IV. ENVIRONMENTAL IMPACT ANALYSIS
G. NOISE

ENVIRONMENTAL SETTING

Fundamentals of Sound and Environmental Noise

Sound is technically described in terms of amplitude (loudness) and frequency (pitch). The standard unit of sound amplitude measurement is the decibel (dB) which is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound. The pitch of the sound is related to the frequency of the pressure vibration. Since the human ear is not equally sensitive to a given sound level at all frequencies, the A-weighted decibel scale (dBA) has been devised to relate noise to human sensitivity. Noise, on the other hand, is typically defined as unwanted sound. Noise environments consist of a base of steady ambient noise composed of many distant and indistinguishable noise sources, with individual local sources superimposed on this background noise. Table IV.G-1 illustrates representative environmental noise levels, with examples of common activities that reach these noise levels.

Table IV.G-1
Representative Environmental Noise Levels

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

Source: California Department of Transportation, 1998.

Several rating scales have been developed to analyze the adverse effect of community noise on people. Because environmental noise fluctuates over time, these scales consider that the effect of noise upon people is largely dependent upon the total acoustical energy content of the noise, as well as the time of day when the noise occurs. The L_{eq} is a measure of ambient noise, while the L_{dn} and Community Noise Equivalent Level (CNEL) are measures of community noise. Each is applicable to this analysis and defined as follows:

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

- L_{dn}, the Day-Night Average Level, is a 24-hour average L_{eq} with a 10 dBA "weighting" added to noise during the hours of 10:00 P.M. to 7:00 A.M. to account for noise sensitivity in the nighttime. The logarithmic effect of these additions is that a 60 dBA 24 hour L_{eq} would result in a measurement of 66.4 dBA L_{dn}.

- CNEL is a 24-hour average L_{eq} with a 5 dBA "weighting" during the hours of 7:00 P.M. to 10:00 P.M. and a 10 dBA "weighting" added to noise during the hours of 10:00 P.M. to 7:00 A.M. to account for noise sensitivity in the evening and nighttime, respectively. The logarithmic effect of these additions is that a 60 dBA 24 hour L_{eq} would result in a measurement of 66.7 dBA CNEL.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day, night, or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60 to 70 dBA range, and high above 70 dBA. Noise levels greater than 85 dBA can cause temporary or permanent hearing loss. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet suburban residential streets with noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate level noise environments are urban residential or semi-commercial areas (typically 55–60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with more noisy urban residential or residential-commercial areas (60–75 dBA) or dense urban or industrial areas (65–80 dBA).

When evaluating changes in 24-hour community noise levels, a difference of 3 dBA is a barely perceptible increase to most people. A 5 dBA increase is readily noticeable, while a difference of 10 dBA would be perceived as a doubling of loudness.

Noise levels from a particular source decline as distance to the receptor increases. Other factors, such as the weather and reflecting or shielding, also help intensify or reduce the noise level at any given location. A commonly used rule of thumb for roadway noise is that for every doubling of distance from the source, the noise level is reduced by about 3 dBA at acoustically "hard" locations (i.e., the area between the noise

source and the receptor is nearly complete asphalt, concrete, hard-packed soil, or other solid materials) and 4.5 dBA at acoustically "soft" locations (i.e., the area between the source and receptor is earth or has vegetation, including grass). Noise from stationary or point sources is reduced by about 6 to 7.5 dBA for every doubling of distance at acoustically hard and soft locations, respectively. Noise levels may also be reduced by intervening structures; generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm reduces noise levels by 5 to 10 dBA. The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows. The exterior-to-interior reduction of newer homes is generally 30 dBA or more.

Fundamentals of Environmental Groundborne Vibration

Vibration is sound radiated through the ground. The rumbling sound caused by the vibration of room surfaces is called groundborne noise. The ground motion caused by vibration is measured as particle velocity in inches per second and, in the U.S., is referenced as vibration decibels (VdB).

The background vibration velocity level in residential and educational areas is usually around 50 VdB. The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people. Most perceptible indoor vibration is caused by sources within buildings, such as operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration from traffic is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. The general human response to different levels of groundborne vibration velocity levels is described in Table IV.G-2.

Table IV.G-2
Human Response to Different Levels of Groundborne Vibration

Vibration Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception for many people.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.

Source: Harris Miller Miller Hanson, Transit Noise and Vibration Impact Assessment, May 2006.

Regulatory Framework

Federal

The City of Los Angeles has not adopted any thresholds for groundborne vibration impacts. Therefore, this analysis uses the Federal Railway Administration's (FRA) vibration impact thresholds during construction and operation for sensitive buildings. The FRA has developed vibration impact thresholds for noise-sensitive buildings, residences, and institutional land uses. These thresholds are 80 VdB at residences and buildings where people normally sleep (e.g., nearby residences and daycare facility) and 83 VdB at institutional buildings (e.g., schools and churches). These thresholds apply to conditions where there are an infrequent number of events per day.[1]

State

There are no State regulations applicable to the Master Plan.

Local

City of Los Angeles

The City of Los Angeles is the local agency responsible for adopting and implementing policies as they relate to noise levels and its effect on land uses within its jurisdiction. Both acceptable and unacceptable noise levels associated with construction activities, roadway noise levels and ambient noise levels must all be defined and quantified. The City of Los Angeles has numerous ordinances and enforcement practices that apply to intrusive noise as well as ones that guide new construction. The City's comprehensive noise ordinance, found in the City of Los Angeles Municipal Code (LAMC) Section 111 et seq., sets forth sound measurement and criteria, maximum ambient noise levels for different land use zoning classifications, sound emission levels for specific uses, hours of operation for certain uses, standards for determining when noise is deemed to be a disturbance to the peace, and legal remedies for violations. The standards are correlated with land use zoning classifications in order to maintain identified ambient noise levels and to limit, mitigate, or eliminate intrusive noise that exceeds the ambient noise levels within a specified zone. Table IV.G-3 lists the noise/land use compatibility guidelines for land uses within the City of Los Angeles.

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

[1] *"Infrequent events" is defined by the Federal Railroad Administration as being fewer than 70 vibration events per day.*

levels above 70 dB CNEL are normally unacceptable for sensitive receptors except in unusual circumstances.

Table IV.G-3
Community Noise Exposure (CNEL)

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

[a] *Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.*

[b] *Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.*

[c] *Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.*

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

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

Existing Ambient Daytime Noise Levels

The Bundy Campus and surrounding area are characterized by urban development consisting of aviation-related, commercial, and residential land uses. Two existing structures currently occupy the Bundy Campus: the occupied and recently renovated four-story West Building located in the center of the site, and the vacant two-story East Building located on the east side of the site fronting Bundy Drive. The remainder of the site consists of surface parking with approximately 609 parking spaces.

