

3I. Noise

3I.1 INTRODUCTION

This section addresses potential noise impacts associated with the proposed project. It analyzes both potential noise impacts on nearby uses caused by the construction and operation of the learning center on the surrounding noise environment and potential noise impacts of the surrounding environment on the future students and staff of the learning center. Background information on environmental acoustics, including definitions of terms commonly used in noise analysis, is provided below.

Background Information

Sound is mechanical energy transmitted by pressure waves through a medium such as air. Noise can be defined as unwanted sound. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation and the pressure level or energy content (amplitude). In particular, the sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level. The decibel (dB) scale is used to quantify sound intensity. Because sound pressure can vary by over one trillion times within the range of human hearing, a logarithmic loudness scale is used to keep sound intensity numbers at a convenient and manageable level. Since the human ear is not equally sensitive to all frequencies within the entire spectrum, noise measurements are weighted more heavily within those frequencies of maximum human sensitivity in a process called "A-weighting" written as dBA.

A number of different types of metrics are used to characterize the time-varying nature of sound. These metrics include: the equivalent sound level (L_{eq}), the minimum and maximum sound levels (L_{min} and L_{max}), percentile-exceeded sound levels (L_{xx}), the day-night level (L_{dn}), and the community noise equivalent level (CNEL). The following are brief definitions of these metrics and other terminology used in this section:

- **Sound.** A vibratory disturbance created by a vibrating object, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism, such as the human ear or a microphone.
- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- **Decibel (dB).** A unitless measure of sound on a logarithmic scale, which indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micro-pascals.
- **A-Weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels which approximates the frequency response of the human ear.

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- **Maximum Sound Level (L_{max}).** The maximum sound level measured during the measurement period.
 - **Minimum Sound Level (L_{min}).** The minimum sound level measured during the measurement period.
 - **Equivalent Sound Level (L_{eq}).** The equivalent steady state sound level which in a stated period of time would contain the same acoustical energy.
 - **Percentile-Exceeded Sound Level (L_{xx}).** The sound level exceeded xx percent of a specific time period. L_{10} is the sound level exceeded 10 percent of the time.
 - **Day-Night Level (L_{dn}).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring during the period from 10:00 PM to 7:00 AM to account for the increased sensitivity of some individuals to noise levels during nighttime hours.
 - **Community Noise Equivalent Level (CNEL).** The energy average of the A-weighted sound levels occurring during a 24-hour period with 5 dB added to the A-weighted sound levels occurring during the period from 7:00 PM to 10:00 PM and 10 dB added to the A-weighted sound levels occurring during the period from 10:00 PM to 7:00 AM.

L_{dn} and CNEL values rarely differ by more than 1 dB. As a matter of practice, L_{dn} and CNEL values are considered to be equivalent and are treated as such in this assessment. In general, human sound perception is such that a change in sound level of 3 dB is just noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving sound levels.

