1.0 EXECUTIVE SUMMARY

The California Environmental Quality Act (CEQA) requires that local government agencies, before taking action on projects over which they have discretionary approval authority, consider the environmental consequences of such projects. An Environmental Impact Report (EIR) is a public document designed to provide to the public and to local and State governmental agency decision-makers an analysis of potential environmental consequences to support informed decision-making.

This EIR has been prepared to evaluate environmental impacts that would result from the development and operation of the La Pata Avenue Gap Closure and Camino Del Rio Extension Project (proposed project). The County of Orange (County), as the Lead Agency, has the authority for preparation of this Draft EIR and, after the comment/response process, certification of the Final EIR (FEIR) and approval of the proposed project. The County of Orange and Responsible Agencies have the authority to make decisions on discretionary actions relating to the development of the proposed project. This EIR is intended to serve as an informational document to be considered by the County of Orange and the Responsible Agencies during deliberations on the proposed project, in accordance with CEQA.

This EIR has been prepared pursuant to the requirements of CEQA, the CEQA Guidelines, and County CEQA Procedures. The County is the Lead Agency, and County staff has reviewed all submitted drafts, technical studies, and reports for consistency with County regulations and policies and has commissioned the preparation of this EIR to reflect its own independent judgment.

Data for this EIR were obtained from on-site field observations; discussion with affected agencies; review of adopted plans and policies; review of available studies, reports, and data; and specialized environmental assessments prepared for the project (e.g., air quality, hydrology, traffic).

1.1 SUMMARY OF PROJECT DESCRIPTION

The proposed project would eliminate an existing gap in the County arterial highway system and establish a connection between Ortega Highway (State Route 74 [SR-74]) to the north and Avenida Vista Hermosa to the south. The proposed project also includes the completion of the planned extension of Camino Del Rio to Avenida La Pata.[1] The proposed gap closure of Avenida La Pata/ La Pata Avenue would provide a parallel roadway to Interstate 5 (I-5) in southern Orange County and would provide arterial access to existing and proposed developments in Forster Ranch, Talega, and the Prima Deshecha Landfill (proposed to ultimately become a regional park), as well as future developments within Rancho Mission Viejo (RMV).

[1] La Pata is named La Pata Avenue in unincorporated Orange County and Avenida La Pata in the City of San Clemente. Both terms are used to refer to the proposed project.

The proposed project is located in the City of San Clemente and unincorporated Orange County. The proposed project would widen La Pata Avenue from three to five lanes from approximately 2,700 feet south of SR-74 in the County of Orange to the existing road terminus at the County's Prima Deshecha Landfill; implement a gap closure by constructing four new lanes from the existing terminus to the intersection of Calle Saluda and Avenida La Pata in the City of San Clemente; and extend Camino Del Rio as a four-lane roadway from its existing terminus in the Forster Ranch community of San Clemente to the proposed Avenida La Pata roadway. Refer to Figure 3.1 in Chapter 3, Project Description, for a regional and project vicinity location map.

The proposed project implements the City of San Clemente General Plan recommendations that Avenida La Pata, at its intersection with Calle Saluda, provide one through lane and one shared through-right lane in the northbound direction, one left-turn lane and two through lanes in the southbound direction, and one left-turn lane and one right-turn lane in the westbound direction. The proposed project also implements City of San Clemente General Plan recommendations that Camino Del Rio, at its intersection with Avenida La Pata, provide one left-turn lane and one right-turn lane in the eastbound direction, two through lanes and one right-turn lane in the southbound direction, and one left-right turn lane and two through lanes in the northbound direction. The intersection of Avenida La Pata/Vista Hermosa will not be altered as part of the proposed project. A third southbound through lane will be added to existing intersections adjacent to San Juan Hills High School (i.e., the full access intersection at La Pata Avenue/Vista Montaña and right-in-only access 1,600 feet farther north). A traffic signal is proposed at the intersection of La Pata Avenue/Camino Del Rio. Modifications to the existing traffic signals at the intersection of La Pata Avenue/Vista Montaña and La Pata Avenue/Calle Saluda would be required.

Development of the proposed project would require discretionary approval by the County of Orange Board of Supervisors, including approval and certification of the Final EIR.

Because the project also involves approvals, permits or authorization from other agencies (i.e., City of San Clemente, State Water Resources Control Board [SWRCB], Regional Water Quality Control Board [RWQCB], United States Army Corps of Engineers [Corps], California Department of Fish and Game [CDFG]), these agencies are "Responsible Agencies" under CEQA. Section 15381 of the CEQA Guidelines defines Responsible Agencies as public agencies other than the Lead Agency that would have discretionary approval power over the project or some component of the project, including mitigation. Responsible Agencies that have permitting authority for some aspects of the proposed project have been identified in Table 3.3 provided in Chapter 3.0. Project approvals by all agencies are described in detail in Section 3.5, Project Discretionary Actions.

1.2 SIGNIFICANT UNAVOIDABLE IMPACTS

CEQA Guidelines, California Code of Regulations (CCR) Section 15126.2(b) requires that an EIR describe significant environmental impacts that cannot be avoided, including those effects that can be mitigated but not reduced to a less than significant level. The following is a summary of the impacts that are considered significant, adverse, and unavoidable after all mitigation is applied. These impacts are also described in detail in Chapter 4.0, Existing Setting, Impacts, and Mitigation Measures.

1.2.1 Traffic

The traffic analysis provided in Section 4.2, Traffic, evaluated traffic conditions with and without the project during the opening year (2016) and the long-range year (2035). In addition, the 2035 conditions were addressed under two scenarios, with and without the southern extension of State Route 241 (SR-241) (Foothill Transportation Corridor–South, or FTC-S) from its current terminus at Oso Parkway to I-5. Results of the traffic analysis indicated that the proposed project would result in significant and unavoidable impacts at the northbound I-5/Avenida Pico intersection for the 2035 Without SR-241 Extension scenario. This impact is identified in both the weekday and weekend analyses.

Currently, the California Department of Transportation (Caltrans) is preparing a Project Study Report (PSR) for the I-5/Avenida Pico interchange that is evaluating what improvements are needed at that interchange, and it is anticipated that the ultimate design of the proposed interchange improvements will ensure that the ramps operate at an acceptable level of service (LOS). However, these improvements have not yet been fully planned, and funding is not currently allocated to their implementation. Also, these projects are within the control and jurisdiction of agencies other than the County of Orange. Although the implementation of Mitigation Measure 4.2-1 would minimize long-term traffic impacts, for purposes of CEQA significance conclusions, these planned and anticipated improvements cannot be assumed to occur, and the project's significant traffic impacts are considered unavoidable and may contribute to cumulative traffic impacts in the local circulation network.

1.2.2 Air Quality

Construction emissions from the project would exceed the South Coast Air Quality Management District (SCAQMD) CEQA thresholds for criteria pollutants during the mass grading phase. Peak-day construction emission thresholds would be exceeded for carbon monoxide (CO), reactive organic gases (ROGs) and oxides of nitrogen (NO_X). For the SCAQMD localized significance thresholds (LST), the project construction emissions would exceed the LST thresholds for NO_X, particulate matter less than 10 microns in size (PM_{10}), and particulate matter less than 2.5 microns in size ($PM_{2.5}$) emissions. Mitigation Measures 4.3-1 through 4.3-6, provided in Section 4.3, Air Quality, would be implemented to reduce construction emissions; however, even with implementation of all available mitigation measures, project impacts related to construction emissions would remain significant and unavoidable.

1.2.3 Noise

The proposed project would result in six receptors located in the City of San Clemente being exposed to a traffic noise level exceeding the City's exterior noise standard of 65 (A-weighted decibels of day-night average noise level (dBA L_{dn}) under 2035 future build conditions. The remaining 54 receptor locations would not have future traffic noise levels that exceed the noise standards of the County or the Cities of San Clemente and San Juan Capistrano. The following receptor locations would be exposed to noise levels that exceed the City of San Clemente's exterior noise standard of 65 dBA L_d:

- **Receptor R-6:** This receptor location represents an existing residence located on Camino Marinero that has an outdoor active use area exposed to traffic noise from Camino Del Rio. This receptor would experience a project-related noise increase of 3 dBA or more and would exceed

the City of San Clemente's exterior noise standard of 65 dBA L_{dn}. Currently, no existing walls protect this residence. One sound barrier was evaluated to shield this residence.

- **Receptor R-10:** This receptor location represents an existing residence located on Camino Forestal that has an outdoor active use area exposed to traffic noise from Camino Del Rio. This receptor would experience a project-related noise increase of 3 dBA or more and would exceed the City of San Clemente's exterior noise standard of 65 dBA L_{dn}. Currently, no existing walls protect this residence. One sound barrier was evaluated to shield this residence.
- **Receptors R-51 and R-52:** These receptor locations represent existing residences located on Camino Forestal that have outdoor active use areas exposed to traffic noise from Camino Del Rio. These receptors would experience a project-related noise increase of 3 dBA or more and would exceed the City of San Clemente's exterior noise standard of 65 dBA L_{dn}. Currently, 2.3-foot-high existing walls protect these residences. One sound barrier was evaluated to shield these residences.
- **Receptors R-59 and R-60:** These receptor locations represent existing residences located on Via Tulipan that have outdoor active use areas exposed to traffic noise from Camino Del Rio. These receptors would experience a project-related noise increase of 3 dBA or more and would exceed the City of San Clemente's exterior noise standard of 65 dBA L_{dn}. Currently, 2.3-foot-high existing walls protect these residences. One sound barrier was evaluated to shield these residences.

Sound barriers were analyzed for sensitive receptors that would exceed the City of San Clemente's exterior noise standard of 65 dBA $L_{dn.}$ Mitigation Measure 4.4-7 requires construction of Sound Barriers (SB) Nos. 1, 2, 3, and 4 (shown on Figure 4.4.1). Construction of these sound barriers would reduce traffic noise levels at sensitive receptor locations to below 65 dBA L_{dn} under 2035 future build conditions. Therefore, with implementation of Mitigation Measure 4.4-7, long-term traffic impacts would be reduced to below a level of significance. The implementation of sound walls on private property may or may not be acceptable to private property owners, and are therefore not within the exclusive control and jurisdiction of the County of Orange and City of San Clemente. Therefore, for purposes of CEQA significance conclusions, sounds walls on private property cannot be assumed to occur, and the project's significant traffic impacts are considered unavoidable.

1.3 ALTERNATIVES

The following four alternatives to the proposed project were selected for consideration, including the No Project/No Development Alternative as required by CEQA Guidelines CCR Section 15126.6(e)(1):

1. No Project/No Development (Alternative 1)
2. Westerly Alignment (Alternative 2)
3. Easterly Alignment (Alternative 3)
4. Project Variation (Alternative 4)

The alternatives analysis (Chapter 5.0 of this EIR) also contains a discussion of alternative sites that were considered during the scoping and planning process and the reasons why they were not selected for detailed analysis in this EIR.

The No Project/No Development Alternative is the environmentally superior alternative because the physical impacts (e.g., construction emissions associated with project construction and impacts to utilities) that would occur under Alternatives 2, 3, and 4 would not occur with the No Project/No Development Alternative. Therefore, the potentially significant impacts associated with the proposed project would be avoided with this alternative.

The CEQA Guidelines require that if the environmentally superior alternative is the No Project/No Development Alternative, the EIR must also identify an environmentally superior alternative among the other alternatives (CEQA Guidelines CCR Section 15126.6(e)(2)).

The proposed project would result in significant adverse unavoidable impacts related to air quality (construction emissions), traffic and circulation (at two locations), and noise (six receptor locations). Construction emissions from the project would exceed the NO_x, PM_{10}, and $PM_{2.5}$ LSTs.

The cumulative contributions of the proposed project to traffic and transportation would be considered significant. Under the 2035 Without SR-241 Extension scenario, the proposed project is anticipated to have a beneficial effect at 13 intersections. However, one significant impact will occur at one intersection (northbound I-5/Avenida Pico). As stated previously, the I-5/Avenida Pico PSR is evaluating the needed improvements for existing deficiencies at northbound I-5/Avenida Pico, and the ultimate design will ensure that the ramps operate at an acceptable LOS. However, this project is not within the control and jurisdiction of the County of Orange, and these planned and anticipated improvements cannot be assumed to occur. Therefore, the project's significant traffic impacts are considered unavoidable and may contribute to cumulative traffic impacts in the local circulation network.

When compared to Alternatives 2, 3, and 4, the proposed project would meet all project objectives with the least environmental impacts. Therefore, the proposed project is the Environmentally Superior.

The alternatives analysis is described in greater detail in Chapter 5.0, Alternatives.

1.4 AREAS OF CONTROVERSY

Pursuant to CEQA Guidelines CCR Section 15123, this EIR acknowledges the areas of controversy and issues to be resolved that are known to the County or were raised during the scoping process. Issues and concerns raised at the scoping meeting included:

- Increased traffic and refuse truck trips within the project area as a result of the proposed project;
- Traffic and air quality impacts as a result of the potential construction of the SR-241 FTC-S project;
- Requests for additional public outreach in the form of additional Notice of Preparation (NOP) mailings to residents living in the neighboring community of Talega;

- Southern California Edison (SCE)/San Diego Gas and Electric (SDG&E) impacts as a result of the proposed project;
- Timing of the proposed project and the potential temporary traffic impacts as a result of other projects (such as the SR-74 widening) in the vicinity that could be constructed around the same time;
- Concern that the project would not be sufficiently funded by the time construction is anticipated;
- Noise impacts associated with increased traffic through the project area;
- Overall aesthetic character of the area after completion of the proposed project; and
- The need for traffic control at the intersection of Camino De Los Mares and Camino Del Rio.

Key issues raised in the NOP comment letters were:

- Consideration of options for the Camino Del Rio extension, including eliminating the extension, substituting trailhead access and a nature center for the extension, and constructing as a two-lane rather than four-lane roadway;
- Consideration of alternatives, including ecological benefits of the proposed alignment and easterly alignment and property acquisition requirement costs associated with the Build Alternatives;
- Potential environmental impacts of the project, including noise, lighting, aesthetics/views, and traffic, including refuse trucks associated with the Prima Deshecha Landfill;
- Consideration of the proposed Project Variation, which may benefit residents in the community of Talega;
- Extension of Camino Del Rio, resulting in the elimination of parking spaces at the current terminus of Camino Del Rio; and
- Project benefits, including emergency access and evacuation benefits of an additional north-south route, congestion relief, and reduced trip length to schools and other destinations.

1.5 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Table 1.1 identifies the project environmental impacts, proposed mitigation measures, and level of significance after mitigation is incorporated into the project. The table also identifies cumulative impacts resulting from build out of the proposed project in conjunction with the approved and pending cumulative projects. Environmental topics addressed in this EIR include: Land Use, Traffic, Air Quality, Noise, Aesthetics, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Population and Housing, Hydrology and Water Quality; Public Services and Utilities, Recreation, Agricultural Resources, Mineral Resources, and Climate Change.

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
4.1 Land Use			
Threshold 4.1.1: Physically divide an established community.	**Less than Significant.** The proposed project would not physically divide an established community because the proposed roadway would be located on land identified or designated for future development of the roadway in applicable plans. More specifically, the Talega development tract map and Forster Ranch development tract map include irrevocable offers to dedicate land for the La Pata Gap Closure and Camino Del Rio Extension Project. In addition, County and City General Plans have shown the alignment of the proposed roadway since the early 1980s. Therefore, rather than dividing existing or proposed communities, the proposed project would provide arterial access to existing and proposed developments in Forster Ranch, Talega, and the Prima Deshecha Landfill (proposed to ultimately become a regional park), as well as future development within the RMV Ranch Plan area. Therefore, potential impacts related to the physical division of an existing community would be less than significant because the project alignment: (1) is located on land identified or designated in planning documents for future development of the roadway; (2) would provide arterial access to existing and proposed development; (3) would allow existing businesses within the project alignment, including the Tierra Verde Industries, Inc. greenwaste facility, to maintain current levels of operation; and (4) incorporates relocated SDG&E facilities.	No mitigation is required.	Less than Significant
Threshold 4.1.2: Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.	**Less than Significant.** As identified through the consistency analysis, the proposed project would not conflict with any applicable General Plan land use plan, policy, or regulation adopted by the County or Cities of San Clemente and San Juan Capistrano for the purpose of avoiding or mitigating an environmental impact. Avenida La Pata/La Pata Avenue and Camino Del Rio are on the County Circulation Plan and the Orange County MPAH. The proposed roadway improvements are provided for in the RMV Ranch Plan Planned Community Program Text and in the Forster Ranch and Talega Specific Plans, which are governing zoning documents for portions of the project alignment. Therefore, the proposed project would not conflict with applicable zoning regulations governing the project alignment. The proposed project would provide improved arterial access to existing and proposed developments in Forster Ranch, Talega, the Prima Deshecha Landfill (proposed to ultimately become a regional park), and the future RMV Ranch Plan development, and existing and future schools, commercial areas, and recreation amenities. Closure of the gap and roadway operation will complete a major transportation corridor in southern Orange County and would serve existing and planned growth in this area. The project would not conflict with the goals of the SCAG RCP.	No mitigation is required.	Less than Significant
Threshold 4.1.3: Conflict with any applicable habitat conservation plan or natural community conservation plan.	**Less than Significant.** The proposed project would comply with the requirements of the approved Orange County Southern Subregion NCCP/HCP/MSAA. The La Pata Avenue Gap Closure and Camino Del Rio Extension Project has been anticipated for many years, and previous conservation programs (i.e., the Southern Subregion NCCP/HCP/MSAA and SAMP) have identified specific mitigation measures for the impacts associated with the completion of La Pata Avenue. While the project design is already consistent with these plans, consistency with these plans would be fully achieved through implementation of Mitigation Measures 4.6-1 through 4.6-4. The implementation of necessary measures ensures compliance with FESA and reduces the overall effects of the	No additional mitigation is required.	Less than Significant

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	project to levels that would be considered less than significant under CEQA.		
Cumulative Land Use Impacts	**Less than Significant.** The proposed project does not substantially contribute to conflicts with applicable land use plans adopted for the purpose of avoiding or mitigating an environmental effect, does not eliminate designated open space or a recreation area, does not physically divide an established community, and does not contribute to a substantial conflict with adjacent or other community land uses. Therefore, a significant adverse cumulative land use impact will not result from implementation of the proposed project, and the implementation of the proposed project would not result in, or contribute to, a cumulatively significant land use impact.	No mitigation is required.	Less than Significant.
4.2 Traffic and Circulation			
Threshold 4.2.1: Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.	**Potentially Significant.** **2035 Freeway Interchange Ramps Without SR-241 Extension.** Based on the performance standards, freeway ramps must achieve LOS E (peak-hour v/c less than or equal to 1.00). One freeway ramp location does not meet the performance standards and operates with a deficiency without the project. This deficiency is improved to an acceptable LOS with the addition of the project. This improvement can be considered a beneficial effect of the project and is listed below: • I-5 NB Direct On-ramp at Avenida Vista Hermosa (AM) There are no significant adverse project impacts to the freeway ramp locations under this scenario. **2035 Freeway Mainline Segments Without SR-241 Extension.** Based on the performance standards, freeway mainline segments must achieve LOS E (peak-hour v/c less than or equal to 1.00 for GP lanes and peak-hour v/c less than or equal to 0.73 for HOV lanes). There are 43 freeway mainline segments that do not meet the freeway mainline performance standards and operate with a deficiency without the project. While freeway mainline traffic benefits (reductions in v/c) occur with the project, no deficient segments are reduced to a v/c below 1.00. There are no significant adverse project impacts to the freeway mainline under the 2035 time frame without the extension of SR-241. **2035 Study Area Intersections With SR-241 Extension.** Based on performance standards, arterial intersections must achieve LOS D or better (ICU not to exceed 0.90) with few exceptions. Significant project impacts may be caused if project-generated traffic contributes 1.0 percent or more to an ICU when the performance standard is exceeded for the County of Orange and the Cities of Mission Viejo, Rancho Santa Margarita, San Juan Capistrano, San Clemente, and Laguna Niguel. Four intersections do not meet the performance standards and operate with a deficiency without the project. One of these deficiencies is improved to an acceptable LOS with the addition of the project. This improvement can be considered a beneficial effect of the project, and the location with a beneficial effect is as follows: • 24. Marguerite Parkway/Avery Parkway (PM) There are no significant impacts under this scenario.	**Mitigation Measure 4.2-1:** The County of Orange shall support, to the best of its ability, the implementation by Caltrans and affected local jurisdictions, of planned improvements to I-5/Avenida Pico and I-5/Crown Valley Parkway.	Significant and Unavoidable

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	2035 Freeway Interchange Ramps With SR-241 Extension. Based on the performance standards, freeway ramps must achieve LOS E (peak-hour v/c less than or equal to 1.00). As shown, three freeway ramp locations do not meet the performance standards and are unchanged with the addition of the project. There are no significant adverse project impacts to the ramp locations under this scenario. **2035 Freeway Mainline Segments With SR-241 Extension.** Based on the performance standards, freeway mainline segments must achieve LOS E (peak-hour v/c less than or equal to 1.00 for GP lanes and peak-hour v/c less than or equal to 0.73 for HOV lanes). There are 34 freeway mainline segments that do not meet the freeway mainline performance standards and operate with a deficiency without the project. One of these deficiencies is improved to an acceptable LOS with the addition of the project. This improvement can be considered a beneficial effect of the project, and the freeway mainline location with a beneficial effect is as follows: • I-5 Mainline NB (GP and Auxiliary Lanes) South of Camino De Los Mares (PM) There are no significant adverse project impacts to the freeway mainline under the 2035 time frame with the extension of SR-241. There are no locally adopted or accepted measures of effectiveness for pedestrian bicycle paths and mass transit components of the circulation system; however, the proposed project will accommodate pedestrians and bicyclists. The plans for the Camino Del Rio extension include 8-foot bike lanes and 5-foot sidewalks on both sides of the roadway. Trail connectivity is maintained, and a pedestrian bridge is included in the project that links the Prima Deshecha North and Forster Ranch Ridgeline Trails. In addition, a bridge overcrossing is planned at the north end of the Prima Deshecha Landfill to provide vehicle access for the Landfill as well as a connection for future planned trails. Also, the proposed project roadway improvements would facilitate the movement of existing and planned transit services (e.g., buses). Therefore, the proposed project has a less than significant impact regarding measures of effectiveness for pedestrian bicycle paths and mass transit components of the circulation system. Based on the traffic analysis and the locally accepted measures of effectiveness for the performance of the circulation system, *the proposed project will result in significant impacts at two locations in the 2016 time horizon and at one location in the 2035 time horizon.* For 2016, the proposed project has a significant project impact at one intersection (I-5 northbound ramp at Avenida Pico) and one ramp location (I-5 northbound direct on-ramp at Crown Valley Parkway). Currently, Caltrans is preparing a PSR for the I-5/Avenida Pico interchange that is evaluating what improvements are needed at that interchange, and it is anticipated that the ultimate design of the proposed interchange improvements will ensure that the ramps operate at an acceptable LOS. It is expected that the 2016 project impact at the I-5/Crown Valley northbound direct on-ramp will be addressed by currently programmed long-range improvements at this interchange that are planned to be in place prior to 2035.		

