6.9 NOISE

6.9 NOISE

INTRODUCTION

This section discusses the existing noise environment in the vicinity of the RUSP project site, and the potential of the proposed project to increase noise levels due to project construction and operation. Information included in this section comes from a field investigation during which existing ambient noise levels were measured. Noise modeling data is included in Appendix E. References used in this section include the Placer County General Plan Noise Element, the Placer County Code, and the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction model. Traffic inputs for the noise prediction model were provided by Fehr and Peers Associates.

As discussed in the Initial Study (see Appendix A), the proposed project site is not located within an airport land use plan area or within two miles of an airport. Development of the RUSP area (Plan Area) would not expose people within the project area to excessive airport noise levels, and this issue is not discussed in the EIR. There is a private airstrip immediately to the south of the proposed project; potential noise effects from the private airstrip are addressed in this section. No comments regarding noise were received during the NOP comment period.

ENVIRONMENTAL SETTING

Fundamentals of Environmental Sound and Noise

Sound can be described in terms of amplitude (loudness) and frequency (pitch). The standard unit of sound amplitude measurement is the decibel (dB). The decibel scale is a logarithmic scale that describes the intensity of the pressure vibrations that make up a sound. The pitch of the sound is correlated to the frequency of the sound's pressure vibration. Because humans are not equally sensitive to a given sound level at all frequencies, a special scale has been devised that specifically relates noise to human sensitivity. The A- weighted decibel scale (dBA) does this by placing more importance on frequencies that are more noticeable to the human ear.

Noise is typically defined as unwanted sound. Typically, noise in any environment consists of a base of steady "background" noise made up of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These sources can vary from an occasional aircraft or train passing by to virtually continuous noise from traffic on a major highway. Table 6.9-1 lists representative environmental noise levels.

Several rating scales have been developed to analyze the adverse effects of noise on people. Since environmental noise fluctuates over time, these scales consider that the effect of noise upon people is largely dependent upon the volume of the noise, as well as the time of day when the noise occurs. Those that are applicable to this analysis are as follows:

- L_{eq}, the equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.

TABLE 6.9-1

NOISE RANGES OF COMMON ACTIVITIES

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	--110--	Rock Band
Jet Fly-over at 100 feet		
	--100--	
Gas Lawnmower at 3 feet		
	--90--	
		Food Blender at 3 feet
Diesel Truck going 50 mph at 50 feet	--80--	Garbage Disposal at 3 feet
Noisy Urban Area during Daytime		
Gas Lawnmower at 100 feet	--70--	Vacuum Cleaner at 10 feet
Commercial Area		Normal Speech at 3 feet
Heavy Traffic at 300 feet	--60--	
		Large Business Office
Quiet Urban Area during Daytime	--50--	Dishwasher in Next Room
Quiet Urban Area during Nighttime	--40--	Theater, Large Conference Room (background)
Quiet Suburban Area during Nighttime		
	--30--	Library
Quiet Rural Area during Nighttime		Bedroom at Night, Concert Hall (background)
	--20--	
		Broadcast/Recording Studio
	--10--	
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

Source: TENS: A Technical Noise Supplement, page 18. California Department of Transportation, 1998.

- L_{dn}, the Day Night Average Level, is a 24-hour average L_{eq} with a 10 dBA "weighting" added to noise during the hours of 10:00 P.M. to 7:00 A.M. to account for noise sensitivity in the nighttime.
- CNEL is another 24-hour average that provides a "weighting" for noise generated during nighttime hours. CNEL is essentially equivalent to the L_{dn} metric, and the two metrics are used interchangeably by Placer County.
- L_{max} is the maximum instantaneous noise level experienced during a given period of time.
- L_{min} is the minimum instantaneous noise level experienced during a given period of time.

Noise caused by natural sources and human activities is usually well represented by median noise levels during the day, night, or over a 24-hour period. Environmental noise levels are generally considered low when the L_{eq} is below 60 dBA, moderate in the 60 to 70 dBA range, and high above 70 dBA. Examples of settings with low daytime background noise levels are isolated, natural settings that can provide noise levels as low as 20 dBA and quiet, suburban, residential streets that can provide noise levels around 40 dBA. Noise levels above 45 dBA at night can sometimes disrupt sleep. Examples of moderate-level noise settings are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most people living or working in urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA) accept the higher noise levels commonly associated with these land uses.

Noise levels from a particular source decline as distance to a receptor increases. Other factors, such as the weather and reflecting or shielding, also help intensify or reduce noise levels at any given location. A commonly used rule of thumb for roadway noise is that for every doubling of distance from the source, the noise level is reduced by about 3 dBA at acoustically "hard" locations (i.e., the area between the noise source and the receptor is nearly complete asphalt, concrete, hard-packed soil, or other solid materials) and 4.5 dBA at acoustically "soft" locations (i.e., the area between the source and receptor is normal earth or has vegetation, including grass). Noise from stationary or point sources is reduced by about 6 to 7.5 dBA for every doubling of distance at acoustically hard and soft locations, respectively.[1] Noise levels may also be reduced by intervening structures; generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm reduces noise levels up to 20 dBA. Exterior noise levels can normally be reduced by 15 dBA inside buildings constructed with no special noise insulation, whereas the exterior-to-interior reduction of newer buildings is generally 25 dBA or more.[2]

Fundamentals of Groundborne Vibration

Vibration is sound radiated through the ground. The rumbling sound caused by the vibration of room surfaces is called groundborne noise. The ground motion caused by vibration is measured in the U.S. as vibration decibels (VdB).

The background vibration velocity level in residential and educational areas is usually around 50 VdB. Groundborne vibration is normally perceptible to humans at approximately 65 VdB. A vibration velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for most people.

Most perceptible indoor vibration is caused by sources within buildings, such as the operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration from traffic is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration velocity level, to 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 described in Table 6.9-2.

TABLE 6.9-2

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: High-Speed Transportation Noise and Vibration Impact Assessment, page 6-8. Federal Railroad Administration, 2005.

1 California Dept. of Transportation – TENS: A Technical Supplement to the traffic Noise Analysis Protocol, October 1998, page 27.

2 U.S. Department of Housing and Urban Development (HUD), 1985. *Noise Guidebook*.

Existing Noise Receptors

The proposed project site is located in an area that has historically been used for agricultural purposes. No noise receptors currently exist on the site. Likewise, the land surrounding the proposed project area is in agricultural production. Because of the agricultural nature of the land and the absence of residences or other development adjacent to the project site, there are few sensitive noise receptors in the immediate vicinity of the project site. There is one rural residence approximately one half mile to the south of the proposed project site, and one rural residence adjacent to the northern boundary of the site, towards the west.

Existing Ambient Daytime Noise Levels

The scientific instrument used to measure noise is the sound level meter. A sound level meter can accurately measure environmental noise levels to within about plus or minus 1 dBA.

Existing ambient daytime noise levels were measured at three selected locations in and around the proposed project site. These locations are identified in Figure 6.9-1. The noise levels were measured using a Larson-Davis Model 814 precision sound level meter, which satisfies the American National Standards Institute (ANSI) for general environmental noise measurement instrumentation. The average noise levels and sources of noise measured at each location are identified in Table 6.9-3.

