

Zone 2 Landslide Moratorium Ordinance Revisions

Recirculated
Draft Environmental Impact Report

Volume I: Draft EIR Text

prepared by
City of Rancho Palos Verdes
Community Development Department
30940 Hawthorne Boulevard
Rancho Palos Verdes, CA 90275
Contact: Octavio Silva, Senior Planner

prepared with the assistance of

Rincon Consultants, Inc.
180 N. Ashwood Avenue
Ventura, CA 93003

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EXECUTIVE SUMMARY

This section summarizes the characteristics of the proposed project and the environmental impacts, mitigation measures, and residual impacts associated with the proposed project.

PROJECT SYNOPSIS

Project Sponsor

City of Rancho Palos Verdes
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Contact: Octavio Silva, (310) 544-5234, octavios@rpvca.gov

Project Description

The proposed ordinance revisions would apply to the approximately 112-acre “Zone 2 Landslide Moratorium Ordinance”¹ area, located north of the intersection of Palos Verdes Drive South and Narcissa Drive in the Portuguese Bend area of the Palos Verdes Peninsula, within the City of Rancho Palos Verdes, County of Los Angeles, California. This area, located on the hills above the south-central coastline of the City, is in the City’s larger (approximately 1,200-acre) Landslide Moratorium Area (LMA). Zone 2 consists of 111 individual lots. Of these, 69 are developed with residences and accessory structures, 11 lots have obtained planning entitlements for development via Exception “P” and 31 are undeveloped lots or lots developed with structures other than residences. These latter 31 lots are the focus of this EIR.

Project Background. In 2002, a group of Portuguese Bend property owners filed a Landslide Moratorium Exception (LME) application to exclude their undeveloped lots within the area known as “Zone 2” from the LMA. Shortly after this application was deemed incomplete for processing, the applicants filed suit against the City. As part of the decision in the case (*Monks v. City of Rancho Palos Verdes*), the City was ordered to remove regulatory impediments in its Municipal Code that prevent the development of the 16 *Monks* plaintiffs’ lots. The City began this process with an Ordinance to allow the *Monks* plaintiffs to apply for LMEs for their lots. As of August 2019, eight *Monks* plaintiffs’ lots have been developed with residences and ancillary improvements with three additional lots currently in construction. In addition, the owner of one lot is currently pursuing building permit issuance while the remaining four lots have obtained LME permits that have subsequently expired. The City now desires to consider broader revisions to the Landslide Moratorium Ordinance that could also permit the owners of the other 31 undeveloped lots in Zone 2 to be developed with new residences. This would result in the possible future development of up to 31 new residences on existing legal lots in Zone 2 within the Portuguese Bend community.

¹ According to the June 1, 1993 “[Dr. Perry] Ehlig memo”, Zone 2 includes “Subdivided land unaffected by large historic landslides”. And, “Zone 2 includes about 130 acres within existing Tract 14195 and Tract 14500 (except lots 1, 2, 3 and 4, which are in the Portuguese Bend landslide), and the subdivided land served by Vanderlip Drive. It is an area of subdued topography within the central part of the large ancient landslide. Slopes of 5:1 and less prevail over most of the central and downhill parts of Zone 2. Slopes generally range between 5:1 and 3:1 in the uphill part”.



Landslide Moratorium Ordinance Revisions. Section 15.20.040 of the Rancho Palos Verdes Municipal Code establishes the process for requesting exceptions from the City's landslide moratorium regulations. The current (amended in 2009) Municipal Code Section 15.20.040(P) includes the following category of exception to the moratorium on "the filing, processing, approval or issuance of building, grading or other permits" within the existing landslide moratorium area:

The moratorium shall not be applicable to any of the following:...

- ...P. The construction of residential buildings, accessory structures, and grading totaling less than one thousand cubic yards of combined cut and fill and including no more than fifty cubic yards of imported fill material on the sixteen undeveloped lots in Zone 2 of the "Landslide Moratorium Area" as outlined in green on the landslide moratorium map on file in the Director's office, identified as belonging to the plaintiffs in the case "Monks v. City of Rancho Palos Verdes, 167 Cal. App. 4th 263, 84 Cal. Rptr. 3d 75 (Cal. App. 2 Dist., 2008)"; provided, that a landslide moratorium exception permit is approved by the Director, and provided that the project complies with the criteria set forth in Section 15.20.050 of this Chapter. Such projects shall qualify for a landslide moratorium exception permit only if all applicable requirements of this Code are satisfied, and the parcel is served by a sanitary sewer system. Prior to the issuance of a landslide moratorium exception permit, the applicant shall submit to the Director any geological or geotechnical studies reasonably required by the City to demonstrate to the satisfaction of the City geotechnical staff that the proposed project will not aggravate the existing situation.*

The proposed landslide moratorium ordinance revisions would revise the language of this section to encompass all 31 undeveloped lots in Zone 2, rather than restricting it to only the 16 *Monks* plaintiffs' lots. This would allow for the future submittal of LMEs for all of these undeveloped lots. It should be noted, however, that the granting of an LME does not constitute approval of a specific project permit request, but simply grants the property owner the ability to submit the appropriate entitlement application(s) for consideration of a specific project request.

