5.4 Noise

5.4 NOISE

The purpose of this section is to evaluate noise source impacts on-site and to surrounding land uses as a result of implementation of the proposed project. This section evaluates short-term construction-related impacts, as well as future buildout conditions. Mitigation measures are also recommended to avoid or lessen the project's noise impacts. Information in this section is based on the *Town of Mammoth Lakes General Plan* (2007 General Plan) and the *Town of Mammoth Lakes Municipal Code* (Municipal Code). For the purposes of mobile source noise modeling and contour distribution, traffic information contained in the *Town of Mammoth Lakes Travel Demand Model Final Report* (Travel Demand Model), dated February 15, 2011 and prepared by LSC Transportation Consultants, Inc., and *The Inn at the Village Project – Traffic Analysis*, dated May 8, 2014, and prepared by LSA Associates, Inc. (refer to Appendix 11.2, *Traffic Study*) were used. Noise measurement and traffic noise modeling data can be found in Appendix 11.3, *Noise Data*.

5.4.1 EXISTING SETTING

NOISE SCALES AND DEFINITIONS

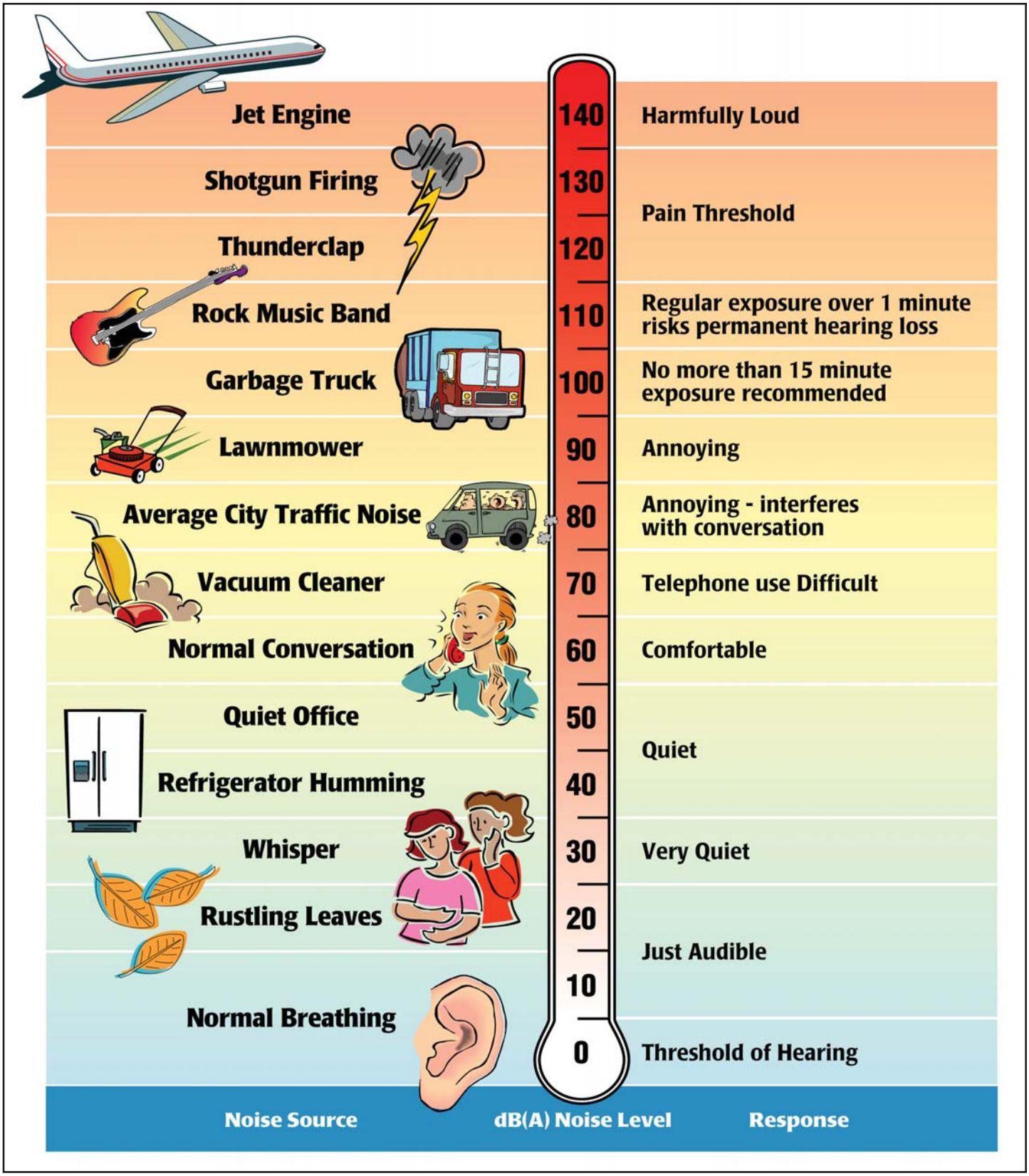
Sound is described in terms of the loudness (amplitude) of the sound and frequency (pitch) of the sound. The standard unit of measurement of the loudness of sound is the decibel (dB). Since the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Decibels are based on the logarithmic scale. The logarithmic scale compresses the wide range in sound pressure levels to a more usable range of numbers in a manner similar to the Richter scale used to measure earthquakes. In terms of human response to noise, a sound 10 dBA higher than another is judged to be twice as loud, and 20 dBA higher four times as loud, and so forth. Everyday sounds normally range from 30 dBA (very quiet) to 100 dBA (very loud). Examples of various sound levels in different environments are illustrated on Exhibit 5.4-1, *Sound Levels and Human Response*.

Many methods have been developed for evaluating community noise to account for, among other things:

- The variation of noise levels over time;
- The influence of periodic individual loud events; and
- The community response to changes in the community noise environment.

Numerous methods have been developed to measure sound over a period of time; refer to Table 5.4-1, *Noise Descriptors*.



Source: Melville C. Branch and R. Dale Beland, *Outdoor Noise in the Metropolitan Environment*, 1970.
Environmental Protection Agency, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* (EPA/ONAC 550/9-74-004), March 1974.

NOT TO SCALE

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Sound Levels and Human Response

Exhibit 5.4-1

Table 5.4-1
Noise Descriptors

Term	Definition
Decibel (dB)	The unit for measuring the volume of sound equal to 10 times the logarithm (base 10) of the ratio of the pressure of a measured sound to a reference pressure (20 micropascals).
A-Weighted Decibel (dBA)	A sound measurement scale that adjusts the pressure of individual frequencies according to human sensitivities. The scale accounts for the fact that the region of highest sensitivity for the human ear is between 2,000 and 4,000 cycles per second (hertz).
Equivalent Sound Level (L_{eq})	The sound level containing the same total energy as a time varying signal over a given time period. The L_{eq} is the value that expresses the time averaged total energy of a fluctuating sound level.
Maximum Sound Level (L_{max})	The highest individual sound level (dBA) occurring over a given time period.
Minimum Sound Level (L_{min})	The lowest individual sound level (dBA) occurring over a given time period.
Community Noise Equivalent Level (CNEL)	A rating of community noise exposure to all sources of sound that differentiates between daytime, evening, and nighttime noise exposure. These adjustments are +5 dBA for the evening, 7:00 PM to 10:00 PM, and +10 dBA for the night, 10:00 PM to 7:00 AM.
Day/Night Average (L_{dn})	The L_{dn} is a measure of the 24-hour average noise level at a given location. It was adopted by the U.S. Environmental Protection Agency (EPA) for developing criteria for the evaluation of community noise exposure. It is based on a measure of the average noise level over a given time period called the L_{eq}. The L_{dn} is calculated by averaging the L_{eq}'s for each hour of the day at a given location after penalizing the "sleeping hours" (defined as 10:00 PM to 7:00 AM) by 10 dBA to account for the increased sensitivity of people to noises that occur at night.
Exceedance Level (L_n)	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% (L_{01}, L_{10}, L_{50}, L_{90}, respectively) of the time during the measurement period.

