Noise Model.

Thirty-two (32) traffic noise receptor locations were chosen for the traffic noise analysis based on each receptor's noise sensitivity and proximity to the road segments with the highest anticipated Project-related traffic volume increases. Each selected location is representative of potential receptors in similar noise-exposure situations, so the thirty-two traffic noise receptor locations adequately address all potential Project traffic noise impacts. The analysis results at these locations represent the greatest increases in potential Project traffic noise.

The Federal Highway Administration's Traffic Noise Model was verified by performing a measurement at seven (7) validation segments while counting passing vehicles and noting their types (i.e., car vs. medium truck vs. heavy truck). The model was validated for all 32 locations, as all but one of the 32 traffic noise receptor locations are situated along one of the seven validation segments. The one exception is Olive/Pass Avenue in the City of Burbank. As Olive/Pass Avenue is the continuation of Barham Boulevard into the City of Burbank, the validation results for Barham Boulevard were applied to the Pass Avenue location.

As discussed below, the predicted noise levels resulting from the Federal Highway Administration's Traffic Noise Model were evaluated against the City of Los Angeles CEQA Thresholds Guide to determine whether noise impacts from future traffic volumes would be significant.

b. Thresholds of Significance

The Project area is located within the jurisdictional boundaries of two regulatory agencies (i.e., the City of Los Angeles and the County of Los Angeles). Thus, noise control standards potentially applicable to the proposed Project's potential noise impacts are the City of Los Angeles Noise Ordinance, the County of Los Angeles Noise Ordinance, and the *City of Los Angeles CEQA Thresholds Guide*.

To provide the most conservative evaluation of potential noise impacts, an analysis of the noise regulations in the City and County Noise Ordinances and the thresholds in the *City of Los Angeles CEQA Thresholds Guide* was undertaken to determine which were the most conservative. Based on this analysis, it was found that the most conservative noise standard depends on the noise-generating activity (i.e., construction, operation, or roadway noise). A discussion of the methodology for determining the most restrictive noise standard for each potential noise source (i.e., construction, operation, and roadway noise) follows.

(1) Construction Noise and Vibration Sources

(a) Daytime Construction

A comparative analysis of the applicable daytime construction standards was conducted. This analysis found that during daytime hours and based on the measured sound levels, the *City of Los Angeles CEQA Thresholds Guide* and the County Noise Ordinance yield the lowest noise levels, and thus are the most restrictive standard(s), at varying receptor sites. For example, at receptor sites HMR 3-8, with existing ambient noise levels the *City of Los Angeles CEQA Thresholds Guide* would only allow an equivalent sound level between 54-56 dBA, which would be more restrictive than the L_{50} of 60 dBA-weighted decibels or equivalent sound level of 75 dBA allowed under the County and City

Noise Ordinances, respectively. However, because of existing higher ambient levels in other receptor locations, in some cases the City of Los Angeles CEQA Thresholds Guide would permit a higher construction noise level than the County Noise Ordinance. For example, at receptor sites HHC 1, 3, and 4, with existing ambient noise levels, the City of Los Angeles CEQA Thresholds Guide would permit sound levels from construction noise sources to reach an equivalent sound level of between 66-68 dBA, whereas the County Noise Ordinance would still restrict noise levels to a lower level at L_{50} of 60 dBA.

Further, the City and the County noise ordinances apply different ranges of time for distinguishing daytime and nighttime standards. The City Noise Ordinance and *City of Los Angeles CEQA Thresholds Guide* apply the more restrictive nighttime standards commencing at 9:00 P.M. Under the County Noise Ordinance, however, the more restrictive nighttime standard is applied commencing at 7:00 P.M. or 8:00 P.M.

Since it is not possible to reconcile which standard is more stringent for all locations, in order to use the most conservative standard, this analysis uses the following threshold which includes elements from each of the three standards:

- Construction activities after 7:00 A.M. and before 7:00 P.M. would exceed equivalent sound level ambient exterior noise levels by 5 decibels or more at a noise sensitive use; or

- Construction activities after 7:00 A.M. and before 7:00 P.M. would exceed a L_{50} of 60 dBA at a noise sensitive use.

(b) Nighttime Construction

A comparative analysis of the applicable nighttime construction standards was conducted. This analysis found that during nighttime hours and based on the measured sound levels, the standards set forth in the City and County Noise Ordinance's yield the lowest noise levels, and thus are the restrictive standard(s), at varying receptor sites. For example, at receptor sites HMR 4-7, with existing ambient noise levels the City of Los Angeles Noise Ordinance would restrict nighttime construction noise sources to an equivalent sound level between 48-49 dBA, which would be more restrictive than the L_{50} of 50 dBA allowed under the County Noise Ordinance. However, because of existing higher ambient noise levels in some other receptor locations, in some cases the City Noise Ordinance would permit a higher construction noise level than the County Noise Ordinance. For example, at receptor sites HMR 1-2, with existing ambient noise levels the City Noise Ordinance would permit sound levels to reach an equivalent sound level of between 60–61 dBA, whereas the County Noise Ordinance would still restrict noise levels to a lower level at L_{50} of 50 dBA.

Since it is not possible to reconcile which standard is more stringent for all locations, in order to use the most conservative standard, this analysis uses the following threshold which includes elements from the City and County Noise Ordinances:

- Construction activities after 7:00 P.M. and before 7:00 A.M. would exceed ambient equivalent sound level exterior noise levels at any dwelling, hotel, apartment or other place of residences by 3 decibels or more; or

- Construction activities after 7:00 P.M. and before 7:00 A.M. would exceed L_{50} of 50 dBA at single-family uses, L_{50} of 55 dBA at multi-family uses, and L_{50} of 60 dBA at semi-residential or commercial uses.

(c) Construction Vibration Sources

The Federal Transit Administration Report[71] outlines guidelines for assessing the impact of vibration from construction activities on nearby buildings. The guidelines determine impact threshold levels that should be considered based on the age and/or condition of the structures and the level of vibration that could potentially cause damage to the structural integrity of those structures. Based on the age and/or condition of the buildings, the recommended damage thresholds range from 0.12 inches/second peak particle velocity for buildings considered extremely susceptible to vibration damage (e.g., historic structures) to 0.5 inches/second peak particle velocity for reinforced-concrete, steel, or timber structures containing no plaster. Table 60 on page 991 provides a summary of the Federal Transit Administration Report thresholds.

Thus, for the purposes of this analysis, the following significance thresholds are applied to analyze the potential vibration impacts from Project construction:

- Project construction activities would cause a ground-borne vibration level to exceed 0.2 inches/second peak particle velocity at non-engineered timber and masonry structures;

- Project construction activities would cause a ground-borne vibration level to exceed 0.3 inches/second peak particle velocity at engineered concrete and masonry (no plaster) buildings;

- Project construction activities would cause a ground-borne vibration level to exceed 0.12 inches/second peak particle velocity at buildings extremely susceptible to vibration damage, such as historic buildings; or

[71] *U.S. Department of Transportation, Federal Transit Administration, "Transit Noise and Vibration Impact Assessment", May 2006.*

Table 60
Summary of Federal Transit Administration Thresholds for Damage to Buildings From Vibrations

Building Type	Peak Particle Velocity
Reinforced Concrete, Steel, or Timber (no plaster)	0.5 inches/second
Engineered Concrete and Masonry (plaster)	0.3 inches/second
Non-Engineered Timber and Masonry	0.2 inches/second
Buildings Extremely Susceptible to Vibration Damage	0.12 inches/second

Source: Transit Noise and Vibration Impact Assessment. Federal Transit Administration. May 2006.

- Project construction activities would cause a ground-borne vibration level to exceed 0.5 inches/second peak particle velocity at reinforced-concrete, steel, or timber (no plaster) structures.

(2) Operational Sources

(a) On-Site Operational Noise Sources

The selection of the significance threshold for on-site operational noise sources also analyzed the applicable provisions of the County Noise Ordinance, City Noise Ordinance, and the *City of Los Angeles CEQA Thresholds Guide* to determine which was more restrictive and in turn would yield a more conservative assessment of potential Project on-site operational noise impacts. As noted below, based on the nature of operational noise from on-site sources, as well as the overall standards set forth in the applicable regulatory requirements, this analysis concluded that the County Noise Ordinance was the most restrictive, and thus the most conservative, methodology for analyzing Project noise impacts for operations. The following is a detailed explanation of that analysis.

The *City of Los Angeles CEQA Thresholds Guide* evaluates potential noise impacts in terms of a 24-hour period using Community Noise Equivalent Level, and it does not address noise events over shorter durations. Such a standard is normally used for the evaluation of transportation type noise sources (i.e., traffic, airports, railroad and their potential impact to existing areas and their ambient background sound levels), and not for stationary noise sources. Further, because the on-site noise sources do not produce substantial noise for an entire 24-period (from 2:00 A.M. to 7:00 A.M., the noise from the

Project Site is minimal), use of a Community Noise Equivalent Level would produce lower calculated noise levels than under the City and County Noise Ordinances.[72]

As the City and County Noise Ordinances are more stringent with regards to addressing stationary noise sources from Project operations than the *City of Los Angeles CEQA Thresholds Guide* standard for operational noise, the provisions of both the City and County Noise Ordinances were evaluated further. This was done by conducting a comparative analysis using the ambient noise monitoring data collected at all 47 receptor locations to determine whether the standards set forth in the City or County Noise Ordinance are more restrictive.

This comparative analysis was conducted for the Project's two modeling periods (i.e., 7:00 A.M. to 10:00 P.M. and 10:00 P.M. to 2:00 A.M.). The calculation of the significance threshold at each of the 47 receptor locations under the City's Noise Ordinance was conducted by adding 5 decibels to the lowest measured equivalent sound level (or the presumed ambient noise level, where higher), whereas under the County's Noise Ordinance the threshold was established at an L_{50} of 50 dBA or the ambient level if the ambient level was above 50 dBA.[73]

This analysis found that the measured sound levels indicate that the standards set forth in the County's Noise Ordinance yield lower allowed noise levels, and thus are a more restrictive standard, than the corresponding threshold levels developed pursuant to the provisions of the City's Noise Ordinance. In no case is the threshold under the provisions of the City Noise Ordinance more restrictive than the corresponding standard under the provisions of the County Noise Ordinance.

Lastly, the County Noise Ordinance has an L_{max} standard of 70 dBA during the day, and 65 dBA during nighttime hours, whereas the City's Noise Ordinance has no such standard. Therefore, the County Noise Ordinance was determined to be most restrictive for purposes of this analysis.

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[72] *Even if the Community Noise Equivalent Level standard were applied as an equivalent sound level, it would at most be comparable to the City Noise Ordinance level of 5 A-weighted decibels above ambient, which as explained below, is less restrictive than the County Noise Ordinance for operational noise.*

[73] *It is generally not necessary to evaluate all of the metrics (L_{50}, L_{25}, $L_{8.3}$, $L_{1.7}$, L_{max}) in the County Noise Ordinance. The L_{50} noise metric was selected as the threshold, as this noise metric, in conjunction with the L_{max} noise metric, was concluded, based on a series of hourly noise measurements at the Project Site, to be the most critical for comparison to the County Noise Ordinance. Therefore, if the L_{50} and L_{max} noise levels are in compliance with the County Noise Ordinance, then Project noise sources would also be in compliance with the other noise metrics (i.e., L_{25}, $L_{8.3}$, and $L_{1.7}$) included in the County Noise Ordinance.*

Thus, Project operations would result in a significant noise impact if:

- During daytime hours (7:00 A.M. to 10:00 P.M.), on-site Project noise sources result in an L_{50} noise level at the identified offsite receptor locations of more than 50 dBA or the ambient noise level if the ambient noise level is above 50 dBA;

- During nighttime hours (10:00 P.M. to 2:00 A.M.), on-site Project noise sources result in an L_{50} noise level at the identified offsite receptor locations of more than 45 dBA or the ambient noise level if the ambient noise level is above 45 dBA;

- During daytime hours (7:00 A.M. to 10:00 P.M.), on-site Project noise sources result in an L_{max} noise level at the identified offsite receptor locations of more than 70 dBA or the ambient noise level if the ambient noise level is above 70 dBA; or

- During nighttime hours (10:00 P.M. to 2:00 A.M.), on-site Project noise sources do not result in an L_{max} noise level at the identified offsite receptor locations of more than 65 dBA or the ambient noise level if the ambient noise level is above 65 dBA.

(b) Roadway Noise

(i) Roadway Noise Experienced by Off-Site Receptors

The City and County General Plan Noise Elements both include the California Department of Health and Safety Land Use Compatibility Matrix for community noise exposure, which classifies community noise levels into the following four categories based on the type of land use: normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable.

The City has incorporated the aforementioned guidelines of the Land Use Compatibility Matrix in the *City of Los Angeles CEQA Thresholds Guide*. The *City of Los Angeles CEQA Thresholds Guide* states that "a project would normally have a significant impact on noise levels from project operations if the project causes the ambient noise level measured at the property line of affected uses to increase by 3 dBA in community noise equivalent level to or within the 'normally unacceptable' or 'clearly unacceptable' category [as defined in Land Use Compatibility Matrix included in the Guide], or any 5 dBA or greater noise increase."

The County has not published any significance thresholds relative to the California Department of Health and Safety Land Use Compatibility Matrix. Thus, the Project would result in a significant noise impact if:

- Project motor vehicle travel, at the property line of affected uses, causes an increase in Community Noise Equivalent Levels of 3 dBA to or within the "normally unacceptable" or "clearly unacceptable" category, as defined in the City's General Plan Noise Element, or any 5 dBA or greater noise increase.

(ii) Roadway Noise Experienced by Future On-Site Receptors

To help inform the decision makers and the public, this Section of the EIR has included a discussion of the noise that may be experienced by future residents of the Mixed-Use Residential Area. This analysis does not relate to the Project's impact on the environment, but rather is a discussion of the noise that may be experienced by future residents from the Hollywood Freeway and the new North/South Road and Interior Road that would be developed to support the new residential area. For ease of analysis, this section compares the noise level that would be experienced by future on-site residents from roadway noise to the California Department of Health and Safety Land Use Compatibility Matrix referenced in the *City of Los Angeles CEQA Thresholds Guide*:

- On-site residences would be exposed to noise levels above the "normally acceptable" Land Use Compatibility Guidelines utilized by the City (i.e., Community Noise Equivalent Level of 60 dBA for single family and a Community Noise Equivalent Level of 65 dBA for multi-family uses).

c. Project Design Features

As part of its goal to control and reduce noise to the surrounding communities, the Applicant or its successor would implement a program to place noise limitations on the output of major sources of noise through the implementation of the proposed Universal Studios Specific Plan and the proposed Universal City Specific Plan. The proposed Universal Studios Specific Plan and proposed Universal City Specific Plan contain the following sound attenuation regulations.

(1) Proposed Universal Studios Specific Plan (County Specific Plan)

(a) General Requirements

For operational and construction impacts, Project sound sources within the proposed Specific Plan area would comply with Title 12, Chapter 12.08 of the Los Angeles County Code, except that the uses within the proposed Universal City Specific Plan area would not constitute "receptor properties," "neighborhood receiving dwelling units,"

"affected buildings," or off-site properties for the purposes of application of the regulations in Chapter 12.08.

(b) Construction and Grading Sound Requirements

Prior to the issuance of grading permits, the Project applicant or its successor would provide proof satisfactory to the County Department of Public Works that all construction contractors have been required in writing to comply with the County Noise Ordinance, and the contractor or Applicant or its successor would design a Construction Noise Mitigation Plan, which would include a noise hotline to enable the public to call and address specific issues or activities that may be causing problems at offsite locations. The Construction Noise Mitigation Plan also would include applicable measures to mitigate construction noise to comply with the County Noise Ordinance. Such measures may include**:**

- Use of the most current methods of equipment noise control;
- Ensure that construction equipment is fitted with modern sound-reduction equipment;
- Use of highly efficient mufflers;
- Use of air inlet silencers on motors;
- Enclosures on motor compartments;
- Staging certain high noise-generating activities to take place during mid-day when less people are at home or ambient noise levels in the receptor areas are at their highest levels;
- Scheduling construction and demolition activities to the extent feasible so as to avoid operating several pieces of equipment simultaneously, which causes high noise levels;
- Provide for the location of construction staging areas to be situated and operated in manners which will avoid direct interference with and impact upon existing residential streets outside of the combined boundaries of the proposed County Specific Plan and the proposed City Specific Plan; and
- Comply with all applicable requirements to shield and screen staging areas to minimize any associated impacts.

(2) Proposed Universal City Specific Plan (City Specific Plan)

(a) General Requirements

In addition to the requirements contained within Chapter XI (Noise Regulation) of the Los Angeles Municipal Code, for operational noise, no Project sound sources within the proposed City Specific Plan area would generate sound levels which exceed the following criteria at Existing Off-Site Residential Uses:

- Between 7 A.M. and 10 P.M.: L_{50} of 50 dBA or the Ambient Noise level if greater than 50 dBA; L_{max} of 70 dBA or the Ambient Noise level if greater than 70 dBA.
- Between 10 P.M. and 7 A.M.: L_{50} of 45 dBA or the Ambient Noise level if greater than 45 dBA; L_{max} of 65 dBA or the Ambient Noise level if greater than 65 dBA.

For purposes of this proposed Specific Plan, L_{50} is the metric used to designate the level of a time-varying sound, measured in dBA which cannot be exceeded for a cumulative period of more than 30 minutes in any hour. L_{max} is the maximum sound level measured in dBA which cannot be exceeded for any period of time.

