

### 4.12.1 INTRODUCTION

This section addresses the potential noise impacts from short- and long-term activities associated with the Project. This section includes an analysis based upon the 2003 *Riverside County General Plan* (GPA No. 618), Noise Element, *General Plan EIR No. 441* (2003), Riverside County Ordinance No. 847, traffic levels within the Project area based upon the Project's *Traffic Impact Analysis* (Appendix I) prepared by Fehr and Peers, dated November 2011, the *Southwest Area Plan*, proposed Temecula Valley Wine Country Policy Area (2011), Wine Country zones of Ordinance No. 348, and the *Temecula Valley Wine Country Design Guidelines*. This section analyzes the potential of the Project to result in any significant impacts with regards to noise. Detailed noise measurement data and noise modeling results are contained in Appendix G.

### 4.12.2 EXISTING CONDITIONS

#### 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 Table 4.12-1, *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 4.12-2, *Noise Descriptors*.

Table 4.12-1  
Sound Levels and Human Response

Noise Source	dB(A) Noise Level	Response
	<b>150</b>	
Carrier Jet Operation	<b>140</b>	Harmfully Loud
	<b>130</b>	Pain Threshold
Jet Takeoff (200 ft.) Discotheque	<b>120</b>	
Unmuffled Motorcycle Auto Horn (3 ft.) Rock'n Roll Band Riveting Machine	<b>110</b>	Maximum Vocal Effort Physical Discomfort
Loud Power Mower Jet Takeoff (2000 ft.) Garbage Truck	<b>100</b>	Very Annoying Hearing Damage (Steady 8-Hour Exposure)
Heavy Truck (50 ft.) Pneumatic Drill (50 ft.)	<b>90</b>	
Alarm Clock Freight Train (50 ft.) Vacuum Cleaner (10 ft.)	<b>80</b>	Annoying
Freeway Traffic (50 ft.)	<b>70</b>	Telephone Use Difficult
Dishwashers Air Conditioning Unit (20 ft.)	<b>60</b>	Intrusive
Light Auto Traffic (100 ft.)	<b>50</b>	Quiet
Living Room Bedroom	<b>40</b>	
Library Soft Whisper (15 ft.)	<b>30</b>	Very Quiet
Broadcasting Studio	<b>20</b>	Just Audible
	<b>10</b>	Threshold of Hearing

Source: Melville C. Branch and R. Dale Beland, *Outdoor Noise in the Metropolitan Environment*, page 2, 1970.

### **Health Effects of Noise**

Human response to sound is highly individualized. Annoyance is the most-common issue regarding community noise. The percentage of people claiming to be annoyed by noise generally increases with the environmental sound level. However, many factors also 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 range from "not annoyed" to "highly annoyed."

Table 4.12-2  
Noise Descriptors

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

Source: Harris, Cyril M., *Handbook of Acoustical Measurement and Noise Control*, 1991.

When the noise level of an activity rises above 70 dBA, the chance of receiving a complaint is possible, and as the noise level rises, dissatisfaction among the public steadily increases. However, an individual's reaction to a particular noise depends on many factors, such as the source of the sound, its loudness relative to the background noise, 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.

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.

Although it often causes discomfort and sometimes pain, noise-induced hearing loss usually takes years to develop. Noise-induced hearing loss can impair the quality of life through a reduction in the ability to hear important sounds and to communicate with family and friends. Hearing loss is one of the most obvious and easily quantified effects of excessive exposure to noise. While the loss may be temporary at first, it could become permanent after continued exposure. When combined with hearing loss associated with aging, the amount of hearing loss directly caused by the environment is difficult to quantify. Although the major cause of noise-induced hearing loss is occupational, substantial damage can be caused by non-occupational sources.

According to the United States Public Health Service, nearly ten (10) 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.

Recent research indicates that more moderate noise levels can produce disruptive after-effects, commonly manifested as a reduced tolerance for frustration, increased anxiety, decreased incidence of “helping” behavior, and increased incidence of “hostile” behavior. Noise has been implicated in the development or exacerbation of a variety of health problems, ranging from hypertension to psychosis. As with other categories, quantifying these effects is difficult due to the amount of variables that need to be considered in each situation. As a biological stressor, noise can influence the entire physiological system. Most effects seem to be transitory, but with continued exposure some effects have been shown to be chronic in laboratory animals.

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.

### **Vibration**

Vibration is the periodic oscillation of a medium or object with respect to a given reference point. Sources of vibration include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) and those introduced by human activity (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, (e.g., operating factory machinery or transient in nature, explosions). Vibration levels can be depicted in terms of amplitude and frequency, relative to displacement, velocity, or acceleration. Vibration amplitudes are commonly expressed in peak particle velocity (PPV) or root-mean-square (RMS) vibration velocity. PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is typically used in the monitoring of transient and impact vibration and has been found to correlate well to the stresses experienced by buildings. PPV and RMS vibration velocity are normally described in inches per second (in/sec).

Although PPV is appropriate for evaluating the potential for building damage, it is not always suitable for evaluating human response. The response of the human body to vibration relates well to average vibration amplitude; therefore, vibration impacts on humans are evaluated in terms of RMS vibration velocity. Similar to airborne sound, vibration velocity can be expressed in decibel notation as vibration decibels (VdB). The logarithmic nature of the decibel serves to compress the broad range of numbers required to describe vibration.

Background vibration levels in most inhabited areas are usually 50 VdB or lower, well below the threshold of perception (i.e., typically about 65 VdB). In most cases, when environmental vibration is perceptible, people are in their homes, workplaces, etc., with the vibration source within the same building (i.e., operation of heating, ventilation and air-conditioning [HVAC] equipment, movement of other occupants, slamming of doors, etc.). The outdoor sources most commonly responsible for producing perceptible vibration are heavy construction equipment, steel-wheeled trains, and motor vehicle traffic on rough roads; if roadways are smooth, the vibration from traffic is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration velocity level, and 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. The general human response to different levels of groundborne vibration velocity levels is identified in Table 4.12-3, *Human Response to Different Levels of Groundborne Vibration*.

Table 4.12-3  
Human Response to Different Levels of Groundborne Vibration

Vibration Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception for many people.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.

Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, pages 7-5 and 7-6, May 2006.

### Ambient Noise Levels

A survey of the existing noise environment was conducted on August 18, 2011. The purpose of the noise survey was to document the existing noise environment and capture the noise levels associated with typical daily operations and activities in the Project area. Short-term noise measurements were taken in ten-minute periods. As identified in Table 4.12-4, *Noise Measurements*, and illustrated in Exhibit 4.12-1, *Noise Measurement Locations*, a total of ten locations were monitored to represent existing ambient noise levels.

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 (ANSI) for Type I (precision) sound level meters. The measured short-term noise levels ranged from 49.4 to 68.1 dBA  $L_{eq}$ .

Table 4.12-4  
Noise Measurements

Site No.	Location	$L_{eq}$ (dBA)	$L_{min}$ (dBA)	$L_{max}$ (dBA)	$L_{peak}$ (dBA)	Time
1	Corner of Los Caballos Road and Santa Rita Road	49.5	30.9	70.7	97.0	11:10 a.m.
2	Billy Joe Street (near a rural residential unit)	49.4	30.8	69.2	96.4	11:45 a.m.
3	Miramonte Winery Entrance (along Rancho California Road)	66.3	40.4	82.3	100.9	12:13 p.m.
4	Wilson Creek Winery parking lot (off of Rancho California Road)	54.0	44.1	74.5	97.2	3:46 p.m.
5	Borel Road (between Avenue Armada and Azusa Street)	68.1	33.2	83.5	100.0	1:05 p.m.
6	Vacant lot along Glen Oaks Road	60.4	32.3	78.1	97.1	1:30 p.m.
7	Spring Valley Road (near Tualota Creek Ranch)	50.4	35.5	72.8	99.6	2:02 p.m.
8	Monte De Oro Road (east of Bella Vista Road)	54.8	28.3	76.7	97.6	2:30 p.m.
9	Corner of Calle Nopal and Via Anita	59.0	41.4	78.5	101.3	2:55 p.m.
10	De Portola Road (north of Pulgas Creek Road)	64.4	34.1	80.3	98.0	3:18 p.m.

Source: RBF Consulting, August 18, 2011 (refer to Appendix G for detailed noise measurement data).

Land uses within the Project area include a mixture of agricultural uses, rural residential, and equestrian trails and uses. In general, vehicular traffic is the dominant noise source in the unincorporated Riverside County area. Other noise sources, which contributed to the ambient noise, included engine startups, car doors shutting, lawn mowers, dogs barking, birds chirping, horses neighing, construction equipment, airplane and helicopter over-flight, and trees rustling in the wind. Noise also occurs from other stationary sources as described below.

#### *Vehicular Traffic Noise*

Vehicular noise commonly causes sustained noise levels near busy roadways or freeways. State Route 79 (SR-79) traverses the southern portion of the Project area in a northwest/southeast direction. The Project area also has many local roads that experience high traffic volumes, including Rancho California Road, Glen Oaks Road, Pauba Road, De Portola Road, and Anza Road.

The Federal Highway Administration (FHWA) highway traffic noise prediction model (FHWA RD-77-108) was used to estimate traffic-related noise levels in the Project area. This model requires various parameters, including traffic volumes, vehicle mix, vehicle speed, and roadway geometry to compute typical equivalent noise levels during daytime, evening, and nighttime hours. The average daily traffic (ADT) volumes in the area were obtained from the Project's *Traffic Impact Analysis* (Appendix I). The resultant noise levels are weighed and summed over 24-hour periods to determine the CNEL value. These noise levels represent the worst-case scenarios, which assume that no shielding is provided between the traffic and the location where the noise contours are drawn. Table 4.12-5, *Existing Traffic Noise Levels*, provides the existing (2011) traffic noise levels adjacent to representative segments of the major roads in Project area. As shown in Table 4.12-5, noise within the Project area due to traffic noise ranges from 48.9 dBA (De Portola Road, East of Glenoaks Road) to 80.2 dBA (I-15, north of the Rancho California Road interchange). Overall, the highest levels occurring along I-15, SR-79, Ynez Road, Rancho California Road, Temecula Parkway, and Margarita Road.

#### *Stationary Source Noise*

Stationary noise sources in the Project area are associated with existing residential uses, institutional uses, and commercial (i.e., hotel and winery) uses. In particular, noise source within the Project area includes 29 existing special occasion facilities which are used for events such as parties, weddings, and other social gatherings. Residential areas include heating, ventilation, and air conditioning (HVAC) units and maintenance equipment such as leaf-blowers and gasoline-powered lawnmowers. Commercial uses often included large rooftop-mounted HVAC units and production equipment.

#### *Agricultural Activity Noise*

Agricultural operations may produce significant noise during planting and harvesting times from equipment operation. Agricultural noise may be disturbing to neighboring residential areas, as urban development intrudes into agricultural lands. Agricultural areas may also have noise-sensitive uses, which can be disturbed by high noise levels as is the case with the raising of animals and poultry. Therefore, a potential for noise conflicts exists within the Project area where agricultural operations and urban development are in close proximity.