Land uses surrounding the Bundy Campus include single-family residences located to the east across Bundy Drive, single-family residences located to the west beyond Stewart Avenue, and single-family residences located to the south along Stanwood Place. Commercial/industrial uses and surface parking associated with the Santa Monica Airport are located immediately north of the Bundy Campus, fronting

Airport Avenue. On the northern side of Airport Avenue, south of Donald Douglas Loop South, is the City of Santa Monica's Airport Park site, which is currently under construction. The Santa Monica Airport is located adjacent to this construction site, north and west of Donald Douglas Loop South. The primary sources of noise at, and around the Bundy Campus, currently consist of vehicular traffic on the surrounding roadways, and ascending and descending aircraft at the Santa Monica Airport.

To establish baseline noise conditions within the vicinity of the Bundy Campus, existing daytime noise levels were documented by taking noise measurements at five study intersections (i.e., "receptor locations"), as identified in Figure IV.G-1.[2] The noise survey was conducted using the Larson-Davis 820 precision noise meter, which meets and exceeds the minimum industry standard performance requirements for "Type 1" standard instruments as defined in the American National Standard Institute (ANSI) S1.4. Furthermore, this noise meter meets and exceeds the requirement specified in Section 111.01(l) of the LAMC that the instruments be "Type S2A" standard instruments or better. This instrument was calibrated and operated according to the manufacturer's written specifications.

Since noise in the project area is largely due to traffic, receptor locations were placed directly adjacent to major roadways in the vicinity. This represents a "worst case scenario," since noise levels at these locations are likely to be the loudest contributors to the surrounding ambient noise environment. Noise Receptor Locations 1 and 2 are located near the eastern portion of the Bundy Campus, along Bundy Drive. Noise Receptor Locations 3 and 5 are located near the western portion of the Bundy Campus, along Stewart Street and Airport Avenue, respectively. Noise Receptor Location 4 is located approximately 0.75 mile west of the Bundy Campus, at the intersection of Walgrove Avenue/23rd Street and Airport Avenue.

At each Noise Receptor Location, the noise meter was placed on a tripod approximately five to ten feet from the roadway curb, and measurements were taken at 15-minute intervals, in accordance with Section 111.01(a) of the LAMC. Measurements were taken between 7:48 a.m. and 9:23 a.m., to record the ambient noise levels during the a.m. peak hour commute period. The noise measurements were conducted and completed on a single day: Thursday, December 15, 2005.

As shown in Table IV.G-4, noise levels at the Receptor Locations range from 59.0 dBA L_{eq} at the southwestern portion of the Bundy Campus along Stewart Street (Location 3) to 74.0 dBA L_{eq} at the southwestern corner of Airport Avenue and Bundy Drive (Location 2). The loudest L_{eq} values were recorded along Bundy Drive, at Receptor Locations 1 and 2.

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[2] *In addition to the daytime noise measurements at the five study intersections, nighttime measurements were also conducted at a residential property located along Stanwood Drive, adjacent to the southern boundary of the Bundy Campus, to capture the noise levels from vehicles entering and departing the Bundy Campus during the evening hours.*

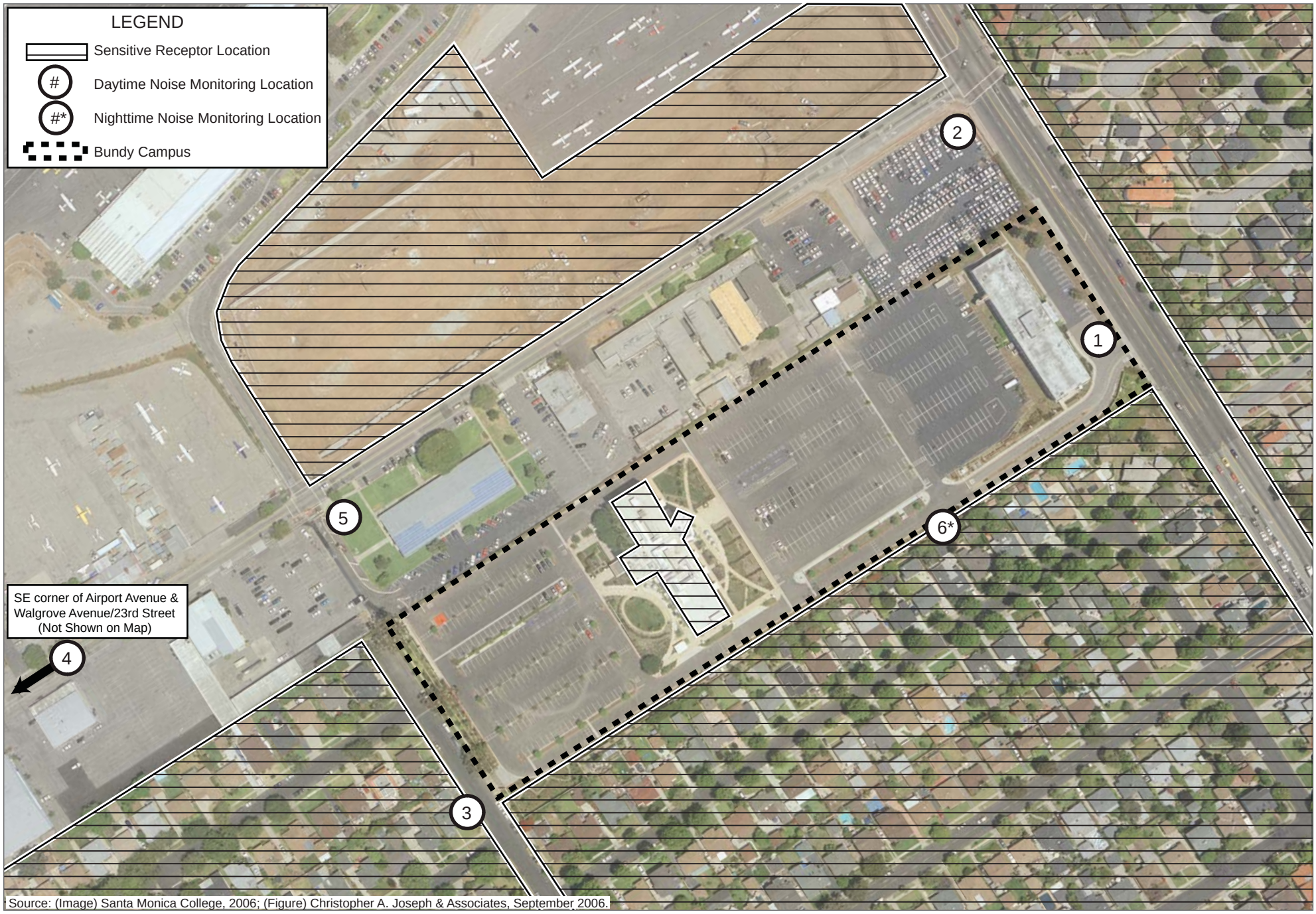
Table IV.G-4
Existing Ambient Daytime Noise Levels in the Vicinity of the Bundy Campus [a]

