NOISE AND VIBRATION

SUMMARY

Construction of the proposed project would comply with City of Camarillo Municipal Code restrictions. Operation of the proposed project would not generate substantial permanent increases in noise levels.

Construction and operation of the proposed project would not generate excessive ground-borne vibration.

The proposed project would not expose people residing or working in the project area to excessive noise levels from aircraft operations from Camarillo Airport and Naval Base Ventura County.

ENVIRONMENTAL SETTING

Fundamentals of Sound and Environmental Noise

Sound is technically 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 physical intensity of the pressure vibrations that make up any sound. The pitch of the sound is related to the frequency of the pressure vibration. Since the human ear is not equally sensitive to a given sound level at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) provides this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Noise is typically defined as unwanted sound. A typical noise environment consists of a base of steady ambient noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources, such as an occasional aircraft or train passing by to virtually continuous noise sources like traffic on a major highway.

Several rating scales have been developed to analyze the adverse effect of community noise on people. Since environmental noise fluctuates over time, these scales consider that the effect of noise upon people is largely dependent upon the total acoustical energy content 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.

- **CNEL** – The Community Noise Equivalent Level is a 24-hour average L_{eq} with a 10 dBA "penalty" added to noise during the hours of 10:00 P.M. to 7:00 A.M., and an additional 5 dBA penalty during the hours of 7:00 P.M. to 10:00 P.M. to account for noise sensitivity in the evening and nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.7 dBA CNEL.

Noise environments and consequences of human activities are 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 CNEL is below 60 dBA, moderate in the 60–70 dBA range, and high above 70 dBA. Noise levels greater than 85 dBA can cause temporary or permanent hearing loss. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet suburban residential streets with noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate level noise environments are urban residential or semi-commercial areas (typically 55–60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with noisier urban residential or residential-commercial areas (60–75 dBA) or dense urban or industrial areas (65–80 dBA).

When evaluating changes in 24-hour community noise levels, a difference of 3 dBA is a barely perceptible increase to most people. A 5 dBA increase is readily noticeable, while a difference of 10 dBA would be perceived as a doubling of loudness.

Noise levels from a particular source decline as distance to the receptor increases. Other factors, such as the weather and reflecting or shielding, also help intensify or reduce the noise level 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 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. 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 by 5 to 10 dBA. The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows. The exterior-to-interior reduction of newer homes, hotels, and commercial buildings is generally more than 30 dBA.

Fundamentals of Ground-borne Vibration

Vibration is sound radiated through the ground. Vibration can result from a source (e.g., train operations, motor vehicles, machinery equipment, etc.) causing the adjacent ground to move, thereby, creating vibration waves that propagate through the soil to the foundations of nearby buildings. This effect is

referred to as ground-borne vibration. Ground-borne vibration is measured as peak particle velocity (PPV) in inches per second. The general human response to different levels of ground-borne vibration velocity levels is described below in Table 5.11-1 while ground-borne vibration levels that could induce potential damage to buildings are identified in Table 5.11-2. These vibration levels have been adopted by the California Department of Transportation (Caltrans) as the standards to evaluate potential impacts related to construction activities.

TABLE 5.11-1 - HUMAN RESPONSE TO LEVELS OF GROUND-BORNE VIBRATION

Human Response	Maximum PPV in Inches per Second	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely Perceptible	0.04	0.01
Distinctly Perceptible	0.25	0.04
Strongly Perceptible	0.9	0.1
Severe	2	0.4

Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Source of table data: California Department of Transportation, 2013.

Most perceptible indoor vibration is caused by sources within buildings such as operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground-borne vibration from traffic is rarely perceptible.