TABLE 6.9-3

EXISTING DAYTIME NOISE LEVELS AT SELECTED LOCATIONS

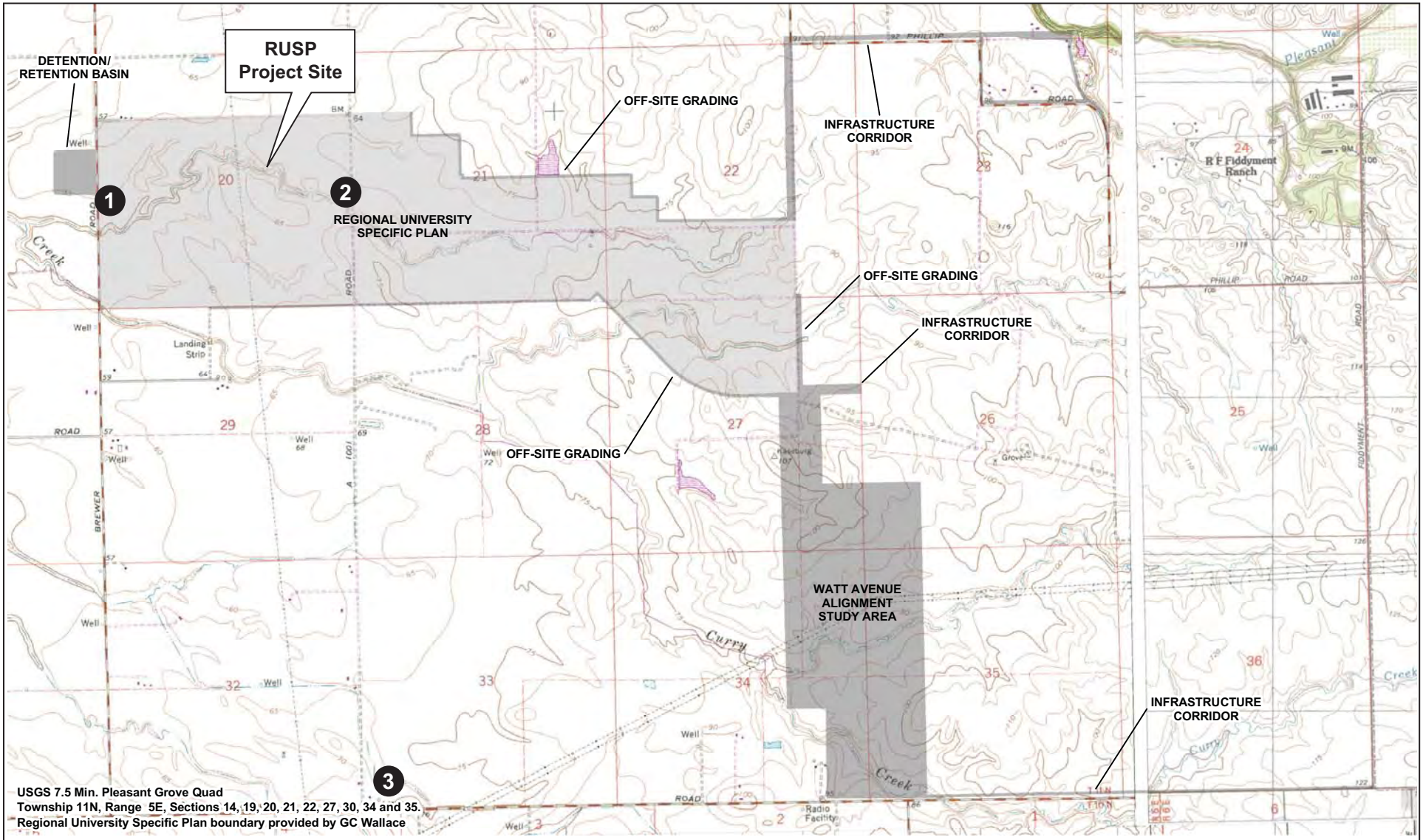
Noise Measurement Location	Distance from nearest roadway (feet)	Primary Noise Sources	Noise Level Statistics		
			L_{eq}	L_{min}	L_{max}
Western portion of project site, just east of Brewer Road.	25	Traffic on Brewer Road	57.9	33.5	77.0
Interior of Site	No nearby roadways	L_{max} attributed to helicopter flying overhead. Otherwise, quiet rural surroundings	54.5	33.1	73.2
South of project site, just north of Base Line Road	30	Traffic on Base Line Road	68.4	33.5	85.5

Source: PBS&J, 2005.

Since the proposed project site is undeveloped, there are no significant noise sources on site. Agricultural equipment used on the site could generate noise periodically during the growing season. The major noise source in the vicinity of the project site, as well as areas immediately adjacent to the site, is roadway noise. Base Line Road is approximately one and a half miles south of the project site, while Brewer Road runs directly adjacent to the project site's western border. Major non-roadway noise affecting the site consists of intermittent noise associated with agricultural activity.

Existing Sources of Groundborne Vibration

Usually the predominant existing source of groundborne vibration at a project site is roadway truck and bus traffic. Trucks and buses typically generate groundborne vibration velocity levels of around 63 VdB. These levels can reach 72 VdB where trucks and buses pass over bumps in the road. Since the project site consists of an undeveloped area, minimal groundborne vibration is produced by these sources.



***Source*:** PBS&J, 2006.

FIGURE **6.9-1**

Noise Monitoring Locations

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Regional University Specific Plan EIR

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REGULATORY SETTING

This section discusses the federal, State, and local noise regulations that would apply to the proposed project.

Federal Regulations

There are no federal regulations related to noise that apply to the proposed project.

State Regulations

Title 24 of the California Code of Regulations codifies Sound Transmission Control requirements, which establishes uniform minimum noise insulation performance standards for new hotels, motels, dormitories, apartment houses, and dwellings other than detached single-family dwellings. Specifically, Title 24 states that interior noise levels attributable to exterior sources shall not exceed 45 dBA CNEL in any habitable room of new dwellings. 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. The State of California Department of Health Services has identified L_{dn} or CNEL values of 60 dBA or less as a guideline for normally acceptable outdoor levels for residential use.

Local Regulations

Placer County General Plan Noise Element

The California Government Code requires that a noise element be included in the general plan of each county and city in the State. The purpose of the noise element is to ensure that noise control is incorporated into the planning process. The noise element can help city and county planners achieve and maintain consistent noise levels for existing and proposed land uses.

The Noise Element of the Placer County General Plan contains allowable noise standards for various land uses. Maximum allowable noise exposure from non-transportation noise sources and maximum allowable noise exposure from transportation noise sources are shown below in Tables 9-1 and 9-3 from the Noise Element.

