

**APPENDIX H**  
**Noise Technical Report**



# Collier Park Renovations Project Noise Technical Report

Prepared for  
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# 1.0 Executive Summary

This report assesses potential noise and vibration impacts associated with the implementation of the Collier Park Renovations Project, herein referred to as the project. The project consists of an approximately 7.7-acre park located at 4401 Palm Avenue in the City of La Mesa, San Diego County, situated between Palm Avenue to the west and 4<sup>th</sup> Street/Upland Street to the east. This report examines the impacts of the proposed project on noise-sensitive uses in the area and identifies mitigation measures where feasible to address significant noise impacts.

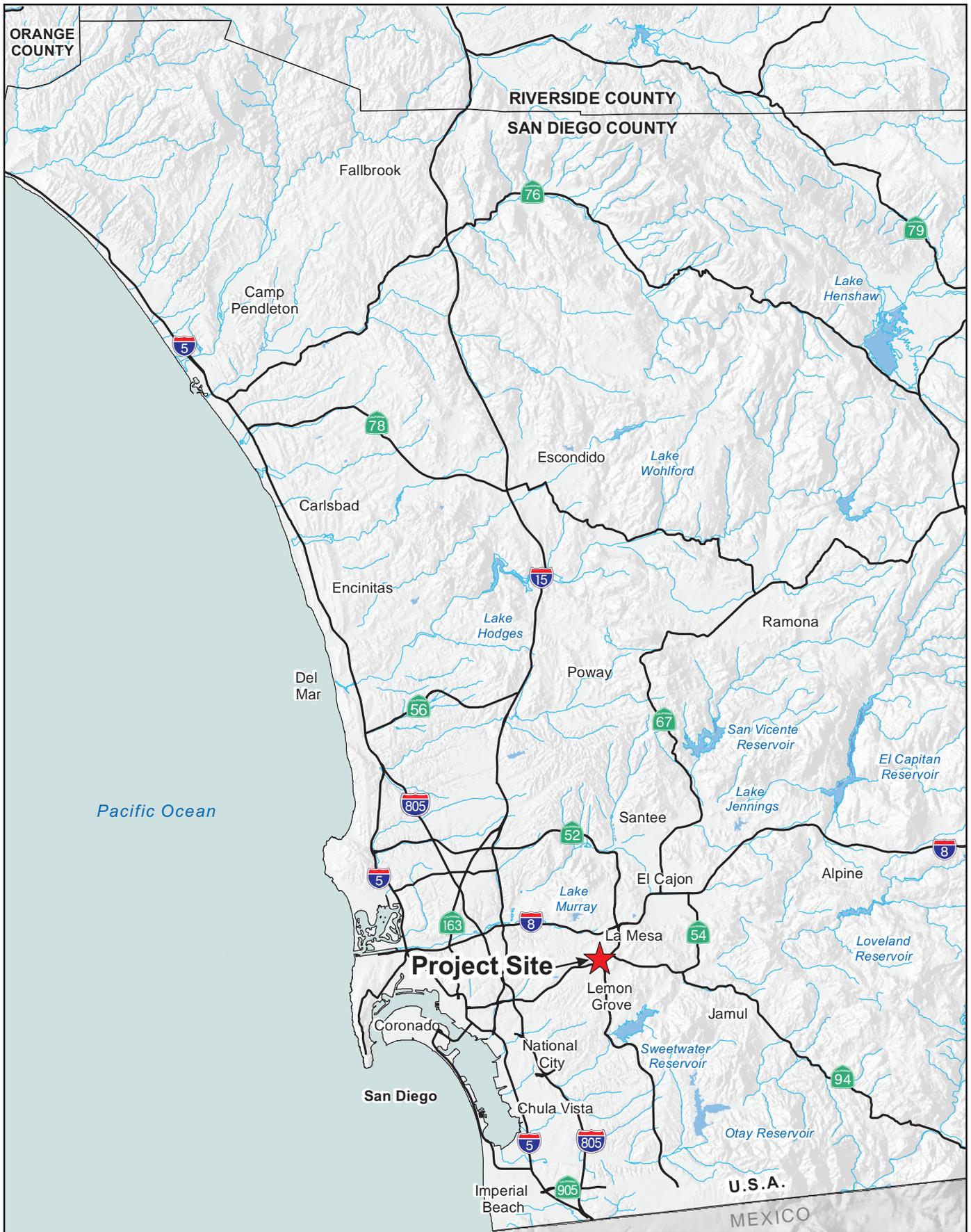
## 1.1 Findings

Operation of the project would have the potential to result in excessive noise levels related to events at the Collier Club House outdoor ceremony area. Mitigation measures Noi-1 through Noi-3 would reduce impacts from crowd noise at the outdoor ceremony area to a less than significant level. The increase in traffic noise associated with the renovated facilities would not result in a significant direct or cumulative impact. Short-term noise increases from construction equipment would not violate the City's noise ordinance. Construction equipment would generate significant short-term increases in groundborne vibration at nearby medical offices. Mitigation measures Noi-4 and Noi-5 would reduce this impact to a less than significant level.

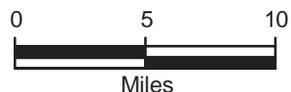
## 2.0 Project Description

Figure 1, Regional Location Map, illustrates the project's location and surrounding uses. Collier Park is a 7.7-acre park located at 4401 Palm Avenue in the City of La Mesa, situated between Palm Avenue to the west and 4<sup>th</sup> Street/Upland Street to the east. On April 24, 2007, the City Council authorized the preparation of a master plan for Collier Park. The approach for the master plan was structured around an interactive "Take Part" public process to address any neighborhood concerns, assess the optimum use of the site, and identify potential funding sources for improvements. Cross sections of community stakeholders were involved in the master planning process, which included written surveys, individual interviews, and public workshops. [The Collier Park Renovations Project Master Plan was finalized in September 2013 and updated in June 2014 to be consistent with the revisions to the proposed project. The proposed Master Plan revisions include mothballing the Spring House as a preservation method that would stabilize and protect the building from further deterioration while the City continues to seek grants and other funding opportunities to pursue for restoration or rehabilitation. The draft Collier Park Master Plan was never finalized or adopted. However, aspects of the proposed project are largely based upon the concepts proposed within the draft master plan.](#)

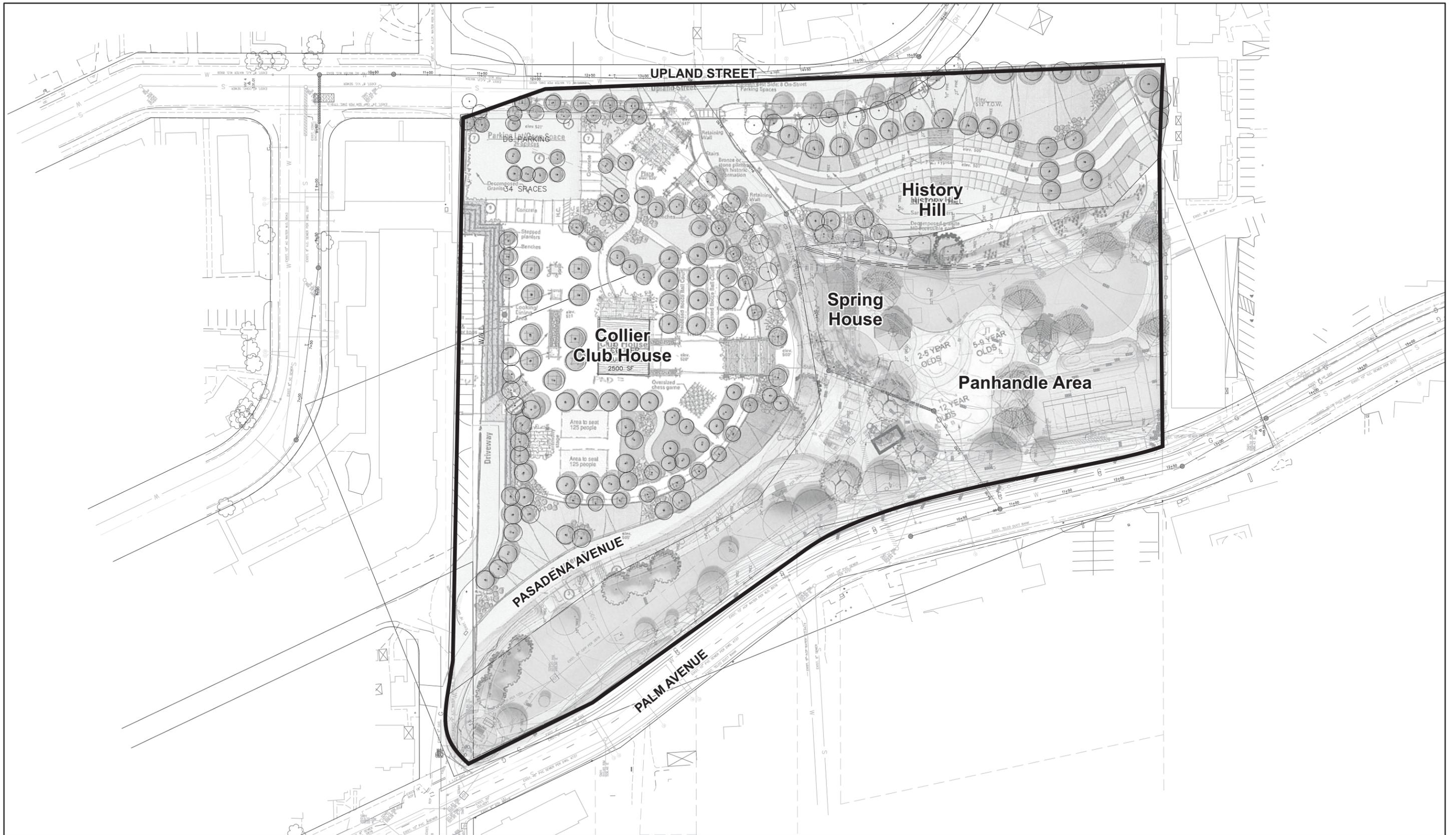
The project is organized into four areas: 1) Panhandle; 2) Spring House; 3) History Hill; and 4) Collier Club House. The improvements associated with the four project areas are discussed below. The improvements proposed are conceptual in nature, and detailed plans have not been finalized, except for the Panhandle area of the park. The proposed site plan is shown in Figure 2, Proposed Site Plan. The noise analysis evaluates a worst-case scenario with respect to the impacts associated with the construction and operation of the project.



Source: SanGIS, 2009; CASIL, 2009



**REGIONAL LOCATION MAP  
FIGURE 1**



Source: City of La Mesa 2011



No Scale



**PROPOSED SITE PLAN  
FIGURE 2**



## Panhandle Area

The first phase of improvements to Collier Park would occur in the Panhandle area, which is situated in the southern and western portions of the park. The Panhandle area is primarily developed for recreational use with existing facilities such as a parking lot, tennis court, playground, [picnic area](#) and restrooms. Proposed improvements in the Panhandle area include ~~relocation~~ [reconstruction](#) of ~~a~~ [the water-drinking fountain structure](#); replacement of the existing playground, restrooms, tennis court, ~~bus stop~~, and parking area; and installation of walking paths, landscaping, drainage, and security features. The existing 25 space parking lot would be removed and replaced with 21 on-site parking spaces throughout the park. Three pedestrian entrances would be constructed along Palm Avenue, [replacing two existing steeply sloped stair/ramp paths](#). At least one entrance from Upland Street would be added to encourage pedestrian use by residents in the neighborhood to the east. Another walking path would be constructed from the park's main entrance at the corner of Palm Avenue and Pasadena Avenue, extending southeast to the new playgrounds. This entrance walkway would also extend to housing adjacent to the south side of the park. To the extent possible, all walking paths within the park would be handicap accessible and appropriate for all abilities, and would create internal park connections as well as connections with surrounding streets.

## Spring House ~~Options~~

[The existing Spring House is located adjacent to the Panhandle area of Collier Park. As part of the proposed project, the City is proposing to mothball the existing Spring House building to protect it from weather and vandalism. The preservation practice of mothballing may be put into place when funds are not currently available to put a deteriorating structure into a useable condition. Previously, the window and door openings to the building were boarded up to protect the structure from further deterioration. Mothballing the Spring House would be done in accordance with the National Park Service's \(NPS\) \*Preservation Brief #31: Mothballing Historic Buildings\*. The mothballing process would include the following steps:](#)

### [1\) Documentation](#)

- [a\) Document the architectural and historical significance of the building](#)
- [b\) Prepare a condition assessment of the building](#)

### [2\) Stabilization](#)

- [a\) Structurally stabilize the building, based on a professional condition assessment](#)
- [b\) Exterminate or control pests, including termites and rodents](#)
- [c\) Protect the exterior from moisture penetration](#)

### [3\) Mothballing](#)

- [a\) Secure the building and its component features to reduce vandalism or break-ins](#)
- [b\) Provide adequate ventilation to the interior](#)
- [c\) Secure or modify utilities and mechanical systems](#)
- [d\) Develop and implement a maintenance and monitoring plan for protection](#)

In accordance with NPS Preservation Brief #31, implementation of the steps listed above would ensure that the Spring House is adequately documented, stabilized, and mothballed until funds can be acquired to put the deteriorating structure into a usable condition. Implementation of the maintenance and monitoring plan (step # 3d) would ensure that the Spring House is routinely checked and protected from pests and/or break-ins.