Receptor Location	Noise Measurement Location	Primary Noise Source	Start/Stop Times	Noise Level Statistics		
				L_{eq}	L_{min}	L_{max}
1	Driveway into Bundy Campus from Bundy Drive	Traffic on Bundy Drive	7:48 a.m. – 8:03 a.m.	73.0	53.9	82.1
2	SW corner of Airport Ave. & Bundy Drive	Traffic on Bundy Drive	8:05 a.m. – 8:20 a.m.	74.0	58.9	85.0
3	Residential use along Stewart Ave. across from Bundy Campus gated access	Leaf blower and lawn mower operating nearby; vehicles on Stewart Ave.	8:28 a.m. – 8:43 a.m.	59.0	50.4	74.0
4	SE corner of Airport Ave. & Walgrove Ave./23rd Street	Traffic on Airport Ave. & Walgrove Ave./23rd Street	8:49 a.m. – 9:04 a.m.	70.1	57.8	85.1
5	SE corner of Airport Ave. & Donald Douglas Loop South	Construction vehicle operating at NE corner of Airport Ave. & Donald Douglas Loop South	9:23 a.m. – 9:38 a.m.	71.8	59.7	80.0

[a] *Noise measurements were taken on December 15, 2005 at each Receptor Location for a duration of 15 minutes.*
Source: Christopher A. Joseph and Associates, December 2005.

Existing Ambient Nighttime Noise Levels

In addition to the 15-minute daytime noise measurements shown in Table IV.G-4, nighttime noise measurements were also taken at a residential property located along Stanwood Place that is adjacent to the Bundy Campus' southern boundary (i.e., Receptor Location 6). A total of three noise measurements were taken in the backyard of this residential property during the evening to capture the noise levels from vehicles entering and departing the Bundy Campus through the driveway which runs along the south side of the campus. At Receptor Location 6, the noise meter was placed on a tripod next to the residential structure located approximately 27 feet from the driveway on the Bundy Campus. Currently, all of the residential uses located adjacent to the Bundy Campus' southern boundary have their line-of-sight of the driveway shielded by a 10-foot high soundwall. Furthermore, south of the 10-foot soundwall, the residential properties along Stanwood Place also have an approximately six-foot-high wall in their backyards.



Source: (Image) Santa Monica College, 2006; (Figure) Christopher A. Joseph & Associates, September 2006.

CHRISTOPHER A. JOSEPH & ASSOCIATES
Environmental Planning and Research

NORTH
Not to Scale

Figure IV.G-1
Noise Sensitive Receptor and Monitoring Location Map

Measurements at this Receptor Location 6 were taken at 6:04 p.m., to record the ambient noise levels during the p.m. peak hour commute period, and at 9:00 p.m. and 9:17 p.m., to record the ambient noise levels during the time when students enrolled in night classes begin departing the campus. The 6:04 p.m. noise measurement was conducted on Tuesday, December 12, 2005, and the 9:00 p.m. and 9:17 p.m. noise measurements were conducted on Wednesday, December 13, 2005. These noise measurements are shown in Table IV.G-5.

Table IV.G-5
Existing Ambient Nighttime Noise Levels at Off-site Residential Use

Receptor Location	Noise Measurement Location	Primary Noise Source	Date	Start/Stop Times [a]	Noise Level Statistics		
					L_{eq}	L_{min}	L_{max}
6	Backyard of residential property on Stanwood Place located adjacent to Bundy Campus' southern boundary.	Helicopters overhead; propeller planes taking off	12/12/05	6:04 p.m. – 6:19 p.m.	57.6	47.0	76.9
		Ambient traffic and aircraft overhead	12/13/05	9:00 p.m. – 9:15 p.m.	50.3	42.1	59.2
		Aircraft idling	12/13/05	9:17 p.m. – 9:32 p.m.	51.6	44.4	63.3

[a] *Noise measurements were taken for a duration of 15 minutes each.*
Source: Christopher A Joseph and Associates, December 2005.

As shown in Table IV.G-5, nighttime noise levels at Receptor Location 6 range from 51.6 dBA L_{eq} during the late evening to 57.6 dBA L_{eq} during the early evening. All three nighttime noise measurements fall within the "Normally Acceptable" range for single-family residential uses (see Table IV.G-3). The results of the noise measurements indicate that the existing noise environment at the residential uses located along Stanwood Place, adjacent to the Bundy Campus' southern boundary, is considered to be satisfactory according to the City's noise standards. Furthermore, as indicated in Table IV.G-5, the primary sources of noise during the evening at the residential property are associated with overhead aircraft rather than vehicles entering and departing the Bundy Campus.

Existing Groundborne Vibration Levels

Aside from seismic events, the greatest regular source of groundborne vibration at the Bundy Campus and immediate vicinity is from roadway truck and bus traffic. These trucks and buses typically generate

groundborne vibration velocity levels of approximately 63 VdB. These levels could reach approximately 72 VdB where trucks and buses pass over bumps in the road.[3]

ENVIRONMENTAL IMPACTS

Methodology

Implementation of the Master Plan could result in the introduction of noise levels that may exceed permitted City noise levels. The primary sources of noise associated with the Master Plan would be construction activities at the Bundy Campus and project-related traffic volumes associated with operation of the proposed development. Secondary sources of noise would include new stationary sources (such as heating, ventilation, and air conditioning units) and increased human activity throughout the Bundy Campus. The net increase in Bundy Campus noise levels generated by these activities and other sources have been quantitatively estimated and compared to the applicable noise standards and thresholds of significance.

Aside from noise levels, groundborne vibration would also be generated during the construction phase of the Master Plan by various construction equipment. Thus, the groundborne vibration levels generated by these sources have also been quantitatively estimated and compared to applicable thresholds of significance.

Construction Noise Levels

Construction noise levels were estimated by data published by the U.S. Environmental Protection Agency (USEPA). Potential noise levels are identified for offsite locations that are sensitive to noise, including existing residences.

Roadway Noise Levels

Roadway noise levels have been calculated for selected study intersection locations around the Bundy Campus. The noise levels were calculated using the sound pressure level (SPL) equations from the California Department of Transportation's (Caltrans) *Technical Noise Supplement (TeNS)* and traffic volumes from the project traffic analysis.

