Section 5.7
NOISE

5.7 NOISE

This section evaluates the noise impacts associated with construction and operation of the proposed project. The analysis is based on information and conclusions contained in the project's *Noise Impact Analysis*, performed by LSA Associates, Inc. (LSA) in June 2008.[1] The *Noise Impact Analysis* was prepared to identify the potential short-term and long-term noise impacts of the proposed project and mitigation measures, and is intended to satisfy the City's requirement for a project-specific noise impact analysis. The *Noise Impact Analysis* is included in its entirety in Appendix G.

5.7.1 ENVIRONMENTAL SETTING

REGULATORY FRAMEWORK

State Noise Standards

Title 24 of the California Code of Regulations codifies Sound Transmission Control requirements, which establishes uniform minimum noise insulation performance standards for new hotels, motels, dormitories, apartment houses, and dwellings other than single-family dwellings. Specifically, Title 24 states that interior noise levels attributable to exterior noise sources shall not exceed 45 dBA CNEL in any habitable room of a new building.

The Office of Statewide Health Planning and Development also utilizes *Title 24* of the California Code of Regulations to address both the exterior and interior noise environments for hospitals. Title 24, Part 2, Chapter 12 specifically addresses the interior environment for hospitals.

City of Santa Clarita Noise Standards

General Plan

The City of Santa Clarita has set land use standards for noise in its *General Plan* Noise Element (June 25, 1991; First Amendment, May 23, 2000). One of the goals of the Noise Element is to mitigate, and if possible prevent, significant noise levels in residential neighborhoods. It requires that developers of new single-family and multi-family residential neighborhoods in areas where the ambient noise level exceeds 55 dBA (night) and 65 dBA (day) (or the equivalent of 65 dBA CNEL) provide mitigation measures for the new residences to reduce interior noise levels. Medical office buildings are acceptable in areas up to 70 dBA CNEL where no outdoor active uses are proposed and the interior noise levels are mitigated (California Department of Health 1978).

Municipal Code

The City's *Municipal Code*, Chapter 11.44, *Noise Limits*, establishes noise standards in various land use zones during daytime (7:00 AM–10:00 PM) and nighttime (10:00 PM–7:00 AM) periods. For residential zones, the base noise levels are 65 dBA during the daytime period and 55 dBA during the nighttime period. For commercial and manufacturing zones, the base noise levels are 80 dBA during the daytime period and 70 dBA during the nighttime period. For repetitive impulsive noise

[1] LSA Associates, Inc. *Noise Impact Analysis, Henry Mayo Newhall Memorial Hospital Master Plan.* June 2008.

or steady, whine, screech, or hum noise, the base noise levels noted above are reduced by 5 dBA. If the noise occurs more than 5 but less than 15 minutes per hour during the daytime period, the above base noise levels are raised by 5 dBA. If the noise occurs more than 1 but less than 5 minutes per hour during the daytime period, the above base noise levels are raised by 10 dBA. If the noise occurs less than 1 minute per hour during daytime period, the above base noise levels are raised by 20 dBA.

Pursuant to the City's *Municipal Code* Section 11.44.080, no person may engage in any construction work that requires a building permit from the City on sites within 300 feet of a residentially zoned property, except between the hours of 7:00 AM and 7:00 PM, Monday through Friday, and 8:00 AM and 6:00 PM on Saturday. No work may be performed on the following public holidays: New Year's Day, Independence Day, Thanksgiving, Christmas Day, Memorial Day, and Labor Day. The City of Santa Clarita Public Works Department may issue a permit for work to be done "after hours" provided that containment of construction noises is provided.

Noise Impact Assessment Methodology

Evaluation of noise impacts includes the following steps:

- Determine the noise impacts associated with short-term construction with industry-recognized noise emission levels for construction equipment and long-term operation of the proposed project with on-site noise-producing activities on adjacent noise-sensitive uses;
- Determine the long-term traffic and off-site commercial use noise impacts on noise-sensitive uses on-site; and
- Determine the required mitigation measures to reduce short-term and long-term noise impacts.

This noise impact analysis utilizes the City's noise standards, including the City's Noise Element and Noise Control Ordinance, as thresholds against which potential noise impacts are evaluated.

Characteristics of Sound

Sound is generally increasing, particularly in the urban environment, and can affect quality of life. Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, and sleep.

To the human ear, sound has two significant characteristics: pitch and loudness. Pitch is generally an annoyance, while loudness can affect the ability to hear. Pitch is the number of complete vibrations, or cycles per second, of a wave, resulting in the tone's range from high to low. Loudness is the strength of a sound and describes a noisy or quiet environment; it is measured by the amplitude of the sound wave. Loudness is determined by the intensity of the sound waves, combined with the reception characteristics of the human ear. Sound intensity refers to how hard the sound wave strikes an object, which in turn produces the sound's effect. This characteristic of sound can be precisely measured with instruments. The analysis of a project defines the noise

environment of the project area in terms of sound intensity and its effect on adjacent sensitive land uses.

Measurement of Sound

Sound intensity is measured through the A-weighted scale to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies. Unlike linear units, such as inches or pounds, decibels are measured on a logarithmic scale representing points on a sharply rising curve.

For example, 10 decibels (dB) are 10 times more intense than 1 decibel, 20 decibels are 100 times more intense, and 30 decibels are 1,000 times more intense. Thirty decibels represent 1,000 times more acoustic energy than one decibel. The decibel scale increases as the square of the change, representing the sound pressure energy. A sound as soft as human breathing is about 10 times greater than 0 decibels. The decibel system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. A 10-decibel increase in sound level is perceived by the human ear as only a doubling of the loudness of the sound. Ambient sounds generally range from 30 dBA (very quiet) to 100 dBA (very loud).

Sound levels are generated from a source, and their decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. For a single point source, sound levels decrease approximately six decibels for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by stationary equipment. If noise is produced by a line source, such as highway traffic or railroad operations, the sound decreases three decibels for each doubling of distance in a hard site environment. Line source noise, when produced within a relatively flat environment with absorptive vegetation, decreases four and one-half decibels for each doubling of distance.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoyance effects of sound. Equivalent continuous sound level (L_{eq}) is the total sound energy of time-varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the L_{eq} and community noise equivalent level (CNEL) or the day-night average level (L_{dn}) based on A-weighted decibels (dBA). CNEL is the time-varying noise over a 24-hour period, with a 5-dBA weighting factor applied to the hourly L_{eq} for noises occurring from 7:00 PM to 10:00 PM (defined as relaxation hours) and 10-dBA weighting factor applied to noise occurring from 10:00 PM to 7:00 AM (defined as sleeping hours). L_{dn} is similar to the CNEL scale but without the adjustment for events occurring during the evening hours. CNEL and L_{dn} are within 1 dBA of each other and are normally exchangeable. The noise adjustments are added to the noise events occurring during the more sensitive hours.

Other noise rating scales of importance when assessing the annoyance factor include the maximum noise level (L_{max}), which is the highest exponential time-averaged sound level that occurs during a stated time period. The noise environments discussed in this analysis are specified in terms of maximum levels denoted by L_{max} for short-term noise impacts. L_{max} reflects peak operating conditions and addresses the annoyance aspects of intermittent noise.

Another noise scale often used together with the L_{max} in noise ordinances for enforcement purposes is noise standards in terms of percentile noise levels. For example, the L_{10} noise level represents the noise level exceeded 10 percent of the time during a stated period. The L_{50} noise level represents the median noise level; half the time the noise level exceeds this level, and half the time it is less than this level. The L_{90} noise level represents the noise level exceeded 90 percent of the time and is considered the background noise level during a monitoring period. For a relatively constant noise source, the L_{eq} and L_{50} are approximately the same.

Noise impacts can be described in three categories. The first is audible impacts, which refers to increases in noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3.0 dB or greater, since this level has been found to be barely perceptible in exterior environments. The second category, potentially audible, refers to a change in the noise level between 1.0 and 3.0 dB. This range of noise levels has been found to be noticeable only in laboratory environments. The last category is changes in noise level of less than 1.0 dB, which are inaudible to the human ear. Only audible changes in existing ambient or background noise levels are considered potentially significant.

Psychological and Physiological Effects of Noise

Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects the entire bodily system, with prolonged noise exposure in excess of 75 dBA increasing body tensions and thereby affecting blood pressure and functions of the heart and the nervous system. In comparison, extended periods of noise exposure above 90 dBA would result in permanent cell damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation is replaced by the feeling of pain in the ear. This is called the threshold of pain. A sound level of 160 to 165 dBA will result in dizziness or loss of equilibrium.

The ambient or background noise problem is widespread and generally more concentrated in urban areas than in outlying, less developed areas.