Future Development Potential. The potential granting of up to 31 LME requests under the proposed ordinance revisions would permit individual property owners to then apply for individual entitlements to develop their lots. The undeveloped lots within Zone 2 are held in multiple private ownerships so the timing and scope of future development is not known. For the purposes of this EIR, it is assumed that development would occur over a period of at least 10 years from adoption of the ordinance revisions, in a manner consistent with the private architectural standards adopted by the Portuguese Bend Community Association and the City's applicable underlying RS-1 or RS-2 zoning regulations. Therefore, the future development assumptions for Zone 2 include the following:

- *31 one-story, ranch-style residences with attached or detached three-car garages, with minimum living area of 1,500 square feet and an approximate maximum living area of 4,000 square feet or 15% of gross lot area, whichever is less;*
- *Up to 1,000 cubic yards of grading (cut and fill combined) per lot, with no more than 50 cubic yards of imported fill and up to 1,000 cubic yards of export per lot;*
- *Maximum 25% (RS-1) or 40% (RS-2) net lot coverage;*
- *Maximum building height of 16 feet for residences and 12 feet for detached accessory structures;*



- *Minimum front setbacks of 20 feet, minimum rear setbacks of 15 feet, minimum street-side setbacks of 10 feet, and minimum interior side setbacks of five feet, with setbacks along private street rights-of-way measured from the easement line rather than the property line; and,*
- *No subdivision of existing lots within Zone 2.*

As noted above, the City has been ordered to remove regulatory impediments in its Municipal Code that prevent the development of the 16 *Monks* plaintiffs' lots. This was accomplished by the 2009 addition to the moratorium exceptions, cited above. This EIR considers the potential environmental impacts of buildout of the additional 31 undeveloped and underdeveloped lots within Zone 2 under the parameters listed above.

ALTERNATIVES

As required by Section 15126.6 of the *State CEQA Guidelines*, this EIR examines a range of reasonable alternatives to the proposed project. The following alternatives were evaluated:

- *Alternative 1: No Project - This alternative assumes that the Landslide Moratorium Ordinance revisions would not be adopted and that the 31 vacant parcels or undeveloped parcels would not be developed and would remain in their current condition.*
- *Alternative 2: Reduced Building Area Alternative - Similar to the proposed project, this alternative assumes that the proposed ordinance revisions would potentially allow up to 31 LME requests, which would permit individual property owners to then apply for individual entitlements to develop their lots. However, under this alternative the ordinance revisions would further restrict allowable development on each lot so that allowed building size would be reduced by approximately 38% and the amount of grading allowed for development would be reduced by 50%.*

Both alternatives would be environmentally superior to the proposed project. Alternative 1 would avoid all project impacts. Alternative 2 would incrementally reduce, but not eliminate, the significant effects of the project. Alternative 2 would meet the basic project objectives, but Alternative 1 would not.

AREAS OF CONTROVERSY/ISSUES TO BE RESOLVED

Based on public comments raised during the original scoping period on the Notice of Preparation, as well as the Notice of Preparation issued in 2018 for this updated Draft EIR, areas of controversy have been identified in several issue areas, most notably in relation to potential geologic hazards; area drainage and potential water quality impacts; and traffic, including construction and emergency access.

SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Table ES-1 summarizes the proposed project's significant environmental impacts, recommended mitigation, and residual impacts. Significant and unavoidable impacts have been identified in the area of traffic and circulation. The City would need to adopt a Statement of Overriding Considerations for these impacts if it approves the project.



Please note that a number of potential impacts are addressed in the Initial Study (Appendix A to the EIR), where they were determined to be less than significant without the need for mitigation measures or further analysis in the EIR. These include impacts related to:

- *Agricultural Resources*
- *Land Use and Planning*
- *Mineral Resources*
- *Population and Housing*
- *Public Services*
- *Recreation*

Please refer to the Initial Study, Appendix A to this EIR, for further information related to these issues.

**Table ES-1
Summary of Significant Environmental Impacts,
Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
AESTHETICS		
AES-1 The project area is located in a scenic public viewshed of the Pacific Ocean and the Palos Verdes hillsides and coastline. Individual lots and some private roads in the project area also have views of the ocean, hillsides and open space. However, with compliance with applicable standards of the RPVMC, the potential development of up to 31 new single-family residences would not have a substantial adverse effect on a scenic vista. This impact would be Class II, <i>less than significant with mitigation incorporated.</i>	Measures AES-3(a) and AES-3(b) under Impact AES-3 would ensure compliance with applicable provisions of the Section 17.02.030 of the RPVMC and PBCA architectural standards. Additional mitigation is not required.	Less than significant with mitigation incorporated.
AES-2 Parcels in Zone 2 contain vegetation of varying types and densities, and the development of residences on up to 31 undeveloped and underdeveloped private lots within the project area would likely result in the removal of mature trees and vegetation. Because tree groupings in the project area have been identified as scenic resources in the General Plan, impacts would be Class II, <i>less than significant with mitigation incorporated.</i>	AES-2 Avoidance of Tree Removal. As part of approvals for development on the individual subject lots, the City shall require that future development on the affected lots avoid removal of or substantial damage to existing trees to the extent feasible and provided that such trees do not obstruct views in accordance with Section 17.02.040 of the RPVMC. Where tree removal or substantial damage cannot be feasibly avoided during development, tree replacement shall be required using a ratio, stock, species and monitoring requirements sufficient to ensure a minimum 1:1 replacement five or more years after removal. When selecting replacement tree species, consideration should be given to species that, as they	Less than significant with mitigation incorporated.