In addition, other than emergency address systems, no outdoor amplified sound associated with retail uses, community serving uses, and sound systems for common areas of residential uses shall be permitted in the Mixed-Use District.

(b) Construction and Grading Sound Requirements

Prior to the issuance of grading permits for construction in the City, the Project Applicant or its successor would provide proof satisfactory to the City Department of Public Works or Department of Building and Safety that all construction contractors have been required in writing to comply with the City Noise Ordinance, and the contractor or the Applicant or its successor would design a Construction Noise Mitigation Plan, which would include a noise hotline to enable the public to call and address specific issues or activities that may be causing problems at offsite locations. The Construction Noise Mitigation Plan also would include applicable measures to mitigate construction noise to comply with the City Noise Ordinance. Such measures may include:

- Use of the most current methods of equipment noise control;
- Ensure that construction equipment is fitted with modern sound-reduction equipment;
- Use of highly efficient mufflers;

- Use of air inlet silencers on motors;
- Enclosures on motor compartments;
- Staging certain high noise-generating activities to take place during mid-day when less people are at home or ambient noise levels in the receptor areas are at their highest levels;
- Scheduling construction and demolition activities to the extent feasible so as to avoid operating several pieces of equipment simultaneously, which causes high noise levels;
- Provide for the location of construction staging areas to be situated and operated in manners which will avoid direct interference with and impact upon existing residential streets outside of the combined boundaries of the proposed County Specific Plan and the proposed City Specific Plan; and
- Comply with all applicable requirements to shield and screen staging areas to minimize any associated impacts.

(c) Exemption

Production activities would not be subject to this section of the proposed City Specific Plan and Chapter IX (Noise Regulations) of the Los Angeles Municipal Code.

d. Project Impacts

Under the proposed Project, approximately 139 acres of the Project Site would be located within the City of Los Angeles, and the remaining approximately 252 acres of the Project Site would be located within the boundaries of the County of Los Angeles. Proposed land uses within the City include all of the residential development (2,937 units), 180,000 square feet of community- and neighborhood- serving commercial uses, and 300,000 square feet of studio and studio office uses. Proposed land uses in the County include approximately 1.59 million square feet of net new studio, entertainment, hotel, and office uses. The hotel would include up to 500 hotel rooms and related hotel facilities. The analysis of potential Project impacts is based on the maximum amount of development that could potentially occur by the year 2030 under the proposed City and County Specific Plans.

(1) Construction Noise

(a) Studio, Entertainment, and Business Areas

(i) Daytime and Nighttime Construction

As described above, the Studio, Entertainment, and Business Areas were divided into seven (7) construction zones, with each of these zones divided further into construction modules that consist of one or more individual buildings. In order to provide a conservative analysis, it is assumed that two of the specified construction modules can be under construction at the same time. In order to identify the maximum construction noise impacts at each of the 47 receptor locations, the specified combinations of construction zones that have the potential to generate the highest construction noise levels were located closest to each of the 47 receptor locations. Construction activities were modeled at elevations based on the tallest building height permitted under the Project's Height Districts. Further, the analysis also evaluated construction noise impacts for both daytime and nighttime hours.

The analysis of Project construction within the Studio, Entertainment, and Business Areas, as presented in Table 61 on page 999**,** indicated that un-mitigated construction noise in the Studio, Entertainment, and Business Areas may exceed the thresholds of significance at all of the receptor locations during the daytime hours except for two locations within the Cahuenga Pass area (Receptors HHC 4 and HHC 11), one location in the Hollywood Manor area (Receptor HMR 9), two locations within the Hollywood Knolls area (Receptors HKR 1 and HKR 2), and one location in the Toluca Lake area (Receptor TLR 9). Consequently, daytime Project construction would result in a significant noise impact without mitigation measures. It is important to note that this conclusion is conservative in that the analysis does not take into account the noise reductions resulting from the Project's design features discussed above.

Similar to the analysis for daytime hours, each receptor area was evaluated for potential construction noise impacts during periods of nighttime construction. The modeling results presented in Table 61 on page 999 indicate that un-mitigated construction noise may exceed the thresholds of significance at all receptor locations during nighttime hours. Consequently, nighttime Project construction would also result in a significant noise impact without mitigation measures.

Thus, Mitigation Measures C-1 and C-2 are proposed to reduce construction noise impacts on area receptors. These mitigation measures would reduce the impacts onto the receptors, but depending on the receptor and ambient noise levels at the time of construction, daytime construction impacts may remain significant. During nighttime construction, impacts would be reduced to less than significant levels, except for those

Table 61
Studio, Entertainment, and Business Areas Construction

Community Receptor Location	Location Designation [a]	Threshold of Significance		Maximum L50 Construction Noise Levels, dBA		Exceed Established Criteria without Mitigation?	
		Daytime 7 A.M. – 7 P.M.	Nighttime 7 P.M.- 7 A.M.	Daytime 7 A.M. – 7 P.M.	Nighttime 7 P.M.- 7 A.M.	Daytime 7 A.M. – 7 P.M.	Nighttime 7 P.M.- 7 A.M.
Studio City	HHC 1	60	50	64	64	Yes	Yes
Cahuenga Pass	HHC 2	52	48	61	61	Yes	Yes
	HHC 3	60	50	68	68	Yes	Yes
	HHC 4	60	50	53	53	No	Yes
	HHC 5	50	48	60	60	Yes	Yes
	HHC 6	60	50	61	61	Yes	Yes
	HHC 7	59	50	61	61	Yes	Yes
	HHC 8	54	50	62	62	Yes	Yes
	HHC 9	55	50	70	70	Yes	Yes
	HHC 10	58	50	67	67	Yes	Yes
	HHC 11	60	50	60	60	No	Yes
Hollywood Knolls	HKR 1	60	50	58	58	No	Yes
	HKR 2	60	50	56	56	No	Yes
	HKR 3	55	49	58	58	Yes	Yes
Hollywood Manor	HMR 1	60	50	68	68	Yes	Yes
	HMR 2	60	50	72	72	Yes	Yes
	HMR 3	56	50	71	71	Yes	Yes
	HMR 4	54	49	69	69	Yes	Yes
	HMR 5	55	48	70	70	Yes	Yes
	HMR 6	54	49	69	69	Yes	Yes
	HMR 7	54	48	70	70	Yes	Yes
	HMR 8	56	49	70	70	Yes	Yes
	HMR 9	60	50	59	59	No	Yes
	HMR 10	57	50	67	67	Yes	Yes
Oakwood Garden Apartments	OGA 1	57	50	62	62	Yes	Yes
	OGA 2	60	50	64	64	Yes	Yes
	OGA 3	60	50	66	66	Yes	Yes
Campo de Cahuenga	PIC 1	60	50	75	75	Yes	Yes
Weddington Park (South)/Island	PIC 2	60	50	75	75	Yes	Yes
	PIC 3	59	50	75	75	Yes	Yes
	PIC 4	58	50	75	75	Yes	Yes
	PIC 5	60	50	72	72	Yes	Yes
	PIC 6	60	50	68	68	Yes	Yes
Toluca Estates	TLR 1	55	50	76	76	Yes	Yes
	TLR 2	53	49	71	71	Yes	Yes
	TLR 3	54	48	70	70	Yes	Yes
	TLR 4	53	50	67	67	Yes	Yes
Toluca Lake	TLR 6	52	48	68	68	Yes	Yes
	TLR 8	54	49	68	68	Yes	Yes
	TLR 9	60	50	59	59	No	Yes
Lakeside Golf **Club**	TLR 5	57	50	77	77	Yes	Yes
	TLR 7	55	50	78	78	Yes	Yes
Burbank	TLR 10	56	50	64	64	Yes	Yes
	TLR 11	58	50	65	65	Yes	Yes
Existing Hotel and Office Towers	URS 1	60	50	82	82	Yes	Yes
	URS 2	60	50	77	77	Yes	Yes
	URS 3	60	50	80	80	Yes	Yes

[a] *Location Designations correspond to those shown in Figure 93 on page 973.*

Source: Veneklasen Associates, Inc., 2010.

atypical conditions when exterior nighttime construction pursuant to the stated exceptions would occur.

(ii) Haul Routes

Construction anticipated to occur within the Studio, Business, and Entertainment Areas would require the hauling of materials to and from the construction sites. Construction haul routes could utilize Lankershim Boulevard, Forest Lawn Drive, or Universal Studios Boulevard to access area freeways. Thus, depending on the location of construction within these Areas, the haul route(s) and potentially impacted receptors could occur along Lankershim Boulevard and/or along Forest Lawn Drive. Because the haul route that follows Universal Studios Boulevard to the Hollywood Freeway (US-101) moves away from residential uses, rather than toward and through residential uses, the noise impacts from such alternative route would be minimal, and thus the study did not analyze this scenario.

The analysis evaluated the Lankershim Boulevard and Forest Lawn Drive haul routes individually, as well as when both routes are being used at the same time. Specifically, the hauling was analyzed under a: (1) Hauling through Lankershim Only scenario; (2) Hauling through Forest Lawn Only scenario; and (3) Hauling between Lankershim and Forest Lawn scenario. Under all three haul scenarios, as shown in Table 62 on page 1001, the maximum impact at the analyzed receptor locations would range from 0.8 dBA under the Hauling through Lankershim Only scenario, to 2.6 dBA under the Hauling between Lankershim and Forest Lawn scenario, to a high of 3.8 dBA Under the Hauling through Forest Lawn Only scenario.

As the maximum increase would be below the 5 dBA threshold, impacts attributable to hauling would be less than significant.

(b) Mixed-Use Residential Area

(i) Daytime and Nighttime Construction

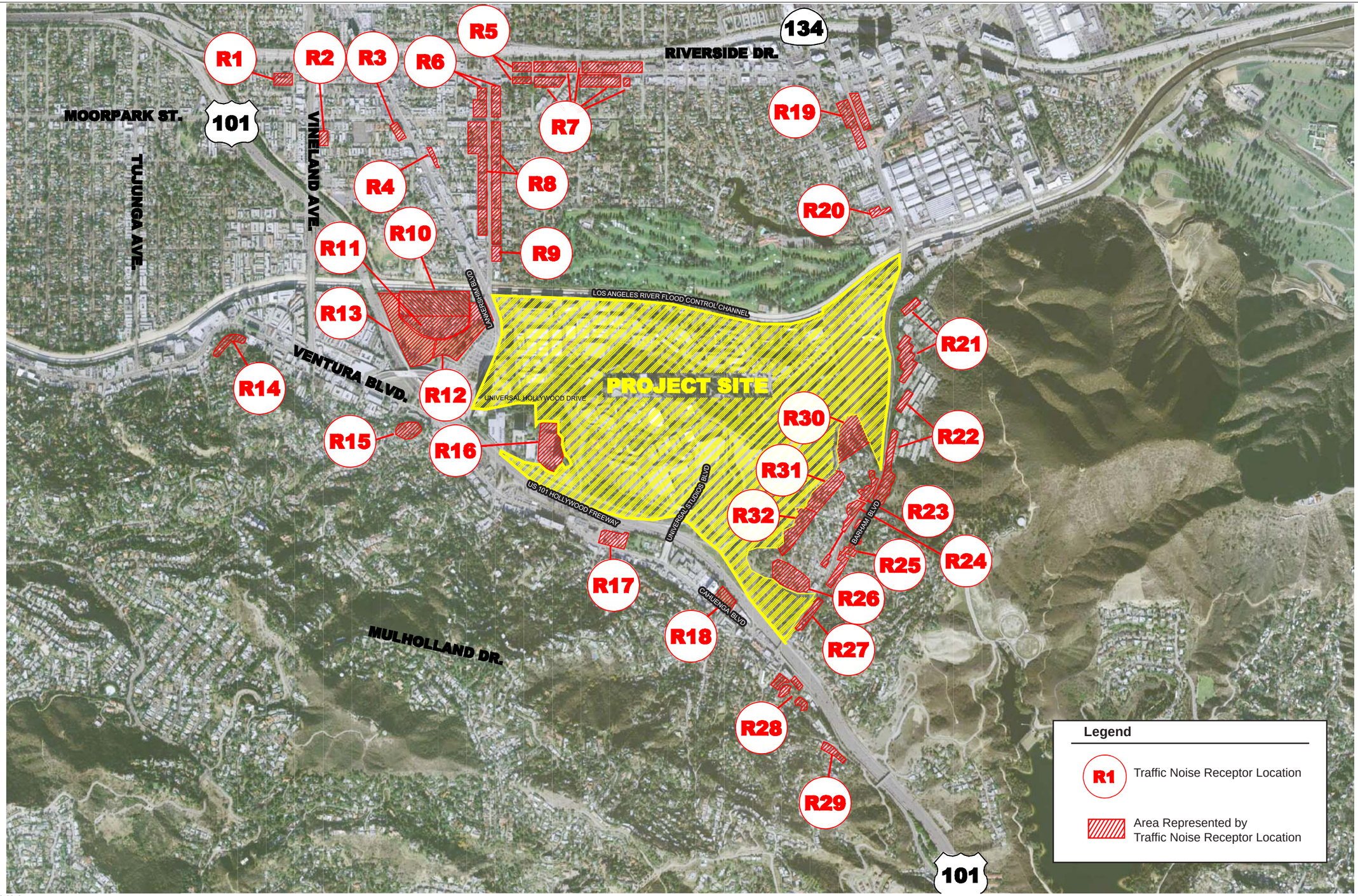
Similar to the analysis of potential noise impacts from construction in the Studio, Entertainment, and Business Areas, all aspects of building construction in the Mixed-Use Residential Area were analyzed for potential construction noise impacts for both daytime and nighttime hours. As discussed earlier, two grading scenarios have been identified for the Mixed-Use Residential Area. The first scenario is that the entire Mixed-Use Residential Area is graded at a single time (Single Phase – Horizontal Construction), whereas the second scenario calls for the Mixed-Use Residential Area being graded in three phases (Three-Phase – Horizontal Construction). Once grading is completed, building construction for the purposes of the noise analysis are the same.

Table 62
Construction Hauling – Studio, Entertainment, and Business Area (Equivalent Sound Level)

Reference[a]	Area	Existing Daytime Hourly Traffic Conditions	Universal Studios Construction Scenario			Noise Impact Due to Hauling		
			Hauling through Lankershim Only	Hauling through Forest Lawn Only	Hauling between Lankershim & Forest Lawn	Hauling through Lankershim Only	Hauling through Forest Lawn Only	Hauling between Lankershim & Forest Lawn
R1	Riverside Dr, West of Vineland	73.7	73.7	73.7	73.7	0.0	0.0	0.0
R2	Vineland Ave and Moorpark St.	71.3	71.3	71.3	71.3	0.0	0.0	0.0
R3	Lankershim, Between Moorpark St and Whipple St	71.9	71.9	71.9	71.9	0.0	0.0	0.0
R4		64.9	64.9	64.9	64.9	0.0	0.0	0.0
R5	Riverside Dr, East of Cahuenga	70.7	70.7	70.7	70.7	0.0	0.0	0.0
R6	Cahuenga, Between 134 and Moorpark St	70.2	70.2	70.2	70.2	0.0	0.0	0.0
R7	Riverside Dr, Between Cahuenga and Forman Ave	71.2	71.2	71.2	71.2	0.0	0.0	0.0
R8	Cahuenga, Between Moorpark St and Lankershim	68.0	68.0	68.0	68.0	0.0	0.0	0.0
R9	Cahuenga, North of Lankershim	68.7	68.7	68.7	68.7	0.0	0.0	0.0
R10	Weddington Park (South)/Island	64.2	64.3	64.2	64.3	0.1	0.0	0.1
R11	Weddington Park (South)/Island	63.8	64.2	63.8	64.1	0.4	0.0	0.3
R12	Weddington Park (South)/Island	64.4	65.2	64.4	64.9	0.8	0.0	0.5
R13	Weddington Park (South)/Island	69.3	69.6	69.3	69.5	0.3	0.0	0.2
R14	Ventura, West of Vineland Ave	59.5	59.5	59.5	59.5	0.0	0.0	0.0
R15	Ventura Blvd at Willow Crest Ave	71.3	71.3	71.3	71.3	0.0	0.0	0.0
R16	Buddy Holly Drive	70.8	70.8	70.8	70.8	0.0	0.0	0.0
R17	Cahuenga Blvd W, West of Universal Center Dr	75.2	75.2	75.2	75.2	0.0	0.0	0.0
R18	Cahuenga Blvd W, East of Universal Center Dr.	74.9	74.9	74.9	74.9	0.0	0.0	0.0
R19	N. Pass Ave, Between W. Olive Ave and Riverside Dr	68.9	68.9	68.9	68.9	0.0	0.0	0.0
R20	W. Olive Ave at Hood Ave	70.7	70.7	70.7	70.7	0.0	0.0	0.0
R21	Barham Blvd at Forest Lawn Dr.	58.2	58.2	58.9	58.6	0.0	0.7	0.4
R22	Barham Blvd at S Coyote Canyon Dr	65.6	65.6	65.6	65.6	0.0	0.0	0.0
R23	Barham Blvd Between S Coyote Canyon Dr and Cahuenga W.	67.1	67.1	67.1	67.1	0.0	0.0	0.0
R24		64.0	64.0	64.0	64.0	0.0	0.0	0.0
R25		72.0	72.0	72.0	72.0	0.0	0.0	0.0
R26	Hollywood Manor (behind hill)	59.6	59.6	59.6	59.6	0.0	0.0	0.0
R27	Barham Blvd, North of Cahuenga E	75.3	75.3	75.3	75.3	0.0	0.0	0.0
R28	Cahuenga Blvd W, East of Barham Blvd	72.8	72.8	72.8	72.8	0.0	0.0	0.0
R29	Cahuenga Blvd W at Mulholland	76.4	76.4	76.4	76.4	0.0	0.0	0.0
R30	Hollywood Manor (affected by N-S Road)	55.0	55.0	55.0	55.0	0.0	0.0	0.0
R31		55.3	55.3	55.3	55.3	0.0	0.0	0.0
R32		57.4	57.4	57.4	57.4	0.0	0.0	0.0
See Figure 95 on page 1003.	South Fairview St at West Valleyheart Drive ("Rancho Neighborhood")	51.0	51.0	54.8	53.6	0.0	3.8	2.6