Table 5.7-1, *Definitions of Acoustical Terms*, lists common noise-related terms; *Table 5.7-2*, *Common Sound Levels and Their Noise Sources*, provides examples of common noise sources and typical noise levels associated with them; and *Table 5.7-3*, *Land Use Compatibility for Exterior Community Noise*, lists established noise levels that are considered acceptable for various land use types, as recommended by the California Department of Health, Office of Noise Control.

Table 5.7-1
Definitions of Acoustical Terms

Term	Definition
Decibel, dB	A unit of level that denotes the ratio between two quantities that are proportional to power; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
Frequency, Hz	Of a function periodic in time, the number of times that the quantity repeats itself in one second (i.e., number of cycles per second).
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted, unless reported otherwise.
L_{02}, L_{08}, L_{50}, L_{90}	The fast A-weighted noise levels that are equaled or exceeded by a fluctuating sound level 2 percent, 8 percent, 50 percent, and 90 percent of a stated time period, respectively.
Equivalent Continuous Noise Level, L_{eq}	The level of a steady sound that, in a stated time period and at a stated location, has the same A-weighted sound energy as the time-varying sound.
Community Noise Equivalent Level, CNEL	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 5 decibels to sound levels occurring in the evening from 7:00 PM to 10:00 PM and after the addition of 10 decibels to sound levels occurring in the night between 10:00 PM and 7:00 AM
Day/Night Noise Level, L_{dn}	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 10 decibels to sound levels occurring in the night between 10:00 PM and 7:00 AM
L_{max}, L_{min}	The maximum and minimum A-weighted sound levels measured on a sound level meter, during a designated time interval, using fast time averaging.
Ambient Noise Level	The all-encompassing noise associated with a given environment at a specified time, usually a composite of sound from many sources at many directions, near and far; no particular sound is dominant.
Intrusive	The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source: Handbook of Acoustical Measurement and Noise Control 1991.

Table 5.7-2
Common Sound Levels and Their Noise Sources

Noise Source	A-Weighted Sound Level in Decibels	Noise Environments	Subjective Evaluations
Near Jet Engine	140	Deafening	128 times as loud
Civil Defense Siren	130	Threshold of Pain	64 times as loud
Hard Rock Band	120	Threshold of Feeling	32 times as loud
Accelerating Motorcycle at a Few Feet Away	110	Very Loud	16 times as loud
Pile Driver; Noisy Urban Street/Heavy City Traffic	100	Very Loud	8 times as loud
Ambulance Siren; Food Blender	95	Very Loud	
Garbage Disposal	90	Very Loud	4 times as loud
Freight Cars; Living Room Music	85	Loud	
Pneumatic Drill; Vacuum Cleaner	80	Loud	2 times as loud
Busy Restaurant	75	Moderately Loud	
Near Freeway Auto Traffic	70	Moderately Loud	Reference Level
Average Office	60	Quiet	½ as loud
Suburban Street	55	Quiet	
Light Traffic; Soft Radio Music in Apartment	50	Quiet	¼ as loud
Large Transformer	45	Quiet	
Average Residence without Stereo Playing	40	Faint	⅛ as loud
Soft Whisper	30	Faint	
Rustling Leaves	20	Very Faint	
Human Breathing	10	Very Faint	Threshold of Hearing
	0	Very Faint	

Source: Compiled by LSA Associates, Inc. 2004.

Table 5.7-3
Land Use Compatibility for Exterior Community Noise

Land Use Category	Noise Range (L_{dn} or CNEL), dB			
	I	II	III	IV
Passively used open spaces	50	50–55	55–70	70+
Auditoriums, concert halls, amphitheaters	45–50	50–65	65–70	70+
Residential low-density single family, duplex, mobile homes	50–55	55–70	70–75	75+
Residential multi-family	50–60	60–70	70–75	75+
Transient lodging–motels, hotels	50–60	60–70	70–80	80+
Schools, libraries, churches, hospitals, nursing homes	50–60	60–70	70–80	80+
Actively used open spaces playgrounds, neighborhood parks	50–67	–	67–73	73+
Golf courses, riding stables, water recreation, cemeteries	50–70	–	70–80	80+
Office buildings, business commercial and professional	50–67	67–75	75+	–
Industrial, manufacturing, utilities, agriculture	50–70	70–75	75+	–

CNEL = community noise equivalent level
dB = decibel
Ldn = Day/Night noise level

Source: Office of Noise Control, California Department of Health 1976.

Noise Range I—Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

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

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

Noise Range IV—Clearly Unacceptable: New construction or development should generally not be undertaken.

EXISTING NOISE CONDITIONS

Existing Land Uses in the Project Area

Sensitive receptors include residences, schools, hospitals, and similar uses that are sensitive to noise. The areas adjacent to the project site include the following uses:

- **North, and Northeast**: Land uses consist of single- and multiple-family residences zoned Residential Low (RL) and Residential Medium High (RMH), medical office buildings approved by Los Angeles County in 1987, and the Sunrise at Sterling Canyon facility, a senior living facility that provides independent living, assisted living, and hospice care.
- **West and Northwest**: Land uses consist primarily of single-family residences zoned for Residential Low (RL) uses. The residential uses immediately west of HMNMH were developed in 1978.
- **East and Southeast**: Land uses consist primarily of single-family residences zoned Residential Suburban (RS), and the United Methodist Church located on the opposite side of McBean Parkway. Residential uses immediately east and southeast of HMNMH were developed in 1969.
- **South and Southwest**: Land uses consist primarily of single-family residences zoned for Residential Suburban (RS) uses.

These sensitive land uses may be potentially affected by any substantial noise generated at the project site.

Overview of the Existing Noise Environment

Existing Traffic Noise

The primary existing noise sources in the project area are transportation facilities. Traffic on McBean Parkway and other streets in the project vicinity is the source of ambient noise in the project vicinity. The existing average daily traffic volumes (ADT) for roadway segments in the project vicinity were provided by Austin-Foust Associates, Inc., as part of the proposed project's *Traffic Impact Analysis* report. Refer to Section 5.4, Traffic and Circulation, of this EIR for a discussion of traffic conditions, impacts, and applicable mitigation measures.

The Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used to evaluate highway traffic-related noise conditions in the vicinity of the project site. This model requires various parameters including traffic volumes, vehicle mix, vehicle speed, and roadway geometry to compute typical equivalent noise levels during daytime, evening, and nighttime hours. The resultant noise levels are weighted and summed over 24-hour periods to determine the CNEL values. *Table 5.7-4*, *Existing Traffic Noise Levels*, provides the existing traffic noise levels adjacent to roadway segments in the project vicinity. These noise levels represent worst-case scenarios, which assume that no shielding is provided between the traffic and the location where the noise contours are drawn.

Traffic noise is generally moderate to high along existing street segments in the project vicinity. The 70, 65, and 60 dBA CNEL extend up to 103, 214, and 457 feet, respectively, from the roadway centerline of McBean Parkway between Valencia Boulevard and Orchard Village Road, and 87, 178, and 380 feet, respectively, from the roadway centerline of McBean Parkway between Orchard Village Road and Rockwell Canyon Road. Other roadway segments in the project vicinity are exposed to traffic noise levels lower than along McBean Parkway.

Existing Ambient Noise Monitoring

An ambient noise survey was conducted in the project area by LSA staff on January 12, 2005. Ambient noise levels were measured over 10 to 20 minutes at 12 representative locations between 10:00 AM and 6:00 PM *Table 5.7-5*, *Henry Mayo Newhall Memorial Hospital Noise Monitoring Results*, lists the location, noise levels, and noise sources for the noise survey. *Exhibit 5.7-1*, *Noise Monitoring Locations*, illustrates these noise monitoring locations. Based on the ambient noise survey, it was found that vehicular traffic is the dominant noise source in the project area. Aircraft, children playing in the neighboring residential communities, birds and dogs, air conditioning systems, an emergency siren, leaf blowers, loading/unloading activities, a table saw, and a train horn also contributed, to some degree, to the ambient noise in the project vicinity.

Helipad

Helipad History and Operations

An at-grade helipad located on the northeastern portion of the campus became operational with the opening of the HMNMH in 1975. In recent years, helipad operations averaged 10 to 12 arrivals and departures per month (or 120 to 144 trips annually). Major helicopter service providers that use the helipad for emergency transport operations include the Los Angeles County Fire Department, Los Angeles County Sheriff's Department, Mercy Air, and Ventura County Sheriff's Department - Search & Rescue. Cal City Air Ambulance, who was among the operators using the at-grade helipad in 2004, has since gone out of business.