Additionally, the existing Spring House building is structurally unstable due to damage and deterioration over time, which could present a significant hazard during strong seismic ground shaking. As a project design feature, the Spring House would include improvements to the building to meet structural requirements pursuant to the La Mesa Municipal Code Title 14 and the California Building Code to ensure that the building does not pose a safety hazard.

~~Resolution No. 15191 was adopted by the City Council on October 22, 1985, designating Collier Park and La Mesa Spring House as a local historical landmark. On February 27, 2007, the City Council requested that the Spring House be referred to the City's Historic Preservation Commission (HPC). The HPC discussed the potential options and concepts for recognizing the historic value of the Spring House that could be incorporated into future designs for Collier Park improvements. The HPC recommended that, if funds were not available for complete restoration, the stone walls around the base of the building, the cistern, and related accoutrements be maintained and preserved to serve as an interpretive center.~~

~~The existing Spring House is located within the Panhandle area of Collier Park. The City is exploring various options with regard to the Spring House, including restoration, reconstruction, and replacement. For the purposes of this analysis, demolition and replacement of the Spring House with an interpretive center is assumed, which is considered the worst case construction scenario.~~

~~Under the proposed project, the existing Spring House would be deconstructed down to the stone rubble wall base. The wall base would then be repaired to create an outdoor interpretive center chronicling the history of the park. The creation of the interpretive center would include stabilization of the remaining concrete and stone wall structure, the addition of a new concrete floor finish, water-proofing of the cistern, and the addition of outdoor interpretive exhibits.~~

### **History Hill Area**

The History Hill area is located in the southeastern portion of Collier Park, east of the Panhandle area. This area currently consists of mostly undeveloped parkland. The History Hill area would be converted into a grassy amphitheater built into the hillside. The natural elevation would be utilized for "stadium-style" seating, fronted by a flat area for recreation or performances. The amphitheater would offer casual seating capacity for 50 park visitors and would be suitable for intimate performances and gatherings. A small portion of the amphitheater area would be designated as rental space for weddings and other similar events. The amphitheater would be located adjacent to the Spring House, creating an opportunity for the two features to be used together as a single venue.

The entire History Hill area would be terraced and planted with new landscaping to provide natural spaces for informal gatherings along the unpaved paths meandering through the amphitheater area. As a project design feature, the History Hill area would be replanted with species that are currently extant

[in Collier Park and/or native species. Succulents and flower beds would be included among the plant species in the History Hill area because those vegetation types were historically planted in this area.](#)

Project grading would lower the existing topography of the History Hill area. Three walkways would be constructed within the amphitheater area. These paths would be composed of decomposed granite and terraced to accommodate the topography. The decomposed granite walkways would be interspersed with grass and sandstone steps. The southern portion of the History Hill area would include a walkway that provides access to the southern portion of the Panhandle area.

### **Collier Club House Area**

The Collier Club House area is located in the northern portion of Collier Park. This area currently consists of mostly undeveloped parkland. Proposed improvements in the Collier Club House area include construction of a club house building, outdoor [seating areas](#) [event area](#), a plaza area, and parking, as well as the installation of walking paths, landscaping, and security features. The Collier Club House area would be developed to contain a new 2,500 square-foot club house building for public use. West of the new club house building, [an outdoor event area including](#) two separate outdoor seating areas and a ceremony stage with a maximum capacity of 300 persons would be constructed. East of the new club house building, a plaza area would be constructed that would contain benches, an unpaved pathway, and green space. A water feature, fire pit, and outdoor cooking and dining area would be located north of the new club house building. Passive exercise areas, such as an oversized chess game and bocce ball courts, or similar types of activities, would be located south of the new club house building. An asphalt parking lot with 34 spaces would be constructed within the northeastern portion of the Collier Club House area.

Two pedestrian crossings would be installed across Pasadena Avenue. One pedestrian crossing would provide access between the Collier Club House and History Hill areas near the intersection of Upland Street and Pasadena Avenue. The other pedestrian crossing would provide access between the Collier Club House area and the Spring House area in the central portion of the park. A concrete sidewalk would be constructed along the western side of Upland Street for the length of the park boundary along this roadway. A connected sidewalk would also extend from Upland Street into the center of the park along the northern side of Pasadena Avenue, terminating at the pedestrian crossing in the Collier Club House area. The portion of the sidewalk within the park boundary would include a handicap ramp and landing system. A separate, unpaved path would be constructed between the plaza area, near the intersection of Upland Street and Pasadena Avenue, and the new club house. Benches would be interspersed throughout the Collier Club House area. To the extent possible, all walking paths would be handicap accessible and appropriate for all abilities. Paths would be placed to encourage physical activity and facility walkability. Walking paths would create connections within the park and with surrounding streets.

## 3.0 Environmental Setting

### 3.1 Noise Basics

#### 3.1.1 Quantification of Noise

Noise is commonly defined as unwanted sound. Sound pressure magnitude is measured and quantified using a logarithmic ratio of pressures, the scale of which gives the level of sound in decibels (dB). Sound pressures in the environment have a wide range of values and the sound pressure level was developed as a convenience in describing this range as a logarithm of the sound pressure. The sound pressure level is the logarithm of the ratio of the unknown sound pressure to a reference quantity of the same kind. To account for the pitch of sounds and the corresponding sensitivity of human hearing to them, the raw sound pressure level is adjusted with an A-weighting scheme based on frequency that is stated in units of decibels (dBA). Typical A-weighted noise levels are listed in Table 1.

**Table 1 Typical A-Weighted Noise Levels**

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	— 110 —	Rock band
Jet fly-over at 1000 feet	— 100 —	
Gas lawn mower at 3 feet	— 90 —	
Diesel truck at 50 feet at 50 mph	— 80 —	Food blender at 3 feet Garbage disposal at 3 feet
Noisy urban area, daytime	— 70 —	Vacuum cleaner at 10 feet Normal speech at 3 feet
Gas lawn mower, 100 feet Commercial area	— 60 —	
Heavy traffic at 300 feet	— 50 —	Large business office Dishwasher next room
Quiet urban daytime	— 40 —	Theater, large conference room (background)
Quiet urban nighttime	— 30 —	Library
Quiet suburban nighttime	— 20 —	Bedroom at night, concert
Quiet rural nighttime	— 10 —	Broadcast/recording studio
Lowest threshold of human hearing	— 0 —	Lowest threshold of human hearing

Source: Caltrans 1998.

A given level of noise may be more or less tolerable depending on the sound level, duration of exposure, character of the noise sources, the time of day during which the noise is experienced, and the activity affected by the noise. For example, noise that occurs at night tends to be more disturbing than that

which occurs during the day because sleep may be disturbed. Additionally, rest at night is a critical requirement in the recovery from exposure to high noise levels during the day. In consideration of these factors, different measures of noise exposure have been developed to quantify the extent of the effects anticipated from these activities. For example, some indices consider the 24-hour noise environment of a location by using a weighted average to estimate its habitability on a long term basis. Other measures consider portions of the day and evaluate the nearby activities affected by it as well as the noise sources. The most commonly used indices for measuring community noise levels are the Equivalent Level (Leq), and the Community Noise Equivalent Level (CNEL).

**Leq**, the Equivalent Energy Level, is the average acoustical or sound energy content of noise, measured during a prescribed period, such as 1 minute, 15 minutes, 1 hour, or 8 hours. It is the decibel sound level that contains an equal amount of energy as a fluctuating sound level over a given period of time.

**CNEL**, Community Noise Equivalent Level, is the average equivalent A-weighted sound level over a 24-hour period. This measurement applies weights to noise levels during evening and nighttime hours to compensate for the increased disturbance response of people at those times. CNEL is the equivalent sound level for a 24-hour period with a +5 dBA weighting applied to all sound occurring between 7:00 p.m. and 10:00 p.m. and a +10 dBA weighting applied to all sound occurring between 10:00 p.m. and 7:00 a.m. Similar to the CNEL, Ldn, the day-night average noise level, is a 24-hour average Leq with a +10 dBA weighting applied to noise during the hours of 10:00 p.m. to 7:00 a.m. Ldn and CNEL are typically within one dBA of each other and, for most intents and purposes, are interchangeable.

The decibel level of a sound decreases (or attenuates) exponentially as the distance from the source of that sound increases. For a single point source such as a piece of mechanical equipment, the sound level normally decreases by about 6 dBA for each doubling of distance from the source. Sound that originates from a linear, or “line” source such as a heavily traveled traffic corridor, attenuates by approximately 3 dBA per doubling of distance, provided that the surrounding site conditions lack ground effects or obstacles that either scatter or reflect noise. Noise from roadways in environments with major ground effects due to vegetation and loose soils may either absorb or scatter the sound yielding attenuation rates as high as 4.5 dBA for each doubling of distance. Other contributing factors that affect sound reception include meteorological conditions and the presence of manmade obstacles such as buildings and sound barriers.

### 3.1.2 Noise Effects

Noise has a significant effect on the quality of life. An individual’s reaction to a particular noise depends on many factors such as the source of the noise, its loudness relative to the background noise level, and the time of day. The reaction to noise can also be highly subjective; the perceived effect of a particular noise can vary widely among individuals in a community. Because of the nature of the human ear, a sound must be about 10 dBA greater than the reference sound to be judged as twice as loud. In general, a 5 dBA change in community noise levels is clearly noticeable, and a 3 dBA change is the smallest increment that is perceivable by most receivers. Generally, 1 to 2 dBA changes are not detectable.

Although the reaction to noise may vary, it is clear that noise is a significant component of the environment, and excessively noisy conditions can affect an individual's health and well-being. The effects of noise are often only transitory, but adverse effects can be cumulative with prolonged or repeated exposure. The effects of noise on a community can be organized into six broad categories: sleep disturbance; permanent hearing loss; human performance and behavior; social interaction or communication; extra-auditory health effects; and general annoyance.

## 3.2 Environmental Vibration Basics

Vibration is defined as any oscillatory motion induced in a structure or mechanical device as a direct result of some type of input excitation. Vibration consists of waves transmitted through solid material. There are several types of wave motion in solids, unlike in air, including compressional, shear, torsional, and bending. The solid medium can be excited by forces, moments, or pressure fields. This leads to the terminology of "structure-borne/ground-borne" vibration.

Vibration energy spreads out as it travels through the ground, causing the vibration amplitude to decrease with distance away from the source. Soil properties also affect the propagation of vibration. When groundborne vibration interacts with a building there is usually a ground-to-foundation coupling loss, but the vibration can also be amplified by the structural resonances of the walls and floors. Vibration in buildings is typically perceived as rattling of windows or items on shelves or the motion of building surfaces. The vibration of building surfaces can also be radiated as sound and heard as a low-frequency rumbling noise, known as groundborne noise.

Ambient and source vibration information for this study are expressed in terms of the peak particle velocity (PPV) in inches per second (in/sec) that correlates best with human perception. The particle velocity is the velocity of the soil particles resulting from a disturbance. Agencies such as California Department of Transportation (Caltrans) use the PPV descriptor because it correlates well with damage or complaints. Caltrans estimates that the threshold of perception is approximately 0.006 in/sec PPV and the level at which continuous vibrations begins to annoy people is approximately 0.010 in/sec PPV.

## 3.3 Regulatory Framework

### 3.3.1 Federal

#### **Federal Aviation Administration (FAA) Standards**

Enforced by the Federal Aviation Administration, Code of Federal Regulations (CFR) Title 14, Part 150 prescribes the procedures, standards and methodology governing the development, submission, and review of airport noise exposure maps and airport noise compatibility programs, including the process for evaluating and approving or disapproving those programs. Title 14 also identifies those land uses which are normally compatible with various levels of exposure to noise by individuals. The FAA has determined that interior sound levels up to 45 dBA Ldn (or CNEL) are acceptable within residential buildings. The FAA also considers residential land uses to be compatible with exterior noise levels at or less than 65 dBA Ldn (or CNEL).

### **Federal Highway Administration (FHWA) Standards**

CFR Title 23, Part 772 sets procedures for the abatement of highway traffic noise and construction noise. Title 23 is implemented by the Department of Transportation FHWA. The purpose of this regulation is to provide procedures for noise studies and noise abatement measures to help protect the public health and welfare, to supply noise abatement criteria, and to establish requirements for information to be given to local officials for use in the planning and design of highways. All highway projects which are developed in conformance with this regulation shall be deemed to be in conformance with the Department of Transportation (DOT) Federal Highway Administration Noise Standards. Title 23 establishes 67 dBA as the worst-case hourly average noise level standard for impacts of federal highway projects to land uses including residences, recreational uses, hotels, hospitals, and libraries [23 CFR Chapter 1, Part 772, Section 772.19].

### **Federal Transit Administration (FTA) Standards and Federal Railroad Administration (FRA) Standards**

Although the FTA standards are intended for federally funded mass transit projects, the impact assessment procedures and criteria included in the FTA Transit Noise and Vibration Impact Assessment Manual (May 2006) are routinely used for projects proposed by local jurisdictions. The FTA and FRA have published guidelines for assessing the impacts of groundborne vibration associated with rail projects, which have been applied by other jurisdictions to other types of projects. The FTA measure of the threshold of architectural damage for conventional sensitive structures from groundborne vibration is 0.2 inches/second PPV.