[a] *Reference numbers correspond to those shown on Figure 94 on page 1002.*

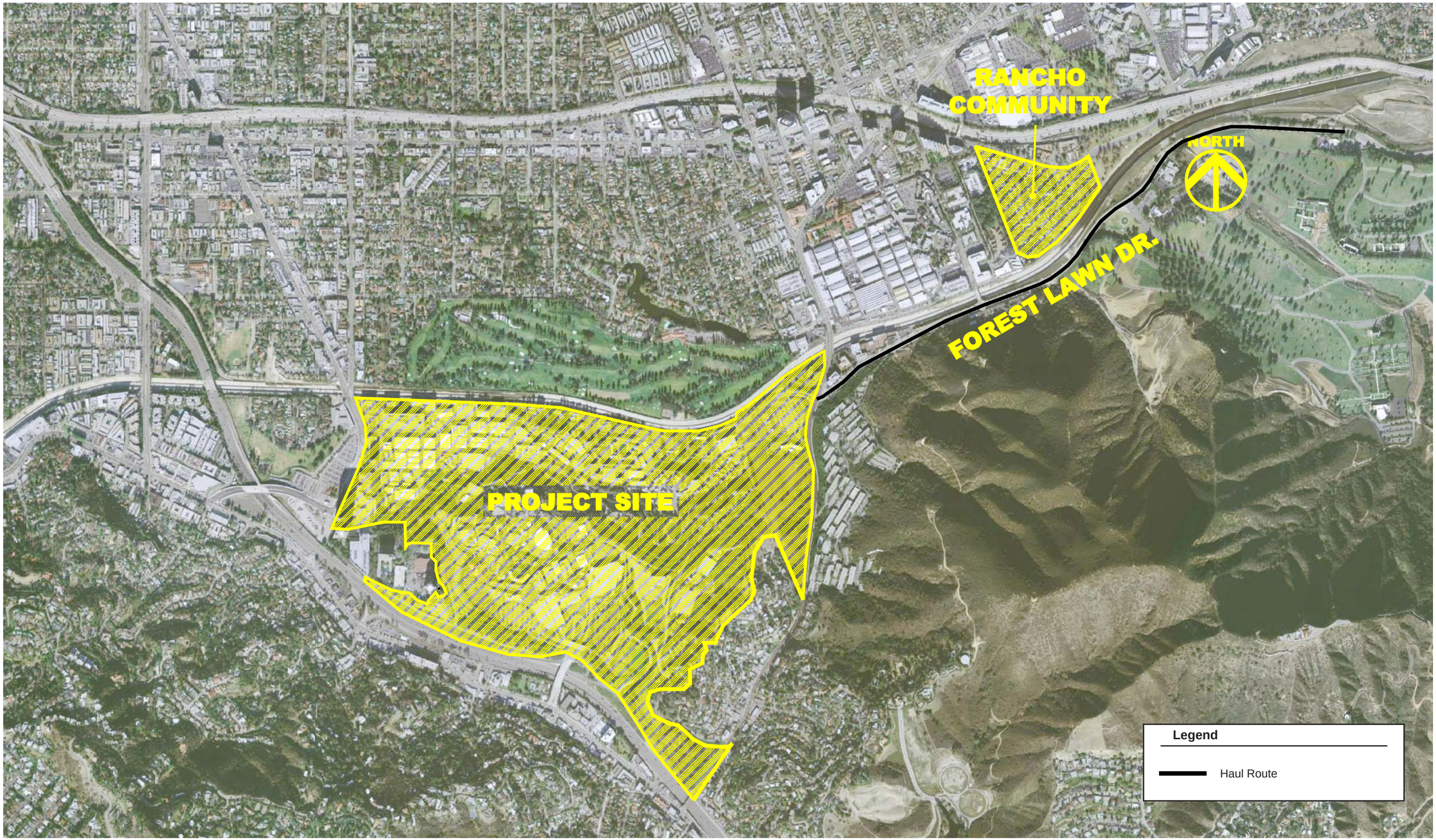
Source: Veneklasen Associates, Inc. 2010.



Source: Veneklasen Associatesl, 2010.

matrix environmental

Figure 94
Traffic Noise Receptor Locations



Source: Veneklasen Associatesl, 2010.

matrix environmental

Figure 95
Proposed Forest Lawn Drive Haul Route

Table 63 on page 1005, presents the forecasted noise levels under the Single Phase – Horizontal Construction scenario, whereas Table 64 on page 1006 presents the forecasted construction noise levels under the Three Phase – Horizontal Construction scenario. The resulting predicted noise levels from these scenarios indicate that during construction in certain areas of the proposed Mixed-Use Residential Area, there are levels of unmitigated construction noise that would have a significant impact on specific off-site receptors.

The single phase horizontal construction scenario presents a very conservative analysis, as it is unlikely that all horizontal construction activities would occur at one time. Additionally, the analysis is conservative in that it does not account for noise reductions resulting from the implementation of the Project Design Features discussed above. With the single-phase horizontal construction scenario, during the day the majority of impacts would potentially occur at areas within the Cahuenga Pass, Hollywood Knolls, Hollywood Manor, Oakwood Garden Apartments, Toluca Lake, Lakeside Golf Club, Toluca Lake, and Burbank receptor areas. During the night, potentially significant impacts from un-mitigated construction noise would occur at almost all of the receptor locations, with the exception of the Weddington Park (South)/Island, Campo de Cahuenga, and Studio City receptor areas.

Consequently, Project construction for the areas described herein would result in a significant noise impact without mitigation measures. Thus, Mitigation Measures C-1 and C-2 are proposed to reduce construction noise impacts on area receptors. These mitigation measures would reduce the impacts onto the receptors, but depending on the receptor and ambient noise levels at the time of construction, daytime construction impacts may remain significant. During nighttime construction, impacts would be reduced to less than significant levels, except for those atypical conditions when exterior nighttime construction pursuant to the stated exceptions would occur.

As mentioned above, a second scenario was analyzed for the horizontal construction in the Mixed-Use Residential Area which analyzed completing horizontal construction in three phases. As shown in Table 64 on page 1006, sensitive receptor areas that would experience significant impacts from un-mitigated construction noise under this scenario include locations in Hollywood Manor, Oakwood Garden Apartments, Toluca Lake, Toluca Estates, Lakeside Golf Club, Cahuenga Pass, Hollywood Knolls, Existing Hotel and Office Towers, and Burbank receptor areas during either daytime or nighttime hours. As is the case with the single-phase construction scenario, mitigation measures would reduce the impact, but depending on the receptor and ambient noise levels at the time of construction, daytime construction impacts may remain significant. During nighttime construction, impacts would be reduced to less than significant levels, except for those atypical conditions when exterior nighttime construction pursuant to the stated exceptions would occur.

Table 63
Single Phase – Horizontal Construction (Daytime and Nighttime) - Mixed-Use Residential Area

Community Receptor Area	Location Designation [a]	Threshold of Significance		Maximum L_{50} Construction Noise Levels, dBA		Exceed Established Criteria?	
		Daytime 7 A.M. – 7 P.M.	Nighttime 7 P.M. – 7 A.M.	Daytime 7 A.M. – 7 P.M.	Nighttime 7 P.M. – 7 A.M.	Daytime 7 A.M. – 7 P.M.	Nighttime 7 P.M. – 7 A.M.
Studio City	HHC 1	60	50	49	49	No	No
Cahuenga Pass	HHC 2	52	48	47	47	No	No
	HHC 3	60	50	54	54	No	Yes
	HHC 4	60	50	51	51	No	Yes
	HHC 5	50	48	55	55	Yes	Yes
	HHC 6	60	50	55	55	No	Yes
	HHC 7	59	50	53	53	No	Yes
	HHC 8	54	50	55	55	Yes	Yes
	HHC 9	55	50	58	58	Yes	Yes
	HHC 10	58	50	63	63	Yes	Yes
	HHC 11	60	50	63	63	Yes	Yes
Hollywood Knolls	HKR 1	60	50	64	64	Yes	Yes
	HKR 2	60	50	61	61	Yes	Yes
	HKR 3	55	49	61	61	Yes	Yes
Hollywood Manor	HMR 1	60	50	91	91	Yes	Yes
	HMR 2	60	50	90	90	Yes	Yes
	HMR 3	56	50	81	81	Yes	Yes
	HMR 4	54	49	76	76	Yes	Yes
	HMR 5	55	48	74	74	Yes	Yes
	HMR 6	54	49	74	74	Yes	Yes
	HMR 7	54	48	74	74	Yes	Yes
	HMR 8	56	49	77	77	Yes	Yes
	HMR 9	60	50	56	56	No	Yes
	HMR 10	57	50	93	93	Yes	Yes
Oakwood Garden Apartments	OGA 1	57	50	69	69	Yes	Yes
	OGA 2	60	50	80	80	Yes	Yes
	OGA 3	60	50	85	85	Yes	Yes
Campo de Cahuenga	PIC 1	60	50	50	50	No	No
Weddington Park (South)/Island	PIC 2	60	50	50	50	No	No
	PIC 3	59	50	49	49	No	No
	PIC 4	58	50	49	49	No	No
	PIC 5	60	50	49	49	No	No
	PIC 6	60	50	49	49	No	No
Toluca Estates	TLR 1	55	50	51	51	No	Yes
	TLR 2	53	49	51	51	No	Yes
	TLR 3	54	48	51	51	No	Yes
	TLR 4	53	50	51	51	No	Yes
Toluca Lake	TLR 6	52	48	55	55	Yes	Yes
	TLR 8	54	49	57	57	Yes	Yes
	TLR 9	60	50	48	48	No	No
Lakeside Golf **Club**	TLR 5	57	50	53	53	No	Yes
	TLR 7	55	50	57	57	Yes	Yes
Burbank	TLR 10	56	50	54	54	No	Yes
	TLR 11	58	50	55	55	No	Yes
Existing Hotel and Office Towers	URS 1	60	50	46	46	No	No
	URS 2	60	50	54	54	No	Yes
	URS 3	60	50	52	52	No	Yes

[a] *Location Designations correspond to those shown in Figure 93 on page 973.*
Source: Veneklasen Associates, Inc., 2010.

Table 64
Three Phase - Horizontal Construction (Daytime and Nighttime) - Mixed-Use Residential Area

Community Receptor Area	Location Designation[a]	Threshold of Significance		Maximum L_{50} Noise Emissions, dBA (Daytime and Nighttime)			Exceed Established Criteria?					
		Daytime 7 A.M. – 7 P.M.	Nighttime 7 P.M.- 7 A.M.	North End	Center Section	South End	North End		Center Section		South End	
							Day	Night	Day	Night	Day	Night
Studio City	HHC 1	60	50	46	47	49	No	No	No	No	No	No
Cahuenga Pass	HHC 2	52	48	39	40	47	No	No	No	No	No	No
	HHC 3	60	50	46	50	54	No	No	No	No	No	Yes
	HHC 4	60	50	44	48	51	No	No	No	No	No	Yes
	HHC 5	50	48	46	50	55	No	No	No	Yes	Yes	Yes
	HHC 6	60	50	46	51	55	No	No	No	Yes	No	Yes
	HHC 7	59	50	45	50	53	No	No	No	No	No	Yes
	HHC 8	54	50	46	51	55	No	No	No	Yes	Yes	Yes
	HHC 9	55	50	47	53	58	No	No	No	Yes	Yes	Yes
	HHC 10	58	50	49	56	63	No	No	No	Yes	Yes	Yes
	HHC 11	60	50	37	50	63	No	No	No	No	Yes	Yes
Hollywood Knolls	HKR 1	60	50	33	38	64	No	No	No	No	Yes	Yes
	HKR 2	60	50	54	58	61	No	Yes	No	Yes	Yes	Yes
	HKR 3	55	49	50	53	61	No	Yes	No	Yes	Yes	Yes
Hollywood Manor	HMR 1	60	50	44	54	91	No	No	No	Yes	Yes	Yes
	HMR 2	60	50	45	59	90	No	No	No	Yes	Yes	Yes
	HMR 3	56	50	53	64	81	No	Yes	Yes	Yes	Yes	Yes
	HMR 4	54	49	57	72	76	Yes	Yes	Yes	Yes	Yes	Yes
	HMR 5	55	48	58	74	73	Yes	Yes	Yes	Yes	Yes	Yes
	HMR 6	54	49	52	74	71	No	Yes	Yes	Yes	Yes	Yes
	HMR 7	54	48	61	74	70	Yes	Yes	Yes	Yes	Yes	Yes
	HMR 8	56	49	63	77	66	Yes	Yes	Yes	Yes	Yes	Yes
	HMR 9	60	50	47	56	48	No	No	No	Yes	No	No
	HMR 10	57	50	42	54	92	No	No	No	Yes	Yes	Yes
Oakwood Garden Apartments	OGA 1	57	50	59	69	55	Yes	Yes	Yes	Yes	No	Yes
	OGA 2	60	50	68	80	52	Yes	Yes	Yes	Yes	No	Yes
	OGA 3	60	50	85	82	56	Yes	Yes	Yes	Yes	No	Yes
Campo de Cahuenga	PIC 1	60	50	48	48	50	No	No	No	No	No	No
Weddington Park (South)/ Island	PIC 2	60	50	48	49	50	No	No	No	No	No	No
	PIC 3	59	50	48	49	48	No	No	No	No	No	No
	PIC 4	58	50	48	49	48	No	No	No	No	No	No
	PIC 5	60	50	48	48	49	No	No	No	No	No	No
	PIC 6	60	50	47	47	49	No	No	No	No	No	No
Toluca Estates	TLR 1	55	50	51	51	51	No	Yes	No	Yes	No	Yes
	TLR 2	53	49	51	51	51	No	Yes	No	Yes	No	Yes
	TLR 3	54	48	51	51	51	No	Yes	No	Yes	No	Yes
	TLR 4	53	50	51	51	51	No	Yes	No	Yes	No	Yes
Toluca Lake	TLR 6	52	48	55	54	54	Yes	Yes	Yes	Yes	Yes	Yes
	TLR 8	54	49	57	56	55	Yes	Yes	Yes	Yes	Yes	Yes
	TLR 9	60	50	48	48	48	No	No	No	No	No	No
Lakeside Golf **Club**	TLR 5	57	50	51	52	51	No	Yes	No	Yes	No	Yes
	TLR 7	55	50	57	57	57	Yes	Yes	Yes	Yes	Yes	Yes
Burbank	TLR 10	56	50	59	57	53	Yes	Yes	Yes	Yes	No	Yes
	TLR 11	58	50	68	63	55	Yes	Yes	Yes	Yes	No	Yes
Existing Hotel and Office Towers	URS 1	60	50	40	44	46	No	No	No	No	No	No
	URS 2	60	50	48	51	54	No	No	No	Yes	No	Yes
	URS 3	60	50	49	49	52	No	No	No	No	No	Yes

[a] *Location Designations correspond to those shown in Figure 93 on page 973.*

Source: Veneklasen Associates, Inc., 2010.

Following completion of the Project's grading scenario, above grade, or vertical, construction, would start. As shown in Table 65 on page 1008**,** impacts during vertical construction are similar to those attributable to the three-phase horizontal construction scenario. As such, the impacted areas from un-mitigated noise during vertical construction within the Mixed-Use Residential Area include all receptor areas, to varying degrees, except the Weddington Park (South)/Island, Campo de Cahuenga, and Studio City receptor areas. Therefore, daytime Project construction could result in a significant noise impact without mitigation measures. As is the case with the above analyses, mitigation measures would reduce the impact, but depending on the receptor and ambient noise levels at the time of construction, construction impacts may remain significant. During nighttime construction, impacts would be reduced to less than significant levels, except for those atypical conditions when exterior nighttime construction pursuant to the stated exceptions would occur.

(ii) Haul Routes

Similar to construction in the Studio, Entertainment, and Business Areas, construction in the Mixed-Use Residential Area would require the hauling of materials to and from the construction sites. Hauling from the Mixed-Use Residential Area construction could exit the Project Site at Lakeside Plaza Drive and travel along Forest Lawn Drive to the Ventura Freeway (CA 134). This route could potentially impact the residential community in Burbank known as the "Rancho Community". See Figure 95 on page 1003. This type of construction vehicle movement, as shown in Table 66 on page 1009, would increase the hourly noise level by a maximum of 5.5 decibels, at the "Rancho Neighborhood" area. As a result, the hauling due to construction within the Mixed-Use Residential Area could have impacts which are considered significant since the increases in community noise levels could fall above the established threshold of 5 decibels. It is important to note that such significant impact would only occur if hauling resulted in more than 78 haul trips per hour on Forest Lawn Drive. With the mitigation proposed in Section IV.C.5.b below, the impact would be reduced to a less than significant level.

