

APPENDIX B

Environmental Noise Assessment

***LOS ALTOS COMMUNITY CENTER MASTER PLAN
ENVIRONMENTAL NOISE ASSESSMENT
LOS ALTOS, CALIFORNIA***

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INTRODUCTION

The Los Altos Community Center (LACC) Master Plan was approved by the City of Los Altos on March 9, 2010. The potential for construction and operation of the LACC Master Plan to result in significant effects on the physical environment are evaluated in the Los Altos Community Center Master Plan Final EIR, which was certified by the City of Los Altos on March 9, 2010. The approved LACC Master Plan would reconstruct the existing City Hall, police station, community center, library, theater, soccer field, baseball field, bocce ball courts, and children's outdoor play areas and construct a new community pool facility on-site.

Existing development on the approximately 18-acre project site includes the Los Altos City Hall, Los Altos Police Station, Hillview Community Center, Los Altos Library, Los Altos Youth Center (LAYC), History House and Museum, Neutra House, and Bus Barn Theater. Other existing uses include an apricot orchard, a soccer field, a baseball field, two bocce ball courts, and two children's play areas. Except for the History House and Museum and Neutra House, all of the existing buildings on the project site (a total of 13 buildings) were approved to be demolished and removed as part of the proposed redevelopment of the site. The existing apricot orchard was also to be removed from the site.

The proposed uses, programming, and building areas of the revised master plan would remain the same as the original plan; however, some of the uses would be located in different areas of the Community Center site compared to the original plan and, therefore, additional environmental review is required.

This report evaluates potential noise impacts resulting from the update to the approved Master Plan project. The Setting Section of this report presents the fundamentals of environmental noise, describes regulatory criteria that are applicable in the project's assessment, and summarizes the results of the noise monitoring survey. The Impacts and Mitigation Measures Section describes the significance criteria used to evaluate project impacts, provides a discussion of each project impact, and presents mitigation measures where necessary to provide a compatible project in relation to surrounding noise sensitive land uses.

SETTING

Fundamentals of Environmental Noise

Noise may be defined as unwanted sound. Noise is usually objectionable because it is disturbing or annoying. The objectionable nature of sound could be caused by its *pitch* or its *loudness*. *Pitch* is the height or depth of a tone or sound, depending on the relative rapidity (frequency) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. *Loudness* is intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave in that it is a measure of the amplitude of the sound wave.

In addition to the concepts of pitch and loudness, there are several noise measurement scales which are used to describe noise in a particular location. A *decibel (dB)* is a unit of measurement which indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 decibels represents a ten-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10 decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities. Technical terms are defined in Table 1.

There are several methods of characterizing sound. The most common in California is the *A-weighted sound level (dBA)*. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Representative outdoor and indoor noise levels in units of dBA are shown in Table 2. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This *energy-equivalent sound/noise descriptor* is called L_{eq} . The most common averaging period is hourly, but L_{eq} can describe any series of noise events of arbitrary duration.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within about plus or minus 1 dBA. Various computer models are used to predict environmental noise levels from sources, such as roadways and airports. The accuracy of the predicted models depends upon the distance the receptor is from the noise source. Close to the noise source, the models are accurate to within about plus or minus 1 to 2 dBA.

Since the sensitivity to noise increases during the evening and at night -- because excessive noise interferes with the ability to sleep -- 24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The *Community Noise Equivalent Level (CNEL)* is a measure of the cumulative noise exposure in a community, with a 5 dB penalty added to evening (7:00 pm - 10:00 pm) and a 10 dB addition to nocturnal (10:00 pm - 7:00 am) noise levels. The *Day/Night Average Sound Level (L_{dn})* is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this three-hour period are grouped into the daytime period.

TABLE 1 Definition of Acoustical Terms Used in this Report

Term	Definition
Decibel, dB	A unit describing, the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20 micro Pascals.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micro Pascals (or 20 micro Newtons per square meter), where 1 Pascal is the pressure resulting from a force of 1 Newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e. g., 20 micro Pascals). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sound are below 20 Hz and Ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level, L_{eq}	The average A-weighted noise level during the measurement period.
L_{max} , L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
L_{02} , L_{08} , L_{25} , L_{50}	The A-weighted noise levels that are exceeded 2%, 8%, 25%, and 50% of the time during the measurement period.
Day/Night Noise Level, L_{dn} or DNL	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 pm and 7:00 am.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 pm to 10:00 pm and after addition of 10 decibels to sound levels measured in the night between 10:00 pm and 7:00 am.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source: Handbook of Acoustical Measurements and Noise Control, Harris, 1998.

TABLE 2 Typical Noise Levels in the Environment

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110 dBA	Rock band
Jet fly-over at 1,000 feet		
	100 dBA	
Gas lawn mower at 3 feet		
	90 dBA	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	80 dBA	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower, 100 feet	70 dBA	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60 dBA	
		Large business office
Quiet urban daytime	50 dBA	Dishwasher in next room
Quiet urban nighttime	40 dBA	Theater, large conference room
Quiet suburban nighttime		
	30 dBA	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	20 dBA	
	10 dBA	Broadcast/recording studio
	0 dBA	

Source: Technical Noise Supplement (TeNS), California Department of Transportation, September 2013.

Regulatory Criteria

The proposed project would be subject to noise-related regulations, plans, and policies established within documents prepared by the State of California and the City of Los Altos. These planning documents are implemented during the environmental review process to limit noise exposure at existing and proposed noise sensitive land uses. Applicable planning documents include: (1) the California Environmental Quality Act (CEQA) Guidelines, Appendix G, (2) the City of Los Altos General Plan, and (3) the City of Los Altos Municipal Code. Regulations, plans, and policies presented within these documents form the basis of the significance criteria used to assess project impacts.

State CEQA Guidelines. CEQA requires an evaluation of the significance of potential project noise impacts. Potential noise effects from a project are considered to cause a significant environmental impact if any of the following occur:

- 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 ground-borne vibration or ground-borne 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 airport, would the project expose people residing or working in the project area to excessive noise levels;
- f) for a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

Checklist items (a), (c), and (d) are relevant to the proposed project. Pile driving, the most common source of construction causing elevated vibration levels, is not expected with the project. There are no operational sources of groundborne vibration that would be perceptible beyond the project's boundaries. The project is not located in the vicinity of a public or private airstrip; therefore, checklist items (b), (e), and (f) are not carried forward in this analysis.

CEQA does not define what noise level increase would be considered substantial. Typically, project-generated noise level increases of 3 dBA $L_{dn}/CNEL$ or greater would be considered significant where exterior noise levels would exceed the normally acceptable noise level standard. Where noise levels would remain at or below the normally acceptable noise level

standard with the project, noise level increases of 5 dBA L_{dn} /CNEL or greater would be considered significant.

