

This section describes the general noise conditions in the County and pertinent regulations that govern noise, and discusses the potential for impacts on noise as a result of project implementation.

2.6.1 Existing Conditions

This section discusses the characteristics of noise and vibration and how they are evaluated, and describes the existing ambient noise environment, including the sources of noise, in the County in relation to noise-sensitive land uses. Ambient noise data and baseline information reviewed for this section include the *Noise Technical Report for the County of San Diego General Plan Update* (County of San Diego 2009c), *General Plan Update* (County of San Diego 2011a), *County of San Diego General Plan, Noise Element Background Report* (County of San Diego 2011a), and *Guidelines for Determining Significance: Noise* (County of San Diego 2009d).

2.6.1.1 Ambient Noise Setting

The County is characterized as a primarily rural environment with low-density development that contributes to its perceived quality of life and its peace and tranquility. However, several higher-density communities, including the Valle de Oro Community Planning Area (CPA), Spring Valley CPA, and Sweetwater CPA, also exist, which have a louder ambient noise environment. Major sources of noise include transportation and non-transportation related activities. Non-transportation-related noise generators are commonly called *stationary, fixed, area, or point* sources of noise. Industrial processing; mechanical equipment; pump stations; and heating, ventilating, and air conditioning (HVAC) equipment are examples of fixed-location, non-transportation noise sources within the County. Some non-transportation sources are not stationary but are typically assessed as point or area sources due to the limited area in which they operate, such as truck deliveries, agricultural field machinery, and mining equipment.

2.6.1.2 Characteristics of Noise and Vibration

Noise is typically defined as unwanted sound. Sounds are perceived based on their loudness (i.e., volume or sound pressure level) or pitch (i.e., tonal or frequency content). The standard unit of measure for sound pressure levels is the decibel (dB). The standard unit used to describe the tonal or frequency content is hertz (Hz). Typical frequency ranges are 20–20,000 Hz for audible noise, 100–3,000 Hz for normal speech, 20–200 Hz for low frequency sound, and less than 20 Hz for infrasound. Table 2.6-1 shows the sound pressure level, in decibels, of the corresponding frequency of infrasound and low frequency sound necessary for the sound to be heard by the average person. Customarily, the young, non-pathological ear can perceive sounds ranging from 20–20,000 Hz. Infrasound, at certain frequencies and at high levels, can be audible to some people.

To account for the pitch of sounds and the corresponding sensitivity of human hearing, the raw sound pressure level is adjusted with an A-weighting scheme based on frequency that is stated in units of decibels (dBA). Table 2.6-2 depicts typical A-weighted sound levels for various noise sources. A-weighting is acceptable if there is largely middle and high frequency noise present, but if the noise is unusually high at low frequencies, or contains prominent low frequency tones, the A-

weighting may not give a valid measure. Human hearing causes sounds dominated by low-frequency components to seem louder than broadband sounds that have the same A-weighted level. Therefore, other weighting schemes are used.

A given level of noise would be more or less tolerable depending on the sound level, duration of exposure, character of the noise sources, time of day during which the noise is experienced, and activity affected by the noise. For example, noise that occurs at night tends to be more disturbing than that which occurs during the day because sleep has the potential to be disturbed. Additionally, rest at night is a critical requirement in the recovery from exposure to high noise levels during the day. In consideration of these factors, different measures of noise exposure have been developed to quantify the extent of the effects anticipated from these activities. For example, some indices consider the 24-hour noise environment of a location by using a weighted average to estimate its habitability on a long-term basis. Other measures consider portions of the day and evaluate the nearby activities affected by it as well as the noise sources. The most commonly used indices for measuring community noise levels are the Equivalent Energy Level (Leq), and the Community Noise Equivalent Level (CNEL).

The decibel level of a sound decreases (or attenuates) exponentially as the distance from the source of that sound increases. For a single point source such as a piece of mechanical equipment, the sound level normally decreases by about 6 dBA for each doubling of distance from the source. Sound that originates from a linear (or *line*) source, such as a heavily traveled traffic corridor, attenuates by approximately 3 dBA per doubling of distance, provided that the surrounding site conditions lack ground effects or obstacles that either scatter or reflect noise.

Noise Effects

Noise has an important effect on the quality of life. An individual's reaction to a particular noise depends on many factors, such as the source of the noise, its loudness relative to the background noise level, and the time of day. The reaction to noise can also be highly subjective; the perceived effect of a particular noise can vary widely among individuals in a community. Because of the nature of the human ear, a sound must be about 10 dBA greater than the reference sound to be judged as twice as loud. In general, a 3 dBA change in community noise levels is perceivable, while 1–2 dBA changes generally are not perceived. Although the reaction to noise would vary, it is clear that noise is an important component of the environment, and excessively noisy conditions can affect an individual's health and well-being. The effects of noise are often only transitory, but adverse effects can be cumulative with prolonged or repeated exposure. The effects of noise on a community can be organized into six broad categories: sleep disturbance, permanent hearing loss, human performance and behavior, social interaction of communication, extra-auditory health effects, and general annoyance.

Noise-Sensitive Land Uses

Noise-sensitive land uses include areas where an excessive amount of noise would interfere with normal activities. Primary noise-sensitive land uses include residential uses, public and private educational facilities, hospitals, convalescent homes, hotels/motels, daycare facilities, and passive recreational parks. Sleep disturbance is the most critical concern for a noise-sensitive land use on a 24-hour basis or longer compared to activities that are occupied only a portion of a day.

Groundborne Vibration

Groundborne vibration propagates from the source through the ground to adjacent buildings by surface waves. Vibration may be composed of a single pulse, a series of pulses, or a continuous oscillatory motion. The frequency of a vibrating object describes how rapidly it is oscillating, measured in Hz. The normal frequency range of most groundborne vibration that can be felt generally starts from a low frequency of less than 1 Hz to a high frequency of about 200 Hz. Vibration energy spreads out as it travels through the ground, causing the vibration amplitude to decrease with distance away from the source. Ambient and source vibration are often expressed in terms of the peak particle velocity (PPV) or root mean square (RMS) velocity in inches per second that correlates best with human perception. The Federal Transit Administration (FTA) estimates that the threshold of perception is approximately 0.0001 inch/second RMS, and the level at which continuous vibrations begin to annoy people is approximately 0.001 inch/second RMS (FTA 2006).

Vibration Sensitive Land Uses

Groundborne vibration can disrupt vibration-sensitive land uses by causing movement of buildings, rattling of windows and items inside buildings, rumbling sounds, and even property damage. Vibration-sensitive land uses include buildings where vibration would interfere with operations within the building, such as vibration-sensitive research and manufacturing, hospitals with vibration-sensitive equipment, and university research operations. The degree of sensitivity to vibration depends on the specific equipment that would be affected by the vibration. Residential uses are also sensitive to excessive levels of vibration of either a regular or an intermittent nature. According to the *Transit Noise and Vibration Impact Assessment* (FTA 2006), the background vibration level in residential areas is typically 0.00003 inch/second RMS, which is lower than the 0.0001 inch/second RMS threshold of perception for humans. There are several sources of groundborne vibration in the unincorporated County, including construction, railroad operations, and extractive mining operations (see Table 2.6-3).