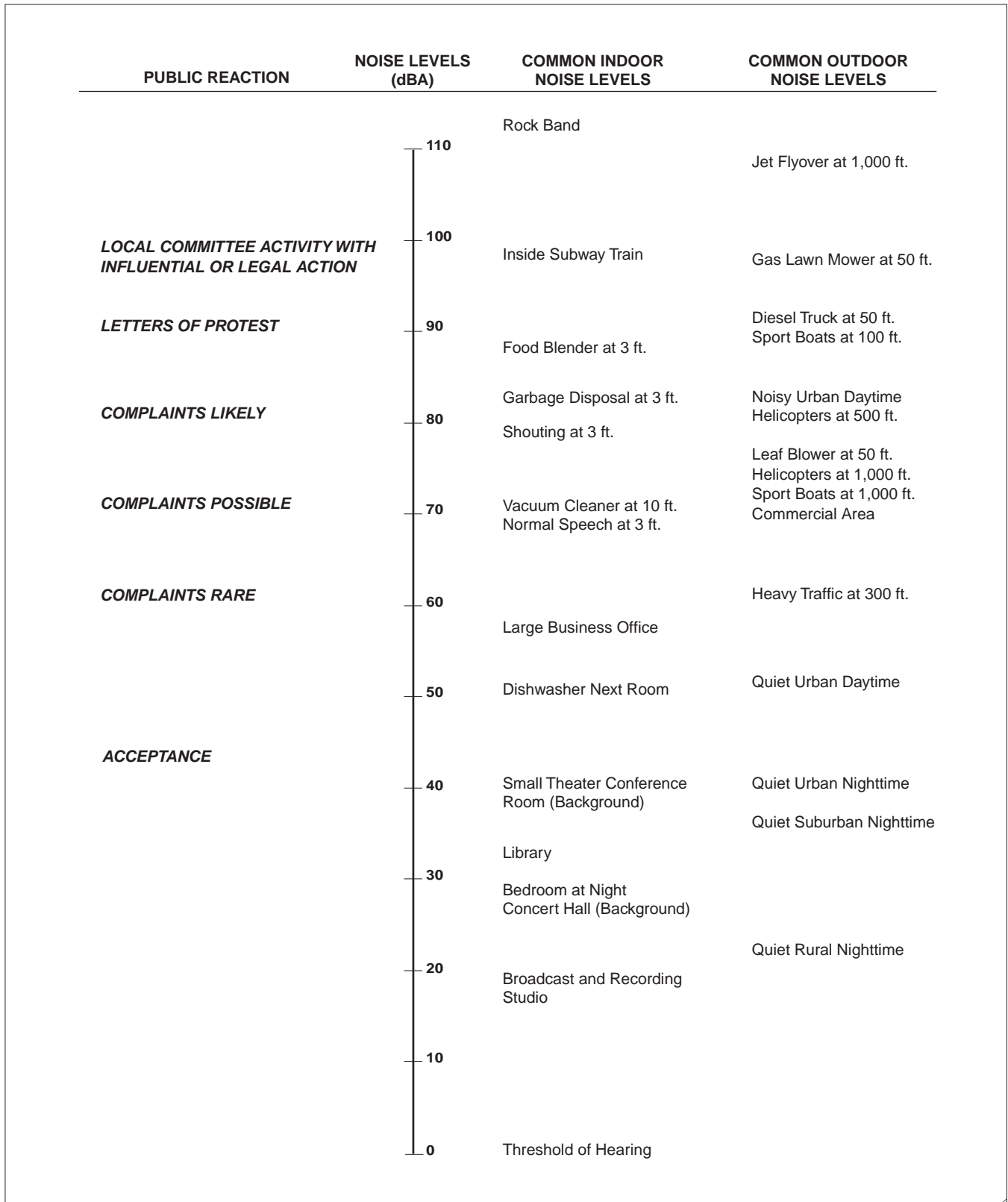
Effect of Noise on People

The effects of noise on people can be categorized as follows:

- Subjective effects such as annoyance, nuisance, dissatisfaction;
- Interference with activities such as speech, sleep, learning; and,
- Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience effects in the last category. There is no complete satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists, and different tolerances to noise tend to develop based on an individual's past experiences with noise. Common noise levels and public reactions are presented in Figure 3I-1. The noise and land use compatibility matrix guidelines are presented in Figure 3I-2.

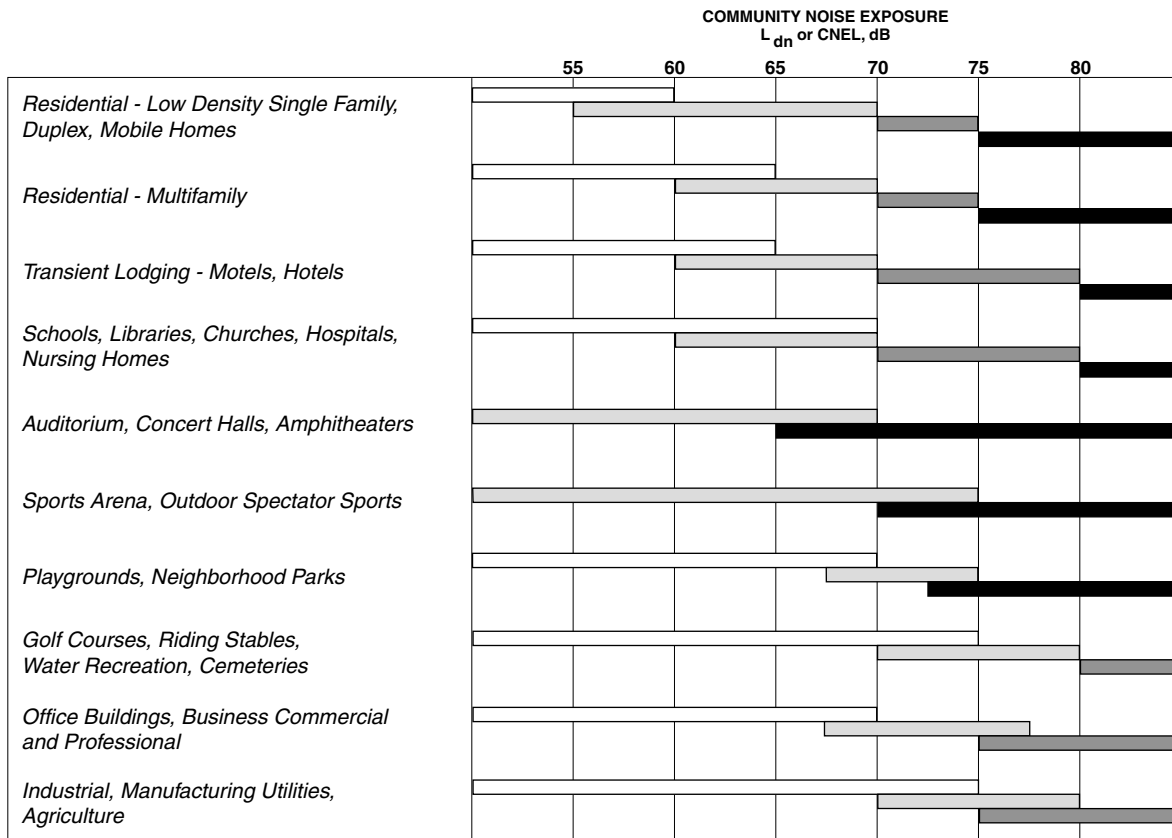
Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing ambient noise level. In general, the more a new noise exceeds the



SOURCE: Caltrans Noise Manual California State Department of Transportation, March 1980.

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Figure 3I-1
Common Noise Levels and Public Reactions



LEGEND:



NORMALLY ACCEPTABLE

Specified land use is satisfactory, based upon the assumption that any building involved are of normal conventional construction, without any special noise insulation requirements.



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.



CONDITIONALLY ACCEPTABLE

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made.

Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.



CLEARLY UNACCEPTABLE

New construction or development should generally not be undertaken.

SOURCE: California Department of Health. Guidelines for the Preparation and Content of Noise Elements of the General Plan. November 1990.

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Figure 3I-2
Noise and Land Use Compatibility Matrix Guidelines

previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

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

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

Noise Attenuation

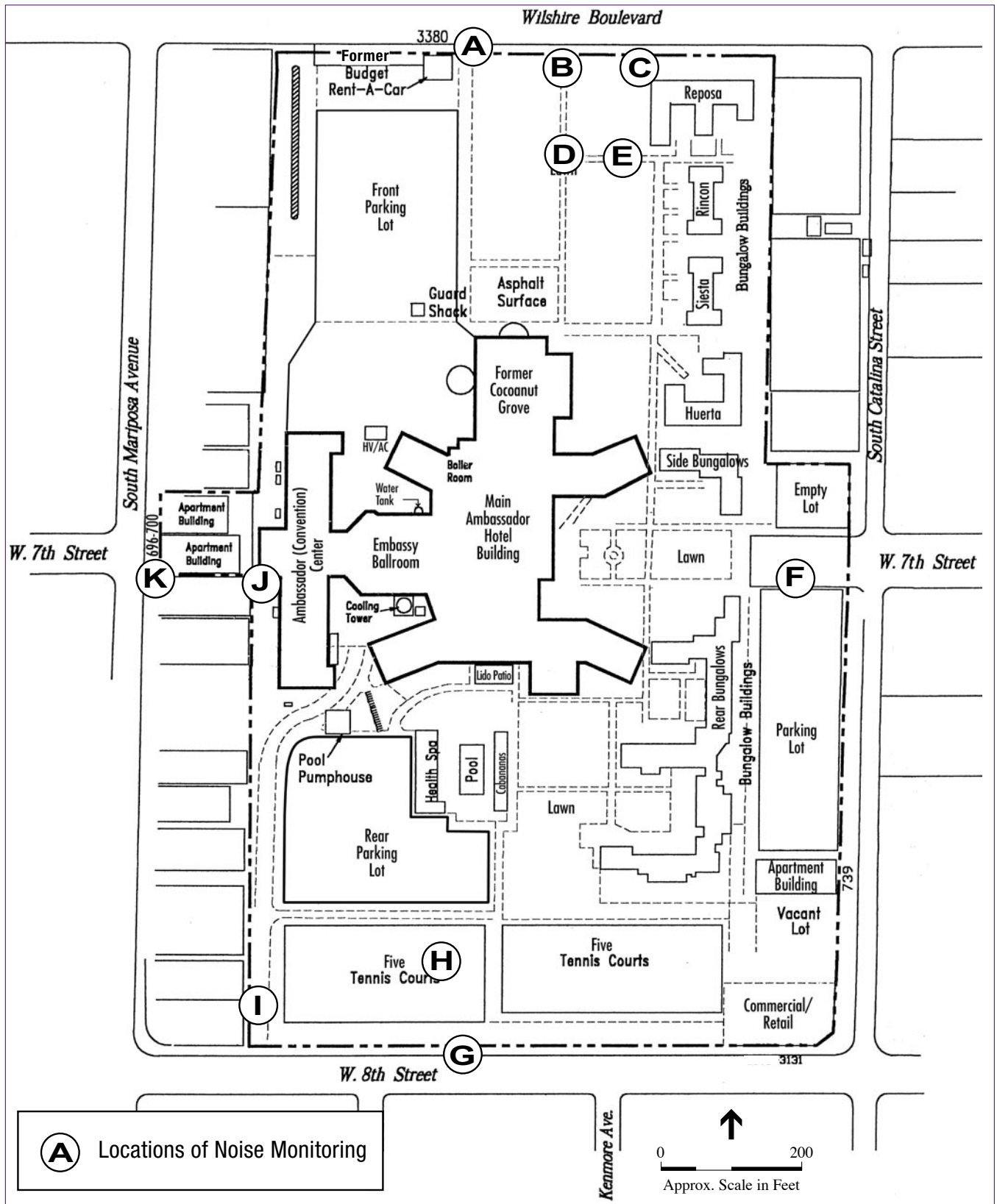
Stationary point sources of noise, including stationary mobile sources such as idling vehicles, attenuate (lessen) at a rate of 6 to 7.5 dBA per doubling of distance from the source, depending on environmental conditions (i.e., atmospheric conditions and noise barriers, either vegetative or manufactured, etc.). Widely distributed noise, such as a large industrial facility spread over many acres or a street with moving vehicles, would typically attenuate at a lower rate, approximately 4 to 6 dBA.

3I.2 SETTING

Existing Noise Environment

The proposed project is located approximately two miles west of downtown Los Angeles along Wilshire Boulevard in an area known as the Wilshire Corridor. The noise environment in the project area is dominated by noise from automobile and truck traffic on local roads. Noise from vehicle traffic on Wilshire Boulevard and West 8th Street are the greatest sources of noise at the proposed project site. However, given the size of the site large portions of the interior of the site are relatively unaffected by street noise.

Noise monitoring was conducted on the project site using a Metrosonics db-3080 sound level meter on November 25, 2002 and February 20, 2003 to quantify existing conditions on the site. Eleven short-term measurements of 15-minute duration were conducted at different locations throughout the project site. Figure 3I-3 shows the locations where noise monitoring was conducted. Table 3I-1 summarizes the noise monitoring results.