## **3.3.2 State**

### **California Noise Control Act of 1973**

Sections 46000 through 46080 of the California Health and Safety Code, known as the California Noise Control Act of 1973, finds that excessive noise is a serious hazard to the public health and welfare and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. It also finds that there is a continuous and increasing bombardment of noise in the urban, suburban, and rural areas. The California Noise Control Act declares that the State of California has a responsibility to protect the health and welfare of its citizens by the control, prevention, and abatement of noise. It is the policy of the State to provide an environment for all Californians free from noise that jeopardizes their health or welfare.

## **3.3.3 Local**

### **City of La Mesa General Plan**

Noise Element of the La Mesa General Plan contains goals and policies related to environmental noise. To establish the compatibility of various land uses with exterior noise levels, the City uses Ldn in its planning guidelines. As discussed above, Ldn and CNEL are interchangeable. For consistency, the City's noise compatibility guidelines are listed in CNEL in this analysis. Table 2 illustrates La Mesa's exterior land use-noise compatibility guidelines. Shading in this table represents the maximum noise level considered compatible for each land use category. The City established a goal for maximum outdoor noise levels in residential areas of 60 dBA CNEL. This level is intended to guide the design and location of

future development, and a goal for the reduction of noise in existing development. However, the City acknowledges that 60 dBA CNEL is a goal which cannot necessarily be reached in all residential areas within the realm of economic or aesthetic feasibility. This goal should be applied where outdoor use is a major consideration (e.g. backyards in single-family housing developments, recreation areas in multi-family housing projects). However, the outdoor standard should not normally be applied to balconies or patios associated with apartments and condominiums due to the general lack of use of these balconies and patios even in quiet areas.

The City’s noise ordinance, discussed below, establishes noise level limits for individual generators. The noise control ordinance limits are used in noise impact assessments to determine mitigation requirements for proposed generators of noise to ensure that they will not adversely impact surrounding land uses. Conversely, the guidelines listed in Table 2 reflect the total noise exposure that is compatible with a particular land use, including vehicular traffic noise levels that are not regulated by the noise control ordinance.

**Table 2 Exterior Land Use/Noise Compatibility Guidelines**

Land Use	Annual CNEL in decibels					
	50	55	60	65	70	75
Residential – Low Density Single Family, Duplex, and Mobile homes						
Residential – Multiple Family						
Transient Lodging – Motels, Hotels						
Schools, Libraries, Churches, Hospitals, and Nursing Homes						
Auditoriums, Concert Halls, Amphitheatres						
Sports Arena, Outdoor Spectator Sports						
Playgrounds, Neighborhood Parks						
Golf Courses, Riding Stables, Water Recreation, Cemeteries						
Offices Buildings, Business, Commercial, and Professional						
Industrial, Manufacturing, Utilities, Agriculture						

Note: Shading represents the maximum noise level considered normally compatible for each land use category  
 Source: City of La Mesa

**City of La Mesa Noise Ordinance**

La Mesa Municipal Code Chapter 10.80, Noise Regulation, prohibits unnecessary, excessive, and annoying noises in the City of La Mesa. Section 10.80.040 establishes standards for exterior noise levels. The exterior noise limits for each zone classification are summarized in Table 3. These standards apply when the ambient noise level does not already exceed the noise level limit. In cases where the ambient noise level already exceeds the noise level, the ambient noise level is the applicable noise level limit.

**Table 3 Exterior Noise Limits**

Receiving Land Use Category	Noise Level (dBA)(1)		
	10 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 10 p.m.
R1 (Urban Residential) and R2 (Medium Low Density Residential)	50	60	55
R3 (Multiple Unit Residential) and RB (Residential Business)	55	60	60
C (General Commercial), CN (Neighborhood Commercial), CD (Downtown Commercial), and CM (Light Industrial and Commercial Service)	60	65	65
M (Industrial Service and Manufacturing)	70	70	70

(1) If the measured ambient level, measured when the alleged noise violation source is not operating, exceeds the standard noise limit, the allowable noise exposure standard shall be the ambient noise level.

Source: City of La Mesa Municipal Code Section 10.80.040

Section 10.80.090 states that it is unlawful for any person to install or operate any machinery, equipment, pump, fan, air conditioning apparatus, or similar mechanical device which can be or is operated in any manner so as to create noise which will cause the noise level at the property line of any property to exceed the ambient base noise level by more than five dBA. The installer of any such mechanical devices is required to furnish to the Department of Building Inspection and Housing a certificate of compliance indicating that the equipment installed as proposed can, without the addition of any baffling or construction, be operated within these sound limits.

Section 10.80.100 of the ordinance regulates construction noise. The ordinance states that it is unlawful for any person within a residential zone or CN zone, or within five hundred feet of these zones, to operate equipment or perform any outside construction or repair work on buildings, structures, or projects or to operate any pile driver, power shovel, pneumatic hammer, derrick, power hoist, or any other construction-type device between the hours of 10:00 p.m. of one day and 7:00 a.m. of the next day or on Sundays unless a special permit authorizing the activity has been obtained from the chief building official.

Section 10.80.101 regulates operation of landscaping power equipment. Landscape power equipment cannot be operated between the hours of 7:00 p.m. and 7:00 a.m. during Pacific Standard Time and between 8:00 p.m. and 7:00 a.m. during Pacific Daylight Savings Time. Landscaping power equipment is required to conform to the city's noise limitations listed in Table 3.

Sections 10.80.130 and 10.80.140 establish requirements for the operation and use of loudspeakers or sound amplifying equipment in a fixed or movable position or mounted upon any sound truck for the purposes of giving instructions, directions, talks, addresses, lectures, or transmitting music to any persons or assemblages of persons in or upon any street, alley, sidewalk, park, place, or public property. Operation and use of these devices is prohibited without first filing a registration statement and obtaining approval. The applicant must submit a description of the type of equipment and how it would be used, including the maximum sound producing power of the sound amplifying equipment. Registration would not be approved if it is determined that operation of the equipment would violate Section 10.80.170 of the noise ordinance. Section 10.80.170 establishes the following additional requirements for sound amplifying equipment:

- 1) The only sounds permitted shall be either music or human speech, or both.
- 2) Outdoor operation of sound amplifying equipment shall only occur between the hours of 7:00 a.m. and 10:00 p.m. each day unless otherwise authorized by the city council in conjunction with a validly issued special event permit.
- 3) Sound level emanating from sound amplifying equipment shall not exceed fifteen (15) decibels above the ambient base noise level.
- 4) Notwithstanding the provisions of subsection (c) of this section, outdoor operation of sound amplifying equipment shall not be within two hundred feet of churches, schools, hospitals, or city or county buildings unless otherwise authorized by the city council in conjunction with a validly issued special event permit.
- 5) In any event, the volume of sound shall be so controlled that it will not be unreasonably loud, raucous, jarring, disturbing, or a nuisance to reasonable persons of normal sensitiveness within the area of audibility.

Finally, Section 10.80.180 of the Noise Ordinance regulates nuisance noise. This section states that it is unlawful for any person to willfully make or continue, or cause to be made or continued, any loud, unnecessary, or unusual noise which disturbs the peace or quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area.

## **3.4 Existing Noise Environment**

Existing noise sources that affect the project site are described below.

### **3.4.1 Operational Noise Sources**

The Panhandle portion of Collier Park is situated in the southern and western portions of the park. The Panhandle area is primarily developed for recreational use with existing facilities such as a parking lot, tennis court, playground, and restrooms. The parking lots generate periodic nuisance noise. The tennis court and children's playground generate recreational noise while in use. Passive uses such as walkways, green space, and facilities such as the restroom generally do not generate noise other than normal conversation. The Spring House is located within the Panhandle but is currently not in use.

Collier Park is surrounded by low density commercial and residential development. A single-family residence and two multi-family residential buildings are adjacent to the northern boundary of the site. The eastern side of the site is bounded by 4<sup>th</sup> Street and a single-family residential lot. Single-family residences are located across 4<sup>th</sup> Street from the park. The low-density residential neighborhoods extend to the north and east beyond the project site. A small office building and multi-family residences are adjacent to the southern boundary of the project site. Multi-family residential development continues to the south. The western boundary of the project site is Palm Avenue. The area across Palm Avenue from the project site is developed with a small office complex consisting of two buildings, a church, and single-family residences. General office use, churches, and residences are not sources of substantial operational noise. Occasional nuisance noise may result from residences and parking lots, such as loud music or car alarms. Noise levels generated by the church may increase during before and after the church's Sunday service due to the increase in human activity, but noise is generally limited to normal conversation and general parking lot noise.

### 3.4.2 Existing Noise Levels

An ambient sound level survey was conducted on July 10, 2012, to quantify the noise environment in Collier Park. Two measurements were taken at the project site. The monitoring locations are shown on Figure 3, Noise Measurement Locations. The measurements were taken during the daytime (2:00 p.m. to 3:30 p.m.) and were 15 minutes in duration. A Larson Davis 720 ANSI (American National Standards Institute) Type I Integrating Sound Level Meter calibrated with a Larson Davis CAL200 calibrator was used to record ambient sound levels. Weather conditions during the measurements were calm with a warm temperature and partly-cloudy to clear skies. Table 4 summarizes the measured Leq and noise sources for both monitoring locations.

**Table 4 Ambient Sound Level Measurements (dBA)**

Site	Location	Daytime Noise Sources	Date/Time	Leq	Lmax	Lmin
1	Southeast corner of Collier Park in existing dirt area north of an existing multi-family residential building and west of a single-family residential yard. Near proposed site of History Hill amphitheater.	Traffic on Palm Avenue, birds, park visitors talking	7-10-2012 / 2:28 pm	49	73	43
2	Northwest corner of Collier Park in existing grassy area between Palm Avenue and Pasadena Avenue. Proposed site of Panhandle renovations.	Traffic on Palm Avenue, birds	7-10-2012 / 2:57 pm	54	66	44

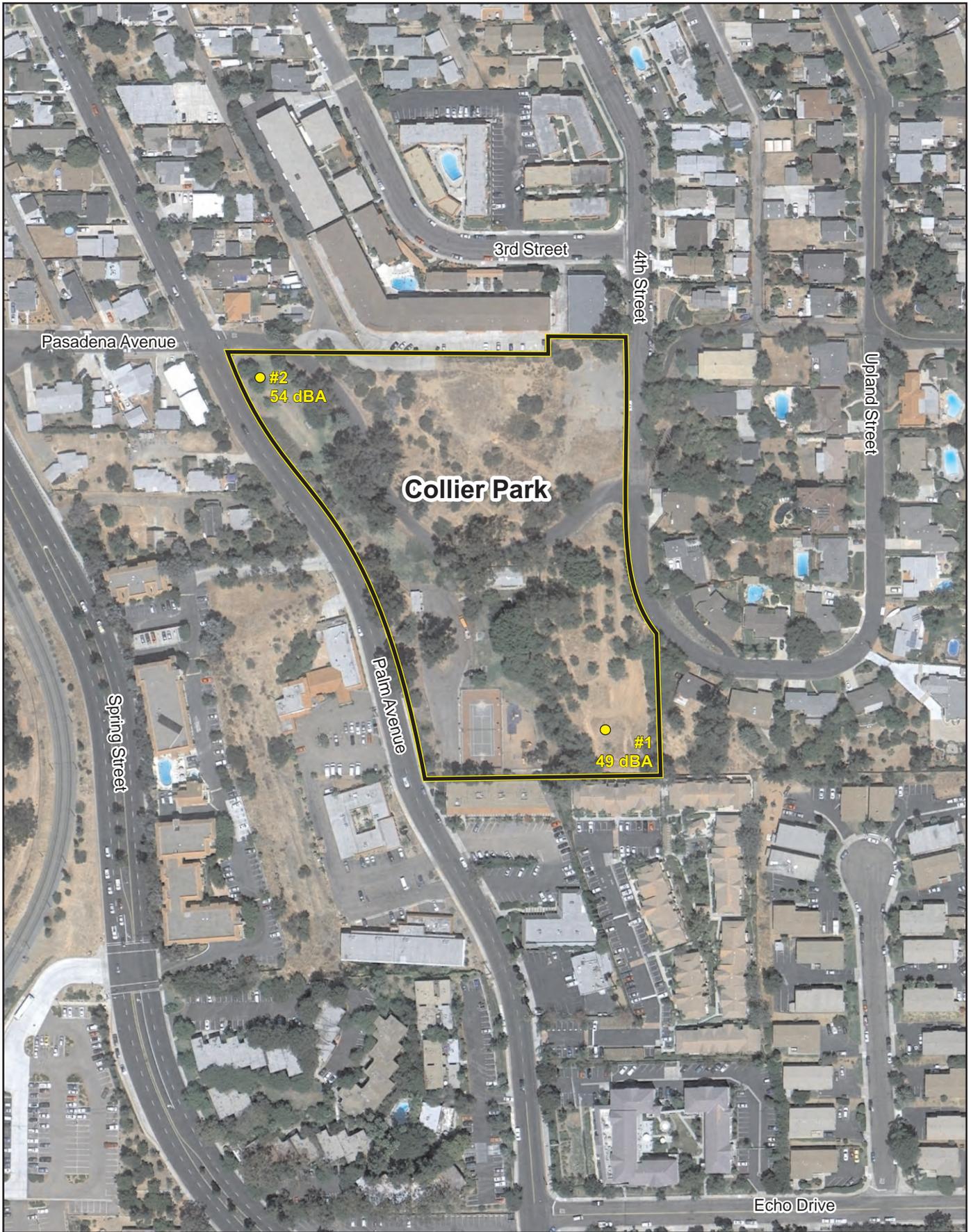
Source: Atkins, July 10, 2012. Ambient measurements were 15 minutes in duration.