Noises associated with agricultural operations include various types of heavy machinery used for land management and operations, such as tractors and trucks, aircraft used for crop dusting, woodworking machinery, processing equipment, bird-scaring devices, grain and hay dryers and fans, and mechanical ventilation fans. Most of the agricultural areas in the County are in rural and remote areas, and the existing ambient noise levels in agricultural areas are relatively low. Due to the size of the project area, baseline noise measurements were not recorded; however, the most recent Countywide noise measurements available include a 2008 community noise survey that identified agricultural operations as having a noise level range of 44.4–68.3 dBA (County of San Diego 2009c). No major circumstances since the time of the 2008 noise survey have occurred in agricultural areas that would substantially affect the survey results.

Temporary and/or Nuisance Noise

Temporary construction activities are disturbing to residents but are difficult to attenuate and control. Noise complaints occur more frequently in densely developed areas of the unincorporated County, such as the Spring Valley CPA and Valle de Oro CPA, as well as areas that are heavily agricultural, such as the Fallbrook CPA and Valley Center CPA.

Community Noise Survey

During February and March 2008, PBS&J conducted noise measurements with the purpose of establishing baselines for transportation and non-transportation noise generators throughout the County. Locations were monitored using a Larson–Davis American National Standards Institute Type II integrating sound level meter to establish existing ambient noise levels. Noise meter locations varied for each measurement according to site accessibility. A total of 44 short-term (15-minute) measurements were conducted to provide a basis for understanding the overall existing noise environment of the County. A 15-minute sample is considered a “snapshot” of the baseline noise environment at a given time; however, the sound level would vary depending on time, day, or season.

The results of the community noise survey show that the locations with the highest noise levels (between 70 and 74 dBA Leq) were roadways (including Interstate [I] 8), boulevards, a prime arterial, a Sprinter pass-by area in North County Metro Subregion, a shooting range in Valle de Oro CPA, the Ramona Landfill, and construction in Spring Valley CPA. The locations with the lowest noise levels (between 43 and 50 dBA) were a resort in Borrego Springs, residential developments in San Dieguito CPA and Lakeside CPA, and noise-sensitive biological resources in Lakeside CPA, all of which were subject to limited traffic noise. Other land use designations in this range were a recreational park in Julian CPA, a school in Pala/Pauma Valley Subregion with school bells and children at recess, and agricultural use in Pala/Pauma Valley Subregion using tractors and forklifts.

Noise Contours

Noise level contours are used as a guide for minimizing the exposure of community residents to noise. Noise contours represent lines of equal noise exposure. Contours are used to provide a general visualization of sound levels and should not be considered as absolute lines of demarcation. Noise contours for roadway noise sources at the County-wide level were most recently developed as part of the County’s General Plan Update, which was approved in 2011. As such, existing conditions for this project rely upon information gathered and presented in the County’s General Plan, which uses 2008 noise measurements collected by PBS&J. The existing noise contours are shown in the County’s General Plan Update EIR as Figure 2.11-2, and noise contours for future build-out conditions in 2030 are shown in the County’s General Plan Update EIR as Figure 2.11-3. Noise contours are expressed as CNEL values.

2.6.2 Regulatory Setting

Noise is subject to regulatory oversight at three levels: federal, state, and local.

2.6.2.1 Federal Regulations

Federal Aviation Administration Standards

Enforced by the Federal Aviation Administration (FAA), 14 Code of Federal Regulations (CFR) 150 prescribes the procedures, standards, and methodology governing the development, submission, and review of airport noise exposure maps and airport noise compatibility programs, including the process for evaluating and approving or disapproving those programs. Title 14 also identifies land uses that are normally compatible with various levels of exposure to noise by individuals. It provides technical assistance to airport operators, in conjunction with other local, state, and federal

authorities, to prepare and execute appropriate noise compatibility planning and implementation programs. FAA establishes a CNEL of 65 dBA as the noise standard associated with aircraft noise.

U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (EPA) has indicated that residential noise exposure of 55–65 dBA is acceptable when analyzing land use compatibility (EPA 1981); however, these guidelines are not regulatory. With regard to noise exposure and workers, the federal Occupational Safety and Health Administration (OSHA) establishes regulations to safeguard the hearing of workers exposed to occupational noise (29 CFR 1910.95). OSHA specifies that sustained noise over 85 dBA (8-hour time-weighted average) can be a threat to workers' hearing, and if worker exposure exceeds this amount, the employer must develop and implement a monitoring plan (29 CFR 1910.95(d)(1)).

U.S. Office of Surface and Mining Reclamation and Enforcement

The U.S. Office of Surface Mining Reclamation and Enforcement (OSM) has established guidelines related to blasting for surface mining activities. OSM guidelines require the operator to distribute a blasting schedule, post blasting signs, and control access within the blasting area. OSM has established air blast and ground vibration limits at the location of any dwelling, public building, school, church, or community building outside the permit area. The standard PPV damage threshold for residential structures is 2.0 inches per second. This requirement is based on the findings and recommendations of several reports made by the former U.S. Bureau of Mines.

2.6.2.2 State Regulations

California Noise Control Act of 1973

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

California Airport Noise Standards

The 1990 California Airport Noise Standards are designed to cause the airport proprietor, aircraft operator, local governments, pilots, and the California Department of Transportation's Division of Aeronautics to work cooperatively to diminish noise. The regulations accomplish these ends by controlling and reducing noise in the communities in the vicinity of airports. The level of noise acceptable to a reasonable person residing in the vicinity of an airport is established as a CNEL value of 65 dBA. The limitations on airport noise in residential communities are established as follows.

- a. The criterion CNEL is 65 dBA for proposed new airports and for active military airports being converted to civilian use.
- b. The criterion CNEL for existing civilian airports is 65 dBA.

California Airport Land Use Planning Handbook

The *California Airport Land Use Planning Handbook* provides guidance for the assessment of noise compatibility of land uses near airports. Guidance is based on existing federal and state regulations and policies. The handbook states that 65 dBA is the basic limit of acceptable noise exposure for residential and other noise-sensitive land uses and recommends an annual CNEL standard of 60 dBA to be used for new residential development; however, this standard has been set with respect to relatively noisy urban areas and may be too high of a noise level to be appropriate as a standard for land use compatibility planning. The level of noise deemed acceptable in one community is not necessarily the same in another. A noise level above 60 dBA CNEL may be considered incompatible with some residential uses. According to the handbook, noise compatibility standards typically place primary emphasis on residential areas because residential development is one of the most noise-sensitive land uses and usually covers the greatest proportion of urban land. Three CNELs are commonly used as the limit for acceptable residential noise exposure: CNEL 65, 60, or 55 dBA. The handbook also includes normalization factors as a method for adjusting aircraft noise levels used for determining and predicting community reactions. Because the acceptable residential noise level standard may vary between communities, noise compatibility issues are addressed in the Airport Land Use Compatibility Plans (ALUCPs) prepared for individual airports.