SOURCE: Environmental Science Associates

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Figure 3I-3
Noise Monitoring Locations

TABLE 3I-1: MEASURED AMBIENT NOISE LEVELS SURROUNDING PROJECT SITE

<u>Location Code</u> (See Figure 3I-3)	<u>Date</u>	<u>Start Time</u>	<u>Existing and 15 Minute Average (dBA) Exterior</u>
A	November 25, 2002	10:20	70.9
B	February 20, 2003	11:30	67.9
C	February 20, 2003	11:55	65.2
D	February 20, 2003	11:30	64.5
E	February 20, 2003	11:55	58.1
F	November 25, 2002	10:20	53.5
G	November 25, 2002	10:45	69.6
H	February 20, 2003	16:15	57.4
I	February 20, 2003	13:02	62.4
J	February 20, 2003	16:15	51.9
K	February 20, 2003	15:40	63.3

Source: ESA Noise Monitoring, November 25, 2002 and February 20, 2003.

Sensitive Receptors

Some land uses are considered more sensitive to ambient noise levels than others due to the amount of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities typically involved. Residences, motels, hotels, schools, libraries, churches, hospitals, nursing homes, auditoriums, and parks and other outdoor recreation areas generally are more sensitive to noise than are commercial and industrial land uses.

There are a number of existing sensitive receptors located in close proximity to the project site and along roadways providing access to and from the project site. The closest sensitive receptors are the multi-family residences located along South Mariposa Avenue to the west and South Catalina Street to the east. Sensitive receptors along South Catalina Street are within 25 feet of where demolition activities would occur. In addition, two hotels are located across West 8th Street, approximately 100 feet from possible construction areas.

3I.3 APPLICABLE REGULATIONS

The City of Los Angeles has adopted a Noise Element to the General Plan, and a noise ordinance. The Los Angeles Municipal Code (LAMC) codifies regulations for mobile and stationary noise sources including loading docks, air conditioning equipment, operational noise, and construction.

The project is located within the City of Los Angeles and is subject to the General Plan and Noise Ordinance. Chapter IV, Article 1, Section 41.40 of the LAMC indicates that no construction or repair work shall be performed between the hours of 9:00 PM and 7:00 AM of the following day. Construction is prohibited before 8:00 AM or after 6:00 PM on any Saturday or national holiday, or at any time on Sunday.

City of Los Angeles General Plan Noise Element

The City’s General Plan Noise Element acts as the policy document that outlines guidelines for noise and land use compatibility for development and planning purposes. Brief summaries of the General Plan Noise Element and the Noise Ordinance are presented below.

The Noise Element of the General Plan identifies compatible noise environments for different types of land uses in the City. Table 3I-2 contains the noise/land use compatibility guidelines for those types of land uses proposed as part of the project and the existing land uses that could be affected by project-related noise. These guidelines are to be used when evaluating the noise impacts of a proposed project.

TABLE 3I-2: GUIDELINES FOR NOISE COMPATIBLE LAND USE

<u>Land Use Category</u>	<u>Day-Night Average Exterior Sound Level (CNEL dBA)</u>		
	<u>Acceptable^a</u>	<u>Conditionally Acceptable^b</u>	<u>Unacceptable^c</u>
Residential	Up to 55	Up to 70	Above 70
Transient Lodging, Hotel, Motel	Up to 55	Up to 70	Above 70
School, Library, Church, Hospital, Nursing Home	Up to 55	Up to 75	Above 75
Playgrounds, Neighborhood Parks	Up to 65	Up to 75	Above 75
Office Buildings, Business, Commercial, Professional	Up to 65	Up to 75	Above 75

- a. Specified land use is satisfactory. No noise mitigation measures are required.
- b. Use should be permitted only after careful study and inclusion of protective measures as needed for intended use and to satisfy policies of the Noise Element.
- c. Development is not feasible in accordance with the Noise Element. Use is prohibited.

Source: Los Angeles Department of City Planning, Noise Element of the Los Angeles City General Plan, February 3, 1999.

The Noise Element establishes specific programs and policies for airport, non-airport and land use development projects. Applicable policies include the following:

- P11 For a proposed development project that is deemed to have a potentially significant noise impact on noise sensitive uses, require mitigation measures, as appropriate, in accordance with CEQA and city procedures.
- P13 Continue to plan, design and construct or oversee construction of public projects, and projects on city owned properties, so as to minimize potential noise impacts on noise sensitive uses and to maintain or reduce existing ambient noise levels.
- P16 Use, as appropriate, the "Guidelines for Noise Compatible Land Use" shown in Table 3I-2 or other measures that are acceptable to the city, to guide land use and zoning reclassification, subdivision, conditional use and use variance determinations and environmental assessment considerations, especially relative to sensitive uses, within a CNEL of 65 dB airport noise exposure areas and within a line-of-sight of freeways, major highways, railroads or truck haul routes.

City of Los Angeles Noise Ordinance

The City's Noise Ordinance sets limits for noise levels generated by primary noise sources in an urban environment. Under Chapter XI, Article 2, Section 112.02 of the LAMC, noise from air conditioning, refrigeration and heating equipment would be considered excessive if it would cause the ambient noise level on the premises of an adjacent occupied property to increase by more than five (5) decibels.