Groundborne Vibration Associated with Construction Equipment and Existing Railways

Groundborne vibration levels resulting from construction activities occurring within the Bundy Campus were estimated by data published by Harris Miller Miller & Hanson Inc. for the Federal Transit Administration. Potential vibration levels resulting from construction under the Master Plan are identified for offsite locations that are sensitive to vibration, including existing residences.

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[3] *Harris Miller Miller Hanson, Transit Noise and Vibration Impact Assessment, May 2006.*

Thresholds of Significance

In accordance with Appendix G to the State CEQA Guidelines, a significant noise impact may occur if the Master Plan would result in any of the following conditions:

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

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

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

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

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

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

As discussed in the Initial Study that was prepared for the Notice of Preparation (see Appendix A to this Draft EIR), the Master Plan would have no impact with respect to Threshold (f) listed above. As such, no further analysis of this topic is required (see also Section IV.A of this Draft EIR).

The State CEQA Guidelines do not define the levels at which groundborne vibration or groundborne noises are considered "excessive." This analysis uses the FRA's vibration impact thresholds for sensitive buildings, residences, and institutional land uses under conditions where there are an infrequent number of events per day. These thresholds are 65 VdB at buildings where vibration would interfere with interior operations, 80 VdB at residences and buildings where people normally sleep and 83 VdB at other institutional buildings.[4]

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

[4] *United States Department of Transportation. Federal Railroad Administration, High-Speed Ground Transportation Noise and Vibration Impact Assessment, December 1998.*

compared to the City of Los Angeles' Draft L.A. CEQA Thresholds Guide,[5] which 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.

Section 112.05 of the LAMC 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 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 LAMC). Technically infeasible means that the above noise limitation cannot be complied with despite the use of mufflers, shields, sound barriers and/or any other noise reduction device or techniques during the operation of equipment. An inability to reduce construction equipment noise exposure to 75 dBA or less at any offsite, noise-sensitive use would be considered a significant temporary noise impact.

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

A project would normally have a significant impact on noise levels from project operations if the project causes the ambient noise level measured at the property line of affected uses to increase by 3 dBA in CNEL to or within the "normally unacceptable" of "clearly unacceptable" category, or any 5 dBA or greater noise increase (see Table IV.H-5).

Project Characteristics

Interim Phase

As discussed in Section II (Project Description), the Interim Phase of the Master Plan would involve expanded use of the four-story West Building from 16 to up to 20 classrooms and potential use of the existing two-story East Building for offices, student services, community education, storage or leased for other purposes consistent with current zoning. The Interim Phase would provide a new Northeast Bundy Driveway to accommodate the new traffic signal at the northeast corner of the campus, with a new internal drive that would turn sharply to the south upon entering the Bundy Campus and connect to the

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

existing drive along the south side of the campus. Fourteen onsite parking spaces near Bundy Drive would be eliminated to accommodate the Northeast Bundy Driveway, with 594 parking spaces remaining. Because the Interim Phase would involve the same uses that would ultimately occur under Master Plan buildout, it is assumed that impacts that would occur in the Interim Phase would be less than or equal to those evaluated for Master Plan buildout. As such, the Interim Phase is not discussed in detail in this Section.

Master Plan Buildout

The proposed Bundy Campus Master Plan (Master Plan) is a long-range planning document that establishes a legal framework to guide the future operation and development envisioned for the Bundy Campus. The Master Plan calls for: (1) demolition of the existing two-story, 33,055-square-foot East Building with possible interim uses pending demolition; (2) construction of a two-story New Building of similar size (approximately 38,205 square feet) to replace the East Building and to be located closer to the center of the campus and immediately east of the existing four-story West Building; (3) provision of approximately 780 on-site parking spaces total (including approximately 550 surface parking spaces and approximately 230 subterranean parking spaces); (4) access improvements including provision of a new driveway to accommodate LADOT's new traffic signal at the northeast corner of the campus; (5) provision of a pedestrian parkway along Bundy Drive; (6) landscaping/open space elements; (7) continued use of the four-story West Building; and (8) other miscellaneous general site improvements. As a long-range master planning document, the Master Plan is intended to guide the programmatic, architectural, and development planning activities for the Bundy Campus over the next 10 years, with the actual construction of the building component anticipated to commence within five years after the adoption of the Master Plan.

Project Impacts

Construction Noise

The use of heavy equipment would be required at the Bundy Campus for demolition, site grading and excavation, installation of utilities, paving, and building fabrication. Development activities would also involve the use of smaller power tools, generators, and other sources of noise. During each stage of development, there would be a different mix of equipment operating and noise levels would vary based on the amount of equipment in operation and the location of the activity. The haul route that would be used by haul and delivery trucks during demolition and construction at the Bundy Campus would be northbound from the Bundy Campus along Bundy Drive to the I-10 Freeway.

The USEPA has compiled data regarding the noise generating characteristics of typical construction activities. These data are presented in IV.G-6. These noise levels would diminish rapidly with distance from the construction site at a rate of approximately 6 dBA per doubling of distance. For example, a noise level of 84 dBA L_{eq} measured at 50 feet from the noise source to the receptor would reduce to 78 dBA L_{eq} at 100 feet from the source to the receptor, and reduce by another 6 dBA L_{eq} to 72 dBA L_{eq} at 200 feet from the source to the receptor.

Table IV.G-6
Typical Outdoor Construction Noise Levels

Construction Phase	Noise Levels at 50 Feet with Mufflers (dBA L_{eq})	Noise Levels at 60 Feet with Mufflers (dBA L_{eq})	Noise Levels at 100 Feet with Mufflers (dBA L_{eq})	Noise Levels at 200 Feet with Mufflers (dBA L_{eq})
Ground Clearing	82	80	76	70
Excavation, Grading	86	84	80	74
Foundations	77	75	71	65
Structural	83	81	77	71
Finishing	86	84	80	74

Source: U.S. Environmental Protection Agency, 1971.

Three basic types of activities are expected to occur and generate construction-related noise at the Bundy Campus as a result of implementation of the Master Plan. The first activity would involve the demolition of the existing two-story, 35,055-square-foot East Building. Overall, a total of 4,278 cubic yards of demolition debris haul off would result during this stage. The second activity would involve the preparation, excavation, and grading of the portion of the Bundy Campus designated to accommodate the building foundation for the new two-story building. An estimated 51,000 cubic yards of soil would be exported from the Bundy Campus during this stage. The third activity that would generate noise during construction would involve the physical construction and finishing of the new two-story building.

Under the Master Plan, the greatest construction-related noise levels would be generated during the demolition of the existing two-story 33,055 square foot East Building and construction of the two-story New Building of similar size. Thus, the noise levels generated during these construction activities at the Bundy Campus are analyzed for the purpose of providing a "worst-case" analysis for impacts associated with construction noise.