The results of the ambient noise survey reflect noise levels that range between 49 dBA in the area of the park farthest from Palm Avenue, and 54 dBA Leq adjacent to Palm Avenue. The primary noise source at both locations was traffic on Palm Avenue. Other noise sources included birds, park visitors' conversations, and occasional traffic on Pasadena Avenue. As described previously, noise levels up to 70 dBA CNEL are considered compatible with neighborhood parks and commercial development as specified in the La Mesa General Plan. Noise levels up to 60 dBA CNEL are compatible with surrounding single-family residences, and noise levels up to 65 dBA CNEL are compatible with surrounding multi-family residential buildings. Based on the City of La Mesa noise compatibility guidelines, ambient noise levels measured within the project site are compatible with existing land uses on the project site and surrounding area.

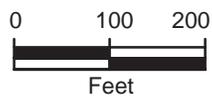
### 3.4.3 Transportation Noise Sources

#### Aviation

The nearest airport to the project site is Gillespie Field, located approximately 4.5 miles northeast of Collier Park in the City of El Cajon. The airport is operated by the County of San Diego, Department of Public Works. The airport is a general aviation reliever airport. According the Airport Land Use Compatibility Plan (ALUCP) for Gillespie Field, in 2006 the airport had 278,388 annual operations (SDCRAA 2010). Due to distance, Collier Park is not located within the 60 dBA CNEL noise contour for the airport, or within the airport's area of influence.



Source: Google Map 2010



**NOISE MEASUREMENT LOCATIONS  
FIGURE 3**

Montgomery Field is located approximately 7.5 miles northwest of Collier Park in the City of San Diego. The airport is operated by the City of San Diego. The airport is a general aviation reliever airport. The airport also includes a heliport used by the City of San Diego Police Department. In 2006 the airport had 236,000 annual operations (SDCRAA 2010). Due to distance, Collier Park is not located within the 60 dBA CNEL noise contour for the airport, or within the airport's area of influence.

A heliport is also active at Grossmont Hospital, located approximately 1.5 miles northeast of Collier Park. The heliport is privately owned and operated by the Grossmont Hospital District. According to the City's draft General Plan update, five to ten flights are normally flown to the hospital every month, typically during standard business hours (City of La Mesa 1996). This relatively low number of flights is not enough to generate noise levels above 60 dBA CNEL.

### Roadways

Collier Park is situated between Palm Avenue to the west and 4<sup>th</sup> Street/Upland Street to the east. The park is approximately one-half mile south of La Mesa Village and La Mesa Boulevard. A segment of Pasadena Avenue bisects the park and is used as a through street to access surrounding residences. Pasadena Avenue provides the only vehicular access to the existing parking area, which is located in the southwestern corner of the park. Table 5 shows the existing noise levels generated by the roadways surrounding the project site. The most conservative La Mesa noise compatibility standard is 60 dBA CNEL for single-family residences. As shown in Table 5, all three Palm Avenue segments currently generate noise levels of 60 dBA CNEL or greater.

**Table 5 Existing Roadway Noise Levels**

Roadway	Segment	Existing Average Daily Trips <sup>(1)</sup>	Noise Level at 50 feet from Roadway Centerline (dBA CNEL)
Palm Avenue	Fresno Avenue to Pasadena Avenue	5,410	60
	Pasadena Avenue to Echo Drive	7,060	61
	Echo Drive to Spring Street	7,560	62
Pasadena Avenue	Palm Avenue to 4 <sup>th</sup> Street	390	47
Echo Drive	Palm Avenue to Echo Court	1,890	54

<sup>(1)</sup> Assumes weekday daily trips for Palm Avenue and weekend daily trips for Pasadena Avenue and Echo Drive to provide the most conservative analysis.

Source: Chen Ryan 2012 (traffic data); FHWA 2004 (noise level estimates). See appendix for noise model assumptions and output.

### Railroads

La Mesa is served by the San Diego trolley system, which is operated by the San Diego Metropolitan Transit System. The San Diego Trolley Orange Line passes through La Mesa in the vicinity of Collier Park along the west side of Spring Street, with a station on Spring Street near Gateside Road. Collier Park is located approximately 450 feet from the railroad right-of-way. During the weekday, trolleys run from 4:30 a.m. to 1:10 a.m. the following evening, with stops every 30 minutes in both directions. According to Section 5.7, Noise, of the Downtown Community Plan EIR (CCDC 2006), the San Diego Trolleys, including the Orange Line, produce short-term noise levels of 75 dBA along the track alignment during single events, including horn noise and crossing bells. At the project site, short-term event noise would

be reduced to approximately 56 dBA. Additionally, the average trolley noise along any track alignments was determined to be well below 65 dBA CNEL.

### **3.4.4 Noise Sensitive Land Uses**

Noise sensitive land uses (NSLUs) are land uses that may be subject to stress and/or interference from excessive noise, such as residences, schools, hospitals, libraries, parks, and places of worship. Industrial and commercial land uses are generally not considered sensitive to noise. The term “noise receptor” is often used to represent a specific location where individuals would be exposed to noise, such as a specific residence. The nearest NSLU to the project site are the residential areas located adjacent to the northern, eastern, and southern boundaries of the project site. Other NSLU in the project vicinity is the residential areas located approximately 25 feet from Collier Park across 4<sup>th</sup> Street and approximately 50 feet from the park across Palm Avenue. The church is a noise sensitive receptor located approximately 50 feet from the park across Palm Avenue. The area surrounding the park to all sides is generally developed with noise-sensitive single-family and multi-family residential development.

### **3.4.5 Vibration Sensitive Land Uses**

Land uses in which groundborne vibration could potentially interfere with operations or equipment, such as research, manufacturing, hospitals, and university research operations (FTA 2006) are considered “vibration-sensitive.” The degree of sensitivity depends on the specific equipment that would be affected by the groundborne vibration. Excessive levels of groundborne vibration of either a regular or an intermittent nature can result in annoyance to residential uses. The nearest vibration sensitive land uses to the project site are the medical offices located south of the park and west of the park across Palm Avenue. Medical offices often include equipment that may be sensitive to excessive groundborne vibration. For example, a dental imaging office that uses vibration-sensitive x-ray equipment is located approximately 150 feet south of Collier Park, in the same parking lot as the office building along the park’s southern boundary.

## **4.0 Methodology and Significance Criteria**

### **4.1 Methodology**

#### **4.1.1 Excessive Noise Levels**

Impacts related to potential exposure of NSLU to excessive noise levels as a result of the operation of the Collier Park renovations are assessed based on a comparison of the proposed facilities to the noise levels potentially generated by existing off-site noise sources. Estimated noise levels are based on a variety of sources, including noise technical reports for similar facilities. Noise levels at a particular receptor from a stationary noise source are based on an attenuation rate of 6 dBA for every doubling of distance. Traffic noise levels are calculated for post-project traffic volumes along roadway segments in the project vicinity using standard noise modeling equations adapted from the FHWA noise prediction model. The modeling calculations take into account the posted vehicle speed, average daily traffic volume, and the estimated vehicle mix. The noise model assumes that roadways would experience a

decrease of approximately 3 dBA for every doubling of distance from the roadway. The analysis is based on the project-specific traffic study prepared for the Collier Park renovations by Chen Ryan Associates (Chen Ryan Associates 2012).

## 4.1.2 Groundborne Vibration

Groundborne vibration impacts are assessed based on screening distances determined by the FTA and Caltrans. According to the FTA, vibration sensitive land uses within 600 feet of a railroad may be exposed to disruptive vibration (FTA 2006). According to Caltrans, major construction activity within 200 feet and pile driving within 600 feet may be potentially disruptive to sensitive operations (Caltrans 2002).

## 4.1.3 Permanent Increase in Ambient Noise

The potential for implementation of the Collier Park renovations to permanently increase ambient noise levels as a result of increased traffic noise is assessed using standard noise modeling equations adapted from the FHWA noise prediction model and the traffic impact analysis, as described above in Section 4.1.1. Other potential sources of operational noise from the project are addressed under Issue 1, Excessive Noise Levels.

## 4.1.4 Temporary Increase in Ambient Noise

Impacts related to temporary increases in ambient noise levels from construction of the Collier Park renovations are assessed using estimates of sound levels from typical construction equipment provided by the FHWA in the Roadway Construction Noise Model (FHWA 2008), assuming an attenuation rate of 6 dBA per doubling of distance from the source. Periodic increases in noise level as a result of permanent renovation facilities, such as the Collier Club House, are addressed under Issue 1, Excessive Noise Levels.

## 4.1.5 Aircraft Noise

Impacts related to aircraft noise are assessed based on the ALUCPs for Gillespie Field and Montgomery Field (SDCRAA 2010a, 2010b) and the City's draft General Plan update for the heliport at Grossmont Hospital.

## 4.2 Significance Criteria

Based on Appendix G of the CEQA Guidelines and the City of La Mesa, implementation of the project would result in a significant adverse impact if it would:

- Threshold 1: Expose persons to or generate noise levels in excess of standards established in the La Mesa General Plan or noise ordinance, or applicable standards of other agencies.
- Threshold 2: Expose persons to or generation of excessive ground borne vibration or ground borne noise levels, which is defined as groundborne vibration equal to or in excess of 0.2 in/sec PPV. Construction activities within 200 feet and pile driving within 600 feet of a vibration sensitive use would be potentially disruptive to vibration-sensitive operations (Caltrans 2002).

- **Threshold 3:** Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. A substantial permanent increase would occur if implementation of the proposed project results in an ambient noise level that meets or exceeds the noise compatibility standards established in the La Mesa General Plan, including 60 dBA CNEL for single-family residences; 65 dBA CNEL for multi-family residences; and 70 dBA CNEL for offices and places of worship. For roadways that already meet or exceed the noise compatibility standards, a significant impact would occur if the proposed project results in a 3 dBA CNEL or greater increase in traffic noise on the roadway segment.
- **Threshold 4:** Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. Construction activity would be considered significant if it violates the limits established in Section 10.80.100 of the La Mesa Municipal Code. The ordinance prohibits construction and building work between the hours of 10:00 p.m. and 7:00 a.m. of the next day or on Sundays.
- **Threshold 5:** 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 use airport or private airstrip, expose people residing or working in the project area to excessive noise.

## 5.0 Impact Analysis and Mitigation Measures

### 5.1 Impact Analysis

#### 5.1.1 Issue 1: Excessive Noise Levels

##### Impact Analysis

The implementation of the Collier Park renovations would have the potential to generate noise levels in excess of established standards by developing new stationary sources of noise and by increasing human activity throughout the project site. Potential noise generating facilities on site include a tennis court, playgrounds, an amphitheater, Collier Club House, and an outdoor event area. This section addresses the potential for sensitive receptors to be exposed to excessive noise levels from proposed park facilities. Potential impacts are discussed below by park area, followed by a discussion of overall park noise and the potential for noise-sensitive receptors at the park to be exposed to excessive noise levels from surrounding development. Park operating hours would be from 6:00 a.m. to 10:00 p.m. The park would be subject to the City's nighttime noise limits between 6:00 a.m. and 7:00 a.m., the daytime limits between 7:00 a.m. and 7:00 p.m., and evening limits between 7:00 p.m. and 10:00 p.m. The permanent increase in noise levels that would occur as a result of increased traffic on roadways is addressed in Section 5.1.3, Issue 3: Substantial Permanent Increase in Noise Levels.

##### Panhandle

The Panhandle area is situated in the southern and western portions of the park. The Panhandle area is currently developed for recreational use with a parking lot, tennis court, playground, and restrooms. Proposed improvements in the Panhandle area include relocation and reconstruction of a water

fountain; replacement of the existing playground, restrooms, tennis court, bus stop, and parking area; and installation of walking paths, landscaping, drainage, and security features. The existing 25 space parking lot would be removed and replaced with 21 on-site parking spaces throughout the park. The water fountain, restrooms, bus stop, and walking paths would be passive uses that would generally not generate noise levels beyond normal conversation. The noise level for normal conversation is approximately 65 dBA at three feet and would not exceed 50 dBA more than 20 feet from the source (Caltrans 1998). These passive uses are separated from all NSLU by at least 20 feet due to roadways, landscaping, and other park uses. Therefore, a significant impact would not occur from these uses at any time during operating hours. The tennis court and children's playground would have the potential to generate general recreational noise; however, these uses currently exist within Collier Park in the Panhandle area. Additionally, the replacement tennis court and play area would be located further away from NSLU compared to existing conditions. Therefore, these uses would not result in a new source of noise with the potential to exceed the City's noise limits.

Noise sources from parking areas include car alarms, door slams, radios, and tire squeals. These sources typically range from about 30 to 66 dBA at a distance of 100 feet (Gordon Bricken & Associates 1996), and are generally short-term and intermittent. However, noise sources from the parking areas would be different from each other in kind, duration, and location, so that the overall effects would be separate and in most cases would not affect noise-sensitive receptors at the same time. Therefore, noise generated from the parking spaces throughout the park would be less than significant. Implementation of the Panhandle area renovations would not result expose NSLU to excessive noise levels and a significant impact would not occur.

