7.6 NOISE

This chapter focuses on the impacts to noise with the implementation of the alternatives carried forward for review under the Section 404(b)(1) Guidelines. In general, most impacts to noise are outside the USACE's statutory authority and responsibility under Section 404 of the Clean Water Act. The primary responsibility of evaluating and regulating impacts to noise resides with the local agencies such as cities and counties. As part of the NEPA review, the USACE is analyzing impacts on the environment associated with projects that receive authorizations under Section 404 of the Clean Water Act.

7.6.1 THRESHOLDS OF SIGNIFICANCE

An alternative would be considered to have a significant noise effect if:

- short-term construction noise impacts would violate the provisions of the applicable noise ordinances.

- both of the following criteria are met:

  a. the project traffic results in a substantial noise level increase on a roadway segment adjacent to a noise sensitive land use (e.g., residential use) (a substantial noise increase is defined as an increase of 3 dB or more); and

  b. the resulting "future with project" noise level exceeds the criteria for the noise sensitive land use, as identified above, for the County of Orange. The following interior and exterior noise standards apply to the proposed project:

     – 45 CNEL residential interior noise levels

     – 65 CNEL residential exterior noise levels

7.6.1.1 Impact Criteria

Off-site impacts resulting from on-site activities, both temporary and long-term, are measured against noise ordinance standards. Construction activities and commercial area activities must also comply with these standards.

Long-term off-site impacts from traffic noise are measured against two criteria, and both criteria must be met for a significant impact to be identified. First, traffic generated by a project must cause a substantial noise level increase on a roadway segment adjacent to a noise sensitive land use. Second, the resulting "future with project" noise level must exceed the criteria level for the noise sensitive land use. For analysis purposes, the criteria level is the Orange County *General Plan Noise Element* standard of 65 CNEL (outdoor) for residential land uses. Other land uses would permit a higher noise level and are therefore not addressed in this analysis.

In community noise assessment, changes in noise levels greater than 3 dB are often identified as significant, while changes less than 1 dB will not be discernible to local residents. In the range of 1 to 3 dB, residents who are very sensitive to noise may perceive a slight change. In laboratory testing situations, humans are able to detect noise level changes of slightly less than 1 dB. However, in a community noise situation, noise exposures are over a long time period, and changes in noise levels occur over years rather than the immediate comparison made in a laboratory situation. Therefore, the level at which changes in community noise levels become

discernible is likely to be some value greater than 1 dB; 3 dB appears to be appropriate for most people. For the RMV Proposed Project, a 3 dB traffic noise level increase due to a project alternative is considered substantial.

Cumulative impacts are measured by an assessment of the total noise increase due to the project alternative together with other growth in the area as compared to existing conditions. Because increases over existing conditions will take place over a long period of time, a 3 dB cumulative increase over existing conditions would be considered substantial. Therefore, for purposes of this noise analysis, a cumulative noise increase is considered a significant cumulative impact if the cumulative increase over existing conditions would be 3 dB or more, and the resulting future noise level would exceed the interior noise level standard of 45 CNEL or the exterior noise level standard of 65 CNEL.

Long-term on-site traffic noise impacts are measured against the noise level limits applied by the County (see Table 4.1.8-2). Long-term on-site impacts associated with on-site activities are measured against the *Noise Ordinance* standards.

7.6.2 SAMP PROPOSED PERMITTING PROCEDURES

As discussed previously, the proposed RGP and LOP procedures have been developed for future participants and current participants in the SAMP. The future participants have not yet defined projects for permitting by the RGP or LOP procedures. For projects eligible for authorization by the maintenance RGP, impacts to noise would be minimal. Such activities would be associated with small maintenance projects, resulting in temporary impacts to a small area located in a mostly degraded landscape. New permanent impacts are not expected. Since there would be no permanent effects from these maintenance activities and since effects are very localized, impacts are not expected under the RGP. For projects proposed by future participants that would be eligible for authorization by the LOP procedures, not enough is known about the project size and location or potential impacts to analyze potential impacts to noise. Such projects eligible for authorization by the LOP procedures will be subject to future NEPA review before a final permit decision can be made.

Current participants (SMWD Proposed Project and RMV Proposed Project) have analyzed their activities and alternatives that may have significant effects on the environment as noted in Chapter 6.0. Therefore, the authorization pursuant to the proposed permitting procedures may also have an effect on the environment per the thresholds of significance. These potential effects on noise and minimization/mitigation measures applicable to these potential effects are further discussed below.

7.6.3 SMWD PROPOSED PROJECT

7.6.3.1 Impacts

Impact 7.6.3-1 *Construction of the proposed Upper Chiquita reservoir may have short-term noise impacts during construction.*

Generally, construction noise represents a short-term impact on ambient noise levels. Noise generated by construction equipment and construction activities can reach high levels. Construction equipment noise comes under the control of the Environmental Protection Agency's Noise Control Program (Part 204 of Title 40, Code of Federal Regulations). Examples of construction noise at 50 feet are presented in Figure 7.6-1. Noise levels generated by

commonly used grading equipment (i.e., loaders, graders, and trucks) typically generate noise levels that typically do not exceed the middle of the range shown in the figure.

The equipment used for site grading would generate the highest construction noise levels. Peak noise level generated by the equipment that would be used during grading is 70 to 95 dBA at a distance of 50 feet. When grading occurs directly adjacent to residences, high noise levels, upwards of 100 dBA, can reach the yards of the residences for very short periods of time as a piece of equipment passes by the home. At 150 feet, the peak construction noise levels range from 61 to 86 dBA. At 1,000 feet, the peak noise levels range from 44 to 69 dBA. It should be noted that these noise levels are based upon worst-case conditions and, typically, noise levels near a site would be less.