TABLE 9-1

ALLOWABLE L_{dn} NOISE LEVELS WITHIN SPECIFIED ZONE DISTRICTS[1] APPLICABLE TO NEW PROJECTS AFFECTED BY OR INCLUDING NON-TRANSPORTATION NOISE SOURCES

Zone District of Receptor	Property Line of Receiving Use	Interior Spaces2
Residential Adjacent to Industrial[3]	60	45
Other Residential[4]	50	45
Office/Professional	70	45
Transient Lodging	65	45
Neighborhood Commercial	70	45
General Commercial	70	45
Heavy Commercial	75	45
Limited Industrial	75	45
Highway Service	75	45
Shopping Center	70	45
Industrial		45

TABLE 9-1

ALLOWABLE L_{dn} NOISE LEVELS WITHIN SPECIFIED ZONE DISTRICTS[1] APPLICABLE TO NEW PROJECTS AFFECTED BY OR INCLUDING NON-TRANSPORTATION NOISE SOURCES

Zone District of Receptor	Property Line of Receiving Use	Interior Spaces2
Industrial Park	75	45
Industrial Reserve		
Airport		45
Unclassified		
Farm	(see footnote 6)	
Agriculture Exclusive	(see footnote 6)	
Forestry		
Timberland Preserve		
Recreation & Forestry	70	
Open Space		
Mineral Reserve		

Notes:

- Except where noted otherwise, noise exposures will be those which occur at the property line of the receiving use.
- Where existing transportation noise levels exceed the standards of this table, the allowable L_{dn} shall be raised to the same level as that of the ambient level.
- If the noise source generated by, or affecting, the uses shown above consists primarily of speech or music, of if the noise source is impulsive in nature, the noise standards shown above shall be decreased by 5 dB.
- Where a use permit has established noise level standards for an existing use, those standards shall supersede the levels specified in Table 9-1 and Table 9-3. Similarly, where an existing use which is not subject to a use permit causes noise in excess of the allowable levels in Tables 9-1 and 9-3, said excess noise shall be considered the allowable level. If a new development is proposed which will be affected by noise from such an existing use, it will ordinarily be assumed that the noise levels already existing or those levels allowed by the existing use permit, whichever are greater, are those levels actually produced by the existing use.
- Existing industry located in industrial zones will be given the benefit of the doubt in being allowed to emit increased noise consistent with the state of the art5 at the time of expansion. In no case will expansion of an existing industrial operation be cause to decrease allowable noise emission limits. Increased emissions above those normally allowable should be limited to a one-time 5 dB increase at the discretion of the decision making body.
- The noise level standards applicable to land uses containing incidental residential uses, such as caretaker dwellings at industrial facilities and homes on agriculturally zoned land, shall be the standards applicable to the zone district, not those applicable to residential uses.
- Where no noise level standards have been provided for a specific zone district, it is assumed that the interior and/or exterior spaces of these uses are effectively insensitive to noise.

1. Overriding policy on interpretation of allowable noise levels: Industrial-zoned properties are confined to unique areas of the County, and are irreplaceable. Industries which provide primary wage-earner jobs in the County, if forced to relocate, will likely be forced to leave the County. For this reason, industries operating upon industrial zoned properties must be afforded reasonable opportunity to exercise the rights/privileges conferred upon them be their zoning. Whenever the allowable noise levels herein fall subject to interpretation relative to industrial activities, the benefit of the doubt shall be afforded to the industrial use.
   Where an industrial use is subject to infrequent and unplanned upset or breakdown of operations resulting in increased noise emissions, where such upsets and breakdowns are reasonable considering the type of industry, and where the industrial use exercises due diligence in preventing as well as correcting such upsets and breakdowns, noise generated during such upsets and breakdowns shall not be included in calculations to determine conformance with allowable noise levels.
2. Interior spaces are defined as any locations where some degree of noise-sensitivity exists. Examples include all habitable rooms of residences, and areas where communication and speech intelligibility are essential, such as classrooms and offices.
3. Noise from industrial operations may be difficult to mitigate in a cost-effective manner. In recognition of this fact, the exterior noise standards for residential zone districts immediately adjacent to industrial, limited industrial, industrial park, and industrial reserve zone districts have been increased by 10 dB as compared to residential districts adjacent to other land uses.
   For purposes of the Noise Element, residential zone districts are defined to include the following zoning classifications: AR, R-1, R-2, R-3, FR, RP, TR-1, TR-2, TR-3, and TR-4.
4. Where a residential zone district is located within an -SP combining district, the exterior noise level standards are applied at the outer boundary of the -SP district. If an existing industrial operation within an -SP district is expanded or modified, the noise level standards at the outer boundary of the -SP district may be increased as described above in these standards.
   Where a new residential use is proposed in an -SP zone, an Administrative Review Permit is required, which may require mitigation measures at the residence for noise levels existing and/or allowed by use permit as described under "NOTES," above, in these standards.
5. State of the art should include the use of modern equipment with lower noise emissions, site design, and plant orientation to mitigate offsite noise impacts, and similar methodology.
6. Normally, agricultural uses are noise insensitive and will be treated in this way. However, conflicts with agricultural noise emissions can occur where single-family residences exist within agricultural zone districts. Therefore, where effects of agricultural noise upon residences located in these agricultural zones is a concern, an L_{dn} of 70 dBA will be considered acceptable outdoor exposure at a residence.

TABLE 9-3

MAXIMUM ALLOWABLE NOISE EXPOSURE TRANSPORTATION NOISE SOURCES

Land Use	Outdoor Activity Areas[1]	Interior Spaces	
	L_{dn}/CNEL, dB	L_{dn}/CNEL,dB	Leq, dB[2]
Residential	60[3]	45	
Transient Lodging	60[3]	45	
Hospitals, Nursing Homes	60[3]	45	
Theaters, Auditoriums, Music Halls			35
Churches, Meeting Halls	60[3]		40
Office Buildings			45
Schools, Libraries, Museums			45
Playgrounds, Neighborhood Parks	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. 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 provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

Placer County Code

The Placer County Code also sets limits for sound and noise affecting sensitive receptors. A sensitive receptor is defined in the Code as a land use in which there is a reasonable degree of sensitivity to noise. The Code gives examples of sensitive receptors to be single and multi-family residential uses, frequently used outbuildings, schools, hospitals, churches, rest homes, cemeteries, and public libraries. The Code also gives code enforcement officers the power to judge other sources as being sensitive receptors.

Specifically, section 9.36.060 of the Placer County Code limits exterior noise at the property line of a sensitive receptor to either five dBA above the ambient sound level or the levels set forth in Table 1 of section 9.36.060 (see below), whichever is greater.

TABLE 1

SOUND LEVEL STANDARDS (ON-SITE)

Sound Level Descriptor	Daytime (7 am to 10 pm)	Nighttime (10 pm to 7 am)
Hourly L_{eq}, dB	**55**	**45**
Maximum level, (L_{max}) dB	**70**	**65**

The Code also specifies exemptions to the noise standards found in section 9.36.030 of the Code. Among these exemptions are: (1) noise produced by construction activities between the hours of 6:00 a.m. and 8:00 p.m. Monday through Friday, and between the hours of 8:00 a.m. and 8:00 p.m. Saturday and Sunday, provided, however, that all construction equipment shall be fitted with factory installed muffling devices and maintained in good working order and (2) noise produced by the normal operation of public and private schools, typically consisting of classes and other school-sponsored activities.