### Spring House

The existing Spring House is located within the Panhandle area of Collier Park. There would be no change in the use of the Spring House as a result of the project. No impact would occur. ~~would be demolished and replaced with an outdoor interpretive center chronicling the history of the park. The interpretive center would be a passive use that would generally not generate noise levels beyond normal conversation (50 dBA at 20 feet). The interpretive center is located near the middle of the park, more than 20 feet from any NSLU. Therefore, the Spring House area of the park would not result in a significant impact at any time during operating hours.~~

### History Hill

History Hill is located in the southeastern portion of Collier Park, east of the Panhandle area. History Hill would be converted into a grassy amphitheater built into the hillside. The natural elevation would be utilized for "stadium-style" seating for up to 50 park visitors. Sound amplifying equipment may be used for performances and events at the amphitheatre and would have the potential to result in noise in excess of the City's noise limits. Sound levels from amplifying equipment vary by type of event as well as type and amount of amplifying equipment. An intimate wedding ceremony would generate lower noise levels than a summer concert event. Therefore, the maximum or average noise level that would be generated by the amphitheatre cannot be determined with certainty. However, the City has established specific standards in the noise ordinance to regulate noise from sound amplifying equipment. Sections 10.80.130, 10.80.140, and 10.80.170 of the La Mesa noise ordinance regulate sound amplifying equipment, including equipment that would be used for events at the History Hill amphitheatre.

Operation of such equipment would be dependent on obtaining a City permit that demonstrates compliance with the noise ordinance prior to use. In order to obtain a permit, the applicant must provide a detailed description of the event and equipment, and demonstrate that equipment would comply with the following requirements:

- 1) The only sounds permitted shall be either music or human speech, or both.
- 2) Outdoor operation of sound amplifying equipment shall only occur between the hours of 7:00 a.m. and 10:00 p.m. each day unless otherwise authorized by the city council in conjunction with a validly issued special event permit.
- 3) Sound level emanating from sound amplifying equipment shall not exceed fifteen (15) decibels above the ambient base noise level.
- 4) Notwithstanding the provisions of subsection (c) of this section, outdoor operation of sound amplifying equipment shall not be within two hundred feet of churches, schools, hospitals, or city or county buildings unless otherwise authorized by the city council in conjunction with a validly issued special event permit.
- 5) In any event, the volume of sound shall be so controlled that it will not be unreasonably loud, raucous, jarring, disturbing, or a nuisance to reasonable persons of normal sensitiveness within the area of audibility.

Compliance with the City's noise ordinance would ensure that excessive noise levels from amplified sound at History Hill events would not occur. Events at the amphitheatre would consist of performances or gatherings such as small weddings. The venue is not large enough to host large concerts or other events that would generate substantial crowd noise. Crowd noise from the amphitheatre would generally be limited to normal conversation levels before and after an event, with occasional cheering or clapping. Due to the limited audience capacity of 50 persons and intimate nature of events that would be held at the amphitheatre, periodic clapping would not result in excessive noise at nearby residences. Therefore, a potentially significant impact would not occur as a result of events at the History Hill amphitheatre.

The remaining History Hill section of the park would consist of informal gathering areas and walkways that would be passive and would not generate noise levels that would exceed the City's noise limits more than 20 feet from the source. The walkways would be separated from the nearest NSLU by more than 20 feet by landscaping. Therefore, implementation of these components of History Hill would not result in significant impact related to excessive noise levels.

### **Collier Club House**

Proposed improvements in the Collier Club House area include construction of a 2,500 square-foot club house building, outdoor event area (two outdoor seating areas and a ceremony stage) with a maximum capacity of 300 persons, plaza area, fire pit and dining area, passive exercise areas, and parking lot, as well as the installation of walking paths, landscaping, and security features. The informal plaza, dining, walkway, and exercise area components of the Collier Club House area would be passive and would not generate noise levels that would exceed the City's noise limits more than 20 feet from the source. These areas would be separated from the nearest NSLU by more than 20 feet by landscaping and driveways. As discussed above for the Panhandle area, parking lot noise sources are intermittent, and would not result

in excessive noise levels. Therefore, implementation of these components of the Collier Club House would not result in significant impact related to excessive noise levels.

The Collier Club House and outdoor event area would be the primary noise sources in the Collier Club House area. Similar to the amphitheatre, noise from the club house building and ceremony stage would include amplified music. As described above in the discussion of the amphitheatre, the City has established requirements for amplified music to ensure that events would not generate excessive noise levels. An event that would not meet the City's requirements would not be allowed; therefore, a significant impact would not occur as a result of amplified noise.

Other than amplified music, noise levels from the club house would include general crowd noise. The club house is anticipated to be used for private parties, meetings, and recreation programs. Noise levels from conversation in the club house during parties may be higher than average conversation noise levels because guests would need to talk louder in a crowd; however, noise would generally be contained within the club house. Assuming conversation levels would be twice as loud as normal conversation (68 dBA at 3 feet), crowd noise from the club house would not exceed 40 dBA at the nearest NSLU, the multi-family residential development located north of the park, even if noise levels were not attenuated by the club house (e.g. all windows and doors of the clubhouse are open). The club house may include mechanical HVAC equipment located on the ground or on the rooftop of the facility. The HVAC unit would only be running when an event is held at the club house. Section 10.80.090(a) of the City's Noise Ordinance required installers of equipment such as HVAC units to provide the City with a Certificate of Compliance that demonstrates that the equipment would not exceed the ambient noise at the edge of the park by more than 5 dBA. Therefore, impacts related to mechanical noise generated by HVAC equipment at the proposed club house building would be less than significant.

The Collier Club House area also includes an outdoor event area with a capacity for up to 300 guests. The ceremony stage would accommodate larger and noisier events compared to the 50 person capacity at the History Hill amphitheatre. Events anticipated at the Club House could include summer concerts and graduation ceremonies that may result in frequent crowd noise, including cheering and clapping. The Initial Study/Mitigated Negative Declaration for the Point View Master Use Plan Project included a noise analysis for an event facility similar to the proposed ceremony stage area. The Master Use Plan proposed public and private events at an existing outdoor ceremony area with the capacity for 300 guests, including weddings, corporate parties, conferences, and charity events (City of Rancho Palos Verdes 2012). To determine the impact of the event venue on the community, the noise analysis recreated a maximum capacity event at the venue and recorded noise levels. One scenario included 30 attendees cheering and clapping, combined with recorded applause to simulate noise from up to 300 guests. The study determined that crowd noise from 30 guests would generate noise levels of up to 85 dBA at 10 feet from the source, and 300 guests could generate noise levels of up to 94 dBA at 10 feet from the source. Because the capacity and types of events that would occur at the Point View event venue are similar as the Collier Park outdoor ceremony area, it is assumed that events at the outdoor ceremony area would generate comparable noise levels.

Crowd noise would be intermittent, such as at the end of speeches during a ceremony. The Initial Study/Mitigated Negative Declaration for the Point View Master Use Plan Project determined that

crowd noise would generally not exceed 15 minutes in a 60 minute period. For the purposes of the analysis for the Collier Club House, it is assumed that the outdoor event area would generate crowd noise for a total of 15 minutes in a given hour (using a reference level of 94 dBA at 10 feet), and that the noise level for the remaining 45 minutes would be the exterior one-hour noise level limit shown in Table 6. The estimated noise levels take into account the difference in topography between the Collier Club House and the surrounding neighborhood. The estimated potential hourly average noise levels that would potentially be experienced at the noise-sensitive receivers surrounding the Club House are shown in Table 6.

**Table 6 Collier Club House Outdoor Event Crowd Noise Levels**

Noise-sensitive Receiver Location	Distance to Collier Club House Outdoor Event Area (feet)	Exterior One-Hour Noise Limit	Hourly Average Noise Level (dBA)	Exceeds City Hourly Noise Limit?
Single-family residences east of Collier Park	270	60 dBA (7 a.m. to 7 p.m.)	<b>62</b>	<b>Yes</b>
		55 dBA (7 p.m. to 10 p.m.)	<b>60</b>	<b>Yes</b>
		50 dBA (10 p.m. to 7 a.m.)	<b>60</b>	<b>Yes</b>
Multi-family residences south of Collier Park	525	60 dBA (7 a.m. to 10 p.m.)	60	No
		55 dBA (10 p.m. to 7 a.m.)	<b>57</b>	<b>Yes</b>
Multi-family residences north of Collier Park	75	60 dBA (7 a.m. to 10 p.m.)	<b>71</b>	<b>Yes</b>
		55 dBA (10 p.m. to 7 a.m.)	<b>71</b>	<b>Yes</b>
Single-family residences north of Collier Park	215	60 dBA (7 a.m. to 7 p.m.) <sup>(1)</sup>	<b>63</b>	<b>Yes</b>
		55 dBA (7 p.m. to 10 p.m.)	<b>62</b>	<b>Yes</b>
		50 dBA (10 p.m. to 7 a.m.)	<b>62</b>	<b>Yes</b>
Single-family residences west of Collier Park	225	61 dBA (7 a.m. to 7 p.m.) <sup>(1)</sup>	<b>63</b>	<b>Yes</b>
		55 dBA (7 p.m. to 10 p.m.)	<b>62</b>	<b>Yes</b>
		50 dBA (10 p.m. to 7 a.m.)	<b>61</b>	<b>Yes</b>
Church on Palm Avenue (506)	260	60 dBA (7 a.m. to 10 p.m.) <sup>(2,3)</sup>	<b>62</b>	<b>Yes</b>
Offices west of Palm Avenue (506)	450	65 dBA (7 a.m. to 10 p.m.) <sup>(3)</sup>	64	No
Offices south of Collier Park (490)	435	65 dBA (7 a.m. to 10 p.m.) <sup>(3)</sup>	64	No

<sup>(1)</sup> Palm Avenue from Pasadena Drive to Echo Drive generates a noise level of 61 dBA CNEL at the land uses along Palm Avenue to the west of Collier Park. Therefore, 61 dBA CNEL is considered the daytime ambient noise level for this area. Due to increased sensitivity to noise during the evening and nighttime hours, and weighting of noise levels during these hours to calculate CNEL, the City's noise level limits in Table 3 are conservatively considered the applicable threshold for the evening and nighttime hours.

<sup>(2)</sup> The City's noise limit for residential business is assumed to apply to the church. These standards are the most conservative non-residential standard.

<sup>(3)</sup> The church and offices are daytime uses. Therefore, the City's nighttime standard does not apply to these uses.

As shown in Table 6, crowd noise would have the potential to exceed the City's daytime, evening, and/or nighttime noise limits for the residences east, north, south, and west of the project site. The event area would also exceed the City's noise limit for the church. Events would not exceed the City's noise limit at any office buildings. Therefore, a potentially significant impact would occur to the church

and residences surrounding Collier Park as a result of crowd noise at the Collier Club House outdoor event area.

### **Remaining Park Area**

Two pedestrian crossings would be installed across Pasadena Avenue. One pedestrian crossing would provide access between the Collier Club House and History Hill areas near the intersection of Upland Street and Pasadena Avenue. The other pedestrian crossing would provide access between the Collier Club House area and the Spring House area in the central portion of the park. Sidewalks would be constructed along the western side of Upland Street and along the northern side of Pasadena Avenue. A separate, unpaved path would be constructed between the plaza area, near the intersection of Upland Street and Pasadena Avenue, and the new club house. These pedestrian facilities would be passive and would not generate operational noise beyond periodic conversation noise. These facilities would not result in a significant noise impact.

### **Collier Park and Summary of On-Site Noise Sources**

In addition to the uses proposed above for individual park areas, the park as a whole would require regular landscape maintenance. Landscaping would require the use of powered equipment that would have the potential to generate excessive noise levels. However, landscape equipment would be subject to Section 10.80.101 of the City's noise ordinance. The ordinance prohibits operation of landscaping equipment between the hours of 7:00 p.m. and 7:00 a.m. during Pacific Standard Time and between 8:00 p.m. and 7:00 a.m. during Pacific Daylight Savings Time. All landscaping power equipment is required to conform to the City's noise limitations listed in Table 3. Additionally, landscaping activities currently occur within Collier Park. Therefore, compliance with the City's noise ordinance would ensure that landscaping activities would not result in a new source of excessive noise levels. Impacts would be less than significant.

As described above in the discussions of the individual park areas, most of the proposed uses for Collier Park are passive and would not generate substantial operational noise. The new playground and tennis court would replace existing facilities and would not result in new source of operational noise. Use of park facilities would be spread out across the park. Noise from human activity, which would generally consist of normal conversation, would be scattered throughout the park and would not combine to generate higher noise levels. Use of amplified sound in the park would be subject to the City's requirements for amplified sound equipment. Although equipment would increase noise levels in the area surrounding the park, compliance with the City's noise ordinance would ensure that noise is not excessive and would not substantially disturb residents. However, crowd noise generated by events at the Collier Club House outdoor event area and ceremony stage would have the potential to generate noise in excess of the City's noise limits. Therefore, a potentially significant impact would occur during events at the Collier Club House outdoor event area.