Demolition

The nearest noise-sensitive receptors located offsite that would be affected by construction-related noise levels generated during demolition of the existing two-story East Building are the residential uses located to the east, across Bundy Drive, and to the south, adjacent to the Bundy Campus (see Figure IV.G-1). The existing four-story West Building located onsite would also be a noise-sensitive receptor during demolition of the existing East Building. Although the noise generating characteristics of typical construction activities shown in Table IV.G-6 do not include demolition, it is assumed for the purpose of analysis that noise levels could reach as high as 86 dBA L_{eq} at 50 feet from the source, which is the average noise level designated for excavation and grading activities by the USEPA.

The property line of the residential homes located to the east, across Bundy Drive, is approximately 130 feet from the Bundy Campus. Based on this distance, and given that noise levels would diminish rapidly with distance from the construction site at a rate of approximately 6 dBA per doubling of distance, the noise levels experienced at these residential uses could reach as high as 78 dBA L_{eq}, with the use of

mufflers on the construction equipment, during demolition of the existing two-story East Building.[6] In addition, because these residential uses are located behind a solid wall that obstructs a direct line of sight to the Bundy Campus, the noise levels experienced by these residential uses would likely be reduced further by approximately 5 dBA, to approximately 73 dBA L_{eq}.

The residential uses located to the south, adjacent to the Bundy Campus, are located approximately 92 feet from the existing two-story East Building. Given this distance, the noise levels experienced at these residential uses during demolition could reach as high as 81 dBA L_{eq}, with the use of mufflers on the construction equipment.[7] In addition, because these residential uses are located behind an approximately 10-foot wall that runs along the southern boundary of the Bundy Campus, the noise levels generated during demolition of the two-story East Building would likely be reduced by approximately 5 dBA, to approximately 76 dBA L_{eq}.

The existing four-story West Building located onsite is located approximately 260 feet west of the existing two-story East Building. As the Bundy Campus would continue to operate and hold classes during demolition of the existing East Building, students inside the West Building would be subject to noise levels associated with demolition of the existing East Building. Given the distance of the West Building from the East Building, the noise levels experienced at the West Building during demolition of the East Building could reach as high as 72 dBA L_{eq}.

Construction

During construction of the two-story New Building within the Bundy Campus, the nearest off-site sensitive receptors would be the residential uses located south of the Bundy Campus (see Figure IV.G-1). These residential uses would be located approximately 50 feet from the construction area for the two-story New Building. Based on this distance, the noise levels generated during construction of the two-story New Building could reach as high as approximately 86 dBA L_{eq}, with the use of mufflers on the construction equipment, during grading and excavation activities at the development site.[8] In should be noted, however, that the presence of the existing 10-foot wall that runs along the southern boundary of the Bundy Campus would likely reduce the construction noise levels by approximately 5 dBA,[9] to approximately 81 dBA L_{eq}.

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[6] *The noise level was determined with the following equation from Harris Miller Miller & Hanson Inc.'s (HMMH) Transit Noise and Vibration Impact Assessment, Final Report: $L_{eq} = L_{eq}$ at 50 ft. – 20 Log(D/50), where L_{eq} = noise level of noise source, D = distance from the noise source to the receiver, L_{eq} at 50 ft.= noise level of source at 50 feet.*

[7] *Ibid.*

[8] *Ibid.*

[9] *California Department of Transportation, Traffic Noise Analysis Protocol, October 1998.*

The existing four-story West Building located onsite would be located approximately 38 feet from the building area of the proposed two-story New Building. Based on this distance, the noise levels at the West Building generated during grading and excavation activities for the New Building could reach as high as approximately 88 dBA L_{eq}, with the use of mufflers on the construction equipment.

Potential Construction-Related Noise Impacts

Based on criteria established in the Draft L.A. CEQA Threshold Guide, construction activities lasting more than one day, which would increase ambient exterior noise levels by 10 dBA or more at a noise sensitive use, would normally result in a significant impact. In addition, the Draft L.A. CEQA Threshold Guide also states that construction activities lasting more than 10 days in a three month period, which would increase ambient exterior noise levels by 5 dBA or more at a noise sensitive use, would normally result in a significant impact. The demolition and construction phases at the Bundy Campus would each occur for more than 10 days in a three month period. As discussed above, during demolition of the existing two-story East Building, noise levels at the residential uses located east of the Bundy Campus, across Bundy Drive, and south of the Bundy Campus could reach approximately 73 and 76 dBA L_{eq}, respectively, while the noise levels at the existing four-story West Building could reach approximately 72 dBA L_{eq}. During construction of the proposed two-story New Building, noise levels at the residential uses located south of the Bundy Campus could reach approximately 81 dBA L_{eq}, while the noise levels at the existing West Building could reach approximately 88 dBA L_{eq}. Due to the close proximity of the residential uses that are located along the southern boundary of the Bundy Campus, these sensitive-noise receptors are likely to experience an increase in ambient exterior noise levels exceeding 5 dBA L_{eq} during demolition of the existing East Building and construction of the proposed New Building. In addition, the existing four-story West Building within the Bundy Campus would also experience a substantial temporary increase in ambient exterior noise levels during construction of the proposed New Building, which would be located approximately 38 feet to the east. As the proposed development area for the New Building is currently occupied by a surface parking lot that generates relatively little noise during the day, the noise levels generated during construction of the New Building would increase the ambient noise levels at the existing West Building by more than 5 dBA L_{eq}. Thus, demolition and construction activities associated with the Master Plan would represent a substantial temporary or periodic increase in ambient noise levels at these on- and off-site noise sensitive receptors, and potentially significant short-term noise impacts would occur with respect to the thresholds established in the Draft L.A. CEQA Threshold Guide. It should be noted, however, that the increase in noise levels at these on- and off-site locations during construction activities at the Bundy Campus would be temporary in nature, and would not generate continuously high noise levels, although occasional single-event disturbances from grading and construction are possible.