Table ES-1
Summary of Significant Environmental Impacts,
Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Significance After Mitigation
	grow to full stature, would be less likely to result in obstruction of views for adjacent properties.	
AES-3 The potential development of additional residences in the Zone 2 project area would introduce new structures and new landscaping and hardscape on up to 31 open and mostly undeveloped sites throughout the Portuguese Bend community. This would incrementally increase the density of development throughout the 112-acre project area. Although the general land use pattern and scale and type of development would be maintained, impacts to the existing visual character and quality of the project area and its surroundings would be Class II, <i>less than significant with mitigation incorporated</i>	AES-3 Consistency with RPVMC Section 17.02.030. All new residences shall be consistent with the standards contained in Section 17.02.030 of the RPVMC or will be subject to the requirements of RPVMC Section 17.02.040. Prior to any grading or building permit issuance, all new residences shall be subject to neighborhood compatibility analysis under the provisions of Section 17.02.030.B (Neighborhood Compatibility) of the Rancho Palos Verdes Municipal Code to verify consistency.	Less than significant with mitigation incorporated.
AES-4 The proposed ordinance revisions would result in new sources of light and glare within the project area due to introduction of up to 31 new residences and associated lighting. Some of the new light and glare would be visible from public and private viewpoints. This would be a Class II, <i>less than significant impact with mitigation incorporated</i> .	AES-4 Exterior Illumination. Exterior illumination for new residences shall be subject to the provisions of Section 17.56.030 (Outdoor Lighting for Residential Uses) of the RPVMC. Key standards that must be adhered to include the following: <ul style="list-style-type: none"> <i>No outdoor lighting shall be permitted where the light source is directed toward or results in direct illumination of a parcel of property or properties other than that upon which such light source is physically located. Individual, nonreflector, incandescent light bulbs, not exceeding 150 watts each, or an aggregate of 1,000 watts for each lot or parcel shall be permitted. On lots exceeding 15,000 square feet, an additional 100 watts in the aggregate shall be permitted for each 1,500 hundred square feet of area or major fraction thereof, by which the lot or parcel exceeds 15,000 square feet; provided, that in no event shall the aggregate exceed 2,000 watts. As used herein, the term "watts" is irrespective of the voltage.</i> <i>No outdoor lighting shall be permitted where the light source or fixture, if located on a building, above the line of the eaves, or if located on a standard or pole, [is] more than 10' feet above grade.</i> 	Less than significant with mitigation incorporated.



Table ES-1
Summary of Significant Environmental Impacts,
Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Significance After Mitigation
AIR QUALITY		
<p>AQ-1 On-site construction activity would generate temporary air pollutant emissions. However, emissions would not exceed SCAQMD regional or LST construction thresholds for ROC, NO_x, CO, PM₁₀ and PM_{2.5}. Therefore, construction-related air quality impacts would be Class III, <i>less than significant</i>.</p>	<p>Construction emissions would not exceed SCAQMD regional or LST thresholds. Nevertheless, the following mitigation measures, consistent with RPVMC Section 17.56.020 and SCAQMD Rule 403, could be implemented to further reduce construction emissions.</p> <p>AQ-1(a) Fugitive Dust Control Measures. The following shall be implemented during construction to minimize fugitive dust emissions:</p> <ul style="list-style-type: none"> • <i>Soil with 5% or greater silt content that is stockpiled for more than two days must be covered and treated with soil binders to prevent dust generation.</i> • <i>Trucks transporting material must be tarped from the point of origin or must maintain at least two feet of freeboard.</i> • <i>Soil stabilizers must be applied to unpaved roads to prevent excess amounts of dust.</i> • <i>All material excavated or graded must be treated with soil binders preferably in the morning, midday and after work is done for the day.</i> • <i>Ground cover must be replaced in disturbed areas as quickly as possible.</i> • <i>All clearing, grading, earth moving, or excavation activities must cease during periods of high winds (i.e., greater than 20 mph averaged over one hour) so as to prevent excessive amounts of dust.</i> • <i>The contractor must provide adequate loading/unloading areas that limit track-out onto adjacent roadways through the utilization of wheel washing, rumble plates, or another method achieving the same intent.</i> • <i>All material transported off-site must be securely covered to prevent excessive amounts of dust.</i> • <i>Face masks must be used by all employees involved in grading or excavation operations during dry periods to reduce inhalation of dust</i> 	<p>Less than significant without mitigation.</p>



