

I. NOISE

Noise is a complex physical phenomenon that varies with time, geographic location, proximity to the source, and duration of the noise event. The effects of noise are considered in two ways: how a proposed project may increase existing noise levels and affect surrounding land uses; and how a proposed land use may be affected by noise from existing and surrounding land uses. The following section discusses the fundamentals of sound and noise measurements, describes the existing noise environment of the project site, provides federal, state, and local noise guidelines and policies, and evaluates potential noise impacts that would be encountered at the project site due to development of the proposed project. Mitigation measures have been incorporated where an identified noise impact would exceed a defined regulatory threshold. Karl Mikel, Environmental Engineer with Morro Group and County approved acoustical consultant, has prepared this section of the EIR, it is intended for use by the County of San Luis Obispo (County) and other interested parties as part of the Environmental Determination for the proposed project.

1. REGULATORY SETTING

Noise is regulated at the federal, state, and local levels through regulations, policies, and/or local ordinances. Local policies are commonly adaptations of federal and state guidelines, based on prevailing local conditions or special requirements.

a. FEDERAL POLICIES AND REGULATIONS

The Federal Noise Control Act of 1972 §2 [42 U.S.C. 4091] states the following:

(a) The Congress finds (1) that inadequately controlled noise presents a growing danger to the health and welfare of the Nation's population, particularly in urban areas; (2) that the major sources of noise include transportation vehicles and equipment, machinery, appliances, and other products of commerce; and (3) that, while primary responsibility for control of noise rests with State and local governments, Federal action is essential to deal with major noise sources in commerce control of which require national uniformity and treatment.

(b) The Congress declares that it is the policy of the United States to promote an environment for all Americans free from noise that jeopardizes their health or welfare. To that end, it is the purpose of this Act to establish a means for effective coordination of Federal research and activities in noise control, to authorize the establishment of Federal noise emission standards for projects distributed in commerce, and to provide information to the public respecting the noise emission and noise reduction characteristics of such products.

b. STATE POLICIES AND REGULATIONS

1) California Government Code

The contents of *County Noise Element* and the methods used in their preparation have been determined by the requirements of §65302 (f) of the California Government Code and by the

Guidelines for the Preparation and Content of the Noise Element of the General Plan prepared by the California Department of Health Services and included in the 1900 State of California *General Plan Guidelines*. The *General Plan Guidelines* require that major noise sources and areas containing noise-sensitive land uses be identified and quantified by preparing generalized noise exposure contours for current and projected conditions. Contours may be prepared in terms of either the Community Noise Equivalent Level (CNEL) or the Day-Night Average Level (L_{dn}), which are descriptors of total noise exposure at a given location for an annual average day. The CNEL and L_{dn} are generally considered to be equivalent descriptors of the community noise environment within plus or minus 1.0 dB.

c. LOCAL POLICIES AND REGULATIONS

1) County of San Luis Obispo Noise Element of the General Plan

The *County Noise Element* provides a policy framework for addressing potential and existing noise impacts during project review and long range planning. Its purpose is to minimize future and existing noise conflicts. Among the most significant policies found in the Noise Element are numerical noise standards that limit noise exposure within noise-sensitive land uses (i.e., residential, offices, outdoor recreation) resulting from stationary and transportation noise sources.

The Noise Element is divided into two separate documents and contains policies, performance goals, and procedures for addressing identified noise impacts. The *County Noise Element Policy Document and Acoustic Design Manual* sets noise exposure standards for noise sensitive land uses, and performance standards for new commercial and industrial uses. A companion document, the *Technical Reference Document*, contains background information on the methods used to develop noise exposure information and guidelines for those involved in land use choices and in project design and review. Together these documents comprise the *County Noise Element*, and provide methods for reducing noise exposure.

Noise standards are established in the *County Noise Element* for sensitive noise receptors. Noise standard applicability is usually limited to evaluating planned residential developments located along highways, arterial routes, frontage roads, railroad tracks, and stationary noise sources where planned or existing residential developments or noise sensitive land uses would be adversely affected by existing or increased project-related noise levels in the area.

The applicable policies of the *County Noise Element* include the following:

New Development and Stationary Noise Sources. New development of noise-sensitive land uses may be permitted only where location or design allow the development to meet the standards for existing stationary noise sources.

New or Modified Stationary Noise Sources. Noise created by new stationary sources, or by existing stationary sources which undergo modifications that may increase noise levels, shall be mitigated to not exceed the noise level standards for lands designated for noise-sensitive uses.

Land Use & Transportation Noise Sources. Table V-27 shall be used to determine the appropriateness of designating land for noise sensitive uses, considering noise exposure from

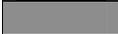
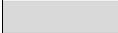
transportation sources. Table V-31 shows the ranges of noise exposure that are considered to be acceptable, conditionally acceptable, or unacceptable for various land uses.

In **acceptable** noise environments, development may be permitted without requiring specific noise studies or specific noise reducing features.

In **conditionally acceptable** noise environments, development should be permitted only after noise mitigation has been designed as part of the project, to reduce noise exposure to the levels specified by the following policies. In these areas, further studies may be required to characterize the actual noise exposure and appropriate means to reduce it.

In **unacceptable** noise environments, development in compliance with the policies generally is not possible.

TABLE V-27
Land Use Compatibility for New Development near Transportation Sources

Land Use	Exterior Noise Exposure, Ldn or CNEL (dB)					
	55	60	65	70	75	80
Residential	Acceptable	Acceptable	Conditionally Acceptable	Conditionally Acceptable	Unacceptable	Unacceptable
Bed and Breakfast, Hotel, Motel	Acceptable	Acceptable	Conditionally Acceptable	Conditionally Acceptable	Unacceptable	Unacceptable
Schools, Libraries, Museums, Hospitals, Churches, Nursing Homes, Public Assembly	Acceptable	Acceptable	Conditionally Acceptable	Conditionally Acceptable	Unacceptable	Unacceptable
Outdoor Sports, Playgrounds, Recreation	Acceptable	Acceptable	Conditionally Acceptable	Conditionally Acceptable	Unacceptable	Unacceptable
Offices	Acceptable	Acceptable	Conditionally Acceptable	Conditionally Acceptable	Unacceptable	Unacceptable
 Acceptable, no mitigation required						
 Conditionally Acceptable, Mitigation required						
 Unacceptable, mitigation may not be feasible						

Note: Bold type denotes land uses proposed for the Fiscalini Ranch Preserve Management Plan and Master Plan.

Source: County of San Luis Obispo General Plan Noise Element, 1992

In addition to the above policies, the *County Noise Element* identifies specific outdoor activity area and interior noise thresholds for transportation and stationary noise sources. These thresholds are discussed further in Section 3, Thresholds of Significance, below.

2) County Coastal Zone Land Use Ordinance

The County Coastal Zone Land Use Ordinance (CZLUO) §23.06.042d Exceptions to Noise Standards states the following:

“Noise sources associated with construction provided such activities do not take place before seven a.m. or after nine p.m. on any day except Saturday or Sunday, or before eight a.m. or after five p.m. on Saturday or Sunday.”