As an alternate to the route described above, haul vehicles could also exit the Project Site via Buddy Holly Drive/Coral Drive to Universal Studios Boulevard to the Hollywood Freeway (US-101). Under this route, the haul route would move away from residential areas, rather than toward and through residential uses. As such, impacts would be reduced from those identified above, and as such, would also be less than significant.

(c) Composite Construction of the Project's Development

(i) Daytime and Nighttime Construction

The above analysis of potential construction noise impacts focused on the potential impacts of construction within either the Studio, Business, and Entertainment Areas or the

Table 65
Vertical Construction (Daytime and Nighttime) – Mixed-Use Residential Area

Community Receptor Area	Location Designation[a]	Threshold of Significance		Maximum L_{50} Noise Emissions, dBA (Daytime and Nighttime)			Exceed Established Criteria?					
		Daytime 7 A.M. – 7 P.M.	Nighttime 7 P.M.- 7 A.M.	North End	Center Section	South End	North End		Center Section		South End	
							Day	Night	Day	Night	Day	Night
Studio City	HHC 1	60	50	44	46	47	No	No	No	No	No	No
Cahuenga Pass	HHC 2	52	48	43	44	47	No	No	No	No	No	No
	HHC 3	60	50	37	49	51	No	No	No	No	No	Yes
	HHC 4	60	50	39	45	48	No	No	No	No	No	No
	HHC 5	50	48	44	49	53	No	No	No	Yes	Yes	Yes
	HHC 6	60	50	44	49	53	No	No	No	No	No	Yes
	HHC 7	59	50	43	48	51	No	No	No	No	No	Yes
	HHC 8	54	50	45	49	53	No	No	No	No	No	Yes
	HHC 9	55	50	47	52	56	No	No	No	Yes	Yes	Yes
	HHC 10	58	50	47	54	61	No	No	No	Yes	Yes	Yes
	HHC 11	60	50	47	52	64	No	No	No	Yes	Yes	Yes
Hollywood Knolls	HKR 1	60	50	32	39	62	No	No	No	No	Yes	Yes
	HKR 2	60	50	40	43	57	No	No	No	No	No	Yes
	HKR 3	55	49	49	53	56	No	No	No	Yes	Yes	Yes
Hollywood Manor	HMR 1	60	50	48	57	88	No	No	No	Yes	Yes	Yes
	HMR 2	60	50	52	60	87	No	Yes	No	Yes	Yes	Yes
	HMR 3	56	50	52	62	79	No	Yes	Yes	Yes	Yes	Yes
	HMR 4	54	49	56	70	77	Yes	Yes	Yes	Yes	Yes	Yes
	HMR 5	55	48	58	73	74	Yes	Yes	Yes	Yes	Yes	Yes
	HMR 6	54	49	58	71	70	Yes	Yes	Yes	Yes	Yes	Yes
	HMR 7	54	48	60	73	69	Yes	Yes	Yes	Yes	Yes	Yes
	HMR 8	56	49	64	76	65	Yes	Yes	Yes	Yes	Yes	Yes
	HMR 9	60	50	55	63	46	No	Yes	Yes	Yes	No	No
	HMR 10	57	50	40	55	90	No	No	No	Yes	Yes	Yes
Oakwood Garden Apartments	OGA 1	57	50	60	68	56	Yes	Yes	Yes	Yes	No	Yes
	OGA 2	60	50	66	77	54	Yes	Yes	Yes	Yes	No	Yes
	OGA 3	60	50	84	79	55	Yes	Yes	Yes	Yes	No	Yes
Campo de Cahuenga	PIC 1	60	50	47	46	42	No	No	No	No	No	No
Weddington Park (South)/Island	PIC 2	60	50	45	48	49	No	No	No	No	No	No
	PIC 3	59	50	46	46	48	No	No	No	No	No	No
	PIC 4	58	50	47	46	46	No	No	No	No	No	No
	PIC 5	60	50	40	47	48	No	No	No	No	No	No
	PIC 6	60	50	45	47	48	No	No	No	No	No	No
Toluca Estates	TLR 1	55	50	49	50	50	No	No	No	No	No	No
	TLR 2	53	49	49	50	50	No	No	No	Yes	No	Yes
	TLR 3	54	48	49	50	50	No	Yes	No	Yes	No	Yes
	TLR 4	53	50	50	50	50	No	No	No	No	No	No
Toluca Lake	TLR 6	52	48	54	53	52	Yes	Yes	Yes	Yes	No	Yes
	TLR 8	54	49	57	55	53	Yes	Yes	Yes	Yes	No	Yes
	TLR 9	60	50	48	47	46	No	No	No	No	No	No
Lakeside Golf **Club**	TLR 5	57	50	50	51	51	No	No	No	Yes	No	Yes
	TLR 7	55	50	55	55	54	No	Yes	No	Yes	No	Yes
Burbank	TLR 10	56	50	60	57	52	Yes	Yes	Yes	Yes	No	Yes
	TLR 11	58	50	67	62	53	Yes	Yes	Yes	Yes	No	Yes
Existing Hotel and Office Towers	URS 1	60	50	42	48	49	No	No	No	No	No	No
	URS 2	60	50	47	50	51	No	No	No	No	No	Yes
	URS 3	60	50	45	49	51	No	No	No	No	No	Yes

[a] *Location Designations correspond to those shown in Figure 93 on page 973.*
Source: Veneklasen Associates, Inc., 2010.

Table 66
Construction Hauling - Mixed-Use Residential Area (Equivalent Sound Level)

Reference [a]	Area	Existing Daytime Hourly Traffic Conditions	Mixed-Use Residential Area Construction Scenario	Noise Impact Due to Hauling
			Hauling Along Forest Lawn	Hauling Along Forest Lawn
R1	Riverside Dr, West of Vineland	73.7	73.7	0.0
R2	Vineland Ave and Moorpark St.	71.3	71.3	0.0
R3	Lankershim, Between Moorpark St and Whipple St	71.9	71.9	0.0
R4		64.9	64.9	0.0
R5	Riverside Dr, East of Cahuenga	70.7	70.7	0.0
R6	Cahuenga, Between 134 and Moorpark St	70.2	70.2	0.0
R7	Riverside Dr, Between Cahuenga and Forman Ave	71.2	71.2	0.0
R8	Cahuenga, Between Moorpark St and Lankershim	68.0	68.0	0.0
R9	Cahuenga, North of Lankershim	68.7	68.7	0.0
R10	Weddington Park (South)/Island	64.2	64.2	0.0
R11	Weddington Park (South)/Island	63.8	63.8	0.0
R12	Weddington Park (South)/Island	64.4	64.4	0.0
R13	Weddington Park (South)/Island	69.3	69.3	0.0
R14	Ventura, West of Vineland Ave	59.5	59.5	0.0
R15	Ventura Blvd at Willow Crest Ave	71.3	71.3	0.0
R16	Buddy Holly Drive	70.8	70.8	0.0
R17	Cahuenga Blvd W, West of Universal Center Dr	75.2	75.2	0.0
R18	Cahuenga Blvd W, East of Universal Center Dr.	74.9	74.9	0.0
R19	N. Pass Ave, Between W. Olive Ave and Riverside Dr	68.9	68.9	0.0
R20	W. Olive Ave at Hood Ave	70.7	70.7	0.0
R21	Barham Blvd at Forest Lawn Dr.	58.2	59.4	1.2
R22	Barham Blvd at S Coyote Canyon Dr	65.6	65.6	0.0
R23	Barham Blvd Between S Coyote Canyon Dr and Cahuenga W.	67.1	67.1	0.0
R24		64.0	64.0	0.0
R25		72.0	72.0	0.0
R26	Hollywood Manor (behind hill)	59.6	59.6	0.0
R27	Barham Blvd, North of Cahuenga E	75.3	75.3	0.0
R28	Cahuenga Blvd W, East of Barham Blvd	72.8	72.8	0.0
R29	Cahuenga Blvd W at Mulholland	76.4	76.4	0.0
R30	Hollywood Manor (affected by N-S Road)	55.0	55.0	0.0
R31		55.3	55.3	0.0
R32		57.4	57.4	0.0
See Figure 95 on page 1003.	South Fairview St at South California St. ("Rancho Neighborhood")	51.0	56.5	5.5

[a] *Reference numbers correspond to those shown in Figure 94 on page 1002.*

Source: Veneklasen Associates, Inc., 2010.

Mixed-Use Residential Area. There is the possibility that construction activities could occur in all of these areas simultaneously. Thus, to provide a conservative analysis, an analysis of the potential noise impact of construction occurring throughout the Project Site at the same time was conducted.

The results of this analysis, as presented in Table 67 on page 1011, indicates that un-mitigated construction noise impacts would be significant at all of the receptor locations, except during daytime hours at one location within the Cahuenga Pass area (Receptor HHC 4) and one location within the Toluca Lake area (Receptor TLR 9). It is important to note that this analysis is conservative because it assumes that all construction activity would occur at the same time and it does not account for the noise reductions that would result from the Project's Design features discussed above, and thus over-estimates actual noise impacts on the receptor areas.

(ii) Haul Routes

Similarly, as the quantity of construction increases under a composite construction scenario, the amount of hauling and the resultant potential noise impacts may also increase. For this analysis, the following three scenarios were analyzed: (1) hauling along Lankershim Boulevard only, (2) hauling along Forest Lawn Drive only, and (3) hauling along Lankershim Boulevard and along Forest Lawn Drive. Whereas the haul route along Lankershim Boulevard would only be used in support of Studio, Entertainment, and Business Area construction, the other scenarios considered hauling activities throughout the Project Site. As shown in Table 68 on page 1012, construction haul routes would only increase the hourly noise level at one of the 32 traffic receptor locations by more than 1.0 dB. Under all of the hauling scenarios that utilize Forest Lawn Drive, the maximum noise increase would occur within Burbank's "Rancho Neighborhood," with a maximum increase of 6.9 dB. Thus, based on the established significance threshold, hauling activities, could result in a significant impact. It is important to note that such significant impact would only occur if hauling resulted in more than 78 hauling trips per hour on Forest Lawn Drive. With implementation of Mitigation Measure C-4, impacts would be reduced to less than significant.

(2) Construction Vibration

The majority of the Project Site boundaries are separated from off-site structures by roadways or other infrastructure. As such, vibration would not impact off-site structures to the north, west, or south of the Project Site. As some portions of the Hollywood Manor area to the east share a common boundary with the Project Site, the Hollywood Manor area may be potentially impacted by Project construction vibration. Typical home construction in the Hollywood Manor receptor area consists of non-engineered timber and masonry structures.

Table 67
Composite Construction for the Proposed Project

Community Receptor Location	Location Designation [a]	Threshold of Significance		Calculated Maximum L_{50} Construction Noise + Existing Operating Emissions		Exceed Established Criteria?	
		Daytime 7 A.M. – 7 P.M.	Nighttime 7 P.M.- 7 A.M.	Daytime 7 A.M. – 7 P.M.	Nighttime 7 P.M.- 7 A.M.	Daytime 7 A.M. – 7 P.M.	Nighttime 7 P.M.- 7 A.M.
Studio City	HHC 1	60	50	64	64	Yes	Yes
Cahuenga Pass	HHC 2	52	48	61	61	Yes	Yes
	HHC 3	60	50	69	69	Yes	Yes
	HHC 4	60	50	56	56	No	Yes
	HHC 5	50	48	61	61	Yes	Yes
	HHC 6	60	50	62	62	Yes	Yes
	HHC 7	59	50	62	62	Yes	Yes
	HHC 8	54	50	63	63	Yes	Yes
	HHC 9	55	50	70	70	Yes	Yes
	HHC 10	58	50	69	69	Yes	Yes
	HHC 11	60	50	67	67	Yes	Yes
Hollywood Knolls	HKR 1	60	50	66	66	Yes	Yes
	HKR 2	60	50	63	63	Yes	Yes
	HKR 3	55	49	63	63	Yes	Yes
Hollywood Manor	HMR 1	60	50	93	93	Yes	Yes
	HMR 2	60	50	92	92	Yes	Yes
	HMR 3	56	50	83	83	Yes	Yes
	HMR 4	54	49	80	80	Yes	Yes
	HMR 5	55	48	78	78	Yes	Yes
	HMR 6	54	49	77	77	Yes	Yes
	HMR 7	54	48	77	77	Yes	Yes
	HMR 8	56	49	80	80	Yes	Yes
	HMR 9	60	50	65	65	Yes	Yes
	HMR 10	57	50	94	94	Yes	Yes
Oakwood Garden Apartments	OGA 1	57	50	72	72	Yes	Yes
	OGA 2	60	50	82	82	Yes	Yes
	OGA 3	60	50	88	88	Yes	Yes
Campo de Cahuenga	PIC 1	60	50	75	75	Yes	Yes
Weddington Park (South)/Island	PIC 2	60	50	76	76	Yes	Yes
	PIC 3	59	50	76	76	Yes	Yes
	PIC 4	58	50	76	76	Yes	Yes
	PIC 5	60	50	72	72	Yes	Yes
	PIC 6	60	50	68	68	Yes	Yes
Toluca Estates	TLR 1	55	50	76	76	Yes	Yes
	TLR 2	53	49	71	71	Yes	Yes
	TLR 3	54	48	70	70	Yes	Yes
	TLR 4	53	50	68	68	Yes	Yes
Toluca Lake	TLR 6	52	48	69	69	Yes	Yes
	TLR 8	54	49	69	69	Yes	Yes
	TLR 9	60	50	59	59	No	Yes
Lakeside Golf Club	TLR 5	57	50	77	77	Yes	Yes
	TLR 7	55	50	78	78	Yes	Yes
Burbank	TLR 10	56	50	66	66	Yes	Yes
	TLR 11	58	50	71	71	Yes	Yes
Existing Hotel and Office Towers	URS 1	60	50	82	82	Yes	Yes
	URS 2	60	50	77	77	Yes	Yes
	URS 3	60	50	80	80	Yes	Yes

[a] *Location Designations correspond to those shown in Figure 93 on page 973.*

Source: Veneklasen Associates, Inc., 2010.

Table 68
Composite Construction Hauling for the Proposed Project (Equivalent Sound Level)

Reference[a]	Area	Existing Daytime Hourly Traffic Conditions	Composite Construction Mixed-Use Residential Area + Universal Studios Construction Scenario			Noise Impact Due to Hauling		
			Hauling through Lankershim Only	Hauling through Forest Lawn Only	Hauling Between Lankershim & Forest Lawn	Hauling through Lankershim Only	Hauling though Forest Lawn Only	Hauling Between Lankershim & Forest Lawn
R1	Riverside Dr, West of Vineland	73.7	73.7	73.7	73.7	0.0	0.0	0.0
R2	Vineland Ave and Moorpark St.	71.3	71.3	71.3	71.3	0.0	0.0	0.0
R3	Lankershim, Between Moorpark St and Whipple St	71.9	71.9	71.9	71.9	0.0	0.0	0.0
R4		64.9	64.9	64.9	64.9	0.0	0.0	0.0
R5	Riverside Dr, East of Cahuenga	70.7	70.7	70.7	70.7	0.0	0.0	0.0
R6	Cahuenga, Between 134 and Moorpark St	70.2	70.2	70.2	70.2	0.0	0.0	0.0
R7	Riverside Dr, Between Cahuenga and Forman Ave	71.2	71.2	71.2	71.2	0.0	0.0	0.0
R8	Cahuenga, Between Moorpark St and Lankershim	68.0	68.0	68.0	68.0	0.0	0.0	0.0
R9	Cahuenga, North of Lankershim	68.7	68.7	68.7	68.7	0.0	0.0	0.0
R10	Weddington Park (South)/Island	64.2	64.3	64.2	64.3	0.1	0.0	0.1
R11	Weddington Park (South)/Island	63.8	64.2	63.8	64.1	0.4	0.0	0.3
R12	Weddington Park (South)/Island	64.4	65.2	64.4	64.9	0.8	0.0	0.5
R13	Weddington Park (South)/Island	69.3	69.6	69.3	69.5	0.3	0.0	0.2
R14	Ventura, West of Vineland Ave	59.5	59.5	59.5	59.5	0.0	0.0	0.0
R15	Ventura Blvd at Willow Crest Ave	71.3	71.3	71.3	71.3	0.0	0.0	0.0
R16	Buddy Holly Drive	70.8	70.8	70.8	70.8	0.0	0.0	0.0
R17	Cahuenga Blvd W, West of Universal Center Dr	75.2	75.2	75.2	75.2	0.0	0.0	0.0
R18	Cahuenga Blvd W, East of Universal Center Dr.	74.9	74.9	74.9	74.9	0.0	0.0	0.0
R19	N. Pass Ave, Between W. Olive Ave and Riverside Dr	68.9	68.9	68.9	68.9	0.0	0.0	0.0
R20	W. Olive Ave at Hood Ave	70.7	70.7	70.7	70.7	0.0	0.0	0.0
R21	Barham Blvd at Forest Lawn Dr.	58.2	59.3	59.9	59.7	1.1	1.7	1.5
R22	Barham Blvd at S Coyote Canyon Dr	65.6	65.6	65.6	65.6	0.0	0.0	0.0
R23	Barham Blvd Between S Coyote Canyon Dr and Cahuenga W.	67.1	67.1	67.1	67.1	0.0	0.0	0.0
R24		64.0	64.0	64.0	64.0	0.0	0.0	0.0
R25		72.0	72.0	72.0	72.0	0.0	0.0	0.0
R26	Hollywood Manor (behind hill)	59.6	59.6	59.6	59.6	0.0	0.0	0.0
R27	Barham Blvd, North of Cahuenga E	75.3	75.3	75.3	75.3	0.0	0.0	0.0
R28	Cahuenga Blvd W, East of Barham Blvd	72.8	72.8	72.8	72.8	0.0	0.0	0.0
R29	Cahuenga Blvd W at Mulholland	76.4	76.4	76.4	76.4	0.0	0.0	0.0
R30	Hollywood Manor (affected by N-S Road)	55.0	55.0	55.0	55.0	0.0	0.0	0.0
R31		55.3	55.3	55.3	55.3	0.0	0.0	0.0
R32		57.4	57.4	57.4	57.4	0.0	0.0	0.0
See Figure 95 on page 1003.	South Fairview St at West Valleyheart Drive (“Rancho Neighborhood”)	51.0	56.4	57.9	57.3	5.4	6.9	6.3

[a] *Reference numbers correspond to those shown in Figure 94 on page 1002.*

Source: Veneklasen Associates, Inc., 2010.