Table ES-1
Summary of Significant Environmental Impacts,
Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Significance After Mitigation
	<p><i>which may contain the fungus which causes San Joaquin Valley Fever.</i></p> <ul style="list-style-type: none"> <i>All residential units located within 500' of the construction site must be sent a notice regarding the construction schedule of the proposed project. A sign legible at a distance of 50' must also be posted in a prominent and visible location at the construction site, and must be maintained throughout the construction process. All notices and the signs must indicate the dates and duration of construction activities, as well as provide a telephone number where residents can inquire about the construction process and register complaints.</i> <i>Visible dust beyond the property line emanating from the project must be prevented to the maximum extent feasible.</i> <i>These control techniques must be indicated in project specifications. Compliance with the measure shall be subject to periodic site inspections by the City.</i> <p>AQ-1(b) Construction Vehicles. Trucks and other construction vehicles shall not park, queue and/or idle at the construction sites or in the adjoining public or private rights-of-way before 7:00 AM Monday through Friday and before 9:00 AM on Saturday, in accordance with the permitted hours of construction stated in Section 17.56.020.B of the RPVMC.</p>	
<p>AQ-2 Operation of new residences that could be built as a result of the proposed ordinance revisions would generate air pollutant emissions. However, emissions would not exceed SCAQMD operational significance thresholds for ROG, NO_x, CO, PM₁₀ and PM_{2.5}. Therefore, operational air quality impacts would be Class III, <i>less than significant</i>.</p>	<p>None required.</p>	<p>Less than significant without mitigation.</p>



Table ES-1
Summary of Significant Environmental Impacts,
Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Significance After Mitigation
AQ-3 Traffic that could be generated by new residences constructed as a result of adoption of the proposed ordinance revisions, together with cumulative traffic growth in the area, would not create carbon monoxide concentrations exceeding state or federal standards. Localized air quality impacts would therefore be Class III, <i>less than significant</i> .	Measures T-1(a-d) under Impact T-1 would reduce congestion at affected intersections.	Less than significant without mitigation.
AQ-4 Adoption of the proposed ordinance revision to allow 31 lots to be developed with single-family residences would have the potential to increase the City's population by approximately 84 persons. However, such growth would be a marginal increase above the City's existing population of 42,723 and population projections upon which the Air Quality Management Plan (AQMP) are based. Therefore, impacts associated with AQMP consistency for the project would be Class III, <i>less than significant</i> .	None required.	Less than significant without mitigation.
BIOLOGICAL RESOURCES		
BIO-1 Potential development that would be facilitated by the proposed ordinance revisions would not significantly affect special status species due to the lack of suitable habitat, level and frequency of existing human disturbance in the project area, and existing regulations under the Natural Overlay Control District (OC-1) that would restrict construction to areas not likely occupied by the San Diego desert woodrat. While the increased human presence is considered adverse, it would not be substantially different or increased over existing conditions, and no significant effect is anticipated. Therefore, impacts to Special Status Species would be Class III, <i>less than significant</i> .	None required.	Less than significant without mitigation.
BIO-2 Development of some of the undeveloped lots in Zone 2 has the potential to significantly impact existing or regrown Coastal Sage Scrub habitat, either through the direct removal of habitat during construction or as a result of Fire Department-mandated fuel modification on- and/or off-site (i.e., in the Reserves) after construction of	BIO-2 Habitat Mitigation. For lots identified as containing sensitive habitat on the City's most-recent vegetation maps and/or that abut any portion of the current or proposed future boundary of the Palos Verdes Nature Preserve, each applicant shall be required to prepare a biological survey, by a City-approved biologist, as part of a	Less than significant with mitigation incorporated.



Table ES-1
Summary of Significant Environmental Impacts,
Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Significance After Mitigation
new residences. In that event, effects to this sensitive plant community would be Class II, <i>less than significant with mitigation incorporated.</i>	complete application for the development of the lot. Said survey shall identify the presence or absence of sensitive plant and animal species identified in the City's adopted NCCP/HCP on the subject property, and shall quantify the direct and indirect impacts of construction of the residence upon such species, including off-site habitat impacts as a result of Fire Department-mandated fuel modification. The applicant and/or any successors in interest to the subject property shall be required to mitigate such habitat loss through the payment of a mitigation fee to the City's Habitat Restoration Fund in compliance with the NCCP/HCP Section 8.2.1.1 prior to issuance of any grading or building permit.	
BIO-3 Construction activities within five lots adjacent to Altamira Canyon could potentially affect jurisdictional drainage areas. This impact would be Class II, <i>less than significant with mitigation incorporated.</i>	<p>BIO 3(a) Agency Coordination. The City shall review each application for construction and determine if proposed development is within the drainage channel in Altamira Canyon. If so, the applicant shall be required to obtain permits, agreements, and/or water quality certifications or correspondence indicating that none are necessary from applicable state and federal agencies regarding compliance with state and federal laws governing work within jurisdictional waters. Such agencies would include the California Department of Fish and Wildlife, the United States Army Corps of Engineers, and the Los Angeles Regional Water Quality Control Board. The applicant shall provide such permits and/or agreements to the City prior to issuance of any grading or building permit.</p> <p>BIO-3(b)Habitat Restoration. In the event that an application for construction would result in the loss of riparian or wetland vegetation, the applicant shall restore such habitat at a minimum ratio of 2:1 for temporary loss and 3:1 for permanent loss. Such restoration can occur either on-site or in disturbed areas of the Palos Verdes Nature Preserve as determined and approved by the City.</p>	Less than significant with mitigation incorporated.