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

HEALTH EFFECTS OF NOISE

Human response to sound is highly individualized. Annoyance is the most common issue regarding community noise. However, many factors influence people's response to noise. The factors can include the character of the noise, the variability of the sound level, the presence of tones or impulses, and the time of day of the occurrence. Additionally, non-acoustical factors, such as the person's opinion of the noise source, the ability to adapt to the noise, the attitude towards the source and those associated with it, and the predictability of the noise, all influence people's response. As such, response to noise varies widely from one person to another and with any particular noise, individual responses will range from "not annoyed" to "highly annoyed."

The effects of noise are often only transitory, but adverse effects can be cumulative with prolonged or repeated exposure. The effects of noise on the community can be organized into six broad categories:

- Noise-Induced Hearing Loss;
- Interference with Communication;
- Effects of Noise on Sleep;
- Effects on Performance and Behavior;
- Extra-Auditory Health Effects; and
- Annoyance.

According to the United States Public Health Service, nearly ten million of the estimated 21 million Americans with hearing impairments owe their losses to noise exposure. Noise can mask important sounds and disrupt communication between individuals in a variety of settings. This process can cause anything from a slight irritation to a serious safety hazard, depending on the circumstance. Noise can disrupt face-to-face communication and telephone communication, and the enjoyment of music and television in the home. It can also disrupt effective communication between teachers and pupils in schools, and can cause fatigue and vocal strain in those who need to communicate in spite of the noise.

Interference with communication has proved to be one of the most important components of noise-related annoyance. Noise-induced sleep interference is one of the critical components of community annoyance. Sound level, frequency distribution, duration, repetition, and variability can make it difficult to fall asleep and may cause momentary shifts in the natural sleep pattern, or level of sleep. It can produce short-term adverse effects on mood changes and job performance, with the possibility of more serious effects on health if it continues over long periods. Noise can cause adverse effects on task performance and behavior at work, and non-occupational and social settings. These effects are the subject of some controversy, since the presence and degree of effects depends on a variety of intervening variables. Most research in this area has focused mainly on occupational settings, where noise levels must be sufficiently high and the task sufficiently complex for effects on performance to occur.

Annoyance can be viewed as the expression of negative feelings resulting from interference with activities, as well as the disruption of one's peace of mind and the enjoyment of one's environment. Field evaluations of community annoyance are useful for predicting the consequences of planned actions involving highways, airports, road traffic, railroads, or other noise sources. The consequences of noise-induced annoyance are privately held dissatisfaction, publicly expressed complaints to authorities, and potential adverse health effects, as discussed above. In a study conducted by the United States Department of Transportation, the effects of annoyance to the community were quantified. In areas where noise levels were consistently above 60 dBA CNEL, approximately nine percent of the community is highly annoyed. When levels exceed 65 dBA CNEL, that percentage rises to 15 percent. Although evidence for the various effects of noise have differing levels of certainty, it is clear that noise can affect human health. Most of the effects are, to a varying degree, stress related.

GROUNDBORNE VIBRATION

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. The peak particle velocity (PPV) or the root mean square (RMS) velocity is usually used to describe vibration amplitudes. PPV is defined as the maximum instantaneous peak or vibration signal, while RMS is defined as the square root of the average of the squared amplitude of the signal. PPV is typically used for evaluating potential building damage, whereas RMS is typically more suitable for evaluating human response. Typically, groundborne vibration, generated by man-made activities, attenuates rapidly with distance from the source of vibration. Man-made vibration issues are therefore usually confined to short distances (i.e., 500 feet or less) from the source.

Both construction and operation of development projects can generate groundborne vibration. In general, demolition of structures preceding construction generates the highest vibrations. Construction equipment such as vibratory compactors or rollers, pile drivers, and pavement breakers can generate perceptible vibration during construction activities. Heavy trucks can also generate groundborne vibrations that vary depending on vehicle type, weight, and pavement conditions.

SENSITIVE RECEPTORS

Human response to noise varies widely depending on the type of noise, time of day, and sensitivity of the receptor. The effects of noise on humans can range from temporary or permanent hearing loss to mild stress and annoyance due to such things as speech interference and sleep deprivation. Prolonged stress, regardless of the cause, is known to contribute to a variety of health disorders. Noise, or the lack thereof, is a factor in the aesthetic perception of some settings, particularly those with religious or cultural significance. Certain land uses are particularly sensitive to noise, including schools, hospitals, rest homes, long-term medical and mental care facilities, and parks and recreation areas. Residential areas are also considered noise sensitive, especially during the nighttime hours.

Existing sensitive receptors located in the project vicinity include hotels, resort condominiums, single and multi-family residential homes, a park, and a place of worship. Sensitive receptors are depicted below in Table 5.4-2, *Sensitive Receptors*.

AMBIENT NOISE MEASUREMENTS

In order to quantify existing ambient noise levels in the project area, RBF Consulting conducted noise measurements on January 17, 2014 between the hours of 8:30 a.m. and 9:00 a.m.; refer to Table 5.4-3, *Noise Measurements*. The noise measurement sites were representative of typical existing noise exposure within and immediately adjacent to the project site; refer to Exhibit 5.4-2, *Noise Measurement Locations*. Two noise measurement locations were selected at the project site. Site 1 was north of the Fireside at the Village condominiums along Minaret Road (to the south). Site 2 was in the North Village Plaza, adjacent to the gondola (to the north). As shown in Table 5.4-3, the measured average noise levels were 42.6 dB at Site 1 and 45.1 dB at Site 2. The primary noise source at Sites 1 and 2 was light pedestrian activity within the surrounding area.

Table 5.4-2
Sensitive Receptors

Type	Name	Distance from Project Site (feet)	Direction from Project Site
Hotels/Resort Condominiums	8050 Buildings A and B	25	Northwest
	Fireside at the Village	25	South
	Alpenhof Lodge	100	Northeast
	The Westin Monache Resort, Mammoth	425	West
	The Village Lodge: Lincoln House	555	Northwest
Residential	Residential Uses	435	East
		750	Southwest
		855	West
		1,000	Northwest
Places of Worship	Church of Jesus Christ of Latter-Day Saints	4,925	Southeast
Parks	Community Center Park	885	Northwest

Note: Distances are measured from the exterior project boundary only and not from individual construction projects/areas within the interior of the project site.
Source: Google Earth, 2014.