Placer County Standard Construction Noise Conditions of Approval

The Placer County Environmental Health Services "Standard Construction Noise Conditions of Approval" (EH-15) are:

Construction noise emanating from any construction activities for which a Grading or Building Permit is required is prohibited on Sundays and Federal Holidays, and shall only occur:

a. Monday through Friday, 6:00 am to 8:00 pm (during daylight savings time).

b. Monday through Friday, 7:00 am to 8:00 pm (during standard time).

c. Saturdays, 8:00 am to 6:00 pm.

IMPACTS AND MITIGATION MEASURES

Methods of Analysis

Traffic Noise Impact Assessment Methodology

The analysis of the existing and future noise environments presented in this analysis is based on noise level monitoring, noise prediction modeling, and empirical observations. Existing noise levels were monitored by PBS&J at selected locations within the project vicinity using a Larson-Davis Model 814 precision sound level meter, which satisfies the American National Standards Institute (ANSI) for general environmental noise measurement instrumentation.

Noise modeling focuses on the noise resulting from traffic on roadways in the vicinity of a project. Modeling procedures involve the calculation of existing and future vehicular noise levels along individual roadway segments in the project vicinity. This task was accomplished using the FHWA Highway Noise Prediction Model (FHWA RD 77 108). The FHWA Model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The average vehicle noise rates (energy rates) contained in the FHWA Model were modified to reflect average vehicle noise rates identified for California by Caltrans. The Caltrans data show that California automobile noise is 0.8 to 1.0 dBA higher than national levels and that medium and heavy truck noise is 0.3 to 3.0 dBA lower than national levels. Traffic volumes used as data inputs in the noise prediction model were provided by the project traffic engineer.

To address potential transportation source noise along parcels fronting University Boulevard, the proposed medium-density residential development along parcel 5 was modeled using the Federal Highway Administration Traffic Noise Model version 2.5 (TNM). This model employs scientifically founded and experimentally calibrated acoustic computation methodology to calculate results. The Development Standards and Design Guidelines prepared for the RUSP were consulted for roadway design and appropriate setbacks. The model is to scale, reflecting the current information contained in the Development Standards and Design Guidelines prepared for the RUSP. Since vehicle speed is important in determining sound levels, design speeds of 45 mph for University Boulevard and 25 mph for 1st Street were used. Dimensions for houses fronting University and 1st Street were assumed to be 30 ft wide by 50 ft deep. These dimensions were chosen as a direct result of minimum lot widths, building separation requirements, maximum lot coverage, and minimum lot area. Receivers were placed in various locations in order to be able to compare sound levels at different loci. The backyard close receptor is assumed to be 2 ft from the back of the house, the backyard far receptor is assumed to be 12 ft from the back of the house (the MDR rear yard setback is 15 ft), and the porch receptor 1 ft from the front door. Traffic data from Fehr and Peers for the project build-out scenario was used to capture a worst case scenario (the super cumulative scenario is not a worst case since more infrastructure will exist to relieve interior road traffic). The model

results generated a Leq descriptor. To compare this to the L_{dn} standard of 60 dBA, 2 decibels were subtracted from each value.

Construction Noise and Vibration Impact Methodology

Construction noise was analyzed using data compiled by Harris, Miller, Miller & Hanson, Inc. in the Federal Transit Administration's (FTA), Noise and Vibration Technical Report (1995) that lists typical noise levels at 50 feet for construction equipment and various pieces of construction equipment. Vibration from construction was evaluated using data from the Federal Railroad Administration that lists typical vibration decibels at various distances for common construction equipment.

Standards of Significance

The following thresholds of significance are based on Appendix G of the CEQA Guidelines, the Placer County General Plan, and the Placer County Code. For purposes of this EIR, implementation of the proposed project would have a significant adverse impact if it would cause any of the following:

- Sensitive uses to be exposed to excessive groundborne vibration levels. While CEQA states that the potential for any excessive groundborne vibration levels must be analyzed, it does not define "excessive", and there are no federal, State or local standards for groundborne vibration. Consequently, this analysis uses the Federal Railway Administration's vibration impact thresholds for sensitive buildings, residences, and institutional land uses. These thresholds are 80 VdB at residences and buildings where people normally sleep (e.g., nearby residences and day care facility) and 83 VdB at institutional buildings;
- Maximum noise levels at surrounding uses to exceed the noise performance standards specified in Section 9.36.060 of the Placer County Code;
- Be inconsistent with the noise standards in the Placer County General Plan or Placer County Noise Ordinance, or if noise levels exceed the 60 dBA L_{dn}/CNEL noise level standard at sensitive land uses;
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project; or
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

The CEQA Guidelines do not define the levels at which increases in ambient noise are considered "substantial." The 1992 Federal Interagency Committee on Noise (FICON) produced the following recommendations for determining if a significant impact would occur if the proposed project would increase ambient noise levels.[3] These recommendations allow for greater increases in noise levels with the proposed project if the existing ambient noise levels are low, and a lower increase in noise levels with the proposed project if the existing ambient noise levels are high. Based on this information, the following thresholds would apply to the operational characteristics of the proposed project:

3 Federal Interagency Committee on Noise, Federal Agency Review of Selected Airport Noise Analysis Issues. August 1992, page 3-17.

- If ambient noise levels are below 60 dBA, a significant impact would occur if the proposed project would increase the noise level by 5 dBA or more at existing sensitive receptors;
- If ambient noise levels are between 60-65 dBA, a significant impact would occur if the proposed project would increase the noise level by 3 dBA or more at existing sensitive receptors;
- If ambient noise levels are greater than 65 dBA, a significant impact would occur if the proposed project would increase the noise level by 2 dBA or more at existing sensitive receptors.

Project-Specific Impacts and Mitigation Measures

6.9-1 Construction of the proposed project could generate noise in the existing noise environment.

During construction of the proposed project, noise levels would be produced by the operation of heavy-duty equipment and various other construction activities. Table 6.9-4 shows noise levels 50 feet from the types of construction equipment that would most likely be used during construction of the project. As phased development occurs, construction noise generated by subsequent phases could affect receptors from previously developed phases on a periodic basis until buildout of the proposed project. Because no buildings currently exist on the proposed project site, there would be no demolition-related noise.

TABLE 6.9-4

TYPICAL OUTDOOR CONSTRUCTION EQUIPMENT NOISE LEVELS

Equipment Type	Typical Sound Level at 50 Feet in dBA L_{eq}
Backhoe	80
Bulldozer	85
Compactor	82
Compressor	81
Concrete Mixer	85
Concrete Pump	82
Crane, Mobile	83
Loader	85
Paver	89
Pump	76
Roller	74
Truck	88

Source: Harris, Miller, Miller & Hanson, Inc.; FTA, Noise and Vibration Technical Report, 1995.

The project site is located in an area where few sensitive receptors exist nearby. The few receptors that do exist in the vicinity are scattered rural residences to the south and north of the site. The closest residence to the south is approximately one-half mile from the southern boundary of the proposed project site. One residence is directly adjacent to the northern border of the project site.

Noise from non-vehicular sources is reduced at the rate of approximately 7.5 dB for every of doubling of distance from the noise source when the intervening terrain is not hard or reflective, such

as concrete or pavement.[4] Based on this reduction factor and the typical noise levels from construction equipment at 50 feet shown in Table 6.9-4, receptors would only be exposed to noise levels above the Placer County Code Maximum Sound Level Standard of 70 dB during the day when construction would occur within 300 feet of the receptor. Construction activity at the northern edge of the project site could occur within 300 feet of the residence adjacent to the northern boundary of the site. Receptors to the south of the project site are more than 300 feet from the site's southern border, and thus would not be exposed to construction noise levels of more than 70 dB at any time.