Existing Noise Sources

The Camarillo Springs area is an isolated community within the City of Camarillo. The primary sources of noise in this area are traffic on U.S. Highway 101, Camarillo Springs Road, and Ridge View Street, with lower traffic on the other roadways internal to the residential neighborhoods. The primary sources of noise within the Camarillo Springs Golf Course are traffic on U.S. Highway 101, Camarillo Springs Road, and Ridge View Street, as well as regular landscape maintenance operations and people golfing (i.e., talking and hitting golf balls). Figure 5 of the City of Camarillo Noise Element 2015 shows that the northern area of the project site near the driving range is exposed to noise level contours for U.S. Highway 101 of just over 70 dBA CNEL due to traffic on U.S. Highway 101.

TABLE 5.11-2 - GROUND-BORNE VIBRATION DAMAGE POTENTIAL CRITERIA

Structure and Condition	Maximum PPV in Inches per Second	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely Fragile Historic Buildings, Ruins, Ancient Monuments	0.12	0.08
Fragile Buildings	0.2	0.1
Historic and Some Old Buildings	0.5	0.25
Older Residential Structures	0.5	0.3
New Residential Structures	1	0.5
Modern Industrial/Commercial Buildings	2	0.5

Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Source of table data: California Department of Transportation, 2013.

The Camarillo Springs area is located within the general flight paths of Camarillo Airport and Naval Base Ventura County. It is, however, located outside of the airport land use plan areas and 60 dBA CNEL noise contours for these airports. There are no private airstrips located within the vicinity of Camarillo.

Existing Ground-borne Vibration Levels

Aside from seismic events, the greatest regular source of ground-borne vibration in the vicinity of the project site is currently roadway truck traffic. Heavy trucks currently transport materials along the roadways in the vicinity of the project site. These trucks typically generate ground-borne vibration velocity levels of around 63 vibration decibels (VdB), and these levels could reach 72 VdB where trucks pass over bumps in the road,[1] although no such roadway dips were observed in the immediate vicinity of the project site.

Regulatory Setting

City of Camarillo Noise Standards

Figure 2 of the City of Camarillo General Plan Noise Element 2015 provides the State of California matrix on recommended land use compatibility with community noise environments. These suggested noise standards are utilized by the City of Camarillo for community planning purposes. The standards suggest that exterior noise levels of up to 70 dBA CNEL are acceptable for single family residential uses provided

[1] Federal Transit Administration, 2006.

that they are developed with conventional construction, but with closed windows and fresh air supply systems or air conditioning.

The City of Camarillo has also adopted a Noise Ordinance (Section 10.34 of the Camarillo Municipal Code), which identifies noise standards for various sources, specific noise restrictions, exemptions, and variances for sources of noise within the City. The Noise Ordinance applies to all noise sources with the exception of any vehicle that is operated upon any public highway, street or right-of-way, or to the operation of any off-highway vehicle, to the extent that it is regulated in the State Vehicle Code, and all other sources of noise that are specifically exempted.

Section 10.34.120 of the City of Camarillo Municipal Code regulates noise from the construction of buildings and structures adjacent to or within any residential zone. Exterior construction or repair work that could generate noise levels that exceed the Noise Ordinance exterior or interior noise standards at residential properties is prohibited between the hours of 7:00 p.m. of one day and 7:00 a.m. of the next day or at any time on Sunday, or at any time on any public holiday.

The Noise Ordinance exterior noise standards are identified in Table 5.11-3.

TABLE 5.11-3 - CITY OF CAMARILLO EXTERIOR NOISE STANDARDS

Noise Zone	Designated Noise Zone Land Use	7 a.m. to 9 p.m.	9 p.m. to 7 a.m.
I	Agricultural and Open Space Properties	55 dBA L_{eq}	45 dBA L_{eq}
II	Residential Properties	55 dBA L_{eq}	45 dBA L_{eq}
III	Commercial/Office Properties	65 dBA L_{eq}	55 dBA L_{eq}
IV	Industrial Properties	65 dBA L_{eq}	55 dBA L_{eq}

Unless otherwise provided in Section 10.34 of the Camarillo Municipal Code, no person shall operate or cause to be operated any source of sound at any location within the City, or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person which causes the noise levels when measured on any other property to exceed the following standards:

Standard No. 1 is the applicable ambient exterior noise level as set forth above plus five dBA for a cumulative period of more than 20 minutes in any hour.