City of Los Altos General Plan

The City of Los Altos has established noise-related policies in the Natural Environment and Hazards Element of the General Plan in order to guide compatible development in the community. The following policies are applicable to the proposed project:

Policy 7.1: Ensure that new development can be made compatible with the noise environment by utilizing noise/land use compatibility standards and the Noise Contours Map as a guide for future planning and development decisions.

Policy 7.2: Enforce the following maximum acceptable noise levels for new construction of various noise-sensitive uses in an existing noise environment.

- ❖ 60 dBA CNEL is the maximum acceptable outdoor noise exposure level for single-family residential areas.
- ❖ 65 dBA CNEL is the maximum acceptable outdoor noise exposure level for multiple- family residential areas.
- ❖ 70 dBA CNEL is the maximum acceptable outdoor noise exposure level for schools (public and private), libraries, churches, hospitals, nursing homes, parks, commercial, and recreation areas. Excepted from these standards are golf courses, stables, water recreation, and cemeteries.

Policy 7.3: Work to achieve indoor noise levels not exceeding 45 dBA CNEL in the event that outdoor acceptable noise exposure levels cannot be achieved by various noise attenuation mitigation measures.

Policy 7.6: Consider noise attenuation measures to reduce noise levels to City-adopted acceptable levels for any development along roadways.

Policy 7.7: Require the inclusion of design features in development and reuse/revitalization projects to reduce the impact of noise on residential development.

Policy 7.8: Require an acoustical analysis for new construction and in areas with a higher than established noise levels.

Policy 7.9: Minimize stationary noise sources and noise emanating from construction activities.

City of Los Altos Municipal Code

The City of Los Altos Municipal Code, Title 6 'HEALTH AND SAFETY', Chapter 6.16 'Noise Control', establishes noise level limits as follows:

6.16.050 Exterior noise limits.

A. Maximum permissible sound levels by receiving land use.

1. The noise standards for the various categories of land use identified by the noise control office as presented in Table 3 of this section, unless otherwise specifically indicated, shall apply to all such property within a designated zone.
2. No person shall operate, or cause to be operated, any source of sound at any location within the city, or allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person, which causes the noise level, when measured on any other property, either incorporated or unincorporated, to exceed:
 - a. The noise standard for that land use as specified in Table 4 for a cumulative period of more than thirty (30) minutes in any hour; or
 - b. The noise standard plus five dB for a cumulative period of more than fifteen (15) minutes in any hour; or
 - c. The noise standard plus ten (10) dB for a cumulative period of more than five (5) minutes in any hour; or
 - d. The noise standard plus fifteen (15) dB for a cumulative period of more than one minute in any hour; or
 - e. The noise standard plus twenty (20) dB or the maximum measured ambient for any period of time.
3. If the measured ambient level exceeds that permissible within any of the first four noise limit categories above, the allowable noise exposure standard shall be increased in five dB increments in each category as appropriate to encompass or reflect such ambient noise level. In the event the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level.
4. If the noise measurement occurs on a property adjacent to a zone boundary, the noise level limit applicable to the lower noise zone, plus five dB, shall apply.

5. If possible, the ambient noise shall be measured at a consistent location on the property with the alleged offending noise source inoperative. If for any reason the alleged offending noise source cannot be shut down, the ambient noise shall be estimated by performing a measurement in the same general source at least ten (10) dB below the ambient in order that only the ambient level be measured. If the difference between the ambient and the noise source is five to ten (10) dB, then the level of the ambient itself can be reasonably determined by subtracting a one decibel correction to account for the contribution of the source.

B. Corrections for character of sound. In the event the alleged offensive noise contains a steady, audible tone, such as a whine, screech, or hum, or contains music or speech conveying informational content, the standard limits set forth in Table 3 shall be reduced by five dB.

TABLE 3: EXTERIOR NOISE LIMITS (Levels not to be exceeded more than 30 minutes in any hour)		
Receiving Land Use Category	Time Period	Noise Level (dBA)
All R1 Zoning Districts	10:00 p.m. -- 7:00 a.m.	45
	7:00 a.m. -- 10:00 p.m.	55
All R3 and PCF Zoning Districts	10:00 p.m. -- 7:00 a.m.	50
	7:00 a.m. -- 10:00 p.m.	55
All OA Zoning Districts	10:00 p.m. -- 7:00 a.m.	55
	7:00 a.m. -- 10:00 p.m.	60
All C Zoning Districts	10:00 p.m. -- 7:00 a.m.	60
	7:00 a.m.--10:00 p.m.	65

Source: City of Los Altos Municipal Code, June 2015

6.16.070 Prohibited acts.

A. Noise disturbances prohibited. No person shall unnecessarily make or continue, or cause to be made or continued, any noise disturbance.

B. Specific prohibitions. The following acts, and the causing or permitting thereof, are declared to be in violation of this chapter:

6. Construction and demolition.

a.

i. Single-family zoning districts. Operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration, or demolition work on weekdays before 7:00 a.m. and after

5:30 p.m. and on Saturdays before 9:00 a.m. or after 3:00 p.m. or any time on Sundays or the city observed holidays of New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day, such that the sound therefrom creates a noise disturbance across a residential or commercial real property line, except for emergency work of public utilities or by special exception. This section shall apply to operations on residentially zoned property only. This section shall not apply to the use of lawn or garden tools as specified in subsection (B)(11) of this section;

ii. All other zoning districts. Operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration, or demolition work on weekdays before 7:00 a.m. and after 7:00 p.m. and Saturdays before 9:00 a.m. or after 6:00 p.m. or any time on Sundays or the city observed holidays of New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day, such that the sound therefrom creates a noise disturbance across a residential or commercial real property line, except for emergency work of public service utilities or by special exception. This section shall apply to operations on properties other than residentially zoned property. This section shall not apply to the use of lawn or garden tools as specified in subsection (B)(11) of this section;

b. Where technically and economically feasible, construction activities shall be conducted in such a manner that the maximum noise levels at affected properties will not exceed those listed in the following schedules:

i. Mobile equipment. Maximum noise levels for the nonscheduled, intermittent, short-term operation (less than ten (10) days) of mobile equipment:

TABLE 4: Maximum Noise Levels for the nonscheduled, Intermittent, and Short-Term Operations (Less than ten (10) days)			
	All R1 Zoning Districts	All PCF and R3 Zoning Districts	All OA and C Zoning Districts
Daily, except Sundays and legal holidays 7:00 a.m. & 7:00 p.m.	75 dBA	80 dBA	85 dBA
Daily, 7:00 p.m. & 7:00 a.m. and all day Sundays and legal holidays	50 dBA	55 dBA	60 dBA