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	For 2035, the proposed project has a significant project impact at the northbound I-5/Avenida Pico intersection for the 2035 Without SR-241 Extension scenario. This impact is identified in both the weekday and weekend analyses. The I-5/Avenida Pico PSR described above is evaluating the needed improvements for this location, and the ultimate design will ensure that the ramps operate at an acceptable LOS. The proposed project would have a less than significant impact regarding measures of effectiveness for the performance of the circulation system, including but not limited to intersections, streets, highways, and freeways, with the implementation of the above-described related projects. However, these improvements have not yet been fully planned, and funding is not currently allocated to their implementation. Also, these projects are within the control and jurisdiction of agencies other than the County of Orange. With the implementation of Mitigation Measure 4.2-1, traffic and circulation impacts would be minimized. However, implementation of planned improvements cannot be assumed by the County. Therefore, for purposes of CEQA significance conclusions, the project's significant traffic impacts are considered significant and unavoidable.		
Threshold 4.2.2: Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.	**Less than Significant.** Five CMP intersections are located within the study area. For CMP analysis purposes, the performance standard threshold is LOS E (ICU not to exceed 1.00). *All of the intersections meet the CMP performance criteria; therefore, impacts are less than significant.*	No mitigation is required.	Less than Significant
Threshold 4.2.3: Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.	**No Impact.** The proposed project is not located within the JWA land use plan and is not located within the vicinity of a private airstrip. The project has no impact on air traffic patterns because proposed improvements to the circulation system will not result in a change to air traffic levels or locations.	No mitigation is required.	No impact
Threshold 4.2.4: Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	**Less than Significant.** The proposed project will meet the County design standard of 6 percent grade with the exception of a portion less than 0.5 mile in length where the County has approved a 7 percent design grade. Although the 7 percent grade is a variation from the County design standard, it has been reviewed and approved by the County Department of Public Works. Also, the 7 percent grade is less than the maximum grade of 10 percent as required by the SFPA. The proposed project will comply with the SFPA requirements regarding emergency vehicle access. The proposed project will provide safe emergency vehicle access, including fire truck access, to the project area and adjacent neighborhoods. In addition, the proposed widening of existing La Pata Avenue will correct an existing horizontal curve radii deficiency. Therefore, the proposed project does not substantially increase hazards due to a design feature, and the impact is considered less than significant.	No mitigation is required.	Less than Significant
Threshold 4.2.5: Result in inadequate emergency access.	**Less than Significant.** During construction, the proposed project would be required to comply with all applicable codes and ordinances for emergency vehicle access, which would ensure adequate access to, from, and on site for emergency vehicles. In addition, a TMP, as identified in Mitigation Measure 4.9-5, would be in place for the proposed project to prevent significant delays to emergency vehicles, particularly while there is	No additional mitigation is required.	Less than Significant

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	construction activity on existing La Pata Avenue. With the implementation of Mitigation Measure 4.9-5, the proposed project would not result in a significant traffic impact related to emergency access during construction. The proposed project's impact to emergency vehicle response times during construction would be less than significant. The proposed project improvements would complete an existing gap in the arterial highway system and provide a parallel roadway to I-5 in southern Orange County. It will result in improved arterial access to existing/approved and proposed developments in Forster Ranch, Talega, and the Prima Deshecha Landfill (proposed to ultimately become a regional park), as well as future development within the RMV Ranch Plan area. The circulation improvements will facilitate emergency vehicle access in this portion of south Orange County. The proposed project has a less than significant adverse impact to emergency vehicle access.		
Threshold 4.2.6: Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.	**Less than Significant.** As described above under Threshold 4.2.1, the proposed project will accommodate pedestrians and bicyclists. The plans for the Camino Del Rio extension include 8-foot bike lanes and 5-foot sidewalks on both sides of the roadway. Trail connectivity is maintained, and a pedestrian bridge is included in the project that links the Prima Deshecha North and Forster Ranch Ridgeline Trails. In addition, a bridge overcrossing is planned at the north end of the Prima Deshecha Landfill to provide vehicle access for the Landfill as well as a connection for planned trails upon closure of the Landfill. Please refer to Section 4.1, Land Use, for additional information regarding the project's consistency with local adopted plans and policies. The proposed project roadway improvements would facilitate the movement of existing and planned transit services (e.g., buses). Therefore, the proposed project has a less than significant impact regarding conflicts with adopted policies, plans, or programs regarding alternative modes.	No mitigation is required.	Less than Significant
Cumulative Traffic Impacts	**Less than Significant:** As stated previously, under the 2035 With SR-241 Extension scenario, a beneficial effect would occur at one intersection and no significant unavoidable impacts would result from the proposed project. Therefore, under this scenario, the proposed project's impacts would not be cumulatively considerable. Under the 2035 Without SR-241 Extension scenario, the proposed project is anticipated to have a beneficial effect at 13 intersections. However, one significant impact will occur at one intersection (northbound I-5/Avenida Pico). As stated previously, the I-5/Avenida Pico PSR is evaluating the needed improvements for existing deficiencies at northbound I-5/Avenida Pico, and the ultimate design will ensure that the ramps operate at an acceptable LOS. However, this project is not within the control and jurisdiction of the County of Orange, and these planned and anticipated improvements cannot be assumed to occur. Therefore, the project's significant traffic impacts are considered unavoidable and may contribute to cumulative traffic impacts in the local circulation network. **Potentially Significant:** Cumulative traffic impacts are considered in the 2035 analysis scenarios. The analysis of 2035 scenarios includes cumulative growth represented in the General Plans of the County of Orange and the Cities of Laguna Niguel, Mission Viejo, Rancho Santa Margarita, San Juan Capistrano, and San Clemente. Specifically, the 2035 scenarios consider build out of Ladera Ranch and implementation of the RMV Ranch Plan. Cumulative transportation improvement projects evaluated in the 2035 scenarios are all approved and funded, with the exception of the FTC-S project (SR-241 Extension	No mitigation is required.	No impact Significant and Unavoidable.

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	Project). The approval of the SR-241 Extension Project is currently pending. Therefore, the studies prepared for the proposed project analyzed 2035 scenarios with and without the SR-241 Extension Project.		
4.3 Air Quality			
Threshold 4.3.1: Conflict with or obstruct implementation of the applicable air quality plan.	**Less than Significant.** Because the AQMP uses projections based on local General Plans, projects that are consistent with the local General Plan are considered consistent with the AQMP. The implementation of the proposed project would also not delay timely implementation of the TCMs identified in the AQMP. The operation of the proposed project would not significantly contribute to or cause deterioration of existing air quality; therefore, mitigation measures are not required for the long-term operation of the project. The proposed project is included in the applicable General Plan (see Section 4.1, Land Use), and is consistent with the most current AQMP.	No mitigation is required.	Less than Significant
Threshold 4.3.2: Violate any air quality standard or contribute to an existing or projected air quality violation.	**Less than Significant.** **Naturally Occurring Asbestos.** The project is located in Orange County, which is not among the counties listed as containing serpentine and ultramafic rock. *Therefore, the impact from NOA during construction of the project would be minimal to none. No mitigation is required.* **Regional Vehicle Emissions.** Long-term stationary- and mobile-source emissions would occur due to natural gas consumption and electricity usage by the proposed transportation facility. The proposed project would not generate new vehicular traffic trips since it would not construct new homes or businesses. In addition, the proposed project would reduce regional VHT and VMT. The reduction of regional VHT and VMT would reduce regional vehicle emissions. Therefore, the operation of the proposed project would not contribute significantly to regional vehicle emissions. **CO Hot-Spot Analysis.** The 8-hour CO concentrations at the intersections evaluated in the air quality analysis would not exceed the federal and State standards of 9 ppm. The 1-hour CO concentrations at these intersections would also be below the State standard of 20 ppm and below the federal standard of 35 ppm. Therefore, the operation of the proposed project would not have a significant impact on local air quality for CO.	No mitigation is required.	Less than Significant
	Potentially Significant. **Construction Emissions.** Air pollutant emissions associated with the project would occur over the short term from construction activities and would include fugitive dust from site preparation and grading and emissions from equipment exhaust. During construction, short-term degradation of air quality may occur due to the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other activities related to construction. Mitigation Measures 4.3-1 through 4.3-6 would be required to reduce construction emissions; however, even with implementation of all available mitigation measures, project impacts related to construction emissions would remain significant and unavoidable. **Localized Significance.** The nearest sensitive receptors are located along Camino Del Rio within 15 meters (50 feet) of the active construction areas. The shortest distance for LST analyses is 25 meters (80 feet). Therefore, the construction emissions for each phase	**Mitigation Measure 4.3-1:** During all project construction, and as verified by the County Director of Public Works or designee, the project contractor shall comply with the South Coast Air Quality Management District (SCAQMD) Rules 402 and 403 to assist in reducing short-term air pollutant emissions. Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. Rule 402 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site. Applicable dust suppression techniques from Rule 403 are summarized below. Prior to commencement of grading activities, the County Director of Public Works or designee shall ensure that notes are included on grading and construction plans and referenced in the construction contractor's agreement that the construction contractor shall be responsible for compliance with Rules 402 and 403.	Significant Unavoidable Impact

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	of the proposed project's construction were compared to the 25-meter LST thresholds. NO_x, PM_{10}, and $PM_{2.5}$ emissions would exceed the LST thresholds**.** Mitigation Measures 4.3-1 through 4.3-6 would be required to reduce construction emissions; however, even with implementation of all available mitigation measures, project impacts related to construction emissions would remain significant and unavoidable.	The applicable Rule 403 measures are as follows: • Apply nontoxic chemical soil stabilizers according to manufacturers specifications to all inactive construction areas (previously graded areas inactive for 10 days or more). • Water active sites at least twice daily. (Locations where grading is to occur would be thoroughly watered prior to earth moving.) • All trucks hauling dirt, sand, soil, or other loose materials are to be covered, or should maintain at least 2 feet of freeboard (vertical space between the top of the load and the top of the trailer) in accordance with the requirements of California Vehicle Code (CVC) Section 23114. • Traffic speeds on all unpaved roads shall be reduced to 15 miles per hour (mph) or less. **Mitigation Measure 4.3-2:** Prior to commencement of grading activities, the County Director of Public Works or designee shall ensure that notes are included on construction and grading plans and referenced in the contractor's agreement that requires use of dust suppression measures in the SCAQMD *California Environmental Quality Act (CEQA) Air Quality Handbook* during project grading and construction. During all construction activities, and as verified by the County Director of Public Works or designee, the construction contractor shall be responsible for the implementation of following dust suppression measures: • Revegetate disturbed areas as quickly as possible. • Suspend all excavating and grading operations when wind speeds (as instantaneous gusts) exceed 25 mph. • Sweep all streets once per day if visible soil materials are carried to adjacent streets (water sweepers with reclaimed water are recommended). • Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash trucks and any equipment leaving the site each trip. • Pave all on-site roads as soon as feasible, water them periodically, or chemically stabilize them. • Minimize the area disturbed by clearing, grading, earthmoving, or excavation operations at all times. **Mitigation Measure 4.3-3**: Prior to commencement of grading activities, the County Director of Public Works or designee shall ensure that construction documents require the construction contractor to select the construction equipment used on site based on low-emission factors and high energy efficiency. Prior to commencement of grading activities, the County Director of Public Works or designee shall also verify that the grading plans include a statement that the construction contractor shall ensure that all construction equipment is tuned and maintained in accordance with manufacturer specifications. **Mitigation Measure 4.3-4**: Prior to issuance of a Notice to Proceed, the County Director of Public Works or designee shall verify that construction contracts and/or grading plans include a statement that work crews will shut off equipment when not in use. **Mitigation Measure 4.3-5**: Prior to issuance of a Notice to Proceed, the County Director of Public Works or designee shall verify that construction contracts and/or grading plans include a statement that the construction contractor shall time the construction activities so as	

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
		to not interfere with peak-hour traffic and minimize obstruction of through traffic lanes adjacent to the site; if necessary, a flagger shall be retained to maintain safety adjacent to existing roadways. **Mitigation Measure 4.3-6**: Prior to issuance of a Notice to Proceed, the County Director of Public Works or designee shall verify that construction contracts and/or grading plans include a statement that the construction contractor shall support and encourage ride-sharing and transit incentives for the construction crew.	
Threshold 4.3.3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).	Refer to discussion under Threshold 4.3.2.	Refer to Mitigation Measures 4.3-1 through 4.3-6.	Significant Unavoidable Impact for construction emissions Less than Significant impact for operational emissions
Threshold 4.3.4: Expose sensitive receptors to substantial pollutant concentrations.	Refer to discussion under Threshold 4.3.2.	Refer to Mitigation Measures 4.3-1 through 4.3-6.	Significant Unavoidable Impact for construction emissions Less than Significant impact for operational emissions
Threshold 4.3.5: Create objectionable odors affecting a substantial number of people.	**Less than Significant.** **Operational Emissions.** The percentage of truck traffic on La Pata Avenue and Camino Del Rio is expected to be low and very low, respectively.[1] Also, the percentage of trucks on the project roadways is expected to be the same with or without the implementation of the proposed project. Existing municipal waste vehicles use La Pata Avenue from SR-74 south to the existing road terminus. The number of refuse trucks will not increase as a result of the proposed roadway improvements. Operation of the proposed roadway improvements will not result in odor impacts to sensitive receptors due to the distance to the receptors and the small percentage of truck traffic on the roadways.	No mitigation is required.	Less than Significant for operational emissions.
	Potentially Significant. **Construction Emissions.** Some objectionable odors may emanate from the operation of diesel-powered construction equipment during the construction of the proposed project. The closest existing residences in the vicinity of the project area are located along an approximately 400-foot length of Camino Del Rio at approximately 50 feet from the project construction area. These odors would be limited to the short-term construction period of the project and are not expected to be substantial, although they may be noticeable at times. Implementation of Mitigation Measures 4.3-3 and 4.3-4 would reduce emissions from construction equipment. Therefore, the proposed project would not have a significant impact related to odors with incorporation of mitigation.	**Mitigation Measure 4.3-3**: Prior to commencement of grading activities, the County Director of Public Works or designee shall ensure that construction documents require the construction contractor to select the construction equipment used on site based on low-emission factors and high energy efficiency. Prior to commencement of grading activities, the County Director of Public Works or designee shall also verify that the grading plans include a statement that the construction contractor shall ensure that all construction equipment is tuned and maintained in accordance with manufacturer specifications. **Mitigation Measure 4.3-4**: Prior to issuance of a Notice to Proceed, the County Director of Public Works or designee shall verify that construction contracts and/or grading plans include a statement that work crews will shut off equipment when not in use.	Less than Significant for construction emissions

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
Cumulative Air Quality Impacts	**Less Than Significant.** **Operational Emissions.** Based on the regional vehicle emissions analysis, the proposed project would not contribute to long-term regional emissions and therefore would not result in, or contribute to, a cumulatively significant air quality impact.	No mitigation measures are required.	Less than Significant
	Potentially Significant. **Construction Emissions.** Construction and operation of cumulative projects would further degrade the local air quality as well as the air quality of the SCAB. Air quality would be temporarily degraded during construction activities that occur separately or simultaneously. There is a potential for the proposed project's construction emissions to significantly contribute to cumulative short-term air quality impacts.	Refer to Mitigation Measures 4.3-1 through 4.3-6.	Significant and Unavoidable
4.4. Noise			
Threshold 4.4.1: Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	**Potentially Significant:** **Construction Noise.** Short-term noise impacts would be associated with excavation and grading on site during construction of the proposed project. Construction-related, short-term noise levels would be higher than existing ambient noise levels in the project area at the present time but would no longer occur once project construction is completed. Mitigation Measures 4.4-1 through 4.4-6 would be implemented to reduce construction noise. These measures require compliance with the hours specified in the City of San Clemente Municipal Code and in the County Code regarding construction activities, construction of the proposed sound barriers along Camino Del Rio prior to roadway construction, use of mufflers on construction equipment, staging of construction equipment the greatest distance from sensitive receivers, and placing construction equipment so that noise is directed away from sensitive receivers. With implementation of Mitigation Measures 4.4-1 through 4.4-6, short-term construction noise impacts from excavation, grading, and construction of the roadway would be reduced to less than significant levels.	**Mitigation Measure 4.4-1:** During all project excavation and on-site grading, and as verified by the County of Orange (County) Director of Public Works or designee, the project contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards. **Mitigation Measure 4.4-2:** During all project construction, and as verified by the County Director of Public Works or designee, the project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site. **Mitigation Measure 4.4-3:** During all project construction, and as verified by the County Director of Public Works or designee, the construction contractor shall locate equipment staging in the Prima Deshecha Landfill. **Mitigation Measure 4.4-4:** Prior to project construction, the project contractor shall develop and execute a community information program, under the direction of the County Director of Public Works. The purpose of the program shall be to notify neighbors of planned construction schedules and periods of maximum activity. The notice shall provide a construction schedule, required noise conditions applied to the project, and the name and telephone number of the Construction Project Manager who can address questions and problems that may arise during construction. **Mitigation Measure 4.4-5:** During all project construction within the City of San Clemente (i.e., along Camino Del Rio and Avenida La Pata), the construction contractor shall limit all construction-related activities to between the hours of 7:00 a.m. and 6:00 p.m. on Monday through Friday, between the hours of 8:00 a.m. and 6:00 p.m. on Saturday, and at no time on a Sunday or a City-recognized holiday. **Mitigation Measure 4.4-6:** During all project construction within areas of unincorporated Orange County (i.e., along La Pata Avenue), the construction contractor shall limit all construction-related activities to between the hours of 7:00 a.m. and 8:00 p.m. on weekdays and Saturdays, and at no time on Sunday or a federal holiday.	Less than significant with mitigation for construction

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	Long-term Noise Impact. Potential long-term noise impacts associated with project operations are solely from traffic noise. Traffic noise was evaluated for 2035 conditions as reported in the *Traffic Study* (Austin-Foust Associates, Inc., January 2010). The proposed project was modeled using the TNM 2.5 model. Using coordinates obtained from the CAD maps, 60 receptor locations were evaluated in the model where sensitive receptors currently exist. Of the 60 modeled receptor locations, 6 receptor locations located in the City of San Clemente would be exposed to a traffic noise level exceeding the City's exterior noise standard of 65 dBA L_{dn} under 2035 future build conditions. The remaining 54 receptor locations would not have future traffic noise levels that exceed the noise standards of the County or the Cities. Mitigation Measure 4.4-7 requires construction of Sound Barrier Nos. 1, 2, 3, and 4. Construction of these sound barriers would reduce traffic noise levels at sensitive receptor locations to below 65 dBA L_{dn} under 2035 future build conditions. Therefore, with implementation of Mitigation Measure 4.4-7, long-term traffic impacts would be reduced to below a level of significance. The implementation of sound walls on private property may or may not be acceptable to private property owners, and are therefore not within the exclusive control and jurisdiction of the County of Orange and City of San Clemente. Therefore, for purposes of CEQA significance conclusions, sound walls on private property cannot be assumed to occur, and the project's significant noise impacts are considered unavoidable.	**Mitigation Measure 4.4-7:** The County Director of Public Works, in concert with the City of San Clemente Director of Public Works, shall ensure that sound barriers are constructed as shown on Figure 4.4.1, including: • A minimum barrier height of 4 feet for Sound Barrier (SB) No. 1, located along the residential property line. • A minimum barrier height of 4 feet for SB No. 2, located along the proposed right-of-way. • A minimum barrier height of 4 feet for SB No. 3, located along the residential property line. • A minimum barrier height of 4 feet for SB No. 4, located along the residential property line.	Significant and Unavoidable for traffic generated noise.
Threshold 4.4.2: Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.	**Less than Significant.** **Construction Vibration.** The foundations of the proposed road would not require pile driving. Because rubber tires on trucks isolate vibrations, construction trucks on nearby roadways would not generate high vibration levels. However, bulldozers and other heavy-tracked construction equipment would generate ground-borne vibration. Based on the Caltrans Transportation-Related Earthborne Vibration Technical Advisory (January 23, 2004), the vibration level at 50 feet is approximately 6 VdB lower than the vibration level at 25 feet. Vibration at 100 feet from the source is more than 6 VdB lower than the vibration level at 50 feet, or more than 12 VdB lower than the vibration level at 25 feet. Furthermore, based on the FTA Transit Noise and Vibration Impact Assessment (FTA-VA-90-1003-06, May 2006), large bulldozers generate approximately 87 VdB at a distance of 25 feet, and loaded trucks generate approximately 86 VdB at 25 feet. At a distance of 30 feet to the nearest residences at Camino Del Rio, ground-borne vibration associated with on-site construction activities would be reduced by 1.6 VdB or more when compared to the vibration level measured at 25 feet. The vibration level of large bulldozers and loaded trucks would be reduced to 85 and 84 VdB, respectively. Such vibration levels would exceed the FTA thresholds identified in Table 4.4.6 and would be perceptible to residents living adjacent to the project site. It should be noted that buildings extremely susceptible to vibration damage would be exposed to vibration levels of 90 VdB. However, the FTA standards are established for ongoing permanent sources of vibration (such as trains), whereas the proposed project will expose residences to vibration during short-term construction activities. In addition, the anticipated levels of vibration from the movement of construction activity would not cause any damage to the residential buildings. Therefore, this impact is considered to be less than significant. **Long-Term Traffic Vibration.** Most problems with on-road vehicle-related vibration	No mitigation required.	Less than Significant for construction traffic vibration Less than Significant for

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	can be directly related to a pothole, bump, expansion joint, or other discontinuity in the road surface. Proper roadway maintenance and roadway conditions are key to minimizing roadway vibration. The OCPW and the City of San Clemente Public Works Department are committed to regularly maintaining the roadway surface of the proposed project. Based on the specification of proper roadway maintenance surface and the distance to the nearest residences, ground-borne vibration associated with vehicle movement on the completed roadway would be reduced to much lower than the 72 VdB vibration impact thresholds for frequent events and the 80 VdB vibration impact thresholds for infrequent events and residential annoyance level suggested by the FTA. Such vibration levels would not be perceptible to residents living adjacent to the project site, and it would not cause any damage to the residential buildings. Due to the distance of the existing uses from La Pata Avenue, Avenida La Pata, and Camino Del Rio, no measurable ground-borne vibration would occur at these nearby land uses from on-site activities.		operational traffic vibration
Threshold 4.4.3: A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.	**Potentially Significant:** Refer to the discussion for Threshold 4.4.1.	Refer to Mitigation Measures 4.4.2 through 4.4.6.	Significant and unavoidable
Threshold 4.4.4: A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.	**Potentially Significant:** Refer to the discussion for Threshold 4.4.1.	Refer to Mitigation Measures 4.4.1 through 4.4.6.	Less than Significant
Threshold 4.4.5: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.	**No Impact.** JWA is located in Santa Ana, approximately 18 miles north-northwest from the proposed project limits. The proposed project is not located within an airport land use plan or within 2 miles of a private or public airstrip. Therefore, there would be no impacts related to the exposure of people residing or working near an airport to excessive noise levels.	No mitigation is required.	No impact
Threshold 4.4.6: For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.	**No Impact.** Refer to Threshold 4.4.5 above.	No mitigation is required.	No impact
Cumulative Noise Impact	**Less than Significant.** **Short-term Cumulative Noise Impacts.** Given the location of the cumulative projects described in Chapter 4.0 and their separation of approximately 0.3 mile, construction of the proposed project would be considered point sources of noise and would not contribute to off-site cumulative noise impacts from other planned and future projects. Cumulative projects, such as the proposed Target store and the proposed sports park and aquatic center near the intersection of Avenida Vista Hermosa and Avenida La Pata, are located at a distance of approximately 0.3 mile from the La Pata Gap Closure and Camino Del Rio Extension Project, and construction activity for these projects would impact different sensitive receptors. Therefore, even if the La Pata Gap Closure and Camino Del Rio Extension Project was constructed concurrently with other cumulative	No additional mitigation is required.	Less than Significant for construction impacts