All land use jurisdictions in the County have ordinances that regulate activities in order to reduce noise impacts. As stated previously, any noise generated by the construction, operation, and maintenance of projects under the proposed Zoning Ordinance Amendment would be required to comply with the standards and regulations governing noise limits within the applicable jurisdiction.

2.6.2.3 Local Regulations

Airport Land Use Compatibility Plans

ALUCPs are plans that guide property owners and local jurisdictions in determining what types of proposed new land uses are appropriate around airports. They are intended to protect the safety of people, property, and aircraft on the ground and in the air in the vicinity of an airport. ALUCPs are based on a defined area around an airport known as the Airport Influence Area. ALUCPs include policies that address noise compatibility issues associated with airports and their respective Airport Influence Areas (AIAs).

County of San Diego General Plan Update, Noise Element

The General Plan Update Noise Element establishes noise and land use compatibility standards and outlines goals and policies to achieve these standards. The County's General Plan Noise Element characterizes the noise environment in the County and provides the context for the County's noise/land use compatibility guidelines and standards. The Noise Element also describes the County's goals for achieving the standards and introduces policies designed to implement the goals. Under implementation of the General Plan Update, the County would use the Noise Compatibility Guidelines and Noise Standards (Tables N-1 and N-2) to determine the compatibility of land uses when evaluating proposed development projects. The Noise Compatibility Guidelines indicate ranges of compatibility and are intended to be flexible enough to apply to a range of projects and environments.

A land use located in an area identified as *acceptable* indicates that standard construction methods would attenuate exterior noise to an acceptable indoor noise level and that people can carry out

outdoor activities with minimal noise interference. Land uses that fall into the *conditionally acceptable* noise environment should have an acoustical study that considers the type of noise source, the sensitivity of the noise receptor, and the degree to which the noise source has the potential to interfere with sleep, speech, or other activities characteristic of the land use. For land uses indicated as conditionally acceptable, structures must be able to attenuate the exterior noise to the indoor noise level as indicated in the Noise Standards. For land uses where the exterior noise levels fall within the *unacceptable* range, new construction generally should not be undertaken.

San Diego County Code of Regulatory Ordinances Title 3, Division 6, Chapter 4, Sections 36.401–36.435, Noise Ordinance

The Noise Ordinance establishes prohibitions for disturbing, excessive, or offensive noise as well as provisions such as sound level limits for the purpose of securing and promoting the public health, comfort, safety, peace, and quiet for its citizens. Planned compliance with sound level limits and other specific parts of the ordinance allows presumption that the noise is not disturbing, excessive, or offensive. Limits are specified depending on the zoning placed on a property (e.g., varying densities and intensities of residential, industrial, and commercial zones). Where two adjacent properties have different zones, the sound level limit at a location on a boundary between two properties is the arithmetic mean of the respective limits for the two zones, except for extractive industries. The 1-hour average sound level limit applicable to extractive industries, including but not limited to borrow pits and mines, would be 75 dBA at the property line regardless of the zone in which the extractive industry is located. It is unlawful for any person to cause or allow the creation of any noise that exceeds the applicable limits of the Noise Ordinance at any point on or beyond the boundaries of the property on which the sound is produced.

Section 36.404 of the County Noise Ordinance contains sound level limits specific to receiving land uses. Sound level limits are in terms of a 1-hour average sound level. The allowable noise limits depend upon the County's zoning district and time of day. The proposed project would be located in any zone within the County. Table 2.6-4 lists the sound level limits for the County. Sections 36.408 through 36.410 of the County Noise Ordinance sets limits on the time of day and days of the week that construction can occur, as well as setting noise limits for construction activities. In summary, the ordinance prohibits operating construction equipment on the following days and times.

- Mondays through Saturdays except between the hours of 7 a.m. and 7 p.m.
- Sundays and days appointed by the president, governor, or board of supervisors for a public fast, Thanksgiving, or other holiday.

In addition, Section 36.409 requires that between the hours of 7 a.m. and 7 p.m., no equipment can be operated so as to cause an 8-hour average construction noise level in excess of 75 dBA when measured at the boundary line of the property where the noise source is located, or on any occupied property where the noise is being received.

San Diego County Zoning Ordinance Section 5250-5260, Airport Land Use Compatibility Plan Use Regulations

ALUCPs establish an AIA that denotes areas where land uses should be reviewed for compatibility with the airports operations. The County of San Diego Zoning Ordinance includes a Special Area Designator "C"—Airport Land Use Compatibility Plan—that is assigned to properties in the AIAs. Through the application of the Special Area Designator, new development, redevelopment,

expansions, conversions and other uses of land located that require County approval are required to be reviewed against the established criteria and policies of the applicable ALUCP. Unless the property is already devoted to the proposed incompatible use or the ALUCP is overridden by the County in a manner which renders the use compatible with the ALUCP, the proposal, must comply with the established policies and criteria of the applicable ALUCP.

2.6.3 Analysis of Project Effects and Determination of Significance

The proposed project consists of an amendment to the Zoning Ordinance that would promote accessory agricultural operations throughout the unincorporated County of San Diego, as described in Chapter 1, *Project Description, Location, and Environmental Setting*. The following impact analysis generally summarizes anticipated construction and operational noises that would result with future implementation of the proposed changes to the Zoning Ordinance and concludes whether those increases would result in significant environmental impacts. One comment letter that is relevant to noise was received during the 30-day public comment period. The Cleveland National Forest indicated that noise is of particular concern for the agency and requested that the EIR consider effects of intensified land uses on the forest.

2.6.3.1 Excessive Noise Levels

Guidelines for the Determination of Significance

The following significance guideline from Appendix G of the State CEQA Guidelines applies to both the direct and cumulative impact analyses. A significant impact would result if the proposed project would:

- Result in the exposure of persons to or generation of noise levels in excess of standards established by the County's General Plan, County's Noise Ordinance, County's Noise Compatibility Guidelines, or County's Zoning Ordinance.

Analysis

Noise levels in the unincorporated County are regulated by the County's Noise Ordinance and the County General Plan Noise Element. The Noise Ordinance regulates noise levels associated with ongoing operations and temporary construction, and includes permissible noise levels (onsite noise impacts). The Noise Element designates permissible noise levels (dBA) for various land use zones and regulates 24-hour time varying noise sources such as vehicle noise levels associated with development (onsite and offsite noise impacts).