As addressed in Chapter 4.1.8, the City of Rancho Santa Margarita has adopted the County of Orange Noise Ordinance for use in the city. The County *Noise Ordinance* limits noise generated by construction to the hours of 7 a.m. to 8 p.m. on weekdays and Saturdays. No noise generating activities are expected outside of these hours. In addition, the County requires compliance with the *Noise Ordinance*, the use of mufflers, and location of stock piles away from residential areas. Therefore, the construction of the alternative would not result in significant short-term noise impacts.

Once the reservoir is constructed, the only vehicular trips associated with the facility would be trips by SMWD employees for maintenance and inspection. No significant noise impacts would be associated with these limited vehicular trips. Operation of the reservoir would not result in significant long-term operational noise impacts.

7.6.3.2 Mitigation Program

The following measure is expected to be required:

1. During construction, the project applicant shall ensure that all noise generating activities be limited to the hours of 7 a.m. to 8 p.m. on weekdays and Saturdays. No noise generating activities shall occur on Sundays and holidays in accordance with the *Noise Ordinance.*

7.6.3.3 Level of Significance After Mitigation

It is anticipated that implementation of hours of operation standards would mitigate short-term SMWD-related noise impacts to a level that is considered less than significant.

7.6.4 ALTERNATIVE B-10 MODIFIED

7.6.4.1 Impacts

Impact 7.6.4-1: *Construction noise represents a short-term effect on ambient noise levels. Construction conducted consistent with the County of Orange Noise Ordinance would not result in any significant short-term noise impacts.*

As previously addressed, construction noise represents a short-term impact on ambient noise levels. Most of the proposed development associated with Alternative B-10 Modified is located away from existing noise-sensitive uses. The exception to this situation is at the edge of the RMV Planning Area near Ortega Highway where development would occur directly adjacent to

existing residences. Alternative B-10 Modified would be developed in phases, potentially resulting in construction occurring adjacent to or near residential areas already constructed within or proximate to the RMV Planning Area. The Noise Ordinance limits noise generated by construction to the hours of 7 a.m. to 8 p.m. on weekdays and Saturdays. No noise generating activities are expected outside of these hours. In addition, the County requires compliance with the *Noise Ordinance*, the use of mufflers, and location of stock piles away from residential areas. Therefore, the construction would not result in significant short-term noise impacts.

Traffic Noise on Surrounding Land Uses

Impacts from noise produced by project-generated traffic are estimated based on the traffic projections presented in the traffic study. By comparing the traffic volumes for different scenarios, the changes in noise levels along roadways in the vicinity of the RMV Planning Area can be estimated. To estimate noise level increases and noise impacts due to the development of Alternative B-10 Modified, the "with Alternative B-10 Modified" traffic volumes are compared to the "without Alternative B-10 Modified" traffic volumes.

To assess the impacts of buildout of the alternative, year 2025 conditions with and without the alternative were compared. Both scenarios assume the committed circulation system described in Chapters 4.1.5 and 7.3 of this EIS. Table 7.6-1 identifies project-specific traffic noise level increases associated with buildout of the alternative (year 2025). To focus on the roadway segments that are most impacted by projected changes in traffic noise, only roadway segments expected to have project alternative-specific noise level increases of greater than 0.5 dB are presented in the table. Noise level increases in excess of the 3 dB threshold are in bold italics.

The table shows that Alternative B-10 Modified is forecast to result in noise increases greater than the 3 dB threshold along three roadway segments. However, based on the thresholds of significance set forth in this EIS, no significant project-specific impacts would occur.

***Avenida Pico, Avenida La Pata and Avenida Vista Hermosa*.** There are existing residences located on the north side of this roadway segment. These residences are either located outside the forecast future 65 CNEL contour or have existing sound walls. Therefore, the alternative would not result in a significant traffic noise impact along this roadway segment.

***Avenida Pico, east of Avenida Vista Hermosa*.** There are existing residences located on the north side of this roadway segment have existing sound walls. Analysis of the performance of the sound walls found that all of the residences along this roadway segment are projected to be exposed to future traffic noise levels of less than 65 CNEL. Therefore, Alternative B-10 Modified would not result in a significant traffic noise impact along this roadway segment because it would be designed to avoid impacts to sensitive receptors such that uses are not subject to noise levels exceeding 65 CNEL.

***Antonio Parkway, north of Ortega Highway*.** The segment of Antonio Parkway north of Ortega Highway would experience increased noise levels. Buildout of Alternative B-10 Modified would not result in significant noise impacts to this roadway segment because the project alternative would be designed to avoid impacts to sensitive receptors such that uses are not subject to noise levels exceeding 65 CNEL.