Table 5.4-3
Noise Measurements

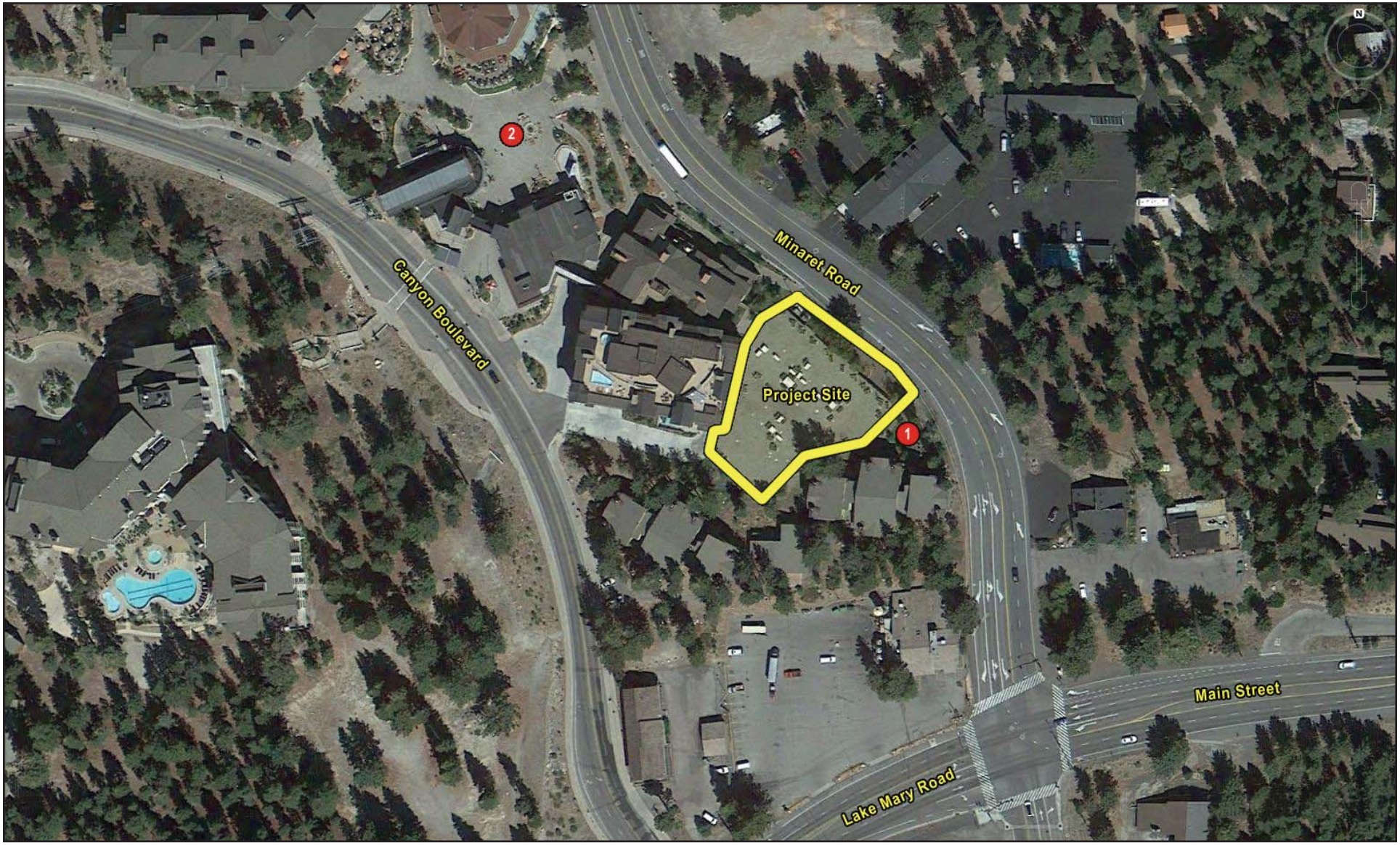
Measurement Location Number	Location	Leq (dBA)	L_{min} (dBA)	L_{max} (dBA)	Time
1	Along Minaret Road, north of the Fireside at the Village condominiums	42.6	67.5	36.5	8:32 a.m. to 8:42 a.m.
2	North Village Plaza, adjacent to the gondola	45.1	69.5	37.5	8:46 a.m. to 8:56 a.m.

Source: RBF Consulting, January 17, 2014.

Noise monitoring equipment used for the ambient noise survey consisted of a Brüel & Kjær Hand-held Analyzer Type 2250 equipped with a 4189 pre-polarized microphone. The monitoring equipment complies with applicable requirements of the American National Standards Institute for Type I (precision) sound level meters. The results of the field measurements are indicated in Appendix 11.3, *Noise Data*.

MOBILE SOURCES

In order to assess the potential for mobile source noise impacts, it is necessary to determine the noise currently generated by vehicles traveling through the project area. The existing roadway noise levels in the vicinity of the project site were projected. Noise models were run using the Federal Highway Administration's Highway Noise Prediction Model (FHWA RD-77-108) together with several roadway and site parameters. These parameters determine the projected impact of vehicular



Source: Google Earth, 2014.

1 - Noise Measurement Location

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Noise Measurement Locations

Exhibit 5.4-2

traffic noise and include the roadway cross-section (such as the number of lanes), roadway width, average daily traffic (ADT), vehicle travel speed, percentages of auto and truck traffic, roadway grade, angle-of-view, and site conditions ("hard" or "soft"). The model does not account for ambient noise levels (i.e., noise from adjacent land uses) or topographical differences between the roadway and adjacent land uses. Noise projections are based on modeled vehicular traffic as derived from the project's *Traffic Study*.

A 25- to 40-mile per hour (mph) average vehicle speed was assumed for existing conditions based on empirical observations and posted maximum speeds along the adjacent roadways. Existing modeled traffic noise levels can be found in Table 5.4-4, *Existing Traffic Noise Levels*. As shown in Table 5.4-4, noise within the area from mobile noise ranges from 59.1 dBA to 65.6 dBA.

Table 5.4-4
Existing Traffic Noise Levels

Roadway Segment	Existing Conditions				
	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)		
			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour
Canyon Boulevard					
Crystal Lane to Hillside Drive	3,730	59.1	31	14	7
Main Street/Lake Mary Road					
West of Minaret Road	6,250	62.4	69	32	15
East of Minaret Road	13,080	65.6	114	53	24
Minaret Road					
North of Main Street/Lake Mary Road	7,910	62.8	65	30	14
South of Main Street/Lake Mary Road	6,980	63.1	92	43	20

ADT = average daily trips; dBA = A-weighted decibels; CNEL = community noise equivalent level

STATIONARY NOISE SOURCES

The project area consists of residential, commercial, and retail uses served by a grid system of arterial, collector, and local roadways. The primary sources of stationary noise in the project vicinity are related to the parking areas, conversations, and commercial/retail activities. The noise associated with these sources may represent a single-event or a continuous occurrence.

5.4.2 REGULATORY SETTING

This section summarizes the laws, ordinances, regulations, and standards that are applicable to the project. Regulatory requirements related to environmental noise are typically promulgated at the local level. However, Federal and State agencies provide standards and guidelines to the local jurisdictions.