As discussed previously in this Section under "Regulatory Framework," Section 41.40 of the LAMC regulates noise from demolition and construction activities. Exterior demolition and construction activities that generate noise are prohibited between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, and between 6:00 p.m. and 8:00 a.m. on Saturday. Demolition and construction are prohibited on Sundays and all federal holidays. In terms of construction noise, Section 112.05 of the LAMC limits the

operation of powered equipment and powered hand tools to between the hours of 7:00 a.m. to 10:00 p.m., and prohibits the noise levels generated by construction machinery from exceeding 75 dBA at 50 feet from residential uses. However, according to Section 112.05 of the LAMC, the noise limitation of 75 dBA at 50 feet from offsite, noise-sensitive uses does not apply where compliance is technically infeasible. Technically infeasible means that the above noise limitation cannot be complied with despite the use of mufflers, shields, sound barriers and/or any other noise reduction device or techniques during the operation of the equipment. It has been the City's standard practice to exempt construction projects from the City's noise standards as long as these projects conform to Sections 41.40 and 112.05 of the LAMC, including operating within the permissible hours and days of the week. The construction activities associated with the Master Plan would comply with the noise regulations established in Sections 41.40 and 112.05 of the LAMC. Implementation of Mitigation Measures G-1 through G-3, which would require the implementation of noise reduction devices and techniques during demolition and construction at the Bundy Campus, would serve to reduce the noise levels associated with these activities to the maximum extent feasible. Thus, the Master Plan would be in compliance with the City's Code in regards to demolition and construction activity, and would not violate the noise standards established in the LAMC. Nevertheless, because demolition and construction noise levels associated with the Master Plan are likely to exceed existing ambient noise levels by more than 5 dBA for more than 10 days in a three month period, demolition and construction activities associated with the Master Plan would generate a substantial temporary or periodic increase in ambient noise levels in the Bundy Campus vicinity. Therefore construction-related noise impacts would be significant and unavoidable upon the sensitive receptors identified above.

Construction-Related Groundborne Vibration

Construction activities that would occur within the Bundy Campus from implementation of the Master Plan would include demolition of the existing two-story East Building and excavation on the development area within the Bundy Campus where the proposed New Building would be located. These activities would have the potential to generate low levels of groundborne vibration. Table IV.G-7 identifies various vibration velocity levels for the types of construction equipment that would operate during the construction activities associated with the Master Plan. Based on the information presented in Table IV.G-7, vibration levels could reach as high as approximately 87 VdB within 25 feet of the construction area from the operation of construction equipment.

Table IV.G-7
Vibration Source Levels for Construction Equipment

Construction Equipment	Approximate VdB at 25 feet
Large Bulldozer	87
Loaded Trucks	86
Jackhammer	79
Small Bulldozer	58
***Source**: Harris Miller Miller Hanson, Transit Noise and Vibration Impact Assessment, May 2006.*	

The demolition and construction activities associated with the Master Plan would have the potential to impact the nearest off-site sensitive receptors to the Bundy Campus, which include the existing residential buildings located to the east, across Bundy Drive, and adjacent to the Bundy Campus to the south (see Figure IV.G-1). In addition, the existing four-story West Building located onsite would also be exposed to vibration levels from the demolition of the existing East Building and the construction of the New Building. As discussed previously in this Section under "Thresholds of Significance," the FRA has established vibration impact thresholds for sensitive buildings, residences, and institutional land uses. These thresholds are 65 VdB at buildings where vibration would interfere with interior operations, 80 VdB at residences and buildings where people normally sleep, and 83 VdB at other institutional buildings. The 65 VdB threshold applies to typical land uses where vibration would interfere with interior operations, including vibration-sensitive research and manufacturing facilities, hospitals with vibration-sensitive equipment, and university research operations. Vibration-sensitive equipments include, but are not limited to, electron microscopes, high-resolution lithographic equipment, and normal optical microscopes. The 80 VdB threshold applies to all residential land uses and any buildings where people sleep, such as hotels and hospitals. The 83 VdB threshold applies to institutional land uses such as schools, churches, other institutions, and quiet offices that do not have vibration-sensitive equipment, but still have the potential for activity interference.

Demolition

The residential uses located to the east and south of the Bundy Campus are located approximately 130 and 92 feet from the existing two-story East Building. As such, the construction-related groundborne vibration levels experienced by these sensitive receptors may reach approximately 67 and 73 VdB, respectively, during demolition of the East Building.[10] As these vibration levels would not exceed the FRA's vibration impact threshold of 80 VdB at residences, this impact would be less than significant.

The existing four-story West Building is located approximately 260 feet west of the existing East Building. Given this distance, the construction-related groundborne vibration levels experienced by this institutional building may reach approximately 56 VdB.[11] As this vibration level would not exceed the FRA's vibration impact threshold of 83 VdB at institutional buildings, this impact would be less than significant.

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[10] *The vibration levels at the off-site sensitive uses are determined with the following equation from Harris Miller Miller & Hanson Inc.'s (HMMH) 2006 Transit Noise and Vibration Impact Assessment, Final Report: $L_v(D)=L_v(25\ ft) - 30\log(D/25)$, where L_v = vibration level of equipment, D = distance from the equipment to the receiver, $L_v(25\ ft)$ = vibration level of equipment at 25 feet.*

[11] *Ibid.*

Construction

During construction of the proposed two-story New Building at the Bundy Campus, the nearest sensitive uses would be the residential uses located south of the Bundy Campus. These residential uses would be located approximately 50 feet from the construction area for the two-story New Building. Based on this distance, the construction-related groundborne levels experienced by these residential uses could reach as high as approximately 78 VdB during construction of the New Building.[12] As these vibration levels would not exceed the FRA's vibration impact threshold of 80 VdB at residences, this impact would be less than significant.

The existing four-story West Building at the Bundy Campus would be located approximately 38 feet from the building area of the proposed two-story New Building. Based on this distance, the construction-related groundborne vibration levels experienced at the West Building could reach as high as approximately 82 VdB during construction of the New Building.[13] As this vibration level would not exceed the FRA's vibration impact threshold of 83 VdB at institutional buildings, this impact would be less than significant.

It should be further noted that the construction activities associated with the Master Plan would be required to comply with Section 41.40 of the LAMC, which prohibits exterior demolition and construction activities between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, between 6:00 p.m. and 8:00 a.m. on Saturday, and all day on Sunday. Thus, none of the construction activities associated with the Master Plan would occur during recognized sleep hours. Implementation of Mitigation Measure G-3, which serves to locate groundborne vibration construction activities as far as possible from the nearest vibration-sensitive land use, would further reduce the less-than-significant vibration levels experienced at the existing residential uses located south of the Bundy Campus. Overall, impacts associated with groundborne vibration during construction within the Bundy Campus would be less than significant.

Operational Noise

Traffic Noise

During the Master Plan's operational phase, noise would primarily be generated by traffic associated with implementation of the Master Plan. The Master Plan's mobile noise impacts were assessed based on the a.m. peak hour traffic volumes for existing (2005) "Base Conditions," future cumulative base (2010) "Without Project" conditions, and future cumulative (2010) "With Project" conditions (see Section IV.J,

[12] *Ibid.*

[13] *Ibid.*

Transportation and Traffic).[14] The expected net increases in ambient noise levels at each monitored intersection upon buildout of the Master Plan in 2010 are shown in Table IV.G-8. As can be seen in Table IV.G-8, project traffic would not increase the ambient noise level (L_{eq}) at any intersection by more than 5 dBA. In fact, the loudest noise increase of 1.23 dBA at the intersection of Airport Avenue and Donald Douglas Loop South is considered to be barely perceptible to the human ear. Therefore, project impacts associated with a permanent increase in ambient noise levels to the surrounding noise environment from mobile noise sources would be less than significant.