The Los Angeles County Fire Department was the heaviest user of the hospital helipad, reporting a total of 95 helipad operations in 2004. The Ventura County Sheriff's Department - Search and Rescue reported that they used the HMNMH helipad approximately 25 times per year. Many of these trips were due to serious injuries that occur at the Hungry Valley Off-Road Vehicle Park located off Interstate 5. The Los Angeles County Sheriff's Department reported that less than one helicopter operation occurs at the HMNMH every month. This is due to the fact that Los Angeles County Sheriff's Department flight operations occur mainly in eastern Los Angeles County and primarily use the Huntington Memorial Hospital. Mercy Air operations occur primarily for cardiac transport out of the Santa Clarita Valley during heavy freeway traffic periods and also to Children's Hospital in Los Angeles. The HMNMH is now working toward the construction and operation of a cardiac care unit as part of their existing hospital operations. This medical service enhancement may reduce the need for air transport for cardiac patients in the future.

Present Conditions and Recent City Approvals

Currently, HMNMH is functioning without a helipad. In September 2005, the at-grade helipad, which had been operational since 1975, was made unusable by the construction of the State-required connection between the main hospital building and the Nursing Pavilion, as well as the construction of the emergency room addition. In December 2004, the Planning Commission approved the relocation of the helipad to an above-ground structure adjacent to the emergency room. This elevated structure was to be 34 feet in height and was to be temporary based upon the approval and completion of subsequent patient buildings. The Minor Use Permit approval expired in December 2007. After input from California Office of Statewide Health Planning and Development (OSHPD), the state agency that conducts hospital review, the cost of the structure escalated to be cost prohibitive as a temporary structure and HMNMH decided to explore other alternatives.

Helicopter Noise

The Los Angeles County Fire Department (LACFD) and Los Angeles County Sheriff Department (LACSD) air operations, as well as Mercy Air and other medical transport services, have used the hospital helipad as a receiving location for patients flown in by helicopter. However, since August 2005, no flights are occurring due to a closure of the helipad resulting from on-site construction activities.

Based on data provided in a previous noise analysis report by BridgeNet International (BridgeNet) regarding helicopter operations at the hospital, the helicopters operating at the hospital in 2005 included Bell 222, Bell 412, Sikorsky S70 Blackhawk, and Koala helicopters.[2] The BridgeNet report is included in its entirety as Appendix J.[3] All of these helicopter types fly approximately the same flight paths going to and from the existing helipad. Based on the discussions between BridgeNet International and pilots from LACFD Air Operations, when approaching the hospital from either the north or the west, the helicopters are flown along McBean Parkway until the hospital is reached. Once the helicopter is approximately over the hospital, the pilot then moves the aircraft over the parking lot, between the existing buildings and toward the helipad, which is at ground level. Departing helicopter flights fly over the parking lot toward McBean Parkway and, depending upon the winds, travel either north or west over the parkway. These paths are designed to fly over less noise-sensitive land uses when in the area of the hospital.

2 BridgeNet International. *Helicopter Noise Analysis For Henry Mayo Newhall Hospital.* March 7, 2006.
3 Ibid.

Table 5.7-4
Existing Traffic Noise Levels

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 feet from Centerline of Outermost Lane
McBean north of Magic Mtn.	63,000	170	357	764	74.5
McBean between Magic Mtn. and Valencia	43,000	113	236	505	72.5
McBean between Valencia and Orchard Village	37,000	103	214	457	71.8
McBean between Orchard Village and Rockwell Cyn.	28,000	87	178	380	70.6
McBean west of Rockwell Cyn.	39,000	106	221	473	72.1
Magic Mtn west of McBean	29,000	72	152	326	70.4
Magic Mtn between McBean and Valencia	23,000	63	131	279	69.4
Magic Mtn east of Valencia	17,000	50	107	228	68.1
Valencia west of McBean	47,000	119	250	535	72.9
Valencia between McBean and Magic Mtn.	42,000	111	232	497	72.4
Valencia east of Magic Mtn.	54,000	130	274	587	73.5
Orchard Village between McBean and Wiley Cyn.	29,000	72	152	326	70.4
Orchard Village between Wiley Cyn. and Lyons	22,000	61	127	271	69.2
Wiley Cyn. between Lyons and Tournament	18,000	54	111	237	68.4
Wiley Cyn. between Tournament and Orchard Village	15,000	46[1]	99	210	67.6
Wiley Cyn. East of Orchard Village	11,000	38	81	171	66.2
Lyons west of Wiley Cyn.	38,000	86	182	390	71.6
Lyons between Wiley Cyn. and Orchard Village	33,000	78	165	355	71.0
Lyons between Orchard Village and Newhall	34,000	80	169	362	71.1

[1] Traffic noise within 50 ft of roadway centerline was manually calculated with line source drop-off rate.
ADT = average daily traffic
CNEL = community noise equivalent level
dBA = A-weighted decibel

Source: LSA Associates, Inc., June 2008.

Table 5.7-5
Henry Mayo Newhall Memorial Hospital Noise Monitoring Results

Site	Location	Date	Start Time	Duration (minutes)	L_{eq}	L_{max}	L_{min}	L_2	L_8	L_{25}	L_{50}	Noise Sources
M-1	25695 Bellerive Drive; in the backyard	1-12-05	10:21 am	20	61.9	73.1	51.1	68.5	65.7	62.5	60.3	Traffic on McBean Parkway, some aircraft noise (helicopter), dump truck noise picking up trash across the street at the hospital
M-2	25694 Estroil Street; in the frontyard	1-12-05	11:08 am	20	61.0	67.8	42.7	66.0	64.5	62.5	60.1	Traffic on McBean Parkway
M-3	Valencia Meadows park; at the park benches	1-12-05	11:46 am	20	52.9	67.8	44.4	60.6	56.5	52.4	49.9	Children playing at the playground, parents talking to their children, dogs barking faintly in the background, and some aircraft noise
M-4	East of the Central Plant and the Emergency Building; near a bench in the parking lot	1-12-05	1:07 pm	10	61.4	72.8	56.8	66.1	63.3	61.5	60.5	Traffic in the parking lot (vehicle pass-by), people conversing, HVAC noise on the rooftop, emergency siren faintly in the background on McBean Parkway
M-5	North of the Central Plant; across the street; approximately 24 feet from the Central Plant	1-12-05	1:23 pm	10	66.8	83.2	57.6	71.1	70.9	70.7	58.6	Central Plant noise, air flowing through a vent noise, and traffic on the roadway (vehicle pass-by)
M-6	Southwest corner of the helipad; near the Hospital's loading dock	1-12-05	1:40 pm	10	66.3	72.8	55.8	71.4	70.0	68.2	65.6	Leaf blower, unloading activity at the dock, parking lot activity (door slam)
M-7	25815 McBean Parkway; Sunrise Independent & Assisted Living; 3rd apartment unit from the back (approximately 8 feet below parking lot elevation)	1-12-05	2:11 pm	10	51.3	58.6	47.6	54.4	53.1	52.1	50.9	Traffic on McBean Parkway, some parking lot noise next to the apartment complex

Table 5.7-5 (Continued)
Henry Mayo Newhall Memorial Hospital Noise Monitoring Results

Site	Location	Date	Start Time	Duration (minutes)	L_{eq}	L_{max}	L_{min}	L_2	L_8	L_{25}	L_{50}	Noise Sources
M-8	25878 Ramillo Way; in the backyard (4th house from the cul-de-sac)	1-12-05	2:42 pm	20	53.1	68.6	43.8	64.6	54.8	49.4	46.7	Truck noise, aircraft noise, constant beeping noise from the hospital, vehicle pass-by from the hospital parking lot, table saw operating faintly in the background, emergency siren faintly in the background
M-9	25933 Sardinia Court; in the backyard	1-12-05	3:21 pm	10	47.7	58.9	42.5	54.4	50.2	47.1	46.1	Some aircraft noise and bird noise
M-10	25850 Anzio Way; in the backyard	1-12-05	3:52 pm	20	60.6	72.2	50.1	70.7	68.1	55.0	53.6	Noise from Central Plant, dog barking next door, and train/horn noise faintly in the background
M-11	23788 Via Jacara; in the frontyard; 4th house from Avendia Navarre	1-12-05	4:39 pm	20	69.5	85.0	54.2	76.5	71.6	69.8	67.4	Traffic on McBean Parkway and emergency siren faintly in the background
M-12	23873 Via Jacara; in the backyard	1-12-05	5:10 pm	20	62.9	80.8	52.5	68.5	65.0	63.0	61.0	Traffic on McBean Parkway and emergency siren

Leq = Equivalent continuous noise level
Lmax = Maximum A-weighted sound level
Lmin = Minimum A-weighted sound level
L2 = Fast A-weighted noise levels that are equaled or exceeded by a fluctuating sound level 2 percent of a stated time period
L8 = Fast A-weighted noise levels that are equaled or exceeded by a fluctuating sound level 8 percent of a stated time period
L25 = Fast A-weighted noise levels that are equaled or exceeded by a fluctuating sound level 25 percent of a stated time period
L50 = Fast A-weighted noise levels that are equaled or exceeded by a fluctuating sound level 50 percent of a stated time period

Source: LSA Associates, Inc. January 2005.