Source: City of Los Altos Municipal Code, June 2015

- ii. Stationary equipment. Maximum noise levels for the respectively scheduled and relatively long-term operation (periods of ten (10) days or more) of stationary equipment:

TABLE 5: Maximum Noise Levels for the Respectively Scheduled and Relatively Long-Term Operations (periods of ten (10) days or more)			
	All R1 Zoning Districts	All PCF and R3 Zoning Districts	All OA and C Zoning Districts
Daily, except Sundays and legal holidays 7:00 a.m. & 7:00 p.m.	75 dBA	80 dBA	85 dBA
Daily, 7:00 p.m. & 7:00 a.m. and all day Sundays and legal holidays	50 dBA	55 dBA	60 dBA

Source: City of Los Altos Municipal Code, June 2015

- c. Deliveries, start-up and closing down. The construction times above shall apply to deliveries of materials and equipment, and arrival of workers, start-up and closing down and departure activities on a job site.
12. Air-conditioning or air-handling equipment. Operating or permitting the operation of any air-conditioning or air-handling equipment in such a manner as to exceed any of the following sound levels without a variance:

TABLE 6: Air-Conditioning or Air-Handling Equipment Operational Sound Levels		
Measurement Location	93-PUD/R-1 zoned properties at Chester Circle* dB(A)	All other residentially zoned properties dB(A)
Any point on a neighboring property line, five feet above grade level, no closer than three feet from any wall	No standard	50
Center of a neighboring patio, five feet above grade level, no closer than three feet from any wall	45	45
Outside the neighboring living area window nearest the equipment location, not more than three feet from the window opening, but at least three feet from any other surface	55	45

* The standards set forth for all residential properties shall be utilized when a 93-PUD/R-1 zoned property adjoins a neighboring property outside of the 93-PUD/R-1 zone.

Source: City of Los Altos Municipal Code, June 2015

13. Swimming pool motors and equipment. Operating or permitting the operation of any swimming pool motor or swimming pool equipment, such that the sound therefrom creates a noise disturbance across a residential real property line or at any time violates the provisions of Section 6.16.050 of this chapter. Where such equipment exceeds 45 dBA at its maximum use, such equipment shall be enclosed in a noise attenuating structure.

Existing Noise Environment

Existing noise levels at the project site and in surrounding areas were quantified during a noise monitoring survey from Thursday, April 16, 2009 to Tuesday, April 21, 2009. Three long-term noise measurements (LT-1, LT-2, and LT-3) were made to document existing ambient noise levels in the vicinity of the project site. Figure 1 shows the project site and the noise measurement locations. The noise measurements made in 2009 continue to represent existing conditions as ambient noise levels in essentially built-out areas do not normally change substantially over relatively short periods of time.

Noise Measurement LT-1 was made on Hillview Avenue across from the existing soccer field. Hourly average noise levels ranged from 48 dBA L_{eq} to 66 dBA L_{eq} during daytime hours. Hourly average noise levels at night ranged from 36 dBA L_{eq} to 58 dBA L_{eq} . The Community Noise Equivalent Level ranged from 57 dBA CNEL during the weekend to 61 dBA CNEL during the week. Figures 2 through 6 show the daily trend in noise levels at measurement location LT-1.

Noise measurement LT-2 was made on the property line of homes near Eleanor Avenue and Edith Avenue. Daytime hourly average noise levels ranged from 44 dBA L_{eq} to 63 dBA L_{eq} , but were generally 45 dBA L_{eq} to 55 dBA L_{eq} . Hourly average noise levels at night ranged from 36 dBA L_{eq} to 55 dBA L_{eq} . The maximum instantaneous noise levels that occurred on weekdays were likely caused by landscaping activities (such as using leaf blowers) at or adjacent to the measurement site. The Community Noise Equivalent Level ranged from 51 dBA CNEL during the weekend to 57 dBA CNEL during the week. Figures 7 through 11 show the daily trend in noise levels at location LT-2.

Noise measurement LT-3 was made on the property line of homes located east of the existing baseball field. Daytime hourly average noise levels ranged from 38 dBA L_{eq} to 65 dBA L_{eq} , but were typically 45 dBA L_{eq} to 50 dBA L_{eq} . Hourly average noise levels at night ranged from 31 dBA L_{eq} to 48 dBA L_{eq} . The Community Noise Equivalent Level ranged from 49 dBA CNEL during the weekend to 54 dBA CNEL during the week. Figures 12 through 16 show the daily trend in noise levels at location LT-3.

NOISE IMPACTS AND MITIGATION MEASURES

Significance Criteria

Paraphrasing from Appendix G of the CEQA Guidelines, a project would normally result in significant noise impacts if noise levels generated by the project conflict with adopted environmental standards or plans or if ambient noise levels at sensitive receivers would be substantially increased over a permanent, temporary, or periodic basis. The following significance criteria were used to evaluate the significance of environmental noise resulting from the project:

- A significant noise impact would result if the project would expose persons to or generate noise levels that would exceed applicable noise standards presented in the General Plan or Municipal Code.
- A significant impact would be identified if traffic generated by the project would substantially increase noise levels at sensitive receivers in the vicinity. A substantial increase would occur if noise levels with the project would be 3 dBA CNEL or greater above existing conditions.
- A significant noise impact would be identified if construction related noise would temporarily increase ambient noise levels. Construction noise would be considered significant when:
 - Noise from construction activities would exceed 60 dBA L_{eq} and the ambient noise environment by at least 5 dBA L_{eq} for a period of one year or more at exterior areas of uses sensitive to noise inside and outside (e.g., residences, residential care facilities, schools, libraries); or
 - Noise from construction activities would exceed 70 dBA L_{eq} and the ambient noise environment by at least 5 dBA L_{eq} for a period of one year or more at the exterior of offices or other commercial, retail, or institutional uses with interior spaces sensitive to noise.

Impact 1: Noise and Land Use Compatibility. Exterior noise levels at portions of the project site would exceed the City's maximum acceptable outdoor noise exposure standards. **This is a significant impact.**

Phases 1A and 1B of the Updated Master Plan would construct a new Community Center with underground parking, pool facility, surface parking, and play fields along Hillview Avenue. The Police Station, Youth Center, City Hall, Library, History House and Grounds, History Museum, and Theater would remain unchanged during Phase 1 of the Updated Master Plan project. During Phases 2 and 3, City Hall, the Police Station, and the Library would either be reconstructed at

their respective existing locations or constructed as detailed in the 2010 Master Plan. Under Phase 4 the Bus Barn Theater would be demolished and reconstructed in place or as detailed in the 2010 Master Plan.