Table ES-1
Summary of Significant Environmental Impacts,
Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Significance After Mitigation
<p>BIO-4 No significant impacts are anticipated with respect to night lighting and noise given the existing residential use of the area. Although the regionally important habitat area (RIHA) is protected by the policies of the Natural Overlay Control District (OC-1), tree removal associated with development facilitated by the proposed project could affect birds including the California gnatcatcher. Impacts to nesting birds as a result of tree removal would be Class II, <i>less than significant with mitigation incorporated</i>.</p>	<p>BIO-4 Nesting Bird Surveys and Avoidance. The City shall require that tree pruning and removal be conducted outside of the bird breeding season (generally February 1 through August 31). If vegetation clearing (including tree pruning and removal) or other project construction is to be initiated during the bird breeding season, pre-construction nesting bird surveys shall be conducted by a City-approved biologist. To avoid the destruction of active nests and to protect the reproductive success of birds protected by MBTA and the Fish and Game Code of California, the nesting bird surveys shall be performed twice per week during the three weeks prior to the scheduled felling of the trees on the site. The surveys shall be conducted by a qualified biologist approved by the Community Development Director. If any active non-raptor bird nests are found, the tree(s) or vegetation shall not be cut down, a suitable buffer area (varying from 25-300 feet) depending on the particular species found, shall be established around the nest and avoided until the nest becomes inactive (vacated). If any active raptor bird nests are found, a suitable buffer area (typically 250-500 feet from the nest) depending upon the species, the proposed work activity, and existing disturbances associated with land uses outside of the site, shall be determined and demarcated by the biologist with bright orange construction fencing, flagging, construction lathe, or other means to mark the boundary. All construction personnel shall be notified as to the existence of the buffer zone and to avoid entering the buffer zone during the nesting season. No ground disturbing activities shall occur within this buffer until the City-approved biologist has confirmed that breeding/nesting is completed and the young have fledged the nest. Nesting birds surveys are not required for construction activities occurring from September 1 to January 31.</p>	<p>Less than significant with mitigation incorporated.</p>



Table ES-1
Summary of Significant Environmental Impacts,
Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Significance After Mitigation
BIO-5 The proposed ordinance revisions would not conflict with local policies or ordinances protecting biological resources. Impacts would be Class III, <i>less than significant</i> .	None required.	Less than significant without mitigation.
BIO-6 Potential development under the proposed ordinance revisions would have the potential to conflict with guidelines of the NCCP/HCP. Therefore, impacts would be Class II, <i>less than significant with mitigation incorporated</i> .	<p>BIO-6(a) Structure Location. To avoid the need for continued fuel management within the Filiorum Reserve, the City shall require that all structures for those lots abutting the Palos Verdes Nature Preserve property boundary are located at least 100 feet from that boundary.</p> <p>BIO-6(b) Perimeter Fences. As part of approvals for development on the individual subject lots, the City shall require that lots adjoining the Palos Verdes Nature Preserve are fenced sufficiently to prevent the ready egress of domestic animals into the Preserve. In addition, no gates or other means of ingress into the Palos Verdes Nature Preserve shall be permitted.</p> <p>BIO-6(c) Construction Best Management Practices. The following measures shall be required for those lots that abut the Palos Verdes Nature Preserve as part of construction monitoring for the site:</p> <ul style="list-style-type: none"> • <i>Contractors shall be educated regarding the off-site Preserve and the need to keep equipment and personnel on the construction site prior to the initiation of construction.</i> • <i>Temporary construction fencing shall be placed at the planned limits of disturbance adjacent to the Preserve.</i> • <i>Construction should be scheduled to avoid the bird nesting season (see Mitigation Measure BIO-4 above).</i> • <i>Construction grading adjacent to drainages shall be scheduled for the dry season whenever feasible.</i> <p>BIO-6(d) Construction Staging and Stockpiling Areas. Grading and building plans submitted for City review and approval for those lots abutting the Palos Verdes Nature Preserve shall identify areas for construction staging, fueling and stockpiling if needed. These areas shall be located as far as practical from the Palos Verdes Nature</p>	Less than significant with mitigation incorporated.



Table ES-1
Summary of Significant Environmental Impacts,
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Impact	Mitigation Measures	Significance After Mitigation
	Preserve and not closer than 50' from the Preserve.	
CULTURAL RESOURCES		
<p>CR-1 Potential development that the proposed ordinance revisions could facilitate on the undeveloped lots, which could include up to 1,000 cubic yards of grading per lot, has the potential to disturb as-yet undetected areas of prehistoric archaeological and/or tribal cultural significance. This is a Class II, <i>less than significant with mitigation incorporated.</i></p>	<p>CR-1 Cultural Resources Monitoring and Avoidance. Prior to the issuance of any grading permit, each applicant shall retain and pay for a City-approved qualified archaeologist to monitor all ground disturbance activities associated with the project including, but not limited to, grading, excavating, clearing, leveling and backfilling. The evaluation shall be conducted by an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for prehistoric archaeology (National Park Service 1983) and that is qualified to identify subsurface tribal cultural resources. The archaeologist shall observe all ground disturbing activities on construction sites at times that ground disturbance activities are taking place. If ground disturbance activities are simultaneously occurring at multiple locations in the project area, an archaeologist shall be required to monitor each location where the ground disturbance activities are occurring.</p> <p>Prior to the commencement of any ground disturbance activities at a construction site, the applicant, or its successor, shall notify any California Native American tribes that have informed the City that they are traditionally and culturally affiliated with the geographic area of the proposed project that ground disturbance activities are about to commence and invite the tribes to observe the ground disturbance activities, if the tribes wish to monitor.</p> <p>In the event that any subsurface objects or artifacts that may be tribal cultural resources are encountered during the course of the ground disturbance activities, all such activities shall temporarily cease in the area of discovery, the radius of which shall be determined by the qualified archaeologist, until the potential tribal cultural resources are properly assessed and addressed pursuant to</p>	<p>Less than significant with mitigation incorporated.</p>