Standard No. 2 is the applicable ambient exterior noise level as set forth above plus 10 dBA for a cumulative period of more than 10 minutes in any hour.

Standard No. 3 is the applicable ambient exterior noise level as set forth above plus 15 dBA for a cumulative period of more one minute in any hour.

Pursuant to Section 10.34.120(F) of the City of Camarillo Municipal Code, construction noise levels are exempted from these standards provided that the noise is not generated between the hours of 7:00 p.m. of one day and 7:00 a.m. of the next day or at any time on Sunday, or at any time on any public holiday.

Source of table data: City of Camarillo.

The Noise Ordinance interior noise standards are identified in Table 5.11-4. The Noise Ordinance does not identify any interior noise standards for non-residential dwelling units.

TABLE 5.11-4 - CITY OF CAMARILLO INTERIOR NOISE STANDARDS

Noise Zone	Designated Noise Zone Land Use	7 a.m. to 9 p.m.	9 p.m. to 7 a.m.
I	Agricultural and Open Space Properties	55 dBA L_{eq}	45 dBA L_{eq}
All	Common Wall & Freestanding Residential Dwellings	45 dBA L_{eq}	40 dBA L_{eq}

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

Standard A is the applicable ambient exterior noise level as set forth above plus five dBA for a cumulative period of more than five minutes in any hour.

Standard B is the applicable ambient exterior noise level as set forth above plus 10 dBA for a cumulative period of more than one minute in any hour.

Source of table data: City of Camarillo.

THRESHOLDS OF SIGNIFICANCE

In accordance with Appendix G to the State CEQA Guidelines, a project could have a potentially significant impact on noise and vibration if it would:

- Generate a substantial temporary or permanent increase in noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- Generate excessive ground-borne vibration.
- For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

Increases in Noise Levels

Construction-Related Noise Levels

Construction-related noise impacts would be considered significant if construction noise levels exceed the Noise Ordinance exterior or interior noise standards at residential properties during the hours specified in Section 10.34.120 of the City of Camarillo Municipal Code. Construction noise that exceeds the Noise

Ordinance values during the day (7:00 a.m. to 7:00 p.m.) are not considered a significant impact provided that they do not occur on Sundays or public holidays.

Operational Noise Levels

The State CEQA Guidelines do not define the levels at which permanent increases in ambient noise are considered "substantial." As discussed previously in this section, a noise level increase of 3 dBA is barely perceptible to most people, a 5 dBA increase is readily noticeable, and a difference of 10 dBA would be perceived as a doubling of loudness. Based on this information, the following thresholds would apply to permanent increases in noise at sensitive receptors due to the operational characteristics of the project:

- Less than 3 dBA: not discernible: not significant.
- Between 3 dBA and 5 dBA: not significant if noise levels at sensitive receptors remain below 65 dBA CNEL; significant if the noise increase would meet or exceed 65 dBA CNEL.
- 5 dBA or greater: significant.

Ground-borne Vibration

The State CEQA Guidelines do not define the levels at which ground-borne vibration or ground-borne noise is considered "excessive." In addition, the City of Camarillo has not adopted any thresholds for ground-borne vibration impacts. However, the California Department of Transportation (Caltrans) has adopted the vibration standards identified above in Tables 5.11-1 and 5.11-2 to evaluate potential impacts related to construction activities. Based on the criteria identified previously in these tables, a significant structural ground-borne vibration impact could occur if the nearby residential buildings are exposed to vibration levels of 0.3 inches per second PPV. A 0.5 inches per second PPV standard can be used to determine if the nearby commercial buildings could suffer potential damage. The potential for nearby residents to be annoyed by ground-borne vibration would be significant if vibration levels reach 0.10 inches per second PPV.