TABLE 7.6-1
YEAR 2025 ALTERNATIVE B-10 MODIFIED BUILDOUT TRAFFIC NOISE CNEL INCREASES

Roadway Segment	B-10 Modified Buildout Traffic Noise CNEL Change	Significant?
SR-241		
North of Antonio Parkway	1.1	No
Antonio Parkway to Oso Parkway	2.2	No
Oso Parkway		
East of I-5	0.3	No
West of Marguerite Parkway	0.3	No
Marguerite Parkway to Felipe Road	0.7	No
Felipe Road to Antonio Parkway	1.0	No
East of Antonio Parkway	1.8	No
West of SR-241	2.1	No
Crown Valley Parkway		
West of Marguerite Parkway	0.5	No
East of Marguerite Parkway	0.7	No
West of Antonio Parkway	1.1	No
Ortega Highway		
I-5 to Rancho Viejo Road	0.5	No
West of La Novia	0.7	No
East of La Novia	1.0	No
West of Avenida La Pata	1.5	No
East of New Ortega Highway	0.7	No
Avenida Vista Hermosa		
Avenida Talega to Avenida Pico	2.4	No
Avenida Pico		
West of Avenida La Pata	1.3	No
Avenida La Pata to Vista Hermosa	***4.3***	***No***
East of Avenida Vista Hermosa	***4.3***	***No***
Antonio Parkway		
South of Crown Valley Parkway	1.0	No
North of New Ortega Highway	2.9	No
North of Ortega Highway	***3.1***	***No***
Avenida La Pata		
South of Ortega Highway	2.2	No
South of Avenida Pico	1.8	No
Avenida Talega		
East of Avenida Vista Hermosa	1.8	No
Source: The Ranch Plan EIR 589		

Impact
7.6.4-2 *The B-10 Modified Alternative's contribution to cumulative noise would result in significant traffic noise impacts.*

Cumulative traffic noise impacts are assessed by comparing traffic noise CNEL increases compared to existing conditions with Alternative B-10 Modified and all other projected development within the study area. To estimate the noise level increases compared to existing conditions, existing traffic volumes were compared to the forecast future with Alternative B-10

Modified traffic volumes. This provides the forecast traffic noise level increases due to the project alternative in addition to other projects and general growth anticipated for the area. Cumulative traffic noise impacts in 2025 with buildout of Alternative B-10 Modified have been assessed. This presents the cumulative noise increases due to the alternative project and general growth in the area.

Table 7.6-2 identifies the cumulative traffic noise CNEL increases with buildout of Alternative B-10 Modified. Three circulation system scenarios are used for the *Year 2025* analysis as follows:

- Committed circulation system.
- Committed circulation system plus La Pata Avenue extension.
- Committed circulation system plus La Pata Avenue extension and the southerly extension of SR-241.

Increases greater than the 3 dB threshold are shown in bold italics. Segments presented in the table are those projected to experience noise level increases of 1.5 dB or greater. Up to 14 roadway segments (depending on the above-noted circulation system scenarios) are forecast to experience 2025 traffic noise level increases over existing conditions greater than 3 dB as a result of implementation of the proposed alternative and projected growth in the area. These segments are:

SR-73 between Oso Parkway and Crown Valley Parkway**.** Residences are located along both sides of the entire roadway segment. All of the residences have existing sound walls or elevation differences from the roadway such that the roadway structure and/or topography act as a noise barrier. Analysis of the performance of the sound walls and noise barriers found that all of the residences along this roadway segment are forecast to be exposed to future traffic noise levels less than 65 CNEL. Therefore, Alternative B-10 Modified, in combination with cumulative growth, would not result in a significant cumulative traffic noise impact along this roadway segment for each of the roadway scenarios.

SR-73 between Crown Valley Parkway and I-5**.** There are residences located along both sides of the entire roadway segment. All of the residences have existing sound walls or elevation differences from the roadway where the roadway structure and/or topography act as a noise barrier. Analysis of the performance of the sound walls and noise barriers found that all of the residences along this roadway segment are forecast to be exposed to future traffic noise levels less than 65 CNEL. Therefore, Alternative B-10 Modified, in combination with cumulative growth, would not result in a significant cumulative traffic noise impact along this roadway segment for each of the roadway scenarios.

SR-241, north of Antonio Parkway**.** Under the committed circulation system and the committed circulation system with the La Pata Avenue extension, SR-241 north of Antonio Parkway would increase noise levels by more than 3 dB. Alternative B-10 Modified project plus cumulative growth scenario would not result in a significant traffic noise impact along this roadway segment for each of the roadway scenarios. Residences are either outside of the 65 CNEL contour or have existing sound walls.

TABLE 7.6-2
YEAR 2025 ALTERNATIVE B-10 MODIFIED + CUMULATIVE TRAFFIC NOISE CNEL INCREASES

Roadway Segment	Cumulative Traffic Noise CNEL Change			
	B-10 Modified Buildout + Cumulative (Committed Circulation System)	**B-10 Modified Buildout + Cumulative (Committed Circulation System + La Pata)**	**B-10 Modified Buildout + Cumulative (Committed Circulation System+ La Pata + Arterial South of Oso Parkway)**	**Significant Impact?**
I-5				
Avery Parkway to Junipero Serra	1.6	1.6	1.3	No
Junipero Serra to Ortega Highway	1.6	1.6	1.3	No
Ortega Highway to San Juan Creek	1.7	1.7	1.3	No
San Juan Creek to Stonehill	1.7	1.6	1.3	No
Stonehill to Camino Las Ramblas	1.8	1.7	1.3	No
Camino Las Ramblas to Camino de Los Mares	1.7	1.6	1.3	No
Camino de Los Mares to Vista Hermosa	1.8	1.6	1.3	No
Avenida Vista Hermosa to Avenida Pico	1.8	1.8	1.4	No
SR-73				
Oso Parkway to Crown Valley Parkway	***3.2***	***3.1***	2.7	***No***
Crown Valley Parkway to I-5	***3.1***	***3.1***	2.7	***No***
SR-241				
North of Antonio Parkway	2.9	***3.1***	***5.0***	***No***
Antonio Parkway to Oso Parkway	***4.9***	***4.9***	***7.9***	***No***
Oso Parkway				
West of Marguerite Parkway	2.2	2.2	1.6	No
Marguerite to Felipe Road	1.3	1.3	1.0	No
Felipe Road to Antonio Parkway	1.3	1.3	1.0	No
East of Antonio Parkway	2.2	2.3	1.2	No
West of SR-241	2.1	2.3	0.8	No
Crown Valley Parkway				
West of Marguerite Parkway	2.5	2.4	2.4	No
East of Marguerite Parkway	2.8	2.6	2.6	No
West of Antonio Parkway	***3.2***	***3.0***	***3.0***	***No***
Junipero Serra				
West of I-5	2.0	1.8	1.8	No