Table ES-1
Summary of Significant Environmental Impacts,
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Impact	Mitigation Measures	Significance After Mitigation
	<p>the process set forth below:</p> <ol style="list-style-type: none"> 1. <i>Upon a discovery of a potential tribal cultural resource, an applicant, or its successor, shall immediately stop all ground disturbance activities, and contact the following: (1) all California Native American Tribes that have informed the City that they are traditionally and culturally affiliated with the geographic area of the proposed project; (2) and the City's Community Development Department, Planning Division.</i> 2. <i>If the City determines, pursuant to Public Records Code Section 21704 (a)(2), that the object or artifact appears to be a tribal cultural resource in its discretion and supported by substantial evidence, the City shall provide any affected tribe a reasonable period of time, not less than 14 days, to conduct a site visit and make recommendations to the applicant, or its successor, and the City regarding the monitoring of future ground disturbance activities, as well as the treatment and disposition of any discovered tribal cultural resources.</i> 3. <i>The applicant, or its successor, shall implement the tribe's recommendations if a qualified archaeologist, retained by the City and paid for by the applicant, or its successor, reasonably concludes that the tribe's recommendations are reasonable and feasible.</i> 4. <i>In addition to any recommendations from the applicable tribe(s), the applicant's City-approved qualified archaeologist shall develop a list of actions that shall be taken to avoid or minimize impacts to the identified tribal cultural resources substantially consistent with best practices identified by the Native American Heritage Commission and in compliance with any applicable federal, state, or local law, rule or regulation.</i> 5. <i>If the applicant, or its successor, does not accept a particular</i> 	



Table ES-1
Summary of Significant Environmental Impacts,
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Impact	Mitigation Measures	Significance After Mitigation
	<p><i>recommendation determined to be reasonable and feasible by the qualified archaeologist, the applicant, or its successor, may request mediation by the City's mediator. The mediator must have the requisite professional qualifications and experience to mediate such a dispute. The City shall make the determination as to whether the mediator is at least minimally qualified to mediate the dispute. After making a reasonable effort to mediate this particular dispute, the City may: (1) require the recommendation be implemented as originally proposed by the archaeologist; (2) require the recommendation, as modified by the City, be implemented as it is at least as equally effective to mitigate a potentially significant impact; (3) require a substitute recommendation to be implemented that is at least as equally effective to mitigate a potentially significant impact to a tribal cultural resource; or (4) not require the recommendation be implemented because it is not necessary to mitigate any significant impacts to tribal cultural resources. The applicant, or its successor, shall pay all costs and fees associated with the mediation.</i></p> <p>6. <i>The applicant, or its successor, may recommence ground disturbance activities outside of a specified radius of the discovery site, so long as this radius has been reviewed by a qualified archaeologist and determined to be reasonable and appropriate.</i></p> <p>7. <i>The applicant, or its successor, may recommence ground disturbance activities inside of the specified radius of the discovery site only after it has compiled with all the recommendations developed and approved pursuant to the process set forth in paragraphs 2 through 5 above.</i></p> <p>8. <i>Copies of any subsequent prehistoric archaeological study, tribal cultural resources study or</i></p>	



Table ES-1
Summary of Significant Environmental Impacts,
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Impact	Mitigation Measures	Significance After Mitigation
	<p><i>report, detailing the nature of any significant tribal cultural resources, remedial actions taken, and disposition of any significant tribal cultural resources shall be submitted to the South Central Coastal Information Center (SCCIC) at California State University, Fullerton and to the Native American Heritage Commission for inclusion in its Scared Lands File.</i></p> <p>9. <i>Notwithstanding paragraph 8 above, any information determined to be confidential in nature, by the City Attorney's Office, shall be excluded from submission to the SCCIC or the general public under the provisions of the California Public Records Act, California Public Resources Code.</i></p>	
CR-2 Grading for development that could be facilitated by the proposed ordinance revisions has low potential to disturb any paleontological resources. Impacts to paleontological resources would be Class III, <i>less than significant</i> .	None required.	Less than significant without mitigation.
CR-3 Grading for development that could be facilitated by the proposed ordinance revisions has the potential to disturb human remains, including those interred outside of formal cemeteries. With adherence to existing regulations that address discovery of human remains during grading and construction, impacts would be Class III, <i>less than significant</i> .	None required.	Less than significant without mitigation.
GEOLOGY		
GEO-1 Seismically-induced ground shaking could result in the exposure of people and structures that could be introduced to the area as a result of the proposed ordinance revisions to adverse effects. However, mandatory compliance with applicable CBC requirements would reduce impacts to a Class III, <i>less than significant</i> , level.	None required.	Less than significant without mitigation.
GEO-2 Construction on individual lots in Zone 2 facilitated by the proposed ordinance revisions could cause or accelerate erosion, such that slope failure could occur. Operation of the project, which would allow for 31 single-family homes to be developed	Measures HWQ-1 and HWQ-2 under Impacts HWQ-1 and HWQ-2 would reduce erosion during construction and require individual developers to comply with guidelines related to drainage and runoff, pursuant to the review and approval by the City Building Official.	Less than significant with mitigation incorporated.