Phase 1 of the Updated Master Plan

The future exterior noise environment at sensitive exterior use areas along Hillview Avenue is calculated to remain below 60 dBA CNEL and would be compatible with the planned uses envisioned as part of Phase 1 of the Updated Master Plan. The Community Center, pool facility, and play fields would be located over 30 feet from the center of the near Hillview Avenue travel lane. Exterior noise levels at these use areas are calculated to be 58 dBA CNEL or less. Exterior noise levels at the Community Center, pool facility, and play fields would meet the City's threshold for maximum acceptable noise levels for new construction (70 dBA CNEL).

Phases 2, 3 and 4 of the Updated Master Plan (Reconstructed in Place)

Assuming the reconstruction of City Hall, the Police Station, Library and Theater in their respective existing locations, traffic noise levels generated along San Antonio Road would not exceed the City of Los Altos' "conditionally acceptable" exterior noise limit of 70 dBA CNEL at the facades of these buildings. Based on a review of the noise contour data presented in the City's General Plan, future exterior noise levels at a distance of 50 feet from the center of the near travel lane (72 feet from the centerline of the roadway) would be approximately 71 dBA CNEL. The Library and City Hall would be approximately 63 feet from the center of the near travel lane (85 feet from the centerline) of San Antonio Road and exposed to exterior noise levels of approximately 70 dBA CNEL. According to General Plan Policy 7.2, 70 dBA CNEL is the maximum acceptable outdoor noise exposure level for libraries and theaters (consistent with the uppermost limit of the "conditionally acceptable" category as identified in General Plan Table NEH-1, Land Use Compatibility Standards). City Hall and the Police Station would fall under the office building, business commercial, and professional designation as indicated in the General Plan land use compatibility standards table. The maximum "conditionally acceptable" noise level for such a use would be 75 dBA CNEL. For an office development, the noise and land use compatibility guidelines are designed to screen projects and provide guidance in determining when special building sound insulation treatments may be necessary in order to adequately control the intrusion of environmental noise. The reconstructed City Hall, Police Station, Library and Theater would not be exposed to exterior noise levels exceeding the maximum acceptable outdoor noise exposure level.

Phases 2, 3 and 4 of the 2010 Master Plan

The Police Station and Library would be exposed to the highest noise levels given their proximity to San Antonio Road, the predominant source of noise in the vicinity of the project site. Based on the noise contour data presented in the City's General Plan, future exterior noise levels at a distance of 50 feet from the center of the near travel lane (the approximate setback of these buildings) would be approximately 71 dBA CNEL. According to General Plan Policy 7.2,

70 dBA CNEL is the maximum acceptable outdoor noise exposure level for libraries (consistent with the uppermost limit of the “conditionally acceptable” category as identified in General Plan Table NEH-1, Land Use Compatibility Standards). The proposed Library would be exposed to exterior noise levels 1 dBA CNEL above the maximum acceptable outdoor noise exposure level. There do not appear to be any proposed outdoor activity areas at the Library that would be sensitive to noise; however, interior noise levels could be unacceptable for the proposed use if noise control is not considered during building design.

The proposed Police Station would fall under the office building, business commercial, and professional designation as indicated in the General Plan land use compatibility standards table. The maximum “conditionally acceptable” noise level for such as use would be 75 dBA CNEL. Traffic noise levels at the Police Station are estimated to reach 71 dBA CNEL, 4 dBA CNEL below the maximum “conditionally acceptable” noise level. For an office development, the noise and land use compatibility guidelines are designed to screen projects and provide guidance in determining when special building sound insulation treatments may be necessary in order to adequately control the intrusion of environmental noise. Similar to that of the Library above, interior noise levels could be unacceptable in sensitive offices or conference rooms use if noise control is not considered during building design.

Noise levels at City Hall and the Theater, which would be located approximately 225 feet and 350 feet from the centerline of San Antonio Road, would be approximately 64 and 61 dBA CNEL, respectively, and below the acceptable noise level (i.e., 70 dBA CNEL).

Mitigation Measure 1:

An acoustical consultant should participate in the design of the Library and Police Station buildings proposed as part of the 2010 Master Plan to recommend project specific measures that would adequately reduce interior noise to levels appropriate for the proposed use. A detailed analysis should be conducted so that the design of the project incorporates treatments necessary to minimize noise intrusion in noise sensitive areas. Mitigation may include the incorporation of a complete forced-air mechanical ventilation system and sound-rated windows to allow occupants to control traffic noise intrusion by closing windows and doors.

Impact 2: On-Site Project Operational Noise. Noise levels generated by the operation of the project may exceed the standards established in the Los Altos General Plan and Municipal Code. **This is a significant impact.**

Mechanical Equipment

The operation of the project would introduce new sources of noise that may permanently increase noise levels at adjacent residential receivers. Mechanical equipment normally associated with such land uses can include heating, ventilation, and air conditioning systems, boilers, pumps, exhaust fans, etc., which produce fairly steady noise levels while the equipment is in operation. The City’s Municipal Code would regulate noise from such equipment. For steady

noise (noise occurring more than 30 minutes in an hour) the Code requires that noise levels not exceed 55 dBA L_{50} during the day or 45 dBA L_{50} at night. If the noise involves a steady, audible tone such as a whine, screech or hum, the allowable noise or sound level is reduced by 5 dBA.

Noise levels generated by the project would be dependent on the number and type of equipment selected for the project, the location of the equipment relative to nearby sensitive receivers, and the presence of shielding. If noise from mechanical equipment is not properly controlled and occurs during nighttime hours, noise levels could exceed the Municipal Code noise level limits. Given the proximity of the adjacent residential receivers and relatively low ambient baseline noise levels, the impact is significant.

Parking Lot Activities

Surface parking would be provided throughout the site and would adjoin existing residential land uses located to the north and east. In addition, underground parking garages would be located below the Community Center, Library, and Police Station. In some areas, the Master Plan project would construct new parking areas immediately adjacent to residences east of the site. Noise levels resulting from vehicle passbys, door slams, and engine starts would not be expected to last a cumulative duration of more than one minute in any hour at nearby receivers. Therefore, the applicable daytime noise limit would be 70 dBA L_2 and the nighttime noise limit would be 65 dBA L_2 . The sound of a passing car at 15 mph would typically range from 55 dBA to 65 dBA at 25 feet. The noise of an engine start and door slams would be similar. Maximum noise levels resulting from the operation of the parking lots at the perimeter of the site would not be expected to exceed 70 dBA for more than one minute in any hour during the daytime. Activities occurring at night would be less frequent and similarly would not be expected to exceed 65 dBA for more than one minute in any hour. Parking lot noises would be identifiable and audible at residences in the site vicinity. However, parking lot noise would not exceed Municipal Code standards and would not substantially increase hourly or daily average noise levels at adjacent residential receivers.