Table 4.12-5  
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
<b>Anza Road</b>					
South of Rancho California Road	1,892	58.4	76	24	8
North of De Portola Road	2,116	58.3	81	38	17
<b>Butterfield Stage Road</b>					
South of La Serena Way	5,269	64.1	271	86	27
North of Rancho California Road	5,539	64.2	285	90	29
South of Rancho California Road	11,884	67.1	611	193	61
South of Rancho Vista Road	12,202	67.1	627	198	63
South of Pauba Road	11,350	67.9	731	231	73
North of De Portola Road	14,257	67.9	733	232	73
North of Temecula Parkway	15,673	65.3	265	123	57
South of Channel Street	12,308	67.2	632	200	63
<b>Calle Medusa</b>					
South of Enfield Road	4,619	55.6	40	13	4
<b>De Portola Road</b>					
East of Anza Road	2,644	57.7	62	20	6
East of Glenoaks Road	348	48.9	8	3	1
East of Meadows Parkway	4,955	60.0	116	37	12
East of Margarita Road	11,068	63.4	259	82	26
East of Jedediah Smith Road	9,020	64.1	281	89	28
<b>Diaz Road</b>					
North of Rancho California Road	12,158	66.2	491	155	49
<b>Glenoaks Road</b>					
South of Rancho California Road	2,301	58.2	72	23	7
<b>La Serena Way</b>					
East of Meadows Parkway	9,356	66.2	481	152	48
<b>Margarita Road</b>					
East of Avenida Barca	24,228	68.0	754	238	75
North of Rancho California Road	23,725	70.1	1,219	368	122
South of Rancho California Road	23,477	70.0	1,207	382	121
South of Rancho Vista Road	24,085	70.2	1,238	391	124
North of Santiago Road	23,201	70.0	1,191	377	119
South of Jedediah Smith Road	19,740	66.9	614	794	61
North of Temecula Parkway	28,868	70.8	1,485	469	148
<b>Meadows Parkway</b>					
South of La Serena Way	5,299	60.2	124	39	12
North of Rancho California Road	8,581	62.3	201	64	20





4.12 Noise

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
South of Rancho California Road	12,559	66.3	507	160	51
South of Rancho Vista Road	13,456	63.5	204	95	44
South of Pauba Road	13,674	66.7	552	175	55
South of Sunny Meadows Drive	11,495	66.0	464	147	46
South of Leena Way	12,988	64.1	304	96	30
North of Temecula Parkway	14,058	64.4	330	104	33
<b>Mesa Road</b>					
North of Glenoaks Road	1,564	55.3	37	12	4
<b>Pauba Road</b>					
East of Butterfield Stage Road	4,745	57.1	59	19	6
East of Meadows Parkway	5,694	59.4	98	31	10
East of Margarita Road	10,345	61.9	178	56	18
West of Margarita Road	10,303	61.9	178	56	18
East of Ynez Road	10,709	62.0	185	58	18
<b>Rainbow Canyon Road</b>					
South of Pechanga Parkway	9,084	64.1	283	89	28
South of Clubhouse Drive	6,403	59.7	105	49	23
<b>Rancho California Road</b>					
East of Anza Road	5,431	64.0	279	88	28
West of Anza Road	6,887	64.9	354	112	35
West of La Serena Way	7,705	62.6	165	77	36
West of Meadows Parkway	25,542	70.5	1,312	415	131
West of Margarita Road	30,066	71.1	1,546	489	155
East of Moraga Road	39,773	72.3	2,042	646	204
West of Ynez Road	65,820	70.9	1,542	487	154
East of I-15	26,900	67.0	630	199	63
East of Diaz Road	25,985	65.6	448	142	45
West of Diaz Road	14,392	63.4	248	79	25
West of Business Park Drive	7,124	60.3	123	39	12
<b>Rancho Vista Road</b>					
West of Meadows Parkway	5,749	61.8	179	56	18
East of Margarita Road	8,747	61.2	151	48	15
West of Margarita Road	6,758	60.1	116	37	12
East of Ynez Road	9,690	61.7	167	53	17
<b>Temecula Parkway</b>					
East of Butterfield Stage Road	22,187	71.6	1,762	557	176
East of Meadows Parkway	34,111	73.4	2,710	857	271



4.12 Noise

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
East of Margarita Road	42,394	74.3	3,370	1,066	337
West of Margarita Road	45,839	74.6	3,640	1,151	364
East of Pechanga Parkway	49,877	69.7	1,168	369	117
<b>Vincent Moraga Road</b>					
South of Rancho California Road	6,254	58.4	77	24	8
<b>Walcott Lane</b>					
North of Klarer Lane	5,198	54.7	49	23	11
<b>Ynez Road</b>					
North of Santiago Road	16,608	68.8	854	270	85
South of Solana Way	36,200	71.6	1,863	589	186
West of Jedediah Smith Road	11,243	65.0	350	111	35
<b>SR-79</b>					
East of I-15	17,321	65.0	406	128	41
West of Butterfield Stage Road	15,525	70.0	1,234	390	123
East of Anza Road	5,516	56.4	64	30	14
<b>I-15</b>					
North of Rancho California Road Interchange	161,100	80.2	15,567	4,923	1,557
South of Rancho California Road Interchange	150,000	79.9	14,495	4,584	1,449
NB Off-Ramp at Rancho California Road	11,247	61.2	139	44	14
NB On-Ramp at Rancho California Road	13,780	67.2	557	176	56
SB Off-Ramp at Rancho California Road	18,711	64.7	323	102	32
SB On-Ramp at Rancho California Road	11,883	66.6	479	152	48
North of SR-79	150,000	79.9	14,496	4,584	1,450
South of SR-79	129,000	79.3	12,481	3,947	1,248
NB Off-Ramp at SR-79	10,819	61.0	134	42	13
NB On-Ramp at SR-79	11,273	66.3	455	144	45
SB Off-Ramp at SR-79	13,000	61.7	160	51	16
SB On-Ramp at SR-79	15,050	67.5	607	192	61
Notes: ADT = average daily trips; dBA = A-weighted decibels; CNEL = community noise equivalent level; NB = northbound; SB = southbound; SR = State Route.					
Source: Fehr and Peers, <i>Traffic Impact Analysis</i> , September XX, 2011. Refer to Appendix I.					

### **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. 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 area include residential homes, schools, and churches. Sensitive receptors can be seen below in Table 4.12-6, *Sensitive Receptors*.

Table 4.12-6  
Sensitive Receptors

Type	Name	Address
Residential	Residential Uses	Located throughout the Project area, and adjacent to the Project area
Schools	St. Jeanne De Lestonnac School	32650 Avenida Lestonnac, Temecula
Places of Worship	Calvary Chapel Bible Fellowship	34180 Rancho California Road, Temecula
Parks	Pauba Ridge Park	Corner of Pauba Road and Via del Monte
	Crowne Hill Park	Eastern terminus of Old Kent Road
	Butterfield Stage Park	Eastern terminus of De Portola Road
	Glenoak Hills Park	North of Via de Oro and Los Ranchos Circle

Source: RBF Consulting field reconnaissance, August 2011, and Google Earth 2010.

## **4.12.3 REGULATORY FRAMEWORK**

### **EXISTING FEDERAL REGULATIONS**

#### **Federal Noise Control Act of 1972**

The U.S. Environmental Protection Agency (EPA) Office of Noise Abatement and Control was originally established to coordinate federal noise control activities. After its inception, EPA's Office of Noise Abatement and Control issued the Federal Noise Control Act of 1972, establishing programs and guidelines to identify and address the effects of noise on public health, welfare, and the environment. In response, the EPA published *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (Levels of Environmental Noise)*. The *Levels of Environmental Noise* recommended that the Ldn should not exceed 55 dBA outdoors or 45 dBA indoors to prevent significant activity interference and annoyance in noise-sensitive areas.

In addition, the *Levels of Environmental Noise* identified five dBA as an "adequate margin of safety" for a noise level increase relative to a baseline noise exposure level of 55 dBA Ldn (i.e., there would not be a noticeable increase in adverse community reaction with an increase of five dBA or less from this baseline level). The EPA did not promote these findings as universal standards or regulatory goals with mandatory applicability to all communities, but rather as advisory exposure levels below which there would be no risk to a community from any health or welfare effect of noise.

In 1981, EPA administrators determined that subjective issues such as noise would be better addressed at lower levels of government. Consequently, in 1982 responsibilities for regulating noise control policies were transferred to State and local governments. However, noise control guidelines and regulations contained in EPA rulings in prior years remain in place by designated Federal agencies, allowing more individualized control for specific issues by designated Federal, State, and local government agencies.

### **Federal Transit Administration**

The Federal Transit Administration (FTA) has developed methodology and significance criteria to evaluate incremental noise impacts from surface transportation modes (i.e., on road motor vehicles and trains) as presented in *Transit Noise Impact and Vibration Assessment (FTA Guidelines)*. These incremental noise impact criteria are based on EPA findings and subsequent studies of annoyance in communities affected by transportation noise. The FTA extended the EPA's five dBA incremental impact criterion to higher ambient levels. As baseline ambient levels increase, smaller and smaller increments are allowed to limit expected increases in community annoyance. For example, in residential areas with a baseline ambient noise level of 50 dBA CNEL, a less-than-five dBA increase in noise levels would produce a minimal increase in community annoyance levels, while at 70 dBA CNEL, only a one dBA increase could be accommodated before a significant annoyance increase would occur. The FTA has also developed criteria for judging the significance of vibration impacts based on annoyance levels expected in communities exposed to vibration from transportation sources and construction activity.

## **EXISTING STATE REGULATIONS**

### **State of California Building Standards Code**

The State of California has adopted noise standards in areas of regulation not preempted by the Federal government. State standards regulate noise levels of motor vehicles, sound transmission through buildings, occupational noise control, and noise insulation. Title 24 of the California Code of Regulations, also known as the California Building Standards Code, establishes building standards applicable to all occupancies throughout the state. The code provides acoustical regulations for both exterior-to-interior sound insulation, as well as sound and impact isolation between adjacent spaces of various occupied units. Title 24 regulations state that interior noise levels generated by exterior noise sources shall not exceed 45 dBA Ldn/CNEL, with windows closed, in any habitable room for general residential uses.

### **State of California Noise Insulation Standards**

The California Noise Insulation Standards (*California Code of Regulations, Title 25, section 1092*) establish uniform minimum noise insulation performance standards for new hotels, motels, dormitories, apartment houses and dwellings other than detached single-family dwellings. Specifically, *Title 25* states that interior noise levels attributable to exterior sources shall not exceed 45 dBA Ldn/CNEL (i.e., the same levels that the *Levels of Environmental Noise* recommends for residential interiors) in any habitable room of new dwellings. Acoustical studies must be prepared for proposed multiple-unit residential and hotel/motel structures where outdoor Ldn/CNEL is 60 dBA or greater. The studies must demonstrate that the design of the building will reduce interior noise to 45 dBA Ldn/CNEL, or lower. Dwellings are to be designed so that interior noise levels will meet this standard for at least ten years from the time of building permit application.

### **State of California General Plan Guidelines 2003**

Though not adopted by law, the *State of California General Plan Guidelines 2003*, published by the California Governor's Office of Planning and Research (OPR) (*OPR Guidelines*), provides guidance for the compatibility of projects within areas of specific noise exposure. The designation of a level of noise exposure as "*Normally Acceptable*" for a given land use category implies that the exterior and interior noise levels would be acceptable to the occupants without the need for any noise abatement measures outside or special structural acoustic treatment for the interior spaces. The *OPR Guidelines* identify the suitability of various types of construction relative to a range of outdoor noise levels and provide each local community some flexibility in setting local noise standards that allow for the variability in community preferences. Findings presented in the *Levels of Environmental Noise* influenced the recommendations of the *OPR Guidelines*, most importantly in the choice of noise exposure metrics (i.e., Ldn or CNEL) and in the upper limits for the Normally Acceptable outdoor exposure of noise-sensitive uses.

Table 4.12-7, *Noise and Land Use Compatibility Matrix*, identifies acceptable and unacceptable community noise exposure limits for various land use categories. The guidelines also present adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

### **State of California Vehicular Code**

Recent studies have shown that the most objectionable feature of traffic noise is the sound produced by vehicles equipped with illegal or faulty exhaust systems. In addition, such vehicles are often operated in a manner that causes tire squeal and excessively loud exhaust noise. A number of California State vehicle noise regulations can be enforced by local authorities as well as the California Highway Patrol. These include §23130, §23130.5, §27150, and §38275 of the California Vehicle Code, as well as excessive speed laws, which may be applied to curtail traffic noise:

- §23130 and §23130.5 establish maximum noise emission limits for the operation of all motor vehicles at any time under any conditions of grade, load, acceleration, or deceleration;
- §27150 requires motor vehicles to be equipped with an adequate muffler to prevent excessive noise; and
- §38275 requires off-highway motor vehicles to be equipped with an adequate muffler to prevent excessive noise.

The California Highway Patrol and the Department of Health Services (through local health departments) are available to aid local authorities in code enforcement and training pursuant to proper vehicle sound level measurements.

Table 4.12-7  
Noise and Land Use Compatibility Matrix

Land Use Category	Community Noise Exposure ( $L_{dn}$ 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				
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, <i>General Plan Guidelines</i> , October 2003.				

## EXISTING COUNTY REGULATIONS

### Noise Ordinance No. 847

The County of Riverside has an adopted Ordinance No. 847 (County of Riverside Municipal Code Chapter 9.52) that sets planning goals for land use purposes as it relates to the regulation of noise. Ordinance No. 847 allows for different levels of acceptable noise depending on land use. Ordinance No. 847 includes regulations and standards aimed at controlling unnecessary, excessive, and annoying noise in the unincorporated County. Ordinance No. 847 provides regulations that establish the required ambient noise levels and maximum allowable noise levels based on the land use and time of the day. The ordinance also places restrictions on specific activities (e.g., construction, musical instruments, and amplified sound). Lastly, Ordinance No. 847 identifies exemptions for specific activities or special events from the noise regulations. The following discussion summarizes applicable noise regulations.