Based on the analysis performed, and adjusting for distance, it was determined that construction activity occurring on the northern half of the proposed grading area would not result in any significant impacts to the Hollywood Manor area. However, after adjusting for distance, construction activity on the southern portion of the proposed grading area (as shown in Figure 96 on page 1014) may yield peak particle velocity levels in excess of 0.5 inches/second in the Hollywood Manor area due to the construction equipment's potential proximity to the Project Site's eastern property line. Accordingly, construction and grading along the southern-portion of the eastern property line has the potential to result in significant impacts in the Hollywood Manor area. Nevertheless, with the implementation of Mitigation Measure IV.C-3, vibration would be reduced to below the 0.2 inches/second peak particle velocity significance threshold for non-engineered timber and masonry structures. As such, with the incorporation of mitigation measures, impacts would be reduced to a less than significant level.

(3) Operational Noise

(a) Project On-Site Sources

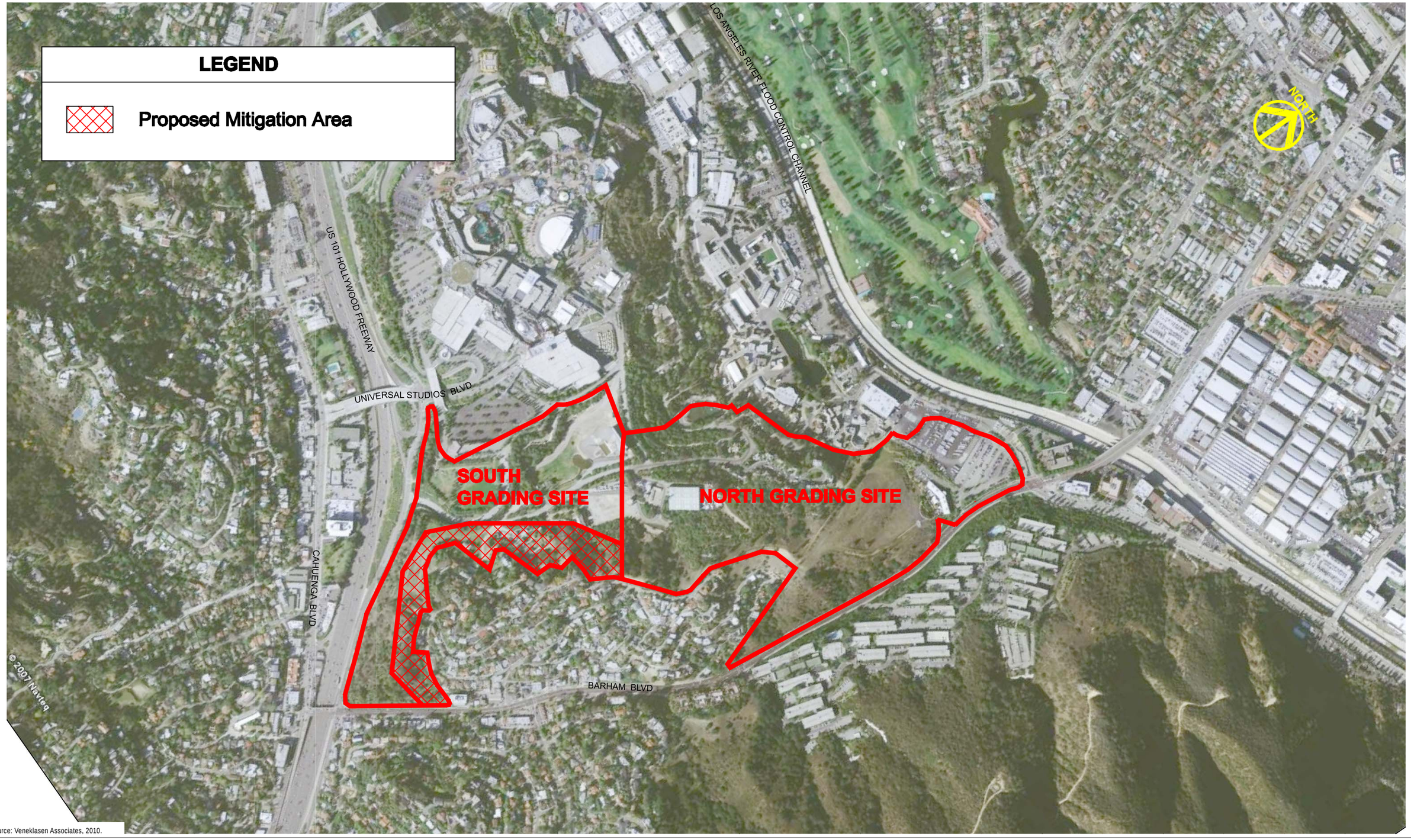
(i) Off-Site Receptors

As detailed earlier in IV.C.2.c(2)(b), Major Existing Contributing Noise Sources, of this Draft EIR section, operational noise sources on the Project Site would include those related to maintenance/operations, traffic, parking areas, building mechanical and electrical equipment, Universal Studios Hollywood attractions (operating from 7:00 A.M. to 10:00 P.M.), Universal CityWalk tenants and Public Areas, and special events.

The assessment of the proposed Project's potential noise impacts, in accordance with the provisions of the *City of Los Angeles CEQA Thresholds Guide*, considers only the new sources of noise the proposed Project would introduce. It is important to note that the analysis presented herein is conservative in that it assumes that all major Project noise sources are operating simultaneously.

The Conceptual Plan, shown in Figure 13, Section II, Project Description, of this Draft EIR, is a reasonable example of how the Project Site might be developed based on Project needs in accordance with the proposed City and County Specific Plans. For purposes of this report, the Project impacts were evaluated using the proposed Conceptual Plan.

New major Project noise sources were added to the computer model. Each new Universal Studios Hollywood attraction source was assumed to be similar to an existing attraction source and thus a corresponding sound power level was used in the computer model.



Source: Veneklasen Associates, 2010.

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Figure 96
Mixed-Use Residential Area Grading Sites and Portion of Project Site Subject to Mitigation Measure C-3

Project sources in the Studio, Entertainment, and Business Areas were modeled as operating during the same 7:00 A.M. to 10:00 P.M. time period. The normal operating hours for the Universal Studios Hollywood theme park are 7:00 A.M. to 10:00 P.M. and the analysis and model was also completed using the Project's new theme park noise sources during that timeframe. In addition, any new Project sources in the public areas (Universal CityWalk) were included in the model until their closing time at 2:00 A.M. Therefore, as in the existing conditions model, two data sets are analyzed based on the daytime and nighttime hours provided by the County Noise Ordinance as well as the operating time frames of the individual Project sources.

The noise sources included in the LimA model for the Mixed-Use Residential Area portion of the Project includes a series of conservative assumptions regarding the operating characteristics of noise sources such as heating, ventilation, and air conditioning and mechanical equipment for each building, a new City of Los Angeles Department of Water and Power electrical substation as well as other potential noise sources, as identified in the proposed City Specific Plan. In addition, several potential activities and uses that are non-regulated noise sources have been included in the analysis. Such non-regulated sources include potential rooftop pools, and selected areas of public recreation (i.e., basketball courts, foot paths, a small open amphitheater, and public use greenbelt areas) that might be located within the Mixed-Use Residential Area.

Table 69 on page 1015**,** compares the computer calculated L_{50} noise levels attributable to all Project sources at all 47 receptor locations to the thresholds used for this analysis. Table 70 on page 1017**,** presents a similar comparison for the L_{max} noise levels compared to the prescribed L_{max} threshold.

The calculated results shown in Tables 69 and 70 on pages 1016 and 1017 assume that all major on-site Project noise sources, including, but not limited to, Project sources at the theme park and all public areas, as well as all sources modeled within the Mixed-Use Residential Area are operating simultaneously. Also, as mentioned above, it was assumed that the Universal Studios Hollywood tour trams are operating at a maximum capacity of 23 trips per hour. This condition is not the norm; however, this method was utilized to provide a conservative approach to analyzing the potential noise levels from this particular noise source.

The results of this modeling of Project noise sources, as shown in Tables 69 and 70, indicates that the new Project sound sources, including the Mixed-Use Residential Area development, would be in compliance with the thresholds used in this analysis at all 47 receptor locations during the corresponding hours. Figure 97 on page 1018 shows the L_{50} of 50 noise contour for the Project, incorporating forecasted noise levels during all of the Project's operational hours. As on-site Project sources would not generate noise levels that exceed the established significance criteria, impacts from on-site Project sources would be less than significant.

Table 69
Future Project (L_{50})
Calculated Noise Levels During the 7:00 A.M. to 10:00 P.M. and 10:00 P.M. to 2:00 A.M. Modeling Periods

Community Receptor Location	Location Designation[a]	Significance Threshold		Calculated L_{50}		Exceed Established Criteria?	
		Daytime Criteria, L_{50} (L_{50} = 50 dBA)	Nighttime Criteria, L_{50} (L_{50} = 45 dBA)	Daytime 7 A.M. – 10 P.M.	Nighttime 10 P.M. – 2 A.M.	Daytime 7 A.M. – 10 P.M.	Nighttime 10 P.M. – 2 A.M.
Studio City	HHC 1	59	55	36	34	No	No
Cahuenga Pass	HHC 2	50	45	34	32	No	No
	HHC 3	61	64	38	35	No	No
	HHC 4	55	48	29	26	No	No
	HHC 5	50	45	37	33	No	No
	HHC 6	57	55	39	35	No	No
	HHC 7	53	51	37	33	No	No
	HHC 8	50	47	39	35	No	No
	HHC 9	50	48	43	40	No	No
	HHC 10	51	46	43	40	No	No
	HHC 11	65	64	38	35	No	No
Hollywood Knolls	HKR 1	56	52	34	33	No	No
	HKR 2	50	45	33	33	No	No
	HKR 3	50	45	38	35	No	No
Hollywood Manor	HMR 1	54	56	44	43	No	No
	HMR 2	57	56	47	45	No	No
	HMR 3	50	50	49	45	No	No
	HMR 4	50	46	50	45	No	No
	HMR 5	50	45	50	44	No	No
	HMR 6	50	45	49	43	No	No
	HMR 7	50	45	50	44	No	No
	HMR 8	50	45	50	44	No	No
	HMR 9	63	57	40	40	No	No
	HMR 10	51	49	43	42	No	No
Oakwood Garden Apartments	OGA 1	51	49	37	37	No	No
	OGA 2	58	52	42	41	No	No
	OGA 3	61	54	46	42	No	No
Campo de Cahuenga	PIC 1	58	54	36	32	No	No
Weddington Park (South)/Island	PIC 2	54	55	40	34	No	No
	PIC 3	53	48	37	34	No	No
	PIC 4	50	46	34	33	No	No
	PIC 5	56	54	38	34	No	No
	PIC 6	57	53	38	33	No	No
Toluca Estates	TLR 1	50	47	43	38	No	No
	TLR 2	50	45	42	37	No	No
	TLR 3	50	45	43	37	No	No
	TLR 4	50	46	42	37	No	No
Toluca Lake	TLR 6	50	45	44	38	No	No
	TLR 8	50	45	44	38	No	No
	TLR 9	66	58	37	30	No	No
Lakeside Golf **Club**	TLR 5	51	51	42	39	No	No
	TLR 7	50	47	45	42	No	No
Burbank	TLR 10	50	45	42	36	No	No
	TLR 11	50	45	43	39	No	No
Existing Hotel and Office Towers	URS 1	60	56	43	42	No	No
	URS 2	66	65	40	32	No	No
	URS 3	59	57	45	43	No	No

[a] *Location Designations correspond to those shown in Figure 93 on page 973.*

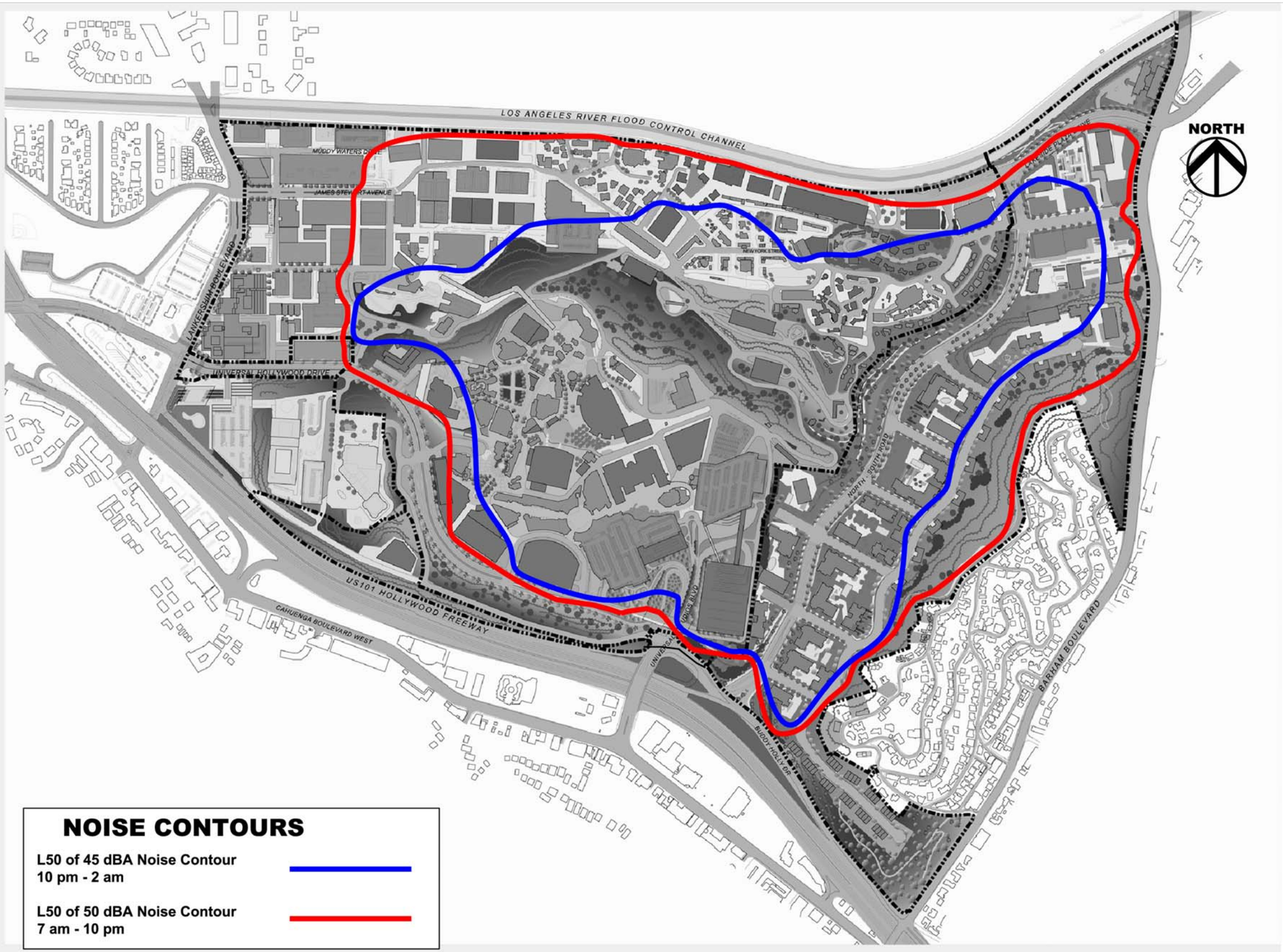
Source: Veneklasen Associates, Inc., 2010.