Source: LSA Associates, June 2005.

NOT TO SCALE

RBF CONSULTING

06/08 • JN 10-103970

REVISED ENVIRONMENTAL IMPACT REPORT
HENRY MAYO NEWHALL MEMORIAL HOSPITAL MASTER PLAN

Noise Monitoring Locations

Exhibit 5.7-1

Operations in 2005 averaged 10 to 12 arrivals or departures a month. Based on the BridgeNet report, monitoring at two sites west/northwest of the hospital showed that ambient noise levels over a period of 35 days, taken in December 2003 and January and February of 2004 (including helicopter activities), were 59.9 dBA CNEL (Site 1, which is closer to the existing helipad) and 53.8 dBA CNEL (Site 2, which is away from the existing helipad); both were below the 65 dBA CNEL exterior noise standard for residential uses. In addition, noise measurements during helicopter operations showed that the average hourly noise levels were either at or below 72.6 dBA L_{eq} at the site closer to the existing helipad (Site 1) and at or below 58.9 dBA L_{eq} at the site located farther away from the existing helipad (Site 2). Existing flight paths, helipad and monitoring site locations, and associated existing noise levels are shown in *Exhibit 5.7-2, Helipad Operations (2005)*. Since the majority of the helicopter events measured at these sites occurred for durations of more than one minute but less than five minutes per hour, they are below the daytime noise level of 75 dBA L_{eq}, but are higher than the nighttime noise level of 55 dBA L_{eq}. Existing homes to the north and west of the hospital are farther away from the helipad than the two measurement locations, and accordingly, the noise exposure level in the rear yards of existing homes closest to the existing helipad is less than 60 dBA CNEL. Existing homes to the east and south of the hospital are exposed to helicopter flyover noise similar to one receptor location analyzed to the west of the hospital that has similar distance to McBean Parkway (the flight path), and are exposed to noise levels below 60 dBA CNEL from existing helicopter operations.

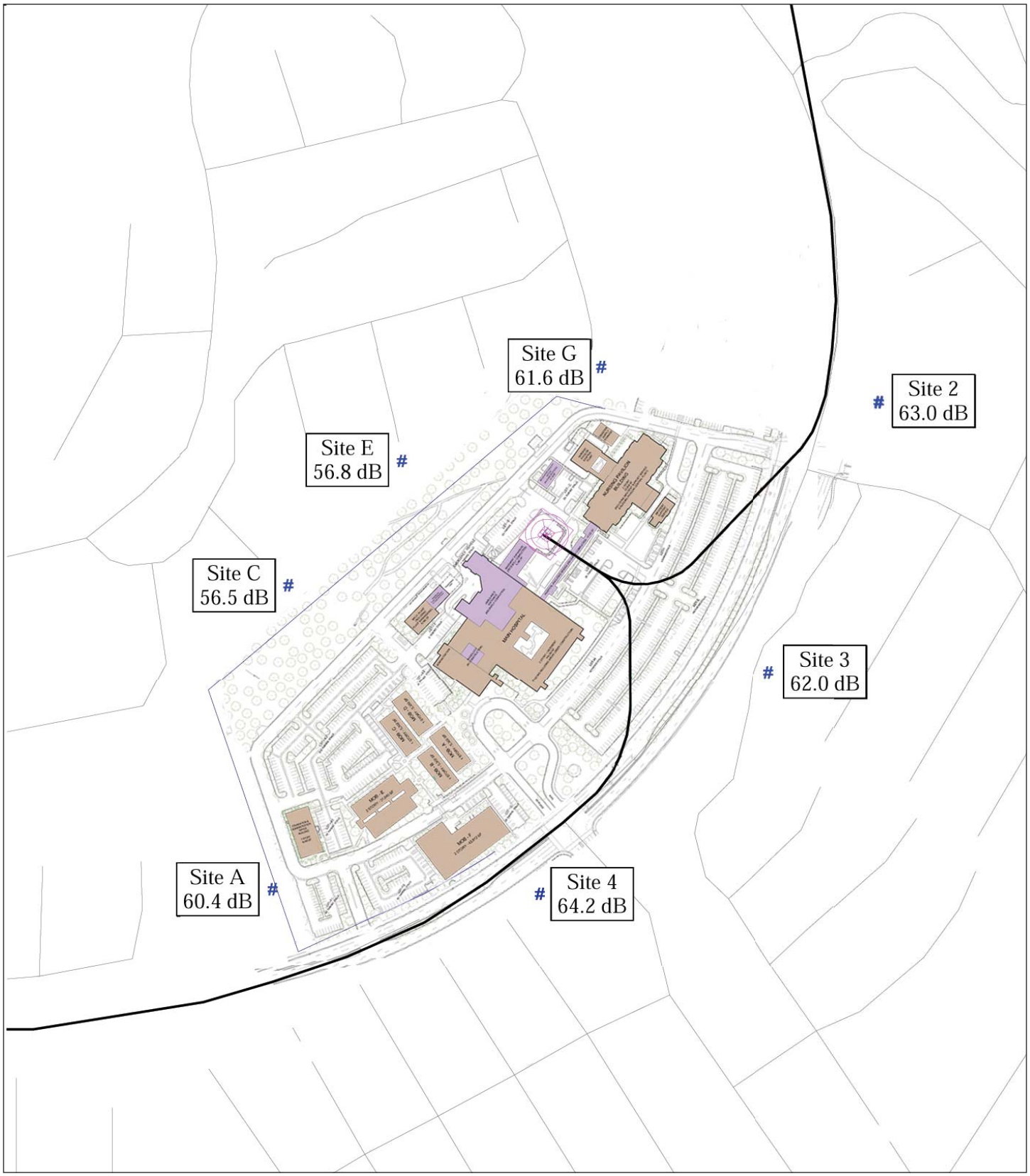
5.7.2 SIGNIFICANCE THRESHOLD CRITERIA

The City of Santa Clarita Local CEQA Guidelines (Resolution 05-38) adopted on April 26, 2005, as well as the City's General Plan and Municipal Code serve as the basis for identifying thresholds determining the significance of the environmental effects of a project. Where thresholds are not specifically identified, the Initial Study checklist contained in Appendix A of this EIR relating to noise have been utilized to formulate additional significance criteria in this section. Accordingly, a project may create a significant environmental impact if one or more of the following occurs:

- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

The noise standards adopted by the City have been previously discussed in Section 5.7.1 under Regulatory Framework, and are applicable to the proposed project.

The CEQA Guidelines do not define the levels at which temporary and permanent increases in ambient noise are considered "substantial." A noise level increase of 3 dBA is barely perceptible to most people, a 5 dBA increase is readily noticeable, and a difference of 10 dBA would be perceived as a doubling of loudness.



Source: *Helicopter Noise Analysis for Henry Mayo Newhall Hospital*, Bridgenet International, March 7, 2006.
Note: Sites are numbered or lettered per the Bridgenet International Report cited above and contained in Appendix J.

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Helipad Operations (2005)

Exhibit 5.7-2

Based on this information, temporary increases in noise levels of 10 dBA or more due to construction activities would be substantial, and therefore significant.

The following standards would apply to permanent increases in noise due to operational characteristics of the proposed project:

- Less than 3 dBA: less than significant.
- Between 3 dBA and 5 dBA: less than significant if noise levels remain below the City of Santa Clarita General Plan noise level standards; significant if the noise increase would meet or exceed the City of Santa Clarita General Plan noise level standards.
- 5 dBA or greater: significant.

The proposed HMNMH Master Plan has been evaluated based on these standards. Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant unavoidable impact.

For the purposes of this analysis, a project would normally have a significant noise-related effect on the environment if it will substantially increase the ambient noise levels for adjoining areas or conflict with adopted environmental plans and goals of the community in which it is located. The applicable noise standards governing the project site are the criteria in the City's Noise Element and Noise Control Ordinance. However, because the City's Noise Ordinance does not have noise level thresholds for stationary noise sources, the County's noise criteria are listed below and used in the noise impact analysis.

5.7.3 IMPACTS AND MITIGATION MEASURES

CONSTRUCTION NOISE IMPACTS

Level of Significance Prior to Mitigation: Potentially Significant Impact.