Play Fields

The Updated Master Plan project would relocate the existing soccer field from its current location along Hillview Avenue, northeast and nearer to Cielito Drive and East Edith Avenue residences that border the existing baseball field. The soccer field would be used for soccer games, practice, instruction, summer camps, and other outdoor uses. The proposed soccer field would not have lights for evening use. The primary noise-generating community use of the field would be organized soccer games. The average noise level at 50 feet from the center of the field would be 68 dBA L_{eq} during a soccer game, and maximum instantaneous noise levels would range from about 68 dBA to 73 dBA L_{max} . At the nearest residential properties, approximately 100 feet east, noise levels would be about 6 dBA lower. Average noise levels resulting from soccer would be 62 dBA L_{eq} and maximum instantaneous noise levels would range from 62 to 67 dBA L_{max} at adjoining Cielito Drive and East Edith Avenue residences. The sounds of children or adults using the soccer field would exceed the adjusted $L_{(50)}$ noise limit (50 dBA recognizing

that the noise source contains speech conveying informational content) established in the Municipal Code and would substantially exceed typical daytime ambient noise levels (45 to 55 dBA L_{eq}) currently received along the east property line of the project site.

The baseball field would be relocated from its current location southwest of the intersection of Cielito Drive and East Edith Avenue southeast to the current location of the Community Center. The proposed baseball field would be used for baseball games and other summer camp and community events. The field would not include lighting to allow evening use. Illingworth & Rodkin, Inc. has made measurements of the noise generated by baseball games at several locations throughout the Bay Area. Little League baseball games typically generate “worst case” noise levels of about 57 dBA L_{eq} at a distance of 100 feet from the center of the infield. Maximum instantaneous noise levels of about 65 dBA typically result from baseballs being hit and shouting from players and spectators. Average noise levels resulting from baseball would be 52 dBA L_{eq} and maximum instantaneous noise levels would be approximately 60 dBA L_{max} at adjoining East Edith Avenue and Eleanor Avenue residences located approximately 170 feet from the center of the infield. The sounds of children or adults using the baseball field would exceed the adjusted $L_{(50)}$ noise limit (50 dBA recognizing that the noise source contains speech conveying informational content) established in the Municipal Code and could at times exceed typical daytime ambient noise levels (45 to 55 dBA L_{eq}) currently received along the east property line of the project site.

Pool Facility

The pool facility is proposed on the southernmost portion of the project site, east of the proposed Community Center and south of the proposed soccer field. The pool facility would replace existing sources of noise, including the soccer field, surface parking, and Community Center with a new and different source of noise. The primary differences between noises generated by a pool facility as compared to noises resulting from the existing uses is that pool facilities tend to generate higher average and maximum noise levels noise on a more frequent basis.

The pool facility would be similar to the pool facility previously proposed at Covington Park and would likely include one competitive pool, one recreational pool, a water feature, and buildings intended to contain ancillary uses such as offices, locker room, and a mechanical room. General uses of the pool facility will likely include lap swim, community youth programs, and water exercise. The pools would also be available for activities such as kayaking, SCUBA diving, synchronized swimming, Special Olympics, and private rentals. The pool facility will be open every day throughout the year. Outdoor lighting would be located throughout the pool facility to allow evening use. A public announcement (PA) system would be used within the pool facility. The PA system would mainly be used during competition events and emergencies.

Noise data collected by Illingworth & Rodkin, Inc. for similar community pool projects were used to create a credible worst-case source noise level for the proposed pool facility. These data are based on noise levels measured at the Ridgway Pool in Santa Rosa, California between August 10th and 14th, 2006. There are two pools at Ridgway, a recreation pool with a slide and

water play features, and a lap pool. The Lap Pool is 75-feet by 75-feet, the Rec Pool is 35-feet by 50-feet, and the slide is about 20-feet tall and has a 140-foot running length. Unattended measurements were made at one location on the fence located on the south side of the pool facility directly opposite the end of the recreation pool that includes the water features and water slide. The measurement was nearer the water feature and further from the water slide. Through observations at the site, this measurement location was determined to be approximately 70 feet from the acoustic center of the recreation pool. The measurements began at 6:00 p.m. on Thursday, August 10, 2006 and concluded at about 4:30 p.m. on Monday, August 14, 2006. The schedule for activities at the pool during this time period and the number in attendance during the recreational swim periods were obtained from the City of Santa Rosa.¹ Attendance at the Ridgway facility was generally quite heavy during the measurement period, as it was the last summer weekend prior to the start of school in Santa Rosa. The schedule of activities is shown on Table 7.

Table 7
Program and Attendance Figures at Ridgway Pool, Santa Rosa, California
August 10-14, 2006

Thursday August 10	12:00pm-4:00pm - Public Swim 4:15pm-7:15pm – Swim Lessons 4:00pm-8:00pm – Neptune Swim Team 7:00pm-9:00pm – Kayak Practice	Slide & Play Features ON; attendance 380
Friday August 11	6:00am-7:00am – Master Swim Team 7:30am-9:00am – Neptune Swim Team 9:30am-1:00pm – Lap Swim 12:00pm-4:00pm – Public Swim 4:00pm-7:30pm – Neptune Swim Team 7:30pm-9:30pm – Late Night Public Swim	Slide & Play Features ON; attendance 300 Slide & Play Features on: attendance 170
Saturday August 12	7:30am-9:30am – Neptune Swim Team 9:30am-1:00pm – Lap Swim 1:15pm-6:00pm – Public Swim 6:30pm-8:30pm – Pool Rental	Slide & Play Features ON; attendance 170 Slide & Play Features ON; attendance 200
Sunday August 13	9:30am-1:00pm – Lap Swim 1:15pm-6:00pm –Public Swim 6:30pm-8:30pm – Pool Rental	Slide & Play Features ON; attendance 150 Slide & Play Features ON; attendance 100
Monday August 14	6:00am-7:00am – Masters Swim Team 9:30am-1:00pm – Lap Swim	

Source: City of Santa Rosa

¹ Email from Don Hicks, Recreation Supervisor, Santa Rosa Recreation and Parks Department to Richard Rodkin, September 5, 2006.