TABLE 7.6-2 (Continued)
YEAR 2025 ALTERNATIVE B-10 MODIFIED + CUMULATIVE TRAFFIC NOISE CNEL INCREASES

Roadway Segment	Cumulative Traffic Noise CNEL Change			
	B-10 Modified Buildout + Cumulative (Committed Circulation System)	**B-10 Modified Buildout + Cumulative (Committed Circulation System + La Pata)**	**B-10 Modified Buildout + Cumulative (Committed Circulation System+ La Pata + Arterial South of Oso Parkway)**	**Significant Impact?**
Ortega Highway				
West of La Novia	1.5	1.2	1.1	No
East of La Novia	2.2	1.9	1.9	No
West of La Pata	2.8	2.5	2.4	No
East of New Ortega Highway	1.1	1.1	1.5	No
San Juan Creek Road				
West of La Novia	1.8	1.5	1.5	No
East of La Novia	2.1	2.1	2.1	No
Avenida Vista Hermosa				
East of I-5	2.9	2.9	2.0	No
Avenida Pico				
East of I-5	1.9	1.5	0.9	No
West of La Pata	1.8	1.7	0.5	No
La Pata to Avenida Vista Hermosa	***3.4***	***3.4***	***3.6***	***No***
East of Avenida Vista Hermosa	***6.5***	***6.5***	***7.1***	***No***
Camino Capistrano				
South of Paseo de Colinas	0.8	0.8	0.8	No
North of Junipero Serra	***4.8***	0.0	0.0	***No***
Junipero Serra to Roso	2.4	2.1	2.1	No
Antonio Parkway				
North of SR-241	1.5	1.5	1.5	No
Empressa to SR-241	1.3	1.6	1.5	No
Empressa to Banderas	1.5	1.8	1.5	No
Oso Parkway to Crown Valley Parkway	2.4	2.8	2.5	No
South of Crown Valley Parkway	***4.2***	***4.8***	***4.8***	***No***
North of New Ortega Highway	***5.3***	***5.9***	***6.0***	***No***
North of Ortega Highway	***5.5***	***6.8***	***5.7***	***No***

TABLE 7.6-2 (Continued)
YEAR 2025 ALTERNATIVE B-10 MODIFIED + CUMULATIVE TRAFFIC NOISE CNEL INCREASES

Roadway Segment	Cumulative Traffic Noise CNEL Change			
	B-10 Modified Buildout + Cumulative (Committed Circulation System)	**B-10 Modified Buildout + Cumulative (Committed Circulation System + La Pata)**	**B-10 Modified Buildout + Cumulative (Committed Circulation System+ La Pata + Arterial South of Oso Parkway)**	**Significant Impact?**
Avenida La Pata				
South of Ortega Highway	2.2	***9.2***	***6.0***	***No***
South of Avenida Pico	2.6	***3.0***	***3.4***	***No***
Camino Vera Cruz				
Camino de Los Mares to Avenida Vista Hermosa	***3.7***	***3.9***	***3.9***	***No***
Avenida Talega				
East of Avenida Vista Hermosa	***11.8***	***10.8***	***10.8***	***No***
Source: The Ranch Plan EIR 589				

***SR-241, Antonio Parkway to Oso Parkway*.** Alternative B-10 Modified, in combination with cumulative growth in the study area, would not result in a significant cumulative traffic noise impact along this roadway segment for each of the roadway scenarios. Residences are either outside of the 65 CNEL contour or have existing sound walls.

Crown Valley Parkway, west of Antonio Parkway. There are residences on both sides of the entire roadway segment. Some have existing sound walls and others have topographical features that act as noise barriers. Analysis of the performance of the sound walls and topography found that all of the residences along this roadway segment are projected to be exposed to future traffic noise levels of less than 65 CNEL. There are no other noise sensitive uses along this roadway segment. Therefore, Alternative B-10 Modified, in combination with cumulative growth in the study area, is not expected to result in a significant cumulative traffic noise impact along this roadway segment for each of the roadway scenarios.

***Avenida Pico, Avenida La Pata to Avenida Vista Hermosa*.** Cumulative growth with buildout of Alternative B-10 Modified would not result in a significant cumulative traffic impact for each of the roadway scenarios. Residences are either located outside of the 65 CNEL contour or have existing sound walls.

***Avenida Pico, east of Avenida Vista Hermosa*.** Cumulative growth with buildout of Alternative B-10 Modified would not result in a significant cumulative traffic impact for each of the roadway scenarios. Residences would be exposed to noise levels less than 65 CNEL.

***Camino Capistrano, north of Junipero Serra*.** There are scattered residences located on the west side of this roadway segment. These residences do not have noise barriers and are exposed to existing and future noise levels in excess of 65 CNEL. I-5 is located on the east side of the roadway segment and dominates the noise environment. The actual noise level increase along this segment is a combination of the increase along Camino Capistrano and the increase along I-5. The actual noise level increase is dependant on the specific receptor location relative to these two roadways. The greatest increase is forecast to occur at the receptor closest to Camino Capistrano (which experiences the greatest increase in noise level) and is furthest from I-5 (which generates the highest noise levels). The greatest increase in noise levels over existing conditions is projected to be 2.6 dB. Therefore, while the traffic noise level generated by vehicles on Camino Capistrano will increase by more than 3 dB, the total traffic noise level at the residences would not be greater than 3 dB. Therefore, Alternative B-10 Modified in combination with cumulative growth would not result in a significant traffic noise impact along this roadway segment for each of the roadway scenarios.