Impact Analysis: Short-term noise impacts would be associated with excavation, grading, and erecting of buildings on-site during construction of the proposed project. Construction-related short-term noise levels would be higher than existing ambient noise levels in the project area today, but would no longer occur once construction of the proposed project is completed.

Two types of short-term noise impacts could occur during construction proposed project. First, construction crew commutes and the transport of construction equipment and materials to the site would incrementally increase noise levels on access roads leading to the site. There would be a relatively high single-event noise exposure potential at a maximum level of 87 dBA L_{max} with trucks passing at 50 feet. However, the projected construction traffic would be small when compared to the existing traffic volumes on McBean Parkway and I-5, and its associated long-term noise level change would not be perceptible. Therefore, short-term construction-related worker commutes and equipment transport noise impacts associated with buildout of the proposed project would not be substantial.

The second type of short-term noise impact is related to noise generated during excavation, grading, and construction on the project site. Construction is performed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on-site. Therefore, the noise levels vary as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. *Table 5.7-6*, *Typical Maximum Construction Equipment Noise Levels (Lmax)*, lists maximum noise levels recommended for noise impact assessments for typical construction equipment based on a distance of 50 feet between the equipment and a noise receptor. Typical maximum noise levels range up to 91 dBA at 50 feet during the noisiest construction phases. The site preparation phase, which includes excavation and grading of the site, tends to generate the highest noise levels, because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery such as backfillers, bulldozers, draglines, and front loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three or four minutes at lower power settings.

Construction of the proposed project is expected to require the use of earthmovers, bulldozers, and water and pickup trucks. This equipment would be used on the project site. Based on *Table 5.7-6*, the maximum noise level generated by each earthmover on the proposed project site is assumed to be 87 dBA L_{max} at 50 feet from the earthmover. Each bulldozer would also generate 88 dBA L_{max} at 50 feet. The maximum noise level generated by water and pickup trucks would be approximately 86 dBA L_{max} at 50 feet from these vehicles. Each doubling of a sound source with equal strength increases the noise level by 3 dBA. Assuming that each piece of construction equipment operates at some distance from the other equipment, the worst-case combined noise level at each individual residence during the grading/earthmoving phase of construction would be 91 dBA L_{max} at a distance of 50 feet from the active construction area.

It is anticipated that Medical Office Building (MOB) 1 and Parking Structure (PS) 1 would be constructed first, with the ultimate Master Plan buildout in 15 years. MOB1 and PS1 are along McBean Parkway in the northeastern portion of the site.

Table 5.7-6
Typical Maximum Construction Equipment Noise Levels (L_{max})

Type of Equipment	Range of Maximum Sound Level Measured at 50 feet (dBA)	Suggested Maximum Sound Level for Analysis at 50 feet (dBA)
Pile Drivers, 12,000 to 18,000 ft-lb/blow	81–96	93
Rock Drills	83–99	96
Jackhammers	75–85	82
Pneumatic Tools	78–88	85
Pumps	74–84	80
Scrapers	83–91	87
Haul Trucks	83–94	88
Cranes	79–86	82
Portable Generators	71–87	80
Rollers	75–82	80
Dozers	77–90	85

Table 5.7-6 (Continued)
Typical Maximum Construction Equipment Noise Levels (L_{max})

Type of Equipment	Range of Maximum Sound Level Measured at 50 feet (dBA)	Suggested Maximum Sound Level for Analysis at 50 feet (dBA)
Tractors	77–82	80
Front-End Loaders	77–90	86
Hydraulic Backhoes	81–90	86
Hydraulic Excavators	81–90	86
Graders	79–89	86
Air Compressors	76–89	86
Trucks	81–87	86

dBA = A-weighted decibel

Source: Noise Control for Buildings and Manufacturing Plants, Bolt, Beranek, & Newman 1987.

Some of the closest existing residences in the vicinity of the project area, specifically MOB1 and PS1 are those located to the east, about 150 feet from the site's boundary, across McBean Parkway. These residences would be exposed to construction noise reaching 81 dBA L_{max}. However, vehicular traffic on McBean Parkway would mask most construction noise for these residences. Construction noise from the project site could result in temporary increases in noise levels of 10 dBA intermittently in this neighborhood.

During the Master Plan buildout implementation period, existing residences to the west, north, and south would also experience periods of relatively high construction noise from the project site. Existing residences located west of the project site are approximately 75 feet from the western property line and thus at least 75 feet from the nearest construction area on-site. There is an existing 6-foot high wall along the western property line of these residences separating them from the hospital activity. The 6-foot sound wall would provide a minimum of 6 dBA in noise reduction from the project site for these residences.

These closest residences may be subject to short-term noise reaching 86 dBA L_{max}, generated by construction activities near the project boundary. Homes to the north of the hospital are approximately 75 feet above the hospital and are 200 ft or more from the construction areas. These homes would be exposed to construction noise reaching 79 dBA L_{max}. Homes to the south of the hospital are more than 100 feet from the construction areas. These homes would be exposed to construction noise reaching 86 dBA L_{max}. Because construction on the project site could result in temporary increases in noise levels of 10 dBA intermittently at these adjacent residences, it is considered a significant impact.

In conclusion, noise levels from demolition, grading, and other construction activities for the proposed project may range up to 86 dBA L_{max} at the closest off-site residences north or west of the project site for limited times when construction occurs near the project's boundary. While construction-related noise levels from the proposed project may periodically exceed the City's noise level standards identified in Section 5.7.1, above, compliance with the City's construction hour's requirement along with implementation of Mitigation Measures N1 and N2 would reduce the

construction noise impacts, but not to less than significant levels. Short-term-construction impacts remain significant and unavoidable despite the imposition of mitigation measures.

Mitigation Measures:

N1 During all site excavation and grading, the project applicant shall require the project contractor(s) to equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards.

N2 The project applicant shall require the project contractor(s) to locate equipment staging in areas that would create the greatest distance between construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction, to the extent practicable.

Level of Significance After Mitigation: Significant Unavoidable Impact.

OPERATIONAL TRAFFIC NOISE IMPACTS

Interim Year Traffic Noise Impacts

Level of Significance Prior to Mitigation: Potentially Significant Impact.

Impact Analysis: Exterior land uses in the project vicinity that would be potentially exposed to high traffic-related noise levels are the home lots fronting McBean Parkway. Exterior land uses on-site that would be potentially exposed to high traffic-related noise levels are the medical office buildings fronting McBean Parkway. The projected future traffic volumes for roadway segments in the project vicinity were used in the traffic noise impact analysis. The FHWA Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used to evaluate future highway traffic-related noise conditions in the vicinity of the project site.

Table 5.7-7, *Interim Year Traffic Noise Levels Without Project*, provides the Interim Year (2018) no project traffic noise levels adjacent to roadway segments in the project vicinity. *Table 5.7-8*, *Interim Year Traffic Noise Levels with Project*, provides the Interim Year plus project traffic noise levels adjacent to roadway segments in the project vicinity. These noise levels represent the worst-case scenario, which assumes that no shielding is provided between the traffic and the location where the noise contours are drawn.

Off-Site

Table 5.7-9 shows that project-related traffic noise increases along roadway segments in the project vicinity would be mostly small and negligible (0.5 dBA or less). This range of noise level changes is not perceptible by the human ear and is considered less than significant. No significant project-related traffic noise impacts to off-site land uses would occur. Therefore, noise impacts in this regard would not result in an exceedance of the noise thresholds identified above, and impacts would be less than significant. No mitigation measures are required.

Table 5.7-7
Interim Year Traffic Noise Levels Without Project

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 feet from Centerline of Outermost Lane
McBean north of Magic Mtn.	82,000	200	424	910	75.7
McBean between Magic Mtn. And Valencia	61,000	140	297	637	74.0
McBean between Valencia and Orchard Village	44,500	115	241	516	72.6
McBean between Orchard Village and Rockwell Cyn.	29,000	89	182	389	70.8
McBean west of Rockwell Cyn.	45,000	116	243	520	72.7
Magic Mtn west of McBean	53,000	106	226	486	73.1
Magic Mtn between McBean and Valencia	42,500	92	196	420	72.1
Magic Mtn east of Valencia	44,000	94	200	430	72.2
Valencia west of McBean	64,000	145	306	657	74.2
Valencia between McBean and Magic Mtn.	46,500	118	248	532	72.8
Valencia east of Magic Mtn.	61,000	140	297	637	74.0
Orchard Village between McBean and Wiley Cyn.	39,000	87	185	397	71.7
Orchard Village between Wiley Cyn. And Lyons	26,000	68	141	303	70.0
Wiley Cyn. Between Lyons and Tournament	23,000	63	131	279	69.4
Wiley Cyn. Between Tournament and Orchard Village	21,000	59	123	263	69.0
Wiley Cyn. East of Orchard Village	26,000	68	141	303	70.0
Lyons west of Wiley Cyn.	50,000	102	218	468	72.8
Lyons between Wiley Cyn. and Orchard Village	41,000	90	191	410	71.9
Lyons between Orchard Village and Newhall	47,000	98	209	449	72.5

ADT = average daily traffic
CNEL = community noise equivalent level
dBA = A-weighted decibel

Source: LSA Associates, Inc., June 2008.