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	projects, each project would impact different sensitive receptors and would not result in significant cumulative construction noise. In addition, construction noise would be temporary and would cease upon project completion. **Long-term Cumulative Noise Impacts.** The noise analysis presented above for the La Pata Gap Closure and Camino Del Rio Extension Project was based on traffic volumes, speeds, and truck percentages on La Pata Avenue and Camino Del Rio obtained from the *Traffic Study* (Austin-Foust Associates, Inc., January 2010). The traffic forecasts for year 2035 are based on OCP 2006 demographic projections plus the approved RMV Ranch Plan. These forecasts incorporate reasonably foreseeable land use changes; thus, the noise analysis is a cumulative noise analysis. Therefore, with the mitigation measures presented above, the project's contribution to cumulative noise impacts in the Cities of San Juan Capistrano and San Clemente and the County of Orange would be reduced. However, sound walls on private property cannot be assumed to occur, and the project's contributions to cumulative noise impacts are considered significant and unavoidable.	Refer to Mitigation Measure 4.4.7.	Significant and Unavoidable
4.5 Aesthetics			
Threshold 4.5.1: Have a substantial diverse effect on a scenic vista.	**Less than Significant.** The proposed project would include components that would modify the visual environment, including grading, cut-and-fill during construction, replacement in kind of one large transmission tower, grade-separated access points, and two pedestrian bridges. No designated ridgelines or scenic resources are located in the central segment through the Prima Deshecha Landfill. However, in the north segment, the City of San Juan Capistrano designates one north-south-trending ridgeline west of the project site and one east-west-trending ridgeline just south of the Whispering Hills Planned Community that crosses existing La Pata Avenue. The proposed improvements are similar to those in the existing condition. Therefore, the project improvements would not result in adverse impacts to designated ridgelines in the City of San Juan Capistrano. The County of Orange does not designate any scenic resources or scenic vistas in the project site, and no additional mitigation is required. Within the City of San Clemente, the City designates two ridgelines within the project site, one north-south-trending ridgeline in the vicinity of Avenida La Pata and one east-west-trending ridgeline just north of the Forster Ranch community. The ridgeline silhouette would not be adversely impacted for viewers west of the ridgeline in Forster Ranch since project improvements would be beneath the designated ridgeline. However, for viewers east of the ridgeline in Talega and/or along the Prima Deshecha North Trail facing west, while most of the existing ridgeline silhouette would remain in the postproject condition, there would be a few areas where the roadway would be at a greater elevation than existing topography and ridgeline. As a result, the proposed project includes an earthen berm that would be landscaped with native plant species consistent with the NCCP requirements that would support slope stability. In addition, the slopes designed as part of the project will be consistent with the requirements in the City of San Clemente Municipal Code Title 15 – Buildings and Construction, Chapter 15.4 – Hillside Development. Because the berm would be landscaped with a continuous vegetation cover of native plant species, the slope design is consistent with the City of San Clemente Hillside Development Ordinance (841), and the extension of Avenida La Pata is also identified in the City of San Clemente's Circulation Element, impacts to the ridgeline would be less than significant and no mitigation is required.	No mitigation is required.	Less than Significant

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
Threshold 4.5.2: Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.	**Less than Significant.** Refer to Threshold 4.5.1 above.	No mitigation is required.	Less than Significant
Threshold 4.5.3: Substantially degrade the existing visual character or quality of the site and its surroundings.	**Less than Significant.** **Construction Activities.** Construction of the proposed project would take approximately 30 months. Construction staging areas have been identified in the central segment (in the Prima Deshecha Landfill). Therefore, construction equipment would not be visible to sensitive uses in the north and south segments and would not adversely impact the visual quality and character of the project site.	No mitigation is required.	Less than Significant
	Operational Activities. The proposed improvements in the north segment are either within the existing right-of-way of the roadway or directly adjacent to an existing roadway and therefore do not result in a substantial change to the existing visual character of the area. Thus, the proposed project improvements in the north segment would not result in significant adverse impacts to the existing visual character or quality of the project site and the surroundings. Therefore, the proposed project would result in a less than significant impact to visual quality and character in the north segment. Currently, there is no roadway through the central segment; therefore, implementation of the gap closure through the Prima Deshecha Landfill would alter the visual quality and character of the areas within and adjacent to the roadway. The proposed project is consistent with the existing and planned uses in the central segment and the existing and future visual quality and character of the Landfill site. Therefore, impacts to visual quality and character in the central segment would be less than significant. The proposed project will alter the visual quality and character of the project site and views from adjacent areas in the south segment study area. The changes include the introduction of new roadway and engineered slopes associated with cut-and-fill activity. The engineered fill slope will be revegetated with native species, and slope design will be consistent with the requirements in the City of San Clemente Municipal Code Title 15 – Buildings and Construction, Chapter 15.4 – Hillside Development. Although Key View 2 would be considered moderately degraded with the introduction of the project (from a high landscape value to a medium landscape value), the magnitude of the effect is not considered to be significant. Impacts to visual quality and character are less than significant. The proposed project would result in changes to the visual quality of the areas in the vicinity of the proposed sound barriers. As shown on Figure 4.4.1 in Section 4.4, Noise, SB Nos. 3 and 4, potential impacts to the visual quality would be less than significant because the proposed sound barriers would not be substantially higher than the existing walls.	No mitigation is required.	
	Potentially Significant. However, for SB Nos. 1 and 2, as shown on Figure 4.4.1 in Section 4.4, Noise, the project has the potential to result in significant impacts to the visual quality and character because no walls currently exist in these locations; therefore,	**Mitigation Measure 4.5-1:** Prior to project construction, the County Director of Public Works shall ensure the City of San Clemente is consulted with to determine aesthetic treatments and/or materials for sound barrier construction.	Less than Significant

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	mitigation is required. Mitigation Measure 4.5-1 would require the County to coordinate with the City of San Clemente prior to construction to determine potential aesthetic treatments to reduce the visual impacts of the walls or determine a material for the barriers that would maintain existing views from affected residences. Implementation of Mitigation Measure 4.5-1 would reduce potential impacts to visual quality and character as a result of the sound barriers to below a level of significance.		
Threshold 4.5.4: Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.	**No Impact.** **Construction Activities.** Construction activities would occur during the day. No nighttime construction is planned. Construction activities would not include new sources of light or glare and therefore would not result in adverse impacts. **Less than Significant Impact.** **Operational Activities.** The proposed project would introduce new sources of light in the north and south segments. In the south segment, the level of lighting would be comparable to current conditions on existing Avenida La Pata and Camino Del Rio. In the north segment, the proposed streetlights would be placed in areas adjacent to or near existing developed urban uses, such as San Juan Hills High School and the residential areas, to provide improved pedestrian safety at night. In order to reduce the likelihood of adverse impacts to wildlife in the RMV Ranch Plan open space and other areas, lighting north of San Juan Hills High School to the northern project limits will be the minimum necessary to meet County standards. In all areas, project lighting will be shielded to reduce spillover lighting and glare. Therefore, impacts from new sources of light and glare are considered to be less than significant.	No mitigation is required. No mitigation is required.	No impact for construction activities Less than Significant for operation
Cumulative Aesthetics Impacts	**Less than Significant.** The proposed project features, including the proposed new medians, streetlights, bike lanes, and sidewalks as well as the earthen berm, utility relocations, and pedestrian overcrossing would not degrade the existing visual quality of the site. Several development and transportation projects are planned within the cumulative project study area; however, these projects are not located adjacent to the proposed project and would not alter the view simulations or cross sections included in this analysis. It is anticipated that proposed land development projects would undergo a similar project review process and be required to comply with the City of San Clemente and/or the County of Orange standards to ensure that impacts to aesthetic resources are less than significant. Therefore, while the proposed project would modify the existing aesthetic setting of the project site, the proposed project would not have a significant cumulative impact on the visual environment. Therefore, the incremental contribution of the proposed project to potential cumulative aesthetic impacts is less than significant.	No mitigation is required.	Less than Significant
4.6 Biological Resources			
Threshold 4.6.1: Have a substantial adverse effect, either directly or indirectly through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or the CDFG or USFWS.	**Potentially Significant.** **Threatened and Endangered Species.** The proposed project would directly impact one listed plant species and two listed animal species. These listed species are covered species in the NCCP/HCP. While the project design is already consistent with these plans, consistency with these plans would be fully achieved through the implementation of Mitigation Measures 4.6-1 through 4.6-4. In many cases, the County's participation in the regionally planned conservation programs, including specifically associated commitments to conservation measures, constitute adequate mitigation for the La Pata	**Mitigation Measures 4.6-1:** Biological resources outside of the proposed project impact area shall be protected during construction. To ensure this protection, the Orange County Director of Public Works shall prepare and implement a Biological Resources Construction Plan (BRCP) that provides for the protection of the resources and establishes the monitoring requirements. The BRCP shall contain the following, at a minimum: a. Specific measures for the protection and monitoring of sensitive amphibian, mammal,	Less than Significant

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	Avenue Gap Closure and Camino Del Rio Extension Project impacts, and specific project-related mitigation measures are not required. In some cases, specific project-related mitigation measures are identified in the regional conservation plans, and those that are identified are included as part of Mitigation Measures 4.6-1 through 4.6-4. Finally, in some cases, no project mitigation measures have been previously specifically identified for the La Pata Avenue Gap Closure and Camino Del Rio Extension Project, but are nevertheless recommended to ensure that impacts are minimized and the project is consistent with the intent of the regional conservation programs. Known populations totaling approximately 250 thread-leaved brodiaea (federally listed as endangered and State listed as threatened) lie within the grading limits in the central and south segments of the project site. The thread-leaved brodiaea is a covered species in the NCCP/HCP. To ensure protection of thread-leaved brodiaea during construction, preconstruction surveys and monitoring for thread-leaved brodiaea would be conducted during the appropriate blooming period, prior to vegetation clearing and grubbing, as specified in Mitigation Measure 4.6-1. In addition, the NCCP/HCP requires relocation of the impacted plants, which would constitute mitigation for impacts to thread-leaved brodiaea. Preparation and implementation of a relocation plan for thread-leaved brodiaea is specified in Mitigation Measure 4.6-2. The coastal California gnatcatcher (federally listed as threatened) is widespread within coastal sage scrub in the project area, within and outside the Prima Deshecha Landfill. The net permanent impacts of the La Pata Avenue Gap Closure and Camino Del Rio Extension Project, not including the previously considered and approved impacts of the Prima Deshecha Landfill, would be approximately 21 acres of coastal sage scrub. To ensure protection of coastal California gnatcatcher during construction, preconstruction surveys and monitoring for coastal California gnatcatcher would be conducted during vegetation clearing and grubbing, as specified in Mitigation Measure 4.6-1. Coastal California gnatcatcher is a covered species in the NCCP/HCP, and impacts to this species were anticipated. Mitigation for impacts to coastal sage scrub is provided through the County's participation in the NCCP/HCP and fulfillment of the obligations described therein. A mitigation program involving the creation or restoration of coastal sage scrub within the Prima Deshecha Landfill property is a primary component of the County's responsibility under the NCCP/HCP. Verification that this mitigation has been implemented is specified in Mitigation Measure 4.6-3. A population of least Bell's vireo (federally and State listed as endangered) has been monitored at the Prima Deshecha Landfill for several years. Fifteen territories were documented within the Landfill in 2010 under a separate study, and seven of the territories are within the project grading limits. The remaining territories within the Landfill are within riparian mitigation sites or native habitat that would be preserved. To ensure protection of least Bell's vireo during construction, preconstruction surveys and monitoring for least Bell's vireo would be conducted during vegetation clearing and grubbing, as specified in Mitigation Measure 4.6-1. As also specified in Mitigation Measure 4.6-1, protective fencing would be installed around riparian habitat to be preserved during construction. Least Bell's vireo is a covered species in the NCCP/HCP,	bird, and plant species identified during construction, including listed threatened or endangered species including least Bell's vireo and coastal California gnatcatcher. Such measures will include preconstruction surveys and monitoring during vegetation clearing and grubbing to flush or relocate animals and identify plants that require relocation, such as thread-leaved brodiaea. b. Design and installation of protective fencing or other demarcation around conserved habitat areas and to delineate construction staging areas. c. Specific measures for the minimization of impacts to sensitive habitats, such as preserved riparian/wetland and coastal sage scrub habitats. Such measures will specify that no grading or fill activity of any type will be permitted within these preserved areas. In addition, no construction activities, materials, or equipment will be allowed within these areas. Silt fence barriers will be installed at the grading boundaries on slopes to prevent accidental deposition of fill material in areas where vegetation is immediately adjacent to planned grading activities. A biological monitor should monitor as necessary to ensure compliance with the BRCP. d. A measure for clearing of vegetation outside the breeding season (February 15 through September) and/or preconstruction nesting bird surveys for any vegetation clearing during the nesting season. This measure should include provisions for protection of raptor nesting, which can start earlier in the season. The goal of this measure is compliance with the Migratory Bird Treaty Act (MBTA). e. Measures for potential impacts from equipment operation and maintenance, dust, trash and construction debris, erosion, and unnecessary disturbance of adjacent habitat. All construction equipment should be operated in a manner so as to prevent accidental damage to nearby preserved areas. All equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities will occur in developed or designated nonsensitive upland habitat areas. The designated upland areas will be located in such a manner as to prevent any spill runoff from entering waters of the United States. f. Measures for restoration of temporarily impacted (remedial grading) areas, and revegetation of graded slopes outside the roadway itself and necessary maintenance areas. This restoration/revegetation should be accomplished with native species, except in existing developed areas where ornamental landscaping already occurs. In any case, no nonnative invasive plants should be used. In undeveloped areas, restoration and revegetation should be done with native species, with plant and seed selection designed to blend with adjacent grassland, coastal sage scrub, and chaparral communities. **Mitigation Measure 4.6-2:** Prior to initiation of grading, the Orange County Director of Public Works shall prepare a plan for the relocation of thread-leaved brodiaea within the graded portions of the project alignment. This plan shall include preconstruction surveys during the flowering period of the plant to precisely locate all visible individuals of the species. The flowering period should be closely monitored, and surveys performed based on the flowering stage of known populations in the area. The plan shall include identification of suitable relocation sites in preserved open space, with Caspers Wilderness Park given the highest priority in accordance with the Natural Communities Conservation Plan (NCCP)/Habitat Conservation Plan (HCP). Relocation sites may include expansion of existing populations or establishment of new populations in suitable locations. The plan shall specify the specific relocation methods, maintenance and monitoring requirements, and performance standards. The plan shall be submitted for review and approval by the United States Fish and Wildlife Service (USFWS) and California Department of Fish and Game	

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	and impacts to these species were anticipated. Mitigation for these impacts is provided through the County's participation in the NCCP/HCP and fulfillment of the obligations described therein. A mitigation program to enhance riparian habitat in San Juan Creek is listed as a County responsibility under the NCCP/HCP. Verification that this mitigation has been implemented is specified in Mitigation Measure 4.6-4. With implementation of Mitigation Measures 4.6-1 through 4.6-2, impacts to thread-leaved brodiaea, coastal California gnatcatcher, and least Bell's vireo would be reduced to a less than significant level. **Nonlisted Special-Status Animal Species.** Six nonlisted special-status animal species have been observed within the project grading limits: the western spadefoot, orange-throated whiptail, coastal cactus wren, yellow-breasted chat, Southern California rufous-crowned sparrow, and grasshopper sparrow. Based on observations during surveys and available data, all appear to have rather modest populations within the project grading limits. A total of 11 additional nonlisted special-status animal species are considered to have a moderate chance of occurrence, and 15 more are considered to have a high chance of occurrence. On a population level, it is best to anticipate complete loss of all animals within grading limits. However, these animals are associated with permanently conserved habitats, which would be adequately preserved in the subregion and considered sufficiently preserved to provide adequate habitat for the covered associated species. Furthermore, these species are not identified as candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, and the NCCP/HCP provides substantial conserved habitat for these species. Therefore, impacts to these species are considered to be less than significant. **Nonlisted Special-Status Plant Species.** Seven nonlisted special-status plant species are considered to have a moderate or better chance of occurring within the project grading limits. Vernal barley[3] (CNPS 3.2) was found in the borrow area (Figure 4.6.2). Paniculate tarplant and small-flowered microseris are considered to have a high chance of occurring, and four other species a moderate chance: Palmer's grapplinghook, Robinson's pepper-grass, mud nama, and Allen's entachaeta. Individuals of these species located within the grading limits would be lost. Impacts to nonlisted special-status species and plant communities other than coastal sage scrub and riparian habitats are mitigated through the County's participation in and contributions to the NCCP/HCP program. This participation includes the substantial habitat improvement efforts that will be implemented through compliance with Mitigation Measures 4.6-3 and 4.6-4, as well as the preservation of substantial amounts of supplemental open space within the Prima Deshecha Landfill property. Impacts to adjacent preserved habitats will also be mitigated through Mitigation Measure 4.6-1. With implementation of Mitigation Measures 4.6-1, 4.6-3, and 4.6-4, impact to nonlisted special-status plant species would be reduced to below a level of significance.	(CDFG). In the absence of CDFG adoption of the NCCP/HCP, the County shall obtain authorization from CDFG pursuant to Sections 2080.1 or 2081 of the Fish and Game Code. **Mitigation Measure 4.6-3:** Prior to initiation of grading, the Orange County Director of Public Works shall provide verification to the USFWS that the amount of coastal sage scrub to be impacted by the project (30.34 acres) is within the acreage[2] anticipated in the NCCP/HCP, and that the requisite acreage of coastal sage scrub restoration within the Prima Deshecha Landfill has been implemented. If such verification cannot be made, the County shall consult with the USFWS regarding project consistency with the HCP, and obtain additional authorization for take of the coastal California gnatcatcher as necessary. This additional authorization for take could be in the form of either a minor amendment to the HCP or through a Section 7 consultation in connection with either the Prima Deshecha Landfill or United States Army Corps of Engineers (Corps) permit and would likely involve additional habitat restoration or in-lieu fees. A postconstruction verification report on actual coastal sage scrub impacts, based on as-built grading plans, shall also be submitted by the County to the USFWS. **Mitigation Measure 4.6-4:** Prior to initiation of grading, the Orange County Director of Public Works shall ensure that the County applies for and obtains authorization for impacts to jurisdictional wetlands and other waters from the Corps, CDFG, and Regional Water Quality Control Board (RWQCB). The authorizations will require the preparation and approval of a Habitat Mitigation and Monitoring Plan (HMMP), prepared according to the Corps Mitigation Rule and guidelines for compliance with the Rule issued by the Los Angeles District of the Corps. The HMMP shall include a program for invasive species control on San Juan Creek within Caspers Wilderness Park, or other mitigation requested or accepted by the authorizing agencies. Prior to initiation of grading, the Orange County Director of Public Works shall provide verification to the USFWS and CDFG that a program for invasive species control on San Juan Creek within Caspers Wilderness Park, or other mitigation requested or accepted by the authorizing agencies, has been implemented.	
Threshold 4.6.2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFG or USFWS.	**Potentially Significant.** Within the north and south segments, temporary impacts are associated with areas covered by remedial grading beyond the roadway grading line, whereas permanent impacts are associated with vegetation that would be removed in conjunction with grading of the proposed La Pata Avenue right-of-way and the associated graded slopes. However, substantial portions of the graded slopes would be revegetated with native vegetation.	Refer to Mitigation Measures 4.6-1, 4.6-3, and 4.6-4.	Less than Significant

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	The coastal sage scrub habitat within the project disturbance limits consists of approximately 70.23 acres, of which 40.05 acres are coincidental impacts (i.e., in areas of the Prima Deshecha Landfill property that would be affected by Landfill operations) and were previously considered and approved impacts of the Prima Deshecha Landfill. Of the 30.34 acres of coastal sage scrub that would be impacted by the project alone, 9.01 acres are temporary impacts and 21.33 acres are permanent impacts, compared to the maximum 52 acres of coastal sage scrub impact that was anticipated in the NCCP/HCP. Furthermore, substantial portions of the 21.33 acres of permanent impact are graded cut-and-fill slopes that would be revegetated with native seed mix. The 40.05 acres of coastal sage scrub impact that are coincident with impacts of the Landfill itself were also anticipated in the NCCP/HCP planning effort. Approximately 2.26 acres of chaparral habitat are within the project disturbance limits, all of which are within areas of coincidental landfill impacts and were previously considered and approved impacts of the Prima Deshecha Landfill. Therefore, the proposed project would not result in unanticipated net impacts to chaparral habitats. Approximately 145.51 acres of grassland habitats are within the project disturbance limits, of which 95.26 acres are coincidental impacts. Of the 50.25 acres of grassland that would be impacted only by the La Pata Avenue Gap Closure and Camino Del Rio Extension Project, 20.81 acres are temporary impacts and 29.44 acres are permanent impacts. The NCCP/HCP anticipated up to 250 acres of permanent impacts to grasslands for the proposed project. There are no project-specific mitigation measures identified in the NCCP/HCP for impacts to grasslands. Approximately 12.44 acres of riparian habitat types are within the project disturbance limits, of which 6.89 acres are coincidental impacts. Of the 5.55 acres of riparian habitat that would be impacted by the road project alone, 0.52 acre is a temporary impact and 5.03 acres are permanent impacts. The NCCP/HCP anticipated up to 9 acres of permanent riparian impacts due to the project. All of these major habitat categories (coastal sage scrub, grassland, and riparian) are considered conserved habitats in the NCCP/HCP. In other words, they are considered permanently and sufficiently preserved in the subregion to be consistent with the NCCP Guidelines and to provide adequate habitat for the associated covered species. Therefore, participation in the NCCP/HCP and the fulfillment of the associated obligations, as specified in Mitigation Measures 4.6-1, 4.6-3, and 4.6-4, provide mitigation for impacts to these habitats and the associated species. A mitigation program involving the creation and/or restoration of coastal sage scrub within the Prima Deshecha Landfill property is a primary component of the County's responsibility under the NCCP/HCP. Verification that this mitigation has been implemented is specified in Mitigation Measure 4.6-3. A mitigation program to enhance riparian habitat in San Juan Creek is listed as a County responsibility under the NCCP/HCP. Verification that this mitigation has been implemented is specified in Mitigation Measure 4.6-4. With implementation of Mitigation Measures 4.6-1, 4.6-3, and 4.6-4, impacts to natural communities would be reduced to below a level of significance. No further mitigation is required.		