**Section 2: Exemptions.** *Sound emanating from the following sources is exempt from the provisions of this ordinance:*

*c.) The maintenance or repair of public properties.*

*f.) Agricultural operations on land designated Agriculture in the Riverside County General Plan, or land zoned A-1 (Light Agriculture), A-P (Light Agriculture With Poultry), A-2 (Heavy Agriculture), A-D (Agriculture-Dairy) or C/V (Citrus/Vineyard), provided such operations are carried out in a manner consistent with accepted industry standards. This exemption includes, without limitation, sound emanating from all equipment used during such operations, whether stationary or mobile.*

*h.) Private construction projects located one-quarter (1/4) of a mile or more from an inhabited dwelling.*

*i.) Private construction projects located one-quarter (1/4) of a mile or more from an inhabited dwelling, provided that:*

- 1. Construction does not occur between the hours of 6:00 p.m. and 6:00 a.m. during the months of June through September, and*
- 2. Construction does not occur between the hours of 6:00 p.m. and 7:00 a.m. during the months of October through May.*

*j.) Property maintenance, including, but not limited to, the operation of lawnmowers, leaf blowers, etc., provided such maintenance occurs between the hours of 7 a.m. and 8 p.m.*

*l.) Heating and air conditioning equipment.*

**Section 4: General Sound Levels Standards.** *No person shall create any sound, or allow the creation of any sound, on any property that causes the exterior sound level on any other occupied property to exceed the sound level standards set forth in Ordinance No. 847, Table 1, which limits noise levels to the following:*

- Rural Community (Estate Density, Very Low Density, and Low Density Residential) – 55 dBA  $L_{max}$  from 7:00 a.m. to 10:00 p.m. and to 45 dBA  $L_{max}$  from 10:00 p.m. to 7:00 a.m.;*
- Rural (Rural Residential, Rural Mountainous, and Rural Desert Residential) – 45 dBA  $L_{max}$  from 7:00 a.m. to 10:00 p.m. and to 45 dBA  $L_{max}$  from 10:00 p.m. to 7:00 a.m.;*
- Agricultural (Agriculture) – 45 dBA  $L_{max}$  from 7:00 a.m. to 10:00 p.m. and to 45 dBA  $L_{max}$  from 10:00 p.m. to 7:00 a.m.; and*
- Community Development (Commercial Tourist, Retail Commercial) – 65 dBA  $L_{max}$  from 7:00 a.m. to 10:00 p.m. and to 55 dBA  $L_{max}$  from 10:00 p.m. to 7:00 a.m.*

**Section 6: Special Sound Sources Standards.** *The general sound level standards set forth in Section 4 of Ordinance No. 847 apply to sound emanating from all sources, including the following special sound sources, and the person creating, or allowing the creation of, the sound is subject to the requirements of that section. The following special sound sources are also subject to the following additional standards, the failure to comply with which constitute separate violations of this ordinance.*

*c.) Audio Equipment. No person shall operate any audio equipment, whether portable or not, between the hours of 10:00 p.m. and 8:00 a.m. such that the equipment is audible to the human*

*ear inside an inhabited dwelling other than a dwelling in which the equipment may be located. No person shall operate any audio equipment, whether portable or not, at any other time such that the equipment is audible to the human ear at a distance greater than one hundred (100) feet from the equipment.*

*d.) Sound Amplifying Equipment and Live Music. No person shall install, use or operate sound amplifying equipment, or perform, or allow to be performed, live music unless such activities comply with the following requirements. To the extent that these requirements conflict with any conditions of approval attached to an underlying land use permit, these requirements shall control.*

- 1. Sound amplifying equipment or live music is prohibited between the hours of 10:00 p.m. and 8:00 a.m.*
- 2. Sound emanating from sound amplifying equipment or live music at any other time shall not be audible to the human ear at a distance greater than two hundred (200) feet from the equipment or music.*

**Section 7. Exceptions.** *Exceptions may be requested from the standards set forth in Sections 4 or 6 of Ordinance No. 847 and may be characterized as construction-related, single event or continuous events exceptions.*

**a. Application and Processing.**

- 1. Construction-Related Exceptions. An application for a construction-related exception shall be made to and considered by the Director of Building and Safety on forms provided by the Building and Safety Department and shall be accompanied by the appropriate filing fee. No public hearing is required.*
- 2. Single Event Exceptions. An application for a single event exception shall be made to and considered by the Planning Director on forms provided by the Planning Department and shall be accompanied by the appropriate filing fee. No public hearing is required.*
- 3. Continuous Events Exceptions. An application for a continuous events exception shall be made to the Planning Director on forms provided by the Planning Department and shall be accompanied by the appropriate filing fee. Upon receipt of an application for a continuous events exception, the Planning Director shall set the matter for public hearing before the Planning Commission, notice of which shall be given as provided in Section 18.26.c. of Riverside County Ordinance No. 348. Notwithstanding the above, an application for a continuous events exception that is associated with an application for a land use permit shall be processed concurrently with the land use permit in the same manner that the land use permit is required to be processed.*

## **EXISTING COUNTY GENERAL PLAN POLICIES**

The County's *General Plan* includes policies and goals that apply to noise and noise sources within the County. The policies applicable to the Project include the following:

### **Noise (N) Element Policies**

Policy N 1.1: Protect noise-sensitive land uses from high levels of noise by restricting noise-producing land uses from these areas. If the noise-producing land use cannot be relocated, then



noise buffers such as setbacks, landscaping, or blockwalls shall be used.

- Policy N 1.2: Guide noise-tolerant land uses into areas irrevocably committed to land uses that are noise-producing, such as transportation corridors or within the projected noise contours of any adjacent airports.
- Policy N 1.3: Consider the following uses noise-sensitive and discourage these uses in areas in excess of 65 CNEL:
- Schools;
  - Hospitals;
  - Rest homes;
  - Long-term care facilities;
  - Mental care facilities;
  - Residential uses;
  - Libraries;
  - Passive recreation uses; and
  - Places of worship
- Policy N 1.4: Determine if existing land uses will present noise compatibility issues with proposed projects by undertaking site surveys.
- Policy N 1.5: Prevent and mitigate the adverse impacts of excessive noise exposure on the residents, employees, visitors, and noise-sensitive uses of Riverside County.
- Policy N 1.6: Minimize noise spillover or encroachment from commercial and industrial land uses into adjoining residential neighborhoods or noise-sensitive uses.
- Policy N 1.7: Require proposed land uses, affected by unacceptably high noise levels, to have an acoustical specialist prepare a study of the noise problems and recommend structural and site design features that will adequately mitigate the noise problem.
- Policy N 1.8: Limit the maximum permitted noise levels that cross property lines and impact adjacent land uses, except when dealing with noise emissions from wind turbines. Please see the Wind Energy Conversion Systems section for more information.
- Policy N 2.2: Require a qualified acoustical specialist to prepare acoustical studies for proposed noise-sensitive projects within noise impacted areas to mitigate existing noise.
- Policy N 2.3: Mitigate exterior and interior noises to the levels listed in the table below to the extent feasible, for stationary sources.
- Policy N 3.1: Protect Riverside County's agricultural resources from noise complaints that may result from routine farming practices, through the enforcement of the Riverside County Right-to-Farm Ordinance.
- Policy N 3.5: Require that a noise analysis be conducted by an acoustical specialist for all proposed

projects that are noise producers. Include recommendations for design mitigation if the project is to be located either within proximity of a noise-sensitive land use, or land designated for noise-sensitive land uses.

- Policy N 3.7: Encourage noise-tolerant land uses such as commercial or industrial, to locate in areas already committed to land uses that are noise-producing.
- Policy N 4.1: Prohibit facility-related noise, received by any sensitive use, from exceeding the following worst-case noise levels:
- a. 45 dBA-10-minute  $L_{eq}$  between 10:00 p.m. and 7:00 a.m. [nighttime standard]
  - b. 65 dBA-10-minute  $L_{eq}$  between 7:00 a.m. and 10:00 p.m. [daytime standard]
- Policy N 4.2: Develop measures to control non-transportation noise impacts.
- Policy N 4.3: Ensure any use determined to be a potential generator of significant stationary noise impacts be properly analyzed, and ensure that the recommended mitigation measures are implemented.
- Policy N 4.4: Require that detailed and independent acoustical studies be conducted for any new or renovated land uses or structures determined to be potential major stationary noise sources.
- Policy N 4.5: Encourage major stationary noise-generating sources throughout the County of Riverside to install additional noise buffering or reduction mechanisms within their facilities to reduce noise generation levels to the lowest extent practicable prior to the renewal of Conditional Use Permits or business licenses or prior to the approval and/or issuance of new Conditional Use Permits for said facilities.
- Policy N 4.7: Evaluate noise producers for the possibility of pure-tone producing noises. Mitigate any pure tones that may be emitted from a noise source.
- Policy N 8.1: Enforce all noise sections of the State Motor Vehicle Code.
- Policy N 8.2: Ensure the inclusion of noise mitigation measures in the design of new roadway projects in the County.
- Policy N 8.3: Require development that generates increased traffic and subsequent increases in the ambient noise level adjacent to noise-sensitive land uses to provide for appropriate mitigation measures.
- Policy N 8.4: Require that the loading and shipping facilities of commercial and industrial land uses, which abut residential parcels be located and designed to minimize the potential noise impacts upon residential parcels.
- Policy N 8.5: Employ noise mitigation practices when designing all future streets and highways, and when improvements occur along existing highway segments. These mitigation measures

will emphasize the establishment of natural buffers or setbacks between the arterial roadways and adjoining noise-sensitive areas.

- Policy N 8.6: Require that all future exterior noise forecasts use Level of Service C, and be based on designed road capacity or 20-year projection of development (whichever is less) for future noise forecasts.
- Policy N 8.7: Require that field noise monitoring be performed prior to siting to any sensitive land uses along arterial roadways. Noise level measurements should be of at least 10 minutes in duration and should include simultaneous vehicle counts so that more accurate vehicle ratios may be used in modeling ambient noise levels.
- Policy N 11.1: Utilize natural barriers such as hills, berms, boulders, and dense vegetation to assist in noise reduction.
- Policy N 11.2: Utilize dense landscaping to effectively reduce noise. However, when there is a long initial period where the immaturity of new landscaping makes this approach only marginally effective, utilize a large number of highly dense species planted in a fairly mature state, at close intervals, in conjunction with earthen berms, setbacks, or block walls.
- Policy N 12.1: Minimize the impacts of construction noise on adjacent uses within acceptable practices.
- Policy N 12.2: Ensure that construction activities are regulated to establish hours of operation in order to prevent and/or mitigate the generation of excessive or adverse noise impacts on surrounding areas.
- Policy N 12.3: Condition subdivision approval adjacent to developed/occupied noise-sensitive land uses (see policy N 1.3) by requiring the developer to submit a construction-related noise mitigation plan to the County for review and approval prior to issuance of a grading permit. The plan must depict the location of construction equipment and how the noise from this equipment will be mitigated during construction of this project, through the use of such methods as
- a. Temporary noise attenuation fences;
  - b. Preferential location of equipment; and
  - c. Use of current noise suppression technology and equipment.
- Policy N 12.4: Require that all construction equipment utilizes noise reduction features (e.g. mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer.
- Policy N 13.1: Enforce the California Building Standards that sets standards for building construction to mitigate interior noise levels to the tolerable 45 CNEL limit. These standards are utilized in conjunction with the Uniform Building Code by the County's Building Department to ensure that noise protection is provided to the public. Some design features may

include extra-dense insulation, double-paned windows, and dense construction materials.

Policy N 13.2: Continue to develop effective strategies and mitigation measures for the abatement of noise hazards reflecting effective site design approaches and state-of-the-art building technologies.

Policy N 13.3: Incorporate acoustic site planning into the design of new development, particularly large scale, mixed-use, or master-planned development, through measures which may include:

- separation of noise-sensitive buildings from noise-generating sources;
- use of natural topography and intervening structure to shield noise-sensitive land uses; and
- adequate sound proofing within the receiving structure.

Policy N 13.4: Consider and, when necessary to lower noise to acceptable limits, require noise barriers and landscaped berms.

Policy N 13.5: Consider the issue of adjacent residential land uses when designing and configuring all new, non-residential development. Design and configure on-site ingress and egress points that divert traffic away from nearby noise-sensitive land uses to the greatest degree practicable.

Policy N 13.8: Review all development applications for consistency with the standards and policies of the Noise Element of the General Plan.

Policy N 13.9: Mitigate 600 square feet of exterior space to 65 dB CNEL when new development is proposed on residential parcels of 1 acre or greater.

Policy N 15.1: Restrict the placement of sensitive land uses in proximity to vibration-producing land uses.

Policy N 15.2: Consider the following land uses sensitive to vibration:

- Hospitals;
- Residential areas;
- Concert halls;
- Libraries;
- Sensitive research operations;
- Schools; and
- Offices

### **General Plan Appendix I: Noise Element Data**

#### **Noise Standards**

The County's *General Plan* Appendix I also includes standards that apply to noise and noise sources within the County. The standards applicable to the Project include the following:

1. The Noise Element of the General Plan indicates that to avoid future noise hazard, the maximum capacity design standard for highways and major roads will be used for determining the maximum future noise level or, in the case of freeways and airports, the estimated conditions 20 years in the future.
2. The interior noise levels in residential dwellings shall not exceed 45 Ldn/CNEL.
3. The exterior noise level shall not exceed 65 Ldn/CNEL.
4. Highway Prediction Model: Using FHWA RD 77-108 Highway Traffic Prediction Model, the noise consultant shall estimate noise impacts (Ldn) from the Highway (Design capacity "C" level of service).