Section 115.01 of the LAMC states that it shall be unlawful for any person other than personnel of law enforcement or government agencies to install and utilize loudspeakers or sound amplifying equipment within 500 feet of residential zones except when used for regularly scheduled operative functions by any school.

Section 112.03 of the LAMC noise code states that noise due to construction or repair work shall be regulated by Chapter IV, Article 1 Section 41.40 of the LAMC. Section 41.40 states, no person shall, between the hours of 9:00 P.M. and 7:00 A.M. of the following day, perform any construction or repair work of any kind upon, or any excavating for, any building or structure, where any of the foregoing entails the use of any power driven drill, riveting machine, excavator or any other machine, tool, device or equipment which makes loud noises to the disturbance of persons occupying sleeping quarters in any dwelling hotel or apartment or other place of residence.

LAUSD Noise Element

The LAUSD has established maximum allowable noise levels to protect students and staff from noise impacts generated by traffic. These standards were established based on regulations set forth by the California Department of Transportation and the City of Los Angeles. The District's noise standards are presented in Table 3I-3.

TABLE 3I-3: ACCEPTABLE OPERATIONAL NOISE LEVELS ESTABLISHED BY LAUSD

<u>Location</u>	<u>L₁₀ Noise Level</u>	<u>L_{eq} Noise Level</u>
Exterior	70 dBA	67 dBA
Interior	55 dBA	52 dBA

Source: LAUSD, 2001.

3I.4 IMPACTS AND MITIGATION

Methodology

The potential impacts of noise are described in terms of the likelihood and severity of public contact with noise and whether this level of contact would be considered to result in a significant, adverse impact. Operational vehicular noise impacts were analyzed utilizing the Federal Highway Administration Noise Prediction Model. Construction and stationary operational impacts were analyzed utilizing information found in *Noise From Construction Equipment and Operations, Building Equipment and Home Appliances*, published for the Environmental Protection Agency by Bolt, Beranek and Newman.

Criteria for Determining Significance

The proposed project may result in a significant noise impact if it would:

- Expose existing receptors to or generate noise levels resulting from the project in excess of health standards established by the local general plan or noise ordinance or standards of other agencies, including LAUSD criteria (if existing noise levels currently exceed criteria, an incremental increase in 3 dBA CNEL above the ambient noise levels relative to no project conditions would be considered significant);
- Expose future students of the proposed project to existing or projected noise levels in excess of established standards and thresholds (if existing noise levels currently exceed criteria, incremental changes in noise levels in excess of 3 dBA above existing noise would be considered significant);
- Result in excessive noise levels when measured at a distance of 50 feet from the noise source during construction activity occurring within 500 feet of a school zone or other sensitive noise receptor;

- Expose persons to or generate excessive groundborne vibration or groundborne noise levels; or,
- Expose students in the project area to excessive noise levels for a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport.

Project Impacts

TABLE 3I-4: NOISE IMPACT SUMMARY

	<u>Alternative 1</u>	<u>Alternative 2</u>	<u>Alternative 3</u>	<u>Alternative 4</u>	<u>Alternative 5</u>
Impact 3I1	S	S	S	S	S
Impact 3I2	LTS	LTS	LTS	LTS	LTS
Impact 3I3	LTS/M	LTS/M	LTS/M	LTS/M	LTS/M
Impact 3I4	LTS/M	LTS/M	LTS/M	LTS/M	LTS/M
Impact 3I5	LTS	LTS	LTS	LTS	LTS
Impact 3I6	LTS	LTS	LTS	LTS	LTS

LTS = Less Than Significant Impact

LTS/M = Less Than Significant Impact with Mitigation Incorporation

S = Significant Impact

Impact 3I1: The proposed project would expose persons to, or generate, noise levels in excess of standards established in the City of Los Angeles General Plan, Noise Ordinance, or applicable standards of other agencies, including LAUSD.

Operational activities associated with the proposed project that would generate noise include heating, ventilation, and air conditioning (HVAC) systems, student activity on-site, public address systems, bells, alarms, crowds at large events, and vehicular circulation. These sources would be limited to school hours, with a few exceptions for special events.

The proposed sports fields and courts would be utilized during the day for physical education classes, during break periods for student recreation and in the afternoons and early evenings for the learning center's sporting events. The fields would be located within 100 feet of nearby residences. Audible noise sources would primarily include voices and applause of the players and spectators along with the noise generated by referees (including whistles) and sports equipment (e.g., air horns). Noise from these activities would be audible at nearby residences, but would be of short duration and occur during the typically more non-noise-sensitive daytime hours. Table 3I-5 shows noise measurements taken at Belmont High School during lunchtime and immediately following lunch. Measurements were taken in the areas of the basketball courts and in the lunch area, both of which are heavily utilized during lunchtime. As shown in Table 3I-5, on average, noise increases approximately 2.4 dBA when students are present. This is a barely perceptible increase in noise and as such would not be considered a significant impact.

TABLE 3I-5: MEASURED AMBIENT NOISE LEVEL COMPARISON BELMONT HIGH SCHOOL

<u>Location</u>	<u>Student Activity Level</u>	<u>15 Minute Average (dBA)</u>
		Lavg
Belmont High School (Basketball Courts)	Lunchtime, Significant Student Activity	67.1
Belmont High School (Basketball Courts)	After Lunch, Minimal Student Activity	65.6
Belmont High School (Lunch Area)	Lunchtime, Significant Student Activity	65.8
Belmont High School (Lunch Area)	After Lunch, Minimal Student Activity	62.5

Source: ESA Noise Monitoring, February 20, 2003.