Table 5.7-8
Interim Year Traffic Noise Levels With Project

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 feet from Centerline of Outermost Lane	Increase from Baseline Conditions
McBean north of Magic Mtn	83,000	202	428	918	75.7	0.0
McBean between Magic Mtn and Valencia	62,000	142	300	644	74.1	0.1
McBean between Valencia and Orchard Village	46,500	118	248	532	72.8	0.2
McBean between Orchard Village and Rockwell Cyn	33,000	96	198	423	71.3	0.5
McBean west of Rockwell Cyn	48,000	121	253	543	73.0	0.3
Magic Mtn west of McBean	53,000	106	226	486	73.1	0.0
Magic Mtn between McBean and Valencia	42,500	92	196	420	72.1	0.0
Magic Mtn east of Valencia	44,000	94	200	430	72.2	0.0
Valencia west of McBean	64,000	145	306	657	74.2	0.0
Valencia between McBean and Magic Mtn	47,500	120	252	539	72.9	0.1
Valencia east of Magic Mtn	61,000	140	297	637	74.0	0.0
Orchard Village between McBean and Wiley Cyn	41,000	90	191	410	71.9	0.2
Orchard Village between Wiley Cyn and Lyons	27,000	69	145	311	70.1	0.1
Wiley Cyn between Lyons and Tournament	23,000	63	131	279	69.4	0.0
Wiley Cyn between Tournament and Orchard Village	21,000	59	123	263	69.0	0.0
Wiley Cyn east of Orchard Village	27,000	69	145	311	70.1	0.1
Lyons west of Wiley Cyn	50,000	102	218	468	72.8	0.0
Lyons between Wiley Cyn and Orchard Village	41,000	90	191	410	71.9	0.0
Lyons between Orchard Village and Newhall	47,000	98	209	449	72.5	0.0

ADT = average daily traffic
CNEL = community noise equivalent level
dBA = A-weighted decibel

Source: LSA Associates, Inc., June 2008.

On-Site

The proposed on-site medical office buildings (MOB1 and MOB2) along McBean Parkway would be outside of the 70-dBA CNEL impact zones. Standard building construction for new medical office buildings provides more than 25 dBA exterior-to-interior noise attenuation with windows closed and therefore would provide sufficient noise attenuation to achieve the 45-dBA interior noise standards. However, this attenuation from standard building construction can only be achieved with the structure's windows closed. As such, mitigation requiring mechanical ventilation to allow windows to remain closed would ensure that the 45-dBA interior noise standard for on-site medical office buildings is met. Therefore, noise impacts in this regard would not result in an exceedance of the noise thresholds identified above, and impacts would be less than significant with adherence to Mitigation Measure N3.

Mitigation Measures:

N3 To meet the 45-dBA CNEL interior noise standard for medical office uses, mechanical ventilation, such as an air-conditioning system, shall be required for medical office buildings along the southern portion of the project site along McBean Parkway, in order to ensure that windows can remain closed for prolonged periods of time.

Level of Significance After Mitigation: Less Than Significant Impact.

HELIPAD NOISE IMPACTS

Level of Significance Prior to Mitigation: Less Than Significant Impact.

Impact Analysis: LACFD and LACSD air operations, as well as Mercy Air and other medical transport services, have used the hospital as a receiving location for patients flown in by helicopter. Currently, however, no flights are occurring due to a closure of the helipad in 2005 due to on-site construction activities. As part of the proposed Master Plan, the helipad will be relocated on the hospital campus to two helipad locations, the rooftop of PS1 and the Inpatient Building. HMNMH is requesting that the initial helipad to be built on Parking Structure 1 be allowed to remain once the ultimate inpatient building helipad is constructed. This is for two reasons: to keep a secondary helipad for use during a major disaster/emergency; and for use during future construction activities on the hospital campus that may temporarily preclude use of the Inpatient Building helipad due to aeronautical safety concerns. Outside of these two situations, both helipads would not be operational at the same time per proposed conditions of approval on the project. The specific location and design of the helipad will be subject to review and approval by Caltrans Division of Aeronautics.

The helipad would be relocated northeast of its previous at-grade location. The BridgeNet report (April 6, 2004) evaluated potential noise impacts to adjacent residences as a result of this relocation. The primary factor dictating the location of the noise impacts would be the location of the flight tracks to and from the helipad. In order to gain lift and maintain control of the aircraft, helicopters, like fixed-winged aircraft, need to take off and land facing in the direction of the oncoming wind. Therefore, the location of the flight tracks is governed primarily by the prevailing winds at the time of flight. Changes in the wind direction and speed have a direct correlation to changes in the specific path that the helicopter must follow.

Under typical meteorological conditions, the winds in the area of the hospital are coming from the west and are less than ten knots (nautical miles per hour) in speed. Under calm conditions, the pilot can land and depart the aircraft in any direction, depending upon clearance from obstacles. In 2005, the helicopters operating at the hospital were flown between two buildings when either arriving or departing the helipad, regardless of the direction of the winds. The new helipads would be at a higher elevation, which would eliminate the obstacles that surrounded the previous at-grade helipad.

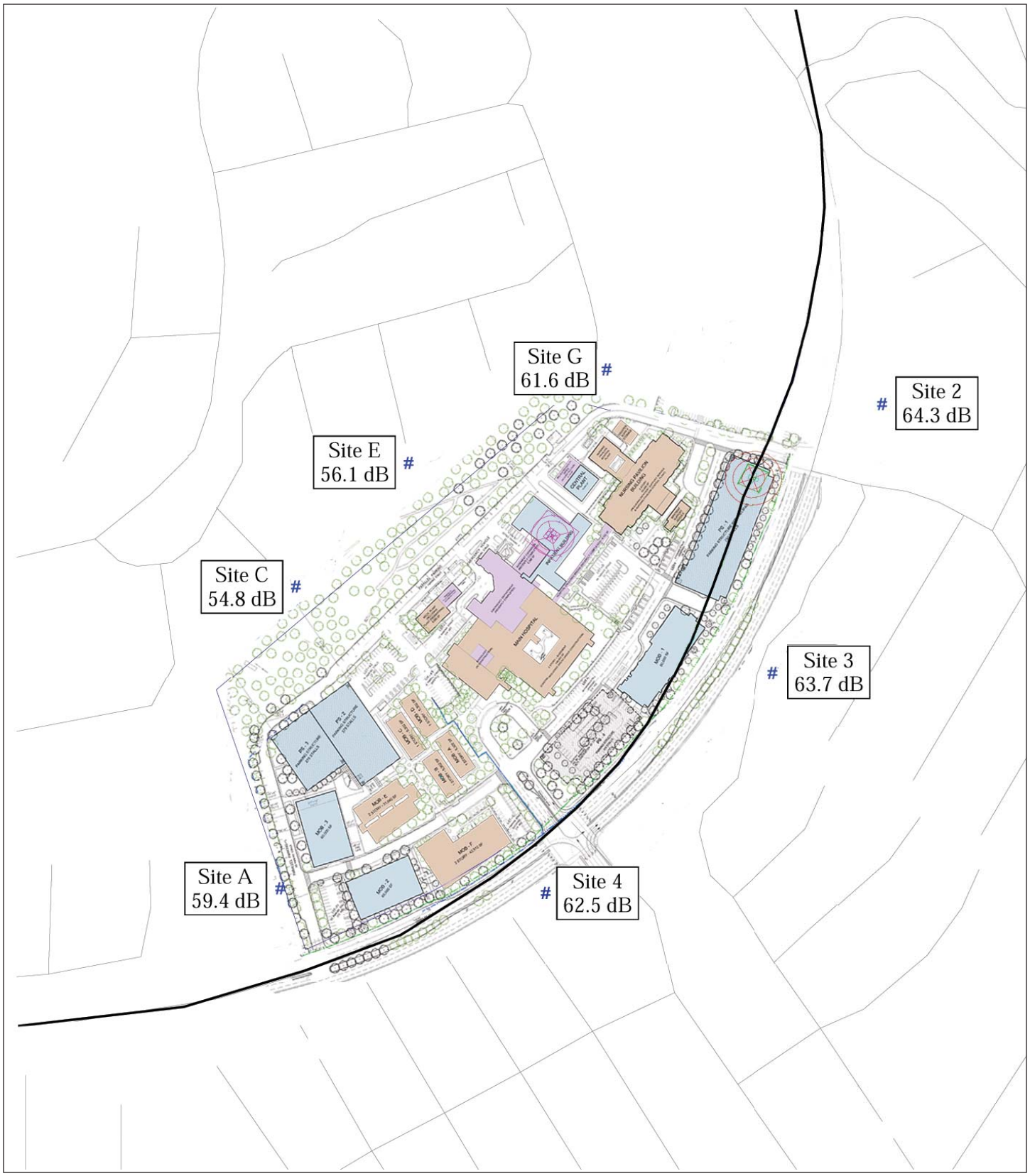
At the PS1 helipad location and under calm wind conditions, where the winds are less than ten knots, the pilots would follow the same flight procedures they followed in 2005 to the previous at-grade pad. They would continue to fly along McBean Parkway until they reach the hospital from either the north or west, then turn toward the pad by flying over the parking lot. However, it should be noted that currently no helicopter flights occur due to a 2005 closure of the helipad due to on-site construction activities (previously approved improvements). In the future, departing flights would take off toward the parking lot to the south and then continue along the parkway, either north or west depending upon their next destination and prevailing winds at the time. Refer to *Exhibit 5.7-3*, *PS1 Helipad Operations*, for the location of the relocated helipad, flight paths, noise measurement site locations, and associated projected noise levels.