PROJECT IMPACTS AND MITIGATION MEASURES

Increases in Noise Levels

Threshold: Would the proposed project generate a substantial temporary or permanent increase in noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Impact: Construction of the proposed project would comply with City of Camarillo Municipal Code restrictions. Operation of the proposed project would not generate substantial permanent increases in noise levels.

Impact Analysis

Construction-Related Noise Levels

Construction activities associated with the proposed project would require the use of heavy equipment for site grading, infrastructure construction, and building construction. Noise from smaller power tools, generators, and other sources of noise would also be associated with construction of the proposed structures. Although bedrock is present underneath portions of the project site, no blasting is required for construction. During each stage of development, there would be a different mix of equipment operating and noise levels would vary based on the amount of equipment in operation and the location of the activity.

The Federal Highway Administration has compiled data regarding the noise generating characteristics of specific types of construction equipment and typical construction activities. These data are presented in Table 5.11-5 for the types of equipment that are expected to be used at the project site based on industry standard practices and observations of other similar construction sites by the EIR consultant.

The U.S. Environmental Protection Agency (U.S. EPA) has also compiled data regarding the noise generating characteristics of typical construction activities. These data, which represent composite construction noise, are presented in Table 5.11-6. As with noise generated by individual construction equipment, these noise levels would diminish rapidly with distance from the construction site at a rate of approximately 6 dBA per doubling of distance. For example, a noise level of 86 dBA measured at 50 feet from the noise source to the receptor would reduce to 80 dBA at 100 feet from the source to the receptor, and reduce by another 6 dBA to 74 dBA at 200 feet from the source to the receptor.

Several areas around the golf course are developed with single family residents, multi-family residences, and mobile homes. These areas would primarily be affected by noise levels associated with redevelopment of the golf course area since site clearing and grading activities could occur adjacent to the existing residential properties. The proposed residential area is located at least 250 feet from the nearest existing residence. Project construction activities could generate noise levels at the nearby residential areas to exceed the standards of the Noise Ordinance. Therefore, construction activities would be restricted to the hours of 7:00 a.m. to 7:00 p.m. Monday through Saturday, and prohibited at anytime on Sunday or any public holiday pursuant to Section 10.34.120 of the City of Camarillo Municipal Code. Pursuant to standard City practice in which construction activities are a regular source of noise at times throughout Camarillo, restricting construction activities to daylight hours when residents are less sensitive to noise would reduce the potential impacts of typical construction noise to less than significant levels.

TABLE 5.11-5 - TYPICAL CONSTRUCTION EQUIPMENT NOISE LEVELS

Equipment	L_{max} Noise Limit at 50 Feet
Earthmoving	
Backhoe	80
Bulldozer	85
Dump Truck	84
Front End Loader	80
Scraper	85
Tractor	84
Materials Handling	
Concrete Mixer Truck	85
Concrete Pump Truck	82
Crane	85
Impact Equipment	
Compactor	80
Jackhammer	85
Pneumatic Tools	85
Other Equipment	
Compressors	80
Concrete Saws	90
Gradall Forklift	85
Pickup Truck	55
Vacuum Street Sweeper	80
Welder/Torch	73
Machinery equipped with noise control devices or other noise-reducing design features does not generate the same level of noise emissions as that shown in this table.	
Source of table data: Federal Highway Administration, 2006.	

Operational Noise Levels

Noise levels for the existing residences that border the golf course property would largely stay the same as they presently are since these areas would continue to be used as a golf course. Noise levels would continue to be associated with regular landscape maintenance operations and people golfing (i.e., talking and hitting golf balls). Although a new neighborhood park and dog park will be constructed in the southern portion of the site, these types of parks are regularly located within existing neighborhoods in Camarillo. Noises associated with these uses are considered compatible with residential neighborhoods and would not result in potentially significant impacts.

TABLE 5.11-6 - TYPICAL OUTDOOR CONSTRUCTION NOISE LEVELS

Construction Phase	L_{eq} Noise Levels at 50 Feet with Mufflers
Ground Clearing	82
Excavation/Grading	86
Foundations	77
Structural	83
Finishing	86

Source of table data: U.S. EPA, 1971.