Table IV.G-8
Master Plan Traffic Noise Impacts

No.	Location [a]	Existing L_{eq}	Cumulative 2010 L_{eq} w/out Project [b] (dBA)	Cumulative 2010 L_{eq} with Project [a] (dBA)	Net Change (dBA)	Significant Impact
1	Driveway into Bundy Campus from Bundy Drive	73.0	73.41	73.51	0.10	**No**
2	SW corner of Airport Ave. & Bundy Drive	74.0	74.29	74.47	0.18	**No**
4	SE corner of Airport Ave. & Walgrove Ave./23rd Street	70.1	70.92	70.96	0.04	**No**
5	SE corner of Airport Ave. & Donald Douglas Loop South	71.8	72.44	73.67	1.23	**No**

[a] *Noise Monitoring Location 3 was not included in this analysis because the location is not an intersection.*
[b] *See Appendix E for analysis methodology and calculation worksheets.*
Source: Christopher A. Joseph & Associates, August 2006.

On-Site Non-Vehicular Noise

The proposed New Building at the Bundy Campus would include rooftop mechanical equipment and heating, ventilation, and air conditioning (HVAC) units and exhaust fans in order to provide cooling and ventilation within the structure. The design of these on-site HVAC units and exhaust fans would be required to comply with the regulations under LAMC Section 112.02, which prohibits noise from air conditioning, refrigeration, heating, pumping, and filtering equipment from exceeding the ambient noise level on the premises of other occupied properties by more than 5 decibels. Thus, the on-site equipment would be designed such that they would be shielded and appropriate noise muffling devices would be installed on the equipment to reduce noise levels that affect nearby noise-sensitive uses. In addition, nighttime noise limits would be applicable to any equipment items required to operate between the hours of 10:00 p.m. and 7:00 a.m. With implementation of Mitigation Measure G-6, which ensures that all new

[14] *The traffic noise levels estimated at each intersection for the future cumulative (2010) "With Project" condition are based on traffic volume information provided for Access Alternative B4 in the Traffic Study (see Appendix G to this Draft EIR), which is the preferred Access Alternative for the Master Plan.*

mechanical equipment associated with the Master Plan would adhere to LAMC Section 112.02, potential noise impacts from such equipment would be less than significant.

Parking-Related Noise

Implementation of the Master Plan would call for the provision of a total of approximately 780 on-site parking spaces, of which approximately 550 would be surface parking spaces and 230 would be subterranean parking spaces. Because approximately 230 parking spaces would be located underground, noise levels generated by vehicles parking in the subterranean structure would not affect the existing four-story West Building or the off-site residential uses located around the Bundy Campus. In addition, because the Bundy Campus currently provides on-site surface parking for approximately 609 vehicles, the provision of approximately 550 surface parking spaces under the Master Plan would result in a net decrease in surface parking spaces. As such, the noise levels generated by vehicles using the surface parking spaces under the Master Plan would not result in a substantial increase in noise levels when compared to existing noise levels. Thus, noise impacts associated with parking at the Bundy Campus would be less than significant.

Airport Noise

The Bundy Campus is located adjacent to and south of several commercial and airport-related facilities, followed by the Santa Monica Airport. The nearest Santa Monica Airport runway is approximately 0.25 mile from Bundy Campus, north of Airport Avenue.[15] As such, the Master Plan could potentially expose students, faculty, staff, and other site visitors to noise associated with airport operations.

The Bundy Campus, however, does not fall within the Santa Monica Airport Runway Protection Zone (RPZ), or 70 CNEL noise contour as identified in the Los Angeles County Airport Land Use Commission (ALUC)'s Comprehensive Land Use Plan (CLUP).[16] Furthermore, as the Bundy Campus is located over 500 feet from the nearest runway, the Bundy Campus would not be within the 60 CNEL noise contour of the Airport.[17] As shown in Table IV.G-3, the "normally acceptable" community noise range for schools is 50-70 dBA CNEL. Consequently, the noise levels generated by operation of the Santa Monica Airport would not adversely affect operation of the Bundy Campus.

It should also be noted that pursuant Federal Aviation Regulation (FAR) Part 91.119, in congested areas, aircraft is required to maintain a minimum altitude of 1,000 feet above the highest obstacle within a 2,000

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[15] *City of Santa Monica, Santa Monica Airport, SMO Airport Diagram, website: http://santa-monica.org/airport/PDF%20Files/airport%20diagram.pdf, October 4, 2005.*

[16] *County of Los Angeles County Land Use Commission, Los Angeles County Airport Plan, December 1991.*

[17] *City of Santa Monica, Santa Monica Airport, Calendar Year 2004 Annual Noise & Operations Report, April 25, 2005, website: http://santa-monica.org/airport/PDF%20Files/2004%20MGA%20CNEL.pdf, October 4, 2005.*

foot radius of the aircraft. As a result of the 1984 Airport Agreement, the Santa Monica Airport has presented pilots with requested flight paths for arrival and departures on Runway 21 (the primary runway for arrivals and departures to the west) and Runway 3 (used only a couple of days a year during Santa Ana wind conditions). Neither of the requested flight paths pass over the Bundy Campus, but instead circle the project area and approach or depart the Santa Monica Airport from either the east or west.[18] As such, although the Bundy Campus is located within two miles of a public airport, people residing or working in the project area would not be exposed to excessive noise levels. Therefore, this impact would be less than significant.

CUMULATIVE IMPACTS

This cumulative impact analysis considers development of the Master Plan in combination with ambient growth and other development projects within the vicinity of the Bundy Campus. As noise is a localized phenomenon, and drastically reduces in magnitude as distance from the source increases, only projects and growth in the nearby area could combine with the Master Plan to result in cumulative noise impacts.

Cumulative Construction Noise and Vibration

Development of the Master Plan in combination with the related projects would result in an increase in construction-related and traffic-related noise in this already urbanized area of the City. However, each of the related projects would be subject to LAMC Section 41.40, which limits the hours of allowable construction activities. In addition, each of the related projects would also be subject to Section 112.05 of the LAMC, which prohibits any powered equipment or powered hand tool from producing noise levels that exceed 75 dBA at a distance of 50 feet from an offsite, noise-sensitive use. Noise levels are only allowed to exceed this noise limitation under conditions where compliance is technically infeasible.