STATE OF CALIFORNIA GUIDELINES

California Environmental Quality Act

The California Environmental Quality Act (CEQA) was enacted in 1970 and requires that all known environmental effects of a project be analyzed, including environmental noise impacts. Under CEQA, a project has a potentially significant impact if the project exposes people to noise levels in excess of standards established in the local general plan or noise ordinance. Additionally, under CEQA, a project has a potentially significant impact if the project creates a substantial increase in the ambient noise levels in the project vicinity above levels existing without the project. If a project has a potentially significant impact, mitigation measures must be considered. If mitigation measures to reduce the impact to less than significant levels are not feasible due to economic, social, environmental, legal, or other conditions, the most feasible mitigation measures must be considered.

California Government Code

California Government Code Section 65302(f) mandates that the legislative body of each county, town, and city adopt a noise element as part of their comprehensive general plan. The local noise element must recognize the land use compatibility guidelines established by the State Department of Health Services, as shown in Table 5.4-5, *Land Use Compatibility for Community Noise Environments*.

Table 5.4-5
Land Use Compatibility for Community Noise Environments

Land Use Category	Community Noise Exposure (Ldn or CNEL, dBA)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential - Low Density, Single-Family, Duplex, Mobile Homes	50 – 60	55 - 70	70-75	75-85
Residential - Multiple Family	50 – 65	60 - 70	70 – 75	70 - 85
Transient Lodging - Motel, Hotels	50 – 65	60 - 70	70 – 80	80 - 85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 – 70	60 - 70	70 – 80	80 - 85
Auditoriums, Concert Halls, Amphitheaters	NA	50 - 70	NA	65 - 85
Sports Arenas, Outdoor Spectator Sports	NA	50 - 75	NA	70 - 85
Playgrounds, Neighborhood Parks	50 – 70	NA	67.5 – 75	72.5 - 85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 – 70	NA	70 – 80	80 - 85
Office Buildings, Business Commercial and Professional	50 – 70	67.5 - 77.5	75 – 85	NA
Industrial, Manufacturing, Utilities, Agriculture	50 – 75	70 - 80	75 – 85	NA

NA = Not Applicable; Ldn = Day/Night Average; CNEL = community noise equivalent level; dBA = A-weighted decibels

Notes:
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.
Conditionally Acceptable - New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
Normally Unacceptable - New Construction or development should 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.
Clearly Unacceptable – New construction or development should generally not be undertaken.

Source: Office of Planning and Research, California, *General Plan Guidelines*, October 2003.

The guidelines rank noise land use compatibility in terms of "normally acceptable", "conditionally acceptable", "normally unacceptable", and "clearly unacceptable" noise levels for various land use types. Single-family homes are "normally acceptable" in exterior noise environments up to 60 CNEL and "conditionally acceptable" up to 70 CNEL. Multiple-family residential uses are "normally acceptable" up to 65 CNEL and "conditionally acceptable" up to 70 CNEL. Schools, libraries, and churches are "normally acceptable" up to 70 CNEL, as are office buildings and business, commercial, and professional uses.

TOWN OF MAMMOTH LAKES

Title 8.0 (Health and Safety) of the Municipal Code covers all noise standards. Chapter 8.16 (Noise Regulation) of the Municipal Code sets forth all noise regulations controlling unnecessary, excessive and annoying noise and vibration in the Town. As outlined in Chapter 8.16 and as indicated in Table 5.4-6, *Exterior Noise Limits,* maximum exterior noise levels are based on land use.

Table 5.4-6
Exterior Noise Limits

Receiving Land Use Category	Time Period	Rural/Suburban	Suburban	Urban
One and Two Family Residential	10 p.m. – 7 a.m.	40	45	50
	7 a.m. – 10 p.m.	50	55	60
Multi-Family Dwelling Residential	10 p.m. – 7 a.m.	45	50	55
	7 a.m. – 10 p.m.	50	55	60
Limited Commercial Some Multiple Dwellings	10 p.m. – 7 a.m.	55		
	7 a.m. – 10 p.m.	60		
Commercial	10 p.m. – 7 a.m.	60		
	7 a.m. – 10 p.m.	65		
Light Industrial	Anytime	70		
Heavy Industrial	Anytime	75		

Notes:
1. Levels are not to be exceeded more than thirty minutes in any hour.
2. The classification of different areas of the community in terms of environmental noise zones shall be determined by the noise control officer, based upon assessment of community noise survey data. Additional area classifications should be used as appropriate to reflect both lower and higher existing ambient levels than those shown. Industrial noise limits are intended primarily for use at the boundary of industrial zones rather than for noise reduction within the zone.

Source: Town of Mammoth Lakes, *Municipal Code.*

The following is taken from the Municipal Code*:*

Section 8.16.070 Exterior noise limits

A. The noise standards for the various categories of land use identified by the noise control officer as presented in Table 1 (refer to Table 5.4-6) *shall, unless otherwise specifically indicated, apply to all such property within a designated zone.*

B. No person shall operate or cause to be operated any source of sound at any location within the town or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, which causes the noise level when measured on any other property to exceed:

1. *The noise standard for that land use as in Table 1* (refer to Table 5.4-6) *for a cumulative period of more than thirty minutes in any hour; or*
2. *The noise standard plus five dB for a cumulative period of more than fifteen minutes in any hour; or*
3. *The noise standard plus ten dB for a cumulative period of more than five minutes in any hour; or*
4. *The noise standard plus fifteen dB for a cumulative period of more than one minute in any hour; or*
5. *The noise standard plus twenty dB or the maximum measured ambient level, for any period of time.*

C. If the measured ambient level differs from that permissible within any of the first four noise limit categories above the allowable noise exposure standard shall be adjusted in five dB increments in each category as appropriate to encompass or reflect the ambient noise level.

D. In the event the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under this category shall be increased to reflect the maximum ambient noise level.

E. If the measurement location is on a boundary between two different zones, the noise level applicable to the lower noise zone plus five dB, shall apply.

F. If possible, the ambient noise shall be measured at the same location along the property line utilized in subsection B of this section with the alleged offending noise source inoperative. If for any reason the alleged offending noise source cannot be shut down, the ambient noise must be estimated by performing a measurement in the same general area of the source but at a sufficient distance such that the noise from the source is at least ten dB below the ambient in order that only the ambient level is measured. If the difference between the ambient and the noise source is five to ten dB, then the level the ambient itself can be reasonably determined by subtracting a one decibel correction to account for the contribution of the source.

G. In the event the alleged offensive noise, as judged by the noise control officer, contains a steady, audible tone such as a whine, screech, or hum, or is a repetitive noise such as hammering or riveting, or contains music or speech conveying informational content, the standard limits set forth in Table 1 (refer to Table 5.4-6) *shall be reduced by five dB.*

Additionally, the Code states the following regarding applicable interior noise standards:

Section 8.16.080 Interior noise standards

B. No person shall operate, or cause to be operated within a dwelling unit, any source of sound or allow the creation of any noise which causes the noise level when measured inside a neighboring receiving dwelling unit to exceed:

1. *The noise standard as specified in Table 2* (refer to Table 5.4-7, *Interior Noise Limits*) *for a cumulative period of more than five (5) minutes in any hour; or*

Table 5.4-7
Interior Noise Limits

Noise Zone	Type of Land Use	Time Interval	Allowable Interior Noise Level
All	Multifamily Residential	10 p.m. – 7 a.m.	35
		7 a.m. – 10 p.m.	45

Source: Town of Mammoth Lakes, *Municipal Code*.