2. EXISTING CONDITIONS

a. NOISE DEFINITIONS AND TERMINOLOGY

Noise, as used herein, is defined as unwanted sound. Since instruments that detect small changes in atmospheric pressure that are perceived as sound cannot distinguish between that which is wanted (e.g., birds singing, waves on a beach, etc.) and that which is not (e.g., traffic or railroad noise), measurements of “noise” are more accurately described as measurements of sound pressure.

Noise sources and sound intensities can vary significantly from one area of the FRP to another. Variables that affect how traffic noise is perceived include vehicular volume, proximity to the noise source, time of day, speed, roadway configuration, and the acoustical and topographical characteristics of the site. For example, Burton Drive traffic noise could be substantial at a given location if the noise measurement is taken during peak hour traffic at a short distance from the roadway. Given the same conditions, the same noise measured at a greater distance or an area that was shielded by some form of a barrier or structure might be perceived as barely noticeable.

Topography also plays a significant role in the perception of traffic related noise emissions. Road segments that are cut below or significantly elevated above the grade at which noise is measured will generally produce a quieter noise environment. Sites that have abundant vegetation and an undulating profile (soft sites) will absorb sound pressure waves much better than an area that is predominantly asphalt or concrete (hard site). After development of the project, the site would still be considered a soft site because most of the overall site would remain vegetated with only a small percentage of the development consisting of new hardscaped asphalt surfaces, and/or developed structures. Additional noise terminology along with an overview of sound measurements is located in Appendix C.

The FRP is located within a rural residential section of San Luis Obispo County where primary land uses are agricultural, open space, commercial service, and residential. The FRP is characterized acoustically as a “soft” site, which means that it is more absorptive than reflective of sound pressure waves. The site would be considered a soft site due to the large open grassland fields intermixed with native bushes and trees. A soft site will tend to more easily attenuate sound pressure waves due to the absorptive capacity of the earth. An excess ground attenuation value of 1.5 dBA per doubling distance (DD) from a sound source is normally assumed for acoustically soft sites. When added to the geometric spreading of sound, this results in an overall drop-off rate of 4.5 dBA/DD for a line source (7.5 dBA/DD for a point source). Noise created by motor vehicles is considered a line source (California Department of Transportation, 1998).

b. WEST FRP - EXISTING NOISE ENVIRONMENT

The West FRP historically supported a dairy and cattle grazing facilities. The site currently supports a variety of informal trails and two designated trails. The recently updated County land use categories for the West FRP is Open Space (County of San Luis Obispo, 2006). The West FRP is bordered by Highway 1 to the east, the Park Hill residential neighborhood to the north, the West Lodge Hill residential neighborhood to the south, and the Pacific Ocean to the west. Sensitive receivers near the project site potentially subject to traffic-noise impacts include single-family residences.

The Bluff Trail is located along the far western boundary of the FRP, adjacent to the sea bluff. The Bluff Trail has been open to pedestrians since the property was purchased in 2000. In July 2002, pedestrian and bicycle trails were opened at a number of other locations on the West FRP. In 2005, the Bluff Trail and Marine Terrace Trail underwent major improvements. The County of San Luis Obispo is currently considering an application for a wireless telecommunications facility.

The West FRP is accessible from many locations in the community (refer to Figure III-5). Historically, public access to the West FRP has been from Windsor Boulevard, which runs to the north and south of the West FRP, as well as from some undeveloped properties along Huntington and Warren Roads. The public also uses CCSD access roads that extend into the East FRP from Highway 1 near the Santa Rosa Creek Bridge and from Rodeo Grounds Road to the east to access the property.

1) West FRP - Transportation Related Noise

The West FRP is a large parcel that stretches approximately one mile along the ocean and includes part of Santa Rosa Creek riparian corridor. Highway 1 divides the east side of the FRP from the west. The West FRP is accessible by vehicle from many locations within residential neighborhoods to the north and south of the West FRP site boundary (refer to Figure III-5). The Santa Rosa Creek Trail, improved in 2005, provides access for emergency and maintenance vehicles. The Marine Terrace Trail provides access for emergency vehicles, and is also an offshore emergency helicopter landing zone.

Morro Group visited the project site on August 21, 2006, to identify land uses and potential sensitive noise receptors in the project area that could be subject to traffic-noise impacts from the proposed project. The Bluff Trail generates a small amount of vehicle traffic as people travel through existing residential neighborhoods to access the trailheads. Short-term monitoring was conducted between 10:00 A.M. and 1:05 P.M. on August 21, 2006, to determine the existing noise environment surrounding and within the project site.

The traffic noise environment in the project area is dominated by noise from a mixed fleet of vehicles traveling on Highway 1. Noise measurements were conducted at an approximate distance of fifty feet from the centerline of the roadway for Highway 1, and at the edge of the West FRP boundary for the two representative residential streets that were measured. Measured noise levels and traffic volumes are summarized in Table V-28 (refer to Figure V-25 for measurement locations).

**TABLE V-28
Existing Noise and Traffic Summary
West FRP**

Location No.	Location	Period of Measurement	Noise Levels (dBA)			Measured Traffic Volume		
			Leq	Max	Min	Number	Vehicles/Min	Vehicles/Hr
1	Highway 1	10:00-10:15 am	61.1	76.6	39.7	228	15	912
2	Highway 1	10:20-10:35 am	61.5	78.1	42.4	240	16	960
3	Windsor Boulevard	12:30-12:45 pm	44.0	51.5	30.6	12	0.8	48
4	Huntington Street	12:50-1:05 pm	46.1	56.8	43.5	17	1.4	68

Note: Noise measurements for Highway 1 are representative of both the West and East FRP locations.