A traffic report was prepared for the proposed project to determine potential traffic impacts on area roadways due to operation of an increased number of accessory agricultural operations in the County. Of the individual accessory uses included as part of the project, five types of uses were included as anticipated traffic generators, including agricultural homestays, agricultural stores, creamery/dairy, microbreweries, cideries, and micro-distilleries, and wineries. The trips associated with each were then averaged across all parcels with similar zoning, and an overall trip generation rate by community planning area was determined (refer to Section 2.7.3.1 for more information on methodology for calculating trip generation). The most trips associated with the project would occur in Valley Center (about 70,000 new trips), representing an increase of about 32 percent in that

community. The largest increase in percentage would occur in Rainbow, where a 78 percent increase would occur with an additional 12,869 trips.

General Construction Related Impacts

Future construction activities that are likely to be associated with the accessory agricultural uses that are promoted by the proposed Zoning Ordinance updates would generally involve a temporary increase in noise related to construction equipment and activities associated with land clearing, miscellaneous land improvements, and the construction of structures up to 5,000 square feet.

Noise level generation would change day-to-day, depending on the level of activity, duration, and the specific type of construction. As such, the following noise analysis does not include precise noise levels, rather a qualitative analysis is provided that generally discusses primary noise generators associated with both construction and operation. Related construction activities that would produce temporary increases in noise would include typical construction equipment such as tractors, loaders, backhoes, excavators, graders, forklifts, and welders. A summary of typical construction equipment noise levels at 50 feet is provided in Table 2.6-5. It is not anticipated that drilling or blasting would be required to support the construction of any of the uses that would be promoted by the proposed project. Construction activities are temporary in nature and would not generate excessive noise over a long duration of time. Many of the accessory agricultural uses promoted by the project are anticipated to result of limited construction equipment operations as they will likely be located on existing developed sites or will not require substantial new development, resulting in minimal or no grading.

All future construction related to the proposed project would be required to comply with the County's Noise Ordinance Section 36.408, which establishes limits on hour of operation for construction equipment, as well as Sections 36.409 and 36.410, which sets sound level limits on construction equipment (including impulsive type noise sources). In summary, the ordinance prohibits operating construction equipment on the following days and times.

- Mondays through Saturdays, except between the hours of 7 a.m. and 7 p.m.
- Sundays or a holiday (January 1, the last Monday in May, July 4, the first Monday in September, December 25, and any day appointed by the president as a special national holiday or the governor of the state as a special state holiday). A person may, however, operate construction equipment on a Sunday or holiday between the hours of 10 a.m. and 5 p.m. at the person's residence provided compliance with Sections 36.409 and 36.410 of the County's Noise Ordinance.

The code also requires that between 7 a.m. and 7 p.m. no construction equipment be operated so as to cause an 8-hour average construction noise level in excess of 75 dBA when measured at the boundary line of the property where the noise source is located, or on any occupied property where the noise is being received. Primary noise-generating activities typically occur during the site preparation and grading phase of a project, which is a temporary activity. Additionally, the accessory agricultural uses are anticipated to be located on existing developed sites, resulting in minimal or no grading. It is expected that any future construction of the accessory agriculture uses that would be promoted under the proposed project would not exceed the County's standard of an 8-hour average of 75 dBA at the property line. Therefore, it is not expected that construction activities would violate the County's noise regulations. **Construction impacts associated with the**

proposed project are considered to be less than significant, and no mitigation measures are included for construction.

Operational Impacts

Generally, onsite operational noises associated with the project would consist of typical agricultural noises related to machinery, animals, and vehicles, all of which would be increased somewhat with adoption of the proposed amendments to the Zoning Ordinance. Project impacts for both off- and onsite noises are discussed in this section. Operational noises associated with agricultural homestays, agricultural stands, animal raising, and aquaponics/fish markets are anticipated to be minimal as they do not typically involve a large amount of noisy machinery and do not involve a substantial amount of new visitor or supporting vehicle trips. Operational characteristics associated with agricultural stores, agricultural microbreweries, cideries, and micro-distilleries, and wineries are anticipated to generate the most visitors (of the uses associated with the proposed project) and also involve machinery and equipment that can be associated with higher levels of noise generation. These various uses are discussed further below.

Agricultural Homestay

Agricultural homestays would involve some incremental addition of employees, and while some daily trips would increase, they would not be expected to have a considerable increase in traffic volume or associated traffic noise. Operations on an agricultural homestay would increase somewhat with the addition of more temporary workers on a given agricultural property. As such, the general use of typical agricultural equipment, such as tractors and other motorized equipment and vehicles, would increase relative to existing conditions; however, because agricultural homestays would include lodging in an existing residence or a separate 500-square-foot cabin, the use of additional noise-generating equipment would not be anticipated to be noticeable from surrounding properties or exceed any established noise standards, nor are onsite noises anticipated to be noticeably louder with the promotion of agricultural homestays within A70, A72, RR, S90, or S92 zones.

Agricultural Roadside Stands

It is not anticipated that a trip would be created specifically to visit a roadside stand. Instead, it is more likely that patrons of a roadside stand would stop along the way to another destination, and as such, the promotion of roadside stands would not result in a significant impact related to either on- or offsite noise. Also, an agricultural stand may require the addition of another employee to operate the stand; however, the onsite noises associated with an additional employee are not anticipated to result in a violation of any County noise requirements, and impacts would remain less than significant.

Agricultural Stores, Microbreweries, Cideries, and Micro-Distilleries, and Wineries

Operational characteristics associated with agricultural stores, agricultural microbreweries, cideries, and micro-distilleries, and wineries are anticipated to generate the most visitors (of the uses associated with the proposed project) due to the fact that they would have tasting rooms and/or retail areas that would serve visitors that would typically arrive by a personal vehicle. These topics were also the focus of the traffic study prepared for the project (Appendix E). Furthermore, because most agricultural areas are in more remote or rural areas, public transportation or other non-motorized means of transportation (e.g., walking or bicycling) are not anticipated. Agricultural

stores, both small and large, as well as agricultural microbreweries, cideries, and micro-distilleries, and wineries would attract retail customers and could result in an increase in offsite traffic noise that could exceed the County's CNEL limits in the General Plan Noise Element; however, onsite noise increases are not expected to result in a significant impact. Operations on site would increase relative to the amount of visitors/customers on the site, and typical noises such as driving/parking and congregating would somewhat increase on each individual parcel with a small or large agricultural store, agricultural microbrewery, cidery, or micro-distillery, or winery. These onsite increases in activities are not expected to violate any noise regulations. Furthermore, the proposed language to the Zoning Ordinance specifically prohibits events such as weddings and concerts from occurring in conjunction with a small agricultural store and prohibits amplified sound for agricultural microbreweries, cideries, and micro-distilleries, and wineries.