2. *The noise standard plus five decibels (5 dB) for a cumulative period of more than one minute in any hour; or*

3. *The noise standard plus ten decibels (10 dB) or the maximum measured ambient, for any period of time.*

C. *If the measured ambient level differs from that permissible within any of the noise limit categories above, the allowable noise exposure standard shall be adjusted in five decibel (5 dB) increments in each category as appropriate to reflect the ambient noise level.*

D. *In the event the alleged offensive noise, as judged by the noise control officer, contains a steady, audible tone such as a whine, screech, or hum, or is a repetitive noise such as hammering or riveting, or contains music or speech conveying informational content, the standard limits set forth in Table 2 shall be reduced by five dB.*

In addition to interior and exterior noise standards, the Town provides regulations for construction activities and other types of noises in Section 8.16.090, *Prohibited Acts*, of the Town's Municipal Code. The following noise regulations were taken for Section 8.16.090 for regulations relevant to the proposed project:

5. *Loading, unloading, opening, closing or other handling of boxes, crates, containers, building materials, garbage cans, or similar objects between the hours of ten p.m. and seven a.m. in such a manner as to cause a noise disturbance across a residential real property line or at any time to violate the provisions of this section.*

6. *Operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration or demolition work is subject to the hours of work permitted by this code, except for emergency work of public service agencies.*

a. At residential properties:

i. *Mobile equipment: Maximum noise levels for nonscheduled, intermittent, short-term operation (less than ten days) of mobile equipment;* refer to Table 5.4-8, *Maximum Noise Levels For Short-Term Noise:*

Table 5.4-8
Maximum Noise Levels For Short-Term Noise

Acceptable Hours Operation	Type I Areas Single-Family Residential	Type II Areas Multi-Family Residential	Type III Areas Semi-Residential Commercial
Daily, except Sundays and legal holidays 7 a.m. to 8 p.m.	75 dBA	80 dBA	85 dBA
Daily, 8 p.m. to 7 a.m. and all day Sundays and legal holidays	60 dBA	65 dBA	70 dBA

Source: Town of Mammoth Lakes, *Municipal Code.*

ii. Stationary equipment: Maximum noise levels for repetitively scheduled and relatively long-term operation (periods of ten days or more) of stationary equipment; refer to Table 5.4-9, *Maximum Noise Levels For Long-Term Noise*.

Table 5.4-9
Maximum Noise Levels For Long-Term Noise

Acceptable Hours Operation	Type I Areas Single-Family Residential	Type II Areas Multi-Family/Residential	Type III Areas Semi-Residential/ Commercial
Daily, except Sundays and legal holidays 7 a.m. to 8 p.m.	60 dBA	65 dBA	70 dBA
Daily, 8 p.m. to 7 a.m. and all day Sundays and legal holidays	50 dBA	55 dBA	60 dBA

Source: Town of Mammoth Lakes, *Municipal Code.*

5.4.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

Appendix G of the CEQA Guidelines contains the Modified Initial Study Environmental Checklist form used during preparation of the Modified Initial Study, which is contained in Appendix 11.1 of this SEIR. The Modified Initial Study includes questions relating to noise. The issues presented in the Environmental Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant adverse environmental impact if it would:

- Expose persons to, or generate, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies (refer to Impact Statement N-1);

- Expose persons to or generate excessive ground borne vibration or ground borne noise levels (refer to Impact Statement N-2);

- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project (refer to Impact Statements N-3 and N-4);

- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project (refer to Impact Statement N-1);

- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels (refer to Section 8.0, *Effects Found Not To Be Significant*); and

- For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels (refer to Section 8.0, *Effects Found Not To Be Significant*).

Based on these standards, the effects of the proposed project have been categorized as either a "less than significant impact" or a "potentially significant impact." 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 and unavoidable impact.

NOISE IMPACT CRITERIA

Significance of Changes in Traffic Noise Levels

An off-site traffic noise impact typically occurs when there is a discernable increase in traffic and the resulting noise level exceeds an established noise standard. In community noise considerations, changes in noise levels greater than 3 dB are often identified as substantial, while changes less than 1 dB will not be discernible to local residents. A 5 dB change is generally recognized as a clearly discernable difference.

As traffic noise levels at sensitive uses approach or exceed the 65 CNEL standard, a 3.0 dB increase as a result of the project is used as the increase threshold for the project. Thus, the project would result in a significant noise impact when a permanent increase in ambient noise levels of 3.0 dB occurs upon project implementation and the resulting noise level exceeds the applicable exterior standard at a noise sensitive use.

Significance of Changes in Stationary Noise Levels

The project would normally have a significant noise impact if it would:

- Exceed the stationary source noise criteria for the Town of Mammoth Lakes as identified in Table 5.4-9, *Maximum Noise Levels For Long-Term Noise*.

5.4.4 OVERVIEW OF PREVIOUS ENVIRONMENTAL ANALYSIS

Short-Term Construction Noise

The 1991 PEIR concluded that sensitive receptors in the project vicinity could experience noise levels up to 101 dBA Leq at 50 feet from the noise source as a result of pile driving activities. Mitigation measures including limitations to construction hours and the provision of noise mufflers for engine driven equipment would reduce these impacts to less than significant levels. According to the 1999 SPEIR, short-term noise impacts could occur as a result of the project's construction activities including trenching and pile driving activities. A new mitigation measure providing temporary sound barriers around pile driving sites if pile driving activities should occur within 200 feet of existing residences was recommended. In addition, haul route noise impacts were determined to be less than significant. The 1999 SPEIR concluded that the 1999 NVSP Amendment would result in reduced impacts to short-term construction noise associated with the project site upon implementation of previously identified mitigation measures, and temporary sound barriers, as applicable.

Long-Term Operational Noise – Mobile Sources

The 1991 PEIR concluded that existing noise levels on all major arterials and streets exceeding 60 dBA would increase due to cumulative development with or without implementation of the NVSP. However, anticipated noise levels with implementation of the NVSP would not be significantly higher than projected noise levels without the project. According to the 1999 SPEIR, development of the 1999 NVSP Amendment would result in additional traffic on adjacent roadways and contributing noise levels on adjacent roadway segments. Further, development of the 1999 NVSP Amendment would result in an increase in vehicular generated noise levels along Main Street, east of Minaret Road. However, this increase was determined to be less than significant. The 1999 SPEIR concluded that adherence to the Town's Noise Element of the 1987 General Plan and Title 24 of the California Code of Regulations would ensure that project impacts would remain less than significant.

Long-Term Operational Noise – Stationary Sources

The 1991 PEIR determined that stationary noise impacts at the project site were insignificant as impacts were below ambient noise levels. The 1999 SPEIR concluded that long-term operations associated with the 1999 NVSP Amendment (including loading and unloading activities, mechanical equipment, and parking lots) would not result in significant impacts.