Parking lot noise could include occasional car alarm noise, vehicle horns, vehicle doors/trunks opening and closing, and conversation of people using the parking lots. The most pervasive of these noise sources would be associated with car alarm noise and vehicle horns. The proposed parking lots will be located as close as 25 feet from existing residences. Under all project alternatives, parking would be accommodated in underground garages that would reduce noise levels at neighboring residences. In addition, parking activities would be limited to learning center hours or during learning center events avoiding the most sensitive nighttime hours. As a result, parking lot noise would not significantly affect the noise environment at nearby residences.

Operation of HVAC equipment is regulated under Section 112.02 of the City's Noise Ordinance, which limits increased noise to 5 dBA from operation of HVAC equipment. The location and shielding of HVAC equipment is unknown for all project alternatives. Residences located along South Mariposa Avenue, approximately 25 feet west of the proposed project site, could be affected by HVAC equipment noise. Residential land uses to the east along South Mariposa Avenue would be approximately 200 feet from HVAC systems. Noise from these sources could exceed the 5 dBA limit established in the noise ordinance. Incorporation of Mitigation Measure **M-3I.1** would reduce this impact to less than significant levels.

The project would add traffic to local streets contributing to traffic noise. Table 3I-6 summarizes traffic noise levels on adjacent streets as estimated using the Federal Highway Administration Noise Prediction Model. Alternatives 1, 2, and 5 project-related traffic would not increase noise by greater than 3 dBA. A 3 dBA increase in noise level is not perceptible to the human ear in the ambient environment and would not be considered a significant impact of the project. Alternatives 3 and 4 project-related traffic would increase noise by greater than 3 dBA on one street segment. An increase of greater than 3 dBA would exceed local general plan and noise

ordinance or standards of significance and would be considered a significant impact of the project. Table 3I-6 shows calculated noise from existing condition (2002), future no projects (2007), and cumulative with Alternatives 1 through 5 (2007). Noise calculation sheets are found in Appendix G.

TABLE 3I-6: CALCULATED A.M. PEAK NOISE ESTIMATES

Road Segment	Existing Conditions 2002	Future No Project Conditions 2007	Future with Alternative 1 Project Conditions 2007
S. Mariposa Ave, Wilshire Blvd to W 7 th St	61.2 dBA	61.5 dBA	63.2 dBA
W 7 th St, Irolo St to S. Mariposa Ave	59.8 dBA	59.8 dBA	60.7 dBA
Wilshire Blvd, S Catalina St to Vermont Ave	67.3 dBA	67.6 dBA	68.5 dBA
S Mariposa Ave, W 7 th St to W 8 th St	57.9 dBA	58.1 dBA	60.5 dBA
S Catalina St, W 7 th St to W 8 th St	60.9 dBA	61.1 dBA	62.6dBA

Road Segment	Future with Alternative 2 Project Conditions 2007	Future with Alternative 3 & 4 Project Conditions 2007	Future with Alternative 5 Project Conditions 2007
S. Mariposa Ave, Wilshire Blvd to W 7 th St	63.2 dBA	63.4 dBA	63.0 dBA
W 7 th St, Irolo St to S. Mariposa Ave	60.7 dBA	60.7 dBA	60.6 dBA
Wilshire Blvd, S Catalina St to Vermont Ave	68.5 dBA	68.5 dBA	68.5 dBA
S Mariposa Ave, W 7 th St to W 8 th St	60.5 dBA	61.6 dBA	60.3 dBA
S Catalina St, W 7 th St to W 8 th St	62.6dBA	64.1 dBA	62.5 dBA

Source: Federal Highway Administration Noise Model

Noise associated with the learning center such as children yelling, car stereois, and car doors slamming etc, could increase noise levels 5 dBA during drop-off and pick-up times. There are several drop-off locations, one of which could create drop-off noise impacts to local residences. To reach the middle school drop-off zone cars would drive along West 7th Street between two apartment buildings. The apartment buildings could create a canyon-like effect for noise to travel through thereby increasing the noise effect through reverberation. The canyon-like effect is caused when reverberation produced by multiple reflections of sound in streets framed by high buildings raises the ambient noise level in urban settings and makes the noise difficult to localize.¹ Quantitative assessment of the canyon effect would require acoustic scale modeling to study the sound propagation of individual vehicles and continuous traffic flow on city streets which are confined between the two building facades.² The likely effect on noise created by the

¹ Handbook for Acoustic Ecology Second Edition, 1999.

² Scale modeling of traffic noise propagation in a city street canyon. Proceedings if Inter-Noise, 1996.

canyon like effect, was not calculated. In addition to the canyon like effect, the proposed drop-off and pick-up zone is located approximately 25 feet from existing residences. The noisiest time would not occur within time sensitive hours. As a result, CNEL (average 24-hour noise) would not be significantly affected. Table 3I-7 shows measured noise levels before and during the afternoon pick-up time at Berendo Middle School. As shown in Table 3I-7, the noise level increase ranged from 6 to 10.2 dBA at the school. Due to the close proximity of the drop-off point, the canyon-like environment between the two buildings, and the potential for noise to increase by more than 5 dBA at local residences, the drop-off noise could cause a daily temporary significant noise nuisance.