Locations in the vicinity of the project site would experience a slight increase in noise resulting from the additional traffic generated by the proposed project. The changes in noise levels have been calculated for the roadways in closest proximity to the project site. The existing residences along these segments are the receptors that would be most affected by the proposed project since a greater concentration of project-related vehicles would travel near these locations.

According to the Traffic and Circulation Study prepared for the proposed project, the proposed apartment uses would generate a net increase of approximately 1.257 new vehicle trips per weekday with 98 new trips generated during the AM peak traffic hour and 91 new trips generated during the PM peak hour. The Traffic and Circulation Study then distributed these new trips along specific roadway segments in the vicinity of the project site. The Traffic and Circulation Study did not calculate the average daily vehicle trips for the roadway segments in the vicinity of the project site, but the peak hour volumes identified in the Traffic and Circulation Study represent the periods of the highest traffic generation for the project. The changes in future peak hour noise levels along the nearby roadway segments are identified in Table 5.11-7.

As shown in Table 5.11-7, the traffic generated by the proposed project would increase local noise levels by a maximum of 1.1 dBA L_{eq} during the AM peak hour and 0.8 dBA L_{eq} during the PM peak hour. This increase would be imperceptible to most people and would not exceed 3 dBA. This would be a less than significant impact. The project would cause a maximum increase of 0.1 dBA L_{eq} along Pleasant Valley Road.

Noise would also be generated by activities within the new residential community. These noise levels would be associated with resident vehicles, people communicating, and landscape maintenance. These sources and levels of noise would be similar to those existing within the other residential neighborhoods within the Camarillo Springs area and the proposed neighborhood.

Based on this information, the proposed project would not result in a substantial permanent increase in ambient noise levels in the project vicinity above the levels existing without the project. The permanent increase in noise levels would be less than significant.

TABLE 5.11-7 - PROJECT PEAK HOUR ROADWAY NOISE IMPACTS

Roadway	Roadway Segment	Existing Land Use	Existing Traffic Volumes	Existing + Project Traffic	Increase in dBA L_{eq}	Significant Impact?
AM Peak Traffic Hour						
Camarillo Springs Road	north of Ridge View St.	Single Family	339	401	0.7	No
	south of Ridge View St.	Single Family	137	176	1.1	No
Ridge View St.	west of Cam. Springs R.	Office	118	141	0.8	No
Pleasant Valley Rd.	north of Pancho Rd.	Single Family	2,108	2,131	0.0	No
	west of Pancho Rd.	Single Family	2,063	2,070	0.0	No
PM Peak Traffic Hour						
Camarillo Springs Road	north of Ridge View St.	Single Family	470	525	0.5	No
	south of Ridge View St.	Single Family	173	206	0.8	No
Ridge View St.	west of Cam. Springs R.	Office	206	228	0.4	No
Pleasant Valley Rd.	north of Pancho Rd.	Single Family	2,224	2,252	0.1	No
	west of Pancho Rd.	Single Family	2,257	2,262	0.0	No

Calculation data and results are provided in Appendix S.

Ground-borne Vibration

Threshold: Would the proposed project generate excessive ground-borne vibration?

Impact: Construction and operation of the proposed project would not generate excessive ground-borne vibration.

Impact Analysis

Construction-Related Vibration Levels

Grading and construction activities that would occur at the project site may have the potential to generate low levels of ground-borne vibration. Table 5.11-8 identifies various vibration velocity levels for the types of construction equipment that would operate at the project site during construction.

Based on the information presented in Table 5.11-8, vibration levels could reach as high as approximately 0.089 inches per second PPV within 25 feet of an operating large bulldozer. The maximum vibration level of 0.089 inches per second PPV would be below the thresholds for both potential building damage and

human annoyance. Therefore, the potential impacts associated with construction-related vibration would be less than significant.