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
Threshold 4.6.3: Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	**Potentially Significant.** The La Pata Avenue Gap Closure and Camino Del Rio Extension Project would impact 3.49 acres of federally protected wetlands and other waters of the United States, and a total of 8.38 acres of CDFG jurisdictional habitat throughout the alignment, which requires authorization by the Corps, CDFG, and the RWQCB. In the central segment, much of the identified impacts to wetlands and nonwetland waters would be coincidental impacts associated with the planned development of the Prima Deshecha Landfill, and these impacts have already been permitted or are in the process of being permitted by the appropriate regulatory agencies. However, 1.49 acres of wetland and 0.20 acre of jurisdictional nonwetland waters, which would have been preserved by the Prima Deshecha Landfill, would nevertheless be impacted by the La Pata Avenue Gap Closure and Camino Del Rio Extension Project due to landslide stabilization activities that are necessary for the proposed project. In the north segment, approximately 0.04 acre of nonwetland waters would be temporarily impacted and approximately 0.02 acre would be permanently impacted by the proposed project. Within the south segment, approximately 0.02 acre of nonwetland waters would be temporarily impacted and approximately 0.19 acre would be permanently impacted. A total of 7.51 acres of impacts to riparian and streambed habitat under CDFG jurisdiction were identified within the central segment. Of that total, 4.89 acres were identified as a coincidental impact associated with the planned development of the Prima Deshecha Landfill. Orange County Waste and Recycling has already permitted or is in the process of permitting some of the coincidental impact to riparian habitat. Approximately 0.65 acre of riparian and streambed habitat in the central segment would be temporarily impacted, and approximately 4.24 acres would be permanently impacted by the proposed project. Within the north segment, approximately 0.24 acre of riparian and streambed habitat would be temporarily impacted and approximately 0.09 acre would be permanently impacted. Within the south segment, approximately 0.07 acre of streambed habitat would be temporarily impacted and approximately 0.46 acre would be permanently impacted. Because of the limited distribution of wetland and riparian habitats, and the regulatory constraints on development of all the waters in the project area, these impacts are considered significant and require mitigation. The mitigation as specified in the NCCP/HCP is invasive species control in Caspers Wilderness Park. Therefore, implementation of Mitigation Measure 4.6-4 is required to mitigate for project impacts to jurisdictional areas. Mitigation Measure 4.6-4 requires preparation of an HMMP and compensatory mitigation for impacts to jurisdictional areas. The compensatory mitigation is anticipated to include the control of invasive exotic species in San Juan Creek in Caspers Wilderness Park. However, other mitigation may be requested or accepted by the authorizing agencies. Implementation of Mitigation Measure 4.6-4 would reduce the potential impacts to the jurisdictional areas to a less than significant level.	Refer to Mitigation Measure 4.6-4.	Less than Significant

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
Threshold 4.6.4: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	**Less than Significant.** In its analysis of important wildlife movement corridors, the NCCP/HCP does not identify any corridors that cross the La Pata Avenue alignment. The existing habitat in the vicinity of the project is somewhat fragmented. Also, the proposed project features include two undercrossings that are expected to be used by wildlife. Therefore, the implementation of the proposed roadway improvements does not substantially interfere with the movement of native resident or migratory wildlife species, or with established wildlife corridors. In addition, there are no known native wildlife nursery sites within or adjacent to the project limits. Therefore, the proposed project is considered to result in a less than significant impact to wildlife movements.	No mitigation is required.	Less than Significant
Threshold 4.6.5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	**Less than Significant.** The project is consistent with the goals and policies of the County of Orange's Natural Resource Element of the General Plan and the City of San Clemente's Natural and Historic/Cultural Resources Element of the General Plan. There are no local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. Therefore, the proposed project would not conflict with any local policies or ordinances protecting biological resources.	No mitigation is required.	Less than Significant
Threshold 4.6.6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	**Potentially Significant.** The La Pata Avenue Gap Closure and Camino Del Rio Extension Project has been anticipated for many years, and previous conservation programs (i.e., the Southern Subregion NCCP/HCP/MSAA and SAMP) have identified specific mitigation measures for the impacts associated with the completion of La Pata Avenue. While the project design is already consistent with these plans, consistency with these plans would be fully achieved through implementation of Mitigation Measures 4.6-1 through 4.6-4. In many cases, the County's participation in the regionally planned conservation programs, including specifically associated commitments to conservation measures, constitutes adequate mitigation for the La Pata Avenue Gap Closure and Camino Del Rio Extension Project impacts, and specific project-related mitigation measures are not required. In some cases, specific project-related mitigation measures are identified in the regional conservation plans, and those are identified as part of Mitigation Measures 4.6-1 through 4.6-4. Finally, in some cases, no project mitigation measures have been previously specifically identified for the La Pata Avenue Gap Closure and Camino Del Rio Extension Project, but are nevertheless recommended as part of Mitigation Measures 4.6-1 through 4.6-4 to ensure that impacts are minimized and the project is consistent with the intent of the regional conservation programs.	Refer to Mitigation Measures 4.6-1 through 4.6-4.	Less than Significant
Cumulative Biological Resources Impacts	**Less than Significant.** Lacking any mitigation or minimization efforts and the significant regional planning that has occurred, the project's contribution to significant impacts to biological resources in southern Orange County would be significant. However, in light of previously discussed regional planning and habitat preservation that has occurred, and which anticipated the La Pata Avenue Gap Closure and Camino Del Rio Extension Project, no contribution to significant cumulative impacts would occur. All of the native and naturalized (grassland) habitats that are affected by the project are considered adequately conserved, as described in the NCCP/HCP, and the project impacts to these habitats and associated species are considered fully mitigated through implementation of the County's obligations specified in the NCCP/HCP.	No additional mitigation is required.	Less than Significant
4.7 Cultural Resources			
Threshold 4.7.1: Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5? "Historical resources" are defined as	**Potentially Significant.** Although no extant cultural resources were indentified within or immediately adjacent to the project area, precautionary mitigation is required. Generally, the first 6 feet below ground surface is the area considered sensitive for archaeological resources. A cultural monitoring program, as specified in Mitigation Measures 4.7-1 through 4.7-3, would be instituted to ensure that any previously	**Mitigation Measure 4.7-1:** The County Director of Public Works will institute a cultural resource monitoring program, consistent with County SCA A04 (Archaeological Grading Observation and Salvage), during grading and earth movement for ground disturbance within the first 6 feet below ground surface to ensure that any previously unidentified cultural resources encountered through project construction are properly treated.	Less than Significant

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
buildings, structures, districts, sites, or objects that are eligible for the California Register of Historic Resources (CRHR) (State CEQA Guidelines Section 15064.5[a][3]).	unidentified cultural resources encountered through project construction are properly treated. Incorporation of Mitigation Measures 4.7-1 through 4.7-3 would ensure that impacts to cultural resources would be less than significant.	**Mitigation Measure 4.7-2:** If previously unidentified cultural materials are unearthed during construction, the County Director of Public Works will verify that the contractor halts work in the vicinity of the discovery until a qualified archaeologist can assess the significance of the find. Additional archaeological survey will be needed if the project limits are extended beyond the present survey limits. **Mitigation Measure 4.7-3:** If previously unrecorded artifacts or quantities of ecofacts are found, the County Director of Public Works will verify that the archaeological monitor will map the finds with a handheld global positioning system (GPS) unit and record them on an Artifact Record form. Notes and photographs will be taken on Daily Logs and Photographic Record forms, respectively. Previously unrecorded cultural resources will be recorded on State of California Department of Parks and Recreation (DPR) forms. If it is possible to resume construction work in the vicinity of the finds without further impacts to site integrity, then the work will be allowed to continue. In the event that work is halted or redirected, it is the responsibility of the archaeological monitor to notify both the Project Manager and the County Director of Public Works, and to record the reason for redirection of work on the Daily Log. If it is not possible to allow construction work without further impacts to the cultural resource, the County Director of Public Works will be contacted for a decision regarding the disposition of the newly identified resource or resources.	
Threshold 4.7.2: Cause a substantial adverse change in the significance of an archaeological resource pursuant to State CEQA Guidelines Section 15064.5?	**Potentially Significant.** Refer to Threshold 4.7.2 above.	Refer to Mitigation Measures 4.7-1 through 4.7-3.	Less than Significant
Threshold 4.7.3: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	**Potentially Significant.** The project site crosses two fossiliferous Tertiary Formations, the Monterey Formation and the Capistrano Formation. These fossiliferous formations, along with Quaternary Alluvium sediments, crop out at the surface and may also be encountered below the surface of the project. Based on the background research and field survey conducted for the proposed project, sensitive sediments that may contain fossil remains do exist within the project areas, and there is the potential to encounter paleontological resources during all ground-disturbing activities for the proposed project. Mitigation is required to reduce potential adverse impacts to unknown (buried) paleontological resources. Special paleontological situations that would require project redesign to avoid critical localities or strata are not anticipated. However, because there are areas of high paleontological sensitivity within the project area, paleontological monitoring during project ground disturbing construction activities is recommended. Implementation of these recommendations will reduce impacts to nonrenewable paleontological resources. Mitigation Measure 4.7-5 requires the County to retain a County Certified Paleontologist to implement a paleontological monitoring program during earth movement at levels 6 feet or more below the ground surface. This program would include excavation monitoring and specimen recovery, including screen washing, preparation, identification, and curation of collected specimens into a museum repository. A final report would	**Mitigation Measure 4.7-5:** The County Director of Public Works shall verify that a paleontological monitoring program is implemented for all ground disturbance at 6 feet below ground surface. Paleontological monitoring shall be directed by a qualified Principal Paleontologist who is a County Certified Paleontologist. During ground disturbance associated with construction, the qualified paleontologic monitor shall monitor areas designated as having high sensitivity. The qualified paleontologic monitor shall be present on a full-time basis whenever excavation occurs in sediments that have a high sensitivity rating and on a spot-check basis for excavation in sediments that have a low sensitivity rating. The monitoring program would include specimen recovery, including screen washing, preparation, identification, and curation of collected specimens into a museum repository. At the completion of the project, the Principal Paleontologist shall prepare a report documenting the results of the monitoring effort.	Less than Significant

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	provide details of monitoring and curation methods, fossil identification, and discussion, cataloging, and repository arrangements. Implementation of Mitigation Measure 4.7-5 would reduce potential impacts to unknown paleontological resources to less than significant.		
Threshold 4.7.4: Disturb any human remains, including those interred outside of formal cemeteries?	**Potentially Significant.** Although no additional human remains are known to be on site or are anticipated to be discovered, precautionary mitigation is required. Mitigation Measure 4.7-4 requires compliance with State HSC Section 7050.5 in the unlikely event that human remains are encountered during project grading. Upon discovery of the remains, the County Coroner would be notified immediately, and no further disturbance would occur until the County Coroner makes a determination of origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be Native American, the County Coroner would notify the NAHC, which would determine and notify the MLD. The MLD would complete inspection within 48 hours of notification by the NAHC. Implementation of Mitigation Measure 4.7-4 reduces potential impacts related to the discovery of human remains on the proposed project site to a less than significant level, and no additional mitigation is required.	**Mitigation Measure 4.7-4:** In the event human remains are encountered, State Health and Safety Code (HSC) Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code (PRC) Section 5097.98. The contractor must notify the County Coroner of the find immediately. If the remains are determined to be Native American, the County Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD will have the opportunity to offer recommendations for the disposition of the remains. The County Director of Public Works will verify compliance with this review.	Less than Significant
Cumulative Cultural Impact	**Potentially Significant.** Future development in the City of San Clemente and Orange County could include excavation and grading that could potentially impact archaeological and paleontological resources and human remains. The cumulative effect of the proposed project is the continued loss of these resources. The proposed project, in conjunction with other development in the City and County, has the potential to cumulatively impact archaeological and paleontological resources; however, it should be noted that each development proposal received by the City and County undergoes environmental review pursuant to CEQA. If there is a potential for significant impacts to archaeological or paleontological resources, an investigation would be required to determine the nature and extent of the resources and identify appropriate mitigation measures. If subsurface cultural resources are assessed and/or protected as they are discovered, impacts to these resources would be less than significant. In addition, the City's and County's General Plan policies would be implemented as appropriate to reduce the effects of additional development within the City and County. Mitigation Measures 4.7-1 through 4.7-5 would be implemented to reduce potential project impacts by ensuring avoidance, evaluation, and, as applicable, scientific recovery and study of any resources encountered. Therefore, with implementation of Mitigation Measures 4.7-1 through 4.7-5, the project's contribution to the cumulative destruction of known and unknown cultural resources throughout the City of San Clemente and County would be reduced to below a level of significance. The project's contribution to cumulative impacts to cultural resources in the City of San Clemente and County would not be cumulatively considerable nor significant under CEQA, and no mitigation is required.	Refer to Mitigation Measures 4.7-1 through 4.7-5.	Less than Significant
4.8 Geology and Soils			
Threshold 4.8.1: Expose people or structure to potential substantial adverse effect, including the risk of loss, injury, or death involving: a) Rupture of a known earthquake fault, as delineated on the most	a) **Less than Significant.** As with all of Southern California, the project site is subject to strong ground motion resulting from earthquakes on nearby faults. There are, however, no known active or potentially active faults or fault traces crossing the site. In addition, the project site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone. The proposed project would not result in a significant environmental impact related to rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map.	No mitigation is required.	Less than Significant

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault, b) Strong seismic ground shaking, c) Seismic-related ground failure, including liquefaction, or d) Landslides	b) **Potentially Significant.** Ground shaking generated by fault movement may potentially affect the proposed project. However, all applicable guidelines, including compliance with the CBC, accepted industry standards, and other regional and local regulations that address seismic hazards, are incorporated into project design. With incorporation of seismic-related requirements into the project design, as specified in Mitigation Measure 4.8-1, seismic-related hazards would be less than significant.	**Mitigation Measure 4.8-1:** During final design and prior to the issuance of grading permits, the County of Orange Director of Public Works shall ensure that all grading operations and construction in the central segment shall be conducted in conformance with the recommendations included in the geotechnical reports for the proposed project titled *Preliminary Geotechnical Assessment (Station 104+40 to 164-35)* (August 5, 2009) prepared by Stoney-Miller Consultants, Inc. (Appendix I of this EIR).	Less than Significant
	c) **Less than Significant.** Liquefaction commonly occurs when three conditions are present simultaneously: (1) high groundwater; (2) relatively loose, cohesionless (sandy) soil; and (3) earthquake-generated seismic waves. The presence of these conditions may cause a loss of shear strength and, in many cases, ground settlement. Lateral spreading may occur on fill material or on high slope embankments. The probability for liquefaction, lateral spreading, and seismically induced ground settlement for the proposed project is considered negligible because these conditions are not likely to occur and the only presence would be at the base of the large fill in the central segment. In this case, these soils would be removed either by corrective grading or other remedial grading techniques. Therefore, impacts related to liquefaction are less than significant.	No mitigation is required.	Less than Significant
	d) **Potentially Significant.** There are ancient and several recent landslides present within the project area, including a massive landslide complex on the easterly side of Prima Deshecha Cañada Creek in the Zone 4 expansion area of the Prima Deshecha Landfill (central segment of the proposed project). This complex has been designated as Qls C. This disturbed topography rises about 350 feet above creek level. The grading for the project would affect the stability of numerous landslides within the alignment. Also, existing landslides may be reactivated during strong earthquake-induced ground motion, and new landslides could develop in the bedrock of the Capistrano and Monterey Formations. Therefore, based on the presence of ancient and recent landslides, soil stability impacts related to past landslides are considered potentially significant. Remedial grading and slope buttressing is incorporated as needed throughout the project. Ancient landslides in the Prima Deshecha Landfill would require stabilization for both the safe, long-term operation of the Landfill and the proposed roadway project. The ancient landslides are identified as Qls A, B and C for the purpose of this EIR. The landslides in the area create the potential for slope instability during and after construction. The project design incorporates features that address the potential for slope instability, and the geotechnical studies for the project include recommendations for achieving the minimum safety factors during final design and construction for slope stability and other geologic considerations. Qls C is the largest landslide in the study area. It is a large, distinct ancient landslide located within the Prima Deshecha Landfill. Based on information from the preliminary geotechnical investigation, two key features have been incorporated into the proposed project to provide for the necessary stabilization of Qls C for the purpose of road construction. The first step is the placement of a gravity buttress or buttress fill with little to no landslide removal at the toe (western limit) of Qls C.	Please refer to Mitigation Measure 4.8-1 **Mitigation Measure 4.8-2:** During final design and prior to the issuance of grading permits, the County of Orange Director of Public Works shall ensure that all grading operations and construction in the north and south segments shall be conducted in conformance with the recommendations included in the geotechnical report for the proposed project titled *Preliminary Geotechnical Assessment (Northern and Southern Segments)* (July 21, 2010) prepared by GMU Geotechnical. Inc. (Appendix I of this EIR). **Mitigation Measure 4.8-3:** During final design and prior to the issuance of grading permits, the County of Orange Director of Public Works shall ensure that comprehensive geotechnical reports for the proposed projects (all three segments) are prepared and that project final design incorporates the report recommendations. The geotechnical reports will supplement the *Preliminary Geotechnical Assessments* described above, and will incorporate the following: • Additional subsurface investigation • Additional laboratory testing • Additional review of published reports and compilation of previous data • Additional cross sections • Additional slope stability analysis • Additional settlement analysis • Additional evaluation of potentially expansive and corrosive soils • Refinement of project recommendations, including remedial grading	Less than Significant

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	The second step is the removal of soil at the upper portion of Qls C, east of the roadway, to reduce the driving forces to the landslide. The combination of these two steps will stabilize the ancient landslide, and allow for roadway construction and the maintenance of existing utility towers. The combination of the gravity buttress fill and remedial grading, along with adherence to the recommendations in the Preliminary and Final Geotechnical Studies (Mitigation Measures 4.8-1 through 4.8-3), including those listed above, reduce the potential for slope instability as a result of Qls A and Qls B to less than significant. In addition, Mitigation Measures 4.8-1 through 4.8-3 require further geotechnical studies at the time of final design. Prior to the issuance of grading permits, adherence to the recommendations of the Preliminary Geotechnical Studies as well as the recommendation included in the final design level studies will further ensure that slope stability and other safety factors are achieved. With implementation of Mitigation Measures 4.8-1 through 4.8-3, which require compliance with the recommendations of detailed analyses of the landslide stability during final design, impacts related to landslides would be reduced to below a level of significance.		
Threshold 4.8.2: Result in substantial soil erosion or loss of topsoil.	**Less than Significant.** The surficial soil materials on the site are subject to erosion. During construction activities, excavated soil would be exposed and there would be an increased potential for soil erosion compared to existing conditions. Additionally, during a storm event, soil erosion could occur at an accelerated rate. The increased erosion potential could result in short-term water quality impacts. REG WQ-1 requires preparation of a SWPPP to identify construction BMPs to be implemented as part of the proposed project to reduce impacts to water quality during construction, including those impacts associated with soil erosion. Erosion-related impacts would be less than significant through implementation of REG WQ-1, which includes implementation of Construction Site BMPs.	**REG WQ-1:** Prior to and during construction, the County of Orange shall comply with the requirements of the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit); Order 2009-0009-DWQ; NPDES No. CAS000002 and any subsequent permit as they relate to construction activities. This shall include submission of a Notice of Intent (NOI) to the State Water Resources Control Board (SWRCB) at least 30 days prior to the start of construction, preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) and submission of a Notice of Termination (NOT) to the Santa Ana RWQCB upon completion of construction and stabilization of the site. Prior to construction activities and after the final design phase and environmental determinations, a construction SWPPP, and a water quality monitoring and reporting program shall be developed for the project. The construction phase SWPPP shall be designed to identify potential pollutant sources associated with construction activities; identify non-storm water discharges; and identify, implement, and maintain Best Management Practices (BMPs) to reduce or eliminate pollutants associated with the construction site.	Less than Significant
	The project has the potential to impact downstream siltation or erosion at one location within the Prima Deshecha Landfill area. There would be minor alteration of the stream within the Landfill area due to construction of the proposed landslide mitigation buttress system. The buttress fill would relocate portions of the channel. The proposed La Pata Avenue cross culverts within the Landfill area would slightly alter the drainage pattern within the watershed. While there is the potential for erosion of proposed fills and exposed cut surfaces, these surfaces will be protected in accordance with County grading requirements. In addition, as noted below, the final hydrologic and stability analysis (Mitigation Measure 4.11-1) that occurs as part of final design will ensure that potential erosion from drainage alteration is reduced to below a level of significance.	Refer to Mitigation Measure 4.11-1.	Less than Significant

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	Potentially Significant: The project has the potential to impact downstream siltation or erosion at one location within the Prima Deshecha Landfill area. There would be minor alteration of the stream within the Landfill area due to construction of the proposed landslide mitigation buttress system. The buttress fill would relocate portions of the channel. The proposed La Pata Avenue cross culverts within the Landfill area would slightly alter the drainage pattern within the watershed. While there is the potential for erosion of proposed fills and exposed cut surfaces, these surfaces will be protected in accordance with County grading requirements. In addition, as noted below, the final hydrologic and stability analysis (Mitigation Measure 4.11-1) that occurs as part of final design will ensure that potential erosion from drainage alteration is reduced to below a level of significance.	Refer to Mitigation Measure 4.11-1.	Less than Significant
	Soft bottom channels are proposed on the north and south side of the buttress fill for the ancient landslides in the Prima Deshecha Landfill and would converge to join the existing stream just west of the proposed fill. The soft bottom channels would be designed with energy-dissipating drop structures to minimize impacts to erosion and siltation. The channels would continue to pass bulked flows as in the existing conditions. Riprap is proposed at the downstream end where the two channels converge to act as an energy dissipater and to slow down flow velocities to existing conditions. In addition, the proposed cross culverts have been sized for bulked flows and include rock riprap at the outlets and inlets to provide energy dissipation and to minimize sediment impacts. During final design, the hydrology analysis would need to be updated utilizing the current Orange County hydrology manual and will include a stability analysis to ensure a stable channel design and conformance with HCOC requirements, thus minimizing erosion potential. This study would require analysis of smaller storm events and may require an additional detention basin within the conceptual grading footprint. Erosion from graded slopes would be reduced through implementation of surface drainage devices (such as V-ditches) and slope landscaping. The proposed project does not result in substantial loss of topsoil as all excavated material (including native soils) generated from project construction will be temporarily stockpiled on site and then used as backfill. With implementation of Mitigation Measure 4.11-1, which requires a final hydrologic analysis and preparation of a stability analysis, the erosion from drainage alteration would be reduced to a less than significant level.	Refer to Mitigation Measure 4.11-1.	Less than Significant.
Threshold 4.8.3: Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.	**Potentially Significant.** There are ancient and recent landslides present within the project area, and a portion of the project will be located on an old refuse fill area. Therefore, the site could be subject to settlement, seismically induced ground settlement, and slope instability. Slope stability analyses undertaken to support the Prima Deshecha Landfill Master Plan have resulted in the development of subgrade and final landfill fill slopes that have acceptable factors of safety under static and earthquake-loading conditions. Future development of the Landfill will result in total or partial removal of landslide deposits that would underlie the Landfill, and engineered fills have been designed to stabilize slopes that would otherwise be prone to failure. Amendment No. 2 to the 2001 Prima Deshecha Landfill GDP provides for the extent of landslide remediation activities around the Landfill to accommodate the construction of landslide-stabilization features.	Refer to Mitigation Measures 4.8-1 through 4.8-3 above.	Less than Significant.