Table 70
Future Project (L_{max})
Calculated Noise Levels During the 7:00 A.M. to 10:00 P.M. and 10:00 P.M. to 2:00 A.M. Modeling Periods

Community Receptor Location	Location Designation[a]	Significance Threshold		Calculated L_{max}		Exceed Established Criteria?	
		Daytime Criteria, L_{max} (L_{max} = 70 dBA)	Nighttime Criteria, L_{max} (L_{max} = 65 dBA)	Daytime 7 A.M. – 10 P.M.	Nighttime 10 P.M. – 2 A.M.	Daytime 7 A.M. – 10 P.M.	Nighttime 10 P.M. – 2 A.M.
Studio City	HHC 1	73	71	55	37	No	No
Cahuenga Pass	HHC 2	72	69	52	35	No	No
	HHC 3	70	71	57	38	No	No
	HHC 4	81	77	49	30	No	No
	HHC 5	70	65	58	38	No	No
	HHC 6	70	66	59	39	No	No
	HHC 7	70	69	58	37	No	No
	HHC 8	70	65	59	39	No	No
	HHC 9	70	65	62	43	No	No
	HHC 10	71	72	62	44	No	No
	HHC 11	74	79	58	40	No	No
Hollywood Knolls	HKR 1	75	70	52	39	No	No
	HKR 2	77	76	46	39	No	No
	HKR 3	74	77	58	41	No	No
Hollywood Manor	HMR 1	70	68	62	47	No	No
	HMR 2	70	71	64	51	No	No
	HMR 3	70	65	65	53	No	No
	HMR 4	70	65	69	52	No	No
	HMR 5	70	65	69	51	No	No
	HMR 6	70	65	69	50	No	No
	HMR 7	70	65	69	52	No	No
	HMR 8	70	65	69	56	No	No
	HMR 9	77	75	50	46	No	No
	HMR 10	70	65	61	47	No	No
Oakwood Garden Apartments	OGA 1	70	70	47	43	No	No
	OGA 2	74	73	58	48	No	No
	OGA 3	75	68	63	53	No	No
Campo de Cahuenga	PIC 1	72	75	55	36	No	No
Weddington Park (South)/Island	PIC 2	71	74	60	37	No	No
	PIC 3	72	65	53	37	No	No
	PIC 4	70	66	56	36	No	No
	PIC 5	73	70	58	37	No	No
	PIC 6	74	72	58	36	No	No
Toluca Estates	TLR 1	70	65	62	41	No	No
	TLR 2	74	65	62	39	No	No
	TLR 3	70	65	62	40	No	No
	TLR 4	70	65	61	40	No	No
Toluca Lake	TLR 6	70	65	63	43	No	No
	TLR 8	73	65	64	44	No	No
	TLR 9	81	79	56	35	No	No
Lakeside Golf **Club**	TLR 5	70	65	61	41	No	No
	TLR 7	70	65	61	44	No	No
Burbank	TLR 10	70	65	61	44	No	No
	TLR 11	72	71	61	47	No	No
Existing Hotel and Office Towers	URS 1	76	69	60	43	No	No
	URS 2	77	76	61	37	No	No
	URS 3	74	73	63	45	No	No

[a] *Location Designations correspond to those shown in Figure 93 on page 973.*

Source: Veneklasen Associates, Inc., 2010.



Source: Veneklasen Associatesl, 2010.

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Figure 97
Project Noise Contour

(b) Roadway Sources

(i) Off-Site Receptors

A traffic noise model of the surrounding community area was constructed using the Federal Highway Administration's Traffic Noise model modeling software to determine ambient noise increases due to increases in traffic levels. Based upon traffic flow information provided by Raju Associates, Inc., the Project traffic consultant, four traffic scenarios were modeled: (1) Existing Conditions; (2) 2030 Conditions Without the Project, which assumes traffic increases based on related projects and population growth; (3) 2030 Conditions With the Project, which includes 2030 traffic conditions with Project traffic added; and (4) 2030 Conditions With the Project plus Mitigation, which is 2030 traffic with Project traffic and the implementation of all Project traffic mitigation measures. The analysis, in addition to analyzing traffic increases on roadways external to the Project Site, also analyzes the traffic noise levels attributable to the new North/South Road in the Mixed-Use Residential Area with regard to the Hollywood Manor receptor area.

Traffic noise sources occur during all 24 hours of the day. As a result, the appropriate method to assess traffic impacts is with a daily noise metric. Thus, the noise metric utilized to analyze traffic noise is the Community Noise Equivalent Level.

Impacts from Off-site Roadway Traffic

As described above, to determine ambient noise increases due to traffic, a traffic noise model of the area was constructed using the Federal Highway Administration's Traffic Noise Model methods.[74] Based upon the road segments with the highest forecasted Project traffic increases that were identified for this study and traffic flow information, the four traffic scenarios described above were modeled and calculated. The last two scenarios allow for an identification of Project impacts both before and after implementation of the Project's traffic mitigation measures and their effects on ambient noise conditions. The Traffic Noise Model software model was validated in accordance with the guidance issued in support of the model.

In general, traffic noise in the area is heavily influenced by the existing freeways. This is especially true along streets which run parallel to the freeways, such as Riverside Drive, Ventura Boulevard, and Cahuenga Boulevard West. As stated above, based on the *City of Los Angeles CEQA Thresholds Guide* "a project would normally have a significant impact on noise levels from project operation if the project causes the ambient noise level measured at the property line of an affected use to increase by 3 dBA or more in

[74] *Barry, T.M. and Reagan J.A. "FHWA Highway Traffic Noise Prediction Model", U.S. Department of Transportation, Federal Highway Administration, Report No. FHWA-RD-77-108, March, 1998.*

Community Noise Equivalent Level to or within the 'normally unacceptable' or 'clearly unacceptable' category" or any 5 dBA or greater noise increase. Since a 3 dBA increase is the most stringent criteria, if there are no increases in Community Noise Equivalent Level noise levels above 3 dBA, then the impact is less than significant.

Table 71 on page 1021 lists the locations that were analyzed and the results of the analysis. These locations represent all known areas with residences, churches, and schools within effectible distance from the road segments with the highest anticipated traffic increases due to the Project. The modeling results presented in Table 71 indicate that all but one of the traffic noise analysis locations would experience a noise level increase less than 1 decibel by the time the Project is completed in year 2030 with or without the mitigation measures. Receptor R32 would experience an increase in noise levels of 1.0 decibel with no traffic mitigation measures implemented and 0.9 decibels with mitigation measures implemented.

As discussed above, because it is widely accepted that the average healthy person can barely perceive noise level changes of 3 decibels or less, the increase in noise from Project traffic at the receptor locations, which is a maximum of 1.0 dB, would not be noticeable when added to the existing noise levels, regardless of the existing ambient noise levels at the receptor locations. Accordingly, because Project conditions (Project traffic and Project with traffic mitigation) would not exceed the established significance criteria, impacts from roadway sources would be less than significant.

Impacts from Proposed Mixed-Use Residential Area Roadways

The Conceptual Plan for the Mixed-Use Residential Area sets forth an internal circulation system that includes a new North/South Road and interior circulation streets to accommodate traffic flow related to the proposed Project.

The Hollywood Manor receptor area was selected and analyzed to predict the potential noise impact of the proposed new North/South Road and the parallel Interior Road at the closest existing off-site residences. All other receptor areas are located sufficiently distant from the Project Site as to not be affected by roadway noise attributable to these two roadways. The results of this analysis indicate that traffic noise increases attributable to the proposed North-South Road and the parallel Interior Road, with forecasted levels of traffic would result in a less than 2 decibels noise increase at the Hollywood Manor locations (R30, R31, & R32) on Blair Drive. Because an increase of 3 decibels or less in the ambient noise level is not discernable to the average ear, the increases in noise from Project traffic at the receptor locations within the Hollywood Manor area would not be noticeable when added to the existing noise levels, regardless of the existing ambient noise levels at the receptor locations. As the analysis has shown, the change to the acoustic environment is relatively small and would not exceed the established significance criteria, and this impact would be less than significant.

Table 71
Results of Traffic Noise Analysis

Reference [a]	Nearest Intersection Numbers	Area	Existing Conditions	2030 Base	2030 With Project		Project Increase	
					With No Mitigation	With Mitigation	With No Mitigation	With Mitigation
1	10, 15	Riverside Dr, West of Vineland	76.7	77.7	77.7	77.8	0.0	0.1
2		Vineland Ave and Moorpark St.	74.2	75.2	75.3	75.4	0.1	0.2
3	20	Lankershim, Between Moorpark St and Whipple St	75.4	76.5	76.8	76.0	0.3	-0.5
4			68.4	69.3	69.5	69.1	0.2	-0.2
5	28, 29, 40	Riverside Dr, East of Cahuenga	73.2	74.4	74.5	74.5	0.1	0.1
6	28, 29, 30	Cahuenga, Between 134 and Moorpark St	73.8	75.0	75.3	75.0	0.3	0.0
7	40, 41	Riverside Dr, Between Cahuenga and Forman Ave	73.8	74.9	75.0	75.0	0.1	0.1
8	31, 32	Cahuenga, Between Moorpark St and Lankershim	72.0	73.5	73.8	73.5	0.3	0.0
9	72	Cahuenga, North of Lankershim	72.8	74.1	74.4	74.0	0.3	-0.1
10	34, 35	Weddington Park (South)/Island	67.7	68.7	69.0	68.6	0.3	-0.1
11		Weddington Park (South)/Island	67.2	67.9	68.1	68.0	0.2	0.1
12		Weddington Park (South)/Island	67.9	68.9	69.3	69.0	0.4	0.1
13		Weddington Park (South)/Island	72.7	73.0	73.2	73.4	0.2	0.4
14	5	Ventura, West of Vineland Ave	62.2	63.1	63.4	63.2	0.3	0.1
15		Ventura Blvd at Willow Crest Ave	74.3	74.9	74.9	75.1	0.0	0.2
16		Buddy Holly Drive	73.8	74.3	74.3	74.5	0.0	0.2
17	42, 44	Cahuenga Blvd W, West of Universal Center Dr	78.3	78.9	78.9	79.1	0.0	0.2
18		Cahuenga Blvd W, East of Universal Center Dr.	78.8	79.2	79.3	79.4	0.1	0.2
19	80, 81	N. Pass Ave, Between W. Olive Ave and Riverside Dr	71.1	73.0	73.2	73.2	0.2	0.2
20	83	W. Olive Ave at Hood Ave	72.6	74.6	74.8	74.8	0.2	0.2
21	55	Barham Blvd at Forest Lawn Dr.	61.2	62.6	63.0	62.9	0.4	0.3
22	54	Barham Blvd at S Coyote Canyon Dr	68.6	69.4	69.7	69.8	0.3	0.4
23	52, 53	Barham Blvd Between S Coyote Canyon Dr and Cahuenga W.	70.1	71.0	71.3	71.3	0.3	0.3
24			67.0	67.9	68.2	68.1	0.3	0.2
25			75.0	75.7	76.1	76.1	0.4	0.4
26		Hollywood Manor (behind hill)	62.9	63.6	64.2	64.3	0.6	0.7
27	48	Barham Blvd, North of Cahuenga E	78.6	79.2	79.5	79.5	0.3	0.3
28	47, 49	Cahuenga Blvd W, East of Barham Blvd	76.5	77.2	77.2	77.3	0.0	0.1
29	50	Cahuenga Blvd W at Mulholland	80.3	80.8	80.9	81.0	0.1	0.2
30		Hollywood Manor (affected by N-S Road)	58.0	58.9	59.2	59.1	0.3	0.2
31			58.4	59.7	59.7	59.7	0.0	0.0
32			60.7	61.3	62.3	62.2	1.0	0.9

[a] *Reference numbers correspond to those shown in Figure 94 on page 1002.*

Source: Veneklasen Associates, Inc., 2010.

(ii) On-Site Receptors

As discussed above, to help inform the decision makers and the public, this section includes a discussion of the noise that may be experienced by future residents of the Mixed-Use Residential Area. This analysis does not relate to the Project's impact on the environment, but rather is a discussion of the noise that may be experienced by future residents from the 101 Freeway and the new North/South Road and Interior Road that will be developed to support the new residential area. For ease of analysis, this section compares its findings to the *City of Los Angeles CEQA* threshold described above**.**

The proposed on-site residential development would be exposed to roadway noise levels from two notable sources. First, portions of the on-site residential development would be located in proximity to the new North/South Road and the Interior Road that would be developed to support the proposed Mixed-Use Residential Area development program. In addition, the proposed new residential development within the Mixed-Use Residential Area would be exposed to the 101 Freeway, and the noise levels attributable to this off-site source.

As with the evaluation of other roadway noise impacts, the noise metric utilized for this analysis is the Community Noise Equivalent Level, which measures and predicts the resultant noise from sources that are present 24 hours a day, 7 days a week. The Community Noise Equivalent Level metric also adds a penalty for evening and nighttime hours, which corresponds to increased sensitivity to the effect of noise during evening and late night hours. This noise metric and analysis is prescribed by Caltrans as the appropriate methodology to predict traffic noise levels as well as to analyze the potential impact that results.

The Community Noise Equivalent Level noise experienced by future on-site residents from the proposed North/South Road was modeled and evaluated at three distances from the centerline of the north bound side of the North/South Road. This modeling effort did not include any buildings or barriers so the resultant traffic noise levels are very conservative. Forecasted North/South Road traffic volumes would result in potential traffic noise levels of a Community Noise Equivalent Level of 70 dBA at 50 feet from the road, a Community Noise Equivalent Level of 67 dBA at 100 feet from the road, and a Community Noise Equivalent Level of 62 dBA at 200 feet from the road. Thus, this road may place the nearest potential residential development in the Mixed-Use Residential Area to the road (e.g. within 50-100 feet) at or potentially above the 65 dBA Community Noise Equivalent Level criteria. Mitigation of the noise level experienced by future residents could be accomplished through compliance with California Building Code (Title 24) regulations for residential buildings, which would assure that interior noise levels fall within the acceptable range of exposure.

Residences located next to the Interior Road, running parallel to the North/South Road, are forecasted to be exposed to a Community Noise Equivalent Level of 64 dBA, which is below the Community Noise Equivalent Level criteria of 65 dBA. Residences further from the road would have lower noise exposure and would therefore also be below the criteria. Accordingly, noise levels experienced by the residences located next to the Interior Road would fall below the criteria.

The southern portion of the proposed Mixed-Use Residential Area is proximate to the 101 Freeway. This on-site location currently contains an earthen berm that would be removed to create the building pads to accommodate the proposed development for this area. Existing noise levels at the top of the existing berm, which has a direct line of sight to the 101 Freeway, were measured at a Community Noise Equivalent Level of 71.5 dBA with existing traffic conditions. If the berm is removed and the grade is lowered to the proposed finished grade, the direct line of sight to the freeway from this location would be removed. As the direct line of sight would not exist with development on this building pad, the Community Noise Equivalent Level at this location would decrease such that the predicted traffic noise level with future conditions is predicted to be 67.9 dBA Community Noise Equivalent Level, which is a 3.6 decibel reduction from the existing condition, but still above the 65 dBA Community Noise Equivalent Level criteria. Thus, residences located in the southeastern area of the proposed Mixed-Use Residential Area could experience noise above the 65 dBA criteria. Mitigation of the noise level experienced by these residents could be accomplished through compliance with California Building Code (Title 24) regulations for residential buildings, which would ensure that interior noise levels fall within the acceptable range of noise exposure.

(c) Other Noise Related Issues

In addition to the analyses provided above, two other noise issues were considered due to the development of the proposed Project. The first of these is called the “channeling effect,” which addresses the potential for noise levels to increase due to the placement of buildings between a roadway noise source and sensitive noise receptors. The second issue pertains to changes in off-site noise levels for the portion of the Hollywood Manor area that is both located near the southeastern portion of the Project Site and affected by 101 Freeway noise. Specifically, the potential for the noise level from the 101 Freeway experienced in the southeastern portion of Hollywood Manor to change due to grading proposed in the southeastern portion of the Project Site was evaluated.

First, as introduced above, a “channeling effect” may be experienced from the placement of barriers, such as rows of buildings that are aligned perpendicular to a roadway. The potential for a “channeling effect” from the placement of buildings in the proposed Mixed-Use Residential Area perpendicular to the new North-South Road or the 101 Freeway was also analyzed. Independent research indicates that depending on the

type of sound source, the channeling effect is really a perceived change in sound level resulting from being fully protected by an effective sound barrier (the building) and the difference in sound level (increase) when the sound barrier effect is reduced or removed (at the street opening).[75] This difference can range from a few decibels to as many as 20 decibels depending on the distance from the building (barrier effect) and the distance from the sound source. The existing research indicates that there is no amplification resulting from this effect; in other words, there is no actual increase in noise levels from the placement of buildings, only a potential change in perception depending upon the location of the receptor. As the proposed new interior roadway system (without the benefit of barriers) results in a noise impact that would be less than significant, the "channeling effect," which does not increase noise levels, also would be less than significant.

Second, regarding changes in topography at the Project Site, existing noise levels at the top of the existing berm in the southeastern portion of the Project Site, which has a direct line of sight to the 101 Freeway, were measured to be a Community Noise Equivalent Level of 71.5 dBA. The noise levels at an existing receptor location (R26) in Hollywood Manor would have a slight increase as a result of increased traffic under future conditions, but the removal of the berm would have no effect on freeway noise levels as the berm provides a barrier effect from roadway noise to the south and southeast but provides no barrier (has no attenuation) to roadway noise from the west. As the noise exposure from the west dictates the traffic noise impact at this receptor location, lowering the on-site grade in this area of the Project Site would have no adverse impact at this receptor. Furthermore, the proposed new buildings in this portion of the Mixed-Use Residential Area may result in some additional barrier effects which could reduce the impact of traffic noise. Accordingly, freeway noise impacts due to changes in topography at the southeastern portion of the Project Site would be less than significant.

e. Project Impact Summary

Several different acoustic computer models have been utilized and the results evaluated for potential community noise impacts as a result of the Project operation and construction. For example, acoustic computer models were used to determine the proposed Project's impact to noise levels at the receptor areas, and to determine the impact from

[75] *See Jain Kang "Sound propagation in street canyons: Comparison between diffusely and geometrically reflecting boundaries," The Journal of the Acoustical Society of America. March, 2000; see also Frances Weiner, Charles Malme and Creighton Gogos "Sound Propagation in Urban Areas," The Journal of the Acoustical Society of America. April 1965; see also Huw Davies, "Multipul-reflection diffuse-scattering model for noise propagation in streets," Journal of the Acoustical Society of America. August 1978; see also Richard Lyon "Role of multiple reflections and reverberation in urban noise propagation," Journal of the Acoustical Society of America. March, 1974.*

roadway sources on both on- and off-site receptor locations. Lastly, noise models were run to determine the impacts from both daytime and nighttime construction noise.