While the land to the south of the proposed project site is currently undeveloped, the County recognized that this area may be suitable for urban or suburban development and the County designated this area as a "Future Study Area" in the General Plan. The County is considering a portion of the Future Study Area for development as the Curry Creek Community Plan. New residences and other sensitive receptors in this new development could also be exposed to noise levels in excess of the maximum 70 dB daytime Sound Level Standard when project construction occurs within 300 feet the southern border of the proposed project site.

Because construction noise would not be permanent, and would occur intermittently during any 24-hour period, noise impacts would not be measured against the noise standards in the General Plan. The Code standards are the more appropriate standards to use when evaluating construction noise impacts because the Code sets a 70 dB limit on maximum noise levels at the property line of a receptor. Because most development would be 300 feet or more from the northern and southern portions of the site, existing and future receptors would be exposed to construction noise levels that would exceed the Code Sound Level standards in Table 1 of Section 9.36.060 of the Code (see above) for only a portion of the building period. Also, since the proposed project would be phased, receptors developed during one phase may be subject to construction noise from subsequent phases. However, as mentioned in the regulatory setting, the Code exempts construction noise from the other provisions of the Code that regulate noise, provided that construction occurs within the prescribed time periods, that effective mufflers are fitted to gas- and diesel-powered equipment to reduce noise levels as much as possible, and that all construction equipment is maintained in good working order.[5] So long as construction activity complies with these measures, Placer County has determined that construction noise is an acceptable part of development in the County.

However, because construction noise could potentially affect receptors with noise levels in excess of the 70 dB limit set by the Code, this impact would be considered *significant.*

Mitigation Measure

The following mitigation measure would ensure that construction activity noise levels would be consistent with the exemptions set forth by Code Section 9.36.030 and would reduce the project's impact to a ***less-than-significant level***.

6.9-1 *Construction activities shall take place between the hours of 6:00 a.m. and 8:00 p.m. Monday through Friday (during daylight savings time), between the hours of 7:00 a.m. and 8:00 p.m. Monday through Friday (during standard time), and between the hours of 8:00 a.m. and 6:00 p.m. Saturday and all construction equipment shall be fitted with factory installed muffling devices and maintained in good working order.*

4 TENS – A Technical Noise Supplement to the Traffic Noise Analysis Protocol. California Department of Transportation, October 1998, page 27.

5 Placer County Code Section 9.36.030 – Exemptions.

6.9-2 Construction activities associated with the proposed project could produce groundborne vibration.

In addition to noise, construction activity can also produce vibration. Construction-related vibration is normally associated with high impact equipment such as jackhammers and pile drivers, and the operation of some heavy-duty construction equipment such as trucks and bulldozers. Table 6.9-5 shows typical vibration levels for construction equipment.

TABLE 6.9-5

VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Construction Equipment	Approximate VdB				
	25 Feet	50 Feet	60 Feet	75 Feet	100 Feet
Large Bulldozer	87	81	79	77	75
Loaded Trucks	86	80	78	76	74
Jackhammer	79	73	71	69	67
Small Bulldozer	58	52	50	48	46

Source: Derived from High-Speed Transportation Noise and Vibration Impact Assessment, page 10-10. Federal Railroad Administration, 1998; and PBS&J, 2005.

Construction-related vibration has two potential effects. First, vibration at high enough levels can disturb people trying to sleep. Thresholds for this vibration have been developed by the Federal Railway Administration, which has determined that any vibration over 80 VdB can be a significant impact at places where people sleep. Second, groundborne vibration can potentially damage the foundations and exteriors of existing, older structures. Groundborne vibration that can cause this kind of damage is typically limited to high impact equipment, especially pile-drivers. There are no existing structures on the project site, so there would be no potential for damage due to vibration.

As discussed in Impact 6.9-1, there are currently few sensitive noise receptors in the vicinity of the proposed project site. One existing residence is located within 50 feet of the proposed project's northern boundary near Brewer Road; all other existing receptors are at least one half mile from the project site. Only the existing receptor adjacent to the project's northern boundary would be within 50 feet of construction activity on the proposed project site. Grading at the northern portion of the project site could potentially subject this residence to vibration levels in excess of 80 VdB, levels that could possibly disturb sleep. At the southern boundary, the nearest receptor is approximately one half mile from the project boundary. Accordingly, these receptors would not be subject to vibration levels in excess of 80 VdB as a result of project construction.

Since the proposed project would be developed in phases, after construction and occupation of uses in the first phase there would be the potential for then-existing receptors within the Plan Area to be affected by vibration from construction of subsequent phases. The only vibration issue for new uses internal to the Plan Area would be disturbance of users. Structural damage to buildings as a result of vibration is only an issue with older buildings. New buildings developed in the Plan Area would not be prone to structural damage from construction vibration. As with offsite receptors, new receptors developed onsite would be separated from future development in subsequent phases by the width of the bordering street and the setback of receptors from the street. This would ensure that 50 foot distances would be maintained between receptors and construction activity. Additionally, grading effects on adjacent users would be of short duration and would occur during the daytime when there is little potential for sleep disturbance.

Because construction activity could take place within 50 feet of the existing residence adjacent to the northwest border of the Plan Area, vibration levels in excess of 80 VdB could be realized. This would be a *significant impact.*

Mitigation Measure

The following mitigation measure would ensure that grading activity would not subject existing receptors to substantial levels of groundborne vibration, and would reduce the project's impact to a ***less-than-significant level***.

6.9-2 *The construction contractor shall not grade within 50 feet of any existing residence between 7 p.m. and 7 a.m.*

6.9-3 During operation of the proposed project, sensitive receptors could be exposed to ambient noise levels that exceed County standards.

Development of the Plan Area would eventually increase the number of people living and working in the area. Traffic on local roads would increase as uses in the Plan Area develop, exposing uses in the vicinity of these existing roads to traffic-generated noise. Traffic on local roads that would be internal to the Plan Area would expose new Plan Area receptors, such as schools or residences, to traffic-generated noise.

Project-generated traffic on existing local roads surrounding the proposed project has been estimated in the RUSP traffic study, and the resulting off-site traffic noise has been predicted. Table 6.9-6 presents off-site traffic noise levels for both existing and existing-plus-project conditions. As shown, the proposed project would add slightly to roadway noise levels, but in every case the increases would be less than 3.0 dBA L_{dn}. This indicates that project-generated traffic noise would be barely perceptible to most people.