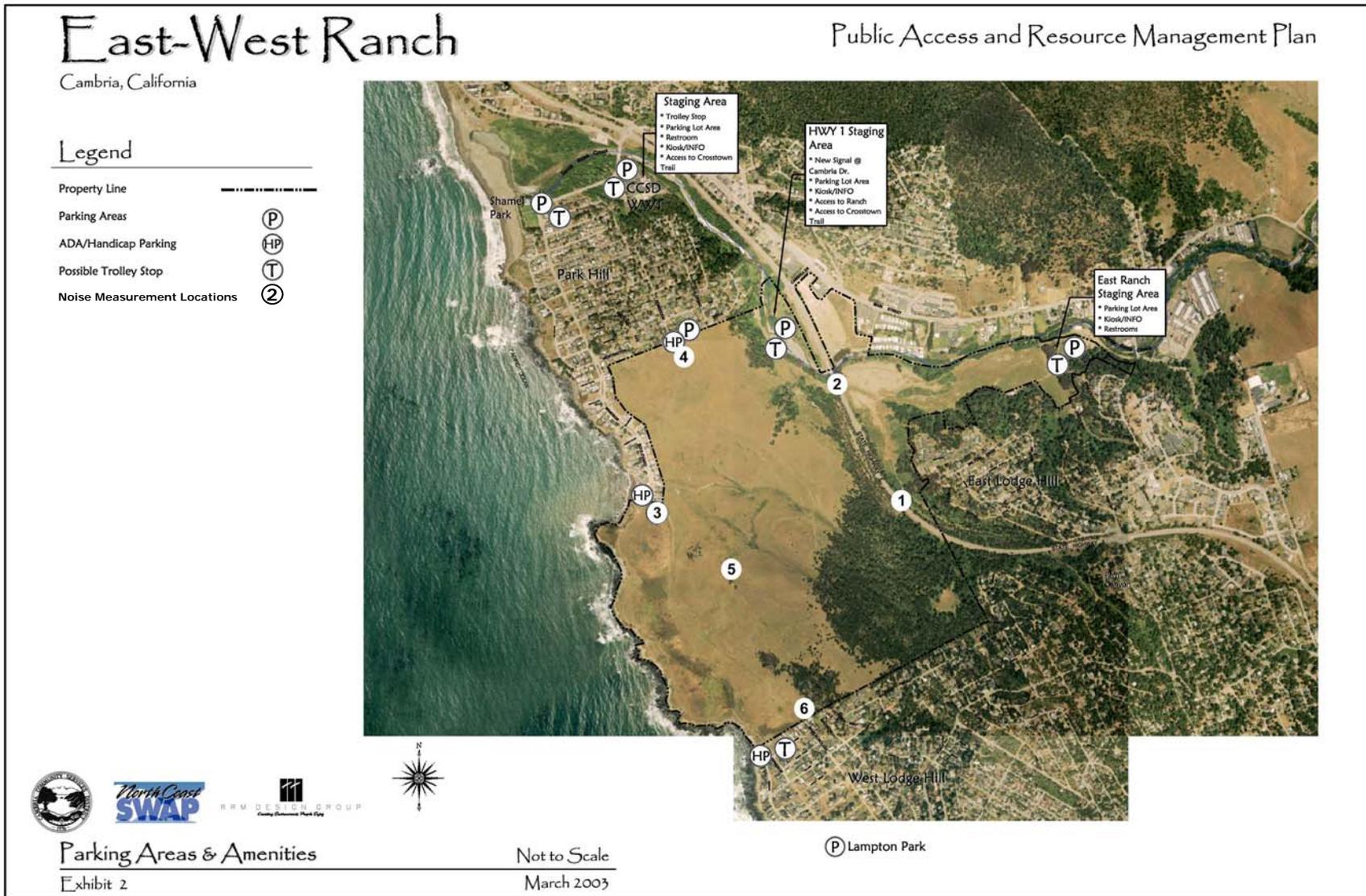
2) West FRP - Stationary Noise

As previously mentioned, the West FRP is bordered on the west by the Pacific Ocean, to the east by Highway 1, and to the north and south by existing residential development. Residential areas are generally not considered stationary noise sources. There are no existing commercial businesses or other types of loud activities in the area in close enough proximity to be considered stationary noise sources that would expose trail users to excessive noise levels. A field investigation was conducted on August 21, 2006, to determine ambient noise levels around the perimeter and within the FRP (refer to Table V-29). Noise was measured in two locations on the West FRP, as shown on Figure V-25.

**TABLE V-29
Existing Stationary Noise
West FRP**

Location No.	Site Location	Period of Measurement	Noise Levels (dBA)			Measured Traffic Volume		
			Leq	Max	Min	Number	Vehicles/Min	Vehicles/Hr
5	Interior	1:30-1:35 pm	42.0	55.5	39.6	12	0.8	48
6	Perimeter	1:50-1:55 pm	44.1	58.6	38.5	17	1.4	68

*Note:
Interior noise was measured within the West FRP.
Perimeter noise was measured at the FRP southern boundary.*



Source: Resource Management Plan, RRM Design Group



NORTH

Not to Scale

Draft Master EIR

Noise Measurement Location Map – West FRP
FIGURE V-25

c. EAST FRP – EXISTING NOISE ENVIRONMENT

The project site historically supported cattle grazing facilities and a rodeo grounds. The site currently supports a variety of informal trails, a connection to the Cross-town Trail, the CCSD pumphouse, and a County storage yard. The CCSD pumphouse, which includes existing structures, water tanks, and a parking area, is located along the northeastern perimeter of the proposed community park area, at the western terminus of Rodeo Grounds Road. The County of San Luis Obispo Public Works Department equipment and materials storage yard is also located at the western terminus of Rodeo Grounds Road, within the northeastern portion of the proposed community park area. An unoccupied residence and small equestrian barn are located near the far southern boundary of the proposed community park area.

Based on the recent approval of the *Cambria Urban Area and San Simeon Acres Community Plans* land use category map (County of San Luis Obispo, 2006), the East FRP is within the Recreation and Open Space land use categories. The East FRP is accessed by Rodeo Grounds Road off of Burton Drive. It is bordered by Santa Rosa Creek and Main Street commercial uses to the north, the East Lodge Hill residential neighborhood to the south, the East Village commercial district to the east, and Highway 1 to the west. There are existing residential sensitive noise receptors located to the northeast and west, adjacent to the proposed park boundaries. Sensitive receivers near the project site potentially subject to traffic-noise impacts include single-family residences and commercial business.

1) East FRP - Transportation Related Noise

Highway 1 divides the east side of the FRP from the west. Higher levels of existing noise resulting from automobile and truck traffic characterize the perimeter portions of the proposed park site adjacent to the Highway 1 corridor, and to a lesser degree the commercial/business portion of Burton Drive. Although higher levels of noise are found along the existing transportation corridors surrounding the park, noise levels rapidly attenuate as one moves towards the interior of the site because of the varying topography and in some locations the presence of dense thick wooded vegetation. A field investigation was conducted on August 21, 2006, to determine traffic related ambient noise levels around the perimeter and within the proposed park site (refer to Table V-30 below, and Figure V-26).

**TABLE V-30
Existing Noise and Traffic Summary
East FRP**

Location No.	Site Location*	Period of Measurement	Noise Levels (dBA)			Measured Traffic Volume		
			Leq	Max	Min	Number	Vehicles/Min	Vehicles/Hr
1	Highway 1	10:00-10:15 am	61.1	76.6	39.7	228	15	912
2	Highway 1	10:20-10:35 am	61.5	78.1	42.4	240	16	960
T-3	Burton Drive	10:50-11:05 am	56.3	73.1	43.5	118	8	460
T-4	Burton Drive	11:20-11:35 am	58.4	79.1	38.5	140	9	560

**Refer to Figure V-25 for noise site locations.*

(a) **East FRP - Stationary Noise**

Existing sources of noise in the immediate park area include commercial businesses located to the north/northeast from the project site across Santa Rosa Creek and activity occurring within the County storage yard. The short-term noise monitoring focused on adjacent residential land uses surrounding the proposed park site. A field investigation was conducted on April 20, 2006, to determine ambient noise levels around the perimeter and within the proposed park site (refer to Table V-31 and Figure V-28).