Requirements for Determination of Community Noise Impact

- a) Noise originating from operations within the facility grounds shall be treated as "stationary" noise sources for which this standard will apply.
- b) Noise Modeling Methodology: Noise predictions are to be made by an engineer, acoustical consultant or other similar professional with experience in predicting community noise exposure using standard methods and practices of the noise consulting industry.
- c) Required Modeling Parameters for Stationary Sources:
  - i. Stationary sources are to be modeled as "point" sources.
  - ii. Mobile point sources are to be modeled as emanating from the acoustical centroid of the activity, or at its closest approach to potentially impacted residential property lines, which ever yields the worst-case results.
  - iii. Noise modeling for each piece of acoustical equipment, process or activity must be based on Reference Noise Levels (RNL). RNL may be obtained directly from the manufacturer (in case of equipment) or generated from field studies. Regardless, the data must be representative of worst-case conditions. Directionality of the noise source must be taken into consideration if applicable.
  - iv. Predicted noise levels are to be expressed in terms of worst-case "equivalent continuous sound levels" [or, Leq] averaged over a ten minute period and L max.
  - v. For modeling purposes, receivers are assumed to be positioned at the property line boundary at an elevation of five feet off the ground.
  - vi. Terrain conditions for modeling noise propagation: Assumptions regarding ground effects, atmospheric absorption and other forms of noise attenuation must be fully justified.

#### **4.12.4 SIGNIFICANCE THRESHOLD CRITERIA**

The Project would result in a potentially significant impact in regards to noise if it would:

- a) 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;

- b) Expose persons to or generate excessive ground borne vibration or ground borne noise levels;
- c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, 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
- f) 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*).

## 4.12.5 IMPACT ANALYSIS AND MITIGATION

### IMPACT METHODOLOGY

The Project proposes a General Plan Amendment, amendment to Zoning Ordinance No. 348, and design guidelines. This change in land use policy and guidance is intended to promote the expansion and co-existence of winery, residential, and equestrian uses within this part of the County. As a result, an evaluation was performed to determine if any of the proposed changes would have the potential to significantly adversely affect noise within the Project area. Existing and proposed noise scenarios were evaluated on their potential to adversely affect the Project area's noise conditions.

Programmatic, construction, operational, and infrastructure improvement-related impacts associated with the Project have been identified and analyzed. When considering the significance of an individual impact, the EIR considers the existing local, State and Federal regulations, laws, and policies in effect, including applicable County *General Plan* policies. In cases where existing regulations and policies may not adequately reduce project impacts, the County has proposed additional mitigation measures in General Plan EIR No. 441 to reduce, avoid, or offset project-related impacts. These mitigation measures will be incorporated into implementing projects' conditions of approval, as deemed appropriate. These conditions of approval would be adopted as part of the project approval process.

This analysis uses the *General Plan's* existing land use compatibility guidelines<sup>1</sup> to assess the long-term noise exposure of land uses in the Project vicinity as follows:

- 60 dBA CNEL at low density residential, single family residential, duplexes, and mobile homes;
- 65 dBA CNEL at multi-family residential, motels, and hotels;
- 70 dBA CNEL at schools, libraries, churches, hospitals, nursing homes, playgrounds, parks, office buildings, businesses, commercial uses, and professional uses; and
- 75 dBA CNEL at golf courses, riding stables, water recreation, industrial uses, manufacturing uses, utilities, and agricultural uses.

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<sup>1</sup> County of Riverside, *County of Riverside General Plan*, Table N-1 (Land Use Compatibility for Community Noise Exposure), 2003.

The analysis contained in this section also utilizes FTA’s incremental traffic noise impact criteria, which becomes progressively more stringent as the baseline traffic noise levels increase. As a result, these criteria are more protective of communities with high noise exposure. As identified in Table 4.12-8, *Incremental Noise Impact Criteria for Noise Sensitive Uses*, where the baseline noise level is less than 60 dBA, a permanent increase in roadway traffic noise levels of three dBA over baseline ambient noise levels is considered to be substantial and, therefore, significant; where the baseline noise level is between 60 dBA and 65 dBA, a permanent increase in roadway traffic noise levels of two dBA over baseline ambient noise levels is considered to be substantial and, therefore, significant; and where the baseline noise level is between 65 dBA and 70 dBA, a permanent increase in roadway traffic noise levels of one dBA over baseline ambient noise levels is considered to be substantial and, therefore, significant.

Table 4.12-8  
Incremental Noise Impact Criteria for Noise Sensitive Uses

Existing Noise Exposure (CNEL)	Allowable Combined Noise Exposure (CNEL)	Noise Exposure Incremental Increase (CNEL)
55 dBA	58 dBA	3 dBA
60 dBA	62 dBA	2 dBA
65 dBA	66 dBA	1 dBA
70 dBA	71 dBA	1 dBA
75 dBA	75 dBA	0 dBA

Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, page 3-7, May 2006.

This analysis uses FTA’s vibration impact thresholds for sensitive buildings, residences, and institutional land uses. These thresholds are given in Table 4.12-9, *Groundborne Vibration and Noise Impact Criteria*, below.

Table 4.12-9  
Groundborne Vibration and Noise Impact Criteria

Land Use Category	Groundborne Vibration Impact Levels (VdB re 1 micro inch/sec)		Groundborne Noise Impact Levels (dB re 20 micro Pascals)	
	Frequent Events	Infrequent Events	Frequent Events	Infrequent Events
Category 1: Buildings where low ambient vibration is essential for interior operations	65 VdB	65 VdB	NA	NA
Category 2: Residences and buildings where people normally sleep	72 VdB	80 VdB	35 dBA	43 dBA
Category 3: Institutional land uses with primarily daytime use	75 VdB	83VdB	40 dBA	48 dBA

Source: Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, page 8-3, May 2006.

- Category 1 uses include lands set aside for serenity and quiet, and such land uses as concert pavilions, historic landmarks, and recording studios. Note that Category 1 uses do not apply to the Project.
- Category 2 uses are those where nighttime sensitivity to noise is of utmost importance, including homes, hospitals, and hotels.
- Category 3 uses include schools, libraries, theaters, churches, cemeteries, monuments, museums and recreational facilities.
- “Frequent Events” is defined as more than 70 vibration events per day.
- “Infrequent Events” is defined as fewer than 70 vibration events per day.
- This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes.
- Vibration sensitive equipment is not sensitive to groundborne noise.

## PROJECT DESIGN FEATURES

The following Project Design Features are incorporated into the Project to avoid, reduce or offset potential significant environmental impacts, as reflected in the Project proposal materials, including the proposed General Plan Amendment, Zoning Ordinance Amendment, and Temecula Valley Wine Country Design Guidelines:

1. The Project’s amendment to County Zoning Ordinance No. 348 will require that the minimum lot size for special occasion facilities be 10 acres in the WC-WE zone, 20 acres in the WC-W zone, and 100 acres in the WC-E zone and a maximum of 5 guests shall be permitted per gross acre for these facilities. This would greatly reduce noise impacts on neighboring properties.
2. Refer to Aesthetics/Light and Glare, Project Design Features #3, 4, 7, 8, and 9 (refer to Chapter 3.0 *Project Description*), which will require large minimum lot sizes from 5 to 20 acres and a minimum vineyard planting or equestrian land requirement of 75%. This will reduce the overall land use density and intensity of the Project site, resulting in fewer average daily trips which will in turn decrease ambient traffic-generated, operational, and site development noise in the Project area and surrounding communities.
3. The Project will require special occasion facilities that propos indoor events to conduct a Noise Study prior to Plot Plan/CUP approval. Similarly, special occasion facilities that propose outdoor events will be required to conduct an Acoustical Analysis prior to Plot Plan/CUP approval.





### **Southwest Area Plan (Temecula Valley Wine Country Policy Area)**

The following proposed policies within the Southwest Area Plan (as proposed by the Project) address noise impacts:

- SWAP 1.2 Maintain distinct characters of the Winery, Equestrian, and Residential Districts through implementing zones to promote harmonious coexistence of these uses.
- SWAP 1.3 Permit wineries that maintain established on site vineyards on 10 acres or more provided that at least:
- 75% of the project site is planted in vineyards;
  - 75% of the grapes utilized in wine production and retail wine sales are grown or raised within the county; and
  - The winery facility has a capacity to produce 3,500 gallons of wine annually.
- SWAP 1.4 Permit limited commercial uses such as wineries, sampling rooms, and retail wine sales establishments on a minimum lot size of ten (10) acres to promote viticulture potential of this region.
- SWAP 1.5 Require a density of ten (10) acres minimum for tentative approval of residential tract and parcel maps after (adoption date) regardless of the underlying land use designation except in the Wine Country – Residential District where a density of five (5) acres minimum shall apply.

#### **Wine Country – Winery District**

- SWAP 1.11 Allow incidental commercial uses such as special occasion facilities, hotels, resorts, restaurants and delicatessens in conjunction with wineries as defined in the implementing zones.

#### **Wine Country – Equestrian District**

- SWAP 1.13 Permit incidental commercial uses such as western stores, polo grounds, or horse racing tracks, petting zoos, event grounds, horse auction facilities, horse show facilities, animal hospitals, restaurants, delicatessens, and special occasion facilities in conjunction with commercial equestrian establishments on lots larger than 10 acres to encourage equestrian tourism in this community.

#### **Wine Country – Residential District**

- SWAP 1.14 Encourage residential development that complements the Temecula Valley Wine Country Policy Area as described in the Wine Country – Residential (WC-R) Zone.
- SWAP 1.15 Encourage tentative approval of residential tract and parcel maps to cluster development in conjunction with on-site vineyards or equestrian land provided that the overall project density yield does not exceed one dwelling unit per five (5) acres. While the lot sizes in a

clustered development may vary, require a minimum lot size of 1 acre, with at least 75% of the project area permanently set-aside as vineyards or equestrian land.

## IMPACT ANALYSIS AND MITIGATION MEASURES

### ***Impact 4.12-1: Temporary Noise Increases***

**Threshold:** *Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?*

**Determination:** *Less than Significant with Mitigation*

### **Wine Country Community Plan Overview of Programmatic Impacts**

Refer to the discussion below.

#### **Construction-Related Impacts (of Implementing Projects)**

Implementation of the Project would facilitate future construction activities within the Project area. Development of the Project area is expected to occur over a 25-year period and would involve grading to construct pads, stormwater facilities, trails, and local streets, and trenching to construct sanitary sewer lines, domestic water transmission lines, and dry utilities. Construction may also include the installation of those structures permitted under the proposed corresponding zoning classification, aboveground infrastructure, permanent walls and fencing, traffic control improvements, and permanent landscaping at different locations and at different times. Construction activities are temporary in duration, lasting from a few days to a period of several months. Groundborne noise and other types of construction-related noise impacts would typically occur during the initial site preparation, which can create the highest levels of noise. Generally, site preparation has the shortest duration of all construction phases. Activities that occur during this phase include earthmoving and soils compaction. High groundborne noise levels can occur during this phase due to haul trucks, backhoes, and other heavy-duty construction equipment.

With future implementing projects facilitated by the Project, adjacent sensitive receptors would be exposed to sporadic high noise levels associated with construction activities (as a result of power tools, jack-hammers, truck noise, etc.). It is anticipated that construction traffic would access the potential construction sites within the Project area from several major roadways, including Rancho California Road, Glen Oaks Road, Pauba Road, De Portola Road, and Anza Road, among others. As stated previously, various sensitive receptors exist both within and in close proximity to the Project area. Since many rural residential and some institutional uses are within close proximity to potential construction activities, residential and institutional land uses could be exposed to high construction-related noise levels.

Implementing projects allowed pursuant to the Project would be subject to compliance with Ordinance No. 847, Section 2, which exempts construction noise provided that construction of projects located within one-quarter mile from an inhabited dwelling does not occur between the hours of 6:00 p.m. and 6:00 a.m. from June through September, and between the hours of 6:00 p.m. and 7:00 a.m. from October through May. Additionally, Project compliance with *General Plan* Policies N 12.1 through N 12.4 would minimize construction noise impacts by requiring the preparation of a construction noise mitigation plan and requiring construction equipment to utilize noise-reduction features. Further,

implementation of Mitigation Measure NOI-1 would reduce construction noise associated with future implementing projects through the use of a site-specific, noise-reduction features. Specifically, NOI-1 would require the use of the best available noise control techniques as well as requiring alternatives to pneumatic power tools. Mitigation Measure NOI-2 includes a list of measures to respond to and track complaints related to construction noise. With implementation of Mitigation Measure NOI-1 and NOI-2, as well as compliance with Ordinance No. 847 and *General Plan Policies*, short-term construction noise impacts would be reduced to less than significant levels.