Table ES-1
Summary of Significant Environmental Impacts,
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Impact	Mitigation Measures	Significance After Mitigation
in the project area, could potentially cause or accelerate downstream erosion. However, with implementation of Mitigation Measure HWQ-1 and Mitigation Measure HWQ-3 identified in Section 4.8, <i>Hydrology and Water Quality</i> , impacts would be Class II, <i>less than significant with mitigation incorporated</i> .	Additional mitigation is not required.	
GEO-3 The project area is located on a geologic unit that could be unstable or could potentially become unstable as a result of development facilitated by the proposed ordinance revisions. With implementation of mitigation measures GEO-3(a) and GEO-3(b), impacts would be Class II, <i>significant with mitigation incorporated</i> .	<p>GEO-3(a) Geotechnical Recommendations. Prior to issuance of any grading permit or building permit, individual project applicants shall comply with all recommendations contained within the Geotechnical Study prepared by LGC Valley, Inc., dated March 29, 2011, including the following, which shall be reflected in the geotechnical/soils reports for individual projects:</p> <ul style="list-style-type: none"> • <i>Conform to applicable requirements of the City of Rancho Palos Verdes Landslide Moratorium Ordinance (Rancho Palos Verdes Municipal Code Chapter 15.20.050, some of which are outlines below).</i> • <i>Limit grading to less than 1,000 cubic yards of grading (cut and fill combined including export and import) per lot, with no more than 50 cubic yards of imported fill per lot and 1,000 cubic yards of export.</i> • <i>Agree to participate in the Abalone Cove Landslide Abatement District and/or other recognized or approved districts whose purpose is to maintain the land in a geologically stable condition. No proposed building activity may cause lessening of stability in the zone.</i> • <i>Submit a geotechnical report to the City indicating what, if any, lot-local and immediately adjacent geologic hazards must be addressed and/or corrected prior to, or during construction. Said report shall specify foundation designs based on field and laboratory studies and must be approved by the City's geotechnical reviewers.</i> • <i>Limit post-construction lot infiltration and runoff rates and volume to pre-construction levels through use of</i> 	Less than significant with mitigation incorporated.



Table ES-1
Summary of Significant Environmental Impacts,
Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Significance After Mitigation
	<p><i>appropriate low impact development principles such as, but not limited to, detaining peak flows and use of cisterns, holding tanks, detention basins, bio-retention areas, green roofs, and permeable hardscape.</i></p> <ul style="list-style-type: none"> • <i>Connect all houses to a public sanitary sewer system maintained at the property owner's expense. Any necessary easements shall be provided.</i> • <i>Correct all lot drainage deficiencies, if any, identified by the Director of Public Works .</i> • <i>Correct runoff from all buildings and paved areas not infiltrated or retained/detained on-site to match existing pre-construction conditions and direct runoff to the street or to an approved drainage course as approved by the Director of Public Works.</i> • <i>Comply with all other relevant building code requirements.</i> <p>GEO-3(b) Covenant. Individual project applicants shall submit for recordation a covenant agreeing to construct the project strictly in accordance with the approved plans and agreeing to prohibit further development on the subject site without first filing an application with the Director pursuant to the terms of Chapter 15.20 of the RPVMC. Such covenant shall be submitted to the Director for recordation prior to the issuance of any grading or building permit.</p>	
<p>GEO-4 The project area is in a Seismic Hazard Zone for earthquake-induced landslides. Therefore, project area development would inherently be subject to risks associated with seismically-induced landslides. However, with implementation of mitigation measures GEO-3(a) and GEO-3(b) requiring design of potential new construction on each lot in compliance with site-specific geotechnical recommendations, impacts would be Class II, <i>less than significant with mitigation incorporated.</i></p>	<p>Measure GEO-3(a) would require each applicant to submit a geotechnical report for review and approval by the City's Geotechnical reviewers indicating any geologic hazards that need to be addressed and/or corrected prior to issuance of any grading or building permit. Measure GEO-3(b) would require each individual project applicant to record a covenant agreeing to construct the project strictly in accordance with the approved plans prior to issuance of any grading or building permit issuance.</p>	<p>Less than significant with mitigation incorporated.</p>