**TABLE V-31
Measured Ambient Noise Levels
East FRP**

Location No.*	Site Location	Period of Measurement	Noise Levels Leq (dBA)
1	Boundary	2:30 pm – 2:35 pm	47.0
2	Boundary	2:45 pm – 2:50 pm	48.4
3	Boundary	2:55 pm – 2:00 pm	49.0
4	Interior	3:10 pm – 3:15 pm	45.2
5	Interior	3:20 pm – 3:30 pm	44.8
6	Interior	3:35 pm – 3:40 pm	46.6

**Location shown on Figure V-26*



Source: Master Development Plan, firma.



NORTH
Not to Scale

Draft Master EIR

Noise Measurement Location Map – East FRP
FIGURE V-26

3. THRESHOLDS OF SIGNIFICANCE

The threshold of significance for noise related impacts is the exceedance of a standard as established in the *County Noise Element* by any proposed development project. Where the established standard is already exceeded, a one decibel increase in a noise level is considered a significant impact.

The *County Noise Element* establishes separate standards for transportation noise, which is noise generated by automobiles, trucks, trains and airplanes, and stationary noise, which is noise generated by any recreational, industrial, and commercial facilities.

a. COUNTY NOISE ELEMENT SPECIFIC POLICIES

The *County Noise Element* provides a process for new development to follow in an effort to achieve acceptable interior and exterior levels for noise-sensitive land uses. The noise thresholds contained in the *County Noise Element* represent maximum acceptable noise levels. New development resulting from development of the project elements proposed in the Management Plan and Community Park Master Plan should minimize noise exposure and noise generation to the maximum extent feasible.

The applicable County thresholds for evaluating noise impacts from transportation noise are 60 dBA (L_{dn}) for potential outdoor activity areas and 45 dBA (L_{dn}) in interior spaces. The *County Noise Element* states that outdoor activity areas would include patios and backyard recreation areas, but not the front yards of residences that extend to the edge of the roadway in most circumstances. Stationary noise thresholds are 50 dBA daytime and 45 dBA nighttime for residential land uses.

1) Transportation Noise Sources

The *County Noise Element* includes the following policies used to identify acceptable noise exposure, potential noise impacts, and guidelines for when mitigation is required.

Policy 3.3.2 states that “new development of noise-sensitive land uses shall not be permitted in areas exposed to existing or projected future levels of noise from transportation noise sources which exceed L_{dn} or CNEL land use category thresholds for outdoor activity areas and for interior spaces unless the project includes effective mitigation measures to reduce noise in outdoor activity areas and interior spaces to or below the levels for the given land use” (refer to Table V-32).

Policy 3.3.3 states that “noise created by new transportation sources, including roadway improvement projects, shall be mitigated so as not to exceed the levels specified in [Table V-32] within outdoor activity areas and interior spaces of existing noise sensitive land uses.”

TABLE V-32
Maximum Allowable Noise Exposure – Transportation Noise Sources

Receiver Site Land Use	Outdoor Activity Areas ¹ L _{dn} /CNEL, dB	Interior Spaces	
		L _{dn} /CNEL, dB	L _{EQ} , dB ²
Residential (Except Temporary)	60 ³	45	–
Bed and Breakfast, Hotels, Motels	60 ³	45	–
Hospitals, Nursing and Personal Care	60 ³	45	–
Public Assembly and Entertainment	–	–	35
Offices	60 ³	–	45
Churches, Meeting Halls	–	–	45
Schools, Libraries, Museums	–	–	45
Outdoor Sports and Recreation	70	–	–

Notes:

- 1 Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.
- 2 As determined for a typical worst-case hour during periods of use.
- 3 For other than residential uses, where an outdoor activity area is not proposed, the standard shall not apply. Where it is not possible to reduce noise in outdoor activity areas to 60 dB L_{dn}/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB L_{dn}/CNEL may be allowed.

Source: County of San Luis Obispo General Plan Noise Element, 1992.

2) Stationary Noise Sources

The *County Noise Element* includes the following policies used to identify acceptable noise exposure, potential noise impacts, and guidelines for when mitigation is required.

Policy 3.3.4 states that “new development of noise-sensitive land uses shall not be permitted where the noise level due to existing stationary noise sources would exceed the noise level standards included in the *County Noise Element* unless effective noise mitigation measures have been incorporated into the design of the development to reduce noise exposure to or below the levels specified.” The same is also true of new development of stationary noise sources on existing residential developments.

Policy 3.3.5 states that “noise created by new proposed stationary noise sources or existing stationary noise sources which undergo modifications that may increase noise levels shall be mitigated and shall be the responsibility of the developer of the stationary noise as follows:

1. Noise levels shall be reduced to or below the noise level standards in [Table V-33] where the stationary noise source will expose any **existing** noise-sensitive land use (which is listed in the Land Use Element as an allowable use within its existing land use category) to noise levels that exceed the standards in [Table V-33].

2. Noise levels shall be reduced to or below the noise level standards in [Table V-33] where the stationary noise source will expose **vacant** land in the Residential Rural, Rural Lands, and Commercial Retail to noise levels that exceed the standards in [Table V-33].

The allowable hourly daytime stationary noise standard for a residential land use is 50 dBA, while the maximum is 70 dBA Leq. The hourly nighttime stationary noise standard for a residential development is 45 dBA, while the maximum is 60 dBA Leq (refer to Table V-33). In this instance, the community park is considered a stationary noise source, which may generate noise affecting the adjacent noise-sensitive use, which is residential.

TABLE V-33
County of San Luis Obispo Stationary Noise Standards

Level	Daytime (7 am-10 pm)	Nighttime (10 pm-7 am)
Hourly average level (L _{eq}) dB	50	45
Maximum level (Max) dB	70	65
Maximum level, dB-Impulsive Noise	65	60

Source: County of San Luis Obispo General Plan Noise Element, 1992.

3) Existing and Cumulative Noise Impacts

The *County Noise Element* includes the following policies used to identify acceptable noise exposure, potential noise impacts, and guidelines for when mitigation is required.

Policy 3.3.6 states “The County shall consider implementing mitigation measures where existing noise levels produce significant noise impacts to noise-sensitive land uses or where new development may result in cumulative increases of noise upon noise sensitive land uses. Significant noise impacts result in an increase of 1 dBA to the existing environment.”

4) Construction Noise

Construction noise from development of the project could have significant noise impacts on adjacent noise-sensitive land uses. In general, the grading phase of project construction tends to create the highest noise levels because of the operation of heavy equipment. Construction noise would be a short-term impact for the different development phases of the project. Generally, other than limiting exceptionally noisy activities to certain times and days of the week, the County currently has no noise threshold for temporary construction related impacts; however, noise reduction plans can be implemented on a case-by-case basis as warranted. In the event that significant noise would result due to a long-term construction project, or unique situations where significant short-term noise impacts are identified, a noise reduction plan can be required as a condition of project approval.

b. CEQA GUIDELINES

Under CEQA, a substantial noise increase may result in a significant adverse environmental effect; if so, the noise increase must be mitigated or identified as a noise impact for which it is likely that only partial (or no) mitigation measures are available. Specific economic, social, environmental, legal, and technological conditions can make mitigation measures for noise not feasible.