TABLE 6.9-6

TRAFFIC NOISE LEVELS WITH AND WITHOUT PROJECT

Roadway	Segment	Noise Levels (L_{dn}) 50 Feet From Centerline		
		Existing (dB)	Existing Plus Project (dB)	Change (dB)
Base Line Road	West of Locust Road	64.2	67.0	+2.8
Locust Road	North of Base Line Road	53.6	54.4	+0.8
Locust Road	South of Base Line Road	58.9	59.8	+0.8
Base Line Road	West of Brewer Road	65.7	67.9	+2.2
Base Line Road	East of Brewer Road	65.7	67.9	+2.2
Base Line Road	East of Watt Avenue	69.0	71.4	+2.4
Walerga Road	South of Base Line Road	66.4	67.0	+0.6
Base Line Road	East of Walerga Road	66.7	69.2	+2.5
Fiddyment Road	North of Base Line Road	67.6	68.9	+1.3
Woodcreek Oaks Boulevard	North of Base Line Road	62.3	64.5	+2.2
Pleasant Grove Boulevard	East of Fiddyment Road	63.7	65.7	+2.0
Pleasant Grove Boulevard	East of Woodcreek Oaks Boulevard	67.8	69.3	+1.5
Fiddyment Road	North of Pleasant Grove Boulevard	64.5	65.8	+1.3
Woodcreek Oaks Boulevard	North of Pleasant Grove Boulevard	66.3	67.0	+0.7

Source: PBS&J, 2007.

According to the preliminary traffic volume estimates for local roads within the Plan Area, some residential development in the Plan Area would be exposed to transportation noise levels above those allowed in Table 9-3 of the Placer County General Plan. The traffic noise levels along interior Plan Area roads are shown in Table 6.9-7. The residences that could be exposed to traffic noise levels above 60 dBA L_{dn} would be those along University Avenue, 8th Street, and residential parcels backing Watt Avenue. 16th Street south of University Avenue would also experience traffic noise levels in excess of 60 dBA L_{dn} (60.7 dBA). Development along this roadway segment is designated as commercial mixed-use, which allows residential uses, but these units would not have outdoor activity areas (backyards) fronting onto 16th Street and thus would not be exposed to excessive noise levels. Noise levels along Watt Avenue adjacent to the project site would be approximately 71 dB, which would exceed County standards. The Specific Plan proposes that the residential units along Watt Avenue would back up to the road. A soundwall would be a feasible method to ensure that noise levels in the activity area of the units (the backyard) would not exceed noise standards. However, the units along University Avenue and 8th Street would front the road, which makes a soundwall infeasible. To determine potential noise impacts in the outdoor activity areas for these units, the noise levels were modeled based upon a potential development configuration that would be allowed under the RUSP Development Standards and Design Guidelines, as described above in Methods. The modeling results in Table 6.9-8 show that noise levels in the backyards of these units would range from 50 dBA to 60 dBA L_{dn}. However, because other designs could ultimately be constructed, the noise levels in the backyards could exceed 60 dBA.

TABLE 6.9-7

PROJECTED TRAFFIC NOISE LEVELS ON PLAN AREA ROADS

Roadway	Segment	Traffic Noise Levels (L_{dn})	Receptor Distance from Centerline of Roadway (feet)	Distance to 65 dB Contour from Centerline of Roadway (feet)*	Distance to 60 dB Contour from Centerline of Roadway (feet)*
16th Street	South of University	60.7	25	-	29
16th Street	South of C Street	57.1	25	-	-
14th Street	South of University	58.8	25	-	-
14th Street	South of C Street	52.8	25	-	-
12th Street	South of University	58.6	25	-	-
12th Street	South of C Street	54.6	25	-	-
University	East of 16th Street	63.9	50	-	122
University	East of 14th Street	66	50	63	195
University	East of 12th Street	67.1	50	77	237
University	East of 8th Street	67.2	50	80	246
University	East of 1st Street	67.6	50	86	266
C Street	East of 16th Street	58.2	25	-	-
C Street	East of 14th Street	53.5	25	-	-
8th Street	South of B Street	55.3	25	-	-
8th Street	South of A Street	61.2	25	-	32
B Street	East of 8th Street	54.3	25	-	-
B Street	East of 1st Street	56.4	25	-	-
A Street	East of 8th Street	58.6	25	-	-
A Street	East of 1st Street	60	25	-	25
1st Street	South of B Street	52.1	25	-	-
1st Street	South of A Street	44.1	25	-	-
Watt Ave.	South of B and A Streets	71	120	450	1400

Notes:
* - Distances to contours do not take into consideration intervening structures that would be present after project development. These structures would attenuate the sound from the roadway, resulting in a substantial reduction in distance to the contours.
Source: PBS&J, 2006.

TABLE 6.9-8

PROJECTED NOISE LEVELS ALONG UNIVERSITY BOULEVARD FOR STREET-FRONTING HOUSING

Receptor Location	Existing (L_{eq})	Project Build-Out Noise Levels from Centerline to Proposed Outdoor Activity Area	
		L_{eq} dBA	L_{dn} dBA
Backyard Receptor 3	54.5	60	58
Backyard Receptor 4	54.5	61	59
Backyard Receptor 5	54.5	61	59
Backyard Receptor 6	54.5	62	60

Source: PBS&J, 2006.

Because the proposed local roadway network on the interior of the Plan Area is predicted to cause new residences to be exposed to traffic noise in excess of the Noise Exposure Standards in the Placer County General Plan, the proposed project would have a significant impact.

The Placer County Transportation Planning Agency (PCTPA) is currently in the process of planning for Placer Parkway, a regional high-speed roadway that would connect SR 65 in Placer County (east of the Plan Area) with SR 99 in Sutter County (approximately 10.5 miles to the west). Three of the five potential alignments of the planned Placer Parkway would be routed to the north of the project site, the closest being within 300 feet of the western portion of the Plan Area, which could be developed with residential and school uses. Based upon the *Draft Placer Parkway Corridor Preservation Tier 1 Environmental Impact Statement/ Program Environmental Impact Report*, the 60 dBA contour could extend as much as 1,700 feet from the centerline of the Placer Parkway alignment.[6] Thus, portions of the Plan Area could be exposed to transportation noise levels that exceed the County General Plan standards for outdoor activity areas (60 dBA) and exceed the interior standard for residential and school uses (45 dBA). This would be considered a *significant impact*.

Mitigation Measure

In order to mitigate to a level that is less than significant, three options are available. Receptors can be placed further from the noise source; a noise-attenuating barrier can be placed between the receptor and the noise source; or the sensitive receptors can be oriented in such a way as to minimize potential sound impacts. The appropriate choice depends on the constraints of the particular parcel. The County has determined that the use of street-fronting units along University Avenue and 8th Street is a defining element in the character of the project. Therefore, reorienting these units and the use of a soundwall would be infeasible. Implementation of the following mitigation measures would reduce the proposed project's impact to a ***less-than-significant level***.