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	WMU 2, located in the vicinity of the Prima Deshecha Landfill entrance, contains refuse with a depth of up to 120 feet. The refuse fill would be surcharged with a temporary fill up to 50 feet thick,[5] which would result in substantial short-term ground settlement. Short-term settlement is estimated to range from 2 to 6 feet and be complete in 12 to 18 months, and would occur prior to roadway construction. Long-term secondary settlement is estimated to range from 1 to 2 feet over a time period of 50 years (post-construction). The intent is to significantly overconsolidate the refuse by imposing stresses that are much higher than loads that will be applied by the roadway grading. The proposed project is designed to include other features to provide the necessary roadway stability. For example, the proposed project preliminary grading plan incorporated the anticipated overexcavation that would be needed to remove materials considered unsuitable for the proposed roadways, including weathered fill soils; topsoil; unsaturated colluvium, alluvium, older alluvium; and highly disturbed unsaturated landslide materials. Slope stabilization buttresses will be used to stabilize graded cut slopes. Also, the recent landslide materials will be removed. The project also includes the necessary monitoring during the roadway construction in order to monitor settlement during fill placement. The roadway through the Prima Deshecha Landfill WMU2 areas will be supported on a geogrid mat, a reinforced section of granular materials that serves to distribute surface loads and differential settlement, in order to reduce the long-term impacts from localized settlement on the roadway. These project features, combined with implementation of Mitigation Measures 4.8.1 through 4.8.3, which require adherence to the recommendations of the Preliminary Geotechnical Assessments and compliance with the recommendations of detailed analysis, reduce the potential impacts related to unstable soils to below a level of significance.		
	On-site soils are anticipated to have a high potential for corrosion, which could damage construction materials such as concrete and ferrous (iron-containing) metals. With implementation of Mitigation Measures 4.8-1 through 4.8-3, which require adherence to the CBC and the recommendations of the Preliminary Geotechnical Assessments and additional studies of corrosive soils during final design, potential impacts related to corrosive soils would be reduced to below a level of significance.	Refer to Mitigation Measures 4.8-1 through 4.8-3 above.	Less than Significant
Threshold 4.8.4: Be located on expansive soil, as defined by Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.	**Potentially Significant.** Expansive soils contain types of clay minerals that occupy considerably more volume when they are wet or hydrated than when they are dry or dehydrated. Volume changes associated with changes in the moisture content of near-surface expansive soils can cause uplift or heave of the ground when they become wet or, less commonly, cause settlement when they dry out. Soils on site are anticipated to have a high potential for expansion. The presence of expansive soils in areas proposed for construction could be considered a potentially significant impact if soil expansivity were to result in changes to the roadway surface that would make it unsafe. With implementation of Mitigation Measures 4.8-1 through 4.8-3, which require compliance with the recommendations of detailed analysis, impacts related to expansive soils would be reduced to below a level of significance.	Refer to Mitigation Measures 4.8-1 through 4.8-3 above.	Less than Significant

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
Threshold 4.8.5: Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of wastewater.	**No Impact.** No on-site sewage disposal systems or septic tanks are proposed. An off-site leach field and septic holding tank are located on the Prima Deshecha Landfill adjacent to the office area; however, these facilities will not be impacted by the proposed project. The project would not result in an impact related to the use of septic tanks or alternative wastewater disposal systems.	No mitigation is required.	No impact
Cumulative Geology Impact	**Less than Significant.** For geology and soils, the study area considered for the cumulative impact of other projects consisted of: (1) the area that could be affected by proposed project activities; and (2) the areas affected by other projects whose activities could directly or indirectly affect the geology and soils of the proposed project site. The other known activities or projects with activities that affect the geology and soils of this site is the development of the Prima Deshecha Landfill in accordance with the Prima Deshecha Landfill GDP. Slope stability analyses undertaken to support the Prima Deshecha Landfill Master Plan have resulted in the development of subgrade and final landfill fill slopes that have acceptable factors of safety under static and earthquake-loading conditions. Future development of the Landfill will result in total or partial removal of landslide deposits that would underlie the Landfill, and engineered fills have been designed to stabilize slopes that would otherwise be prone to failure. In addition, the proposed project, as well as foreseeable projects, would be required to comply with the applicable State and local requirements designed to protect inhabitants of new construction from seismic and soils hazards, including, but not limited to, the County's grading and highway design manuals. Therefore, with adherence to accepted industry standards and compliance with applicable regulations and County-approved, project-specific standards, the project impacts, together with the impacts associated with other projects, would be reduced to a less than significant level. Seismic impacts are a regional issue and are also addressed through compliance with applicable codes and design standards. For these reasons, the project's contribution to cumulative geotechnical and soil impacts is less than significant.	No mitigation is required.	Less than Significant
4.9 Hazards and Hazardous Materials			
Threshold 4.9.1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	**Less than Significant.** **Construction.** Project construction will involve the routine use of hazardous materials such as fuels, paints, and solvents. However, in compliance with government regulations, the amount of these materials present during construction is limited and does not pose a significant hazard. In addition, the County of Orange is required to implement standard BMPs with regard to hazardous materials storage and use during construction (refer to Regulatory Requirement REG WQ-1, Section 4.11, Hydrology and Water Quality). Therefore, the potential that the routine use of hazardous materials during construction of the proposed project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment are considered less than significant with implementation of REG WQ-1.	**REG WQ-1:** Prior to and during construction, the County of Orange shall comply with the requirements of the *National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities* (Construction General Permit); Order 2009-0009-DWQ; NPDES No. CAS000002 and any subsequent permit as they relate to construction activities. This shall include submission of a *Notice of Intent* (NOI) to the State Water Resources Control Board (SWRCB) at least 30 days prior to the start of construction, preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) and submission of a *Notice of Termination* (NOT) to the Santa Ana RWQCB upon completion of construction and stabilization of the site. Prior to construction activities and after the final design phase and environmental determinations, a construction SWPPP, and a water quality monitoring and reporting program shall be developed for the project. The construction phase SWPPP shall be designed to identify potential pollutant sources associated with construction activities; identify non-storm water discharges; and identify, implement, and maintain best	Less than Significant for construction activities related to hazardous materials storage

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
		management practices (BMPs) to reduce or eliminate pollutants associated with the construction site.	
	Operation. During operation, the new roadway may be used for the transport of hazardous materials to and from off-site locations. However, transport of hazardous materials is closely regulated and adequately monitored to ensure there would be no substantial impact to the environment or to human health. In addition, local police and fire departments are trained in emergency response procedures for safely responding to accidental spills of hazardous substances on public roads, further reducing potential impacts. Also, the proposed project will not generate new trips; rather, it will accommodate existing and projected traffic. Therefore, the potential that the proposed project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment during operation are considered less than significant.	No mitigation is required.	Less than Significant for operational activities related to the transportation of hazardous materials
	Potentially Significant.		
	Construction. Project construction includes the removal or relocation of existing pad-mounted transformers. The presence of PCB-containing pad-mounted transformers cannot be ruled out. In addition, due to the age of the roadway and presence of thermoplastic paint in the existing roadway, the potential for hazardous levels of lead in the thermoplastic paint and in unpaved areas adjacent to the roadway cannot be ruled out. Should any of these materials or other hazardous materials be discovered prior to the disturbance of roadway striping, unpaved areas adjacent to the roadway, or leaking transformers, precautions would be necessary to ensure that the materials are properly removed so that workers and sensitive receptors are protected from hazardous contaminants. Mitigation Measures 4.9-1 through 4.9-3 require that inspections for PCBs be conducted for electrical pad-mounted transformers and surveys be completed for thermoplastic paint and ADL. Mitigation Measures 4.9-1 through 4.9-3 will reduce potentially significant hazardous substance impacts and potential emissions associated with demolition, grading, excavation, and construction of the project to less than significant levels.	**Mitigation Measure 4.9-1:** Prior to the issuance of grading permits, the County of Orange Director of Public Works will ensure that all utility pad-mounted transformers within the project area will be inspected for leaks prior to disturbance or removal. Leaking transformers should be considered a potential for polychlorinated biphenyl (PCB) hazard, unless tested, and should be handled accordingly. **Mitigation Measure 4.9-2:** Prior to the issuance of grading permits, yellow traffic striping shall be tested by the County of Orange Director of Public Works, and handling and disposal of contaminated materials will be conducted in compliance with the recommendations of the analysis. All inspections, surveys, and analyses shall be performed by appropriately licensed and qualified individuals in accordance with applicable regulations (i.e., American Society for Testing and Materials (ASTM) E 1527-05, and 40 Code of Federal Regulations [CFR], Subchapter R, Toxic Substances Control Act [TSCA], Part 716). **Mitigation Measure 4.9-3:** Prior to the issuance of grading permits, the County of Orange Director of Public Works shall conduct soil sampling for aerially deposited lead (ADL) contamination in unpaved locations where excavation will occur along roads in areas not previously sampled during prior investigations, and handling of the soil and disposal of surplus materials will be conducted in compliance with the recommendations of the analysis. All inspections, surveys, and analyses shall be performed by appropriately licensed and qualified individuals in accordance with applicable regulations (i.e., ASTM E 1527-05, and 40 CFR, Subchapter R, TSCA, Part 716).	Less than Significant for construction activities related to the disturbance or removal of transformers, yellow traffic striping, or roadway materials potentially containing aerially deposited lead
	In 1973, the Orange County Board of Supervisors adopted a multi-use concept of refuse disposal and recreational development for the Prima Deshecha Landfill. Refuse disposal operations commenced in 1976 in the area now known as WMU 2, a 33-acre portion of the site located east of the entrance to the Landfill. WMU 2 currently is inactive. Since 1976, 19 of the 33 acres of WMU 2 have been filled and are closed, and the remaining 14 acres have been added to the acreage for Zone 4. Current grading plans were designed to avoid contact with buried waste located at WMU 2. However, in the unlikely and	**Mitigation Measure 4.9-4:** If buried waste is encountered during excavation activities, all construction work shall cease and the County of Orange Director of Public Works shall immediately notify the Local Enforcement Agency (LEA) representing CalRecycle. In addition the County of Orange and its construction subcontractors shall protect all temporary structures from methane intrusion pursuant to California Code of Regulations (CCR) Title 27, Section 21190(g). If the existing grading plan is revised during final design, or if preliminary work undertaken to locate buried waste at WMU 2 indicates that contact with	Less than Significant for construction activities near past refuse disposal areas

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	unanticipated event that buried waste is encountered during excavation activities, Mitigation Measure 4.9-4 will require the contractor to stop work and the designated LEA staff member for CalRecycle be notified immediately. Compliance with local, State, and federal requirements with regard to contamination delineation, removal, and disposal of contaminated soils and groundwater is required. In addition, Mitigation Measure 4.9-4 requires the County of Orange to develop a Site and Community Health and Safety Plan prior to initiation of construction activities in order to reduce potential health and safety hazards to workers and the public in the event unknown hazards are encountered during excavation activities. In addition, Mitigation Measure 4.9-4 will require the protection of all temporary structures from methane intrusion pursuant to CCR Title 27, Section 21190(g). Mitigation Measure 4.9-4 will reduce potentially significant hazardous substance impacts and potential emissions associated with demolition, grading, excavation, and construction of the project to less than significant level.	buried waste is likely during excavation activities, a detailed Contingency Plan containing specific steps to be implemented to manage buried solid and/or hazardous waste when encountered during excavation activities at WMU 2, shall be prepared and approved by LEA, RWQCB-San Diego Region, and SCAQMD (Rule 1150), prior to initiation of grading activities.	
Threshold 4.9.2: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	**Potentially Significant.** Please refer to potentially significant impacts discussion under Threshold 4.9-1 above.	Please refer to Mitigation Measures 4.9-1 through 4.9-4 above.	Less than Significant
Threshold 4.9.3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	**Less than Significant.** San Juan Hills High School, a public school under the Capistrano Unified School District, is located adjacent to the north segment of the proposed project. No additional schools are located within 0.25 mile of the proposed project site. As previously stated, the proposed project would not involve the use of potentially hazardous materials during operation. However, the new roadway may be used for the transport of hazardous materials to and from off-site locations. As stated above, the transport of hazardous materials is closely regulated and adequately monitored to ensure there would be no substantial impact to the environment or to human health. Therefore, the proposed project would result in a less than significant impact associated with hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school, and no mitigation is required.	No mitigation is required.	Less than Significant
Threshold 4.9.4: Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.	**No Impact.** The proposed project site is not included on any hazardous materials sites pursuant to Government Code Section 65962.5; therefore, the project will have no impact relative to hazardous materials sites pursuant to Government Code Section 65962.5	No mitigation is required.	No impact
Threshold 4.9.5: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in a project area.	**No Impact.** As stated previously, JWA is the closest major airport and is located approximately 18 miles north-northwest from the proposed project limits. The proposed project is a roadway widening and gap closure project and will not be developing residential or commercial structures. In addition, the proposed project is not located within an airport land use plan and it is not located within the vicinity of a private airstrip. Therefore, the project would not result in a safety hazard for people residing or working in the project area.	No mitigation is required.	No impact

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
Threshold 4.9.6: For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area.	**No Impact.** Please refer to No Impact discussion under Threshold 4.9.5 above.	No mitigation is required.	No impact
Threshold 4.9.7: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	**Potentially Significant.** **Construction.** The project would be required to comply with all applicable codes and ordinances for emergency vehicle access, which would ensure adequate access to, from, and on site for emergency vehicles. In addition, a TMP identified in Mitigation Measure 4.9-5 would be in place for the proposed project to prevent significant delays to emergency vehicles, particularly while there is construction activity on existing La Pata Avenue. With the implementation of Mitigation Measure 4.9-5, the proposed project would not result in a significant traffic impact related to emergency access during construction. The proposed project's impact to emergency vehicle response times would be less than significant.	**Mitigation Measure 4.9-5**: A Transportation Management Plan (TMP) will be prepared by the County of Orange Director of Public Works. Specifics of the TMP will be established during the design phase of the project, but are expected to include a community outreach program, media bulletins, appropriate signing, adherence to dust control restrictions, avoidance of traffic restrictions during peak travel periods, and coordination of work as necessary with any other roadway projects in the vicinity. The TMP will include but not be limited to the following elements: • **Traffic Control:** This project will require traffic control elements such as lane/shoulder closures and temporary signing/striping on local streets. • **Construction Sequencing:** The TMP will address the potential for other planned improvements to be under construction in the project vicinity. Construction sequencing will be designed to avoid or minimize the simultaneous construction of improvements that could result in traffic impacts. • **Public Awareness Campaign (PAC):** Vehicles traveling through the construction zone, particularly on La Pata Avenue north of the Prima Deshecha Landfill, may experience longer than normal delays due to construction. To reduce these delays and confusion to the motoring public during construction activities, the County of Orange, in conjunction with the Cities of San Juan Capistrano and San Clemente and the Capistrano Unified School District, will implement a PAC. The purpose of the PAC is to keep the surrounding community abreast of the project's progress and construction activities that could affect travel plans. The use of mailers/flyers, local newspaper advertising, local radio information, and public meetings, as appropriate, may be used to disseminate this information. • **Signing:** Post information signing on La Pata Avenue, Calle Saluda, and the local arterials prior to and during construction to inform motorists of delays and alternate travel routes. • **Pedestrian Access:** Provide a pedestrian detour plan to address sidewalk closures. • **Construction Timing and Phasing:** The project construction will be staged to maintain local traffic through La Pata Avenue, Calle Saluda, and other local arterials during construction activities.	Less than Significant for construction
Threshold 4.9.8: Expose people or structures to a significant risk of loss, injury, or death involving wildfires, including where wildlands are adjacent to urbanized areas or where residents are intermixed with wildlands	**Less than Significant.** The project is located in an area classified as a high fire zone; however, the project is limited to road improvements and would not introduce people to newly constructed residential or commercial structures located within the high fire zone area. Much of the project construction will occur in natural areas where there is an existing potential for wildland fires. The existing risk may be slightly greater during construction with the introduction of workers and equipment to the area. OCFA will have the opportunity to review and comment on the project plans prior to the initiation of construction. The grading plans will allow for the movement of construction vehicles in the project limits. Generally, graded areas that can be traversed by construction vehicles can also be traversed by emergency vehicles. Thus, there will be emergency vehicle	No mitigation required.	Less than Significant

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	access, including fire truck access, to the project site during construction. Therefore, the short-term project impact associated with wildfires during construction is less than significant. The project is located within a SFPA, which requires that all projects occurring within this zone be subject to the Guideline for Development within SFPA/VHFHSZ (the Guideline) issued by the OCFA Planning and Development Services Section on April 20, 2006. This Guideline is currently expired but is also currently undergoing an update through the OCFA Planning and Development Services office. Until an update is issued, OCFA has provided the April 2006 version of the Guideline on their website for reference. The Guideline utilizes the locally amended CFC and CBC to prevent fire from occurring and to control the spread of fires to buildings, structures, and lands located within the SFPA and VHFHSZ. Since the project is located within an SFPA/VHFHSZ, all roadways modified in the project area must be in compliance with grading requirements that indicate a maximum grade of 10 percent. In addition, the minimum width of a roadway with no parking on either side should be at least 24 feet from curb face to curb face, and the minimum width with parking on one side of the roadway should be 28 feet from curb face to curb face. As described in Chapter 3.0, Project Description, of this EIR, the proposed project will meet the County design standard of 6 percent grade with the exception of a portion less than 0.5 mile in length where the County has approved a 7 percent design grade. Therefore, the proposed project will comply with the SFPA maximum grade requirement of 10 percent. Also, the proposed La Pata Avenue/Avenida La Pata and Camino Del Rio will each be four lanes wide, with minimum curb-to-curb distances varying from 35 feet (in each direction) on Avenida La Pata, where there is a raised median, to 64 feet on Camino Del Rio, where there is no raised median, and to 84 feet on La Pata Avenue, where there is no raised median. Therefore, the proposed project exceeds the requirement of a 24-foot curb-to-curb width for emergency vehicle access, and a minimum 28-foot curb-to-curb width where on-street parking is allowed on Camino Del Rio. Therefore, the proposed project will comply with the SFPA requirements regarding emergency vehicle access. The proposed project will provide safe emergency vehicle access, including fire truck access, to the project area and adjacent neighborhoods. Therefore, with the implementation of the SFPA/VHFHSZ Guideline, and cooperation between the jurisdictions located within the project limits and the OCFA, the potential for the project to expose people or structures to significant risk of loss, injury, or death involving wildfires is considered less than significant		
Threshold 4.9.9: Expose people or structures to a significant risk of loss, injury, or death involving wildfires, including where wildlands are adjacent to urbanized areas or where residents are intermixed with wildlands	**Less than Significant.** **Operation.** With the completion of the proposed roadway improvements, improved circulation in south Orange County would allow for better access for emergency vehicles to the existing communities of San Juan Capistrano and San Clemente, and would provide an alternate route parallel to I-5 for emergency evacuation. Therefore, the proposed project would not impair the implementation of or physically interfere with an adopted emergency response or evacuation plan, and impacts to emergency response or access after construction would be considered less than significant	No mitigation required.	Less than Significant

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
Cumulative Hazards and Hazardous Materials Impact	**Potentially Significant.** The assessment of potential cumulative impacts with regard to hazards and hazardous materials relates to the ability for impacts to occur off site. The hazardous materials study area considered for cumulative impacts consisted of: (1) the area that could be affected by proposed project activities; and (2) the areas affected by other projects where activities could directly or indirectly affect the presence or fate of hazardous materials on the proposed project site. In general, only projects occurring adjacent to or very close to the project site are considered due to the limited potential impact area associated with release of the applicable hazardous materials into the environment. In the existing condition, building materials and soils may contain hazardous materials that would need to be removed and transported off site to an approved disposal facility. This would be a temporary condition that is subject to regulatory oversight (i.e., OCHCA). After implementation, the proposed project would involve the same amount of use of limited amounts of hazardous materials associated with existing Prima Deshecha Landfill operations. The contribution of hazardous materials use and hazardous waste disposal with implementation of the project is minimal, and combined hazardous materials effects from past, present, and reasonably foreseeable projects within the County of Orange and the Cities of San Juan Capistrano and San Clemente would not be significant. As previously stated, the proposed project would involve the use of potentially hazardous materials (e.g., solvents, cleaning agents, paints, pesticides, and diesel and petroleum fuels), but these products would be used in small amounts, and any spills that do occur would be cleaned up when they occur. In addition, records obtained from OCHCA and OCFA have indicated that the Prima Deshecha Landfill has properly stored and maintained hazardous substances on site during previous inspections. Proper and routine use of these products would not result in a significant hazard to residents or workers in the vicinity of the proposed project. The proposed project would not contribute incrementally to any potential airport proximity hazards. Furthermore, for the proposed project and all other projects in the area to be approved, each project is required to be consistent with the existing regulations related to hazards and hazardous materials. Consistency with federal, State, and local regulations prevent this and other projects from creating cumulative impacts in terms of hazards and hazardous materials. Impacts associated with hazardous soils, groundwater, and use of hazardous materials on site would be controlled through application of standard regulatory procedures set forth in the mitigation measures listed above and in the other cited EIR sections. Similarly, the HHWCC at the Prima Deshecha Landfill is operated by OCWR in accordance with applicable regulations and under the oversight of the OCHCA. There are no other known projects adjacent to or in the vicinity of the project site that could be affected by on-site handling of hazardous materials or that could result in significant hazards or hazardous material impacts on site. For the reasons outlined above, implementation of the proposed project would not result in an incremental contribution to cumulative impacts related to hazards and hazardous materials that are considered cumulatively considerable. With implementation of Mitigation Measures 4.9-1 through 4.9-5, the proposed project's incremental contribution to impacts related to hazards and hazardous materials would be reduced to below a level of significance.	Refer to Mitigation Measures 4.9-1 through 4.9-5 above.	Less than Significant