***Antonio Parkway, south of Crown Valley Parkway*.** Cumulative growth with buildout of Alternative B-10 Modified would not result in a significant cumulative traffic impact for each of the roadway scenarios. Residences would be exposed to noise levels less than 65 CNEL.

***Antonio Parkway, north of New Ortega Highway*.** Buildout of Alternative B-10 Modified combined with cumulative growth would not result in significant cumulative noise impacts for each of the roadway scenarios. Forecast noise levels would be less than the County standards.

***Antonio Parkway, north of Ortega Highway*.** Cumulative growth with Alternative B-10 Modified would not result in significant noise impacts for each of the roadway scenarios. Forecast noise levels would be less than the County standards.

***Junipero Serra, west of I-5*.** No noise sensitive uses are located within the future forecast 65 CNEL contour from this roadway segment. Therefore, Alternative B-10 Modified, in

combination with cumulative growth and changes in the area's roadway network, would not result in a significant traffic noise impact along this roadway segment for each of the roadway scenarios.

***Avenida La Pata, south of Ortega Highway*.** Cumulative growth with buildout of Alternative B-10 Modified would not result in significant noise impacts for each of the roadway scenarios for each of the roadway scenarios. Sensitive receptors would not be exposed to noise levels exceeding County standards.

***Avenida La Pata, south of Avenida Pico*.** Under the committed circulation system and the committed circulation system with the La Pata Avenue extension, there would be 3 dB or greater noise increases. There are no existing noise sensitive uses located within the forecast future 65 CNEL contour for this roadway segment. Therefore, Alternative B-10 Modified, in combination with all other growth and changes in the area's roadway network, would not result in a significant traffic noise impact along this roadway segment for each of the roadway scenarios.

***Camino Vera Cruz, Camino de los Mares to Avenida Vista Hermosa*.** Future forecast noise levels at some sensitive receptors along the Camino Vera Cruz segment are projected to be exposed to traffic noise levels greater than County standards. However, implementation of Alternative B-10 Modified does not change the traffic noise levels along this roadway segment. Therefore, Alternative B-10 Modified, in combination with cumulative growth, would not result in a significant cumulative traffic noise impact to this roadway segment for each of the roadway scenarios.

***Avenida Talega, east of Avenida Vista Hermosa*.** Buildout of Alternative B-10 Modified in combination with cumulative growth in the study area would not result in a significant cumulative traffic noise impact along these roadway segments for each of the roadway scenarios.

Impact 7.6.4-3 *Prior to mitigation, on-site activities could result in significant noise impacts thereby impacting sensitive receptors.*

On-Site Land Uses and Activities

Noise from activities on one property impacting another typically occurs only where non-residential land uses (e.g., commercial, manufacturing) abuts residential uses. Typical sources of noise from commercial uses adjacent to residential uses that have the potential to impact residential uses include parking lot activity, mechanical equipment, and delivery trucks/loading docks. Although Alternative B-10 Modified does not propose commercial uses directly adjacent to any existing residential areas, the Urban Activity Center land use designation permits residential development. The nearest commercial uses to existing residential uses would be Urban Activity Center uses in Planning Area 1. These uses are located more than 1,500 feet from the nearest existing residence and there will be residential uses associated with the alternative between the commercial and existing residences. Specific uses in the commercial portions of the RMV Planning Area not yet identified could generate significant noise levels internal to the RMV Planning Area. Restaurants, nightclubs, and bars are often sources of noise issues due to their late night operation. Proposed commercial uses would be required to comply with the Noise Ordinance at the nearer residential areas developed by Alternative B-10 Modified and would not approach the Noise Ordinance limits at the nearest existing residences. Compliance with County Standard Condition N08 would ensure that commercial uses proposed by Alternative B-10 Modified would not significantly impact any proposed residential uses. This

condition will require a specific noise study for any commercial uses that are deemed to have the potential to generate noise levels in excess of the Noise Ordinance. Measures that may be required to meet the Noise Ordinance include additional setbacks through site design, noise barriers, mufflers/silencers, and/or operational restrictions.

Golfing is not a significant noise-generating activity and therefore, would not result in a significant noise impact. Maintenance activities on the golf courses have the potential to result in a noise impact. The County of Orange exempts noise associated with the maintenance of real property if these activities occur between 7:00 a.m. and 8:00 p.m. Monday through Saturday, or between 9:00 a.m. and 8:00 p.m. on a Sunday or a federal holiday. Therefore, maintenance activities occurring within these hours would not result in a significant noise impact. However, golf course operators typically mow greens as early as possible in the morning. Residences located near greens would be subject to early morning mowing noise. Further, some golf course operations begin mowing fairways early in the morning; therefore, residences located adjacent to fairways could be subject to early morning noise. Application of County Standard Condition N08 would ensure that the golf course facilities proposed by Alternative B-10 Modified would not significantly impact any proposed residential uses. This condition will require a specific noise study for any golf course facilities that are deemed to have the potential to generate noise levels in excess of the Noise Ordinance. Measures that may be required to meet the Noise Ordinance include additional setbacks through site design, noise barriers, mufflers/silencers, and/or operational restrictions.