### **Impacts to On-Site Uses**

Collier Park is surrounded by low density commercial and residential development. General office use, churches, and residences are not sources of substantial operational or mechanical noise. Occasional nuisance noise may result from residences and the parking lots, such as loud music or car alarms.

Daytime noise levels on the project site currently range from 49 dBA to 54 dBA Leq (see Table 4), and traffic noise levels on the roadways surrounding the project site do not exceed 62 dBA CNEL (see Table 5). These ambient noise levels comply with the City's noise compatibility standard of 70 dBA CNEL for parks. The project would renovate an existing park; it would not introduce new NSLU to the site. Therefore, implementation of the project would not result in the exposure of the new NSLU to excessive noise levels. Impacts would be less than significant.

## Mitigation Measures

The following mitigation measures would minimize excessive noise at the Collier Club House outdoor event area. The remaining Collier Park facilities would not generate noise levels that would exceed the City noise standards.

**Noi-1** **Limit ~~Event~~ Hours of Use.** Consistent with Section 9.08.140 of the La Mesa Municipal Code, Collier Park shall be closed between the hours of 10:00 p.m. and 6:00 a.m. Additionally, eEvents at the Collier Club house outdoor event area shall be limited to the hours between 7:00 a.m. and 10:00 p.m.

**Noi-2** **Evening Capacity Limitation.** Active events at the Collier Club House outdoor event area, such as concerts, shall be limited to a maximum of 100 guests during daytime hours between 7:00 a.m. and 7:00 p.m., and a maximum of 25 guests in the evening hours between 7:00 p.m. and 10:00 p.m. Events with up to 50 guests may be permitted between 7:00 p.m. and 10:00 p.m., subject to approval by the City, provided that the event is a quiet, intimate event similar to events hosted at the proposed amphitheatre, such as a wedding ceremony.

**Noi-3** **Facility Rental Agreement.** Events at the Collier Club House outdoor event area shall require a Rental Agreement between the event host and the City of La Mesa. The Rental Agreement shall include a security deposit that incorporates compliance with the City's Noise Ordinance (Municipal Code Chapter 10.80). At a minimum, the Rental Agreement shall include the following rules to limit noise:

- 1) The host must demonstrate that a permit for operation of any sound amplifying equipment has been obtained;
- 2) Event capacities will be consistent with the limitations established in mitigation measure Noi-2;
- 3) Evening events will incorporate signage or verbal reminders for guests to be respectful of surrounding residents;
- 4) Security deposit will be forfeited if noise complaints are received from more than one adjacent residence; and
- 5) Any other rules the City deems appropriate based on the nature of the proposed event. Depending on the size and scope of the event, the host may be required to meet with the City to discuss event details and conditions prior to the event. Such events would include, but not be limited to, concerts and performances.

~~If the event is found to be out of compliance with any section of the City Noise Ordinance or Rental Agreement, including noise level limits, the event shall be shut down immediately, and the host's security deposit shall be forfeited. Noise Barrier. Prior to operation of the Collier Club House outdoor event area, a noise barrier shall be constructed along the northern edge of Collier Park to attenuate noise levels at the residences adjacent to the park's northern boundary, as shown in Figure 5.9-2. The wall shall be a sufficient height and building material to attenuate noise to below the ambient noise level or the City's noise limits in La Mesa Municipal Code Section 10.80.040, as applicable. The noise wall shall be of sufficient height to attenuate noise levels by 13 dBA. The final location, height, and building material of the noise barrier shall be determined by a qualified acoustical engineer and subject to approval by the City.~~

## Significance After Mitigation

Implementation of mitigation measure Noi-1 would avoid nighttime impacts from the outdoor event area/ceremony stage to a less than significant level by restricting event hours to daytime and evening hours. Implementation of mitigation measures Noi-2 and Noi-3 would reduce potential daytime and evening impacts. ~~The approximate location of the noise barrier is shown in Figure 4. Table 7 shows the potential noise levels that would be generated by events at the outdoor event area with implementation of mitigation measures Noi 2 and Noi 3. As shown in Table 7, noise levels at all sensitive receptors would be reduced to a less than significant level during daytime and evening hours. Impacts from events at the outdoor event area would be reduced to a less than significant level with implementation of mitigation measures Noi 1 through Noi 3.~~

**Table 7 — Mitigated Collier Club House Outdoor Event Crowd Noise Levels**

Land Use	Distance to Collier Club House Outdoor Event Area (feet)	Applicable Noise Standard (dBA)	Hourly Average Noise Level (dBA)	Exceeds City Hourly Noise Limit?
Single-family residences east of Collier Park	270	60 (7 a.m. to 7 p.m.)	60	No
		55 (7 p.m. to 10 p.m.)	55	No
Multi-family residences south of Collier Park	525	60 (7 a.m. to 10 p.m.)	59	No
		55 (10 p.m. to 7 a.m.)	54	No
Multi-family residences north of Collier Park	75	60 (7 a.m. to 10 p.m.)	60	No
		55 (10 p.m. to 7 a.m.)	55	No
Single-family residences north of Collier Park	215	60 (7 a.m. to 7 p.m.) <sup>(1)</sup>	59	No
		55 (7 p.m. to 10 p.m.)	54	No
Single-family residences west of Collier Park	225	61 (7 a.m. to 7 p.m.) <sup>(1)</sup>	61	No
		55 (7 p.m. to 10 p.m.)	55	No
Church on Palm Avenue (506)	260	60 (7 a.m. to 10 p.m.) <sup>(2,3)</sup>	60	No

<sup>(1)</sup> Palm Avenue from Pasadena Drive to Echo Drive generates a noise level of 61 dBA CNEL at the land uses along Palm Avenue to the west of Collier Park. Therefore, 61 dBA CNEL is considered the daytime ambient noise level for this area. Due to increased sensitivity to noise during the evening and nighttime hours, and weighting of noise levels during these hours to calculate CNEL, the City's noise level limits in Table 3 are conservatively considered the applicable threshold for the evening and nighttime hours.

<sup>(2)</sup> The City's noise limit for residential business is assumed to apply to the church. These standards are the most conservative non-residential standard.

<sup>(3)</sup> The church is a daytime use. Therefore, the City's nighttime standard does not apply.

## Cumulative Impacts

Noise is a localized phenomenon and is progressively reduced as the distance from the source increases; specifically, noise levels from stationary noise sources decrease by approximately 6 dB for every doubling of distance. Therefore, the geographic limit that would be considered for the noise cumulative analysis would include only those projects adjacent to the project site.

According to the City of La Mesa Development Services Application Log (~~April 2012~~ October 2014), the closest cumulative project to Collier Park is the Palm ~~Spring Liquor Store Project~~ Terrace Project, which proposes ~~a 4,000-SF addition to existing 2,400-SF Palm Spring Liquor store~~ 60 residential units and mixed-use retail development. The ~~liquor store~~ Palm Terrace site is located ~~1,300 feet from Collier Park~~ southwest of the project site across Palm Avenue. Residences are typically not considered a source of operational noise other than occasional nuisance noise. The mixed-use component of the ~~Since this~~ project would replace existing commercial development on the site ~~expand an existing retail store~~ rather than introducing a new commercial use to the area. Additionally, the limited retail space would not have the capacity or demand to ~~and the small store does not currently~~ generate a substantial number of truck trips for deliveries or additional mechanical equipment. Thus, the Palm Terrace project, the expansion ~~would not be expected to~~ result in a noticeable increase related to truck delivery noise. Therefore, this cumulative project would not generate excessive noise levels by itself. As shown in Table 6, ~~t~~ The maximum noise level potentially generated by Collier Park at the ~~liquor store existing commercial (office) development on Palm Avenue~~ would 52 be 64 dBA during outdoor events. ~~As shown in Table 5, existing noise levels along Palm Avenue are 60 dBA CNEL or higher~~. Therefore, operation of the proposed project would ~~generally not be audible at the liquor store site~~ have the potential to exceed noise level limits for the proposed Palm Terrace residences at the same location. The proposed project, in combination with the nearest cumulative project, would ~~not combine to~~ have the potential to generate excessive operational noise levels at the proposed residences. A potentially significant cumulative impact would ~~not~~ occur. Implementation of mitigation measures Noi-1 through Noi-3 would reduce this impact to a less than cumulatively considerable level.

### 5.1.2 Issue 2: Groundborne Vibration

#### Impact Analysis

The main concern associated with groundborne vibration from this type of project is annoyance; however, vibration-sensitive instruments and operations, such as those found in hospitals and laboratories, can be disrupted at much lower levels than would typically affect other uses. In extreme cases, the vibration can cause damage to buildings, particularly those that are old or otherwise fragile. No vibration-sensitive land uses are proposed as part of the project or currently exist on the project site. Therefore, implementation of the project would not result in the exposure of an on-site vibration-sensitive land use to excessive vibration and this analysis focuses on the potential for the proposed project to generate vibration at surrounding land uses.

Some common sources of groundborne vibration are trains, and construction activities such as blasting, pile-driving and heavy earth-moving equipment. The proposed project would not result in additional activity on the San Diego Trolley Orange line; therefore, no impact related to vibration from the trolley

would occur. The primary source of groundborne vibration occurring as part of the proposed project would be construction activity. Sound amplifiers used at events would also have the potential to generate some groundborne vibration.

Vibration-sensitive instruments and operations may require special consideration during construction. Vibration criteria for sensitive equipment and operations are not defined and are often case specific. In general, the criteria must be determined based on manufacturer specifications and recommendations by the equipment user. As a guide, major construction activity within 200 feet and pile driving within 600 feet may be potentially disruptive to sensitive operations (Caltrans 2002). No pile driving is anticipated to be necessary as part of project construction; therefore, construction of the proposed project would have the potential to disrupt sensitive operations within 200 feet of construction activities.

The nearest existing vibration-sensitive land uses to the project site are the dental offices located adjacent to the southern edge of the park. There are currently four dental offices within 200 feet of Collier Park. Therefore, construction in the southern areas of the park within 200 feet of the dental offices, including the Panhandle and History Hill areas, would have the potential to result in vibration that would disrupt sensitive operations. A potentially significant temporary construction impact would occur.

Amplified sound also has the potential to generate groundborne vibration, and may be permitted for use at the History Hill amphitheatre and Collier Park Clubhouse and ceremony stage. The Collier Park Clubhouse and ceremony stage would be located more than 400 feet from the nearest office development. Sound amplification would not generate vibration levels as high as heavy construction equipment and would generally be placed on stands or towers rather than directly on the ground. Additionally, the noise ordinance requirements that limit noise from sound amplification equipment would also reduce associated vibration. The History Hill amphitheater would be located approximately 150 feet from the nearest vibration-sensitive use, which is within the screening distance for vibration construction impacts. However, the amphitheater would host intimate gatherings and performances that would not require extensive sound amplification equipment. Vibration levels would be substantially less than construction equipment vibration levels. Additionally, similar to the clubhouse and outdoor vent area, vibration would be limited by the City's noise ordinance and placement of equipment on stands rather than on the ground. Therefore, due to distance and limited vibration generated by events, the Collier Park Clubhouse, ceremony stage, and amphitheater would not result in significant vibration.

## Mitigation Measures

Implementation of mitigation measures Noi-4 and Noi-5 would minimize temporary groundborne vibration impacts from construction in Collier Park adjacent to vibration-sensitive dental offices within 200 feet of the project site to the south.

**Noi-4 Construction Notification** ~~to Vibration Sensitive Land Uses~~. The construction contractor shall provide written notification to the four dental offices located to the south of Collier Park at least three weeks prior to the start of construction activities within 200 feet of these [offices, informing them of the estimated start date and duration of daytime vibration-generating](#)

~~construction activities. This notification shall include a~~ ~~businesses. The dental offices are located at 4323 and 4333 Palm Avenue. This notification shall include the estimated start date and duration of daytime vibration generating construction activities, as well as information~~ warning about the potential impacts related to vibration-sensitive equipment. The City shall provide a phone number for the affected businesses to call if they have vibration-sensitive equipment on their sites. If additional business licenses are issued for businesses with vibration-sensitive operations within 200 feet of Collier Park prior to completion of construction, written notification shall be provided to these businesses as well.

**Noi-5 Vibration Best Management Practices.** For construction activities within 200 feet of the four dental offices to the south of Collier Park ~~(located at 4323 and 4333 Palm Avenue)~~, the construction contractor shall implement the following measures during construction:

- 1) Construction activities that have the potential to generate high vibration levels at identified businesses with vibration-sensitive operations shall be scheduled during times that would have the least impact on nearby land uses. This could include restricting construction activities~~vibration-sensitive receptors. For example, construction activities shall be restricted~~ in the areas of potential impact to the early and late hours of the work day, such as from 8:00 a.m. to 10:00 a.m. or from 4:00 p.m. to 6:00 p.m., Monday through Friday.
- 2) Stationary sources, such as temporary generators, shall be located as far from nearby vibration-sensitive receptors as possible.
- 3) Trucks shall be prohibited from idling along streets serving the project construction site where businesses with vibration-sensitive operations are located.

If additional licenses are issued for businesses with vibration-sensitive operations within 200 feet of Collier Park prior to completion of construction, the vibration best management practices listed above shall be implemented for those businesses as well.

## Significance After Mitigation

Implementation of mitigation measures Noi-4 and Noi-5 would reduce cumulative groundborne vibration impacts to a less significant level.