Large agricultural stores and large microbreweries, cideries, and micro-distilleries would be required to obtain an Administrative Permit and would have to specify any special events that would occur on the site. Although small agricultural stores and small agricultural microbreweries, cideries, and micro-distilleries would be allowed pursuant to approval of a ministerial action (e.g., a Zoning Verification Permit), large agricultural stores and large agricultural microbreweries, cideries, and micro-distilleries, and wineries would require a discretionary permit (e.g., Administrative Permit). A grading permit is anticipated for either type of agricultural store or agricultural microbrewery, cidery, and micro-distillery (e.g., small and large). As part of the County's permit review process, all discretionary projects are evaluated under CEQA and would be required to implement measures to minimize impacts relative to excessive noise levels.

Potential offsite noise sources, including vehicular traffic and delivery trucks, could potentially result in significant noise impacts. Agricultural stores, both large and small, as well as agricultural microbreweries, cideries, and micro-distilleries, and wineries would also generate additional trips to agricultural areas and result in operational noise increases which could exceed the County's Noise Element CNEL depending on how many are developed and where they are located. During harvest periods, operations on sites with agricultural microbreweries, cideries, and micro-distilleries and wineries would involve additional noises associated with harvesting equipment, with an increase in overall activities on the property, including additional employees and additional vehicle trips that could result in significant on- and offsite noises.

Agricultural Tourism

Agricultural tourism would involve onsite tours, educational activities, and u-pick operations, all of which would somewhat increase noise levels on site. Pursuant to the proposed regulations, no amplified sound would be permitted associated with these events, and it is anticipated that any increase in noise from additional visitors and operation of typical farm equipment would not exceed any established noise standards in the County. Some additional trips would increase relative to existing conditions; however, it is not anticipated that agricultural tourism would result in enough additional trips to potentially exceed any CNEL noise contours or other noise policies included in the Noise Element of the County's General Plan. **Impacts would remain less than significant.**

Animal Raising

For animal raising, the increase in animals would somewhat increase animal noises on a given site; however, the addition of animals is not expected to result in an increase that would result in a violation or exceedance of any County-established noise regulations in the Zoning Code or General Plan. Also, because animal raising regulations are not related to any retail or other commercial

activities that would promote or increase traffic on a regular basis, **it is not expected that the proposed changes to animal raising would result in offsite noise impacts associated with traffic.**

Aquaponics

The operation of aquaponics on an agricultural property would be required to comply with Section 36.401 of the San Diego County Code of Regulatory Ordinances relating to noise abatement and control. If necessary, applicants would be required to install noise barriers around noise-generating equipment to comply with the County's Ordinance. Regarding offsite noises associated with traffic, aquaponics on agricultural properties would not have a retail component as fish markets would be held at farmer's markets on commercial or school properties. As such, aquaponics would not have any retail or other commercial components that would increase traffic to a level that would violate any community noise level standards established in the County's General Plan. **Impacts would remain less than significant.**

Creameries/Dairies

Implementation of the proposed creamery/dairy uses could result in individual development projects involving up to a 4,000-square-foot building; construction of ancillary parking areas, driveways, fences, and outdoor seating; and an increase in site activity related to additional visitors and new employees. Creamery/dairy uses would require the development of non-residential structures to support the production of butter, cream, milk, or cheese within an enclosed building, and would also require indoor space for product storage intended for wholesale sales as well as retail sales. The proposed amendments to the County's Zoning Ordinance for creameries/dairies include specific language that all operations must comply with the provisions of Section 36.401 of the County's Zoning Code as it relates to noise abatement. **However, similar to agricultural stores and microbreweries, which are discussed above, increased vehicle trips could result in potentially significant impacts.**

Fishermen's Markets

Fishermen's markets involve the retail sale of fish to the general public on a temporary basis and in commercial or school areas, likely in conjunction with a farmers' market. While some noises would be temporarily generated related to attracting customers in an outdoor setting, these noises would consist of some additional vehicles, people talking, and employees setting up and breaking down an outdoor tent or booth structure. These noises would also occur from other vendors if in conjunction with a farmers' market. Because these increases in noise would be typical of a farmers' market and would consist of people talking and employees setting up an outdoor booth, **it is not expected that the promotion of fishermen's markets would exceed any local regulations pertaining to noise.**

Mobile Butchering

Mobile butchering operational noises would introduce new noises to agricultural areas when in operation associated with animal processing equipment inside a mobile unit; however, the increases would be temporary and are not anticipated to result in noise levels that would exceed any County standards. As described in the Zoning Ordinance update language, several requirements for mobile butchering operations would be enforced that would reduce associated noises. Specifically, as stated in proposed Section 6126, setbacks requirements would require at least 25 feet from a property line and hours of operation would be during daytime hours, generally 7 a.m.–8 p.m., Monday through

Saturday, and 9 a.m.–6:00 p.m. on Sundays. No offsite or traffic-related noise increases are assumed with operation of a mobile butchering business, except for the individual trip of the butchering vehicle itself. As such, **on- and offsite noise impacts during the operation of mobile butchering activities on agricultural properties are anticipated to remain less than significant** and no mitigation measures are necessary.

Summary

In summary, the proposed amendments to the County's Zoning Ordinance for agricultural microbreweries, cideries, and micro-distilleries, wineries, and creameries/dairies include specific language that all operations must comply with the provisions of Section 36.401 of the County's Zoning Code as it relates to noise abatement. However, these requirements in the proposed Zoning Ordinance updated language and the existing Noise Ordinance requirements do not address vehicle noise. Therefore, new vehicular traffic and delivery trucks associated with the accessory uses could contribute to increases in offsite noise, and in some select areas could contribute to noise levels that exceed County standards. Because there is no guarantee that offsite noise sources related to increases in traffic that would be generated from future microbreweries/cideries/micro-distilleries, stores, and wineries in the unincorporated County would not result in significant impacts, **potential future offsite noise impacts during operations are considered to be potentially significant (Impact N-1)**.

2.6.3.2 Excessive Groundborne Vibration

Guidelines for the Determination of Significance

The following significance guideline from Appendix G of the State CEQA Guidelines applies to both the direct and cumulative impact analyses. A significant impact would result if the project would:

- Result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

Analysis

Groundborne vibration is typically associated with high impact construction equipment, such as a pile driver, or with vibrations from non-impact construction activity, such as automobile or truck traffic. Vibration from truck traffic is typically below the threshold of perception when the activity is more than about 50 feet from a noise receptor.

Any future site-specific projects that would implement the proposed changes to the County's Zoning Ordinance are not anticipated to require the use of high-impact construction equipment to erect accessory agricultural structures, such as an agricultural store or microbrewery. Likewise it is not anticipated that any of the proposed accessory agricultural operations would result in additional truck traffic within 50 feet of a noise receptor. For projects that would require a discretionary permit, including large agricultural microbreweries, cideries, and micro-distilleries, wineries, and some animal raising projects, additional CEQA review would be required, which would include consideration of potential impacts related to excessive groundborne vibration. However, **none of the components of the proposed project are anticipated to result in significant impacts related to groundborne vibration and impacts would be less than significant**.