6.9-3 a) *For residences located along Watt Avenue and University Boulevard, a project-specific acoustical analysis shall be prepared in full compliance with Table 9-2 of the Placer County General Plan and submitted concurrently with project design plans for review and approval by Placer County Planning Department. The project design*

6 Federal Highway Administration, California Department of Transportation, and South Placer Regional Transportation Authority; *Draft Placer Parkway Corridor Preservation Tier 1 Environmental Impact Statement/ Program Environmental Impact Report, June 29, 2007; Traffic Noise Analysis Technical Memorandum, Appendix B, Input Data for Noise Modeling.*

shall incorporate noise reductions measures recommended in the noise analysis, to the maximum extent feasible, to reduce noise levels in the rear yard activity areas of residences; in known outdoor activity areas of other sensitive uses; or at the property line of a sensitive receiving non-residential land use if the outdoor activity areas are unknown. 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 and in adhering to the RUSP Development Standards and Design Guidelines, an exterior noise level of up to 65 dB L_{dn}/CNEL may be allowed, provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with Table 9-3 of the Placer County General Plan.

b) *Prior to construction of noise-sensitive uses in areas within 1,700 feet of the centerline of the selected Placer Parkway alignment (or the closest proposed alignment if one has not been selected), a project-specific acoustical analysis shall be prepared in full compliance with Table 9-2 of the Placer County General Plan and submitted concurrently with project design plans for review and approval by Placer County Planning Department. If it is determined that noise levels exceed Placer County standards, the project design shall incorporate noise reductions measures, to the maximum extent feasible, to reduce noise levels in the rear yard activity areas of residences; in known outdoor activity areas of other sensitive uses; or at the property line of a sensitive receiving non-residential land use if the outdoor activity areas are unknown. 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 and in adhering to the RUSP Development Standards and Design Guidelines, an exterior noise level of up to 65 dB L_{dn}/CNEL may be allowed, provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with Table 9-3 of the Placer County General Plan.*

6.9-4 Aircraft noise could affect new receptors developed as part of the proposed project.

A private, non-paved airstrip is located immediately south of the western (University) portion of the project site, approximately 2,700 feet east of Brewer Road. The airstrip runs north/south with the north end of the airstrip located directly adjacent to the RUSP property. To comply with the General Plan, the Regional University Specific Plan includes a 2,000 foot buffer, measured from the end of the airstrip, for any residential use or structure, occupied office, classroom, administration building, athletic facilities, such as recreation center, stadium, gymnasium, performing arts center, maintenance building or other occupied university building. No buffer is required for maintenance buildings, corporation yards, or expansive, low-population outdoor recreation facilities, such as athletic fields, open space, parks, or parking lots. The buffer would remain in place until such time as the County determines the private airstrip is no longer a legally permissible use on the property or the property owner voluntarily relinquishes any right of use that would result in any overflight of the University portion of the RUSP. With the 2,000-foot buffer, noise from any flights from the airstrip would not substantially affect the noise environment at any sensitive uses in the Plan Area.

The Plan Area is located approximately five miles north of the northern property line of the McClellan Park Airport property in Sacramento County. The Sacramento County Airport System operates the McClellan Park Airport. An Airport Planning Policy Area (APPA) was developed for McClellan Park that initially included noise contours that extended into Placer County, including portions of the Plan Area. However, the APPA has since been revised and no longer extends into Placer County.

Average daily noise impacts from operations at the McClellan Park Airport would not substantially affect receptors within the Plan Area. Therefore, this would be a ***less-than-significant impact***.

Mitigation Measure

None required.

6.9-5 Noise from the University athletic facilities, including a stadium, that could be developed as part of the proposed project could affect sensitive receptors.

The proposed project includes an amendment to Placer County General Plan Policy 9.A.2, which would be amended to read: "The County shall require that noise created by new non-transportation noise sources be mitigated so as not to exceed the noise level standards of Table 9-1 as measured immediately within the property line of lands designated for noise-sensitive uses: provided, however, the noise created by occasional events occurring within a stadium on land zoned for university purposes may temporarily exceed these standards as provided in an approved Specific Plan." Therefore, the project as proposed would not be inconsistent with the General Plan. Placer County's Noise Ordinance (Placer County Code 9.36.030) includes an exemption for "the normal operation of public and private schools typically consisting of classes and other school-sponsored activities." Therefore, noise generated at the proposed stadium would not violate the Noise Ordinance.

The campus would include athletic facilities, which could include a stadium with a capacity of up to 20,000 spectators. It is unknown what events would take place at this stadium, if it is constructed as part of the University campus. However, possible activities include football and soccer games, track and field competitions, and concerts. The stadium would not be a constant noise source, but would only produce noise during periodic events, which could last from a few hours on a given day to most of the day for events such as track meets.

The stadium is shown in the conceptual plan for the University as being located in the southeast portion of the campus, adjacent to the Community Mixed Use area in the Community. This area of the Community is intended to include a mix of retail and business uses as well as residential. Although noise generated by activities at the school would be periodic and exempt from the Noise Ordinance, nearby receptors could be exposed to noise levels that are generally considered incompatible with residential uses. Design of the stadium would be required to consider nearby sensitive uses and implement design features that would minimize potential impacts.

Stadiums that accommodate large crowds can increase noise levels in the area surrounding the stadium during sporting events. Noise monitoring was performed at the San Francisco Giants Ballpark during one game with a reported attendance of 17,560.[7] The monitoring data, indicated that both crowd noise and noise from the public address system (announcements and music) produced noticeable noise. Maximum crowd noise inside the stadium reached 80 – 90 dBA and the public address system reached 85 – 87 dBA. Outside the park, noise levels were measured between 60 – 63 dBA for crowd noise and 55 – 57 dB for PA system noise. The proposed University stadium would be smaller than the San Francisco Giants Ballpark, but it may not have the noise attenuating properties of a professional stadium. For instance, the Giants Ballpark is largely enclosed, with barriers intervening between the field of play and offsite receptors. College stadiums are typically more open at the ends of the field, with fewer noise-buffering barriers that would serve to attenuate noise generated at the stadium.

7 City and County of San Francisco, *San Francisco Giants Ballpark at China Basin Draft Environmental Impact Report (SCH# 96102056)*; March 14, 1997, pages III-118 through III-121.

Most concerts featuring current, popular music usually average sound levels of approximately 105 dBA L_{eq} in order to satisfy audience expectations. Some genres of popular music produce higher average sound levels (110 to 115 dBA) in the "very low" and "low" (bass) frequency ranges. Typical maximum sound levels (L_{max}) for all performance types would be 5 to 10 dBA higher than the average sound levels and occasionally may reach 15 dBA above average levels, meaning that maximum sound levels could reach 120 to 130 dBA, depending on the genre of music.[8]

Any receptors built in the vicinity of the stadium could be exposed to noticeable noise during events at the stadium. Actual noise levels would depend on the distance between the stadium and the nearest receptors, the design of the stadium, and the overall ambient noise levels around the stadium and in the surrounding area. Currently, it is not known how the stadium would be designed and used, or what would be developed in the area around the stadium. Consequently, noise effects cannot be accurately estimated. Therefore, because the design of the stadium and the noise impacts of the stadium are not known at this time, this would be considered a *significant impact*.

Mitigation Measure

Implementation of the following mitigation measure would reduce noise effects outside the stadium. However, because the design of the stadium is not known, the effect of stadium noise cannot be determined at this time. Therefore, this is considered a ***significant and unavoidable impact***.