## Cumulative Impacts

Similar to noise impact, vibration is a localized phenomenon and is progressively reduced as the distance from the source increases. Therefore, the area of projects that would be considered for the noise cumulative analysis would be only those projects adjacent to the project site. The closest cumulative project to Collier Park is the Palm Terrace mixed-use project, which is under construction across Palm Avenue from the project site. However, construction of this project is scheduled to be complete in February 2015, which is prior to the start of construction for the proposed project. Therefore, construction noise from the two projects would not occur simultaneously and a cumulative impact would not occur. The next closest cumulative project is the Palm Spring Liquor Project, which proposes a 4,000 SF addition to the existing 2,400 SF Palm Spring Liquor store. The site is located 1,300 feet from the project site, which is more than twice the screening distance for vibration impacts from pile driving. Therefore, vibration generated by construction on the project site and the Palm Spring Liquor project

site would not combine to generate cumulative vibration. Neither land uses proposes a significant source of operational vibration. Therefore, a significant cumulative vibration impact would not occur.

### **5.1.3 Issue 3: Substantial Permanent Increase in Ambient Noise Levels**

#### **Impact Analysis**

This section addresses the potential for implementation of the Collier Park renovations to permanently increase ambient noise levels as a result of increased traffic noise. The potential for other noise sources associated with project implementation to result in increases in noise levels that would expose NSLU to excessive noise levels is addressed in Section 5.1.1, Issue 1: Excessive Noise Levels.

The potential for the Collier Park renovations to permanently increase traffic noise is addressed under the following scenarios: existing plus project, near-term (Year 2020), and long-term (Year 2035). Traffic levels for each roadway are included in the appendix. Noise levels for area roadways were calculated using standard noise modeling equations adapted from the FHWA noise prediction model. The modeling calculations take into account the posted vehicle speed, average daily traffic volume, and the estimated vehicle mix. The estimates are conservative because the model does not take into account buildings or topography that would provide noise attenuation. Noise levels at distances further from the source than the specific receptor would be lower due to attenuation provided by increased distance from the noise source. Generally, noise from heavily traveled roadways would experience a decrease of approximately 3 dBA for every doubling of distance from the roadway.

#### **Existing + Project Scenario**

Existing and future increases in traffic, with and without the proposed project, are provided in Table 7. As shown in Table 7, none of the roadways would generate noise levels that would exceed the 65 dBA CNEL noise compatibility standard for multi-family uses or the 70 dBA CNEL standards for offices and places of worship. All segments of Palm Avenue currently generate noise levels that meet or exceed 60 dBA CNEL, without implementation of the project. With implementation of the proposed project, noise levels along Palm Avenue would continue to meet or exceed the noise compatibility standard of 60 dBA CNEL for single-family residences. However, the project would not result in an increase of more than 1 dBA CNEL along Palm Avenue. Therefore, the project would not result in a significant impact. The proposed project would result in a 5 dBA increase in noise level on Pasadena Avenue; however, noise levels on Pasadena Avenue would not exceed 60 dBA CNEL with implementation of the project. Therefore, a significant impact would not occur.

#### **Near-Term (Year 2020) Scenario**

The Near-Term (Year 2020) scenario includes buildout of the Collier Park renovations as well as cumulative growth and development in La Mesa anticipated by Year 2020. Near-term increases in traffic, with and without the proposed project, are provided in Table 8. As shown in Table 8, none of the roadways would generate noise levels that would exceed the 65 dBA CNEL noise compatibility standard for multi-family uses or the 70 dBA CNEL standard for offices and places of worship. Noise levels along all three segments of Palm Avenue currently meet or exceed the noise compatibility standard of 60 dBA

CNEL for single-family residences. However, the noise levels along this road would not increase as a result of the project. Therefore, the proposed would not result in a significant impact on Palm Avenue. The proposed project would result in a 4 dBA CNEL increase in noise level on Pasadena Avenue and a 1 dBA CNEL increase in noise level on Echo Drive. However, noise levels on Pasadena Avenue and Echo Drive would not exceed 60 dBA CNEL with implementation of the project. Therefore, a significant impact would not occur.

**Table 7 Existing + Project Traffic Noise Levels**

Roadway	Segment	Existing + Project <sup>(1)</sup>				
		Existing	Existing + Project	60 dBA CNEL or Greater?	Increase in Noise Level	Significant Impact?
Palm Avenue	Fresno Avenue to Pasadena Avenue	60	61	Yes	+1	No
	Pasadena Avenue to Echo Drive	61	61	Yes	0	No
	Echo Drive to Spring Street	62	62	Yes	0	No
Pasadena Avenue	Palm Avenue to 4 <sup>th</sup> Street	47	52	No	+5	No
Echo Drive	Palm Avenue to Echo Court	54	54	No	0	No

<sup>(1)</sup> Assumes weekday daily trips for Palm Avenue and weekend daily trips for Pasadena Avenue and Echo Drive to provide the most conservative analysis.

Note: The Existing Scenario represents conditions in 2012. Noise levels are calculated at 50 feet from roadway centerline. Noise levels are based upon traffic data provided by Chen Ryan Associates (2012). Traffic levels for each roadway are included in the appendix. Decibel levels are rounded to the nearest whole number. See appendix for data sheets.

**Table 8 Near-Term (Year 2020) Traffic Noise Levels**

Roadway	Segment	Year 2020 + Project <sup>(1)</sup>				
		Year 2020	Year 2020 + Project	60 dBA CNEL or Greater?	Increase in Noise Level	Significant Impact?
Palm Avenue	Fresno Avenue to Pasadena Avenue	61	61	Yes	0	No
	Pasadena Avenue to Echo Drive	62	62	Yes	0	No
	Echo Drive to Spring Street	62	62	Yes	0	No
Pasadena Avenue	Palm Avenue to 4 <sup>th</sup> Street	48	52	No	+4	No
Echo Drive	Palm Avenue to Echo Court	54	55	No	+1	No

<sup>(1)</sup> Assumes weekday daily trips for Palm Avenue and weekend daily trips for Pasadena Avenue and Echo Drive to provide the most conservative analysis.

Note: The Existing Scenario represents conditions in 2012. Noise levels are calculated at 50 feet from roadway centerline. Noise levels are based upon traffic data provided by Chen Ryan Associates (2012). Traffic levels for each roadway are included in the appendix. Decibel levels are rounded to the nearest whole number. See appendix for data sheets.

### Long-Term (Year 2035) Scenario

The Long-Term (Year 2035) scenario includes buildout of the proposed project as well as cumulative growth and development in La Mesa through Year 2035. Long-term increases in traffic, with and without the proposed project, are provided in Table 9. As shown in Table 9, none of the roadways would generate noise levels that would exceed the 65 dBA CNEL noise compatibility standard for multi-family

uses or the 70 dBA CNEL standards for offices and places of worship. All three segments of Palm Avenue would generate noise levels that exceed 60 dBA CNEL, with and without implementation of the project. The project would not result in an increase of more than 1 dBA CNEL along Palm Avenue. Therefore, the proposed would not result in an increase of 3 dBA or more on Palm Avenue and would not result in a significant impact. The proposed project would result in a 5 dBA increase in noise level on Pasadena Avenue; however, noise levels on Pasadena Avenue would not exceed 60 dBA CNEL with implementation of the project. Therefore, a significant impact would not occur.

**Table 9 Long-Term (Year 2035) Traffic Noise Levels**

Roadway	Segment	Year 2035 + Project <sup>(1)</sup>				
		Year 2035	Year 2035 + Project	60 dBA CNEL or Greater?	Increase in Noise Level	Significant Impact?
Palm Avenue	Fresno Avenue to Pasadena Avenue	63	63	Yes	0	No
	Pasadena Avenue to Echo Drive	63	63	Yes	0	No
	Echo Drive to Spring Street	62	63	Yes	+1	No
Pasadena Avenue	Palm Avenue to 4 <sup>th</sup> Street	48	53	No	+5	No
Echo Drive	Palm Avenue to Echo Court	56	56	No	0	No

<sup>(1)</sup> Assumes weekday daily trips for Palm Avenue and weekend daily trips for Pasadena Avenue and Echo Drive to provide the most conservative analysis.

Note: The Existing Scenario represents conditions in 2012. Noise levels are calculated at 50 feet from roadway centerline.

Noise levels are based upon traffic data provided by Chen Ryan Associates (2012). Traffic levels for each roadway are included in the appendix. Decibel levels are rounded to the nearest whole number. See appendix for data sheets.

## Mitigation Measures

Implementation of the Collier Park renovations would not result in a significant increase in traffic noise levels in the project vicinity. No mitigation is required.

## Significance After Mitigation

Impacts related to permanent increases in ambient noise level would be less than significant without mitigation.

## Cumulative Impacts

Buildout of the Collier Park renovations, along with future cumulative growth in La Mesa, would result in increases in traffic that would cumulatively increase traffic noise. A significant cumulative impact would occur if the project, in combination with the other cumulative projects, would cause a roadway to exceed the City's noise compatibility standard for adjacent land uses. The potential noise impacts that would result from cumulative projects and cumulative growth are included in the Long-Term (Year 2035) scenario. Table 10 compares Long-Term (Year 2035) traffic noise levels to existing conditions. As shown in Table 10, noise levels along Pasadena Avenue and Echo Drive would not exceed 60 dBA CNEL in the Long-Term (Year 2035) scenario, which is the most conservative noise compatibility standard. None of the roadways would exceed the 65 dBA CNEL noise standard for multi-family residences or the 70 dBA CNEL noise standard for office and places of worship. A cumulative impact would not occur on these roadways.

For roadways that currently exceed the applicable noise compatibility standard, a cumulative impact would occur if the cumulative increase in traffic noise would be 3 dBA or greater. Increases in noise level below 3 dBA are generally not perceptible. Three of the five existing roadway segments currently generate noise levels that meet or exceed 60 dBA CNEL, without cumulative development. These roadways would continue to exceed 60 dBA CNEL in Year 2035. Cumulative growth would result in an increase in traffic noise of 3 dBA CNEL on Palm Avenue from Fresno Avenue to Pasadena Avenue. A cumulatively considerable impact would occur on this segment. The project’s contribution to the cumulative noise impact is based on the increase in traffic noise attributable to the proposed project under the Long-Term (Year 2035) scenario. If the project would contribute a perceptible increase in noise, that is, an increase of 3 dBA or more, then the project’s contribution would be cumulatively considerable. Implementation of the proposed project would not result in any increase on the impacted roadway compared to noise levels without project implementation. Therefore, implementation of the proposed project would not result in cumulatively considerable contribution to a significant cumulative roadway noise impact.

**Table 10 Cumulative Traffic Noise Impacts**

Roadway	Segment	Existing <sup>(1)</sup>	Long-Term (Year 2035) + Project <sup>(1)</sup>	Increase in Noise Level	Significant Cumulative Impact?	Increase Attributable to Proposed Project <sup>(2)</sup>	Cumulatively Considerable Contribution?
Palm Avenue	Fresno Avenue to Pasadena Avenue	60	63	+3	Yes	0	No
	Pasadena Avenue to Echo Drive	61	63	+2	No	N/A	N/A
	Echo Drive to Spring Street	62	63	+1	No	N/A	N/A
Pasadena Avenue	Palm Avenue to 4 <sup>th</sup> Street	47	53	N/A	No	N/A	N/A
Echo Drive	Palm Avenue to Echo Court	54	56	N/A	No	N/A	N/A

Note: N/A = Not Applicable

<sup>(1)</sup> Assumes weekday daily trips for Palm Avenue and weekend daily trips for Pasadena Avenue and Echo Drive to provide the most conservative analysis.

<sup>(2)</sup> Based on the results in Table 19. The project’s contribution to the cumulative noise impact is based on the increase in traffic noise attributable to the proposed project under the Long-Term (Year 2035) scenario. If the project’s contribution is less than three decibels, the project’s contribution is not cumulatively considerable.

Note: Noise levels are calculated at 50 feet from roadway centerline. Noise levels are based upon traffic data provided by Chen Ryan Associates (2012). Traffic levels for each roadway are included in the appendix. Decibel levels are rounded to the nearest whole number. See appendix for data sheets.

## 5.1.4 Issue 4: Construction Noise

### Impact Analysis

Construction of the facilities proposed in the Collier Park renovations would generate noise that could expose nearby NSLU to elevated noise levels that may disrupt communication and routine activities. The magnitude of the impact would depend on the type of construction activity, equipment, duration of the construction phase, distance between the noise source and receiver, and intervening structures. Sound levels from typical construction equipment range from 60 dBA to 90 dBA Leq at 50 feet from the source

(FHWA 2008). Noise from construction equipment generally exhibits point source acoustical characteristics. Strictly speaking, a point source sound decays at a rate of 6 dBA per doubling of distance from the source. The rule applies to the propagation of sound waves with no ground interaction.

The project would be completed in phases, generally corresponding to the four project areas: Panhandle, Spring House, History Hill, and Collier Club House. Each phase of project construction anticipated to occur over a six to 14 month period. Dates of construction are currently unknown. It is assumed that construction of the Panhandle area would begin as early as January 2013, and construction of the other phases would begin as early as January 2014. Construction required for each of the four phases is described below.