#### **Operational Impacts (of Implementing Projects)**

Refer to the discussion above.

#### **Infrastructure Impacts (of Implementing Projects)**

Refer to the discussion above.

#### **Summary of Applicable Existing Regulations and Policies**

- a) Section 2 of the Riverside County Ordinance No. 847 exempts construction noise provided that construction of projects located within one-quarter mile from an inhabited dwelling does not occur between the hours of 6:00 p.m. and 6:00 a.m. from June through September, and between the hours of 6:00 p.m. and 7:00 a.m. from October through May.
- b) *General Plan Policies* N 12.1 through 12.4 and 13.1 through 13.3 specifically address the reduction of construction noise impacts by requiring the preparation of a construction noise mitigation plan, requiring construction equipment to utilize noise reduction features, and designing buildings to attenuate noise.

#### **Mitigation Measures**

**NOI-1** All implementing projects shall comply with the following noise reduction measures during grading and building activities:

- If construction occurs within one-quarter mile of an inhabited dwelling, construction activities shall be limited to the daytime hours of 6:00 a.m. to 6:00 p.m. during the months of June through September, and to 7:00 a.m. to 6:00 p.m. during the months of October through May.
- To minimize noise from idling engines, all vehicles and construction equipment shall be prohibited from idling in excess of three minutes when not in use.
- Best efforts should be made to locate stockpiling and/or vehicle staging area as far as practicable from existing residential dwellings.
- Equipment and trucks shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically-attenuating shields or shrouds, wherever feasible).
- Impact tools (e.g., jack hammers, pavement breakers, and rock drills) shall be hydraulically or electronically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler shall be used; this muffler can lower noise levels from the exhaust by up to about ten dBA. External jackets on the tools themselves shall be used where feasible, and this could achieve a reduction of five dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever feasible.

- Stationary construction noise sources shall be located as far from adjacent receptors as possible, and they shall be muffled and incorporate insulation barriers, or other measures to the extent feasible.

**NOI-2** Implementing project proponents shall submit a list of measures to respond to and track complaints pertaining to construction noise, ongoing throughout demolition, grading, and/or construction. These measures may include the following:

- A sign posted on-site pertaining the permitted construction days and hours and complaint procedures and who to notify in the event of a problem. The sign may also include a listing of both the County and construction contractor's telephone numbers (during regular construction hours and off-hours); and
- A pre-construction meeting may be held with the job inspectors and the general contractor/on-site project manager to confirm that noise measures and practices (including construction hours, neighborhood notification, posted signs, etc.) are completed.

### **Conclusion**

Adherence to the existing Ordinance No. 847, *General Plan* policies, and mitigation measures listed above would ensure that impacts associated with the Project would be less than significant. It should be noted that the provided analysis is consistent with the requirements of a program EIR and future site-specific implementing projects proposed within the Project area will require individual site-specific CEQA analysis at a later date.

### ***Impact 4.12-2: Permanent Noise Increases***

**Threshold:** *Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?*

**Determination:** *Potentially Significant Impact*

### **Wine Country Community Plan Overview of Programmatic Impacts**

Refer to the impacts discussion below.

### **Construction-related Impacts (of Implementing Projects)**

Permanent noise increases would not occur as a result of construction-related activities. Refer to Impact 4.12-1 for a discussion of construction-related impacts.

### **Operational Impacts (of Implementing Projects)**

#### ***Future Off-Site Mobile Noise Conditions***

Long-term development facilitated by the Project would result in additional traffic on adjacent roadways, thereby increasing the vehicular noise in the vicinity of the existing and proposed land uses. Weekend traffic volumes were utilized for the purposes of this analysis, as weekend traffic volumes would be higher than weekday volumes. The "Existing" and "Existing plus Project" were compared, consistent with the *Traffic Impact Analysis*. The "Existing" scenario consists of counts available in the study area and existing roadway capacities in the area. The "Existing Plus Project" scenario consists of existing traffic conditions plus trip assignments associated with buildout of the Project. The comparison of the "Existing" scenario to the "Existing Plus Project" scenario allows for an accurate analysis of actual

existing traffic noise levels and projected traffic noise levels as a result of the Project. The existing *General Plan* scenario is analyzed in Chapter 6.0, *Alternatives to the Proposed Action*.

As previously discussed, an increase of three dBA or greater in noise levels occurring from implementing project-related activities would be significant when the “Existing” noise level is below 60 dBA. An increase of two dBA or greater in noise levels occurring from implementing project-related activities would be significant when the “Existing” noise level is between 60 to 65 dBA. Finally, an increase of one dBA or greater would be significant if the “Existing” noise level is 65 to 70 dBA.

In Table 4.12-10, *Traffic Noise Scenarios*, the noise level (dBA at 100 feet from centerline) depicts what would typically be heard 100 feet perpendicular to the roadway centerline. As indicated in Table 4.12-10 under the “Existing” scenario, noise levels at a distance of 100 feet from the centerline would range from approximately 48.9 dBA (De Portola Road, East of Glenoaks Road) to 80.2 dBA (I-15, north of the Rancho California Road interchange). Overall, the highest levels occurring along I-15, SR-79, Ynez Road, Rancho California Road, Temecula Parkway, and Margarita Road. Under “Existing Plus Project” scenario noise levels at a distance of 100 feet from the centerline would range from approximately 55.1 dBA (Walcott Lane, North of Klarer Lane) to 80.5 dBA (I-15, north of the Rancho California Road interchange). The highest noise levels under “Existing Plus Project” would occur along the same roadway segments as the “Existing” scenario.

Table 4.12-10 also compares the “Existing” scenario to the “Existing Plus Project” scenario. The Project would increase noise levels on the surrounding roadways by a maximum of 7.9 dBA along Anza Road (south of Rancho California Road) with baseline noise levels below 60 dBA CNEL. Thus, as stated under the *Significance Threshold Criteria*, when the baseline noise level is below 60 dBA CNEL, an increase in noise levels of more than three dBA is considered significant. Therefore, the traffic noise level increase along this segment is considered significant. Traffic noise level increases would be significant along a total of 31 segments.

The traffic noise levels identified in Table 4.12-10 represent conservative potential noise exposure. In reality, noise levels may vary from that represented in Table 4.12-10 as the calculations do not assume natural or artificial shielding or reflection from existing or proposed structures or topography. Intervening structures or other noise-attenuating obstacles between a roadway and a receptor may reduce roadway noise levels at the receptor. However, there would be receptors that would experience roadway noise levels very similar to those indicated in Table 4.12-10. While there are several policies in the *General Plan* that would help reduce the impact of traffic noise on receptors, these would mostly influence noise impacts on new receptors. This is due to the fact that existing receptors cannot easily be redesigned to provide greater noise attenuation, and it is not always feasible to construct barriers between existing development and roadways. Therefore, the exposure of existing and future noise-sensitive land uses to traffic noise level increases that would be facilitated with Project implementation is considered a significant impact.

#### Stationary Source Impacts

Land uses existing within the Project area include agricultural uses, rural residential, and commercial, as well as equestrian trails and uses. Many of the uses developed within the Project area are composed of rural residential single-family lots (greater than one acre in size), vineyards and wineries, citrus groves, equestrian uses, and vacant undeveloped properties. The Project would encompass approximately 18,990 acres of land proposed for winery, rural residential, and equestrian uses. Primary noise sources associated with these facilities include heavy machinery, delivery trucks, and amplified music. Project

implementation would facilitate the development of implementing projects which would create stationary noise sources within the Project area. In particular, stationary noise sources within the Project area would include special occasion facilities which are used for events such as parties, weddings, and other social gatherings. Exhibit 4.12-2, *Existing and Anticipated Wineries with Special Occasion Facilities*, illustrates the locations of existing special occasion facilities and those facilities that are anticipated to be developed from implementing of the Project.

#### Residential Uses

The Project would result in future construction of rural residential uses within the Residential, Equestrian, and Winery Districts. Noise that is typical of residential areas includes children playing, pets, amplified music, mechanical equipment, car repair, and home repair. Noise from residential stationary sources would primarily occur during the “daytime” activity hours. Perception of noise levels at receptors in the vicinity of rural residences would be below those of residences in a typical



Table 4.12-10  
Traffic Noise Scenarios

Roadway Segment	Existing		Existing Plus Project		Difference in dBA @ 100 feet from Roadway	Potentially Significant Impact
	ADT	dBA @ 100 Feet from Roadway Centerline (CNEL)	ADT	dBA @ 100 Feet from Roadway Centerline (CNEL)		
<b>Anza Road</b>						
South of Rancho California Road	1,892	58.4	11,749	66.3	7.9	Yes
North of De Portola Road	2,116	58.3	8,677	64.4	6.1	Yes
<b>Butterfield Stage Road</b>						
South of La Serena Way	5,269	64.1	5,269	64.1	0	No
North of Rancho California Road	5,539	64.2	5,539	64.2	0	No
South of Rancho California Road	11,884	67.1	16,022	68.4	1.3	Yes
South of Rancho Vista Road	12,202	67.1	17,012	68.6	1.5	Yes
South of Pauba Road	11,350	67.9	14,209	68.9	1.0	No
North of De Portola Road	14,257	67.9	16,656	68.6	0.7	No
North of Temecula Parkway	15,673	65.3	17,719	65.9	0.6	No
South of Channel Street	12,308	67.2	16,618	68.5	1.3	Yes
<b>Calle Medusa</b>						
South of Enfield Road	4,619	55.6	5,096	56.0	0.4	No
<b>De Portola Road</b>						
East of Anza Road	2,644	57.7	11,344	64.0	6.3	Yes
East of Glenoaks Road	348	48.9	1,718	55.9	7	Yes
West of Butterfield Stage Road	4,776	59.8	7,044	61.5	1.7	No
East of Meadows Parkway	4,955	60.0	7,243	61.7	1.7	No
East of Margarita Road	11,068	63.4	18,623	65.7	2.3	Yes
East of Jedediah Smith Road	9,020	64.1	11,288	65.1	1.0	No
<b>Diaz Road</b>						
North of Rancho California Road	12,158	66.2	12,158	66.2	0	No



4.12 Noise

Roadway Segment	Existing		Existing Plus Project		Difference in dBA @ 100 feet from Roadway	Potentially Significant Impact
	ADT	dBA @ 100 Feet from Roadway Centerline (CNEL)	ADT	dBA @ 100 Feet from Roadway Centerline (CNEL)		
<b>Glenoaks Road</b>						
South of Rancho California Road	2,301	58.2	6,803	62.9	4.7	Yes
<b>La Serena Way</b>						
East of Meadows Parkway	9,356	66.2	10,567	66.7	0.5	No
<b>Margarita Road</b>						
East of Avenida Barca	24,228	68.0	31,036	69.1	1.1	Yes
North of Rancho California Road	23,725	70.1	25,604	70.5	0.4	No
South of Rancho California Road	23,477	70.0	28,982	70.9	0.9	No
South of Rancho Vista Road	24,085	70.2	28,820	70.9	0.7	No
North of Santiago Road	23,201	70.0	26,005	70.5	0.5	No
South of Jedediah Smith Road	19,740	66.9	26,480	68.2	1.3	Yes
North of Temecula Parkway	28,868	70.8	30,359	71.0	0.2	No
<b>Meadows Parkway</b>						
South of La Serena Way	5,299	60.2	14,151	64.4	4.2	Yes
North of Rancho California Road	8,581	62.3	17,870	65.4	3.1	Yes
South of Rancho California Road	12,559	66.3	16,802	67.6	1.3	Yes
South of Rancho Vista Road	13,456	63.5	17,506	64.6	1.1	No
South of Pauba Road	13,674	66.7	18,537	68.0	1.3	Yes
South of Sunny Meadows Drive	11,495	66.0	17,323	67.8	1.8	Yes
South of Leena Way	12,988	64.1	20,203	66.0	1.9	No
North of Temecula Parkway	14,058	64.4	16,631	65.2	0.8	No
<b>Mesa Road</b>						
North of Glenoaks Road	1,564	55.3	1,564	55.3	0	No