In reviewing the noise level data against the activities that were occurring at the time, it can be seen that the highest noise levels result from public swimming and pool rental periods when the slide and play features were turned on. This typically occurred between 1:00 pm and 8:30-9:30 pm. When the pool was being used in the morning for swim team activities and lap swimming, the measured noise levels at this site were affected by noise from the pool, and by distant traffic on Mendocino Avenue and Ridgway Avenue. During the noisier pool hours, the noise environment is dominated by the noise from the water features and the children playing. The children playing are the dominant noise source during public swim. The data indicate that the steady noise from the water features (in the absence of the children playing) typically ranged from about 64 to 65 dBA. The water features at Ridgway Pool include a mushroom and dump buckets that are the most significant noise sources generated by the water, and to a lesser degree, water shooting down the slide. Superimposed on this is the sound of children playing, which generated average noise levels from approximately 65 to 70 dBA L_{eq} and maximum noise levels ranging from about 72 to 82 dBA L_{max} . There were occasional excursions above this range but they were most likely due to a noisy child near the sound level meter. Master swim and lap swim generated noise levels at least 10 dBA lower, with average noise levels typically in the range of 50 to 57 dBA and maximum noise levels typically in the range of 65 to 70 dBA.

Short-term attended measurements were made at Ridgway Pool during the mid-afternoon on Saturday, August 12. Measurements were made to the east and southeast of the pool at a distance of 80 meters (approximately 260 feet) from the pool. The average noise level at these locations was about 54 to 55 dBA L_{eq} . Noise levels at the pool were about 66 to 67 dBA L_{eq} at the same times. During these measurements, the dominant noise sources were noted that were contributing to the measured levels. It was apparent that the dominant noise sources were the water features and the children playing in the recreation pool. Children on the slide were only occasionally audible and identifiable and made no measurable contribution to average or maximum noise levels during the attended noise survey. There were sometimes as many as 6 to 8 children lined up near the top of the slide, but they were orderly and were not boisterous. There was a supervisor stationed at the top of the slide.

Recreational swimming periods are clearly the noisiest activities associated with a public swimming pool complex. At the Ridgway Pool in Santa Rosa, the time period beginning at 1:00 pm and ending at 9:00 pm on Friday, Saturday, and Sunday afternoons/evenings was the time period when there was nearly continuous recreational swimming. This time period was selected to characterize credible worst-case noise levels that could be generated at the pool. Based on these data, a source noise level of 67 dBA L_{eq} at a distance of 70 feet from the acoustic center of the pool facility is used.

The nearest residential land uses are located approximately 140 feet south of the acoustic center of the proposed pool facility. Average noise levels would be about 61 dBA L_{eq} at the nearest receivers to the south. Maximum noise levels would range from about 66 to 76 dBA L_{max} at the nearest receivers south of Hillview Avenue. Noise levels resulting from the proposed pool facility would exceed the adjusted Municipal Code noise limit for steady noise (50 dBA L_{50}),

allowable maximum noise levels, and ambient traffic noise levels resulting from Hillview Avenue. This would represent a significant noise impact.

Mitigation Measures 2:

- Locate the heating, ventilating, and air conditioning (HVAC) equipment away from adjacent residences located to the north and east of the project site. Shield rooftop mechanical equipment with rooftop screens or perimeter parapet walls, employ noise control baffles, sound attenuators, or enclosures where required. The goal of this mitigation is achieve a continuous noise level of 45 dBA or less at the adjacent residential property line as stated in City's Municipal Code. HVAC noise controls shall be analyzed and reviewed by a qualified acoustical consultant prior to issuance of a building permit.
- Construct a six to eight-foot noise barrier along the site's eastern property boundaries common to residences along Cielito Drive, East Edith Avenue, and Eleanor Avenue. Suitable materials include wood (when properly detailed), concrete or masonry panels, or masonry block. The final design of the noise barrier shall be confirmed when grading plans are complete.
- Utilize buildings and noise barriers to attenuate pool facility noise to below Municipal Code noise level limits.
- The use of loudspeakers or public address systems shall be prohibited before 7:00 a.m. or after 10:00 p.m. daily. The selected public address system shall not generate maximum noise levels exceeding 50 dBA at neighboring residential properties.
- Signs shall be posted in the parking lot reminding park users to be good neighbors. Automobile stereos shall be turned off while in the parking lot.

Impact 3: Off-Site Traffic Noise Increases. Project traffic would not substantially increase traffic noise levels along area roadways. **This is a less-than-significant impact.**

Traffic data provided by AECOM was reviewed to calculate potential project-related traffic noise level increases along roadways serving the project site. These data included turning movement counts at six intersections for existing conditions and projections for proposed project trips. Link volumes under the existing plus project scenario were compared to existing conditions to calculate the noise increase attributable to the project. The turning movement data indicates that traffic volumes in the site vicinity will increase as a result of the proposed project. Traffic noise levels due to the proposed project are calculated to increase by less than 2 dBA CNEL above existing traffic noise conditions along Hillview Avenue (west of the proposed driveway) and by less than 1 dBA CNEL along all other roadways serving the project site (including Hillview Avenue east of the proposed driveway). Traffic noise increases resulting from the

proposed project would not increase by 3 dBA CNEL or more and would not be considered substantial. This is a less-than-significant impact.

Mitigation 3: None Recommended.

Impact 4: Construction Noise. Noise generated by construction activities is anticipated to exceed the average and maximum instantaneous noise level limits identified in the significance criteria. **This is a significant impact.**

The construction of the updated Master Plan project would be completed in four phases (Phase 1A, 1B, 2, and 3) and would extend over several construction seasons. Construction activities would include demolition, grading, paving, installation of underground utilities, and construction of the proposed buildings and associated underground parking, playfields, and pool facility.

Noise impacts resulting from construction depend on the noise generated by various pieces of construction equipment, the timing and duration of noise generating activities, and the distance between construction noise sources and noise sensitive areas. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (e.g., early morning, evening, or nighttime hours), the construction occurs in areas immediately adjoining noise sensitive land uses, or when construction lasts over extended periods of time.

The significance criteria developed to assess project-related construction noise impacts uses both hourly average noise levels and maximum instantaneous noise levels for comparative purposes. On an hourly average noise level basis, construction noise would be considered significant when:

- Noise from construction activities would exceed 60 dBA L_{eq} and the ambient noise environment by at least 5 dBA L_{eq} for a period of one year or more at exterior areas of uses sensitive to noise inside and outside (e.g., residences, residential care facilities, schools, libraries); or
- Noise from construction activities would exceed 70 dBA L_{eq} and the ambient noise environment by at least 5 dBA L_{eq} for a period of one year or more at the exterior of offices or other commercial, retail, or institutional uses with interior spaces sensitive to noise.

As stated in the Municipal Code, construction activities occurring on weekdays before 7:00 a.m. and after 7:00 p.m. and Saturdays before 9:00 a.m. or after 6:00 p.m. or any time on Sundays or the city observed holidays are prohibited if the sound there from creates a noise disturbance across a residential or commercial real property line, except for emergency work of public service utilities or by special exception. The Municipal Code also states that where technically and economically feasible, construction activities shall be conducted in such a manner that the maximum noise levels at affected residential properties will not exceed 75 dBA L_{max} between 7:00 a.m. and 7:00 p.m. daily except Sundays and legal holidays. Maximum instantaneous noise levels at adjacent office land uses should not exceed 85 dBA L_{max} .