**Panhandle.** The Panhandle area phase of construction would include 2.6 acres of the park. Construction of this phase would take 12 months and would require demolition of 23,360 square feet (SF) of existing park features and grading of the entire Panhandle area (3 months) and installation of utilities and foundations (3 months). Construction of the new restroom building and installation of landscaping, irrigation, hardscape, and the playgrounds would take approximately 6 months.

**Spring House.** The Spring House phase would involve mothballing the structure and minor improvements to meet structural requirements. Heavy construction equipment would not be required for this phase. ~~redevelop approximately 1,300 SF of the existing park. The Spring House would be demolished and replaced with an interpretive center. Construction of this phase would last approximately 9 months and would require demolition of the existing 1,300 SF Spring House (2 months), construction of the new interpretive center (3 months), and installation of hardscaping and landscaping (4 months).~~

**History Hill.** The History Hill phase would develop approximately 2.5 acres of the park. Construction of this phase would take approximately 9 months and would require grading of the area (6 months), installation of hardscaping and walkway areas (1 month), and installation of park features and landscaping (2 months).

**Collier Club House.** The Collier Club House phase would develop approximately 2.5 acres of the park. Construction of this phase would take approximately 14 months and would require grading of the area (4 months); installation of utilities and a retaining wall (4 months); construction of the club house, irrigation, and hardscaping (4 months); and installation of final park features and landscaping (2 months).

Standard equipment, including front end loaders, backhoes, graders, and dozers, would be used for construction of most of the project facilities. The Panhandle area would be constructed first and would be completed prior to the construction of the other three phases. The remaining areas may be constructed in any order and may be constructed concurrently.

Noise levels from simultaneous construction on the project site were determined based on the construction equipment list provided by the applicant and typical equipment noise levels determined by the Roadway Construction Noise Model (RCNM) (FHWA 2008). The six noisiest pieces of construction

equipment (grader, dozer, tractor, scraper, excavator, and paver) that could be required for the proposed project were assumed to operate simultaneously in the same location, which would have the potential to generate noise levels of up to 87 dBA at 50 feet from the construction site. These estimates are conservative because construction equipment would be spread out over several acres and would not be operating all at once.

The project site is surrounded by NSLU, including single-family and multi-family residences and a church, located between 15 to 60 feet from the project boundary. The site is located in a residential neighborhood and additionally NSLU are located beyond the homes located adjacent to the site. The worst-case construction noise level would range from approximately 98 dBA to 85 dBA at the NSLU adjacent to Collier Park. Therefore, although the City's noise limits do not apply to construction activity, the noise level from construction would potentially exceed the City's exterior noise standards and may be considered disruptive to residences and the church during construction operations.

Although the on-site residences could be exposed to potentially disturbing construction noise levels, the exposure would be short-term, and would cease upon project buildout. Additionally, construction activities associated with buildout of the project would occur between the hours of 7:00 a.m. and 10:00 p.m., Monday through Saturday, which is the limit specified for construction in Section 10.80.100 of the City's noise ordinance. Because construction would comply with the applicable regulation for construction noise, temporary increases in noise level from construction activities would be less than significant.

## Mitigation Measures

Temporary increases in ambient noise level would be less than significant. No mitigation is required.

## Significance After Mitigation

Impacts related to temporary construction noise would be less than significant without mitigation.

## Cumulative Impacts

Construction noise impacts are localized in nature because they are limited to the construction site where construction equipment is operating. As discussed above, sound levels from project construction would be up to 87 dBA Leq at 50 feet from the source (FHWA 2008). Construction noise decreases approximately 6 dBA with every doubling of distance. Construction noise would be reduced to less than 60 dBA approximately 1,300 feet from the construction site, which is the location of closest cumulative project [that could be under construction at the same time and the proposed project](#), assuming the loudest construction noise level of 87 dBA Leq. Similar to the proposed project, cumulative construction projects would operate equipment with the potential to generate excessive noise levels. However, the cumulative projects and the proposed project would be subject to the La Mesa construction noise ordinance, which limits the hours of construction to 7:00 a.m. and 10:00 p.m., Monday through Saturday. Compliance with the La Mesa noise ordinance would reduce impacts to a less than significant level. The proposed project would comply with the City's construction limits; therefore, the proposed project would not result in a cumulatively considerable contribution to a significant cumulative impact.

## 5.1.5 Issue 5: Aircraft Noise

### Impact Analysis

The project site is located 4.5 miles from Gillespie Field airport, 7.5 miles from Montgomery Field airport, and 1.5 miles from the heliport at Grossmont Hospital. The project site is not located within the 60 dBA CNEL noise contour of Gillespie Field or Montgomery Field. The Grossmont Helipad does not generate noise levels above 60 dBA CNEL. Therefore, Collier Park would not be exposed to excessive noise levels from these airports or helipad. It is not foreseeable that additional aviation uses would be introduced in the immediate vicinity of the project site because it is currently developed with residential land uses. In addition, the implementation of the project would not result in a significant impact on future air traffic operations. Therefore, NSLU would not be exposed to excessive noise levels from aviation noise as a result of the proposed project.

### Mitigation Measures

Implementation of the proposed project would not result in significant impacts from aircraft noise. No mitigation is required.

### Significance After Mitigation

Impacts related to aircraft noise would be less than significant without mitigation.

### Cumulative Impacts

No additional aviation uses are planned to be introduced in the immediate vicinity of the project site. In addition, the project does not propose any new air traffic. No NSLU would be exposed to excessive noise levels from aviation as a result of the proposed project. Therefore, a cumulative impact related to aviation would not occur.

## 6.0 Conclusion

Operation of the project would have the potential to result in excessive noise levels related to events at the Collier Club House outdoor ceremony area. Mitigation measures Noi-1 through Noi-3 would reduce impacts to a less than significant level. The increase in traffic noise associated with the renovated facilities would not result in a significant direct or cumulative impact. Short-term noise increases from construction equipment would not violate the City's noise ordinance. Construction equipment would generate significant short-term increases in groundborne vibration at nearby medical offices. Mitigation measures Noi-4 and Noi-5 would reduce this impact to a less than significant level.

## 7.0 References

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- San Diego County Regional Airport Authority. 2010b. *Montgomery Field Airport Land Use Compatibility Plan*, December 20.

# **Appendix Noise Data**



**TRAFFIC NOISE LEVELS AND NOISE CONTOURS**

**Project Number:** 491302  
**Project Name:** Palomar Community College

**Background Information**

Model Description: FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels.  
 Source of Traffic Volumes: Linscott, Law, and Greenspan, December 2008  
 Community Noise Descriptor: L<sub>dn</sub>: \_\_\_\_\_ CNEL: X

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

"-" = contour is located within the roadway right-of-way.  
 Distance is from the centerline of the roadway segment to the receptor location.

Analysis Condition Roadway, Segment	Lanes	Median Width	ADT Volume	Design Speed (mph)	Alpha Factor	Vehicle Mix		Distance from Centerline of Roadway				
						Medium Trucks	Heavy Trucks	CNEL at 50 Feet	70 CNEL	65 CNEL	60 CNEL	55 CNEL
<b>Palm Avenue</b>												
Fresno Ave to Pasadena Ave, existing	2	0	5,410	30	0.5	2.0%	1.0%	<b>60.1</b>	-	-	51	110
Fresno Ave to Pasadena Ave, existing + project	2	0	5,840	30	0.5	2.0%	1.0%	<b>60.5</b>	-	-	54	116
Fresno Ave to Pasadena Ave, future (2020)	2	0	5,840	30	0.5	2.0%	1.0%	<b>60.5</b>	-	-	54	116
Fresno Ave to Pasadena Ave, future (2020) + project	2	0	6,270	30	0.5	2.0%	1.0%	<b>60.8</b>	-	-	56	121
Fresno Ave to Pasadena Ave, future (2035)	2	0	9,500	30	0.5	2.0%	1.0%	<b>62.6</b>	-	34	74	160
Fresno Ave to Pasadena Ave, future (3035) + project	2	0	9,930	30	0.5	2.0%	1.0%	<b>62.8</b>	-	35	76	165
<b>Palm Avenue</b>												
Pasadena Avenue to Echo Drive, existing	2	0	7,060	30	0.5	2.0%	1.0%	<b>61.3</b>	-	-	61	131
Pasadena Avenue to Echo Drive, existing + project	2	0	7,320	30	0.5	2.0%	1.0%	<b>61.4</b>	-	-	62	134
Pasadena Avenue to Echo Drive, future (2020)	2	0	7,620	30	0.5	2.0%	1.0%	<b>61.6</b>	-	-	64	138
Pasadena Avenue to Echo Drive, future (2020) + project	2	0	7,880	30	0.5	2.0%	1.0%	<b>61.8</b>	-	-	66	141
Pasadena Avenue to Echo Drive, future (2035)	2	0	9,500	30	0.5	2.0%	1.0%	<b>62.6</b>	-	34	74	160
Pasadena Avenue to Echo Drive, future (3035) + project	2	0	9,760	30	0.5	2.0%	1.0%	<b>62.7</b>	-	35	76	163
<b>Palm Avenue</b>												
Echo Drive to Spring Street, existing	2	0	7,560	30	0.5	2.0%	1.0%	<b>61.6</b>	-	-	64	137
Echo Drive to Spring Street, existing + project	2	0	7,770	30	0.5	2.0%	1.0%	<b>61.7</b>	-	-	65	140
Echo Drive to Spring Street, future (2020)	2	0	8,160	30	0.5	2.0%	1.0%	<b>61.9</b>	-	-	67	144
Echo Drive to Spring Street, future (2020) + project	2	0	8,370	30	0.5	2.0%	1.0%	<b>62.0</b>	-	-	68	147
Echo Drive to Spring Street, future (2035)	2	0	9,200	30	0.5	2.0%	1.0%	<b>62.4</b>	-	34	73	156
Echo Drive to Spring Street, future (3035) + project	2	0	9,410	30	0.5	2.0%	1.0%	<b>62.5</b>	-	34	74	159
<b>Pasadena Avenue</b>												
Palm Ave to 4th Street, existing	2	0	390	25	0.5	2.0%	1.0%	<b>47.3</b>	-	-	-	-
Palm Ave to 4th Street, existing + project	2	0	1,240	25	0.5	2.0%	1.0%	<b>52.3</b>	-	-	-	33
Palm Ave to 4th Street, future (2020)	2	0	420	25	0.5	2.0%	1.0%	<b>47.6</b>	-	-	-	-
Palm Ave to 4th Street, future (2020) + project	2	0	1,270	25	0.5	2.0%	1.0%	<b>52.4</b>	-	-	-	33
Palm Ave to 4th Street, future (2035)	2	0	480	25	0.5	2.0%	1.0%	<b>48.2</b>	-	-	-	-
Palm Ave to 4th Street, future (3035) + project	2	0	1,330	25	0.5	2.0%	1.0%	<b>52.6</b>	-	-	-	35
<b>Echo Drive</b>												
Palm Ave to Echo Court, existing	2	0	1,890	25	0.5	2.0%	1.0%	<b>54.1</b>	-	-	-	44
Palm Ave to Echo Court, existing + project	2	0	1,930	25	0.5	2.0%	1.0%	<b>54.2</b>	-	-	-	44
Palm Ave to Echo Court, future (2020)	2	0	2,040	25	0.5	2.0%	1.0%	<b>54.4</b>	-	-	-	46
Palm Ave to Echo Court, future (2020) + project	2	0	2,080	25	0.5	2.0%	1.0%	<b>54.5</b>	-	-	-	46
Palm Ave to Echo Court, future (2035)	2	0	3,020	25	0.5	2.0%	1.0%	<b>56.1</b>	-	-	-	60
Palm Ave to Echo Court, future (3035) + project	2	0	3,060	25	0.5	2.0%	1.0%	<b>56.2</b>	-	-	-	60

Construction 06 15 12.txt  
 Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 06/15/2012  
 Case Description: Collier Simultaneous Construction

\*\*\*\* Receptor #1 \*\*\*\*

Description	Land Use	Daytime	Baselines (dBA)	
			Evening	Night
NSLU	Residential	65.0	60.0	55.0

Description	Impact Device	Usage (%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85.0		50.0	0.0
Dozer	No	40		81.7	50.0	0.0
Tractor	No	40	84.0		50.0	0.0
Scraper	No	40		83.6	50.0	0.0
Excavator	No	40		80.7	50.0	0.0
Paver	No	50		77.2	50.0	0.0

Results

Noise Limit Exceedance (dBA)					Noise Limits (dBA)				
Night	Day	Calculated (dBA)		Day Night	Evening				
		Lmax	Leq		Lmax	Leq	Lmax		
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Grader	N/A	N/A	85.0	81.0	N/A	N/A	N/A	N/A	N/A
Dozer	N/A	N/A	81.7	77.7	N/A	N/A	N/A	N/A	N/A
Tractor	N/A	N/A	84.0	80.0	N/A	N/A	N/A	N/A	N/A
Scraper	N/A	N/A	83.6	79.6	N/A	N/A	N/A	N/A	N/A
Excavator	N/A	N/A	80.7	76.7	N/A	N/A	N/A	N/A	N/A
Paver	N/A	N/A	77.2	74.2	N/A	N/A	N/A	N/A	N/A
		Total	85.0	86.5	N/A	N/A	N/A	N/A	N/A
			N/A	N/A	N/A	N/A	N/A	N/A	N/A