5.4.5 IMPACTS AND MITIGATION MEASURES

SHORT-TERM CONSTRUCTION NOISE IMPACTS

N-1 GRADING AND CONSTRUCTION WITHIN THE AREA WOULD RESULT IN TEMPORARY NOISE IMPACTS TO NEARBY NOISE SENSITIVE RECEIVERS.

Impact Analysis: The 1999 SPEIR (pages 5.6-14 through 5.6-16) concluded that short-term noise impacts could occur resulting from the project's construction activities including trenching and pile driving activities while haul route noise impacts were determined to be less than significant. The 1999 SPEIR identified mitigation measures including previously identified mitigation measures and providing temporary sound barriers around pile driving sites if pile driving activities are within 200 feet of existing residences that would further reduce impacts to short-term construction noise. Construction noise impacts associated with the proposed project are discussed below.

Construction activities associated with the project would generate perceptible noise levels during the building construction, paving, and architectural coating phases. Construction equipment anticipated for project development includes only standard equipment that would be employed for any routine construction project of this scale; construction equipment with substantially higher noise and vibration generation characteristics (i.e., pile drivers, rock drills, blasting equipment, etc.) would not be used. Construction noise is difficult to quantify because of the many variables involved including the size of equipment used, percentage of time, and number of pieces of equipment that would actually operate on the site. However, maximum construction noise levels at 50 feet would typically range from approximately 75 to 85 dB for the type of equipment anticipated to be used for construction of the project. The range of maximum noise levels associated with various pieces of construction equipment is depicted in Table 5.4-10, *Construction Equipment Noise Emission Levels*. The average noise levels presented in Table 5.4-10 are based on the quantity, type, and Acoustical Use Factor for each type of equipment.

Construction noise impacts generally occur when construction activities occur in areas immediately adjoining noise sensitive land uses, during noise sensitive times of the day, or when construction durations last over extended periods of time. The closest existing sensitive receptor to the construction area is the Fireside at the Village condominiums (residences) located 25 feet south of the project site. The majority of the construction would occur at distances of 100 to 1,000 feet or more from the nearest sensitive receptors and would not be expected to interfere with normal hotel, recreational, or residential activities. These noise levels could intermittently occur for a few days when construction equipment is operating in close proximity to the resort condominiums. The remainder of the time the construction noise levels would be much less because the equipment would be working in a large area farther away from the existing sensitive uses.

Table 5.4-10
Construction Equipment Noise Emission Levels

Equipment	Typical Sound Level (dB) 50 feet from Source
Air Compressor	81
Backhoe	80
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Concrete Vibrator	76
Crane, Derrick	88
Crane, Mobile	83
Dozer	85
Generator	81
Grader	85
Impact Wrench	85
Jack Hammer	88
Loader	85
Paver	89
Pile-driver (Impact)	101
Pile-driver (Sonic)	96
Pneumatic Tool	85
Pump	76
Rail Saw	90
Rock Drill	98
Roller	74
Saw	76
Scraper	89
Truck	88

Source: Federal Transit Administration, *Traffic Noise and Vibration Assessment*, May 2006.

Construction activities would also cause increased noise along access routes to and from the site due to movement of equipment and workers. The proposed project would require a nominal amount of cut and fill for grading, and a small amount of soil hauling trips. Adherence to the Town's Municipal Code Section 8.16.090 requirements, and compliance with the 1999 SPEIR Mitigation Measures 5.6-1a and 5.6-1b would reduce short-term construction noise impacts by requiring mobile equipment to be muffled and requiring best management practices for hauling activities. In addition, Mitigation Measures N-1 and N-2 would require a disturbance coordinator to respond to construction noise complaints and direct equipment away from sensitive receptors to further reduce construction-related noise. As construction would be limited to daytime hours per Town's Municipal Code Section 8.16.090 and due to the short-term nature of construction activities, construction-related noise would be less than significant with mitigation.

Conclusion

The project would require a minimal amount of cut and fill and associated hauling trips, compared to what was analyzed in the 1999 SPEIR. Construction noise impacts would cease upon completion of construction. Implementation of 1999 SPEIR Mitigation Measure 5.6-1a and 5.6-1b and

additional Mitigation Measures N-1 and N-2 would minimize any impacts from construction noise and would ensure that impacts are reduced to a less than significant level.

Applicable 1999 SPEIR Mitigation Measures: Modifications to the 1999 SPEIR mitigation measures are made in ~~strikethrough~~ and double underline text. The changes to the 1999 SEIR mitigation measures have been made to clarify/up-date the information and/or present the measure in a project-specific manner (as these measures are programmatic in nature).

5.6-1a Prior to issuance of any Grading Permit, the Director of Public Works and the Building Official shall confirm that the Grading Plan, Building Plan, and specifications stipulate that construction activities shall not take place outside of the allowable hours specified by ~~Pursuant to Chapter~~Section 8.16.090 of the Town's Municipal Code,~~Ordinance, construction activities shall be limited to the hours of (~~7:00 a.m. to 8:00 p.m. Monday through Saturday and prohibited on Sunday or holidays, or as otherwise permitted by ~~Chapter~~Section 8.16.090).

5.6-1b Prior to Grading Permit issuance, all ~~C~~construction equipment, fixed or mobile, shall be muffled or controlled, if required, to meet Chapter 8.16 requirements for maximum noise generated by construction equipment. Contracts shall specify that engine-driven equipment be fitted with appropriate noise mufflers.

Additional Mitigation Measures:

N-1 Prior to Grading Permit issuance, the Applicant shall provide a qualified "Noise Disturbance Coordinator." The Disturbance Coordinator shall be responsible for responding to any local complaints about construction noise. When a complaint is received, the Disturbance Coordinator shall notify the Town within 24-hours of the complaint and determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and shall implement reasonable measures to resolve the complaint, as deemed acceptable by the Community and Economic Development Department Planning Manager. The contact name and the telephone number for the Disturbance Coordinator shall be clearly posted on-site.

N-2 Prior to Grading Permit issuance, during construction, stationary construction equipment shall be placed such that emitted noise is directed away from sensitive noise receivers (e.g., along Minaret Road and away from the Fireside at the Village condominiums).

Level of Significance: Less Than Significant Impact With Mitigation Incorporated.

VIBRATION IMPACTS

N-2 PROJECT IMPLEMENTATION WOULD NOT RESULT IN SIGNIFICANT VIBRATION IMPACTS TO NEARBY SENSITIVE RECEPTORS.

Impact Analysis: The 1999 SPEIR (pages 5.6-14 through 5.6-16) concluded that short-term noise impacts could occur resulting from the project's construction activities including trenching and pile driving activities. The 1999 SPEIR identified mitigation measures including previously identified

mitigation measures and providing temporary sound barriers around pile driving sites if pile driving activities are within 400 feet of existing residences that would further reduce impacts to short-term construction noise.

Short-Term Construction

The types of construction vibration impact include human annoyance and building damage. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. The vibration produced by construction equipment, is illustrated in Table 5.4-11, *Typical Vibration Levels for Construction Equipment*. Groundborne vibration decreases rapidly with distance. As indicated in Table 5.4-11, based on the Federal Transit Administration data, vibration velocities from typical heavy construction equipment operations that would be used during project construction range from 0.003 to 0.170 inch-per-second peak particle velocity (PPV) at 25 feet from the source of activity.