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
4.10 Population, Housing and Employment			
Threshold 4.10.1 Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).	**Less than Significant.** The proposed project is a roadway gap closure and does not include a residential component. Therefore, direct population growth caused by the project is not expected. However construction of the proposed project may employ people who choose to move to the County and/or City of San Clemente; however, any increases in population associated with employment resulting from project implementation would be nominal. Employment associated with project construction would occur from project start in 2012 and cease on project completion in 2015. Construction employment is not expected to induce substantial population growth. Approximately 9.5 jobs are generated for every $1 million invested in transportation projects.[6] Therefore, approximately 735 jobs would be generated by the proposed project. This would be less than 1 percent of the County's and/or approximately 1 percent of the City of San Clemente's OCP-2006 projected population for 2010, respectively, and less than 1 percent of the County's and/or approximately 2.5 percent of the City of San Clemente's OCP-2006 projected employment for 2010, respectively. The project implements a long-planned gap closure in the County's existing circulation system. Also, the proposed improvements to La Pata Avenue and Camino Del Rio are located in areas where the land uses are already largely committed. For example, the RMV Ranch Plan commits the area east of La Pata Avenue in the north segment to permanent open space, the central segment is committed to landfills and long-term redevelopment as a regional park, and the south segment transects areas committed to open space in the Talega and Forster Ranch Specific Plans. Therefore, the proposed roadway improvements will not induce development of these areas. Areas north and south of the proposed project limits are developed or committed to development per approved plans in the County and City of San Clemente, and are already served by existing transportation and utility infrastructure. Therefore, the project would not extend infrastructure to a previously undeveloped area. The project-generated employment (from construction) is not of a magnitude that would cause significant numbers of people to relocate to the area solely for the purpose of employment. Based on these considerations, the proposed project would not induce population growth in the community that exceeds levels anticipated in plans adopted by the County or the City of San Clemente; therefore, impacts would be less than significant and no mitigation is required.	No mitigation is required.	Less than Significant
Threshold 4.10.2 Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.	**No Impact.** There is no existing or proposed temporary or permanent housing located within the project alignment. The roadway would be located within reserved right-of-way in the south and central segments, and improvements in the north segment would be along the existing La Pata Avenue. Therefore the proposed project would not result in the displacement of existing housing or people that would necessitate the construction of replacement housing elsewhere. No mitigation is required.	No mitigation is required.	No impact
Threshold 4.10.3 Displaces substantial numbers of people, necessitating the construction of replacement housing elsewhere.	**No Impact.** Please refer to the No Impact discussion under Threshold 4.10.2.	No mitigation is required.	No impact
Cumulative Population, Housing and Employment Impact	**Less than Significant.** The proposed project does not include development of any residential uses. The project would implement a long-planned gap closure between the County and City that would improve circulation and meet future mobility demands. As discussed above, the proposed project would not result in adverse impacts to population,	No mitigation is required.	Less than Significant

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	housing, and employment. Any employment generated by construction of the project would likely be accommodated by the existing labor pool in the County. The RMV Ranch Plan has the potential to result in population, housing, and employment growth; however, this project has been included in the County and City of San Clemente's growth projections. Other land development projects are sufficiently small in scale that any resulting increase in population, housing, and employment would be well within current growth projections. Therefore, the proposed project's incremental contribution to population, housing, and employment is not cumulatively considerable. Cumulative population, housing, and employment impacts would be less than significant.		
4.11 Hydrology and Water Quality			
Threshold 4.11.1: Violate any water quality standards or waste discharge requirements.	**Less than Significant.** **Construction.** The potential impacts of construction activities on water quality focus primarily on sediments, turbidity, and pollutants that might be associated with sediments (e.g., phosphorus and legacy pesticides). During construction activities, excavated soil would be exposed, and there would be an increased potential for soil erosion compared to existing conditions. Additionally, during a storm event, soil erosion could occur at an accelerated rate. There is also the potential for construction-related pollutants to be discharged into the City of San Clemente and County storm drains during construction activities of the proposed project. In addition, hazardous materials such as paints, solvents, and fuels are used as part of construction activities, and improper use or storage of these materials could affect the storm drain system. The County is required to comply with the State Construction General Permit. The Construction General Permit requires the County to develop and implement a SWPPP, which must include erosion and sediment control BMPs that would meet or exceed measures required by the Construction General Permit, as well as BMPs that control other potential construction-related pollutants. A SWPPP would be developed as required by, and in compliance with, the Construction General Permit. Erosion control BMPs are designed to prevent erosion, whereas sediment controls are designed to trap sediment once it has been mobilized. The Construction General Permit requires the SWPPP to include a menu of BMPs to be selected and implemented to address erosion and sediment control as well as control of other potential construction site materials. The BMPs are based on the phase of construction and the weather conditions. BMPs on this menu are expected to include, but are not limited to: • Revegetation of landscaped areas; • Hydroseeding, mulching, or other erosion controls for inactive exposed areas; • Sediment controls such as check dams, desilting basins, fiber rolls, and silt fencing; • Catch basin inlet protection; • Construction materials management; and • Cover and containment of construction materials and wastes. The SWPPP would address site-specific conditions related to project construction, identify the sources of sediment and other pollutants that may affect the quality of storm water discharges, and describe and ensure the implementation and maintenance of BMPs to reduce or eliminate sediment, pollutants adhering to sediment, and other nonsediment pollutants in storm water as well as non-storm water discharges. Compliance with the	**REG WQ-1:** Prior to and during construction, the County of Orange shall comply with the requirements of the *National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities* (Construction General Permit); Order 2009-0009-DWQ; NPDES No. CAS000002 and any subsequent permit as they relate to construction activities. This shall include submission of a *Notice of Intent* (NOI) to the State Water Resources Control Board (SWRCB) at least 30 days prior to the start of construction, preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) and submission of a *Notice of Termination* (NOT) to the Santa Ana RWQCB upon completion of construction and stabilization of the site. Prior to construction activities and after the final design phase and environmental determinations, a construction SWPPP, and a water quality monitoring and reporting program shall be developed for the project. The construction phase SWPPP shall be designed to identify potential pollutant sources associated with construction activities; identify non-storm water discharges; and identify, implement, and maintain best management practices (BMPs) to reduce or eliminate pollutants associated with the construction site**.** **REG WQ-2:** The County of Orange shall comply with the provisions of the *General Waste Discharge Requirements for Discharges from Groundwater Extraction and Similar Discharges to Surface Waters within the San Diego Region except for San Diego Bay*, National Pollutant Discharge Elimination System (NPDES) No. CAG919002, Order No. R9-2008-0002, as they relate to the discharge of non-storm water dewatering wastes for the project. This will include submitting to the San Diego Regional Water Quality Control Board (RWQCB) an application and required fees for authorization to discharge at least 60 days prior to the start of construction and notice of termination within 30 days at completion of dewatering activities.	Less than Significant for construction

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	Construction General Permit has been determined by the SWRCB to ensure that water quality standards (protection of beneficial uses and adherence to water quality objectives) are adequately protected during the construction period. BMPs consistent with BAT/BCT are required by the Construction General Permit to be implemented during the construction phase of the project. Erosion and sediment transport and transport of other potential pollutants (e.g., construction material-related pollutants) from the project site during the construction phase would be reduced or prevented through implementation of BMPs meeting BAT/BCT so as to prevent or minimize environmental impacts and to ensure that discharges during the construction phase of the project would not cause or contribute to any exceedance of water quality standards in the receiving waters. In addition, the SWPPP would contain programs for inspections of BMPs (to ensure proper installation and functionality), maintenance of BMPs, training of construction personnel, reporting requirements (for any potential exceedance of water quality standards and any potential noncompliance with the Construction General Permit), and a sampling program for potential nonvisible pollutants in storm water flows. Inspections of the site would be conducted in accordance with the SWPPP. Outside inspections of the site would be conducted at the discretion of the RWQCB under the authority of the Construction General Permit. Groundwater dewatering is anticipated during construction, particularly during pile driving for the bridge structures. Dewatered groundwater may contain high levels of TDS or other contaminants that could be introduced to surface waters. Prior to the commencement of any discharges of extracted groundwater waste, the County would apply for coverage under San Diego RWQCB Order No. R9-2008-002 (General Waste Discharge Requirements for Groundwater Extraction) or subsequent update. The General Waste Discharge Requirements for Groundwater Discharge Permit requires permittees to conduct monitoring of dewatering discharges and adhere to effluent and receiving water limitations contained within the permit so that water quality of surface waters is ensured protection. Any dewatering activities shall be performed in accordance with the terms and conditions of the Order, and pollutant concentrations in the discharge shall not cause violation of any applicable water quality objectives for the receiving waters, including discharge prohibitions. In addition, non-storm water dewatering may be required during construction. Construction dewatering on site also may be required if water has been standing and needs to be removed for construction, vector control, or other reasons. Discharges associated with the testing of sprinkler systems or other facilities could also be necessary from time to time during construction. In general, the General Construction Permit authorizes construction dewatering activities and other construction-related non-storm water discharges as long as: • The discharge does not cause or contribute to violation of any water quality standards; • The discharge does not violate any other provisions of the General Construction Permit; • The discharge is not prohibited by the applicable Basin Plan; • The discharger has included and implemented specific BMPs required by this		

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	General Permit to prevent or reduce the contact of the non-storm water discharge with construction materials or equipment; • The discharge does not contain toxic constituents in toxic amounts or (other) significant quantities of pollutants; • The discharge is monitored and meets the applicable NALs and NELs; and • The discharger reports the sampling information in the Annual Report. Any construction-related non-storm water discharges would be controlled in compliance with the Construction General Permit to ensure that the impacts of these discharges are appropriately addressed. Based upon the factors discussed above and adherence to REG WQ-1, which requires compliance with the requirements of the Construction General Permit, and REG WQ-2, which requires compliance with the General Waste Discharge Requirements for Groundwater Discharge Permit, potential construction impacts related to violation of water quality standards or WDRs would be less than significant. No mitigation is required.		
	Operation. The proposed project would increase the impervious surface area, which would increase the volume of runoff and pollutant loading from the project alignment. The proposed project would result in an approximately 1.4 percent increase in peak flow and 1.1 percent increase in volume. An increase in impervious area would increase the volume of runoff during a storm, which would more effectively transport pollutants to receiving waters. The proposed project is classified as transportation development. Anticipated pollutants of concern for transportation projects include heavy metals, oil and grease, organic compounds (including petroleum hydrocarbons), sediments, and trash and debris. Potential pollutants of concern for transportation projects include nutrients, bacteria/viruses, pesticides, and oxygen-demanding substances. These constituents are typically found in runoff from transportation developments. Pollutants of concern and their impacts on water quality and aquatic habitat are described in more detail below. • **Bacteria and Viruses:** Bacteria sampling and analysis are used to indicate relative levels of other pathogens such as viruses. Bacterial levels in urban runoff can exceed public health standards for water contact recreation. Bacteria levels in streams within natural watersheds also can exceed standards for water contact recreation. A common source of bacteria is animal excrement, and other sources include soils and plant materials. • **Heavy Metals:** Bioavailable forms of trace metals are toxic to aquatic life. The most common metals found in urban runoff are lead, zinc, and copper. Other trace metals such as cadmium, chromium, and mercury are typically not detected or detected at very low levels in urban runoff. Sources of heavy metals in surface waters include emissions and deposits from automobiles, industrial wastewater, and common household chemicals. • **Nutrients:** Nutrients are typically composed of phosphorus and/or nitrogen. Fertilizers are a main source of nitrogen and phosphorus in urban runoff. Other sources of phosphorus in runoff are lawn clippings and tree leaves that accumulate	**REG WQ-3:** The County of Orange shall comply with the requirements of the Orange County Drainage Area Management Plan (DAMP) and Local Implementation Plan (LIP) as they relate to hydrology and water quality. Project-specific Source Control and Treatment Control best management practices (BMPs) contained in the Final Water Quality Management Plan (WQMP) shall be incorporated into final design. The BMPs shall be properly designed and maintained to target pollutants of concern and reduce runoff from the project site. The WQMP shall include an operations and maintenance plan for the prescribed Treatment Control BMPs to ensure their long-term performance.	Less than Significant for operational activities

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	on streets and in gutters. Elevated levels in surface waters cause algal blooms and excessive vegetative growth. As nutrients are absorbed, the vegetative growth decomposes, utilizing oxygen in the process and reducing dissolved oxygen levels. Dissolved oxygen is critical for support of aquatic life. The ammonium form of nitrogen (found in wastewater discharges) converts to nitrite and nitrate in the presence of oxygen, which further reduces the dissolved oxygen levels in water. • **Pesticides:** A pesticide is a chemical agent designed to control pest organisms. Pesticides can persist in the environment and can bioaccumulate (concentrate within the body) over several years, resulting in health problems for the affected organism. • **Organic Compounds:** Organic compounds are carbon-based and are found in pesticides, solvents, and hydrocarbons. Elevated levels can indirectly or directly constitute a hazard to life or health. During cleaning activities, these compounds can be washed off into storm drains. Dirt, grease, and grime may adsorb concentrations that are harmful or hazardous to aquatic life. • **Sediments:** Natural sediment loads are important to downstream environments by providing habitat, substrate, and nutrition; however, increased sediment loads can result in several negative effects to downstream environments. Excessive sediment can be detrimental to aquatic life by interfering with photosynthesis, respiration, growth, and reproduction. In addition, pollutants that adhere to sediment such as nutrients, trace metals, and hydrocarbons can have other harmful effects on the aquatic environment when they occur in elevated levels. • **Trash and Debris:** Trash and debris can have a significant effect on the recreational value of a water body and aquatic habitat. It also can interfere with aquatic life respiration and can be harmful or hazardous to aquatic animals that mistakenly ingest floating debris. • **Oxygen-demanding Substances:** Oxygen-demanding substances include plant debris (such as leaves and lawn clippings), animal wastes, and other organic matter. Microorganisms utilize dissolved oxygen during consumption of these substances, which reduces a water body's capacity to support aquatic life. • **Petroleum Hydrocarbons:** Petroleum hydrocarbons include oil and grease, benzene, toluene, ethyl benzene, xylene (constituents in gasoline), and polyaromatic hydrocarbons. Sources of petroleum hydrocarbons include parking lots and roadways, leaking storage tanks, auto emissions, and improper disposal of waste oil. Some of these materials can be toxic to aquatic life at low concentrations. The proposed project would be subject to the new development/significant redevelopment requirements of the County DAMP/LIP. The DAMP/LIP requires preparation of a WQMP and implementation of postconstruction BMPs to address pollutants of concern and hydrologic conditions of concern for a project's storm water runoff. Postconstruction BMPs are the practices, procedures, policies, prohibitions, schedules of activities, structures, or devices that are implemented to prevent or minimize pollutants coming in contact with precipitation, storm water runoff, or non-storm water flows in the postconstruction phase of development. BMPs are also structures or devices that remove pollutants from storm water runoff before it enters receiving waters or storm drain and sewer systems. BMPs are often categorized as either "Source Control," "Site Design," or "Treatment Control" BMPs.		

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	As specified in REG WQ-3, the project would implement several Source Control and Treatment Control BMPs to reduce the discharge of pollutants of concern to the maximum extent practical. Site Design BMPs attempt to mimic a site's natural hydrologic regime by reducing impervious surface area, conserving natural areas, maintaining natural drainage courses, and minimizing clearing and grading. Site Design BMPs are not incorporated into the proposed project because, in order to construct a four-lane roadway, the impervious area and direct connection of impervious areas cannot be minimized. Source Control BMPs are measures that focus on reducing or eliminating runoff and controlling sources of pollutants during operation of the project. Source control BMPs include measures designed to prevent pollution at the source, that is, to prevent storm water from contacting potential pollutants. Source Control BMPs are generally simple, low-maintenance, cost-effective, and are broadly applicable. Treatment BMPs utilize treatment mechanisms to remove pollutants that have entered storm water runoff. The proposed project would implement Treatment Control BMPs to target roadway pollutants of concern. Six extended detention basins are proposed that would target sediment, nutrients, metals, bacteria, trash, oil and grease, and organics. Three of the extended detention basins may be substituted with bioretention BMPs, whose pollutant removal efficiencies would equal or exceed that of the extended detention basin. In addition, LID BMPs are proposed at 16 locations along the proposed roadway that would target heavy metals, phosphorus, nitrogen, sediment, oil and grease, and bacteria. LID BMPs may include bioretention areas with underdrains, vegetated bioswales, landscaped areas with detention, bioretention planter boxes, or other LID biofiltration BMPs. Proposed BMPs will be designed to meet the requirements of Order No. R9-2009-0002. With implementation of Source Control and Treatment Control BMPs that target roadway constituents of concern, as specified in REG WQ-3, impacts related to violation of water quality standards or WDRs from operation of the proposed project would be less than significant. No mitigation is required.		
Threshold 4.11.2: Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of preexisting nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).	**Less than Significant.** The proposed project is not located in a groundwater recharge area. As discussed above, some groundwater dewatering may be required during construction activities. However, dewatering activities would be temporary, and the volume of groundwater removed would not be substantial. Based on the proposed use of the project site, groundwater withdrawal would not be required during operation of the project. The proposed project would increase the impervious surface area and result in a net increase in total runoff volume. This volume is runoff that would not be infiltrated into the ground; however, aquifer recharge would not be affected by the change in volume of storm-water runoff at the site due to the existing low infiltration rates. Soils along the road alignment consist primarily of Type C and D soils with low infiltration potential and high runoff potential, thus groundwater recharge is likely already low in the existing condition. Therefore, the increase in impervious surface would not substantially reduce groundwater infiltration compared to existing conditions. Therefore, impacts to groundwater supplies would be less than significant.	No mitigation is required.	Less than Significant

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
Threshold 4.11.3: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in a substantial erosion or siltation on- or off-site.	**Potentially Significant.** The project has the potential to impact downstream siltation or erosion at one location within the Prima Deshecha Landfill area. There would be minor alteration of the stream within the Landfill area due to construction of the proposed landslide mitigation buttress system. The buttress fill would relocate portions of the channel. The proposed La Pata Avenue cross culverts within the Landfill area would slightly alter the drainage pattern within the watershed. Therefore, the potential to impact erosion is significant and requires mitigation. Soft-bottom channels proposed on the north and south side of the gravity buttress fill within the Prima Deshecha Landfill would converge to join the existing stream just west of the proposed fill. The soft-bottom channels would be designed with energy-dissipating drop structures to minimize impacts to erosion and siltation. The channels would continue to pass bulked flows as in the existing conditions. Riprap is proposed at the downstream end where the two channels converge to act as an energy dissipater and slow down flow velocities to existing conditions. In addition, the proposed cross culverts have been sized for bulked flows and include rock riprap at the outlets and inlets to provide energy dissipation and to minimize sediment impacts. During final design, the hydrology analysis would need to be updated utilizing the current Orange County hydrology manual and should include a stability analysis to ensure a stable channel design and conformance with the HCOC requirements, thus minimizing erosion potential. This study would require analysis of smaller storm events and may require an additional detention basin within the conceptual grading footprint. With implementation of Mitigation Measure 4.11-1, which requires a final hydrologic analysis and preparation of a stability analysis, the erosion and siltation impact from drainage alteration would be reduced to a less than significant level.	**Mitigation Measure 4.11-1:** During final design, a final hydrologic analysis shall be prepared in accordance with the current Orange County Hydrology Manual. The final hydrologic analysis shall include a stability analysis to ensure a stable channel design for the soft-bottom channels proposed on the north and south sides of the buttress fill. The soft-bottom channel design shall conform with the Hydrologic Conditions of Concern (HCOC) requirements. The final hydrologic analysis shall also expand the analysis of the extended detention basins to be used for flood control. The basin analysis shall be expanded to include additional storm events and ensure the northernmost basin conforms to the Talega Runoff Management Plan.	Less than Significant.
Threshold 4.11.4: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.	**Potentially Significant.** The proposed project would increase the impervious surface area, which would increase the volume of runoff from the project alignment. The proposed project would result in an approximately 1.4 percent increase in peak flow and 1.1 percent increase in volume. For the existing storm drain lines EX-1, EX-2 and EX-3 within the San Juan Creek Watershed, the project results in net increase in flows of 5.2 percent, 8.5 percent, and 2.1 percent, respectively. These existing culverts and the downstream drainage systems have sufficient capacity to convey the project condition flows. Refer to Figure 3.7 in Chapter 3 for the locations of the storm drains. The project has the potential to impact existing downstream facilities, including Talega Line B within the Segunda Deshecha Watershed, the Forster Ranch facilities within the Prima Deshecha Watershed, and Line EX-7 within the San Juan Creek Watershed, which could result in downstream flooding. However, there are three extended detention basins included as part of the project to reduce flows to existing conditions. In addition, the BMPs would be designed to meet LID requirements and the interim hydromodification requirements in Order No. R9-2009-0002. To ensure that these extended detention basins adequately accommodate the increased flow, the final hydrologic analysis would include an expanded analysis of the basins during final design. The analysis would be expanded to include additional storm events and ensure the northernmost basin conforms to the Talega Runoff Management Plan. With implementation of Mitigation Measure 4.11-1, which requires a final hydrologic analysis, the flooding impact from drainage alteration	Refer to Mitigation Measure 4.11-1.	Less than Significant

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Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	and storm drain capacity would be reduced to a less than significant level.		
Threshold 4.11.5: Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.	**Potentially Significant.** Please refer to Potentially Significant impacts discussion under Threshold 4.11-4 above.	Refer to Mitigation Measure 4.11-1.	Less than Significant
Threshold 4.11.6: Otherwise substantially degrade water quality.	**Less than Significant.** Refer to impacts discussion under Threshold 4.11-1 above.	Refer to Mitigation Measure 4.11-1.	Less than Significant
Threshold 4.11.7: Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.	**No Impact.** The proposed project is a roadway project, and does not include the construction of housing. Therefore, the proposed project would not place housing within a 100-year flood hazard area. Although the project may change the 100-year flood hazard area, the boundaries of the new 100-year floodplain would not include areas of existing housing. Because the proposed project would not place housing within 100-year floodplain, no impacts to housing associated with a 100-year flood hazard area would occur.	No mitigation is required.	No impact
Threshold 4.11.8: Place structures within a 100-year flood hazard area which would impede or redirect flood flows.	**Potentially Significant.** The proposed improvements would result in modification of the 100-year Prima Deshecha Cañada floodplain at the roadway crossing and the proposed grading for the buttress fill. An 84-inch RCP is proposed at the crossing, which would assure that the 100-year flood would be contained within the culvert underneath the roadway. A soft-bottom, 8x8-foot trapezoidal channel is proposed on the south side of the proposed buttress fill. This channel would create a longitudinal encroachment into the existing Zone A. However, the flood-carrying capacity of the channel would be maintained. The proposed project has the potential to increase 100-year flood elevations due to development if the channel within a 100-year flood hazard area. A FEMA CLOMR would be required prior to issuance of a grading permit and a FEMA LOMR would be required after the drainage structures are constructed. With implementation of Mitigation Measure 4.11-2, which requires verification of the changes resulting from the project, confirmation that potential floodplain impacts are less than significant, and the issuance of an LOMR, impacts to the 100-year floodplain would be reduced to a less than significant level, and no further mitigation is required	**Mitigation Measure 4.11-2:** During final project design, and prior to the issuance of any grading permits, the County of Orange shall submit final detailed applications, certification forms, hydraulic analyses, and fee payment to the Federal Emergency Management Agency (FEMA) to obtain a Letter of Map Revision (LOMR). The drainage structures within the Prima Deshecha Cañada 100-year floodplain shall not be constructed until the LOMR is approved by FEMA.	Less than Significant
Threshold 4.11.9: Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.	**No Impact.** According to the San Clemente General Plan, the project alignment is not located in an inundation zone for a levee or dam. As a result, the proposed project would not expose people or structures to a significant risk of loss, injury, or death involving flooding. Therefore, the potential for inundation by flooding as a result of the failure of a dam or levee is not significant.	No mitigation is required.	No impact
Threshold 4.11.10: Result in inundation by seiche, tsunami, or mudflow.	**Less than Significant.** The project alignment is not located in the vicinity of any large bodies of water; therefore, the potential for inundation by seiche is not significant. According to the San Clemente General Plan, the proposed project is not in the potential tsunami hazard area; therefore, the potential for inundation by tsunami is not significant. **Potentially Significant.** In the event of intense rainfall or fire-flood sequences, debris flows may emanate from large natural slope areas adjacent to the road. However, in most cases, the roadway will be buffered from these debris flows due to the fact that (1) debris flows are most often confined to natural drainages, and (2) the natural drainages typically intersect the project at the toe of proposed roadway fill slopes. In these cases,	No mitigation is required. **Mitigation Measure 4.11-3:** During final design and prior to the issuance of grading permits, the County of Orange Director of Public Works shall ensure that a mudflow analysis is prepared for the proposed project (all three segments) for areas where natural slopes or drainages descend directly to the roadway or roadway cut slope. The mudflow analysis shall quantify the potential debris flow hazards and provide recommendations, such as oversized	Less than Significant