Roadway Segment	Existing		Existing Plus Project		Difference in dBA @ 100 feet from Roadway	Potentially Significant Impact
	ADT	dBA @ 100 Feet from Roadway Centerline (CNEL)	ADT	dBA @ 100 Feet from Roadway Centerline (CNEL)		
<b>Pauba Road</b>						
East of Butterfield Stage Road	4,745	57.1	10,334	60.4	3.3	Yes
East of Meadows Parkway	5,694	59.4	6,917	60.2	0.8	No
East of Margarita Road	10,345	61.9	12,701	62.8	0.9	No
West of Margarita Road	10,303	61.9	13,004	62.9	1.0	No
East of Ynez Road	10,709	62.0	12,947	62.9	0.9	No
<b>Rainbow Canyon Road</b>						
South of Pechanga Parkway	9,084	64.1	10,761	64.8	0.7	No
South of Clubhouse Drive	6,403	59.7	8,080	60.7	1.0	No
<b>Rancho California Road</b>						
East of Anza Road	5,431	64.0	12,085	67.4	3.4	Yes
West of Anza Road	6,887	64.9	18,816	69.3	4.4	Yes
West of La Serena Way	7,705	62.6	18,850	66.5	3.9	Yes
West of Meadows Parkway	25,542	70.5	30,327	71.2	0.7	No
West of Margarita Road	30,066	71.1	39,395	72.3	1.2	Yes
East of Moraga Road	39,773	72.3	46,341	72.9	0.6	No
West of Ynez Road	65,820	70.9	74,385	71.4	0.5	No
East of I-15	26,900	67.0	61,009	70.6	3.6	Yes
East of Diaz Road	25,985	65.6	25,985	65.6	0	No
West of Diaz Road	14,392	63.4	14,682	63.5	0.1	No
West of Business Park Drive	7,124	60.3	7,124	60.3	0	No
<b>Rancho Vista Road</b>						
West of Meadows Parkway	5,749	61.8	9,140	63.8	2.0	No
East of Margarita Road	8,747	61.2	12,112	62.6	1.4	No
West of Margarita Road	6,758	60.1	8,928	61.3	1.2	No
East of Ynez Road	9,690	61.7	11,742	62.5	0.8	No



4.12 Noise

Roadway Segment	Existing		Existing Plus Project		Difference in dBA @ 100 feet from Roadway	Potentially Significant Impact
	ADT	dBA @ 100 Feet from Roadway Centerline (CNEL)	ADT	dBA @ 100 Feet from Roadway Centerline (CNEL)		
<b>Temecula Parkway</b>						
East of Butterfield Stage Road	22,187	71.6	29,874	72.8	1.2	Yes
East of Meadows Parkway	34,111	73.4	44,466	74.6	1.2	Yes
East of Margarita Road	42,394	74.3	46,892	74.7	0.4	No
West of Margarita Road	45,839	74.6	52,262	75.2	0.6	No
East of Pechanga Parkway	49,877	69.7	62,873	70.7	1.0	No
<b>Vincent Moraga Road</b>						
South of Rancho California Road	6,254	58.4	7,509	59.2	0.8	No
<b>Walcott Lane</b>						
North of Klarer Lane	5,198	54.7	5,714	55.1	0.4	No
<b>Ynez Road</b>						
South of Solana Way	16,608	71.6	40,606	72.1	0.5	No
North of Santiago Road	36,200	68.8	19,146	69.4	0.6	No
West of Jedediah Smith Road	11,243	65.0	12,725	65.6	0.6	No
<b>SR-79</b>						
East of I-15	17,321	65.0	44,174	69.1	4.1	Yes
West of Butterfield Stage Road	15,525	70.0	42,547	74.3	4.3	Yes
East of Anza Road	5,516	56.4	11,390	59.6	3.2	Yes
<b>I-15</b>						
North of Rancho California Road Interchange	161,100	80.2	172,272	80.5	0.3	Yes
South of Rancho California Road Interchange	150,000	79.9	157,309	80.1	0.2	Yes
NB Off-Ramp at Rancho California Road	11,247	61.2	12,210	61.5	0.3	No

Roadway Segment	Existing		Existing Plus Project		Difference in dBA @ 100 feet from Roadway	Potentially Significant Impact
	ADT	dBA @ 100 Feet from Roadway Centerline (CNEL)	ADT	dBA @ 100 Feet from Roadway Centerline (CNEL)		
NB On-Ramp at Rancho California Road	13,780	67.2	15,656	67.8	0.6	No
SB Off-Ramp at Rancho California Road	18,711	64.7	21,350	65.3	0.6	No
SB On-Ramp at Rancho California Road	11,883	66.6	13,334	67.1	0.5	No
North of SR-79	150,000	79.9	157,309	80.1	0.2	Yes
South of SR-79	129,000	79.3	134,836	79.5	0.2	Yes
NB Off-Ramp at SR-79	10,819	61.0	12,774	61.7	0.7	No
NB On-Ramp at SR-79	11,273	66.3	13,170	67.0	0.7	No
SB Off-Ramp at SR-79	13,000	61.7	15,998	62.6	0.9	No
SB On-Ramp at SR-79	15,050	67.5	16,516	67.9	0.4	No
Notes: ADT = average daily trips; dBA = A-weighted decibels; CNEL = community noise equivalent level						
Source: Fehr and Peers, <i>Traffic Impact Analysis</i> , September XX, 2011. Refer to Appendix I.						

neighborhood setting due to the increased distances between the noise source and the receptor. Noise impacts from residential uses to surrounding uses associated with future implementing projects that would occur under the Project are anticipated to be less than significant.

#### Equestrian Uses

The Equestrian District encourages equestrian uses (including residential uses with equestrian amenities such as barns, arenas, and stables) within the Project area. The Project would lay a foundation that would preserve the equestrian and rural land uses and allow for the co-existence with wineries and equestrian competition events in the area. The primary noise sources associated with equestrian uses include periodic competition events, shows, and auctions held at equestrian facilities. The proposed Southwest Area Plan Policies 1.13 and 1.15 promote the coexistence of winery, equestrian, and residential uses and permit incidental commercial uses such as western stores, polo grounds, or horse racing tracks, petting zoos, event grounds, horse auction facilities, horse show facilities, animal hospitals, restaurants, delicatessens, and special occasion facilities in conjunction with equestrian establishments on lots larger than 10 acres in the Wine Country – Equestrian District. Incidental commercial uses located on larger lots would increase the distances to nearby sensitive receptors, thereby reducing noise impacts. Further, events and activities occurring within the Equestrian District would generally be held on weekends during daytime hours only, and are not anticipated to exceed the noise limits of the land use compatibility guidelines.

#### Wineries

The Winery District would promote the establishment of additional commercial activities that support tourism while ensuring long-term viability of the wine industry. The secondary purpose of the Winery

District is to recognize, and allow the expansion of, existing wineries that are an integral part of the Wine Country economy.

There are currently a total of 40 wineries located within the Project area. Ancillary uses to the wineries include bed and breakfast inns, restaurants, and special occasion facilities which are used for events such as parties, weddings, and other social gatherings. These wineries are categorized as small, medium, or large based on the amenities offered on-site. Small winery operations typically have vineyards and tasting rooms, whereas medium sized wineries have vineyards, tasting rooms, and a combination of one or two additional uses such as restaurants, special occasion facilities, or lodging facilities. Large size wineries typically include vineyards, tasting rooms, shipping facilities, and resort type uses (i.e., lodging, special occasion facilities, restaurants, and spas). Project implementation would facilitate construction of additional small, medium, and large wineries which may be located in the vicinity of existing and future rural residential uses and existing institutional uses. Therefore, the potential exists for the generation of long-term noise levels from future implementing projects which propose the development of wineries (in particular from special events, tasting rooms, and shipping facilities) to exceed noise and land use compatibility standards which could impact an adjoining sensitive land use. The locations of existing and anticipated wineries with special occasion facilities are illustrated on Exhibit 4.12-2, below.

***Agricultural Operations.*** Wineries typically have vineyards with associated agricultural operations. Small tractors, utility vehicles, and pick-up trucks would likely operate during the harvest months (usually from early September to early November). Harvesting can be performed by hand or with mechanical equipment. Harvested grapes are then de-stemmed and crushed. Refrigeration units are then used to keep the wine at a constant temperature. Ordinance No. 847 currently exempts noise associated with agricultural operations on land designated Agriculture or zoned A-1 (Light Agriculture), A-P (Light Agriculture With Poultry), A-2 (Heavy Agriculture), A-D (Agriculture-Dairy) or C/V (Citrus/Vineyard), including sound emanating from all stationary and mobile equipment used during such operations. The Project involves a General Plan Amendment which would establish the Temecula Valley Wine Country Policy Area and divide the Project area into the Winery, Residential, and Equestrian Districts, and an amendment to the Zoning Ordinance to add four new Zoning Classifications that implement the Wine Country Policy Area: Wine Country – Winery, Wine Country – Winery Existing, Wine Country – Residential, and Wine Country – Equestrian. These new designations and Districts would allow agricultural uses (i.e., vineyards); therefore, noise associated with agricultural operations would remain exempt per Ordinance No. 847. However, to ensure noise from mechanical equipment would not exceed land use compatibility standards, Mitigation Measure NOI-3 would require all de-stemming, crushing, and refrigeration equipment to be enclosed for noise attenuation or, alternatively, a noise study must demonstrate that the unenclosed/unshielded equipment would not exceed the County's allowable noise levels. With the implementation of Mitigation Measure NOI-3, noise impacts from agricultural operations associated with wineries would be less than significant.

***Tasting Rooms.*** Tasting rooms are typically located within indoor areas of wineries. However, tasting rooms may still generate increased noise levels at nearby uses. Noise from tasting rooms occurs from conversation and small events. Tasting rooms are generally open during daytime hours only, and typically do not produce noise capable of exceeding noise and land use compatibility standards at nearby sensitive land uses. To ensure noise from tasting rooms would not result in substantial noise increases, Mitigation Measure NOI-3 limits operations to the daytime hours of 8:00 a.m. to 10:00 p.m in



the Wine Country - Winery (WC-W) and Existing Winery (WC-WE) zones and 10:00 a.m. to 6:00 p.m. Monday through Sunday in the Wine Country - Equestrian (WC-E) and Residential (WC-R) zones.

**Special Occasion Facilities.** Special events may be held indoors or outdoors. Events held outdoors are of higher concern due to the typical lack of noise attenuation from structures. Stationary noise emanating from the wineries would occur from both live/amplified music and activities involving crowds of people (e.g., live concerts, parties, weddings, receptions, social gatherings, etc.). Crowd noise is dependent on several factors including vocal effort, total number of people, whether the source is synchronous or random in time, and whether the orientation of the crowd members is random or diffused. Crowd noise is estimated at 60 dBA at one meter (3.29 feet) away for raised normal speaking<sup>2</sup>, which is consistent with the type of activities that may occur during special events. This noise level would have a +5 dBA adjustment for the impulsiveness of the noise source, and a -3 dBA adjustment for the random orientation of the crowd members.<sup>3</sup> Therefore, crowd noise would be 62 dBA at one meter from the source. As adjoining uses would be much further than one meter from an event, crowd noise would be substantially reduced. Depending on the nature and size of the event, other crowd noise may be much louder for nearby sensitive receptors, including peak noise from laughter and crowd applause, which can often exceed 80 dBA at 100 feet.

Music sound levels would vary depending on whether the source is from a live band or a DJ. Music from a live band is 84.9 dBA at 20 feet and recorded DJ music is 87.5 dBA at 20 feet.<sup>4</sup> Therefore, music from a DJ, combined with crowd noise, could result in excessive noise levels at nearby sensitive receptors, depending on the receptor's distance from the event. Additionally, music from a live band combined with crowd noise, would be 87.5 dBA at 20 feet from the source. However, as adjoining uses would likely be much further than 20 feet from an event, combined music and crowd noise levels for multiple distances have been predicted; refer to Table 4.12-11, *Special Event Noise*.

Table 4.12-11  
Special Event Noise

Source	dBA at 20 feet	dBA at 40 feet	dBA at 80 feet	dBA at 160 feet	dBA at 320 feet	dBA at 640 feet	dBA at 1,280 feet
Crowd Noise and Live Band	84.9	78.9	72.9	66.9	60.9	54.9	48.9
Crowd Noise and DJ	87.5	81.5	75.5	69.5	63.5	57.5	51.5

Notes/Assumptions: Crowd noise of 62 dBA at one meter was added to the reference noise levels for a live band and DJ. Noise calculations at various receptor distances use a standard attenuation rate of 6 dBA per doubling of distance and do not assume attenuation by intervening structures.

Ordinance No. 847 Section (c), *Audio Equipment*, prohibits the operation of audio equipment between the hours of 10:00 p.m. and 8:00 a.m. such that the equipment is audible inside an inhabited dwelling, and at any other time such that the equipment is audible at a distance greater than 100 feet from the source. Additionally, Ordinance No. 847 Section (d), *Sound Amplifying Equipment and Live Music*, prohibits the operation of sound amplifying equipment or performance of live music between the hours

<sup>2</sup> M.J. Hayne, et al, *Prediction of Crowd Noise*, Acoustics, November 2006.