Table 5.4-11
Typical Vibration Levels for Construction Equipment

Equipment	Approximate peak particle velocity at 25 feet (inches/second)
Loaded trucks	0.170
Small bulldozer	0.089
Auger/drill rigs	0.089
Jackhammer	0.076
Vibratory hammer	0.035
Vibratory compactor/roller	0.003

Notes:
1. Peak particle ground velocity measured at 25 feet unless noted otherwise.
2. Root mean square amplitude ground velocity in decibels (VdB) referenced to 1 micro-inch/second.

Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Guidelines*, May 2006.

With regard to the proposed project, groundborne vibration would be generated primarily during grading activities on-site and by off-site haul-truck travel. Construction of the project would require the use of typical construction equipment that could generate some groundborne vibration and groundborne noise; however, the project would not involve the use of pile drivers, which have the potential to generate substantial vibration. In addition, per the Town's requirements, construction activities that would produce groundborne vibration would primarily occur between the hours of 7:00 a.m. and 8:00 p.m. Monday through Friday. Therefore, these activities would not occur during recognized sleep hours for residents. Based on this information, proposed construction activities associated with the project would not expose sensitive receptors in the project vicinity to excessive groundborne vibration levels. Therefore, project impacts related to excessive construction related groundborne vibration and groundborne noise would be considered less than significant and no mitigation measures would be required.

Long-Term Operations

The project proposes a hotel and accessory uses, which would not generate groundborne vibration that could be felt at surrounding uses. The proposed project would not involve railroads, substantial heavy truck operations, or any other use capable of producing groundborne vibration, and therefore would not result in vibration impacts at surrounding uses as compared to that analyzed in the 1999 SPEIR. As such, no impact would occur in this regard.

Applicable 1999 SPEIR Mitigation Measures: No 1999 SPEIR mitigation measures are applicable to this topical area.

Additional Mitigation Measures: No additional mitigation measures are required.

Level of Significance: Less Than Significant Impact.

LONG-TERM (MOBILE) NOISE IMPACTS

N-3 TRAFFIC GENERATED BY THE PROPOSED PROJECT WOULD NOT SIGNIFICANTLY CONTRIBUTE TO EXISTING TRAFFIC NOISE IN THE AREA OR EXCEED THE TOWN'S ESTABLISHED STANDARDS.

Impact Analysis: The 1999 SPEIR (pages 5.6-16 through 5.6-18) concluded that development of the 1999 NVSP Amendment would result in additional traffic on adjacent roadways and contributing noise levels on adjacent roadway segments, further increasing vehicular generated noise levels along Main Street, east of Minaret Road. However, this increase was determined to be less than significant. Adherence to the Town's Noise Element of the 1987 General Plan and Title 24 of the California Code of Regulations would ensure that project impacts would remain less than significant. Mobile source noise impacts associated with the proposed project are discussed below.

Off-Site Mobile Noise Conditions

Implementation of the proposed project would result in additional traffic on adjacent roadways, thereby increasing vehicular noise in the vicinity of existing and proposed land uses. Based on the *Traffic Study*, the proposed project would generate an increase of 19 peak-hour trips. The "Existing" scenario is shown in Table 5.4-4, *Existing Traffic Noise Levels*. As depicted in Table 5.4-4, noise levels would range from approximately 59.1 dBA to 65.6 dBA, with the highest noise levels occurring along Main Street/Lake Mary Road (west of Minaret Road). This increase in 19 trips associated with the proposed project would be nominal and would not be expected to increase noise levels to levels that would exceed the Town's Noise Standards. In general acoustical principals, the traffic volume along a roadway would have to double in order to create a noticeable acoustical increase of 3 dBA.[1] As the project would not result in this level on a noise increase, a less than significant impact would occur in this regard.

[1] California Department of Transportation, Division of Environmental Analysis, *Traffic Noise Analysis Protocol Technical Noise Supplement*, November 2009.

On-Site Noise Conditions

As indicated in Table 5.4-4, mobile source noise levels along Minaret Road adjacent to the project site would be 62.8 dBA. According to Town's standards, interior noise limits are 45 dBA between 7:00 a.m. and 10:00 p.m. A typical building can provide an attenuation rate of approximately 20 dBA with the windows closed. As a result, on-site interior noise levels are estimated to be 42.8 dBA. Thus, the interior noise levels would be below the Town's interior noise limit of 45 dBA. A significant impact would not occur in this regard.

Applicable 1999 SPEIR Mitigation Measures: No 1999 SPEIR mitigation measures are applicable to this topical area.

Additional Mitigation Measures: No additional mitigation measures are required.

Level of Significance: Less Than Significant Impact.

LONG-TERM (STATIONARY) NOISE IMPACTS

N-4 THE PROPOSED PROJECT WOULD RESULT IN AN INCREASE IN LONG-TERM STATIONARY AMBIENT NOISE LEVELS.

Impact Analysis: The 1999 SPEIR determined that long-term operations associated with the 1999 NVSP Amendment (including loading and unloading activities, mechanical equipment, and parking lots) would not result in significant impacts. Stationary source noise impacts associated with the proposed project are discussed below.

Slow-Moving Trucks (Deliveries)

Any deliveries to the project site would occur on the western portion of the site, and would be located near other sensitive uses approximately 25 feet to the south. It should be noted that stationary noise from the proposed project would be similar to the existing surrounding environment, as compared to that analyzed in the 1999 SPEIR. Noise from delivery activities would also be masked by traffic noise along the Minaret Road and Canyon Boulevard. Additionally, the project would be required to adhere to the Town's Municipal Code Section 8.16.090, which prohibits loading and unloading operations to between 10:00 p.m. and 7:00 a.m. Thus, impacts resulting from delivery activities would be mitigated to a less than significant level.

Mechanical Equipment

Typically, mechanical equipment noise is 55 dBA at 50 feet from the source. Heating Ventilation and Air Conditioning (HVAC) units would be included within the attic of the proposed hotel, thereby reducing noise impacts. Noise levels from mechanical equipment would be further reduced through the implementation of the Additional Mitigation Measure N-3 requiring the orientation of equipment away from any sensitive receptors, proper selection of equipment, and the installation of equipment with proper acoustical shielding (muffling). Compliance with the Town's Municipal Code and Additional Mitigation Measure N-3 would minimize noise impacts from mechanical equipment to less than significant levels with mitigation.

Noise from the Proposed Outdoor Spa and Pool Terrace

The outdoor spa and pool terrace associated with the Project would generate crowd noise. Crowd noise is dependent on several factors including vocal effort, impulsiveness, and the random orientation of the crowd members. Crowd noise is estimated at 60 dBA at one meter (3.28 feet) away for raised normal speaking[2]. This noise level would have an increased five dBA adjustment for the impulsiveness of the noise source, and a reduced three dBA adjustment for the random orientation of the crowd members[3]. Therefore, crowd noise would be 62 dBA at one meter from the source. Noise has a decay rate due to distance attenuation, which is calculated based on the Inverse Square Law. Based upon the Inverse Square Law, sound levels decrease by six dBA for each doubling of distance from the source.[4] As a result, crowd noise would be 44 dBA at 13.12 feet and 20 dBA at 26.24 feet, which would not exceed the Town's 50 dBA standard. The proposed use would be required to comply with the Town's Municipal Code and therefore, noise impacts from crowd noise would be less than significant.