Construction activities generate considerable amounts of noise, especially during the demolition phase and the construction of project infrastructure when heavy equipment is used. Tables 8 and 9 show typical noise levels generated by construction equipment at a distance of 50 feet from the source and at a distance of 50 feet from the construction activity center, respectively. Maximum instantaneous noise levels generated by construction activities would range from 90 to 98 dBA L_{max} at a distance of 50 feet from the source. Typical hourly average noise levels during active construction would range from about 77 to 89 dBA L_{eq} measured at 50 feet from the center of the site during busy construction periods. Construction generated noise levels drop off at a rate of about 6 dBA per doubling of distance away from the source. Shielding provided by buildings or terrain often results in much lower construction noise levels at distant receptors.

Table 10 summarizes the anticipated hourly average (L_{eq}) and maximum instantaneous (L_{max}) noise levels expected at receivers near the site during each phase of the project. Construction noise levels were estimated from the center of the construction area. A 10 dB reduction was applied to unattenuated construction noise levels where existing or future buildings would provide acoustical shielding. Estimated construction noise levels at residential land uses exceeding 60 dBA L_{eq} (and 70 dBA L_{eq} for office uses) or 75 dBA L_{max} (and 85 dBA L_{max} for office uses) are indicated in bold to show the receivers that would be exposed to construction noise levels exceeding the significance criteria developed for the noise impact assessment.

	A-Weighted Noise Level (dB) at 50 Feet						
	60	70	80	90	100	110	
<i>Earth Moving:</i>							
Compactors (Rollers)			██████████				
Front Loaders			██████████				
Backhoes			██████████				
Bulldozers			██████████				
Scrapers, Graders			██████████				
Pavers			██████████				
Trucks			██████████				
<i>Materials Handling:</i>							
Concrete Mixers			██████████				
Concrete Pumps			██████████				
Cranes (Movable)			██████████				
Cranes (Derrick)				██████████			
<i>Stationary:</i>							
Pumps			██████████				
Generators			██████████				
Compressors			██████████				
<i>Impact Equipment:</i>							
Pneumatic Wrenches				██████████			
Jackhammers & Rock Drill			██████████				
Pile Drivers (Peak)				██████████			
<i>Others:</i>							
Vibrators			██████████				
Saws			██████████				

Source: Handbook of Noise Control, Cyril M. Harris, 1979

Construction Equipment Noise Level Range	TABLE 8
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TABLE 9 Typical Ranges of Noise Levels at 50 Feet from Construction Sites (dBA L_{eq})

	Domestic Housing		Office Building, Hotel, Hospital, School, Public Works		Industrial Parking Garage, Religious Amusement & Recreations, Store, Service Station		Public Works Roads & Highways, Sewers, and Trenches	
	I	II	I	II	I	II	I	II
Ground Clearing	83	83	84	84	84	83	84	84
Excavation	88	75	89	79	89	71	88	78
Foundations	81	81	78	78	77	77	88	88
Erection	81	65	87	75	84	72	79	78
Finishing	88	72	89	75	89	74	84	84

I - All pertinent equipment present at site.

II - Minimum required equipment present at site.

Source: United States Environmental Protection Agency, 1973, Legal Compilation on Noise, Vol. 1, p. 2-104.

TABLE 10 Construction Noise Levels by Phase

Receivers	Construction Phase and Duration	Distance from Acoustic Center of Activities (feet)	Average Noise Level Range (dBA)	Maximum Instantaneous Noise Level Range (dBA)
West of San Antonio Road	1A - 18 to 24 months	850	52-64	65-73
Navajo Lane/Sioux Lane	1A - 18 to 24 months	740	54-66	67-75
Cielito Drive/East Edith Avenue	1A - 18 to 24 months	490	57-69	70-78
Eleanor Avenue	1A - 18 to 24 months	640	55-67	68-76
Hillview Avenue	1A - 18 to 24 months	170	66-78	79-87
San Antonio - Hillview Offices	1A - 18 to 24 months	270	62-74	75-83
West of San Antonio Road	1B - 10 to 12 months	1,090	50-62	63-71
Navajo Lane/Sioux Lane	1B - 10 to 12 months	720	54-66	67-75
Cielito Drive	1B - 10 to 12 months	330	61-73	74-82
Eleanor Avenue/East Edith Avenue	1B - 10 to 12 months	110	70-82	83-91

Receivers	Construction Phase and Duration	Distance from Acoustic Center of Activities (feet)	Average Noise Level Range (dBA)	Maximum Instantaneous Noise Level Range (dBA)
Hillview Avenue	1B - 10 to 12 months	330	61-73	74-82
San Antonio - Hillview Offices	1B - 10 to 12 months	670	54-66	67-75
West of San Antonio Road	2 - 12 to 24 months	450	58-70	71-79
Navajo Lane/Sioux Lane	2 - 12 to 24 months	150	67-79	80-88
Cielito Drive/East Edith Avenue	2 - 12 to 24 months	350	60-72	73-81
Eleanor Avenue	2 - 12 to 24 months	850	52-64	65-73
Hillview Avenue	2 - 12 to 24 months	800	53-65	66-74
San Antonio - Hillview Offices	2 - 12 to 24 months	500	57-69	70-78
West of San Antonio Road	3 - 10 to 12 months	250	63-75	76-84
Navajo Lane/Sioux Lane	3 - 10 to 12 months	550	56-68	69-77
Cielito Drive	3 - 10 to 12 months	600	55-67	68-76
Eleanor Avenue/East Edith Avenue	3 - 10 to 12 months	950	51-63	64-72
Hillview Avenue	3 - 10 to 12 months	600	55-67	68-76
San Antonio - Hillview Offices	3 - 10 to 12 months	200	65-77	78-86
West of San Antonio Road	4 - 10 to 16 months	850	52-64	65-73
Navajo Lane/Sioux Lane	4 - 10 to 16 months	640	55-67	68-76
Cielito Drive	4 - 10 to 16 months	330	61-73	74-82
Eleanor Avenue/East Edith Avenue	4 - 10 to 16 months	550	56-68	69-77
Hillview Avenue	4 - 10 to 16 months	290	61-73	74-82
San Antonio - Hillview Offices	4 - 10 to 16 months	350	60-72	73-81

Phase 1A would demolish the existing soccer field and construct the Community Center, bocce courts, children's play areas, and underground parking garage. Phase 1A would be completed over a period of approximately 18-24 months. As indicated in Table 10, construction Phase 1A would result in hourly average noise levels exceeding 60 dBA L_{eq} at most receivers adjoining the site during portions of the construction period. Maximum instantaneous noise levels would

exceed 75 dBA L_{max} at receivers north of the site along Navajo Lane, Sioux Lane, Cielito Drive, East Edith Avenue, Eleanor Avenue, and Hillview Avenue. Maximum instantaneous noise levels would not exceed 85 dBA L_{max} at the San Antonio offices west of the Phase 1A site. The highest noise levels would occur at residences south of the site along Hillview Avenue where hourly average noise levels would be expected to range from 66 to 78 dBA L_{eq} . Maximum noise levels would be expected to range from 79 to 87 dBA L_{max} .