Future construction associated with the related projects could result in a cumulatively significant impact with respect to temporary or periodic increases in ambient noise levels. Construction noise is localized in nature and decreases substantially with distance. Consequently, in order to achieve a substantial cumulative increase in construction noise levels, more than one source emitting high levels of construction noise would need to be in close proximity to each other. The nearest related project site to the Bundy Campus is Related Project No. 113, the City of Santa Monica's Airport Park Expansion project occurring at the Santa Monica Airport, across Airport Avenue north of the Bundy Campus. The Airport Park Expansion project is bound by Donald Douglas Loop to the north and west, Airport Avenue to the south, and Bundy Drive to the east. Due to the close proximity of this related project to the Bundy Campus, a significant cumulative impact associated with a temporary or periodic increase in ambient noise levels could occur if construction activities at both of these sites occur at the same time. Although it is not known at this time whether construction activities would overlap at these two sites, this potential

[18] *City of Santa Monica, Santa Monica Airport, Requested Flight Paths, Runway 21 and Runway 3, website: http://santa-monica.org/airport/n_flight_paths.aspx, October 4, 2005.*

scenario is assumed for the purpose of a conservative analysis. Thus, cumulative construction noise could be a potentially significant and unavoidable cumulative impact. As discussed previously, construction activities associated with the Master Plan would only occur during the permitted hours designated in Section 41.40 of the LAMC and, thus, would not occur during recognized sleep hours for residences or on days that residents are most sensitive to exterior noise. While implementation of Mitigation Measures G-1 through G-3 would serve to reduce the noise levels associated with construction at the Bundy Campus, construction noise levels exceeding the thresholds in the City of Los Angeles' Draft L.A. CEQA Threshold Guide can still be expected. Therefore, the cumulative construction noise impact associated with the Master Plan would be significant and unavoidable.

Cumulative development in the surrounding area may result in the exposure of people to or the generation of excessive groundborne vibration. As mentioned above, the nearest related project to the Bundy Campus is Related Project No. 113 located north of the Bundy Campus across Airport Avenue. Due to the proximity of this related project to the Bundy Campus, construction-related activities at both of these development sites could expose nearby sensitive receptors to excessive groundborne vibration levels if construction occurs at the same time. Although it is not known at this time whether or not construction activities would occur at the same time at these two sites, this potential scenario is assumed for the purpose of a conservative analysis. Thus, cumulative construction vibration could be a potentially significant and unavoidable cumulative impact. While implementation of Mitigation Measure G-3 would serve to reduce the vibration levels associated with construction at the Bundy Campus to the maximum extent feasible, vibration levels exceeding the FRA's threshold for residences and institutional buildings can still be expected during the construction of the proposed two-story New Building at the Bundy Campus. Therefore, the cumulative groundborne vibration impact associated with the Master Plan would be significant and unavoidable.

Cumulative Operational Noise

The predicted future year (2010) ambient noise levels presented in the analysis with and without the Master Plan are based on cumulative traffic conditions, which already take into account expected development of related projects identified in the surrounding area. As shown in Table IV.G-8, project traffic would not increase the ambient noise level (L_{eq}) at any of the monitored intersections by more than 5 dBA with development under the Master Plan (as compared to cumulative conditions without the Master Plan). Therefore, cumulative traffic-related noise impacts to the surrounding environment would be less than significant.

With respect to stationary sources, all related projects would be required to comply with the regulations under Section 112.02 of the LAMC, which prohibits noise from air conditioning, refrigeration, heating, pumping, and filtering equipment from exceeding the ambient noise level on the premises of other occupied properties by more than 5 decibels. Consequently, all on-site equipment would be designed such that they would be shielded and appropriate noise muffling devices would be installed on the equipment to reduce noise levels that affect nearby noise-sensitive uses. Thus, with conformance with

LAMC Section 112.02, the cumulative noise impact associated with stationary sources would be less than significant.

Overall, the Master Plan may contribute to cumulative construction noise and vibration impacts, however, cumulative operational noise impact associated with the Master Plan would be less than significant.

MITIGATION MEASURES

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

Construction

(G-1) The Master Plan shall comply with the City of Los Angeles Noise Ordinance No. 144,331 and 161,574, and any subsequent ordinances, which prohibit the emission or creation of noise beyond certain levels at adjacent uses unless technically infeasible.

(G-2) Construction and demolition shall be restricted to the hours of 7:00 a.m. to 6:00 p.m. Monday through Friday, and 8:00 a.m. to 6:00 p.m. on Saturday, and prohibited on all Sundays and federal holidays.

(G-3) Noise and groundborne vibration construction activities whose specific location on the site may be flexible (e.g., operation of compressors and generators, cement mixing, general truck idling) shall be conducted as far as possible from the nearest noise- and vibration-sensitive land uses.

(G-4) Two weeks prior to the commencement of demolition and construction at the Bundy Campus, notification shall be provided to the off-site residential uses located along the southern boundary of the Bundy Campus as well as within the Bundy Campus disclosing the construction schedule, including the various types of activities that would be occurring throughout the duration of the construction period.

(G-5) An information sign shall be posted at the entrance to the Bundy Campus that identifies the permitted construction hours and provides a dedicated telephone number to receive information about the construction process and to report complaints regarding excessive noise levels. An ongoing log of calls received shall be maintained as part of the mitigation monitoring and reporting program.

Operation

(G-6) All new mechanical equipment associated with the Master Plan shall comply with Section 112.02 of the City of Los Angeles Municipal Code, which prohibits noise from air conditioning, refrigeration, heating, pumping, and filtering equipment from exceeding the ambient noise level on the premises of other occupied properties by more than 5 decibels.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

With compliance with LAMC Section 41.40 and the implementation of the Mitigation Measures G-1 through G-5 listed above, which would require the implementation of noise reduction devices and techniques during construction at the Bundy Campus, construction-related noise impacts associated with the Master Plan would be reduced to the maximum extent feasible. Nevertheless, because construction noise levels are likely to exceed existing ambient noise levels by more than 5 dBA for more than 10 days in a three month period or by more than 10 dBA for more than one day, construction noise impacts would be significant and unavoidable.

The construction-related vibration impacts associated with the Master Plan would be less than significant without mitigation. Nonetheless, with implementation of Mitigation Measures G-3, which serves to locate vibration-generating equipment and vehicles as far away from vibration-sensitive sites as possible, the construction-related vibration levels experienced by the existing residential uses located south of the Bundy Campus would be further reduced in magnitude. Overall, vibration impacts associated with the Master Plan would be less than significant.

Implementation of Mitigation Measure G-6, which would require all new mechanical equipment associated with the Master Plan to comply with LAMC Section 112.02, would ensure that impacts associated with noise from mechanical equipment would be reduced to a less-than-significant level.