Appendix G of the *CEQA Guidelines* and the CCSD's environmental initial study checklist indicate that significant noise impacts occur when the project:

- exposes people to noise levels in excess of standards established in local noise ordinances or general plan noise elements;
- causes a substantial permanent or temporary increase in noise above levels existing without the project; and,
- results in exposure of persons to or generates excessive ground-borne vibration or ground-borne noise levels.

Noise impacts of any development project are considered significant if noise resulting from construction or operation occurs beyond the specified level and/or time frame set by the County of San Luis Obispo.

4. IMPACT ASSESSMENT AND METHODOLOGY**a. AUTOMOBILE TRAFFIC NOISE ASSESSMENT**

The procedure for assessing vehicular traffic noise impacts included measuring the peak-hour noise levels at select locations on the project site while counting the traffic generating the noise during the period of measurement. The measured peak-hour noise levels are then adjusted logarithmically to determine the "future" noise levels by using the estimated traffic volume predictions for various road segments. Logarithms are used because they produce linear correlations, which can then be used to more readily evaluate future noise levels. Generally speaking, doubling the traffic volume will produce a 3 dB increase in the ambient noise environment.

From a practical standpoint, the peak-hour Leq noise level is essentially equivalent to the Ldn noise level (generally yielding results within 0.5 dBA of each other). The Ldn is the standard measure used for evaluating community noise impacts in the *County Noise Element* (refer to Appendix C of this EIR for Ldn definition). For most situations involving noise originating from vehicular traffic, the peak-hour Leq can be used as the Ldn level, avoiding the need and cost for 24 hours of continuous noise measurements. Peak hour Leq was the methodology used in evaluation of traffic noise impacts for the proposed project. Noise measurements were taken for a duration of five minutes at each location. The maximum and minimum one-second noise levels were also recorded by the noise meter and are included for informational purposes. Further analysis is based on the average noise levels (Leq) as discussed in this report.

Vehicle noise is a combination of the noises produced by the engine, exhaust, and tires. The level of traffic noise depends on the following three factors: (1) the volume of traffic; (2) the speed of the traffic; and, (3) the number of trucks in the traffic flow. Generally, heavier traffic volumes, higher speeds, greater numbers of trucks, and the use of air or “Jake-Brakes” brakes on big trucks increase the loudness of traffic noise. The loudness of traffic noise can also be increased by defective mufflers or other faulty equipment on vehicles. Any condition (such as a steep incline) that causes heavy laboring of motor vehicle engines will also increase the resultant traffic noise levels.

b. STATIONARY NOISE ASSESSMENT

The procedure for assessing existing stationary noise levels on new noise sensitive land uses is to measure the ambient pre-project noise level at select locations, measure the distance from the sound source to the proposed nearest sensitive receiver site, then compare the ambient noise readings at the sensitive receptor site to published threshold values in the *County Noise Element* to determine if an exceedance of the threshold value would be expected.

In a similar fashion, the procedure for assessing new stationary noise sources such as the proposed park on existing noise sensitive land uses is to measure the ambient pre-project noise levels to establish an existing noise baseline. The procedure for assessing future stationary noise is more speculative in nature. If enough noise data was available for similar types of noise sources as would be present within the project site, one could logarithmically add all potential noise sources that reasonably could be expected within the park simultaneously, and estimate the worst-case noise level from similar existing sources in other areas of the County. An example of this would be to measure noise levels at an existing park with athletic fields, and then apply that information to the new development using appropriate modeling of the new site. Further analysis within this EIR is based on integrated average noise levels (Leq).

This method was used to assess future stationary noise at the proposed project site by evaluating existing sites with similar characteristics and land uses. The noise produced at similar types of recreational facilities and sporting events throughout the County was measured and the resulting measurements were applied to the proposed project site.

Potential noise impacts are generally composed of three basic elements: the noise source, a transmission path, and a receiver. The emphasis of noise control in land use planning is usually placed upon acoustical treatment of the transmission path and the receiving structures. The following section describes potential impacts associated with the proposed project, based on the methods and thresholds identified in this Master EIR.

5. WEST FRP - IMPACTS AND MITIGATION MEASURES

Proposed improvements within West FRP would include additional multi-use trails, gates and stiles, fences, benches, wireless telecommunications facilities, and signs. Some trails, gates, stiles, fences, and benches are already in place. The *Public Access and Management Plan* for the West FRP also includes restoration activities including creek bank stabilization, invasive and non-native plant eradication, gully stabilization, vegetation management, and habitat restoration.

a. **WEST FRP - SHORT-TERM CONSTRUCTION RELATED NOISE**

Most trails included in the *Management Plan* for the West FRP already exist and have been used historically by the community. Many trails link together, forming hiking “loops” on the West FRP property, allowing experiences of differing physical abilities, environments, and scenery. In addition to improvements to the trail system, the *Management Plan* includes various environmental restoration activities, which may require the use of construction equipment. Although major infrastructure is not planned for the West FRP, the creation of potential parking facilities around the site as well as earthmoving activities associated with trail improvements and restoration activities could have a short-term adverse noise impact on the residential neighborhoods surrounding the project site. In addition, a wireless telecommunications facility may be constructed on the West Ranch, which would result in the generation of construction noise.

In general, the grading or earthwork phase of project construction tends to create the highest noise levels because of the operation of heavy equipment. Construction noise would be a short-term impact for any individual restoration or other type of project undertaken as part of the *Management Plan*. Other than limiting noisy activities to certain times and days of the week, the County currently has no noise threshold for temporary construction related impacts. The existing *County Noise Ordinance* requirements limit such construction activities to between 7:00 A.M. and 9:00 P.M. Monday through Friday and between 8:00 A.M. and 5:00 P.M. on Saturday and Sunday for all development projects.

In the event that it is anticipated that significant noise would result to nearby sensitive noise receptors due to long-term construction projects, or unique situations where significant short-term noise impacts are identified, a noise reduction plan is often required.

N Impact 1 Construction of individual projects outlined in the Management Plan could temporarily produce noise levels ranging from 70 to 95 dBA at a distance of approximately fifty feet from the source, potentially affecting adjacent sensitive land uses, and resulting in a potentially significant short-term impact.

N/mm-1 During construction activities, the use of equipment shall be limited to allowed work hours as defined in the existing *County Noise Ordinance*, 7:00 A.M. to 9:00 P.M. (Monday through Friday) and 8:00 A.M. to 5:00 P.M. (Saturday and Sunday).