Parks

Local parks would be developed as a part of Alternative B-10 Modified. Noise generated by park activities is typically limited to the voices of participants and spectators. These noise levels are quite varied and dependent on the specific activity. Larger crowds will tend to generate higher noise levels. Important games (e.g., championship vs. preseason) with close scores will tend to result in higher noise levels. Any amplified speech (e.g., bull-horns) or music could generate substantial noise levels. Noise levels at sensitive receptors would depend on their location relative to activity areas at a park and any intervening terrain or walls that act as sound barriers. Section 4-6-7 of the County of Orange Noise Ordinance specifically exempts “Activities conducted on any park or playground, provided such park or playground is owned and operated by a public entity.” If the park is publicly owned and operated and designed to County of Orange standards and required to comply with the Noise Ordinance, noise generated by the park would be considered less than significant.

SR-241 Southerly Extension

The proposed southern extension of SR-241 (i.e., the alignment that was selected by the Transportation Corridor Agencies [TCA] as the locally preferred toll road alignment in 1991) would traverse the RMV Planning Area. The TCA and Federal Highway Administration (FHWA) are currently evaluating the South Orange County Transportation Infrastructure Improvement Project (SOCTIIP), which includes the southern extension of SR-241. Should the TCA and FHWA select an alignment for the SR-241 extension that is different from the 1991 alignment, Alternative B-10 Modified would be modified to reflect the adopted alignment. The impacts associated with the construction of the extension of SR-241 are being addressed in a separate environmental document for the SOCTIIP study. Because the construction of the toll road is not part of the Alternative B-10 Modified project and is not dependent on the completion of the toll road, this alternative is not required to evaluate impacts associated with the development of the toll road. However, potential noise impacts from traffic generated by the southern extension of SR-241 have been evaluated in this EIS for informational purposes. The southerly extension of

SR-241 could result in noise levels that would exceed 65 CNEL at 100 feet from the toll road centerline to 18 roadway segments. Sound attenuation would be required for proposed Alternative B-10 Modified sensitive receptors affected by SR-241 noise.

Airfields

The RMV Planning Area is not located in the immediate vicinity of any airfield and is not directly impacted by noise generated from any airport operations. In route aircraft overfly the RMV Planning Area and are audible at times. These conditions are not expected to change in the future. Because of the relatively low aircraft noise levels experienced on the RMV Planning Area and the limited time that this occurs, aircraft do not generate noise levels that approach the County's noise standards.

On-Site Heliport

There is a private heliport located at the Rancho Mission Viejo headquarters within the RMV Planning Area. The heliport is used infrequently, approximately four times a year, for aerial tours of the ranch property or other Rancho Mission Viejo business. Typically, operations do not occur during the nighttime hours and this is not projected to change in the future. Areas, including residential development, around the heliport would be exposed to substantial single-event noise levels as helicopters arrive and depart the heliport. These levels could be high enough to interfere with speech in the immediate area around the heliport. However, because of the infrequency of operations, noise levels in the vicinity of the heliport would not approach the County's noise standards. The RMV Planning Area is not significantly impacted by aircraft noise.

MCB Camp Pendleton

Residences proposed in Planning Area 8 would be the most impacted by noise generated from activities at MCB Camp Pendleton. Noise levels from the base are not expected to exceed the County's 65 CNEL outdoor residential noise standard within the RMV Planning Area, including Planning Area 8. However, noise from activities on the base, including aircraft and artillery firings, would be audible in Planning Area 8.

Planning Area 8 is currently leased by Northrop Grumman Space Technology. The lease for this area lasts until 2018 and would preclude development of Planning Area 8 before this time. Activity at MCB Camp Pendleton and their noise impacts on the project may be substantially different than it is today. Two mitigation measures are included in the chapter and require a buyer's notification program for residents of Planning Area 8 and the compliance with the most current Range Compatibility Use Zone at the time of Area Plan approval to ensure that noise levels in Planning Area 8 do not exceed the appropriate noise standards. With these mitigation measures, Planning Area 8 would not be significantly impacted by noise from activities at the base.

7.6.4.2 Mitigation Program

Standard Conditions and Regulations

In conjunction with the approval of the GPA/ZC, the County of Orange adopted a mitigation program to reduce the impacts associated with impacts on recreational facilities. These measures are listed below to provide the reader context of the mitigation program, although these measures would be implemented as part of the development project and would be the

responsibility of the County of Orange for monitoring. No additional mitigation is required as part of the SAMP.

Construction Noise

SC 4.8-1 During construction, the project applicant shall ensure that all noise generating activities be limited to the hours of 7 a.m. to 8 p.m. on weekdays and Saturdays. No noise generating activities shall occur on Sundays and holidays in accordance with the County of Orange *Noise Ordinance*.

SC 4.8-2 A. Prior to the issuance of any grading permits, the project proponent shall produce evidence acceptable to the Manager, Building Permits Services, that:

(1) All construction vehicles or equipment, fixed or mobile, operated within 1,000' of a dwelling shall be equipped with properly operating and maintained mufflers.

(2) All operations shall comply with Orange County Codified Ordinance Division 6 (Noise Control).

(3) Stockpiling and/or vehicle staging areas shall be located as far as practicable from dwellings.