Under conditions when winds from the west exceed ten knots, the helicopters would not be able to approach the helipad directly from the southwest direction, but rather from the northwest direction. In this case, the pilots would approach the hospital from the northwest along McBean Parkway. They would make an approach similar to the existing approach to the existing helipad; however, they would be at a higher elevation. When they reach the existing helipad, they would turn to the northeast and approach the helipad by flying into the prevailing winds.

As part of the proposed Master Plan, the helipad would be relocated to the top of the Inpatient Building and the rooftop of PS1. Refer to *Exhibit 5.7-4*, *Inpatient Building Helipad Operations*, for the location of the relocated helipad, flight paths, noise measurement site locations, and associated projected noise levels under the Master Plan buildout scenario.

At the Inpatient Building, the new helipad would be located on the roof . This change in elevation would eliminate the obstacles that currently surround the previous at-grade helipad. Based on the BridgeNet report (April 6, 2006), the hospital in 2005 accommodated 10 to 12 helicopter flights each month. If the new helipad at the top of the Inpatient Building is operational before the increase in helicopter flights, residences in the neighborhood of the hospital would experience helicopter noise similar to that under the 2005 conditions.

Relocation of the helipad from its prior at-grade location at the rear of the medical campus to the rooftop of PS1 would reduce noise for existing residences to the west and south of the project site. Existing residences to the north and east (near PS1) would experience a slight increase in noise from future helicopter operations. However, since PS1 is near the previous flight route for the helicopter operations and is adjacent to McBean Parkway, where heavy traffic dominates the ambient noise, the increase in helicopter noise with the helipad on the rooftop of PS1 would not be noticeable and would be less than significant. Helipad noise impacts would not result in an exceedance of the noise thresholds identified above, and no mitigation measures are required.



Source: *Helicopter Noise Analysis for Henry Mayo Newhall Hospital*, Bridgenet International, March 7, 2006.
Note: Sites are numbered or lettered per the Bridgenet International Report cited above and contained in Appendix J.

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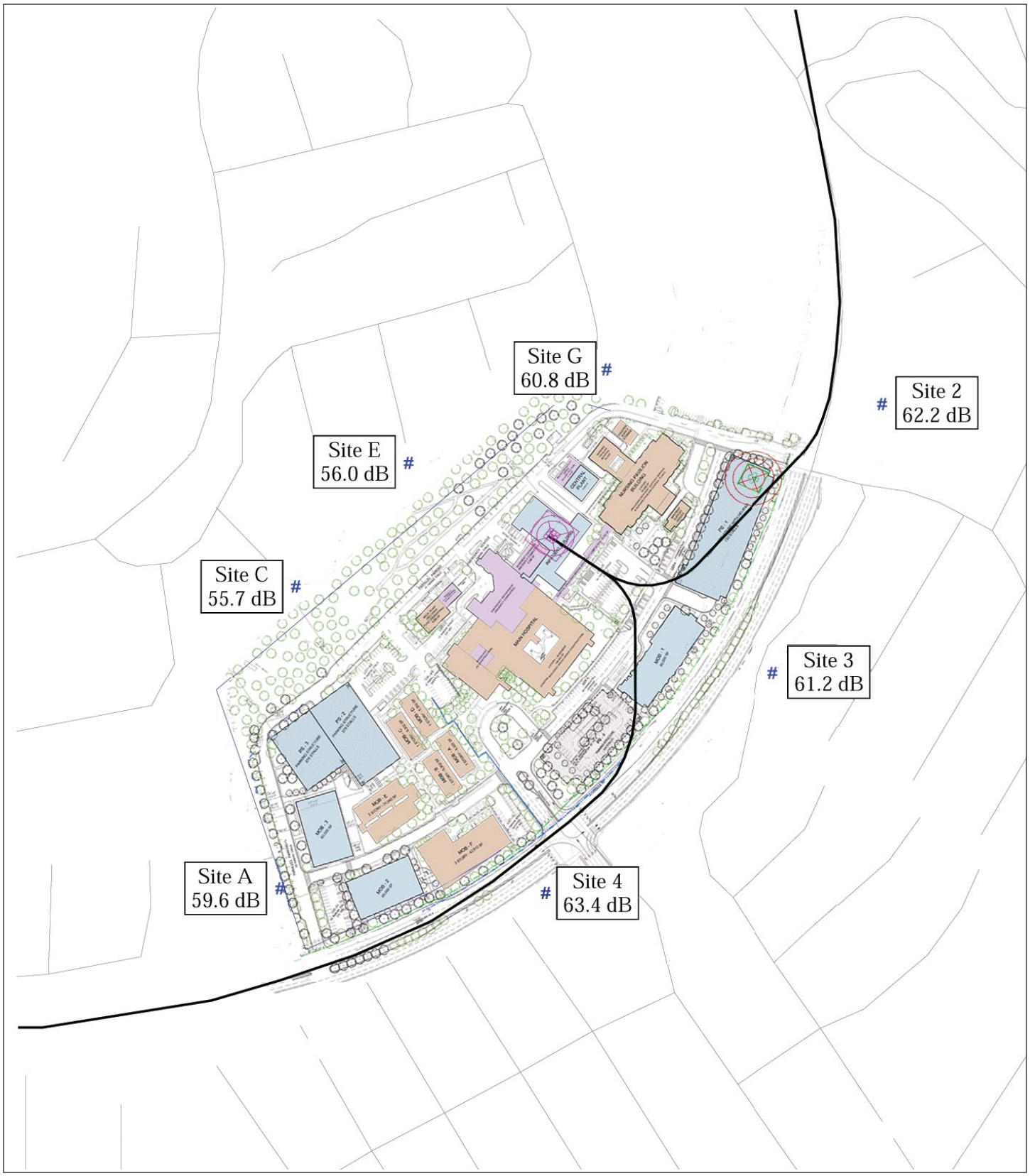
PS1 Helipad Operations

Exhibit 5.7-3



Source: *Helicopter Noise Analysis for Henry Mayo Newhall Hospital*, Bridgenet International, March 7, 2006.
Note: Sites are numbered or lettered per the Bridgenet International Report cited above and contained in Appendix J.

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Inpatient Building Helipad Operations

Exhibit 5.7-4

According to the hospital, the level of helicopter activity is expected to increase to 15 to 17 flights a month in the future. This is an estimate based on the growth over several years in the past, and it is not expected to be seen for several more years in the future. An increase in flight activity from 12 to 17 a month represents an increase in the noise exposure level of about 1.5 dBA (in terms of the 24-hour weighted average scale of CNEL), which is not large enough to be perceptible. For example, the increase of the noise level at the two monitoring sites to 61.4 dBA CNEL (Site 1 in the BridgeNet report) and 55.3 dBA CNEL (Site 2 in the BridgeNet report) would not result in the respective noise levels to exceed the City's 65-dBA CNEL exterior noise standard for residential uses. Therefore, no significant long-term noise impacts would occur from the helipad operations at the hospital associated with buildout of the proposed Master Plan.

Mitigation Measures: No mitigation measures are required.

Level of Significance After Mitigation: Less Than Significant Impact.