Residual Impact Short-term construction noise impacts on the West FRP associated with trail development and restoration activities as outlined in the *Management Plan* would be considered *less than significant with mitigation, Class II*.

b. **WEST FRP - TRANSPORTATION RELATED NOISE – AFFECT ON PROJECT USERS**

The site-specific noise monitoring results determined that based on existing traffic volumes on adjacent West FRP residential streets and Highway 1 (which borders the site to the east), the current noise contours resulting from existing traffic conditions are far below and do not exceed

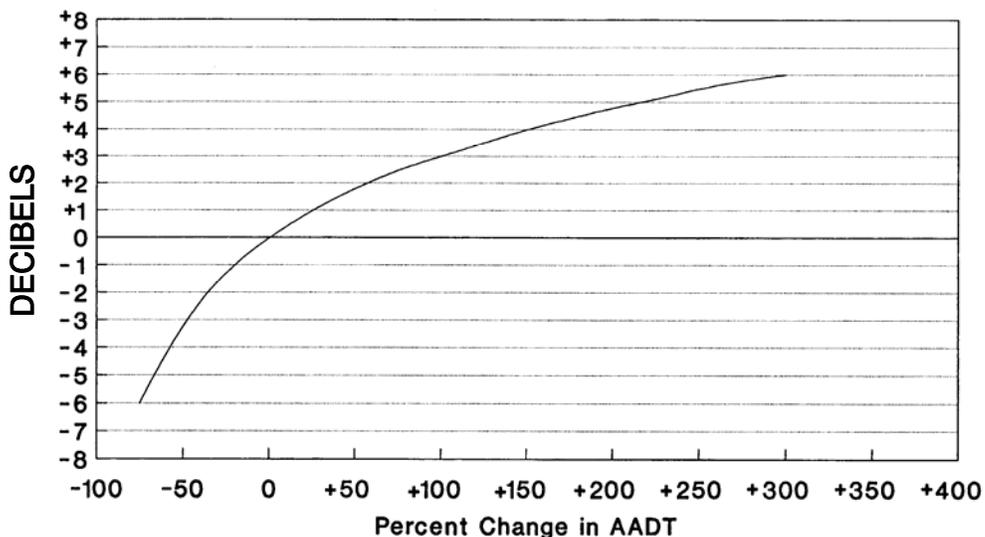
the County threshold level of 70 dBA for the proposed use (refer to Table V-27). Transportation-related noise levels after West FRP trails are fully developed are not expected to increase substantially. Long-term transportation noise impacts on project users are expected to be *less than significant, Class III*. Therefore, transportation-related noise mitigation measures would not be required.

c. WEST FRP - TRANSPORTATION RELATED NOISE – AFFECT ON ADJACENT USES

Currently, the FRP is accessed by local streets within adjacent neighborhoods. The most popular access is from Windsor Boulevard (South). Higher traffic occurs during weekends and in the summer tourist months. One objective of the *Management Plan* is to provide convenient staging and parking areas and access for FRP visitors at or near Highway 1, and local resident access from multiple points in the surrounding neighborhoods (refer to Chapter V.G., Transportation and Circulation, for further discussion regarding traffic and parking). Noise generated by increased circulation and parking demands may be reduced by alternative transportation methods.

Due to the linear relationship between traffic volume and noise levels, if traffic is reduced or increased in the residential neighborhoods surrounding the West FRP site, the noise level will decrease or increase, respectively. Generally, it takes one doubling of the traffic volume to increase the ambient noise environment by approximately 3 dB (refer to Figure V-27). A 1.0 dBA increase in the noise level is the minimum perceptible change the human ear can detect. A 3.0 dBA change is readily noticeable by most people, and a 10 dBA change would be perceived as twice as loud or approximately a doubling of the noise level.

FIGURE V-27
Percent Change in Annual Average Daily Traffic (AADT)
Compared to Traffic Noise Level



Source: Noise Element, Technical Reference Document, San Luis Obispo County General Plan 1992

Existing noise levels on Highway 1 and residential streets surrounding the West FRP project site are well below the thresholds as defined by the *County Noise Element* typically requiring mitigation (refer to Tables V-28 and V-32). The small increase in traffic associated with project-generated traffic for the West FRP is considered to be insignificant. Long-term transportation noise impacts on adjacent sensitive noise receptors is expected to be *less than significant, Class III*. Therefore, transportation-related noise mitigation measures for adjacent sensitive noise receptors as a result of West FRP project-generated traffic would not be required.

d. **WEST FRP - STATIONARY NOISE – AFFECT ON ADJACENT USES**

Development of the project site for trail use would be considered a passive recreational activity, and its use would not be considered a stationary noise source as defined by the *County Noise Element*. Wireless Telecommunication facilities may be installed per County approved plans and permits on the West FRP. An application for a wireless facility on the West FRP is currently under consideration by the County of San Luis Obispo, which is proposed to be located over 1,000 feet from the nearest residence. Based on several previous noise studies conducted by Morro Group, these facilities can often exceed the 50 dBA daytime and 45 dBA nighttime noise threshold as defined in the *County Noise Element* for stationary sources depending on their proximity to the closest sensitive receiver location. If wireless telecommunication facilities or other potential noise generating uses are proposed near the West FRP project boundary, a site-specific acoustical analysis should be conducted to ensure the facility would not be in conflict with existing stationary noise thresholds as defined by the *County Noise Element*.

N Impact 2 Development of wireless telecommunication facilities or other noise producing facilities could potentially result in the construction of future stationary noise sources near existing noise-sensitive land uses (residential), resulting in a potentially long-term significant impact.

N/mm-2 Upon application for land use or construction permits for a telecommunications facility, the CCSD or its designee shall submit a Noise Study Report prepared by a County qualified acoustical consultant for review and approval by the County Planning Department. The Noise Study report shall include all measures necessary to mitigate predicted noise levels for adjacent sensitive noise receptor outdoor activity areas to below the 50 dBA daytime and 45 dBA nighttime threshold standard outlined in the *County Noise Element*.

Residual Impact Long-term project-related noise impacts would be considered *less than significant with mitigation, Class II*.

6. EAST FRP – IMPACTS AND MITIGATION MEASURES

Future development within the park would potentially subject existing residential areas near the park boundaries to adverse levels of noise potentially above the thresholds identified in the *County Noise Element*. Although the exact noise level cannot be determined at this time, the addition of various sports fields, tennis and basketball courts, community building, or any other type of outdoor use constructed within the park is evaluated as much as feasible given the current

project information. These types of land uses within the park would be classified as stationary noise sources and subject to Policy 3.3.5 of the *County Noise Element*.

The 25-acre park site includes 17.5 acres of developed and active recreational uses and 7.5 acres of open space. Potential sources of noise associated with the proposed park facilities include operation of athletic play fields and general community recreation. The active uses on athletic fields could include soccer, little league baseball, softball, and other sports activities. Court uses include sand volleyball, basketball, and tennis. The park also includes restrooms, a dog park, and children's playground. Vehicle access to the park will be off of Rodeo Grounds Road and Burton Drive. Hikers typically reach East FRP from volunteer trails in the East Lodge Hill neighborhood. Other bicycle and pedestrian access will be from Burton Drive and from connections to the Cross Town Trail and Santa Rosa Creek Trail. The park athletic facilities are not intended for active use after dark and the park plan does not include field or court lighting.

a. **EAST FRP - SHORT-TERM CONSTRUCTION RELATED NOISE**

Construction noise would differ among the various phases of park development, depending on the particular construction activities, working hours, and the numbers and operating lengths of the equipment used. During the initial phases of construction, it is estimated that most of the construction noise would be limited to grading and earthwork operations, which would only affect the residences located along the boundaries of the project site for a short period of time.