B. Notations in the above format, appropriately numbered and included with other notations on the front sheet of the project's permitted grading plans, will be considered as adequate evidence of compliance with this condition. (County of Orange Standard Condition N10)

Residential Development

SC 4.8-3 The applicant shall sound attenuate all residential lots and dwellings against present and projected noise (which shall be the sum of all noise impacting the project) so that the composite interior standard of 45 dBA CNEL for habitable rooms and a source specific exterior standard of 65 dBA CNEL for outdoor living areas is not exceeded. The applicant shall provide a report prepared by a County-certified acoustical consultant, which demonstrates that these standards will be satisfied in a manner consistent with Zoning Code Section 7-9-137.5, as follows:

a. Prior to the recordation of a subdivision map or prior to the issuance of grading permits, as determined by the Manager, Building Permits Services, the applicant shall submit an acoustical analysis report to the Manager, Building Permits Services, for approval. The report shall describe in detail the exterior noise environment and preliminary mitigation measures. Acoustical design features to achieve interior noise standards may be included in the report in which case it may also satisfy Condition B below.

b. Prior to the issuance of any building permits for residential construction, the applicant shall submit an acoustical analysis report describing the acoustical design features of the structures required to satisfy the exterior and interior noise standards to the Manager, Building Permits Services, for approval

along with satisfactory evidence which indicates that the sound attenuation measures specified in the approved acoustical report have been incorporated into the design of the project.

c. Prior to the issuance of any building permits, the applicant shall show all freestanding acoustical barriers on the project's plot plan illustrating height, location and construction in a manner meeting the approval of the Manager, Building Permits Services. (County of Orange Standard Condition N01)

Multi-Family Residential Development

SC 4.8-4 Prior to the issuance of any certificates of use and occupancy, the applicant shall perform field testing in accordance with Title 24 Regulations to verify compliance with FSTC and FIIC standards if determined necessary by the Manager, Building Inspection Services. In the event such a test was previously performed, the applicant shall provide satisfactory evidence and a copy of the report to the Manager, Building Inspection Services, as a supplement to the previously required acoustical analysis report. (County of Orange Standard Condition N09)

Non-Residential Development

SC 4.8-5 Except when the interior noise level exceeds the exterior noise level, the applicant shall sound attenuate all nonresidential structures against the combined impact of all present and projected noise from exterior noise sources to meet the interior noise criteria as specified in the Noise Element and Land Use/Noise Compatibility Manual.

Prior to the issuance of any building permits, the applicant shall submit to the Manager, Building Permit Services, an acoustical analysis report prepared under the supervision of a County-certified acoustical consultant which describes in detail the exterior noise environment and the acoustical design features required to achieve the interior noise standard and which indicates that the sound attenuation measures specified have been incorporated into the design of the project. (County of Orange Standard Condition N02)

Noise-Generating Equipment (Non-Residential Projects)

SC 4.8-6 Prior to the issuance of any building or grading permits, the applicant shall obtain the approval of the Manager, Building Permits Services of an acoustical analysis report and appropriate plans which demonstrate that the noise levels generated by this project during its operation shall be controlled in compliance with Orange County Codified Ordinance, Division 6 (Noise Control). The report shall be prepared under the supervision of a County-certified Acoustical Consultant and shall describe the noise generation potential of the project during its operation and the noise mitigation measures, if needed, which shall be included in the plans and specifications of the project to assure compliance with Orange County Codified Ordinance, Division 6 (Noise Control). (County of Orange Standard Condition N08)

Other

SC 4.8-7 Prior to the issuance of certificates of use and occupancy, the developer shall produce evidence to the Manager, Building Inspection Services, that the Department of Real Estate has been notified that the project area is adjacent to a regional transportation corridor. The corridor is expected to be a high capacity, high-speed, limited-access facility for motor vehicles, and will have provisions for bus lanes and other mass transit type facilities. (County of Orange Standard Condition N12)

Mitigation Measures

Land Use Compatibility

MM 4.1-2 At the time of Master Area Plan approval for Planning Area 8, the Planning Director shall evaluate the most current RCUZ for MCB Camp Pendleton to ensure that noise sensitive land uses are not constructed in areas that would exceed state noise standards.

Cumulative Vehicular Traffic Noise

MM 4.8-1 For Camino Capistrano, north of Junipero Sera, prior to the issuance of precise grading permits, a detailed acoustical study shall be performed by a qualified acoustical consultant and submitted to the County of Orange to determine the specific height and location of the noise barriers required to meet the County's noise standards. To be effective, a noise barrier is required to have a surface density of at least 3.5 pounds per square foot and have no openings or cracks. It may be constructed as a solid wall, an earthen berm, or a combination of the two. It may be constructed of wood studs with stucco exterior, 1/4-inch plate glass, 5/8-inch Plexiglas, any masonry material, or a combination of these materials.

7.6.4.3 Level of Significance After Mitigation

Implementation of the recommended standard conditions and mitigation measures would reduce all impacts to less than significant levels with the exception of cumulative noise impacts on Camino Capistrano north of Junipero Serra that would require the construction of a sound wall on private residential property. If a sound barriers could be constructed on public right-of-way in a manner to reduce noise levels at the affected residences to below 65 CNEL, the significant impact would be fully mitigated. Where this is not possible due to the topography between the road and the residence, permission to construct a sound wall on the resident's property would be requested. However, at this time, it cannot be guaranteed that this permission would be granted. Therefore, an unavoidable significant noise impact would occur when it is not feasible to construct an effective sound wall on public property and the affected resident does not grant permission for construction of a sound wall on his/her property.

All other impacts would be reduced to less than significant levels with implementation of the recommended Standard Conditions and Regulations and Mitigation Measures.