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	the roadway surface is elevated sufficiently high such that debris flow inundation should not occur. In some cases, natural slopes or drainages descend directly to the roadway or roadway cut slope and therefore may pose a debris flow hazard. Potential debris flow hazards in these areas would be quantified during final design, and recommendations of the analysis would be incorporated into final design. Potential recommendations could include oversized perimeter drainage devices (i.e., brow ditches) or debris basins. With implementation of Mitigation Measure 4.11-3, which requires compliance with the recommendations of detailed analysis, impacts related to mudflow would be reduced to below a level of significance.	perimeter drainage devices (i.e., brow ditches) or debris basins, to accommodate potential debris. The County of Orange Director of Public Works shall ensure that the recommendations of the mudflow analysis are incorporated into final design of the proposed project.	
Cumulative Hydrology and Water Quality Impacts	**Less than Significant.** New development and redevelopment can result in increased urban pollutants in dry weather and storm water runoff from project sites. Each project must comply with NPDES permitting requirements and include BMPs to avoid impacts to water quality and local hydrology in compliance with local ordinances and plans adopted to comply with the MS4 Permit (DAMP and LIP) and other permits (e.g., De Minimus Permit, General Construction Permit). Each project must consider impaired receiving waters and annual TMDL loads for receiving waters. The TMDL program is designed to identify all constituents that adversely affect the beneficial uses of waterbodies and then identify appropriate reductions in pollutant loads or concentrations from all sources so that the receiving waters can maintain/attain the beneficial uses in the Basin Plan. Thus, by complying with TMDLs, the project contribution to overall water quality improvement in the watershed in context of the regulatory program is designed to account for cumulative impacts. The proposed project would convert undeveloped land to a roadway. The proposed project includes a series of Source Control and Treatment Control BMPs that would reduce pollutant concentrations to less than significant levels. In addition, implementation of Mitigation Measures 4.11-1 and 4.11-2 would ensure that project volume and flows are reduced to levels that can be accommodated by the downstream storm drain systems to minimize flooding and erosion impact. As also discussed above, the change in volume of storm water runoff at the site would not affect aquifer recharge. Regional programs and BMPs such as TMDL programs, the DAMP/LIP, and the MS4 Permit Program have been designed under an assumption that the San Juan Hydrologic Unit will continue the pattern of urbanization. The regional control measures contemplate cumulative effects of proposed development. Many of the regional permits are currently being updated to include more stringent requirements and are anticipated to be in effect by the time the proposed project is under construction. The proposed project would be required to comply with the regulations in effect at the time the grading permits are issued. Compliance with these regional programs and the General Construction Permit constitutes compliance with programs intended to address cumulative hydrological and water quality impacts. Therefore, the project's contribution to cumulative water quality and hydrology impacts would be less than significant.		Less than Significant
4.12 Public Services and Utilities			
Threshold 4.12.1: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically	**Less than Significant.** **Operation.** The proposed project is limited to implementation of long-planned roadway improvements and is not considered to be growth inducing. The project is not introducing additional development that could cause the need for additional	No mitigation required.	Less than Significant for operation

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services: i) Fire protection? ii) Police protection? iii) Schools? iv) Parks? v) Other public facilities?	governmental facilities such as schools. (See Section 4.10, Population and Housing, of the EIR.) The project will not introduce additional students and will not trigger the application of school funding. The existing roadway is primarily utilized for Prima Deshecha Landfill access and not for emergency access. In addition, the project does not involve the construction or disturbance of an existing or proposed governmental facility. Therefore, the proposed project would not cause significant environmental impacts associated with service ratios, response times, or other performance objectives for fire protection, police protection, schools, parks, and other public facilities such as libraries or public transportation during the construction of the proposed project. After completion of the proposed project, La Pata Avenue/Avenida La Pata emergency vehicles will have improved access to the communities of Talega and Forster Ranch in San Clemente, the City of San Juan Capistrano, and unincorporated areas of Orange County. By providing additional connections in the existing circulation network, emergency response times are expected to improve compared to existing conditions in the project area. In addition, as stated previously, the project would not affect any existing or proposed governmental facility. Therefore, no significant environmental impacts associated with service ratios, response times, or other performance objectives for fire protection, police protection, schools parks, and other public facilities such as libraries or public transportation would occur after completion of the proposed project.		
	Less than Significant.		
	Construction. Although the City of San Juan Capistrano and SMWD water pipelines will require relocation during construction of the proposed project, the relocation of the pipelines would necessitate a single, brief utility interruption. Therefore, impacts associated with the relocation of the City of San Juan Capistrano and SMWD water pipelines would be limited to the time the pipeline is offline during relocation activities and are considered less than significant. Although the Kinder Morgan petroleum pipeline will require relocation during the construction of the proposed project, the new pipe placed 80 feet south of the existing location would allow for continuous pipeline operations during the construction of the proposed project. Therefore impacts associated with the relocation of the Kinder Morgan petroleum pipeline would be limited to the time the pipeline is offline during relocation activities and are considered less than significant.	No mitigation required.	Less than Significant impact for construction
	Potentially Significant.		
	Construction. Due to the potential for interruptions to utility service from infrastructure relocation during the construction of the proposed project, the County will work with the designated utility provider to ensure that any planned utility interruptions will occur during times of low demand (i.e., the winter season). Any service disruption would be limited to brief outages for cutover from new to existing circuits. These outages typically occur in the early morning hours, with customers receiving advance notice from the utilities. Mitigation Measure 4.12-1 states that the County and the utility provider will coordinate their efforts to maintain continuous utility service and avoid any interruptions to utility services. In addition, Mitigation Measure 4.12-2 requires that the County ensure	**Mitigation Measure 4.12-1:** Prior to initiation of grading and throughout construction, the Orange County Director of Public Works will coordinate with utility companies to maintain the provision of services and avoid service interruptions. In the event that an interruption is anticipated and unavoidable, the Orange County Director of Public Works will coordinate with the specified utility to ensure that interruptions in service would occur during periods of low demand (i.e., the winter season). **Mitigation Measure 4.12-2:** The Orange County Director of Public Works will ensure that project plans provide for access to utility infrastructure for maintenance and repair purposes	

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	that project plans are in place to maintain continuous access to utility infrastructure for utility maintenance and repair during and after construction activities. With the implementation of Mitigation Measures 4.12-1 and 4.12-2, impacts to energy transmission facilities during the construction of the proposed project are considered less than significant. Several utility transmission lines are located within the project limits. Therefore, the project would cause a physical alteration or relocation of such facilities as a result of the proposed project. As stated in Mitigation Measure 4.12-2, any existing utility access that will be impacted during the construction of the proposed project will be reestablished after completion of the proposed project. The relocation of electricity transmission infrastructure necessitated by the project has been designed in concert with SDG&E and SCE to ensure that adverse effects to transmission capacity and reliability are avoided. With the implementation of Mitigation Measure 4.12-2, impacts to electrical transmission facilities after completion of the proposed project are considered less than significant**.**	during and after construction	
Threshold 4.12.2: Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.	**No Impact.** **Construction and Operation.** As stated previously, the proposed project is limited to roadway improvements and is not considered to be growth inducing. Because the project does not include land development and will not increase wastewater treatment loads, the proposed project would not exceed RWQCB wastewater treatment requirements. In addition, the maximum number of dwelling units permitted in the developments of Forster Ranch, Talega, Whispering Hills, and Rancho Mission Viejo was established in conjunction with specific plans anticipating the construction of La Pata Avenue Gap Closure and Camino Del Rio Extension project. The environmental impacts of those developments, including wastewater, were analyzed at the time each development was approved, and all development that is yet to be built will comply with new regulations requiring on-site retention. Therefore, no impacts are anticipated during the construction of the proposed project or during operation of the proposed roadway after the completion of the proposed project.	No mitigation is required.	No impact
Threshold 4.12.3: Require or result in the construction of new water or wastewater treatment or collection facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts.	**No Impact.** **Construction and Operation.** The proposed project is limited to roadway improvements and is not considered to be growth inducing. Because the project is not introducing additional development adjacent to the project area, the project would not require or result in the construction of new water or wastewater treatment or collection facilities, require the expansion of existing facilities, or contribute to the need for additional wastewater treatment capacity. The proposed project would require limited quantities of water for dust control during construction and for the establishment of native plants on slopes. No new, ongoing water demand would be generated by the proposed roadway improvements. Therefore, the project would not cause the need for the expansion of water supply facilities or require additional entitlements and resources. Therefore, no impacts are anticipated during the construction of the proposed project or during operation after the completion of the proposed project, and no mitigation is required.	No mitigation is required.	No impact

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
Threshold 4.12.4: Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	**Less than Significant.** **Construction.** Construction storm water impacts would be less than significant with compliance with existing plans, programs, and regulations. Construction of off-site storm drain facilities for construction flows is not required. **Operation.** A comprehensive surface drainage/storm drain system has been developed to collect and convey runoff on the project site into the existing and planned City and County storm drain system. Storm water runoff from the proposed roadway would be collected and conveyed by reinforced concrete pipes and interceptor drains. Three extended detention basins are proposed to reduce flows to existing conditions. These three extended detention basins may be substituted with biofiltration BMPs and would also serve as water quality BMPs. Although the proposed storm drain system would be extended to accommodate runoff from future land uses in the tributary watershed after the completion of the proposed project, the improvements to the storm drain system are minimal. Construction of storm drain facilities beyond those included in the project would not be required. Therefore impacts to storm water facilities are considered less than significant.	No mitigation is required.	Less than Significant for construction Less than Significant for operational activities
Threshold 4.12.5: Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.	**No Impact.** Please refer to impacts discussion under Threshold 4.12.3 above.	No mitigation is required.	No impact
Threshold 4.12.6: Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	**No Impact.** Please refer to impacts discussion under Threshold 4.12.3 above.	No mitigation is required.	No impact
Threshold 4.12.7: Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.	**Less than Significant.** **Construction and Operation.** A small portion of the alignment of the proposed La Pata Avenue extension overlays WMU 2 at the north end of the Prima Deshecha Landfill. A deviation from Orange County standards to allow a maximum grade of 7 percent has been approved for a distance of approximately 15 feet (from Sta. 144+76.92 to Sta. 144+92.06). The 7 percent grade is required to raise the elevation of the roadway above the closed landfill disposal area, thereby avoiding impacts to solid waste material and associated leachate. The proposed project would not result in additional solid waste generation during construction because all existing roadway material and soils excavated on site will be reused on site. The proposed project will implement roadway improvements and does not include the development of land uses that would generate solid waste. Therefore, no significant impacts to landfills with insufficient permitted capacities would result.	No mitigation is required.	Less than Significant

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
Threshold 4.12.8: Comply with federal, State, and local statutes and regulations related to solid waste.	**Less than Significant.** **Construction.** Senate Bill 1374 (added by Statutes in 2002, Chapter 501), and which amended Sections 41821 and 41850 and added Section 42912 to the California Public Resources Code) requires the source reduction and recycling of demolition waste materials. In an effort to comply with Senate Bill 1374, the proposed project will minimize additional solid waste generation during construction by reusing all materials excavated for the project on site. Therefore, construction of the proposed project would not result in additional solid waste generation and would be in compliance with additional federal, State, and local statutes and regulations (such as the California Integrated Waste Management Act of 1989 and Assembly Bill 75 as discussed under Section 4.12.2, Regulatory Setting) related to solid waste during construction activities. Therefore, less than significant impacts are anticipated. **Operation.** Operation of the roadway facilities would not generate solid waste and therefore would not conflict with federal, State, and local statutes and regulations related to solid waste. No significant impacts would result.	No mitigation is required.	Less than Significant
Cumulative Public Service and Utility Impacts	**Potentially Significant.** **Construction.** The proposed project is limited to long-planned roadway improvements to complete the circulation system and is not considered to be growth inducing. Therefore, the project would not require a demand for additional public services or utilities. All impacts to existing electrical utilities and pipelines will occur during construction. In addition, it is anticipated that emergency response time would improve after completion of the La Pata Avenue Gap Closure and Camino Del Rio Extension Project because the roadway that currently dead ends at Prima Deshecha Landfill would serve as a connection to additional streets serving the Cities of San Juan Capistrano and San Clemente, and unincorporated areas of Orange County. Therefore, with the implementation of Mitigation Measures 4.12-1 and 4.12-2, the project would not result in or contribute to a significant cumulative impact to public services or utilities.	Refer to Mitigation Measures 4.12-1 and 4.12-2 above.	Less than Significant
4.13 Recreation			
Threshold 4.13.1: Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.	**Less than Significant.** **Operation.** The proposed project consists of development of a dedicated roadway/gap closure that would serve the existing and future population in the project study area, County, and the Cities of San Clemente and San Juan Capistrano. The proposed project does not include the development of any residential units, nor would the project result in population growth that would lead to increased use or deterioration of existing neighborhood or regional parks or other recreation facilities. (Refer to Section 4.10 for a discussion of potential impacts related to housing and population.) Therefore, the proposed project would have a less than significant impact related to increased use of existing parks and recreation facilities.	No mitigation required.	Less than Significant
Threshold 4.13.2: Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.	**Potentially Significant.** The proposed project would include several modifications to the existing trails on site and would provide additional bikeways where the existing roadways are extended. • **Forster Ranch Ridgeline Trail:** The proposed project would extend the existing trail/parkway configuration along Camino Del Rio for approximately 50 feet, where	**Mitigation Measure 4.13-1:** Prior to issuance of a grading permit, the County of Orange Director of Public Works shall approve a Construction Area Trail Management Plan. The Plan shall be designed by a registered Traffic Engineer and shall address potential trail closures, detours, or other disruptions to trail circulation. The Plan shall identify types and locations of signage to direct trail users during construction and detour routes. The County of Orange Director of Public Works shall verify that the Construction Contractor's Agreement	Less than Significant

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	it would connect to an existing off-road trail that is parallel to Camino Del Rio (roughly opposite the existing storm water detention basin). The trail/parkway configuration would continue from the point where the off-road trail again meets the roadway to the Forster Ranch Ridgeline Trail. In addition, the existing Forster Ranch Ridgeline Trail would transect the future Camino Del Rio 300 feet west of the future intersection of Avenida La Pata/Camino Del Rio. To accommodate this crossing, both the north and south sides of the extension of Camino Del Rio would include a trail in the parkway that matches the existing roadway configuration from the point where the trail meets the roadway to the intersection of Avenida La Pata/Camino Del Rio. Crossing the roadway would take place at-grade at the proposed crosswalk at Camino Del Rio and Avenida La Pata (similar to the existing crossing of the Prima Deshecha North Trail at Calle Saluda). Street parking is currently permitted at the terminus of Camino Del Rio. Although construction of the proposed project will result in the loss of existing street parking, the proposed project will provide a total of 20 designated parking spaces in two areas located immediately north and south of Camino Del Rio. The addition of these 20 designated parking spaces will maintain access to the Forster Ranch Ridgeline Trail. • **Prima Deshecha North Trail:** The proposed project conflicts with the Prima Deshecha North Trail by transecting an existing "loop" segment of the trail. To accommodate and maintain connectivity of the existing trail, the proposed project would provide a 10-foot multi-use trail within the project right-of-way to connect existing segments of the trail that would otherwise be disconnected by the proposed project. The proposed multi-use trail would be separated from the roadway by a 5-foot parkway for approximately 720 feet. • **Prima Deshecha North Trail and Forster Ranch Ridgeline Trail Connection:** Currently, the Forster Ranch Ridgeline Trail and Prima Deshecha North Trail connect where the proposed project would be located. Therefore, in order to maintain this connection between the two trails, the proposed project would provide a grade-separated trail crossing in the form of a pedestrian bridge over the roadway. The bridge would be approximately 20 feet in width and 170 feet in length and would be sited to avoid placing any part of the structure within the SDG&E right-of-way. • **Class II Bike Lane (County):** The OCTA does not include the proposed project on its Bikeways Map, even though Antonio Parkway (as the roadway is called north of SR-74) is designated a Class II Bike Route (Class II indicates an on-road striped lane). Therefore, consistent with the adopted plans, the proposed La Pata Avenue would include a 10-foot on-road bike lane adjacent to the travel lanes on both sides of the road. • **Class I Bike Path (San Clemente):** The City of San Clemente General Plan and Forster Ranch Specific Plan indicate that the Class I Bike Path (off-road) currently located parallel to Avenida La Pata south of Calle Saluda should continue on the east side of the roadway and terminate at the City limits. Therefore, the proposed	requires the construction contractor to implement and comply with the Construction Area Trail Management Plan.	

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	project would include space for a 10-foot Class I Bike Path on the east side of Avenida La Pata within the City of San Clemente, connecting to the existing bike path. • **Connection for Planned Trails:** In the central segment, a bridge overcrossing would be provided at the north end of the Prima Deshecha Landfill that would initially provide grade-separated vehicular access between Landfill Zone 1 and Zone 4. Additionally, in the long term, the overcrossing would ultimately provide a connection for the Class I Trail that is planned along the west side of La Pata Avenue in the north segment and the trail that is planned on the east side of La Pata Avenue around the perimeter of Prima Deshecha Landfill Zone 4. The modifications to the existing access to on-site trails and bikeways, and to the existing on-site trails and bikeways described above are intended to maintain connectivity of existing trails. The proposed project improvements do not require the construction or expansion of recreational facilities off site that might have an adverse physical effect on the environment. The proposed project would result in both temporary construction and long-term operational impacts to the existing trails. Construction-related impacts to the Prima Deshecha North Trail would result from project grading and construction for the La Pata Avenue extension, including the relocation of a utility tower. The pedestrian bridge connecting the Prima Deshecha North Trail and Forster Ranch Ridgeline Trail will not be constructed until after grading is complete; therefore, during grading, connectivity of the trails will not be available to recreational users. Similarly, during construction, the Prima Deshecha North Trail will terminate at the roadway crossing and the Forster Ranch Ridgeline Trail will not be accessible from the current terminus of Camino Del Rio until the planned trails are completed with implementation of the proposed project. Construction impacts may also include reduced trail width and/or other trail closures; however, these impacts would be temporary. Any disruption to existing trails would cease with project completion, at which time all trails would be restored. Mitigation Measure 4.13-1 requires the County to design and implement a Construction Area Trail Management Plan. The purpose of the plan is to maintain trail access during construction to the maximum extent feasible. The Construction Area Trail Management Plan will include designation of safe and appropriate detours during construction and implementation of proper signage to direct trail users to alternative routes. With implementation of Mitigation 4.13-1, temporary impacts to trails would be reduced to less than significant levels. The proposed project would also result in long-term impacts to existing trails. The project includes a proposed at-grade crossing for the Forster Ranch Ridgeline Trail on Camino Del Rio, an extension of the existing trail that is parallel to Camino Del Rio, and an elevated crossing (overcrossing) that connects the Prima Deshecha North Trail and Forster Ranch Ridgeline Trail where the La Pata Avenue extension impacts the Prima Deshecha North Trail. The existing setting for the trails in the vicinity of the south segment of the proposed project is generally characterized by rolling, natural topography, views of distant		

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	ridgelines, and nonnative grassland vegetation. Currently, hikers on the Prima Deshecha North Trail are exposed to urbanization in the form of views of the Talega and Forster Ranch developments, and the location of the trail in and near the SCE and SDG&E utility corridor, which is characterized by tall steel transmission towers supporting multiple cables. These existing conditions will remain in the postproject condition; however, implementation of the proposed project would also introduce views of the La Pata Avenue extension, engineered (cut-and-fill) and revegetated slopes, and the pedestrian bridge overcrossing that connects the Prima Deshecha North Trail and Forster Ranch Ridgeline Trail. In addition, a 720-foot length of the Prima Deshecha North Trail will be located within the project right-of-way adjacent to the proposed roadway, thereby altering the trail experience compared to existing conditions for that portion of the trail. The changes to the physical and visual environment as a result of the proposed project will alter the recreation experience for trail users. Changes to the visual environment are discussed in Section 4.5, Aesthetics, and are also depicted in the visual cross section included in Appendix E of this EIR. The proposed project was found to have a less than significant impact on visual resources; however, views from trails where they approach or cross the proposed project roadway extensions will be different than existing conditions. The extension of La Pata Avenue and Camino Del Rio will introduce roadway noise in the vicinity of the Prima Deshecha North Trail and Forster Ranch Ridgeline Trail. Generally, noise criteria are applicable to areas of frequent human use. Trails used intermittently are not considered to be included in this definition. If noise effects to the trails are evaluated, the analysis would be based on the peak noise hour, which occurs when the greatest number of vehicles is traveling on the road at the speed limit without slowing due to congestion. This volume is based on the configuration defined as the number of through lanes of the road. Based on the ADT volumes projected in the traffic study, noise levels at the pedestrian bridge overcrossing at La Pata Avenue are projected to be 76.7 A-weighted decibels (dBA), and the noise levels at the proposed extension of the Forster Ranch Ridgeline Trail adjacent to Camino Del Rio are projected to be 64 dBA. With the exception of the crossings and approaches to the crossings, 80–85 percent of the Prima Deshecha North and Forster Ranch Ridgeline Trails are approximately 400 feet or more from the proposed improvements. Since noise decreases as the distance doubles, noise levels along the trails would be approximately 61 dBA or less along the Prima Deshecha North Trail and 48 dBA or less along the Forster Ranch Ridgeline Trail. However, trail users would be exposed to these noise levels from passing traffic intermittently and for short periods of time as they travel along the trails. Approximately 720 feet of the Prima Deshecha North Trail will be rerouted within the proposed La Pata Avenue right-of-way in order to maintain trail connectivity. This portion of the trail would experience the greatest change in noise conditions compared to the existing trail conditions. The changes to the physical, visual, and noise environments include substantial cut-and-fill resulting in engineered slopes, changes to views from trails where they approach or cross the proposed project roadway extensions, and the introduction of an additional source of urban noise as a result of traffic on the proposed roadway extensions. However, the overall trail experience, with all connections and linkages, will be maintained so that full trail continuity is achieved. This would result in a functional experience over the full		