2.6.3.3 Permanent Increase in Ambient Noise Levels

Guidelines for the Determination of Significance

The following significance guideline from Appendix G of the State CEQA Guidelines applies to both the direct and cumulative impact analyses. A significant impact would result if the project would:

- Cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the proposed project.

Analysis

Vehicle Traffic Noise

Operational vehicle traffic would vary depending on the use, and the various average daily trip rates for each accessory agricultural use is provided as Appendix E and also presented in Section 2.7, *Transportation and Traffic*. These trips would consist of employee and visitor trips and also some delivery trips. The number of trips would be greatest for the agricultural microbreweries, cideries, and micro-distilleries and wineries, as these facilities are anticipated to have the largest commercial spaces and attract the most visitors. Employees at these facilities would also likely outnumber employees related to other accessory agricultural uses included as part of the proposed project. As shown in the Traffic Study, increases in vehicles could represent as much as a 78 percent increase (Rainbow community) and as much as 70,000 new trips (Valley Center community). Both of these communities are considered rural, and with the addition of a large increase in the Rainbow community and a large number of overall trips in the Valley Center community, **it is possible that a substantial permanent increase in ambient noise levels could result in significant environmental impacts (Impact N-2).**

Onsite Generated Noise

Accessory agricultural operations that would be implemented with adoption of the proposed project would result in permanent increases in land use activities, thereby resulting in additional employees/farm workers and additional visitors for commercial operations. Permanent increases in noises related to agricultural homestays, agricultural tourism, and animal raising would mostly be limited to some additional employees on a particular property, and as such, noises associated with operating machinery and driving tractors and trucks would somewhat increase; however, it is not expected that these onsite increases would exceed limits in the County's Noise Ordinance. Therefore, they would not result in a substantial permanent increase in ambient noise levels in the project vicinity.

Mobile butchering would involve the use of processing equipment (e.g., animal processing equipment), refrigeration units, diesel generators, and hot water heaters. The proposed amendment language to the Zoning Ordinance as it relates to mobile butchering onsite operations would restrict operations from occurring more than six times per year and not more than 3 consecutive days on the same property or within 1 mile of another property used for mobile butchering by the same owner. Hours of operation would also be restricted to daytime hours and operations would obey a setback requirement of 25 feet from any property line, as well as the noise limits in the Noise Ordinance. As such, mobile butchering operations would not be permitted to occur on a regular or permanent basis, and any increases in noise would be temporary and periodic.

Although the growing season would not be year round, agricultural microbreweries, cideries, and micro-distilleries, and wineries could operate and sell products on a regular basis and result in permanent increases in onsite noise. Agricultural microbreweries, cideries, and micro-distilleries, and wineries would involve the use of processing equipment (e.g., hops separators, grape crushers), refrigeration units, and pest control devices, such as bird alarms, all of which are regulated by the Noise Ordinance and discussed above. Large agricultural microbreweries, cideries, and micro-distilleries, agricultural stores, and wineries would result in additional customers on site, and some increases in noise would result from general conversation and vehicles parking, for example. Small agricultural microbreweries, cideries, and micro-distilleries would not permit retail sales, tasting rooms, or onsite sales of any kind.

The proposed project includes some requirements for specific uses that would reduce potential noise increases. For instance, tasting rooms would not be allowed to operate before 10 a.m. or after legal sunset and would not allow events, including but not limited to weddings and parties. Approval of the proposed Zoning Ordinance amendments would adopt new regulations that would promote these uses to be implemented on active agricultural properties either by right (wineries), ministerial permit approval (a Zoning Verification Permit for small microbreweries, cideries, and micro-distilleries), or a discretionary permit (an Administrative Permit for large microbreweries, cideries, and micro-distilleries). It is also possible that a discretionary grading permit would be required for the development of any of these uses. Under those circumstances where future discretionary review is required, more detailed CEQA review would also occur at that time. As part of this review, each individual project would be required to demonstrate compliance with the County's Noise Ordinance. Due to the rural nature of most active agricultural properties and the promotion of accessory uses on these properties, the increased onsite operations that could occur may considerably increase noise levels in the vicinity to a level that would be considered substantial. **It is therefore expected that the increased onsite activities would result in a significant environmental impact related to a permanent increase in ambient noise levels (Impact N-3).**

2.6.3.4 Temporary or Periodic Increase in Ambient Noise Levels

Guidelines for the Determination of Significance

The following significance guideline from Appendix G of the State CEQA Guidelines applies to both the direct and cumulative impact analyses. A significant impact would result if the project would:

- Cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the proposed project.

Analysis

Adoption of the proposed project is not expected to result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity. Construction related to the proposed project would consist primarily of building structures up to 5,000 square feet, none of which are anticipated to result in substantial temporary or period increases in ambient noise levels compared to existing noise conditions. Construction activities including, but not limited to, site grading, truck/construction equipment movement, engine noise, and rock excavation would have the potential to result in the exposure of on- or offsite areas to noise in excess of the standards listed in the County Code Sections 36.408 and 36.409. Typical construction equipment noise levels are provided in Table 2.6-5. Construction activities would generate some additional temporary traffic on

project area roadways related to equipment and materials deliveries and if contractors or other construction workers are retained to construct any structures. It is expected that most of the structures that would be developed associated with implementing the proposed project would not require extensive construction timeframes, and any temporary increases in noise related to construction would remain less than significant. As stated previously, most of the proposed accessory agricultural uses would require a grading permit and would prepare additional CEQA analysis on a project-by-project basis in the future. However, it is not anticipated that any accessory uses would result in significant temporary noise impacts. Accessory uses that would not necessarily involve structures include agricultural homestays (if using existing structures for housing), agricultural tourism, animal raising, fish markets, and mobile butchering uses. No periodic increases in construction are anticipated for these uses. Overall, **impacts related to periodic or temporary increases in noise during construction would remain less than significant.**

2.6.3.5 Airport-Related Noise Exposure

Guidelines for the Determination of Significance

Pursuant to a recent California Supreme Court ruling on *California Building Industry Association (CBIA) v. Bay Area Air Quality Management District (BAAQMD)* (Case No. S213478, December 17, 2015), CEQA does not require analysis of how existing environmental conditions will impact a project's future users or residents. Therefore, significance thresholds are not established for this topic. However, Public Resources Code Section 21096(a) requires that an EIR discuss airport-related noise problems if the project is located within 2 miles of a public use airport. Therefore, an assessment of airport-related noise issues is provided below.