Existing operational noise sources at the Project Site are in compliance with the County Noise Ordinance, which is the most restrictive among the applicable noise standards (i.e. the City Noise Ordinance, County Noise Ordinance, and *City of Los Angeles CEQA Thresholds Guide*). As described in this analysis, all of the potential future Project noise sources would comply with the conservative thresholds (i.e., L_{50} of 50 dBA, or ambient if it is higher, and a L_{max} of 70 dBA, or ambient if it is higher, between the hours of 7:00 A.M. to 10:00 P.M.; and L_{50} of 45 dBA, or ambient if it is higher, and a L_{max} of 65 dBA, or ambient if it is higher, between the hours of 10:00 P.M. and 7:00 A.M.). With the implementation of the noise regulations set forth in the proposed City and County Specific Plans, the Project would continue to be in compliance with the most restrictive L_{50} and L_{max} noise standards.

In addition, Project roadway noise impacts at off-site receptors would be less than significant, and via compliance with California Building Code (Title 24) requirements, roadway noise experienced by on-site residents would fall below the accepted criteria.

There is the potential for some significant short term noise impacts resulting from construction activities within the Project Site during daytime and nighttime hours. For daytime hours, these potential impacts can be reduced with implementation of the proposed Project Design Features and mitigation measures, including a construction noise mitigation plan developed for each construction area, but depending on the receptor and ambient noise levels at the time of construction impacts may not be reduced to less than significant levels. During nighttime construction, impacts would be reduced to less than significant levels, except for those atypical and infrequent conditions when exterior nighttime construction pursuant to the stated exceptions would occur.

There is also the potential for some significant short-term vibration impacts resulting from construction activities within the Project Site. However, with implementation of the mitigation measures for construction vibration sources, the potential impacts would be reduced to a less than significant level.

Lastly, there is also the potential for some significant short-term noise impacts from hauling activities. However, with implementation of Mitigation Measure C-5, the potential impact would be reduced to less than significant.

f. Impacts Under the No Annexation Scenario

The significance thresholds used in this analysis are based on a combination of the noise standards in use by both the City and County. The significance thresholds that were

selected for this analysis reflects the City or County noise standard, that would yield the more conservative analysis. As such, the jurisdiction within which Project development is located would not result in the use of a significance threshold that would be more restrictive than that which is used in the various analyses presented in this section of the Draft EIR. Therefore, the location of jurisdictional boundaries has no effect on the assessment of impacts whether under the proposed Project or the No Annexation scenario. As such, impacts associated with the No Annexation scenario would be the same as those identified above with regard to the proposed Project.

4. Cumulative Impacts

The effects of development of the Project in connection with the related projects onto the receptor areas due to construction, traffic and anticipated operations were also evaluated. Seven related projects are located in close enough proximity to the Project Site to potentially result in cumulative construction and stationary source noise impacts. The locations of the related projects are shown in Figure 22, Section III.B. of this Draft EIR. The type of development of the related projects varies from mixed-used residential to commercial-warehouse.[76]

a. Construction

Buildout of the Project may occur simultaneously with the development of any or all of the related projects. The impacts from the simultaneous construction of all the proposed off-site related projects and the Project have been analyzed. A total of seven nearby related projects are included in this analysis (including the proposed Metro Universal project), as the remainder of the other projects were located sufficiently distant to the Project Site so as to not contribute toward any potential cumulative noise impact.

The results of this analysis are presented in Table 72 on page 1027**.** The construction noise from the off-site related projects would not substantially increase the construction noise levels at the identified receptor locations. However, cumulative un-mitigated construction noise levels from the Project and related projects would result in noise levels that are above the threshold of significance during daytime and nighttime hours at all of the receptor sites except HHC 4 in Cahuenga Pass and TL9 in Toluca Lake during the daytime hours, and thus cumulative construction noise would result in a significant impact (i.e., both with and without mitigation measures). This conclusion is conservative in that it does not take into account noise reductions from the project design features discussed above.

[76] *See Table 6 in Section III, Environmental Setting, of this Draft EIR.*

Table 72
Cumulative Construction for Project & Off-site Projects

Community Receptor Location	Location Designation [a]	Threshold of Significance		Calculated Maximum L_{50} Construction Noise + Existing Operating Emissions		Exceed Established Criteria?	
		Daytime 7 A.M. – 7 P.M.	Nighttime 7 P.M.- 7 A.M.	Daytime 7 A.M. – 7 P.M.	Nighttime 7 P.M.- 7 A.M.	Daytime 7 A.M.- 7 P.M.	Nighttime 7 P.M.- 7 A.M.
Studio City	HHC 1	60	50	65	65	Yes	Yes
Cahuenga Pass	HHC 2	52	48	61	61	Yes	Yes
	HHC 3	60	50	69	69	Yes	Yes
	HHC 4	60	50	56	56	No	Yes
	HHC 5	50	48	62	62	Yes	Yes
	HHC 6	60	50	63	63	Yes	Yes
	HHC 7	59	50	62	62	Yes	Yes
	HHC 8	54	50	63	63	Yes	Yes
	HHC 9	55	50	70	70	Yes	Yes
	HHC 10	58	50	69	69	Yes	Yes
	HHC 11	60	50	67	67	Yes	Yes
Hollywood Knolls	HKR 1	60	50	67	67	Yes	Yes
	HKR 2	60	50	63	63	Yes	Yes
	HKR 3	55	49	63	63	Yes	Yes
Hollywood Manor	HMR 1	60	50	93	93	Yes	Yes
	HMR 2	60	50	92	92	Yes	Yes
	HMR 3	56	50	83	83	Yes	Yes
	HMR 4	54	49	80	80	Yes	Yes
	HMR 5	55	48	78	78	Yes	Yes
	HMR 6	54	49	77	77	Yes	Yes
	HMR 7	54	48	77	77	Yes	Yes
	HMR 8	56	49	80	80	Yes	Yes
	HMR 9	60	50	65	65	Yes	Yes
	HMR 10	57	50	94	94	Yes	Yes
Oakwood Garden Apartments	OGA 1	57	50	72	72	Yes	Yes
	OGA 2	60	50	82	82	Yes	Yes
	OGA 3	60	50	88	88	Yes	Yes
Campo de Cahuenga	PIC 1	60	50	75	75	Yes	Yes
Weddington Park (South)/Island	PIC 2	60	50	75	75	Yes	Yes
	PIC 3	59	50	75	75	Yes	Yes
	PIC 4	58	50	76	76	Yes	Yes
	PIC 5	60	50	72	72	Yes	Yes
	PIC 6	60	50	68	68	Yes	Yes
Toluca Estates	TLR 1	55	50	76	76	Yes	Yes
	TLR 2	53	49	71	71	Yes	Yes
	TLR 3	54	48	70	70	Yes	Yes
	TLR 4	53	50	68	68	Yes	Yes
Toluca Lake	TLR 6	52	48	69	69	Yes	Yes
	TLR 8	54	49	69	69	Yes	Yes
	TLR 9	60	50	60	60	No	Yes
Lakeside Golf Club	TLR 5	57	50	77	77	Yes	Yes
	TLR 7	55	50	78	78	Yes	Yes
Burbank	TLR 10	56	50	66	66	Yes	Yes
	TLR 11	58	50	71	71	Yes	Yes
Existing Hotel and Office Towers	URS 1	60	50	82	82	Yes	Yes
	URS 2	60	50	77	77	Yes	Yes
	URS 3	60	50	80	80	Yes	Yes

[a] *Reference numbers correspond to those shown in Figure 93 on page 973.*

Source: Veneklasen Associates, Inc., 2010.

As noted above, noise from Project hauling may result in a significant impact at the Rancho Neighborhood. When the Project and nearby related project developments are under concurrent development, the noise impacts from hauling by these related projects could also cumulatively exceed 5 decibels at the Rancho Neighborhood receptor area. The related projects that would potentially utilize the same roadway segments as the Project for construction hauling are the proposed Metro Universal project and development projects along or adjacent to Forest Lawn Drive. The proposed Metro Universal project may use Lankershim Boulevard for hauling, whereas the proposed project and development projects along or adjacent to Forest Lawn Drive may use Forest Lawn Drive for hauling. The results of the cumulative haul trips noise analysis are presented in Table 73 on page 1029. Since hauling information for the proposed projects along or adjacent to Forest Lawn Drive are not publicly available, and because such projects' haul trips have the potential to occur on the same segment of Forest Lawn Drive as the Project, it was assumed that noise increases with these additional trips could exceed 5 decibels as potential noise level increases at the Rancho Neighborhood are 3.9 decibels from Project-only hauling with mitigation. As such, without the incorporation of mitigation measures, cumulative construction hauling could result in a potentially cumulative significant impact at the Rancho Neighborhood. It is important to note that such significant impact would only occur if hauling from the proposed projects along or adjacent to Forest Lawn Drive was concurrent with the Project's hauling, and if such concurrent hauling resulted in more than 78 haul trips per hour (without the installation of a noise barrier pursuant to Mitigation Measure C-5), or more than 189 trips per hour (with the noise barrier) cumulatively among the projects along Forest Lawn Drive.

b. Operational

(1) On-Site Sources

As noted above, noise from Project operations would not result in a significant impact at any off-site receptor locations. However, when the Project and related project developments are completed, the operational noise of these related projects could cumulatively impact the analyzed receptor areas. The operational activity considered for each related project was heating, ventilation, and air conditioning equipment system noise with emissions of 55 dBA at 50 feet, which is based on the standards set forth in the City Noise Ordinance. Cumulative noise from the related projects including the proposed Metro Universal Project) would raise noise levels at the majority of the receptor site locations above the noise level from Project operational noise alone. However, the noise levels at all of the receptor sites would still fall below the stated thresholds of significance as shown in Table 74 on page 1030. Accordingly, cumulative operational noise would not exceed the established significance criteria and thus the impacts would be less than significant.

Table 73
Cumulative Construction Hauling (Equivalent Sound Level)

Reference [a]	Area	Existing Daytime Hourly Traffic Conditions	Composite Construction (Mixed-Use Residential Area + Universal Studios) & Off-site Construction Scenario			Noise Impact Due to Cumulative Construction (haul trips data for Related Projects along or adjacent to Forest Lawn Drive unavailable)		
			Hauling through Lankershim Only	Hauling through Forest Lawn Only	Hauling Between Lankershim & Forest Lawn	Hauling through Lankershim Only	Hauling though Forest Lawn Only	Hauling Between Lankershim & Forest Lawn
R1	Riverside Dr, West of Vineland	73.7	73.7	73.7	73.7	0.0	0.0	0.0
R2	Vineland Ave and Moorpark St.	71.3	71.3	71.3	71.3	0.0	0.0	0.0
R3	Lankershim, Between Moorpark St and Whipple St	71.9	71.9	71.9	71.9	0.0	0.0	0.0
R4		64.9	64.9	64.9	64.9	0.0	0.0	0.0
R5	Riverside Dr, East of Cahuenga	70.7	70.7	70.7	70.7	0.0	0.0	0.0
R6	Cahuenga, Between 134 and Moorpark St	70.2	70.2	70.2	70.2	0.0	0.0	0.0
R7	Riverside Dr, Between Cahuenga and Forman Ave	71.2	71.2	71.2	71.2	0.0	0.0	0.0
R8	Cahuenga, Between Moorpark St and Lankershim	68.0	68.0	68.0	68.0	0.0	0.0	0.0
R9	Cahuenga, North of Lankershim	68.7	68.7	68.7	68.7	0.0	0.0	0.0
R10	Weddington Park (South)/Island	64.2	64.6	64.2	64.3	0.4	0.0	0.1
R11	Weddington Park (South)/Island	63.8	64.5	63.8	64.4	0.7	0.0	0.6
R12	Weddington Park (South)/Island	64.4	66.1	64.4	65.9	1.7	0.0	1.5
R13	Weddington Park (South)/Island	69.3	69.6	69.3	69.5	0.3	0.0	0.2
R14	Ventura, West of Vineland Ave	59.5	59.5	59.5	59.5	0.0	0.0	0.0
R15	Ventura Blvd at Willow Crest Ave	71.3	71.3	71.3	71.3	0.0	0.0	0.0
R16	Buddy Holly Drive	70.8	70.8	70.8	70.8	0.0	0.0	0.0
R17	Cahuenga Blvd W, West of Universal Center Dr	75.2	75.2	75.2	75.2	0.0	0.0	0.0
R18	Cahuenga Blvd W, East of Universal Center Dr.	74.9	74.9	74.9	74.9	0.0	0.0	0.0
R19	N. Pass Ave, Between W. Olive Ave and Riverside Dr	68.9	68.9	68.9	68.9	0.0	0.0	0.0
R20	W. Olive Ave at Hood Ave	70.7	70.7	70.7	70.7	0.0	0.0	0.0
R21	Barham Blvd at Forest Lawn Dr.	58.2	59.3	59.9	59.7	1.1	1.7	1.5
R22	Barham Blvd at S Coyote Canyon Dr	65.6	65.6	65.6	65.6	0.0	0.0	0.0
R23	Barham Blvd Between S Coyote Canyon Dr and Cahuenga W.	67.1	67.1	67.1	67.1	0.0	0.0	0.0
R24		64.0	64.0	64.0	64.0	0.0	0.0	0.0
R25		72.0	72.0	72.0	72.0	0.0	0.0	0.0
R26	Hollywood Manor (behind hill)	59.6	59.6	59.6	59.6	0.0	0.0	0.0
R27	Barham Blvd, North of Cahuenga E	75.3	75.3	75.3	75.3	0.0	0.0	0.0
R28	Cahuenga Blvd W, East of Barham Blvd	72.8	72.8	72.8	72.8	0.0	0.0	0.0
R29	Cahuenga Blvd W at Mulholland	76.4	76.4	76.4	76.4	0.0	0.0	0.0
R30	Hollywood Manor (affected by N-S Road)	55.0	55.0	55.0	55.0	0.0	0.0	0.0
R31		55.3	55.3	55.3	55.3	0.0	0.0	0.0
R32		57.4	57.4	57.4	57.4	0.0	0.0	0.0
See Figure 95 on page 1003	South Fairview St at West Valleyheart Drive ("Rancho Neighborhood")	51.0	56.4	57.9	57.3	5.4	6.9	6.3

[a] *Reference numbers correspond to those shown on Figure 94 on page 1002.*

Source: Veneklasen Associates, Inc., 2010.

Table 74
Cumulative Operations for Project & Off-site Projects

Community Receptor Location	Location Designation [a]	Significance Threshold		Calculated L_{50}		Exceed Established Criteria?	
		Daytime Criteria, L_{50} (L_{50} = 50 dBA)	Nighttime Criteria, L_{50} (L_{50} = 45 dBA)	Daytime 7 A.M. – 10 P.M.	Nighttime 10 P.M. – 2 A.M.	Daytime 7 A.M. – 10 P.M.	Nighttime 10 P.M. – 2 A.M.
Studio City	HHC 1	59	55	37	35	No	No
Cahuenga Pass	HHC 2	50	45	34	32	No	No
	HHC 3	61	64	38	35	No	No
	HHC 4	55	48	29	26	No	No
	HHC 5	50	45	37	33	No	No
	HHC 6	57	55	39	35	No	No
	HHC 7	53	51	37	33	No	No
	HHC 8	50	47	39	35	No	No
	HHC 9	50	48	43	40	No	No
	HHC 10	51	46	43	40	No	No
	HHC 11	65	64	38	35	No	No
Hollywood Knolls	HKR 1	56	52	34	33	No	No
	HKR 2	50	45	34	33	No	No
	HKR 3	50	45	38	35	No	No
Hollywood Manor	HMR 1	54	56	44	43	No	No
	HMR 2	57	56	47	45	No	No
	HMR 3	50	50	49	45	No	No
	HMR 4	50	46	50	45	No	No
	HMR 5	50	45	50	44	No	No
	HMR 6	50	45	49	44	No	No
	HMR 7	50	45	50	44	No	No
	HMR 8	50	45	50	44	No	No
	HMR 9	63	57	41	40	No	No
	HMR 10	51	49	44	42	No	No
Oakwood Garden Apartments	OGA 1	51	49	38	38	No	No
	OGA 2	58	52	43	41	No	No
	OGA 3	61	54	46	43	No	No
Campo de Cahuenga	PIC 1	58	54	47	47	No	No
Weddington Park (South)/Island	PIC 2	54	55	40	36	No	No
	PIC 3	53	48	37	35	No	No
	PIC 4	50	46	35	33	No	No
	PIC 5	56	54	38	35	No	No
	PIC 6	57	53	38	33	No	No
Toluca Estates	TLR 1	50	47	43	38	No	No
	TLR 2	50	45	42	37	No	No
	TLR 3	50	45	43	37	No	No
	TLR 4	50	46	42	37	No	No
Toluca Lake	TLR 6	50	45	44	38	No	No
	TLR 8	50	45	44	39	No	No
	TLR 9	60	58	37	32	No	No
Lakeside Golf Club	TLR 5	51	51	42	39	No	No
	TLR 7	50	47	45	42	No	No
Burbank	TLR 10	50	45	42	37	No	No
	TLR 11	50	45	43	39	No	No
Existing Hotel and Office Towers	URS 1	60	56	43	42	No	No
	URS 2	66	65	40	32	No	No
	URS 3	59	57	45	43	No	No

[a] *Location Designations correspond to those shown in Figure 93 on page 973.*

Source: Veneklasen Associates, Inc., 2010.