7.6.5 ALTERNATIVE B-12

7.6.5.1 Impacts

Impact 7.6.5-1: *Construction noise represents a short-term effect on ambient noise levels. Construction conducted consistent with the County of Orange Noise Ordinance would not result in any significant short-term noise impacts.*

Impact 7.6.5-2 *Alternative B-12 project's contribution to cumulative noise would result in significant traffic noise impacts.*

Impact 7.6.5-3 *Prior to mitigation, on-site activities could result in significant noise impacts thereby impacting sensitive receptors.*

Like the B-10 Modified Alternative, the B-12 Alternative assumes 14,000 residential units and a similar amount of non-residential square footage. Therefore, maximum entitlements under Alternatives B-10 Modified and B-12 are comparable. It is anticipated that there could be some differences in traffic-related noise impacts under the B-12 Alternative (as compared with the B-10 Modified Alternative) in the event of a reallocation of residential units/nonresidential square footage between and among the development areas, due to the reduction in size of development areas within Planning Areas 4, 6, 7, and 8, as well as the proposal under Alternative B-12 to retain Cristianitos Road as a private road south of the Ortega Highway. However, such reallocations will not be proposed until master area plans are submitted to the County for each of the planning areas. Therefore, any analysis of the changes would be speculative at this time. Because the maximum levels of development would be unchanged, the significant effects of Alternative B-12 are expected to be similar to those of Alternative B-10 Modified. It should be noted that GPA/ZC EIR 589 anticipated that there could be changes in traffic due to evolving future land development and transportation patterns. Should the updated traffic analysis required at the master area plan stage of subsequent entitlement determine that noise impacts differ, supplemental environmental analysis and mitigation, if required, would be implemented.

As previously noted, there is a private heliport located at the Rancho Mission Viejo headquarters within the RMV Planning Area. As a part of Alternative B-12, this EIS assumes that the heliport would be relocated as a part of the proposed relocation of the headquarters facility. The heliport is used infrequently, approximately four times a year, for aerial tours of the ranch property or other Rancho Mission Viejo business. Typically, operations do not occur during the nighttime hours and this is not projected to change in the future. Areas around the heliport would be exposed to substantial single-event noise levels as helicopters arrive and depart the heliport. These levels could be high enough to interfere with speech in the immediate area around the heliport. However, because of the infrequency of operations, noise levels in the vicinity of the heliport would not approach the County's noise standards. The RMV Planning Area is not significantly impacted by aircraft noise.

7.6.5.2 Mitigation Program

The mitigation program set forth for Alternative B-10 Modified would apply to Alternative B-12. No additional mitigation is required as part of the SAMP.

7.6.5.3 Level Of Significance After Mitigation

The levels of significance after mitigation would be the same for Alternative B-12 as for Alternative B-10 Modified.

7.6.6 ALTERNATIVE A-4

7.6.6.1 Impacts

Impact
7.6.6-1: *Construction noise represents a short-term effect on ambient noise levels. Construction conducted consistent with the County of Orange Noise Ordinance would not result in any significant short-term noise impacts.*

Impact
7.6.6-2 *Alternative A-4's contribution to cumulative noise would result in significant traffic noise impacts.*

Impact
7.6.6-3 *Prior to mitigation, on-site activities could result in significant noise impacts thereby impacting sensitive receptors.*

Alternative A-4 assumes the same amount of development within the same footprint as Alternative B-10 Modified. Under this alternative, a NCCP/MSAA/HCP or SAMP would not be prepared and permitting would proceed with incremental project-by-project review of new development proposals within the RMV Planning Area. Future development would be subject to incremental project-by-project application of local and state regulatory program requirements and would be required to minimize impacts at the project level. Alternative A-4 would have the same noise impacts as Alternative B-10 Modified.

7.6.6.2 Mitigation Program

The mitigation program identified for Alternative B-10 Modified would also apply to Alternative A-4.

7.6.6.3 Level of Significance After Mitigation

The levels of significance after mitigation would be the same for Alternative A-4 as for Alternative B-10 Modified.

7.6.7 ALTERNATIVE A-5

7.6.7.1 Impacts

Impact
7.6.7-1: *Construction noise represents a short-term effect on ambient noise levels. Construction conducted consistent with the County of Orange Noise Ordinance would not result in any significant short-term noise impacts.*

Implementation of Alternative A-5 assumes development would occur on approximately 8,000 acres (35 percent) with approximately 14,815 acres (65 percent) of the RMV Planning Area in open space. This alternative assumes up to 3,000 dwelling units. With 3,000 dwelling units, it is expected that there would be limited employment-generating land uses. New development

would avoid impacts to wetlands regulated under state and federal laws/regulations. Non-wetland Waters of the U.S. regulated by the USACE under Section 404 and non-wetland jurisdictional areas regulated by the state under Sections1601/1603 would be avoided. To ensure total avoidance of state and federal threatened/endangered species, new development would be limited to those portions of RMV Planning Area that are not occupied by state or federally listed species, and for regulated waters, access would be dependent on existing arterial highways and the ranch road network (i.e., the existing dirt/gravel roads) with surfacing limited to existing road widths.

The A-5 Alternative would generate similar short-term construction noise levels when compared to the other RMV Planning Area alternatives, but the duration of construction would be shorter because of less development associated with this alternative. Alternative A-5 would generate approximately 30,000 trips per day. The A-5 Alternative would generate less long-term operational noise when compared to the other alternatives project because of the reduction in development associated with this alternative. In particular, less traffic noise would be generated.

7.6.7.2 Mitigation Program

Many of the elements of the mitigation program identified for Alternative B-10 Modified would also likely apply to Alternative A-5.

7.6.7.3 Level of Significance After Mitigation

The levels of significance after mitigation for construction-related noise impacts would be the same for Alternative A-5 as for Alternative B-10 Modified.