OPERATIONAL STATIONARY SOURCE NOISE IMPACTS

Level of Significance Prior to Mitigation: Less Than Significant Impact.

Impact Analysis: There would be stationary noise sources associated with both interim and long-range cumulative year scenario operations on the project site. These stationary sources of noise include noises associated with delivery truck loading and unloading, truck movements on driveways, and other parking lot activities. Such isolated peak noises are measured in dBA L_{max}, as the volume or frequency of such events is not critical, and the noises are not an averaged calculation, such as CNEL.

Because these on-site stationary sources or activities would not occur at distances closer to any existing residential uses in the project vicinity, noise associated with these stationary sources is not expected to have a significant impact on adjacent uses. Stationary noise impacts, under either the interim year or long-range cumulative year scenarios, would not result in an exceedance of the noise thresholds identified in Sections 5.4.1 and 5.4.2; thus impacts would be less than significant and no mitigation measures are required.

Given that implementation of the HMNMH Master Plan would expand the capacity of emergency medical service levels, and given that, at present, HMNMH is the only hospital in the Santa Clarita Valley, it is likely that the frequency of ambulance, fire and police arrivals will increase, thus increasing intermittent siren noise. However, this EIR does not specifically quantify siren noise or other emergency vehicle-related noise, since emergency vehicles (and their sirens) are specifically exempted from the City's noise standards. The City's *Municipal Code*, Chapter 11.44, *Noise Limits*, indicates that noise level limits as described in Section 11.44.040A shall apply to any use of sound-amplifying equipment, except a) warning devices on emergency vehicles; and b) horns, burglar and fire alarms, or other warning devices expressly authorized by law. Therefore, noise associated with sirens from hospital ambulance operations is exempted from the City's noise regulations. In addition, sirens are not a steady source of noise. They are required occasionally under emergency conditions to protect persons or property from an imminent exposure to danger.

Mitigation Measures: No mitigation measures are required.

Level of Significance After Mitigation: Less Than Significant Impact.

5.7.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

CUMULATIVE OPERATIONAL IMPACTS

Level of Significance Prior to Mitigation: Less Than Significant Impact.

Impact Analysis: The proposed project would introduce the use of stationary equipment that would increase noise levels within the area. Based on the fact that noise dissipates as it travels away from its source, noise impacts from on-site stationary sources would be limited to the project site and vicinity. As such, noise impacts from related projects, in conjunction with project-specific noise impacts, would not have the potential to result in cumulatively considerable adverse effects.

Mitigation Measures: No mitigation measures are required.

Level of Significance After Mitigation: Less Than Significant Impact.

LONG-RANGE CUMULATIVE YEAR SCENARIO TRAFFIC NOISE IMPACTS

Level of Significance Prior to Mitigation: Potentially Significant Impact.

Impact Analysis: *Table 5.7-9*, *2030 Traffic Noise Levels Without Project*, provides the Master Plan buildout program (2030) with no project traffic noise levels adjacent to roadway segments in the project vicinity. *Table 5.7-10*, *2030 Traffic Noise Levels With Project*, provides the Master Plan buildout (2030) plus project traffic noise levels adjacent to roadway segments in the project vicinity. These noise levels represent the worst-case scenario, which assumes that no shielding is provided between the traffic and the location where the noise contours are drawn.

Off-Site

Table 5.7-10 shows that project-related traffic noise increases along roadway segments in the project vicinity would be mostly small and negligible (0.5 dBA or less). This range of noise level changes is not perceptible by the human ear and is considered less than significant. No significant project-related traffic noise impacts to off-site land uses would occur. Therefore, noise impacts in this regard would not result in an exceedance of the noise thresholds identified above, and impacts would be less than significant. No mitigation measures are required.

On-Site

The proposed on-site medical office buildings (MOB1 and MOB2) along McBean Parkway would be outside of the 70-dBA CNEL impact zones. Standard building construction for new medical office buildings would provide sufficient noise attenuation to achieve the 45-dBA interior noise standard. However, this attenuation from standard building construction can only be achieved with

the structure's windows closed. As such, mitigation requiring mechanical ventilation to allow windows to remain closed would ensure that the 45 dBA interior noise standard for on-site medical office buildings is met. Therefore, noise impacts in this regard would not result in an exceedance of the noise thresholds identified above, and impacts would be less than significant with adherence to Mitigation Measure N3.

Mitigation Measures: Refer to Mitigation Measure N3. No additional mitigation measures are required.

Level of Significance After Mitigation: Less Than Significant Impact.

Table 5.7-9
2030 Traffic Noise Levels Without Project

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 feet from Centerline of Outermost Lane
McBean north of Magic Mtn.	68,000	178	375	804	74.9
McBean between Magic Mtn. and Valencia	57,000	134	284	609	73.7
McBean between Valencia and Orchard Village	40,500	109	227	485	72.2
McBean between Orchard Village and Rockwell Cyn.	32,000	94	194	415	71.2
McBean west of Rockwell Cyn.	48,000	121	253	543	73.0
Magic Mtn west of McBean	52,000	105	223	480	73.0
Magic Mtn between McBean and Valencia	46,500	98	208	446	72.5
Magic Mtn east of Valencia	53,000	106	226	486	73.1
Valencia west of McBean	69,000	152	322	691	74.5
Valencia between McBean and Magic Mtn.	51,500	126	265	569	73.3
Valencia east of Magic Mtn.	55,000	131	277	594	73.6
Orchard Village between McBean and Wiley Cyn.	42,000	91	194	417	72.0
Orchard Village between Wiley Cyn. and Lyons	27,000	69	145	311	70.1
Wiley Cyn between Lyons and Tournament	24,000	64	134	287	69.6
Wiley Cyn between Tournament and Orchard Village	22,000	61	127	271	69.2
Wiley Cyn east of Orchard Village	27,000	69	145	311	70.1
Lyons west of Wiley Cyn	52,000	105	223	480	73.0
Lyons between Wiley Cyn and Orchard Village	44,000	94	200	430	72.2
Lyons between Orchard Village and Newhall	50,000	102	218	468	72.8

ADT = average daily traffic
CNEL = community noise equivalent level
dBA = A-weighted decibel

Source: LSA Associates, Inc., June 2008.

Table 5.7-10
2030 Traffic Noise Levels With Project

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 feet from Centerline of Outermost Lane	Increase from Baseline Conditions
McBean north of Magic Mtn.	69,000	180	379	812	74.9	0.0
McBean between Magic Mtn. and Valencia	57,000	134	284	609	73.7	0.0
McBean between Valencia and Orchard Village	42,000	111	232	497	72.4	0.2
McBean between Orchard Village and Rockwell Cyn.	36,000	101	210	449	71.7	0.5
McBean west of Rockwell Cyn.	51,000	125	264	565	73.2	0.2
Magic Mtn west of McBean	52,000	105	223	480	73.0	0.0
Magic Mtn between McBean and Valencia	46,000	97	206	443	72.4	-0.1
Magic Mtn east of Valencia	53,000	106	226	486	73.1	0.0
Valencia west of McBean	68,000	150	319	685	74.5	0.0
Valencia between McBean and Magic Mtn.	52,500	128	269	576	73.4	0.1
Valencia east of Magic Mtn.	56,000	133	281	602	73.6	0.0
Orchard Village between McBean and Wiley Cyn.	44,000	94	200	430	72.2	0.2
Orchard Village between Wiley Cyn. and Lyons	27,000	69	145	311	70.1	0.0
Wiley Cyn between Lyons and Tournament	25,000	66	138	295	69.8	0.2
Wiley Cyn between Tournament and Orchard Village	22,000	61	127	271	69.2	0.0
Wiley Cyn east of Orchard Village	28,000	71	149	318	70.3	0.2
Lyons west of Wiley Cyn	52,000	105	223	480	73.0	0.0
Lyons between Wiley Cyn and Orchard Village	44,000	94	200	430	72.2	0.0
Lyons between Orchard Village and Newhall	51,000	104	221	474	72.9	0.1

ADT = average daily traffic
CNEL = community noise equivalent level
dBA = A-weighted decibel

Source: LSA Associates, Inc., June 2008.

5.7.5 SIGNIFICANT UNAVOIDABLE IMPACTS

The following noise impact remains significant and unavoidable following implementation of the recommended mitigation measures:

- Short-Term Construction Noise

All other impacts related to noise are either at less than significant levels or can be reduced to less than significant levels with the imposition of mitigation measures.

If the City of Santa Clarita approves the HMNMH Master Plan, the City shall be required to adopt findings in accordance with Section 15091 of the *CEQA Guidelines* and prepare a Statement of Overriding Considerations in accordance with Section 15093 of the *CEQA Guidelines*.

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