<sup>3</sup> *Ibid.*

<sup>4</sup> Edward L. Pack Associates, Inc., *Noise Assessment Study for the Planned Pavilion, Boulder Ridge Country Club, Santa Clara County*, May 2, 2008.



of 10:00 p.m. and 8:00 a.m., and at any other time such that the equipment or live music is audible at a distance greater than 200 feet from the source. Ordinance No. 847 Section 7, *Exceptions*, allows for the application for single or continuous exceptions from the provisions of Ordinance No. 847 which are subject to a fee and the County Planning Director's approval.

Exhibit 4.12-2 illustrates the locations of existing and anticipated wineries with special occasion facilities. There are currently 29 existing wineries with special occasion facilities and an additional 35 such wineries are anticipated to occur with implementation of the Project. However, as no specific site plan proposals are associated with the Project, the exact footprint of future wineries (particularly those with special occasion facilities) and frequency of special events are unknown at this time. As a result, typical noise from a DJ or live music associated with special events held at wineries could conflict with the provisions of Ordinance No. 847 and exceed the County's noise and land use compatibility standards. However, the potential for exceedance would depend on the locations of existing and proposed sensitive uses, and proposed winery locations. Southwest Area Plan Policies 1.11 and 1.13 promote the coexistence of winery, equestrian, and residential uses, and allow incidental commercial uses such as special occasion facilities, hotels, resorts, restaurants, and delicatessens on lots larger than 20 acres for Wine Country – Winery zone and on lots larger than 10 acres for Wine Country – Winery Existing zone. Winery facilities located on larger lots would increase the distances to nearby sensitive receptors, thereby reducing noise impacts.

However, to ensure noise from special events held at winery facilities are further reduced, Mitigation Measure NOI-5 would require special occasion facilities with more than 200 guests per event to submit a "Special Event Synopsis" and NOI-6 would require Noise Control Plans to be formulated prior to the issuance of building permits to reduce noise impacts to a less than significant level. Mitigation Measure NOI-6 prohibits amplified sound and special events at wineries after 10:00 p.m., restricts special event clean-up activities to no later than midnight, and identifies potential noise-attenuating features to be incorporated into future implementing projects. With the implementation of Mitigation Measure NOI-5 and NOI-6, noise impacts from special events at wineries would be less than significant.

***Shipping Facilities.*** Wineries typically include shipping facilities for everyday winery operations. However, these shipping facilities would be intended to serve primarily the wine production operations and tasting rooms. The Project area would not accommodate large "retail" wineries (i.e., wineries that are mainly intended to export wine offsite) and, thus, shipping noise would be significantly less than what is typically involved in retail operations.

Typically, a medium two-axle truck used to make deliveries can generate a maximum noise level of 75 dBA at a distance of 50 feet. These are levels generated by a truck operated by an experienced "reasonable" driver with typically applied accelerations. Higher noise levels may be generated by the excessive application of power. Lower levels may be achieved, but would not be considered representative of a normal truck operation. *General Plan* Policy N 8.4 requires loading and shipping facilities which abut residential parcels to be located and designed to minimize the potential noise impacts upon residential parcels. The shipping facilities associated with future wineries would likely be located in the rear of winery buildings; although as no specific implementing projects are proposed, the specific location of shipping areas are unknown at this time. The majority of loading and unloading would likely occur during daytime hours, and would be subject to compliance with the Ordinance No. 847. However, future implementing projects would be required to implement Mitigation Measure NOI-3 which limits operations to the daytime hours of 8:00 a.m. to 10:00 p.m. in the Wine Country - Winery (WC-W) and Existing Winery (WC-WE) zones and 10:00 a.m. to 6:00 p.m. Monday through Sunday in the

Wine Country - Equestrian (WC-E) and Residential (WC-R) zones and identifies potential noise-attenuating features to be incorporated into future implementing projects. Therefore, compliance with Ordinance No. 847 and Mitigation Measure NOI-3 would minimize noise impacts from shipping facilities to a less than significant level.

### **Infrastructure Impacts (of Implementing Projects)**

Infrastructure improvements would include sewer lines, domestic water transmission lines, intersection (including roundabouts) improvements, and dry utilities. Project implementation would also facilitate future need for pump stations and reservoirs and associated infrastructure. Any improvements would be required to comply with County standards. Equipment associated with pump stations is typically enclosed and does not typically produce excessive noise levels. Additionally, the rural nature of the Project area would increase distances between receptors and infrastructure improvements (e.g., pump stations). Maintenance activities associated with infrastructure occur on a periodic basis and do not require an amount of vehicle trips capable of substantially contributing to traffic noise levels. Therefore, infrastructure improvements would not result in permanent noise increases capable of exceeding the County's noise and land use compatibility guidelines. Impacts in this regard are less than significant.

### **Summary of Applicable Existing Regulations and Policies**

- a) Riverside County Ordinance No. 847 Section (c), *Audio Equipment*, prohibits the operation of audio equipment between the hours of 10:00 p.m. and 8:00 a.m. such that the equipment is audible inside an inhabited dwelling, and at any other time such that the equipment is audible at a distance greater than 100 feet from the source. Additionally, Ordinance No. 847 Section (d), *Sound Amplifying Equipment and Live Music*, prohibits the operation of sound amplifying equipment or performance of live music between the hours of 10:00 p.m. and 8:00 a.m., and at any other time such that the equipment or live music is audible at a distance greater than 200 feet from the source. Ordinance No. 847 Section 7, *Exceptions*, allows for the application for single or continuous exceptions from the provisions of Ordinance No. 847 which are subject to a fee and the County Planning Director's approval.
- b) *General Plan Policies* N 1.1 through N 1.8, 2.2, 2.3, 3.1, 3.5, 3.7, 4.1 through 4.5, 4.7, 8.1 through 8.7, 11.1, 11.2, 13.4, 13.5, 13.8, and 13.9 specifically address noise compatibility between land uses, noise level limits, noise reduction features and mitigation, and noise analysis requirements.
- c) Southwest Area Plan Policies 1.8, 1.14, and 1.16 promote the coexistence of winery, equestrian, and residential uses, allow incidental commercial uses such as special occasion facilities, hotels, resorts, restaurants, and delicatessens on larger lots in the Wine Country – Winery District, and permit incidental commercial uses such as western stores, polo grounds, or horse racing tracks, petting zoos, event grounds, horse auction facilities, horse show facilities, animal hospitals, restaurants, delicatessens, and special occasion facilities on larger lots in the Wine Country – Equestrian District.

### **Mitigation Measures**

**NOI-3** All implementing projects involving a new winery or expansion of an existing winery shall be reviewed by the Riverside County Office of Industrial Hygiene and include at least the following conditions:

- The hours of operation for tasting rooms associated with wineries shall be limited to 9:00 a.m. to 7:00 p.m. Monday through Sunday in the Wine Country - Winery District and 10:00

a.m. to 6:00 p.m. Monday through Sunday in the Wine Country - Equestrian and Residential Districts.

- Mechanical equipments including but not limited to, de-stemming, crushing, and refrigeration equipment shall be enclosed or shielded for noise attenuation. Alternatively, the proponent may submit a Noise Study prepared by a qualified acoustical analyst that demonstrates that the unenclosed/unshielded equipment would not exceed the County's allowable noise levels.
- The hours of operation for shipping facilities associated with wineries shall be limited to 9:00 a.m. to 7:00 p.m. Monday through Sunday in the Wine Country - Winery District and 10:00 a.m. to 6:00 p.m. Monday through Sunday in the Wine Country - Equestrian and Residential Districts.
- Shipping facilities and parking areas which abut residential parcels shall be located away from sensitive land uses and be designed to minimize potential noise impacts upon nearby sensitive land uses.
- Site-specific noise-attenuating features such as hills, berms, setbacks, block walls, or other measures shall be considered for noise attenuation in noise-producing areas of future wineries including, but not limited to, locations of mechanical equipment, locations of shipping facilities, access, and parking areas.

**NOI-4** All implementing projects involving a special occasion facility shall be required to conduct a noise study prior to its approval. Similarly, all implementing projects involving an outdoor special occasion facility shall be required to conduct an acoustical analysis (that shows the noise contours outside the property boundary) prior to its approval.

- The said noise study or acoustical analysis shall be submitted to the Office of Industrial Hygiene for review and comments.
- Based on those comments, the implementing project shall be conditioned to mitigate noise impacts to the applicable County noise standards through site design and buildings techniques.
- Prior to the issuance of any building permit for the special occasion facility, those noise mitigation measures shall have received the necessary permits from Building and Safety Department.
- Prior to issuance of occupancy permit for the special occasion facility, those noise mitigation measures shall be constructed/implemented.

**NOI-5** All implementing projects involving a special occasion facility shall be reviewed by the Riverside County Office of Industrial Hygiene and include at least the following conditions:

- All special event vendors (e.g. DJs, musical bands, etc.) shall be notified regarding noise conditions of approval.
- Outdoor special events and associated audio equipment, sound amplifying equipment, and/or performance of live music shall be limited to the hours of 8:00 a.m. to 10:00 p.m. Monday through Sunday.
- Noise levels shall be kept below levels prescribed in the County's General Plan Noise Element and County noise Ordinances No. 847 by using a decibel-measuring device to measure music sound levels when amplified music is used.
- Clean-up activities associated with special events shall terminate no later than midnight.



- Outdoor speakers for all scheduled events shall be oriented toward the center of the property and away from adjoining land uses.
- Padding/carpeting shall be installed under music speakers for early absorption of music.

**NOI-6** All implementing projects involving a special occasion facility shall include at least the following conditions to ensure proper enforcement of the County Ordinances and project conditions:

- After issuance of two Code Violation Notices for excessive noise, noise measurements shall be performed by the Office of Industrial Hygiene for every event at the property line, to determine if the Noise Ordinance and project conditions are being followed during the special events.
- If violations of the Noise Ordinance or project conditions are found, the County shall reconsider allowed hours of operation, number of guests, amount of special events per year, or approval of the specific facility.
- The proponents shall be required to pay fees assessed per the Department's hourly rate pursuant to Ordinance No. 671.

### **Conclusion**

Adherence to the existing Ordinance No. 847, *General Plan* policies, and mitigation measures listed above would substantially reduce stationary source noise impacts associated with the Project (such as special events). However, given that it is not possible to predict the specific nature, frequency or location of all of the wineries or all of the special events, some stationary source activity may still represent unacceptable noise exposure within the Wine Country, particularly for existing sensitive receptors. This unavoidable impact will be reduced through compliance with policies, ordinances and mitigation noted above, and will be implemented by the County on a project-by-project basis. Project-related traffic increases would also be significant and unavoidable.

### ***Impact 4.12-3: Local Noise Standards***

***Threshold:*** *Would the project expose persons to or result in the generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

***Determination: Potentially Significant Impact***

### **Wine Country Community Plan Overview of Programmatic Impacts**

Refer to the impacts discussion below.

### **Construction-related Impacts (of Implementing Projects)**

As stated under Impact Statement 4.12-1, future development of implementing projects that propose residential, equestrian, and winery uses, as well as construction of infrastructure improvements within the Project area would be subject to compliance with Ordinance No. 847. Section 2(i) of Ordinance No. 847 exempts construction noise provided that construction of projects located within one-quarter mile from an inhabited dwelling does not occur between the hours of 6:00 p.m. and 6:00 a.m. from June through September, and between the hours of 6:00 p.m. and 7:00 a.m. from October through May. Additionally, implementing projects would be subject to compliance with *General Plan* Policies N 12.1 through N 12.4, which would minimize construction noise impacts by requiring the preparation of a

construction noise mitigation plan and requiring construction equipment to utilize noise reduction features. Further, implementation of Mitigation Measure NOI-1 would reduce construction noise associated with future implementing projects through the use of site-specific noise reduction features. Specifically, Mitigation Measure NOI-1 would require the use of the best available noise control techniques as well as requiring alternatives to pneumatic power tools. Mitigation Measure NOI-2 includes a list of measures to respond to and track complaints related to construction noise. With implementation of Mitigation Measure NOI-1 and NOI-2, as well as compliance with Ordinance No. 847 and *General Plan* Policies, short-term construction noise would not exceed established local standards and impacts would be reduced to less than significant levels.

### **Operational Impacts (of Implementing Projects)**

#### **Mobile Sources**

As stated under Impact Statement 4.12-2, implementing projects within the Project area would result in additional traffic trips which would generate an increase in noise levels which exceed established local standards. Implementing projects would increase noise levels on the surrounding roadways by a maximum of 7.9 dBA along Anza Road (south of Rancho California Road) with baseline noise levels below 60 dBA CNEL. Thus, as stated under the *Significance Threshold Criteria*, when the baseline noise level is below 60 dBA CNEL, an increase in noise levels of more than three dBA is considered significant. Therefore, the traffic noise level increase along this segment is considered significant. Traffic noise level increases would be significant along a total of 31 segments. Although the traffic noise levels identified in Table 4.12-10 represent conservative potential noise exposure, the exposure of existing and future noise-sensitive land uses to traffic noise level increases that would be facilitated with Project implementation is considered a significant impact.