Applicable 1999 SPEIR Mitigation Measures: No 1999 SPEIR mitigation measures are applicable to this topical area.

Additional Mitigation Measures:

N-3 Mechanical equipment shall be placed as far practicable from sensitive receptors. Additionally, the following shall be considered prior HVAC installation: proper selection and sizing of equipment, installation of equipment with proper acoustical shielding, and incorporating the use of parapets into the building design.

Level of Significance: Less Than Significant Impact With Mitigation Incorporated.

5.4.6 CUMULATIVE IMPACTS

The 1999 SPEIR (page 5.6-21) determined that implementation of the 1999 NVSP Amendment would increase ambient noise levels in the site vicinity due to vehicular traffic noise along local roadways and stationary sources of noise associated with the development. As noise impacts are determined on a project-by-project basis, future development would require separate discretionary approval and CEQA assessment, addressing potential noise impacts and identifying appropriate attenuation measures, as applicable.

Table 4-1, *Cumulative Projects List*, identifies the related projects and other possible development in the area determined as having the potential to interact with the proposed project to the extent that a significant cumulative effect may occur. The following discussions are included per topic area to determine whether a significant cumulative effect would occur.

[2] M.J. Hayne, et al, *Prediction of Crowd Noise*, Acoustics, November 2006.
[3] *Ibid.*
[4] Cyril M. Harris, *Noise Control in Buildings*, 1994.

SHORT-TERM CONSTRUCTION NOISE IMPACTS

- **GRADING AND CONSTRUCTION WITHIN THE AREA COMBINED WITH OTHER RELATED CUMULATIVE PROJECTS COULD RESULT IN SHORT-TERM NOISE IMPACTS TO NEARBY NOISE SENSITIVE RECEIVERS.**

Impact Analysis: Construction activities associated with the proposed project and cumulative projects may overlap, resulting in construction noise in the area. However, as analyzed above, construction noise impacts primarily affect the areas immediately adjacent to the construction site and would be mitigated to a less than significant level. Additionally, the proposed project would comply with the Town's Municipal Code limitations on allowable hours of construction and would implement 1999 SPEIR Mitigation Measures 5.6-1a and 5.6-1b and Additional Mitigation Measures N-1 and N-2 to reduce construction noise impacts to less than significant levels with mitigation. The construction activities associated with the cumulative development projects would also be required to comply with Town's Municipal Code limitations on allowable hours of construction and would incorporate mitigation measures on a project-by-project basis, as applicable, to reduce construction noise pursuant to CEQA provisions. Therefore, the project's contribution to cumulative noise impacts would be less than significant.

Applicable 1999 SPEIR Mitigation Measures: Refer to 1999 SPEIR Mitigation Measures 5.6-1a and 5.6-1b.

Additional Mitigation Measures: Refer to Additional Mitigation Measures N-1 and N-2.

Level of Significance: Less Than Significant Impact With Mitigation Incorporated.

VIBRATION IMPACTS

- **PROJECT IMPLEMENTATION COMBINED WITH OTHER RELATED CUMULATIVE PROJECTS WOULD NOT RESULT IN SIGNIFICANT VIBRATION IMPACTS TO NEARBY SENSITIVE RECEPTORS.**

Impact Analysis: As stated above, construction activities associated with the proposed project and cumulative projects may overlap. There would be no vibration impacts associated with operations at the project site as compared to that analyzed in the 1999 SPEIR. Therefore, vibration impacts of the proposed project would not be cumulatively considerable. Further, the cumulative development projects would be required to implement any required mitigation measures on a project-by-project basis, as applicable, pursuant to CEQA provisions. Therefore, the project's contribution to cumulative vibration impacts would be less than significant.

Applicable 1999 SPEIR Mitigation Measures: No 1999 SPEIR mitigation measures are applicable to this topical area.

Additional Mitigation Measures: No additional mitigation measures are required.

Level of Significance: Less Than Significant Impact.

LONG-TERM (MOBILE) NOISE IMPACTS

- **TRAFFIC GENERATED BY THE PROPOSED PROJECT COMBINED WITH OTHER RELATED CUMULATIVE PROJECTS WOULD NOT SIGNIFICANTLY CONTRIBUTE TO EXISTING TRAFFIC NOISE IN THE AREA OR EXCEED THE TOWN'S ESTABLISHED STANDARDS.**

Impact Analysis: As described above, project traffic noise impacts from the project would be minimal due to the amount of trips (19 peak hour trips) in comparison to existing noise levels (between 59.1 dBA and 65.6 dBA) and the existing traffic volume ranges (between 3,730 to 13,080 ADT). Typically, a 3dBA difference in noise level is considered a perceptible difference to the human ear. This requires doubling the traffic on a roadway.[5] As the project trip generation results would not double traffic volumes and amounts to only 19 peak-hour trips, this would have a nominal effect on long term mobile noise impacts compared to that analyzed in the 1999 SPEIR. Therefore, the increase in noise associated with cumulative traffic would not be significantly cumulatively considerable and less than significant impacts would result in this regard.

Applicable 1999 SPEIR Mitigation Measures: No 1999 SPEIR mitigation measures are applicable to this topical area.

Additional Mitigation Measures: No additional mitigation measures are required.

Level of Significance: Less Than Significant Impact.

LONG-TERM (STATIONARY) NOISE IMPACTS

- **THE PROPOSED PROJECT COMBINED WITH OTHER RELATED CUMULATIVE PROJECTS WOULD RESULT IN AN INCREASE IN LONG-TERM STATIONARY AMBIENT NOISE LEVELS.**

Impact Analysis: Although related cumulative projects have been identified within the project study area, the noise generated by stationary equipment on-site cannot be quantified due to the speculative nature of each development. However, each cumulative project would require separate discretionary approval and CEQA assessment, which would address potential noise impacts and identify necessary attenuation measures, where appropriate. Additionally, as noise dissipates as it travels away from its source, noise impacts from stationary sources would be limited to each of the respective sites and their vicinities. As no other project sites are located within the immediate vicinity of the proposed project that would involve stationary noise sources, the project would not contribute to a cumulative stationary noise impact and impacts would be less than significant in this regard.

Further, with the implementation of the Additional Mitigation Measure N-3, the proposed project would reduce stationary noise impacts to less than significant levels with mitigation. Thus, the proposed project and identified cumulative projects are not anticipated to result in a significant cumulative impact.

[5] Ibid.

Applicable 1999 SPEIR Mitigation Measures: No 1999 SPEIR mitigation measures are applicable to this topical area.

Additional Mitigation Measures: Refer to Additional Mitigation Measure N-3.

Level of Significance: Less Than Significant Impact With Mitigation Incorporated.

5.4.7 SIGNIFICANT UNAVOIDABLE IMPACTS

No unavoidable significant impacts related to noise have been identified in this section.

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