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	length of these trails. Overall, the combination of these changes to the existing trail environment will alter the recreation experience for trail users; however, these changes to the existing trail alignment would be considered less than significant. The proposed project incorporates slope revegetation, and sound barriers are neither warranted based on established noise criteria nor desirable based on the natural setting of the project area. Therefore, further mitigation is not feasible, and the adverse recreation impact to the trail experience is less than significant.		
Cumulative Recreation Impacts	**Potentially Significant.** The proposed project is intended to maintain and improve the existing recreation facilities on the project site and is not expected to increase the use of existing recreation facilities off site. Potential impacts to existing trails may occur during project construction; however, these impacts (e.g., closures, reduced lane widths, and/or detours) would be temporary. In addition, Mitigation Measure 4.13-1 requires the County to develop and implement a Construction Area Trail Management Plan to designate safe and appropriate detours, as necessary, during construction and to implement proper signage to direct trail users to alternative routes. Implementation of Mitigation Measure 4.13-1 would reduce temporary impacts to trails to less than significant levels. Other projects planned in the cumulative study area include transportation improvements, such as widening of existing roadways and freeways (see Section 4.1, Land Use, of this EIR for additional project details). These projects would not result in adverse impacts to the trail network in the vicinity of the proposed project. Additionally, the sports park and aquatic center planned for the southwest corner of the intersection of Avenida La Pata and Vista Hermosa in San Clemente would result in an increase of recreation opportunities in the area. Therefore, the proposed project, together with other projects, would not contribute to significant cumulative impacts on parks and recreation facilities in the surrounding area. The project's contribution to cumulative impacts related to parks and other recreation facilities is less than significant, and no mitigation is required.	Refer to Mitigation Measure 4.13-1 above.	Less than Significant
4.14 Agricultural Resources			
Threshold 4.14.1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use.	**No Impact.** There are prime and unique farmlands located northeast of the intersection of Antonio Parkway and SR-74. However, these areas are not located in the project disturbance limits. The proposed project is located in areas designated Grazing Land and Other Land. A majority of the areas located east of the proposed project limits, and some areas located north of the SR-74/Antonio Parkway intersection, are identified by the State as Grazing Land, with small areas comprised of Urban and Built-up Land, Unique Farmland, and Prime Farmland. Areas west of the proposed project limits (in the south segment of the proposed project) are identified as Other Land. Figure 4.14.1 does not identify any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance within the project limits or in the immediate surrounding area. Therefore, the project would not convert existing Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use. No impacts are anticipated.	No mitigation is required.	No impact
Threshold 4.14.2: Conflict with existing zoning for agricultural use or a Williamson Act contract.	**Less than Significant.** As stated previously, based on the 2004 Agricultural Preserves Map for Williamson Act Parcels, the RMV Ranch Plan properties located in the north segment of the proposed project are shown as properties with a 5-year nonrenewing Williamson Act contract. Since the RMV Ranch Plan has been approved and the Williamson Act contracts in these areas have since expired, the proposed project would not conflict with existing Williamson Act contracts. Therefore, no impacts to lands under a Williamson Act contract are anticipated, and mitigation measures are not required.	No mitigation is required.	Less than Significant

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	The project disturbance limits are located on land zoned County Agriculture-1 (A-1) in the area of the Prima Deshecha Landfill. The total acreage of A-1 zoned land that will be disturbed is approximately 126 acres. The area within the project limits is comprised of a linear strip along existing La Pata Avenue and an area within Zone 4 of the Prima Deshecha Landfill. The strip along existing La Pata Avenue that is zoned A-1 is not currently used for agricultural uses and is committed to open space use in the RMV Ranch Plan. Also, the committed open space is identified in the NCCP; therefore, any future agricultural use in this area is limited to carefully managed grazing in concert with habitat management. The area within the Prima Deshecha Landfill is committed to future roadway and Landfill land uses (Exhibit 2.1-1 in the Prima Deshecha Landfill General Development Plan Final Environmental Impact Report No. 597). Therefore, there is little likelihood that the area zoned A-1 within the project disturbance limits would be used for substantial agricultural uses if the project was not to be implemented. The proposed project is located in areas previously identified for roadway improvements to La Pata Avenue, including the County MPAH and the Prima Deshecha Landfill GDP. Roadways are not prohibited in the A-1 zone. Impacts to existing zoning for agricultural use are considered less than significant.		
Threshold 4.14.3: Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)).	**No Impact.** The United States Forest Service defines a forested area as "forest land" if it is at least 1 acre in size and at least 10 percent occupied by forest trees of any size or formerly having had such tree cover and not currently developed for nonforest use. The closest forest land is the Cleveland National Forest, which is located approximately 7 miles northeast of the project limits. Timberlands are defined as forest lands that are used for the production of commercial wood products. There are no designated forest lands or timberlands within or adjacent to the proposed project study area and no land zoned for forest land or timberland production. Therefore, the proposed project will not result in the loss or conversion of forest land and will not conflict with forest land or timberland zoning.	No mitigation is required.	No impact
Threshold 4.14.4: Result in the loss of forest land or conversion of forest land to non-forest use.	**No Impact**. Refer to impact discussion under Threshold 4.14.3 above.	No mitigation required.	No impact
Threshold 4.14.5: Involve other changes in the existing environment which, due to their location or nature, could result in conversion of the Significant Farmland to nonagricultural use or conversion of forest land to non-forest use.	**Less than Significant.** With the exception of limited grazing on the RMV Ranch Plan property, there are no active agricultural uses on the project or adjacent to the proposed project. The proposed roadway extensions occur in areas reserved for the proposed improvements. The project vicinity consists of existing and committed land uses including committed open space, landfill, school, and residences. The proposed roadway widening and extensions are intended to serve the existing land uses. No change to the existing and planned land use pattern is anticipated as a result of project implementation. Since the proposed project would not significantly change the existing environment, it is not anticipated that a conversion of Significant Farmland to nonagricultural use would occur. Therefore, impacts are considered less than significant. There is no forest land located within the project limits. Therefore, the conversion of existing forest land to nonforest use would not occur. No impacts are anticipated.	No mitigation required.	Less than Significant

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
Cumulative Agricultural Resource Impacts	**Less than Significant.** Implementation of the proposed project will not contribute to cumulative citywide or countywide conversion of Significant Farmland to nonagricultural uses. The proposed project site is not subject to a Williamson Act contract. The proposed project would not result in the conversion of designated farmland, would not conflict with a Williamson Act contract, and would not lead to the conversion of off-site farmland. Although land zoned for agricultural purposes by the County of Orange exists within the project limits, the amount of land required for the proposed project is minimal. Furthermore, there are no active agricultural uses (other than limited grazing) or designated important farmland in the project limits or vicinity. Therefore, the project impacts to farmland would be considered less than significant, and the proposed project would not contribute to cumulative impacts related to agricultural resources.	No mitigation measures required.	Less than Significant
4.15 Mineral Resources			
Threshold 4.15.1: Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State.	**Less than Significant.** **Construction.** No known valuable mineral resources exist on or near the project site. A portion of the project site is classified by the CDMG as MRZ-1, indicating that no known significant mineral deposits are present on site, and a portion of the site is not classified. As described above, MRZ-1 is an area where there is sufficient information to determine that no significant mineral deposits are present and that the likelihood for their presence is low. The reasons why CDMG did not survey the unclassified portions of the County and project are not known; however, given their location near existing urbanization and MRZ-1 areas, it appears that the likelihood of occurrence for significant mineral resources is low in these areas as well. A portion of the Prima Deshecha Landfill property located immediately east of the 150-foot SDG&E pole and pipeline easement and the 200-foot SCE easement, was leased by private entities for oil and gas exploration from the mid-1970s to the mid-1990s. However, based on the DOGGR Online Mapping System, no former or existing wells were identified within the portion of the Landfill that was leased for oil and gas exploration purposes. In addition, the Phase I ISA did not identify oil or gas wells, or oil fields present within the project limits. The widening and extension of La Pata Avenue and the extension of Camino Del Rio will not preclude access to mineral resources as no mineral aggregate or petroleum resources are known or anticipated to occur on site. Therefore, construction of the proposed project would not result in the loss of availability of known mineral resources that would be considered valuable to the region or the residents of the State. In addition, the project will not result in significant impacts related to availability of mineral resources or mineral resource recovery sites. Methane gas is a by-product of landfilling municipal solid wastes. Methane can be captured and utilized as a landfill biogas, a renewable energy source, to generate electricity or heat. OCWR operates Prima Deshecha Landfill for municipal solid waste. The Landfill infrastructure includes a gas-to-energy plant that captures methane emissions and converts them to electrical energy. Prima Deshecha Landfill captures approximately 11 million normal cubic meters of methane each year.[7] The extension of	No mitigation is required.	Less than Significant

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	La Pata Avenue will transect the Landfill in an area between Zones 1 and 4. The proposed project is located in an area designated for the roadway extension (Zone 5) in the Prima Deshecha Landfill GDP. Current grading plans do not indicate the need to relocate the Landfill gas line that transmits methane to the gas-to-energy plant. The construction of the proposed project will not impede or interfere with the operation of the gas-to-energy plant and therefore will not result in short-term impacts to the production of energy. **Operation.** As stated above, there are no known significant mineral deposits present on site. The operation of the proposed widening and extension of La Pata Avenue/Avenida La Pata and extension of Camino Del Rio will not preclude access to mineral resources as no mineral resources are known or anticipated to occur on site. The extension of La Pata Avenue will transect the Prima Deshecha Landfill site in an area designated for the roadway extension (Zone 5) in the Prima Deshecha Landfill GDP. The operation and use of the proposed roadway will not impede or interfere with the operation of the gas-to-energy plant and therefore will not result in long-term impacts to the production of energy. Therefore, permanent significant impacts related to the availability of mineral resources or mineral resource recovery sites will not occur after the construction of the proposed project.		
Threshold 4.15.2: Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.	**Less than Significant.** Please refer to discussion under Threshold 4.15.1 above.	No mitigation is required.	Less than Significant
Cumulative Mineral Resource Impacts	**No Impact.** The cumulative study area for mineral resources consists of: (1) the area that could be affected by proposed project activities; and (2) the areas affected by other projects whose activities could directly or indirectly affect the availability of a commercially valuable or locally important mineral resource on the project site. The analysis above indicated that no significant mineral deposits are located on the project site. Based on the location of and information available regarding the related projects, no cumulative impacts to mineral resources are anticipated. For this reason, the project will not cause an incremental contribution to cumulative impacts related to mineral resources and therefore the project impacts are not cumulatively considerable.	No mitigation is required.	No impact
4.16 Global Climate Change			
Threshold 4.16.1: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	**Potentially Significant.** **Construction Emissions.** Construction activities produce combustion emissions from various sources, such as site grading, utility engines, on-site heavy-duty construction vehicles, equipment hauling materials to and from the site, asphalt paving, and motor vehicles transporting the construction crew. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change. Most of the equipment and vehicle engines require the combustion of fuel. The combustion of fossil-based fuels creates GHGs such as CO_2, CH_4, and N_2O. Furthermore, CH_4 is emitted during the fueling of heavy equipment. Short-term GHG emissions would occur from construction activities, consisting primarily of emissions from equipment exhaust.	Refer to Mitigation Measures 4.3-3 and 4.3-4.	Less than Significant

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	The only GHG with well-studied emissions characteristics and published emissions factors for construction equipment is CO_2. Construction of the proposed project would generate up to 29,982 lbs/day of CO_2 during the grading/excavation phase. Construction of the proposed project would generate a total of 6,943 tons of CO_2 during the 30-month construction schedule. However, as discussed below, the proposed project would reduce the long-term regional CO_2 emissions by 28,012 lbs/day (14 tons/day) in 2016. The project would be required to implement the construction exhaust control measures listed in Section 4.3, Air Quality, as Mitigation Measures 4.3-3 and 4.3-4, including minimization of construction equipment idling and implementation of proper engine tuning and exhaust controls. These measures would reduce GHG emissions during the construction period. In addition, the operational benefit of the proposed project would offset the construction emissions within approximately 500 days of opening, which is less than 2 years. Therefore, with the implementation of Mitigation Measures 4.3-3 and 4.3-4, construction of the proposed project would not contribute significantly to global warming and impacts are considered less than significant. **Less than Significant.** **Operational Emissions.** The proposed project would not generate new vehicular traffic trips since it would not construct new homes or businesses. However, there is a possibility that some traffic currently utilizing other routes would be attracted to use the new facility, thus resulting in a change in regional VMT. The impact of the proposed project on GHG emissions was calculated using traffic data for the Orange County region. The proposed project would result in a decrease in VMT and VHT in 2016 and 2035. This decrease in VMT and VHT would reduce the CO_2 emissions within the region. Therefore, the operation of the proposed project would not contribute significantly to global warming, and no mitigation is required.	No mitigation required.	
Threshold 4.16.2: Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	**Less than Significant.** The County of Orange has not yet adopted a Climate Action Plan or similar GHG reduction plan or strategy, and the Orange County Council of Governments has not yet adopted a Sustainable Communities Strategy. The proposed project is consistent with the intent of Senate Bill 375, however, which promotes alignment of transportation, housing, and land use plans to reduce GHG emissions. Avenida La Pata/La Pata Avenue and Camino Del Rio have been shown on the Orange County MPAH in various configurations since 1963 and in their current approximate alignment since 1981. In addition, Avenida La Pata/La Pata Avenue and Camino Del Rio have been shown on the San Clemente General Plan Circulation Plan since 1982. The proposed project is consistent with the County MPAH and Transportation Element/ Circulation Plan. The County's Land Use Element and Transportation Element/ Circulation Plan are integrated components of the County's General Plan. The existing Forster Ranch development, Talega development, Prima Deshecha Landfill facility and approved RMV Ranch Plan reflect past planning efforts by the County. All four developments include the proposed project and reserve or identify right-of-way for implementation of the proposed project. Therefore, the proposed project implements a circulation plan that supports the County's land use plan. The proposed project improvements serve existing uses and would be sized to accommodate the planned traffic volumes associated with build out of approved General Plans and Specific Plans in the	No mitigation required.	Less than Significant

Table 1.1: Summary of Project Impacts, Project Design Features, Mitigation Measures, and Level of Significance after Mitigation

Environmental Impact	Level of Significance Before Mitigation	Project Design Features and Mitigation Measures	Level of Significance After Mitigation
	City of San Clemente, the City of San Juan Capistrano, and unincorporated areas of Orange County. Furthermore, the proposed gap closure of Avenida La Pata/La Pata Avenue would provide a parallel roadway to I-5 in southern Orange County and would support reduced VMT and VHT in southern Orange County, resulting in a reduction in GHG emissions compared to a future scenario without the proposed gap closure. Therefore, the proposed project represents the alignment of transportation, housing, and land use plans that would reduce GHG emissions and is consistent with the intent of Senate Bill 375. The project would have a less than significant impact, and no mitigation is required.		
Cumulative Global Climate Change Impacts	**Less than Significant.** The cumulative study area for consideration of impacts related to global climate change is the State of California. As described above, the statewide inventory of CO_2e emissions for 1990 was 427 MMTCO_2e, and for 2020 is expected to be 600 MMTCO_2e under a business-as-usual (BAU) scenario. Interpolation of an inventory for 2012 (the year most of the Assembly Bill 32 control measures are anticipated to go into effect) results in approximately 554 MMTCO_2e BAU. As shown in Table 4.16.4 of Section 4.16, Climate Change, in this EIR,, the proposed project will result in a reduction of 28,012 lbs/day in 2016, which represents a very small percent of the statewide GHG total in 2012. Implementation of the project would not result in GHG emission levels that would substantially conflict with implementation of the GHG reduction goals, and in fact would reduce GHG emissions slightly due to the reduction in VHT as a result of the gap closure. Project-related GHG emissions and their contribution to global climate change impacts in the State are less than significant and less than cumulatively considerable because the project: (1) would be substantially consistent with policies and standards set out in federal, State, and local plans designed to GHG emissions; and (2) would result in a reduction in CO_2e emissions. No mitigation is required.	No mitigation required.	Less than Significant

[1] The traffic mix on La Pata Avenue comprises 87 percent automobiles, 8 percent medium-duty trucks, and 5 percent heavy-duty trucks during the daytime period (7:00 a.m. to 7:00 p.m.) under existing, future no build, and future build conditions. During the evening (7:00 p.m. to 10:00 p.m.) and nighttime periods (10:00 p.m. to 7:00 a.m.), the traffic mix along La Pata Avenue comprises 97 percent automobiles, 2 percent medium-duty trucks, and 1 percent heavy-duty trucks under existing, future no build, and future build conditions. Lastly, during the daytime period (7:00 a.m. to 7:00 p.m.), evening period (7:00 p.m. to 10:00 p.m.), and nighttime period (10:00 p.m. to 7:00 a.m.), the traffic mix along Avenida La Pata and Camino Del Rio comprises 98 percent automobiles and 2 percent medium-duty trucks under existing, future no build, and future build conditions.

[2] The number of acres of coastal sage scrub impact (30.34 acres) is less than the acreage anticipated in the NCCP/HCP, based on the potential alignment shown in Figure 2 of the Biological Resources Assessment (July 2010). This does not include the acreage within the planned landfill impact areas (40.05 acres), which is listed separately.

[3] Vernal barley is designated CNPS 3.2. The CNPS designation means that the species is suggested by the California Native Plant Society for consideration as an endangered species in California.

[4] The seismic hazards study was performed using soft rock conditions (Bozorgnia et al., 1999). These ground conditions are considered representative of limited amounts of surficial soil materials underlain by sedimentary bedrock materials and competent landslide blocks composed of sedimentary bedrock materials.

[5] *Preliminary Geotechnical Assessment*, Stoney-Miller Consultants, Inc., August 5, 2009.

[6] American Road and Transportation Builders Association (ARTBA).

[7] Themelis, Nickolas J., and Priscilla A. Ulloa. 2006. "Methane generation in landfills," http://www.seas.columbia.edu/earth/wtert/Themelis_Ulloa_Landfill.pdf, accessed March 31, 2010.

Abbreviation and acronym definitions are provided on the following page.

Abbreviation and Acronym Definitions:

ADL = aerially deposited lead
ADT = average daily traffic
AQMP = Air Quality Management Plan
ASTM = American Society for Testing and Materials
BAT/BCT = Best Available Technologies (Economically Feasible)/Best Control Technology
BAU = business-as-usual
BMPs = best management practices
BRCP = Biological Resources Construction Plan
CAD = computer-aided design
Caltrans = California Department of Transportation
CBC = California Building Code
CCR = California Code of Regulations
CDFG = California Department of Fish and Game
CDMG = California Division of Mines and Geology
CEQA = California Environmental Quality Act
CFC = California Fire code
CFR = Code of Federal Regulations
CH_4 = methane
CLOMR = Conditional Letter of Map Revision
CMP = Congestion Management Program
CNPS = California Nature Plant Society
CO = carbon monoxide
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
Corps = United States Army Corps of Engineers
County = County of Orange
CVC = California Vehicle Code
DAMP = Drainage Area Management Plan
dBA =- A-weighted decibels
DOGGR = California Department of Oil, Gas, and Geothermal Resources
DPR = Department of Parks and Recreation
EIR = Environmental Impact Report
FEMA = Federal Emergency Management Agency
FESA = Federal Endangered Species Act
FTA = Federal Transit Administration
FTC – S = Foothill Transportation Corridor-South
GDP = General Development Plan
GHG = greenhouse gas
GP = general purpose
GPS = global positioning system
HCOC = Hydrologic Conditions of Concern
HCP = Habitat Conservation Plan
HHWCC = Household Hazardous Waste and Recycling
HMMP = Habitat Mitigation and Monitoring Plan
HOV = high-occupancy vehicle
HSC = Health and Safety Code
I-5 = Interstate 5
ICU = intersection capacity utilization
ISA = Initial Site Assessment
JWA = John Wayne Airport
lbs/day = pounds per day
L_{dn} = day-night average noise level
LEA = Local Enforcement Agency
LID = Low Impact Development
LIP = Local Implementation Plan
LOMR = Letter of Map Revision
LOS = levels of service
LST = Localized Significance Threshold
MBTA = Migratory Bird Treaty Act
MLD = Most Likely Descendant
$MMTCO_2e$ = million metric tons of carbon dioxide equivalent
MPAH = Master Plan of Arterial Highways
mph = miles per hour
MS4 = Municipal Separate Storm Sewer System
MSAA = Master Streambed Alteration Agreement
N_2O = nitrous oxide
NAHC = Native American Heritage Commission
NALs = Numeric Action Levels
NB = northbound
NCCP = Natural Communities Conservation Plan
NELs = Numeric Effluent Limitations
NOA = naturally occurring asbestos
NOI = Notice of Intent
NOT = Notice of Termination
NO_x = oxides of nitrogen
NPDES = National Pollutant Discharge Elimination System
OCFA = Orange County Fire Authority
OCHCA = Orange County Health Care Agency
OCP = Orange County Projections
OCPW = Orange County Public Works Department
OCTA = Orange County Transportation Authority
PAC = Public Awareness Campaign
PCB = polychlorinated biphenyl
PDF = Project Design Feature
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
ppm = parts per million
PRC = Public Resources Code
PSR = Project Study Report
RCP = reinforced concrete pipe *or* RCP = Regional Comprehensive Plan
RMV = Rancho Mission Viejo
RWQCB = Regional Water Quality Control Board
SAMP = Special Area Management Plan
SB = Sound Barrier
SCAB = South Coast Air Basin
SCAG = Southern California Association of Governments
SCAQMD = South Coast Air Quality Management District
SCE = Southern California Edison
SDG&E = San Diego Gas and Electric
SFPA = Special Fire Protection Area
SMWD = Santa Margarita Water District
SR-241 = State Route 241
SR-74 = State Route 74
Sta. = Station
SWPPP = Storm Water Pollution Prevention Program
SWRCB = State Water Resources Control Board
TCMs = Transportation Central Measures
TDS = total dissolved solids
TMDL = total maximum daily load
TMP = Transportation Management Plan
TNM = Traffic Noise Model
tons/day = tons per day
TSCA = Toxic Substances Control Act
USFWS = United States Fish and Wildlife Service
v/c = volume-to-capacity (ratio)
VdB = vibration velocity decibel
VHFHSZ = Very High Fire Hazard Severity Zone
VHT = vehicle hours traveled
VMT = vehicle miles traveled
WDRs = Waste Discharge Requirements
WMU = Waste Management Unit
WQMP = Water Quality Management Plan