Phase 1B would demolish the existing baseball field, existing Community Center, and existing surface parking, and construct the pool facility, baseball field, soccer field, children's play area, and surface parking. Phase 1B would last approximately 10-12 months. This construction phase would generate hourly average noise levels exceeding 60 dBA L_{eq} at all adjacent land uses and maximum instantaneous noise levels exceeding 75 dBA L_{max} at receivers in the Cielito, Eleanor, East Edith, and Hillview neighborhoods. Hourly average noise levels would not exceed 70 dBA L_{eq} , and maximum instantaneous noise levels would not exceed 85 dBA L_{max} , at the San Antonio-Hillview office buildings west of the site.

Phase 2 would last approximately 12 - 24 months and would consist of the demolition of City Hall, the Los Altos Youth Center, and the Police Station, and the construction of City Hall, the Police Station, intersection improvements, and open space. As indicated in Table 10, construction activities occurring as part of Phase 2 would result in hourly average noise levels exceeding 60 dBA L_{eq} at receivers adjoining the site. Maximum instantaneous noise levels would exceed 75 dBA L_{max} at receivers west of San Antonio Road, north of the site along Navajo Lane and Sioux Lane, and along Cielito Drive.

Phase 3 would demolish the existing library and construct the proposed library and underground parking garage. Phase 3 would also last approximately 10 to 12 months. Phase 3 construction activities would generate hourly average noise levels exceeding 60 dBA L_{eq} at receivers west of the site across San Antonio Road, east of the site along Cielito Drive, Eleanor Avenue, East Edith Avenue, and south of the site along Hillview Avenue. Maximum instantaneous noise levels would exceed 75 dBA L_{max} at receivers west of San Antonio Road and along Cielito Drive and Hillview Avenue. Phase 3 construction activities would also result in hourly average and maximum instantaneous noise levels above 70 dBA L_{eq} and 85 dBA L_{max} , respectively, at the San Antonio-Hillview office buildings.

Phase 4 would demolish the existing Bus Barn Theater and construct the proposed Theater, and would last approximately 10 to 16 months. Phase 4 construction activities would generate hourly average noise levels ranging from 52 to 73 dBA L_{eq} and maximum instantaneous noise levels ranging from 65 to 82 dBA L_{max} at the nearest residential receivers. Phase 4 construction activities would also result in hourly average noise levels above 70 dBA L_{eq} at the San Antonio-Hillview office buildings. Hourly average noise levels would not exceed 85 dBA L_{max} at the office buildings west of the site.

The active uses on the project site would be exposed to the highest levels of construction noise. Some of the existing and proposed buildings contain noise-sensitive interior spaces, particularly the Library, City Hall, and Police Station. Given that on-site facilities would continue to operate throughout the entire construction process, employees and frequent visitors to the site would be exposed to the intermittent construction noise for up to 19 years.

As with off-site uses, noise levels at the existing and proposed buildings on the project site would vary as the distance to the active construction area changes and new buildings are constructed between the noise source and the receiver, which would partially shield the receiver from construction noise.

Mitigation 4: Develop a construction mitigation plan in close coordination with adjacent noise-sensitive land uses so that construction activities can be scheduled to minimize noise disturbance. The construction mitigation plan shall consider the following available controls to reduce construction noise levels as low as practical.

- Pursuant to the Municipal Code, restrict noise-generating activities at the construction site or in areas adjacent to the construction site to the hours between 7:00 a.m. and 7:00 p.m., Monday through Friday and 9:00 a.m. to 6:00 p.m. on Saturday. Construction shall be prohibited on Sundays and city observed holidays.
- Construct solid plywood fences (minimum 8 feet in height) around the construction site or near the residential property line to shield adjacent residences;
- Equip all internal combustion engine-driven equipment with mufflers, which are in good condition and appropriate for the equipment;
- Prohibit all unnecessary idling of internal combustion engines;
- Route construction related traffic to and from the site via designated truck routes and avoid residential streets where possible;
- Utilize “quiet” models of air compressors and other stationary noise sources where technology exists;
- Locate all stationary noise-generating equipment, such as air compressors and portable power generators, as far away as possible from adjacent land uses;
- Shield adjacent sensitive uses from stationary equipment with individual noise barriers or partial acoustical enclosures;
- Locate staging areas and construction material storage areas as far away as possible from adjacent land uses;

- Notify all adjacent land uses of the construction schedule in writing;
- Designate a "disturbance coordinator" who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and will require that reasonable measures warranted to correct the problem be implemented. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include it in the notice sent to neighbors regarding the construction schedule.

Impact 5: Cumulative Traffic Noise. Cumulative traffic conditions would not substantially increase traffic noise levels along area roadways, and the project would not make a cumulatively considerable contribution (1 dBA CNEL or more) to the cumulative noise increase. **This is a less than significant impact.**

The project would result in a significant cumulative traffic noise impact if noise levels at existing sensitive receivers would be substantially increased (i.e., 5 dBA CNEL above existing traffic noise levels where noise levels would remain at or below 60 dBA CNEL or 3 dBA CNEL above existing traffic noise levels where noise levels would exceed 60 dBA CNEL) and if the Project would make a "cumulatively considerable" contribution to the overall traffic noise level increase. A "cumulatively considerable" contribution would be defined as an increase of 1 dBA CNEL or more attributable solely to the proposed project.

Traffic noise levels in the project vicinity are calculated to not increase substantially over the long-term as the area is generally built-out. Cumulative traffic noise level increases resulting from the project were calculated by comparing cumulative plus project traffic volumes to cumulative no project volumes. Cumulative traffic noise levels are calculated to increase by 2 dBA CNEL or less over existing conditions along roadways serving the project site. The project's contribution to cumulative noise level increases would be less than 1 dBA CNEL in the long-term. This increase in noise would not be substantial or "cumulatively considerable". This is a less than significant impact.

Figure 1: Noise Measurement Locations and Site Design Concept

Core Site Design Concept