Development of the proposed project would create temporary increases in the ambient noise level during construction in close proximity to residential areas; therefore, mitigation would be required for short-term construction-related impacts.

N Impact 3 Development of the proposed project would expose existing sensitive residential receptors surrounding and on the project site to temporary construction-related noise impacts, resulting in a potentially significant, direct, short-term impact.

N/mm-3 Upon application for construction permits from the County of San Luis Obispo, the CCSD or project developer shall submit a Noise Reduction Plan prepared by a qualified acoustical consultant for review and approval by the County Planning Department. The Noise Reduction Plan shall include but is not limited to the following standards:

- a. Limit all phases of construction to the hours of 7:00 AM to 9:00 PM Monday through Friday as required by County ordinance;
- b. Regular notification of all existing and future residences within 1,000 feet of the site boundary concerning the construction schedule;
- c. Shield especially loud pieces of stationary construction equipment;
- d. Locate portable generators, air compressors, etc. away from sensitive noise receptors;
- e. Limit grouping major pieces of equipment operating in one area to the greatest extent feasible;

- f. Place heavily trafficked areas such as the maintenance yard, equipment, tools, and other construction oriented operations in locations that would be the least disruptive to surrounding sensitive noise receptors;
- g. Use newer equipment that is quieter and ensure that all equipment items have the manufacturers' recommended noise abatement measures, such as mufflers, engine covers, and engine vibration isolators intact and operational. Internal combustion engines used for any purpose on or related to the job shall be equipped with a muffler or baffle of a type recommended by the manufacturer;
- h. Conduct worker-training meetings to educate and encourage noise awareness and sensitivity. This training should focus on worker conduct while in the vicinity of sensitive receptors (i.e., minimizing and locating the use of circular saws in areas adjacent to sensitive receptors and being mindful of shouting and the loud use of attention drawing language); and,
- i. Notify surrounding residences in advance of the construction schedule when unavoidable construction noise and upcoming construction activities likely to produce an adverse noise environment are expected. Noticing shall provide phone number of the project manager, construction foreman, and any other pertinent project team members. This notice shall be given one week in advance, and at a minimum of one day in advance if anticipated activities have changed (i.e., notice in local publication, temporary signage postings, etc.). Project representative shall verbally notify all surrounding residential owners if one day advance notice is given.

Residual Impact Temporary construction noise impacts would be considered *less than significant with mitigation, Class II*.

b. EAST FRP - TRANSPORTATION RELATED NOISE – AFFECT ON PROJECT USERS

Policy 3.3.2 of the *County Noise Element* indicates that an ambient outdoor traffic noise level of 70 dB is allowable for new development of recreational areas such as parks (refer to Tables V-31 and V-32). Since existing traffic noise levels are far below that level (58 dB, Table V-29), measured on Burton Drive, existing traffic noise levels would not represent a significant impact for users of the community park. Long-term transportation noise impacts on project users are expected to be *less than significant, Class III*. Therefore, transportation-related noise mitigation measures for project users would not be required.

c. EAST FRP - TRANSPORTATION RELATED NOISE – AFFECT ON ADJACENT USES

An increase in traffic volume associated with new park development would have a potential adverse effect on surrounding transportation noise levels if noise levels exceed acceptable thresholds, or increases the existing noise level by 3dB. As previously mentioned for the West FRP, it generally takes one doubling of the traffic volume to cause a 3 dBA increase in ambient noise levels. Given the rather large traffic volumes on Highway 1 and Burton Drive, it is

unlikely that increased vehicle traffic associated with the community park would generate a noticeable difference in noise levels.

Table V-34 shows the weekday trip generation estimates as prepared by ATE (2006) for the proposed project. The community park project is anticipated to generate 875 average daily trips (ADT) and 79 P.M. peak hour trips on non-summer weekdays.

TABLE V-34
East FRP Community Park Trip Generation
Weekday Average Daily Trips and P.M. Peak Hour Trips

Land Use	Size	ADT		P.M. Peak Hour	
		Rate	Trips	Rate	Trips
Park	14 acres	50 trips/ac	700	4.5 trips/ac	63

Table V-35 provides the summer weekend trip generation estimates as estimated by ATE (2006) for the proposed project. This assumes full use of nine sports fields throughout the day, along with other park uses. This scenario is estimated to generate approximately 1,655 ADT and 270 P.M. peak hour trips.

TABLE V-35
Community Park Trip Generation
Summer Weekend Average Daily Trips and P.M. Peak Hour Trips

Land Use	Size	ADT		P.M. Peak Hour	
		Rate	Trips	Rate	Trips
Other Park Amenities	5.8 acres	66.47/ac	386	1.18	6.8
Sports Fields	5 fields	117.43/field	587	28.73	143.6
Total			973		150.4

The worst-case noise scenario would therefore be the summer weekend analysis. Referring back to Table V-29, Highway 1 would be expected to carry approximately 900 to 1,000 peak-hour trips, and Burton Drive could reasonably be expected to carry approximately 500 peak-hour trips. As it takes an approximate doubling of the traffic volume to produce a 3 dBA increase in noise levels, project-generated traffic is not anticipated to produce a large enough peak-hour volume to significantly impact sensitive noise receptors located near or adjacent to the park site. Long-term transportation noise impacts on adjacent sensitive noise receptors is expected to be *less than significant, Class III*. Therefore, transportation-related noise mitigation measures for adjacent sensitive noise receptors as a result of East FRP project-generated traffic would not be required.

d. **EAST FRP - STATIONARY NOISE – AFFECT ON ADJACENT USES**

Certain land uses within the park would be classified as stationary noise sources and subject to Policy 3.3.5 of the *County Noise Element*. Future development of the park would potentially subject existing residential areas to adverse stationary noise levels possibly above the thresholds contained within the *County Noise Element*. Although the exact noise level cannot be determined at this time, the addition of various sports fields, tennis and/or basketball courts, or any other type of outdoor use constructed within the proposed park boundary can be estimated by comparing similar noise measurements from other area parks and sports fields within the County.

In order to determine potential stationary noise levels that may result from usage of the various sports fields at the park, noise monitoring was conducted at several locations throughout the County for both youth and adult sporting events. Table V-36 documents the one-hour Leq for several types of these events. When multiple events were occurring at the same time, the noise was measured at approximately equal distances from home plate of either game, or between the center of the fields in case of the soccer. Table V-36 represents a reasonable range of the “worst-case” estimated one-hour Leq noise levels that could be expected at the community park for various types and intensity of events.