Analysis

Six public airports are located in the unincorporated County: Agua Caliente Airstrip (Desert Subregion), Borrego Valley Airport (Desert Subregion), Fallbrook Community Airpark (Fallbrook CPA), Jacumba Airport (Mountain Empire Subregion), Ocotillo Airstrip (Desert Subregion), and Ramona Airport (Ramona CPA). Most of these include some agricultural uses within 2 miles of the airports; thus, the proposed project could result in new accessory agricultural uses in proximity to existing airports. Airport Land Use Compatibility Plans have been prepared by the San Diego Regional Airport Authority for all of these airports. These ALUCPs include noise compatibility policies for reviewing new development as well as current and future noise levels that are generated by the airport. The County of San Diego has established a zoning overlay congruent with each airport's AIA, which establishes the County's ALUCP Area Regulations. These regulations require that "[n]ew development, redevelopment, expansions, conversions and other uses of land located within the AIA of an adopted ALUCP for which County approval or permit are required shall be reviewed against the established criteria and policies of the ALUCP." Furthermore, "[u]nless the property is already devoted to the proposed incompatible use or the ALUCP is overridden by the County in a manner which renders the use compatible with the ALUCP, the proposal, must comply with the established policies and criteria of the applicable ALUCP." As a result, potential noise issues would be addressed through the County's review and application of the ALUCP noise compatibility policies, and **impacts from airport-related noise exposure would be less than significant.**

2.6.4 Cumulative Impacts Analysis

The geographic scope of cumulative impact analysis for noise is limited to areas surrounding noise-generating sources, such as roadways, agricultural, or industrial uses, because noise impacts are localized in nature. Geographic scope can be the entire area within which the resource has the potential to occur. For the purpose of this EIR, the geographic scope for the cumulative analysis of noise impacts includes the San Diego region.

2.6.4.1 Noise Exposure

A cumulative noise impact resulting from past projects would occur if construction and operation associated with cumulative regional land use projects, such as those identified in adjacent city and county general plans and regional transportation plans, would exceed the noise compatibility guidelines and standards of the Noise Element. However, development and construction proposed under most cumulative projects would be subject to regulations that require compliance with noise standards, such as those contained in the State of California Code of Regulations and those required by the Office of Surface and Mining. Although the County has adopted measures and plans designed to regulate and address noise levels in the County, past projects have resulted in a cumulative impact.

As discussed previously, implementation of the proposed project would be required to comply with the County's Noise Compatibility Guidelines, General Plan Noise Element Noise Standards, and Noise Ordinance prior to approval. Additionally, as part of the County's discretionary review process, future discretionary projects would be evaluated under CEQA and would be required to implement measures to minimize impacts on ambient noise. However, past, present, and future projects in San Diego County could continue to result in immitigable noise impacts. When the significant project-level impact on noise (Impact N-1) is considered at the cumulative level, **the project's contribution to a cumulative impact is considered to be significant (Impact N-4).**

2.6.4.2 Excessive Groundborne Vibration

A cumulative groundborne vibration impact would occur if one or more cumulative projects would result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels. As groundborne vibration is typically associated with construction, several construction projects within proximity of one another would have to simultaneously occur in order to combine and create a significant cumulative impact as a result of groundborne vibration. As such, a cumulative impact related to excessive groundborne vibration is not present in the cumulative study area. At the project level, there are no specific plans or time scales for individual construction projects, and it is not possible to determine exact vibration levels, locations, or time periods for construction. Regardless, individual projects would mostly involve construction of structures not typically associated with groundborne vibration. Therefore, cumulative projects are not expected to result in a cumulatively considerable impact.

All future development associated with the proposed project would be required to comply with the County's Noise Compatibility Guidelines, General Plan Noise Element Noise Standards, and Noise Ordinance prior to approval and are anticipated to meet the vibration limits shown in Tables 2.6-3 and 2.6-6. Therefore, implementation of the proposed project **would not contribute to a cumulatively considerable impact regarding groundborne vibration. Impacts would remain less than significant.**

2.6.4.3 Permanent Increase in Ambient Noise Levels

A cumulative noise impact would occur if construction and development associated with cumulative regional land use projects, such as those identified in adjacent city and county general plans and regional transportation plans, when combined would result in a substantial permanent increase in ambient noise in the project vicinity above levels existing without the proposed projects. For example, the extension of State Route (SR) 905 from I-805 to the U.S.–Mexico international border and widening of SR-94 from SR-125 to Jamacha Road would result in a permanent increase in ambient noise due to an increase in roadway noise. Past projects have resulted in a permanent increase in ambient noise levels and a cumulatively significant impact has occurred.

Future implementation of the proposed project would be required to comply with the County's Noise Compatibility Guidelines, General Plan Noise Element Noise Standards, and Noise Ordinance prior to approval. Additionally, as part of the County's discretionary review process, future discretionary projects would be evaluated under CEQA and would be required to implement measures to minimize impacts on ambient noise. However, larger projects, such as the agricultural microbreweries and wineries, could potentially contribute to an increase in ambient noise levels. Because there is no guarantee on a project-specific level that mitigation measures will reduce impacts to a level below significant, **the proposed project would potentially contribute to a cumulatively considerable impact (N-5).**

2.6.4.4 Temporary or Periodic Increase in Ambient Noise Levels

A cumulative noise impact would occur if construction associated with one or more projects in proximity to one another would result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the proposed projects. However, as there are no specific plans or time scales for individual projects, it is not possible to determine exact noise levels, locations, or time periods for construction. Additionally, projects would have to be constructed close together to result in a cumulative impact. Construction projects in incorporated jurisdictions would be subject to noise standards and limits for the jurisdiction in which they are proposed. Projects proposed on tribal lands would not be subject to County of San Diego noise regulations and standards; however, potential construction noise-related impacts in these areas would be temporary and limited to the area immediately surrounding the project. Similarly, a cumulative nuisance noise impact would occur if noise associated with one or more land uses in an area would result in combined noise levels that would temporarily increase ambient noise levels beyond the standards in the County Noise Ordinance. However, these events would be short-term and event-specific in nature. Therefore, **a potentially cumulatively considerable impact associated with temporary increases in ambient noise levels is not anticipated to occur.**

2.6.5 Significance of Impacts Prior to Mitigation

The proposed project would result in potentially significant impacts related to noise levels in excess of County standards (**Impacts N-1, direct/indirect** and **N-4, cumulative**), and permanent increase in ambient noise levels (**Impacts N-2 and N-3, direct/indirect**, and **N-5, cumulative**) as a result of accessory agricultural development. The proposed project would not result in potentially significant impacts associated with excessive groundborne vibration or excessive noise exposure from airports.

2.6.6 Mitigation Measures

2.6.6.1 Excessive Noise Levels

The proposed project would amend current regulations related to accessory agricultural projects that may directly or indirectly result in noise levels in excess of County standards (**Impacts N-1, direct/indirect and N-4, cumulative**). These noise impacts would remain significant and unavoidable. Chapter 4, *Project Alternatives*, provides a discussion of alternatives to the proposed project. Although this would result in a reduced project area with fewer new agricultural uses reducing the overall noise levels, there is no guarantee that mitigation measures would reduce impacts to a level below significant. Therefore, the Reduced Project Area Alternative would result in significant and immitigable impacts.