#### **Stationary Sources**

As stated under Impact Statement 4.12-2, future implementing projects within the Project area would result in increased stationary noise sources. Noise from residential stationary sources would primarily occur during the “daytime” activity hours, and impacts from residential uses to surrounding uses associated with implementation of the Project are anticipated to be less than significant. Noise sources associated with equestrian uses would include periodic competition events held at equestrian facilities. However, competitions would generally be held on weekends during daytime hours only, and are not anticipated to exceed the noise limits of the land use compatibility guidelines. Project implementation would also facilitate construction of additional small, medium, and large wineries which may be located in the vicinity of existing and future rural residential uses. Therefore, the potential exists for long-term noise levels from wineries, and particularly associated with special events, to exceed noise and land use compatibility standards which could significantly impact an adjoining sensitive land use. Wineries would be required to comply with Ordinance No. 847, *General Plan* Policies, and Mitigation Measure NOI-3. However, implementation of Mitigation Measures NOI-4 through NOI-6 is also required in order to ensure noise from special events does not exceed noise and land use compatibility guidelines. Therefore, impacts would be reduced to less than significant levels with implementation of Mitigation Measures NOI-3 through NOI-6.

### **Infrastructure Impacts (of Implementing Projects)**

Refer to the discussion above for construction-related impacts for infrastructure improvements. As stated under Impact Statement 4.12-2, infrastructure improvements would not result in permanent noise increases. Impacts in this regard are less than significant.

### **Summary of Applicable Existing Regulations and Policies**

- a) Section 2 of the Riverside County Ordinance No. 847 exempts construction noise provided that construction of projects located within one-quarter mile from an inhabited dwelling does not occur between the hours of 6:00 p.m. and 6:00 a.m. from June through September, and between the hours of 6:00 p.m. and 7:00 a.m. from October through May.
- b) *General Plan* Policies N 12.1 through 12.4 and 13.1 through 13.3 specifically address the reduction of construction noise impacts by requiring the preparation of a construction noise mitigation plan, requiring construction equipment to utilize noise reduction features, and designing buildings to attenuate noise.
- c) Riverside County Ordinance No. 847 Section (c), *Audio Equipment*, prohibits the operation of audio equipment between the hours of 10:00 p.m. and 8:00 a.m. such that the equipment is audible inside an inhabited dwelling, and at any other time such that the equipment is audible at a distance greater than 100 feet from the source. Additionally, Ordinance No. 847 Section (d), *Sound Amplifying Equipment and Live Music*, prohibits the operation of sound amplifying equipment or performance of live music between the hours of 10:00 p.m. and 8:00 a.m., and at any other time such that the equipment or live music is audible at a distance greater than 200 feet from the source. Ordinance No. 847 Section 7, *Exceptions*, allows for the application for single or continuous exceptions from the provisions of Ordinance No. 847 which are subject to a fee and the County Planning Director's approval.
- d) *General Plan* Policies N 1.1 through N 1.8, 2.2, 2.3, 3.1, 3.5, 3.7, 4.1 through 4.5, 4.7, 8.1 through 8.7, 11.1, 11.2, 13.4, 13.5, 13.8, and 13.9 specifically address noise compatibility between land uses, noise level limits, noise reduction features and mitigation, and noise analysis requirements.
- e) Southwest Area Plan Policies 1.8, 1.14, and 1.16 promote the coexistence of winery, equestrian, and residential uses, allow incidental commercial uses such as special occasion facilities, hotels, resorts, restaurants, and delicatessens on larger lots in the Wine Country – Winery District, and permit incidental commercial uses such as western stores, polo grounds, or horse racing tracks, petting zoos, event grounds, horse auction facilities, horse show facilities, animal hospitals, restaurants, delicatessens, and special occasion facilities on larger lots in the Wine Country – Equestrian District.

### **Mitigation Measures**

Refer to Mitigation Measures NOI-1 through NOI-6, above.

### **Conclusion**

Adherence to the existing Ordinance No. 847, *General Plan* policies, and mitigation measures listed above would ensure that construction-related and stationary source impacts associated with the implementing projects would be less than significant. However, due to the amount of traffic trips that would be generated in association with the proposed permitted land uses, mobile source noise impacts would be significant and unavoidable.

### ***Impact 4.12-4: Groundborne Noise and Vibration***

***Threshold:*** *Would the project result in the exposure of persons to or generation excessive ground-borne vibration or ground-borne noise levels?*



**Determination: Less than Significant with Mitigation**

**Wine Country Community Plan Overview of Programmatic Impacts**

Refer to the impacts discussion below.

**Construction-related Impacts (of Implementing Projects)**

Project implementation would facilitate the construction of residential uses, equestrian uses, and wineries. Construction activities can generate varying degrees of groundborne noise and vibration, depending on the construction procedure and the construction equipment used. Operation of construction equipment generates vibrations that spread through the ground and diminish in amplitude with distance from the source. The effect on buildings located in the vicinity of a construction site often varies depending on soil type, ground strata, and construction characteristics of the receiver building(s). Groundborne vibrations from construction activities rarely reach levels that damage structures.

The types of construction vibration impacts 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. Building damage can be cosmetic or structural. Ordinary buildings that are not particularly fragile would not experience any cosmetic damage (e.g., plaster cracks) at distances beyond 25 feet. This distance can vary substantially depending on the soil composition and underground geological layer between vibration source and receiver. In addition, not all buildings respond similarly to vibration generated by construction equipment. The majority of construction activities that may result under the Project (i.e., grading and earthwork activities) have the potential to generate low levels of groundborne vibration. Table 4.12-12, *Typical Vibration Levels for Construction Equipment*, identifies various vibration velocity levels for types of construction equipment that would operate within the Project area during construction.

Table 4.12-12  
Typical Vibration Levels for Construction Equipment

Equipment	Approximate ground velocity in decibels at 25 feet (VdB)	Approximate ground velocity in decibels at 50 feet (VdB)	Approximate ground velocity in decibels at 100 feet (VdB)
Pile Driver (impact)	104	98	92
Large Bulldozer	87	81	75
Loaded Trucks	86	80	74
Jackhammer	79	73	67
Small Bulldozer	58	52	46
Source: Federal Transit Administration, <i>Transit Noise and Vibration Impact Assessment</i> , page 12-12, May 2006.			
Notes: Root mean square amplitude ground velocity in decibels (VdB) referenced to one micro-inch/second.			

Similar to noise, groundborne vibration would attenuate at a rate of approximately six velocity decibels (VdB) per doubling of distance. The groundborne vibration generated during construction activities would primarily impact existing sensitive uses that are located adjacent to or within the vicinity of

specific projects. Grading and earthwork activities would generate levels of vibration of up to 81 VdB at 50 feet and 75 VdB at 100 feet, however these levels would likely not be high enough to cause building damage or substantial human annoyance, or exceed the groundborne vibration impact levels identified by the FTA (refer to Table 4.12-9). Additionally, vibration from grading and earthwork activities would occur during the allowable daytime construction hours and would not interfere with daily activities occurring within Category 1 or 2 land uses described in Table 4.12-9. However, should pile driving activities take place, vibration levels may be excessive. Mitigation Measure NOI-7 would require alternatives or control techniques to reduce vibration. Based upon the information provided in Table 4.12-12, vibration levels could reach up to 98 VdB (if pile driving activities were to occur) at sensitive uses located within 50 feet of construction. Mitigation Measure NOI-7 also requires that alternative methods be utilized should future pile driving activities take place within 50 feet of an occupied or historic structure. Compliance with Mitigation Measure NOI-7 would reduce the generation and/or exposure of persons or structures to excessive groundborne vibration to less than significant levels.

#### **Operational Impacts (of Implementing Projects)**

The Project would support new and existing wineries, as well as other commercial activities that encourage tourism. The Project would also maintain large residential estates and continue to support equestrian uses. These types of operations do not typically have associated vibration impacts. Therefore, operational vibration impacts would be less than significant.

#### **Infrastructure Impacts (of Implementing Projects)**

Infrastructure improvements would not result in vibration impacts following construction activities. Impacts in this regard are less than significant.

#### **Summary of Applicable Existing Regulations and Policies**

- a) *General Plan* Policies N 15.1 and 15.2 specifically address vibration impacts to sensitive land uses.

#### **Mitigation Measures**

**NOI-7** Prior to the issuance of each grading permit, all implementing projects shall demonstrate compliance with the following measures to reduce the potential for human annoyance and architectural/structural damage resulting from elevated groundborne noise and vibration levels:

- Pile driving within a 50-foot radius of occupied units or historic or potentially historic structures shall utilize alternative installation methods where possible (e.g., pile cushioning, jetting, pre-drilling, cast-in-place systems, resonance-free vibratory pile drivers).
- If no alternative to pile driving is deemed feasible, the preexisting condition of all designated historic buildings within a 50-foot radius of proposed construction activities shall be evaluated during a preconstruction survey. The preconstruction survey shall determine conditions that exist before construction begins for use in evaluating damage caused by construction activities. Fixtures and finishes within a 50-foot radius of construction activities susceptible to damage shall be documented (photographically and in writing) prior to construction. All damage shall be repaired back to its preexisting condition.
- Vibration monitoring shall be conducted prior to and during pile driving operations occurring within 100 feet of the historic structures. Every attempt shall be made to limit

construction-generated vibration levels during pile driving and impact activities in the vicinity of the historic structures.

### **Conclusion**

Adherence to the existing *General Plan* policies and mitigation measures listed above would ensure that construction-related vibration impacts associated with implementing projects would be less than significant. There would be no vibration impacts associated with operations of future implementing projects including infrastructure improvements facilitated by Project implementation.

## **4.12.6 CUMULATIVE IMPACTS**

**Threshold:** *Would the project result in cumulative impacts associated with implementation of the Wine Country Community Plan?*

**Determination:** *Potentially Significant Impact*

### **Cumulative Short-Term Construction Impacts**

Cumulative impacts regarding noise are addressed in both the Riverside County General Plan Final EIR No. 441 and the City of Temecula's General Plan Final EIR, which are both incorporated by reference into this EIR. Construction activity would occur throughout the Project area, concurrently with other construction throughout the region. Short-term construction noise is a localized activity and would affect only land uses that are immediately adjacent to a specific project site. With implementation of Mitigation Measures NOI-1, NOI-2, and NOI-7, construction-related noise impacts associated with future implementing projects facilitated under the Project would be reduced to less than significant levels. It is likely that other construction projects would also have to comply with the local noise ordinance, as well as mitigation measures that may be prescribed pursuant to CEQA provisions that require significant impacts to be reduced to the extent feasible. In addition, it is unlikely that all construction projects would occur simultaneously within the City. Thus, a less than significant impact would occur.

### **Cumulative Long-Term Operational Impacts**

#### **Mobile Sources**

Buildout of the Project would result in potential cumulative noise level increases along major roadways. Each of these noise impacts would be dealt with separately when new noise-sensitive or noise-generating implementing projects are proposed. Project implementation would result in significant cumulative noise impacts that could not be mitigated with the implementation of the proposed policies and mitigation measures. Thus, the Project would substantially contribute to cumulative mobile source noise impacts.

#### **Stationary Sources**

The Project may result in significant stationary source impacts, even with implementation of Mitigation Measures NOI-3 through NOI-6 and applicable policies and ordinances. All future implementing projects within the Project area and surrounding region would be subject to comply with County, State, and Federal guidelines regarding noise abatement and insulation standards. Cumulative stationary source impacts may be significant and unavoidable, depending on site-specific operations. It may also be possible for multiple stationary sources such as special events or wineries to operate concurrently and in close proximity, which could further add to cumulative noise impacts. These potential stationary noise

impacts, including special events, are best mitigated on a policy level as set forth above, including the Noise Study/Acoustical Analysis, Noise Control Plan, and noise-attenuation measures as required in Mitigation Measures NOI-3 through NOI-6. The Project's creation of special Districts for each major land use also reduces the potential for future cumulative noise impacts upon sensitive receptors by focusing future residential implementing projects in the Residential District.

### **Mitigation Measures**

Refer to Mitigation Measures NOI-1 through NOI-7, above.

## **4.12.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION**

Unavoidable significant impacts have been identified for Project level and cumulative noise impacts related to mobile noise sources and stationary noise. If the County of Riverside approves the Project, the County shall be required to adopt findings of fact in accordance with Section 15091 of the CEQA Guidelines, as well as adopt a Statement of Overriding Considerations in accordance with Section 15093 of the CEQA Guidelines.



## 4.12 Noise

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