TABLE 3I-7: MEASURED AMBIENT NOISE LEVEL COMPARISON BERENDO MIDDLE SCHOOL

<u>Location</u>	<u>Student Activity Level</u>	<u>15 Minute Average (dBA)</u>
		Lavg
Berendo Street	Pre Pick Up Time(No Children)	60.4
Berendo Street	Pick Up Time(With Children)	66.4
Berendo Street at 12 th Street	Pre Pick Up Time(No Children)	62.0
Berendo Street at 12 th Street	Pick Up Time(With Children)	72.2

Source: ESA Noise Monitoring, February 20, 2003.

Mitigation Measure **M-3I.2** would reduce this impact. Nonetheless, the drop-off noise experienced at the closest residential buildings would constitute a significant unavoidable impact of the project.

Noise created by the possible 5.6-acres development in Alternative 5 has the possibility of creating significant noise impacts. Since the potential development is too speculative, no attempt to quantitatively assess the noise impact has been made. (See Chapter 2, Section 2.4.5)

Mitigation Measures

M-3I.1 *Noise generating building systems including HVAC systems shall not increase noise levels greater than 5 dBA CNEL at neighboring residential areas. This can be accomplished by providing low noise generating equipment, locating systems as far from residences as possible or insulating equipment to reduce noise output.*

M-3I.2 *The LAUSD shall provide sufficient payment to the residential building owners to install double-paned windows, which could reduce noise by 10dBA-15sBA, in the residential buildings with windows facing the drop-off zone at the proposed project site.³*

³ An initial bid of approximately \$34,000 was given for replacing 90 windows with double pane glass. This is an approximate bid, actual cost could vary depending on site conditions.

Residual Impacts

LAUSD would not be able to ensure the replacement of the existing windows with double-paned windows. Thus, the project noise impacts would be significant and unavoidable.

Impact 3I2: The proposed project would not expose future students to existing or projected noise levels in excess of established standards and thresholds.

There is the potential for existing neighborhood and traffic noise to affect future students of the proposed learning center. Noise levels from traffic and off-site sources in the project area under proposed project conditions are not expected to change significantly from existing levels. The LAUSD standard used for exterior noise is 70 dBA (L_{eq}). The standard used for interior noise is 45 dBA (L_{eq}). The results of noise monitoring in Table 3I-1 indicate that while noise levels immediately south of Wilshire Boulevard would exceed noise standards, the noise levels would attenuate to within acceptable levels within 50 feet of Wilshire Boulevard.

Indoor noise levels generally are 25 dBA lower in a room with single-paned glass windows when compared to outside noise levels.⁴ As shown in Table 3I-1, noise levels near the existing Ambassador Hotel building are in the 50 to 65 dBA range. Assuming a 25 dBA reduction, indoor noise levels would be well below the 45 dBA interior noise standard established by the LAUSD. New students located in the project area would not be exposed to noise in excess of the LAUSD noise standards.

The potential development of the 5.6-acre parcel in Alternative 5 would buffer the schools from Wilshire Boulevard street noise and as such would lessen the impact associated with neighborhood traffic noise.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact 3I3: The proposed project would result in excessive noise levels during construction activity.

Construction activities (including demolition) associated with any of the alternatives of the proposed project could intermittently generate high noise levels on, and adjacent to, construction sites. Construction activities associated with the proposed project include demolition, grading and earthmoving activities, hauling materials, and building structures. Construction activity noise levels at and near the project site would fluctuate depending on the particular type, number,

⁴ Fundamental and Abatement of Highway Traffic Noise, 1973.

and duration of uses of various pieces of construction equipment. Construction-related material haul trips would raise ambient noise levels along haul routes, depending on the number of haul trips made and the types of vehicles used. In addition, certain types of construction equipment generate impulsive noises which can be particularly annoying such as jackhammers. Nearby noise-sensitive uses that could be exposed to construction noise are the multi-family residences located 25 feet to the west and 100 feet to the east of the project site, and hotels located approximately 150 feet south of the project site.

Table 3I-8 summarizes typical noise levels generated during different construction activities. Table 3I-9 shows typical noise levels produced by equipment commonly used in construction projects. As indicated, equipment involved in construction is expected to generate noise levels ranging from approximately 75 dBA to just over 100 dBA at a distance of 50 feet. It is not anticipated that pile drivers will be needed for construction of any of the alternatives. Therefore, noise levels of construction equipment at the site would generally range from approximately 75 dBA to 90 dBA. Noise produced by construction equipment would be reduced at a rate of about 6 decibels per doubling of distance. Measured background sound levels at the proposed project site are in the range of 53-71 dBA.

TABLE 3I-8: TYPICAL CONSTRUCTION NOISE LEVELS

<u>Construction Phase</u>	<u>Noise Level (dBA, L_{eq}^a)</u>
Ground Clearing	84
Excavation	89
Foundations	78
Erection	85
Finishing	89

a Average noise levels correspond to a distance of 50 feet from the noisiest piece of equipment associated with a given phase of construction and 200 feet from the rest of the equipment associated with that phase.

Source: Bolt, Baranek, and Newman, *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*, 1971.

TABLE 3I-9: NOISE LEVELS FROM CONSTRUCTION EQUIPMENT

<u>Construction Equipment</u>	<u>Noise Level (dBA, L_{eq} at 50 feet)</u>
Dump Truck	88
Portable Air Compressor	81
Concrete Mixer (Truck)	85
Scraper	89
Jack Hammer	88
Dozer	87
Paver	89
Generator	76
Pile Driver	101
Pneumatic Tools	85
Concrete Pump	82
Backhoe	85

Source: Cunniff, *Environmental Noise Pollution*, 1977 and Federal Transit Administration, 1995.