(2) Roadway Sources

The Project development would be completed by year 2030, at which time it is anticipated that the related projects would also have been completed. The anticipated impact onto the receptors due to traffic generated noise from all proposed project development was evaluated. Figure 94 on page 1002 shows the areas of identified sensitive receptors and the identified road segments of the modeling effort. As stated above, based on the City of Los Angeles CEQA Thresholds Guide "a project would normally have a significant impact on noise levels from project operation if the project causes the ambient noise level measured at the property line of an affected use to increase by 3 dBA or more in Community Noise Equivalent Level to or within the 'normally unacceptable' or 'clearly unacceptable' category" or any 5 dBA or greater noise increase".

A traffic noise model of the surrounding community area was constructed using Federal Highway Administration's Traffic Noise Model modeling methods to determine ambient noise increases due to traffic increases at the road segments with the highest anticipated traffic increases. The two scenarios (2030 Conditions with Project and Cumulative Related Traffic; and 2030 Conditions with Project plus Mitigation and Cumulative Related Traffic) include the potential cumulative traffic increases and their effects on ambient noise conditions. The Traffic Noise Model was validated in accordance with the guidance issued in support of the model.

Table 75 on page 1032 shows that all changes in noise from cumulative traffic noise would fall below the 3 decibel threshold, with the majority of the cumulative noise increases ranging from 1-2 decibels, and a maximum of 2.2 decibels. The impacts onto the remaining receptors are less than these levels. Based on these roadway noise levels, the increases in noise from cumulative traffic at all receptor locations would not be noticeable when added to the existing noise levels. Accordingly, because the impact onto all receptor areas does not exceed 3 decibels, cumulative roadway noise impacts are concluded to be less than significant.

5. Mitigation Measures

a. Project Design Features

The following is proposed in addition to the Project Design Features that are set forth in the proposed City and County Specific Plans

Project Design Feature C-1: The Project shall not utilize pile driving machinery as part of its construction equipment mix.

Table 75
Cumulative Project – Noise Impacts for Traffic Noise (Community Noise Equivalent Level)

Reference[a]	Area	Existing Conditions	2030 Without Project	2030 With Project		Cumulative Increase	
				With No Mitigation	With Mitigation	With No Mitigation	With Mitigation
R1	Riverside Dr, West of Vineland	76.7	77.7	77.7	77.8	1.0	1.1
R2	Vineland Ave and Moorpark St.	74.2	75.2	75.3	75.4	1.1	1.2
R3	Lankershim, Between Moorpark St and Whipple St	75.4	76.5	76.8	76.0	1.4	0.6
R4		68.4	69.3	69.5	69.1	1.1	0.7
R5	Riverside Dr, East of Cahuenga	73.2	74.4	74.5	74.5	1.3	1.3
R6	Cahuenga, Between 134 and Moorpark St	73.8	75.0	75.3	75.0	1.5	1.2
R7	Riverside Dr, Between Cahuenga and Forman Ave	73.8	74.9	75.0	75.0	1.2	1.2
R8	Cahuenga, Between Moorpark St and Lankershim	72.0	73.5	73.8	73.5	1.8	1.5
R9	Cahuenga, North of Lankershim	72.8	74.1	74.4	74.0	1.6	1.2
R10	Weddington Park (South) /Island	67.7	68.7	69.0	68.6	1.3	0.9
R11	Weddington Park (South) /Island	67.2	67.9	68.1	68.0	0.9	0.8
R12	Weddington Park (South) /Island	67.9	68.9	69.3	69.0	1.4	1.1
R13	Weddington Park (South) /Island	72.7	73.0	73.2	73.4	0.5	0.7
R14	Ventura, West of Vineland Ave	62.2	63.1	63.4	63.2	1.2	1.0
R15	Ventura Blvd at Willow Crest Ave	74.3	74.9	74.9	75.1	0.6	0.8
R16	Buddy Holly Drive	73.8	74.3	74.3	74.5	0.5	0.7
R17	Cahuenga Blvd W, West of Universal Center Dr	78.3	78.9	78.9	79.1	0.6	0.8
R18	Cahuenga Blvd W, East of Universal Center Dr.	78.8	79.2	79.3	79.4	0.5	0.6
R19	N. Pass Ave, Between W. Olive Ave and Riverside Dr	71.1	73.0	73.2	73.2	2.1	2.1
R20	W. Olive Ave at Hood Ave	72.6	74.6	74.8	74.8	2.2	2.2
R21	Barham Blvd at Forest Lawn Dr.	61.2	62.6	63.0	62.9	1.8	1.7
R22	Barham Blvd at S Coyote Canyon Dr	68.6	69.4	69.7	69.8	1.1	1.2
R23	Barham Blvd Between S Coyote Canyon Dr and Cahuenga W.	70.1	71.0	71.3	71.3	1.2	1.2
R24		67.0	67.9	68.2	68.1	1.2	1.1
R25		75.0	75.7	76.1	76.1	1.1	1.1
R26	Hollywood Manor (behind hill)	62.9	63.6	64.2	64.3	1.3	1.4
R27	Barham Blvd, North of Cahuenga E	78.6	79.2	79.5	79.5	0.9	0.9
R28	Cahuenga Blvd W, East of Barham Blvd	76.5	77.2	77.2	77.3	0.7	0.8
R29	Cahuenga Blvd W at Mulholland	80.3	80.8	80.9	81.0	0.6	0.7
R30	Hollywood Manor (affected by N-S Road)	58.0	58.9	59.2	59.1	1.2	1.1
R31		58.4	59.7	59.7	59.7	1.3	1.3
R32		60.7	61.3	62.3	62.2	1.6	1.5

[a] *Locations that have higher noise levels with mitigation result from the rerouting of traffic.*
[b] *Reference numbers correspond to those shown in Figure 94 on page 1002.*

Source: Veneklasen Associates, Inc., 2010.

b. Mitigation Measures

As discussed above, Project operations and associated traffic noise would result in less than significant noise impacts. Thus, no mitigation measures are required for Project operations. However, based on the thresholds of significance established above, construction in the Studio, Entertainment, and Business Areas may result in significant impacts within all receptor locations during the daytime hours except for one location within the Cahuenga Pass area (HHC 4) and one location within the Hollywood Knolls area (HKR 2). For nighttime hours, based on the thresholds of significance established above, construction in the Studio, Entertainment, and Business Areas may result in significant impacts within all of the receptor locations.

Similarly, if construction grading in the Mixed-Use Residential Area was completed in a single phase, it would result in a significant noise impact at the Cahuenga Pass, Hollywood Knolls, Hollywood Manor, Oakwood Garden Apartments, Toluca Estates, Toluca Lake, Lakeside Golf Club, Burbank, and Existing Hotel and Office Towers receptors area during either the daytime or nighttime construction hours. If the construction grading in the Mixed-Use Residential Area is completed in three phases, sensitive receptor areas that would experience significant impacts include residential locations in the Hollywood Manor area, and locations within the Oakwood Garden Apartments. Impacts would also take place at certain locations within the other receptor areas to varying degrees, including the Toluca Lake, Toluca Estates, Lakeside Golf Club, Cahuenga Pass, Hollywood Knolls, Existing Hotel and Office Towers and Burbank receptor areas. Thus, as the proposed Project could result in significant construction noise impacts, the following mitigation measures are proposed:

(1) On-Site Construction

Mitigation Measure C-1: When Project construction staging occurs within 500 feet of an occupied residential structure that is located outside of the combined boundaries of the Universal Studios Specific Plan and the Universal City Specific Plan, the contractor shall:

- Locate stationary construction equipment away from the occupied residential structure or install temporary acoustic barriers around stationary construction noise sources; and
- Shut off construction equipment that is not in use.

Mitigation Measure C-2: Project construction or grading activity shall be permitted during the following times:

- Monday through Friday (non-legal Holidays) between 7:00 A.M. and 7:00 P.M.

- Saturdays between 8:00 A.M. and 6:00 P.M.

Exceptions

Notwithstanding the above permitted times, the following construction activities may occur between 7:00 P.M. and 7:00 A.M. Monday through Friday (non-legal holidays), between 6:00 P.M. and 8:00 A.M. on Saturdays, and on Sundays and legal Holidays.

- Construction activities conducted within an enclosed structure that either: (1) do not result in an audible sound outside of the combined boundaries of the proposed Universal Studios Specific Plan and the proposed Universal City Specific Plan; or (2) are located more than 400 feet from an occupied residential structure that is located outside of the combined boundaries of the proposed Universal Studios Specific Plan and the proposed Universal City Specific Plan.

- Those construction activities which must occur during otherwise prohibited hours due to restrictions imposed by a public agency.

- Roofing activities in the Studio, Entertainment, and Business Areas which cannot be conducted during daytime hours due to weather conditions, provided at least 72 hour advance written notice is submitted to the County Department of Public Works or City Building and Safety Department, as appropriate to jurisdiction.

- Emergency repairs, such as repairs to damaged utility infrastructure.

- Project construction activities which cannot be interrupted (e.g., continuous concrete pours and other activities which affect health and safety as approved by the County Department of Public Works or City Building and Safety Department, as appropriate to jurisdiction).

(2) On-Site Vibration

Mitigation Measure C-3: When Project construction in the Mixed-Use Residential Area occurs on the southern portion of the proposed grading area as shown in Figure 96 on page 1014:

- All construction equipment, with the exception of small bulldozers and loading trucks or equivalent construction equipment with a peak particle velocity in the range of 0.003 to 0.076 inches/ second, shall operate no closer than 30 feet from the property line adjacent to the Hollywood Manor receptor area.
- All loading trucks shall operate no closer than 15 feet from the property line.

(3) Off-Site Haul Truck Travel

Mitigation Measure C-4: In the event that during Project construction, there is hauling that results in more than 78 haul trips per hour along Forest Lawn Drive, the Applicant or its successor shall monitor whether if such hauling results in increases of noise greater than 5 decibels above ambient within the Rancho Neighborhood in the City of Burbank. If noise increases generated by the construction hauling along Forest Lawn Drive exceed 5 decibel above ambient, the Applicant or its successor shall implement:

- The installation of a noise barrier along the north end of Forest Lawn Drive. The barrier shall extend approximately 0.4 mile along Forest Lawn Drive across from the Rancho Neighborhood. The barrier may consist of plywood panels (fifteen feet in height) and each panel shall overlap each end by 4 inches.

- The Applicant or its successor shall post notices on the temporary noise barrier adjacent to the north side of Forest Lawn Drive that no unauthorized materials (such as graffiti or posters) may be posted on the temporary barrier and shall visually inspect and remove graffiti and/or unauthorized posters from the temporary barrier within 24 hours, as necessary.

Mitigation Measure C-5: In the event that there are concurrent cumulative hauling activities from the Project and related projects along or adjacent to Forest Lawn Drive that result in 78 haul trips per hour (without the installation of a noise barrier pursuant to Mitigation Measure C-4), or more than 189 haul trips per hour along Forest Lawn Drive (with the noise barrier), the Applicant or its successor shall monitor whether such hauling results in increases of noise greater than 5 decibels above ambient within the Rancho Neighborhood in the City of Burbank. If noise increases generated by the concurrent hauling along Forest Lawn Drive exceeds 5 decibels above ambient, the Applicant or its successor shall install or contribute to the installation of: (a) a sound wall consistent with Mitigation Measure C-4 if one was not previously installed for Project hauling; or (b) a modification

to the sound wall in Mitigation Measure C-4, consistent with the recommendation of the noise monitoring report, in order to reduce the noise increase to less than 5 decibels above ambient.

6. Level of Significance After Mitigation

a. Conclusion

Although Project operations and traffic associated with the proposed Project would result in less than significant noise impacts onto area sensitive receptors, on-site construction activities have the potential to result in significant impacts during daytime and nighttime hours. The mitigation measures recommended in this section would reduce the daytime noise levels associated with grading and construction activities attributable to the Project to some extent. However, depending on the receptor and ambient noise levels at the time of construction these activities could continue to increase the daytime noise levels at nearby noise-sensitive uses above the established threshold. This would be considered a significant and unavoidable short-term impact when grading and construction activities associated with the Project occur near noise sensitive uses.

Mitigation measures proposed for nighttime construction would reduce impacts to a less than significant level, except when exterior nighttime construction as allowed by the Exceptions noted in Mitigation Measures C-2 occurs. As these limited types of nighttime construction activities would have the potential to exceed the established significance thresholds, a significant impact could occur. It is important to note that while a significant impact would result under these circumstances, the likelihood that these circumstances would actually occur are limited, and when they do occur, the extent of this significant impact would be limited in duration.

Implementation of Mitigation Measure C-4 above, requires a temporary noise barrier to be placed adjacent to the north side of Forest Lawn Drive should Project-related hauling result in more than 78 haul trips per hour and an increase of noise greater than 5 decibels at the Rancho Neighborhood. The temporary barrier would be located adjacent to the north side of Forest Lawn Drive across the Los Angeles Flood Control from the Rancho Neighborhood receptor area. The temporary barrier would be approximately 0.4 miles long and fifteen feet in height, and would be constructed of overlapping plywood panels. By screening (e.g., eliminating the line-of-sight path of) the perceived construction hauling noise, the noise would be attenuated due to transmission and insertion loss. Transmission loss is the attenuation of noise as it travels across the barrier, and insertion loss is the reduction of noise as it travels an additional distance around and over the barrier. Based on modeling, the barrier would result in a 3 decibel decrease in noise from hauling experienced at the Rancho Neighborhood. This 3 decibel decrease takes into consideration the proposed barrier, the height of the haul trucks and the distance between

the noise source and barrier. With such mitigation measure and accompanying reduction in noise, noise from Project-related hauling would be reduced to below the 5 decibels threshold along Forest Lawn Drive.

Further, the potential exists for cumulative impacts related to noise from hauling. As described above, in the event that there are concurrent hauling activities from the Project and related projects along or adjacent to Forest Lawn Drive that result in 78 haul trips per hour (without the installation of a noise barrier pursuant to Mitigation Measure C-4), or more than 189 haul trips per hour along Forest Lawn Drive (with the noise barrier), the Applicant or its successor shall monitor whether such hauling results in increases of noise greater than 5 decibels above ambient within the Rancho Neighborhood in the City of Burbank. If noise increases generated by the concurrent hauling along Forest Lawn Drive exceeds 5 decibels above ambient, the Applicant or its successor shall install or contribute to the installation of: (a) a sound-wall-consistent with Mitigation Measure C-4 if one was not previously installed for Project hauling; or (b) a modification to the sound wall in Mitigation Measure C-4, consistent with the recommendation of the noise monitoring report, in order to reduce the noise increase to less than 5 decibels above ambient. The placement of this temporary noise barrier, while reducing noise during construction hauling, may also result in secondary impacts.

b. Impacts from Off-Site Mitigation Measure

It is anticipated that given the nature of the noise barrier, potential secondary impacts would be limited to those related to visual resources. Potential impacts with regard to other environmental issue areas are not anticipated.

The portion of Forest Lawn Drive where the temporary barrier could be located is designated as a Major Scenic Highway II in the City's General Plan Transportation Element for its views when traveling east, which are towards Griffith Park and are framed by the Santa Monica Mountains to the south. While the temporary barrier would be visible to motorists traveling east along Forest Lawn Drive, given its temporary nature and limited height, the barrier would not obstruct views towards Griffith Park or of the Santa Monica Mountains to the south. Thus, the temporary barrier would result in a less than significant impact with regard to Forest Lawn Drive's designation as a Major Scenic Highway II.

No sensitive viewers are located south of the Forest Lawn Drive segment where the temporary barrier would be located. As such, the only views of the temporary barrier from a sensitive receptor would occur from the residential properties in the Rancho Neighborhood, located north of the Los Angeles River Flood Control Channel. From these residences, the temporary barrier would only be visible to those properties on the southern perimeter of the neighborhood, as the neighborhood is topographically flat and views from

other residences would be obstructed by the residences on the southern perimeter. Further, the view of the temporary barrier would be limited from the properties on the southern perimeter as well since: (a) the temporary barrier would be located at least 225 to 250 feet south of these properties; (b) views of the temporary barrier would be obstructed by vegetation and landscaping located within the backyards of these residences and along the north side of the Los Angeles River Flood Control Channel; and (c) the temporary barrier would be separated from the residences by the Los Angeles River Flood Control Channel. Thus, the temporary barrier would result in a less than significant visual impact to the residential properties in the Rancho Neighborhood.

In the Los Angeles metropolitan area, temporary and permanent barriers can become the target of graffiti and other unattractive visual features (e.g., posters) if not properly monitored. As graffiti and posters are viewed as visually undesirable, the temporary barrier could result in a potentially significant impact with regard to visual resources. Nonetheless, Mitigation Measure C-4 would require that the Applicant or its successor inspect and remove undesirable visual features on the temporary barrier, which would reduce any potential impacts to a less than significant level.