TABLE V-36
Measured Sporting Event Noise Levels

Measurement Type	Number of Games Measured	Noise Levels Leq (dBA)
Adult COED Softball (Paloma Creek, Atascadero)	2	59.0
Adult COED Softball (Barney Schwartz, Paso Robles)	3	66.3
Youth Girls Softball (Traffic Way, Atascadero)	2	63.0
Youth Boys Soccer (Del Rio Elementary, Atascadero)	1	56.2

Note: The measurements provided above are meant to provide a “reasonable” range of anticipated noise levels that could be expected at the proposed park site.

If the measured noise events in Table V-36 are approximated as a point source and combined, an estimate can be made of the “overall” noise level that could be expected if five of these events were occurring simultaneously within the proposed park. Approximating the center of the park as the noise source, and adding the noise sources from Table V-36 logarithmically, a reasonable estimation of the combined effects of maximum park usage was determined. As noted in the Transportation and Circulation section of this EIR, available parking capacity would limit operation of the turf area to four games; however, estimating noise generated by five games provides a reasonable worst-case scenario in the event that the turf area, multi-use court pad, and other park facilities are in use.

The result of the simulated point source noise estimate is 67.4 dBA at a distance of approximately 100 feet. Considering that sound attenuates for various reasons such as distance, topography, and vegetation, and the site is considered a “soft” site, it is estimated that noise would attenuate approximately 7.5 dBA per doubling of distance for an at-grade alignment.

For analysis at the proposed project location, it was presumed that four youth soccer and one baseball/softball/little league game would be occurring simultaneously, for a total of five games. Using the measured values as seen in Table V-26, an estimated noise level of 65 dBA Leq would be expected at a distance of 100 feet from the center of these events. Using presumed attenuation rates for doubling distance, there would need to be approximately two doublings of distance to attenuate 15 dBA.

The daytime outdoor noise threshold for stationary sources is 50 dBA Leq measured at the property line of the receiving land use. At a distance of approximately 400 feet from the simulated at-grade point source, noise levels would be approximately 50 dBA if all five events were occurring simultaneously. Based on this assessment, any residential property line closer than 400 feet from multiple occurring sporting events may be affected by these activities. Nearby residences are located approximately 350 to 400 feet to the south and southwest of the proposed multi-use sports fields. Nighttime usage of the park is not proposed and nighttime noise impacts are not expected to occur.

Outdoor noise mitigation would need to be implemented for portions of the surrounding residential areas to help reduce noise levels caused by stationary sources from sporting events in the proposed park area. When mitigation must be applied to satisfy the policies contained in Chapter 3.3 of the *County Noise Element*, the following mitigation measures shall be considered and preference shall be given, where feasible, in the following order:

- Site layout, including setbacks, open space separation and shielding of noise-sensitive uses with non noise-sensitive uses.
- Acoustic treatment of buildings.
- Structural measures: construction of earthen berms or noise barriers.

Due to the configuration and large amount of undeveloped area within the park area, requiring setbacks or using open space separation is the most effective form of noise mitigation, precluding the construction of berms or sound walls. A minimum developmental setback would be required for effective noise reduction between the proposed sports fields and the outdoor activity areas of the existing residences to ensure intermittent noise levels would be under the maximum of 70 dBA (maximum) or 50 dBA Leq (hourly) for a stationary noise source. Locating active recreation facilities at least 400 feet from the perimeter park boundary would accomplish two things: first, an adequate setback distance would be achieved, and second, at a 400-foot distance these facilities would be at a much lower elevation than surrounding residential areas. After accounting for slope and subsequent elevation drop to the north and east, new park facilities would adequately be “tucked” into the existing landscape, providing additional natural shielding of future noise resulting from usage of the facilities. Based on the size and width of the parcel proposed for the community park, implementation of a 400-foot setback from the property boundary is not feasible for all proposed sports fields. A physical separation of approximately

350 to 400 linear feet, 40 to 60 vertical feet, and natural vegetation is located between the proposed active recreational areas and existing residences.

Upon completion of the technical analysis for this section of the EIR, the CCSD revised the proposed community park design to locate the baseball/softball field in the northeast corner of the multi-use sports field area to increase the distance between these types of activity (which tend to generate noise levels louder than soccer) and the residential property line. In addition, any amplified sound (e.g., loudspeakers, game announcers, etc.), should be designed so as to not point in a direction that is directly into a residential area. All loudspeakers and amplification of sound should point directly into the interior of the park and the volume should be limited to the immediate area of the event.

N Impact 4 Development of the proposed community park would result in the generation of stationary noise levels exceeding acceptable thresholds at the property line of adjacent existing sensitive land uses, resulting in a potentially significant long-term impact.

N/mm-4 Upon application for a Development Plan/Coastal Development Permit from the County of San Luis Obispo, the CCSD shall incorporate the following operational standards into the *Community Park Master Plan*:

- a. Any amplified sound (e.g., loudspeakers, game announcers, etc.), should be designed so as to not point in a direction that is directly into a residential area. All loudspeakers and or amplification of sound should point directly into the interior of the park.
- b. The volume of any amplified event should be limited to the immediate area of the event and shall not exceed a maximum noise level of 70 dBA as measured from the property line.

Residual Impact Implementation of the proposed redesigned project and mitigation measures listed above would minimize potential noise impacts, however, the hourly 50 decibel threshold at the residential property boundary with the FRP would be exceeded during the maximum use of proposed sports fields, resulting in a *potentially significant, adverse impact, Class I*.

7. CUMULATIVE IMPACTS

As Cambria's population increases, the number of residences will increase, as will the infrastructure, the amount of traffic, and the number of stationary sources. Subsequently, the overall ambient noise level will also increase. The CCSD has proposed a Build-out Reduction Program to reduce the build-out capacity of the community, which would involve the retirement of lots within the community. Few or no homes will be built due to water shortage and infrastructure limitations in the near future.

This relationship generally holds true for most any situation or area of the County. Cumulative noise related impacts could be thought of in this way, as an areas population grows, so will the incremental sound pressure level, and the noise environment will increase accordingly.

However, noise impacts are mitigable, and reasonable measures exist to address future noise related impacts caused by development of the surrounding area. Although the proposed project and everyday community usage would incrementally raise the ambient daytime noise levels in close proximity to the park site, it is not expected to significantly contribute to the cumulative increase in noise levels. In addition, implementation of project-specific noise mitigation would reduce the project's contribution to increased noise levels in the immediate area. Therefore, development of the proposed project would result in cumulative noise impacts that are considered *less than significant, Class III*.

LIST OF ABBREVIATED TERMS

Abbreviation	Term
ADT	Average Daily Trips
CCSD	Cambria Community Services District
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
CZLUO	Coastal Zone Land Use Ordinance
dB	Decibel
dBA	A-weighted Sound Level
DD	Doubling Distance
EIR	Environmental Impact Report
Ldn	Day-Night Equivalent Level
Leq	Equivalent Sound Level