6.9-5 *Design of the stadium shall incorporate measures, as deemed appropriate by the County, to reduce noise effects to the maximum extent possible on nearby sensitive receptors. Possible measures include increasing setbacks between the stadium and off-site residential receptors, orientation of the stadium such that noise is directed away from residential receptors, or construction of intervening non-sensitive uses between the stadium and sensitive receptors to attenuate stadium noise. The effectiveness of the measures shall be demonstrated in a project-specific noise study, which shall be submitted concurrently with the stadium design plans. The study shall be subject to review and approval by the Placer County Development Review Committee.*

Cumulative Impacts and Mitigation Measures

The cumulative context for the proposed project differs based on the impact being evaluated. For construction-related impacts, the cumulative context would be project construction and any other construction in the vicinity of the project site, such as construction associated with the Curry Creek Community Plan, West Roseville Specific Plan, and Sierra Vista Specific Plan. For operational impacts, the cumulative context would be the noise generated by stationary and mobile sources related to the Plan Area, as well as operational noise from other development in the vicinity of receptors near the Plan Area, such as the Curry Creek Community Plan, Placer Ranch Specific Plan, West Roseville Specific Plan, Sierra Vista Specific Plan, and Placer Vineyards Specific Plan.

6.9-6 Construction of the proposed project, in combination with other construction in the vicinity of the project site, could expose receptors to noise.

As shown in Table 6.9-4, construction noise from the Plan Area could reach up to 88 dBA at 50 feet. Since this noise would decrease at approximately 7.5 dBA per doubling of distance, construction would need to be at least one quarter mile away from the nearest receptors if maximum noise levels

8 Caltrans Technical Noise Supplement, October, 1998, page 18.

are to be less than the acceptable levels specified in the Placer County Code. As shown in Impact 6.9-1, construction within 300 feet of a receptor could expose that receptor to maximum daytime noise levels in excess of the 70 dB allowed in Table 1 of Section 9.36.060 of the Placer County Code. Consequently, if a receptor were within 300 feet of project-related construction and also within 300 feet of construction from another development, a cumulative impact could occur.

As shown in Impact 6.9-1, only the residence adjacent to the northern boundary of the proposed project site would be within 300 feet of project-related construction activities. No other development is currently anticipated in the area that would place construction within 300 feet of this receptor simultaneously with project construction. Consequently, there would be a ***less-than-significant cumulative impact***.

Mitigation Measure

None required.

6.9-7 Construction of the proposed project, in combination with other construction in the vicinity of the project site, could generate groundborne vibration.

As discussed in Impact 6.9-2, proposed project construction would have vibration impacts that would be less than significant. For a cumulative impact to occur, project-related construction would have to occur within 50 feet of a receptor simultaneously with construction of some other development in the area. Construction at distances greater than 50 feet from a receptor would not have the capacity to add to any cumulative vibration effect. However, numerous pieces of equipment operating within 50 feet of a receptor would have a combined effect that could result in substantial VdB levels. The only other development that could occur adjacent to the proposed project site during project construction is the Curry Creek Community Plan. There are no receptors that are 50 feet from both the Curry Creek Community Plan property line and the RUSP property line. Consequently, the cumulative impact would be ***less than significant***.

Mitigation Measure

None required.

6.9-8 Operations of the proposed project could add to cumulative ambient noise levels.

As discussed in Impact 6.9-3, the Plan Area would be developed over time, with full buildout potentially occurring in approximately 10-15 years. Other development would occur in the area before buildout occurs. A cumulative impact would occur if total development would raise noise levels substantially over existing conditions. As shown in Table 6.9-9, cumulative noise levels along selected roadways would be substantially greater than existing noise levels. Consequently, the cumulative impact would be significant. However, because of the project's size relative to cumulative development in the County, as shown in Table 6.9-10, the cumulative contribution of the proposed project would be less than one dBA L_{dn} at any of the analyzed roadway segments. This would not be a considerable contribution to the cumulative impact. While some noise may be generated on the site of the University from non-traffic sources, such as the proposed stadium, this noise would be intermittent and infrequent. Consequently, non-transportation noise would not add noticeably to the overall 24-hour noise environment. This would be a ***less-than-significant impact***.

TABLE 6.9-9

EXISTING AND CUMULATIVE TRAFFIC NOISE LEVELS ON NEARBY ROADS

Roadway	Segment	Noise Levels (dB L_{dn}) 50 Feet From Centerline		
		Existing	Cumulative Plus Project	Change
Base Line Road	West of Locust Road	64.2	70.3	+6.1
Locust Road	North of Base Line Road	53.6	59.7	+6.1
Locust Road	South of Base Line Road	58.9	63.3	+4.4
Base Line Road	West of Brewer Road	65.7	70.8	+5.1
Base Line Road	East of Brewer Road	65.7	70.4	+4.7
Base Line Road	East of Watt Avenue	66.9	72.2	+5.3
Walerga Road	South of Base Line Road	66.4	69.7	+3.3
Base Line Road	East of Walerga Road	66.7	71.7	+5.0
Fiddyment Road	North of Base Line Road	67.6	70.9	+3.3
Woodcreek Oaks Boulevard	North of Base Line Road	62.3	65.6	+3.3
Pleasant Grove Boulevard	East of Fiddyment Road	63.7	69.8	+6.1
Pleasant Grove Boulevard	East of Woodcreek Oaks Boulevard	67.8	71.6	+3.8
Fiddyment Road	North of Pleasant Grove Boulevard	64.5	69.6	+5.1
Woodcreek Oaks Boulevard	North of Pleasant Grove Boulevard	66.3	69.8	+3.5

Source: PBS&J, 2006.

TABLE 6.9-10

CUMULATIVE TRAFFIC NOISE LEVELS ON NEARBY ROADS WITH AND WITHOUT PROJECT

Roadway	Segment	Noise Levels (dB L_{dn}) 50 Feet From Centerline		
		Cumulative No Project	Cumulative Plus Project	Change
Base Line Road	West of Locust Road	70.2	70.3	+0.1
Locust Road	North of Base Line Road	59.7	59.7	0
Locust Road	South of Base Line Road	63.3	63.3	0
Base Line Road	West of Brewer Road	70.7	70.8	+0.1
Base Line Road	East of Brewer Road	70.3	70.4	+0.1
Base Line Road	East of Watt Avenue	71.9	72.2	+0.3
Walerga Road	South of Base Line Road	69.6	69.7	+0.1
Base Line Road	East of Walerga Road	71.6	71.7	+0.1
Fiddyment Road	North of Base Line Road	70.8	70.9	+0.1
Woodcreek Oaks Boulevard	North of Base Line Road	65.4	65.6	+0.2
Pleasant Grove Boulevard	East of Fiddyment Road	69.7	69.8	+0.1
Pleasant Grove Boulevard	East of Woodcreek Oaks Boulevard	71.3	71.6	+0.3
Fiddyment Road	North of Pleasant Grove Boulevard	69.5	69.6	+0.1
Woodcreek Oaks Boulevard	North of Pleasant Grove Boulevard	69.6	69.8	+0.2

Source: PBS&J, 2006.

Mitigation Measure

None required.

6.9-9 The Plan Area could experience a cumulative noise impact from airport noise.

As discussed in Impact 6.9-4, noise from the private airstrip south of the University portion of the project site and noise from the McClellan Park Airport would not have a significant noise impact on the Plan Area. Since there are no other airports or airstrips nearby that could combine with the less-than-significant noise from the McClellan Park Airport, there would be ***no cumulative impact***.

Mitigation Measure

None required.