2.6.6.2 Excessive Groundborne Vibration

The project would not result in any significant impacts due to excessive groundborne vibration, and no mitigation measures are required.

2.6.6.3 Permanent Increase in Ambient Noise Levels

The proposed project would amend current regulations related to accessory agricultural projects that may directly or indirectly result in a substantial permanent increase in ambient noise levels (**Impacts N-2 and N-3, direct/indirect and N-5, cumulative**). These impacts would remain significant and unavoidable. Chapter 4, *Project Alternatives*, provides a discussion of alternatives to the proposed project. Although this would result in a reduced project area with fewer new agricultural uses reducing the overall noise levels, there is no guarantee that mitigation measures would reduce impacts to a level below significant. Therefore, the Reduced Project Area Alternative would result in significant and immitigable impacts.

2.6.6.4 Temporary or Period Increase in Ambient Noise Levels

The project would not result in any significant impacts due to temporary or period increases in ambient noise levels, and no mitigation measures are required.

2.6.6.5 Airport-Related Noise Exposure

The project would not result in any significant impacts related to airport-related noise exposure, and no mitigation measures are required.

2.6.7 Conclusion

2.6.7.1 Excessive Noise Levels

Implementation of the proposed accessory agricultural uses under the proposed project would result in significant impacts relative to noise receptors (**Impacts N-1 and N-4**). These noise impacts would remain significant and unavoidable.

2.6.7.2 Excessive Groundborne Vibration

The proposed project would not result in a significant adverse effect due to exposing people to or generating excessive groundborne vibration or groundborne noise levels.

2.6.7.3 Permanent Increase in Ambient Noise Levels

Implementation of the proposed accessory agricultural uses under the proposed project would result in significant impacts relative to a permanent increase in ambient noise (**Impacts N-2, N-3, and N-5**).

2.6.7.4 Temporary or Periodic Increase in Ambient Noise Levels

The proposed project would not result in a significant adverse effect due to temporary or periodic increase in ambient noise levels.

Table 2.6-1. Hearing Thresholds in the Infrasonic and Low Frequency Range

Frequency (Hz)	4	8	10	16	20	25	40	50	80	100	125	160	200
Sound pressure level (dB)	107	100	97	88	79	69	51	44	32	27	22	18	14

Table 2.6-2. Typical A-Weighted Sound Levels Measured in the Environment and Industry

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

Source: Caltrans (2009).

^a dBA = A-Weighted Decibel

Table 2.6-3. Guidelines for Determining the Significance of Groundborne Vibration and Noise Impacts for Special Buildings

Type of Building or Room	Groundborne Vibration Impact Levels (inches/second RMS)		Groundborne Vibration Impact Levels (dB re 20 microPascals)	
	Frequent Events ^a	Occasional or Infrequent Events ^b	Frequent Events ^a	Occasional or Infrequent Events ^b
Concert Halls, TV Studios, and Recording Studios	0.0018	0.0018	25 dBA	25 dBA
Auditoriums	0.0040	0.010	30 dBA	38 dBA
Theatres	0.0040	0.014	35 dBA	43 dBA

Source: FTA 2006

^a *Frequent Events* is defined as more than 70 vibration events per day. Most rapid transit projects fall into this category.^b *Occasional or Infrequent Events* are defined as fewer than 70 vibration events per day. This combined category includes most commuter rail systems.**Table 2.6-4. San Diego County Noise Ordinance Sound Level Limits (Table 36.404)**

Zone	Applicable Limit 1-Hour Average Sound Level (dB)		
	7 a.m. to 7 p.m.	7 p.m. to 10 p.m.	10 p.m. to 7 a.m.
(1) RS, RD, RR, RHM, A70, A72, S80, S81, S87, S90, S92, RV, and RU with a density of less than 11 dwelling units per acre	50	50	45
(2) RRO, RC, RM, C30, S86, V5 and RV and RU with a density of 11 or more dwelling units per acre	55	55	50
(3) S94, V4, and all other commercial zones	60	60	55
(4) V1, V2	60	55	See below
V1	60	55	55
V2	60	55	50
V3	70	70	65
(5) M50, M52, and M54	70	70	70
(6) S82, M56, and M58	75	75	75
(7) S88			

Source: Caltrans (2009).

Note: S88 zones are Specific Planning Areas which allow different uses. The sound level limits above that apply in an S88 zone depend on the use being made of the property. The limits in subsection (1) apply to property with a residential, agricultural or civic use. The limits in subsection (3) apply to property with a commercial use. The limits in subsection (5) apply to property with an industrial use that would only be allowed in an M50, M52, or M54 zone. The limits in subsection (6) apply to all property with an extractive use or a use that would only be allowed in an M56 or M58 zone.

Table 2.6-5. Typical Construction Equipment Noise Levels

Equipment	Typical Noise Level (dBA) at 50 feet from source
Air Compressor	81
Backhoe	80
Compactor	82
Concrete Mixer	85
Crane, Derrick	88
Dozer	85
Grader	85
Jack Hammer	88
Loader	85
Paver	89
Pile-Drive (Impact)	101
Pump	76
Roller	74
Scraper	89
Truck	88

Source: County of San Diego 2011a;2.11-59.

Table 2.6-6. Guideline for Determining the Significance of Groundborne Vibration and Noise Impacts

Land Use Category	Groundborne Vibration Impact Levels (inches/second RMS)		Groundborne Vibration Impact Levels (dB re 20 microPascals)	
	Frequent Events ^a	Occasional or Infrequent Events ^b	Frequent Events ^a	Occasional or Infrequent Events ^b
Category 1: Buildings where low ambient variation is essential for interior operations (research and manufacturing facilities with special vibration constraints)	0.0018 ^c	0.0018 ^c	N/A	N/A
Category 2: Residences and buildings where people normally sleep (hotels, hospitals, residences, and other sleeping facilities)	0.0040	0.010	35 dBA	43dBA
Category 3: Institutional land uses with primary daytime use (schools, churches, libraries, other institutions, and quiet uses)	0.0056	0.014	40 dBA	48dBA

Source: FTA 2006

^a *Frequent Events* is defined as more than 70 vibration events per day. Most rapid transit projects fall into this category.

^b *Occasional or Infrequent Events* are defined as fewer than 70 vibration events per day. This combined category includes most commuter rail systems.

^c This criterion limit is based on a level that is acceptable for most moderately sensitive equipment such as optical microscopes. Vibration-sensitive manufacturing or research will require detailed evaluation to define acceptable vibration levels. Ensuring lower vibration levels in a building often requires special design on HVAC systems and stiffened floors.