TABLE 5.11-8 - VIBRATION LEVELS FOR TYPICAL CONSTRUCTION EQUIPMENT

Equipment	Reference PPV at 25 Feet
Large Bulldozer	0.089
Loaded Trucks	0.076
Jackhammer	0.035
Small Bulldozer	0.003

Source of table data: California Department of Transportation, 2013.

Operational Vibration Levels

The proposed project does not include uses that are expected to generate measurable levels of ground-borne vibration during operation of the proposed project. Therefore, the greatest regular source of project-related ground-borne vibration would be from smaller trucks bringing in deliveries for the new project residents and larger moving trucks and garbage trucks picking-up project-related refuse material generated by the new project residents. The vibration levels associated with these trucks would be less than the levels associated with large construction equipment. Therefore, the operational impacts associated with ground-borne vibration would be less than significant at nearby uses.

Airport Noise Levels

Threshold: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Impact: The proposed project would not expose people residing or working in the project area to excessive noise levels from aircraft operations from Camarillo Airport and Naval Base Ventura County.

Impact Analysis

As discussed previously, the Camarillo Springs area is located within the general flight paths of Camarillo Airport and Naval Base Ventura County but is located outside of the airport land use plan areas and 60 dBA CNEL noise contours for these airports. There are no private airstrips located within the vicinity of Camarillo. That is not to say that there will not be times when noise levels from civilian and military aircrafts do not cause a disturbance at the project site or elsewhere in the Camarillo Springs area. The majority of aircraft overflights to Camarillo Airport and Naval Base Ventura County do not cause disruptive noise levels in Camarillo. However, there are occasions when jet fighter aircrafts fly over the eastern part of the City and generate high noise levels that can be heard throughout the City. There are

also times when jet operations occur at Naval Base Ventura County that can be heard throughout Camarillo. These situations do not occur on a regular basis and they are not unique to the proposed project site. Therefore, it is acknowledged that occasional jet aircraft operations may disturb residents of the proposed project. However, this is not an environmental impact of the proposed project that requires a specialized analysis or special mitigation that is not required elsewhere in Camarillo. No impact would occur.

CUMULATIVE IMPACTS

No projects other than the proposed project are currently proposed in the Camarillo Springs area. Therefore, there are no other projects that generate substantial construction-related noise or vibration levels in this area.

Cumulative noise impacts would occur primarily as a result of increased traffic on local roadways due to the proposed project and related projects within Camarillo. The increases in roadway noise levels associated with cumulative development are identified in Table 5.11-9 for the three roadway segments where the project would cause a measurable increase of 0.1 dBA or more during both the AM and PM peak hours (reference Table 5.11-7). As shown, the traffic generated by near-term future cumulative development along with the proposed project would increase local noise levels by a maximum of 2.0 dBA L_{eq} during the AM peak hour and 1.4 dBA L_{eq} during the PM peak hour. This increase would be imperceptible to most people and would not exceed 3 dBA. Therefore, future plus project cumulative operational noise impacts would be less than significant.

TABLE 5.11-8 - FUTURE + PROJECT PEAK HOUR ROADWAY NOISE IMPACTS

Roadway	Roadway Segment	Existing Land Use	Existing Traffic Volumes	Future + Project Traffic	Increase in dBA L_{eq}	Significant Impact?
AM Peak Traffic Hour						
Camarillo Springs Road	north of Ridge View St.	Single Family	339	463	1.4	No
	south of Ridge View St.	Single Family	137	215	2.0	No
Ridge View St.	west of Cam. Springs R.	Office	118	164	1.4	No
PM Peak Traffic Hour						
Camarillo Springs Road	north of Ridge View St.	Single Family	470	582	0.9	No
	south of Ridge View St.	Single Family	173	241	1.4	No
Ridge View St.	west of Cam. Springs R.	Office	206	250	0.8	No

Calculation data and results are provided in Appendix S.

UNAVOIDABLE SIGNIFICANT IMPACTS

The proposed project would not create any unavoidable significant noise and vibration impacts.