Under all project alternatives, construction at the project site would involve the demolition of a portion of the existing Ambassador Hotel building that is located along the western portion of the property. This portion, known as the Ambassador Center, is located approximately 25 feet from sensitive receptors (see Figure 2-2 in Chapter 2). In addition, demolition of two apartment buildings located on South Mariposa Avenue would entail the operation of heavy machinery adjacent to sensitive receptors. During demolition activities, outdoor noise at local sensitive receptors could exceed 90 dBA. Interior noise levels at these sensitive receptors would be less depending on building design.

Section 112.05 of the LAMC states, between the hours of 7:00 A.M. and 10:00 P.M., in any residential zone of the City or within 500 feet thereof, no person shall operate or cause to be operated any powered equipment or powered hand tool that produces a maximum noise level exceeding the following noise limits at a distance of 50 feet therefrom:

- a) 75 dBA for construction, industrial and agricultural machinery including crawler-tractors, dozers, rotary drills and augers, loaders, power shovels, cranes, derrick, motor graders, paving machines, off-highway trucks, ditchers, trenchers, compactors, scrapers, wagons, pavement breakers, compressors and pneumatic or other powered equipment.

Section 112.05 continues stating that said noise limits shall not apply where compliance therewith is technically infeasible. Due to the close proximity of the sensitive receptors to the demolition activities, it would be technically infeasible to comply with Section 112.05 of the LAMC.

Further, the LAMC Section 41.40 states no person shall between the hours of 9:00 P.M. and 7:00 A.M. of the following day, perform any construction or repair work of any kind upon, or any excavating for, any building or structure, where any of the foregoing entails the use of any power driven drill, riveting machine, excavator or any other machine, tool, device or equipment which makes loud noises to the disturbance of persons occupying sleeping quarters in any dwelling hotel or apartment or other place of residence.

Any of the alternatives of the proposed project would abide by the time restrictions in Section 41.40, therefore the proposed project would have a less than significant impact on area noise levels. Implementation of the following mitigation measures would further reduce this impact.

Mitigation Measures

M-3I.3 *During construction phases, all equipment shall have sound-control devices no less effective than those provided on the original equipment and no equipment shall have an unmuffled exhaust.*

M-3I.4 *During construction phases, the contractor shall ensure that all construction be performed in accordance with LAUSD and City of Los Angeles noise standards. The construction contract shall specify that no noise intensive construction or repair work be performed between the hours of 9:00 PM and 7:00 AM on any weekday, or before*

8:00 AM or after 6:00 PM on any Saturday or national holiday, or at any time on Sundays.

- M-31.5** *During construction phases, the contractor shall store and maintain stationary noise generating equipment as far as possible from the adjacent residents.*
- M-31.6** *Contractor shall be restricted from playing loud music in the open construction area audible at local residences.*
- M-31.7** *During construction activities, LAUSD's construction manager shall serve as the contact person in the event that noise levels become disruptive to local residents. A sign will be posted at the site with the contact phone number.*
- M-31.8** *Prior to any work occurring within 50 feet of residential buildings, a written notice will be sent to those residences indicating the date, and time that construction is scheduled to occur. The notice shall include contact numbers of a construction manager.*
- M-31.9** *Noise baffling devices such as sound barriers shall be placed between powered equipment and homes within 100 feet of construction activities.*

Residual Impacts

Impacts would be less than significant with mitigation incorporated.

Impact 314: The proposed project would not expose persons to, or generate, excessive groundborne vibration or groundborne noise levels.

Under any of the alternatives of the proposed project, construction activities such as demolition, excavation, and grading have the potential to generate groundborne vibration in the area of the project site. Due to the close proximity of local residences to demolition activities (within 25 feet) and the age of the buildings, groundborne vibration may be felt at neighboring residences. Groundborne noise levels would be temporary in nature and would only occur during specified construction phases such as demolition and grading activities and would occur during non-noise sensitive times. Demolition and grading activities are anticipated to occur over a 46-day period. Due to the temporary nature of noise, impacts to local residences would be considered less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact 3I5: The proposed project would not expose students in the project area to excessive noise levels due to being located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or private airstrip.

The proposed project is not located within an airport land use plan or within 2 miles of a public use airport or private airstrip. Therefore, the project would not have the potential to expose people to excessive noise levels.

Mitigation Measures

No mitigation required.

Residual Impacts

Impacts would be less than significant.

Impact 3I6: Together with other area projects the proposed project would not have cumulative noise impacts.

Noise impacts from the construction and operation of the proposed project and other area projects would be localized and affect the immediate vicinity surrounding each project. This analysis is based on the Related Projects List provided in Chapter 2, Table 2-3. The listed projects include 42 projects located within two miles of the project site that are currently under construction, approved but not built, or proposed for development.

Table 3I-6, shows cumulative project impacts associated with noise on local roadways. As shown in Table 3I-6, noise associated with the cumulative increase in vehicle traffic would not represent a significant increase over existing conditions, and as such cumulative noise impacts would not be considered a significant impact.

The potential development of the 5.6-acre parcel in Alternative 5 would be required to abide by local noise ordinance regulating development within 200 feet of a school zone. As such, no cumulative noise impact is anticipated.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would not be cumulatively significant.