Table ES-1
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Impact	Mitigation Measures	Significance After Mitigation
GEO-5 The project area is not susceptible to liquefaction, ground lurching, lateral spreading or seismic settlement. Impacts would be Class III, <i>less than significant</i> .	None required.	Less than significant without mitigation.
GEO-6 Soils in the project area are moderately to highly expansive. With implementation of mitigation measures GEO-3(a) and GEO-3(b), impacts related to expansive soils would be Class II, <i>less than significant with mitigation incorporated</i> .	Measure GEO-3(a) requires that the project conform to the City of Rancho Palos Verdes Landslide Moratorium Ordinance, grade up to 1,000 cubic yards per lot, participate in ACLAD and/or other recognized or approved districts whose purpose is to maintain the land in a geologically stable condition, and submit a geotechnical report to the City's geotechnical reviewers prior to issuance of any grading or building permit. Measure GEO-3(b) would ensure that these geotechnical report recommendations are actually implemented into the project by requiring individual project applicants to record a covenant agreeing to construct the project strictly in accordance with the approved plans.	Less than significant with mitigation incorporated.
GREENHOUSE GAS EMISSIONS		
GHG-1 Development that could be facilitated by the proposed ordinance revisions would generate additional GHG emissions beyond existing conditions. However, GHG emissions generated by full development potential within Zone 2 would not exceed relevant significance thresholds. Further, the proposed project would be generally consistent with the City's ERAP, the SCAG Regional Transportation Plan/ Sustainable Communities Strategy (RTP/SCS), and the CARB 2017 Scoping Plan. Impacts would be Class III, <i>less than significant</i> .	None required.	Less than significant without mitigation.
FIRE PROTECTION		
FIRE-1 The project area is located in a Very High Fire Hazard Severity Zone and is adjacent to the Portuguese Bend and Filiorum Reserves subareas of the Palos Verdes Nature Preserve on the north, east and west. New residences constructed as a result of adoption of the proposed ordinance revisions could expose people or structures to risks associated with wildland fires.	FIRE-1(a) Fuel-Load Vegetation Management. Each applicant shall be required to prepare a fuel modification plan pursuant to the requirements of LACFD. The City will verify that the LACFD has reviewed and approved the plan prior to issuance of any building or grading permit. The fuel modification plan shall, at a minimum, include the following:	Less than significant with mitigation incorporated.



Table ES-1
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Impact	Mitigation Measures	Significance After Mitigation
Impacts would be Class II, <i>less than significant with mitigation incorporated.</i>	<ul style="list-style-type: none"> • <i>Vegetation clearance requirements around all new structures with a minimum 100' buffer, or greater, as determined by LACFD;</i> • <i>A landscaping plan using plants recommended for the Rancho Palos Verdes area and selected from the desirable plant list for setback, irrigated, or thinning zone; and</i> • <i>A regularly scheduled brush clearance of vegetation on and adjacent to all applicable access roads, power lines, and structures.</i> <p>FIRE-1(b) Fire Protection Requirements. Prior to any grading or building permit issuance, new single-family residences and related accessory structures shall be designed to incorporate all fire protection requirements of the City's most recently adopted Building Code, to the satisfaction of the Building Official.</p>	
HYDROLOGY AND WATER QUALITY		
<p>HWQ-1 During construction of the proposed project, the soil surface would be subject to erosion and the downstream watershed, including the Pacific Ocean, could be subject to temporary sedimentation and discharges of various pollutants. However, with implementation of Mitigation Measure HWQ-1, impacts relating to the potential for discharge of various pollutants, including sediment, would be Class II, <i>less than significant with mitigation incorporated.</i></p>	<p>HWQ-1 Construction pollution, sediment and erosion control. Prior to issuance of any grading or building permit, each applicant shall prepare a Low Impact Development (LID) plan for the review and approval of the City Building Official. The applicant shall be responsible for continuous and effective implementation of the plan during construction of each residence. The LID plan shall include Best Management Practices that may include, but not be limited to, the following:</p> <ul style="list-style-type: none"> • <u>Erosion Control.</u> <i>Eroded sediments from areas disturbed by construction and from stockpiles of soil shall be retained on-site to minimize sediment transport from the site to streets, drainage facilities or adjacent properties via runoff, vehicle tracking or wind. Utilize erosion control techniques, such as soil stabilizers, covering soil during construction, wind blocking devices, cease grading during high winds, use of soil binders (watering graded soils should be avoided), filtration devices, and stabilizing ingress/egress points. Reduce fugitive dust to the maximum extent practicable.</i> 	Less than significant with mitigation incorporated.



Table ES-1
Summary of Significant Environmental Impacts,
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Impact	Mitigation Measures	Significance After Mitigation
	<ul style="list-style-type: none"> • <i>BMPs. Erosion from slopes and channels shall be controlled by implementing an effective combination of BMPs (as approved in Regional Board Resolution No. 99-03), such as the limiting of grading scheduled during the wet season; inspecting graded areas during rain events; planting and maintenance of vegetation on slopes; and covering erosion susceptible slopes.</i> • <i>Pollutant Detainment Methods. Protect downstream drainages from escaping pollutants by capturing materials carried in runoff and preventing transport from the site. Examples of detainment methods that retard movement of water and separate sediment and other contaminants are silt fences, hay bales, sand bags, berms, silt and debris basins.</i> • <i>Construction Materials Control. Construction related materials, wastes, spills or residues shall be retained on-site to minimize transport from the site to streets, drainage facilities or adjoining properties by wind or runoff. Runoff from equipment and vehicle washing shall be contained at construction sites unless treated to remove sediment and pollutants. Non-stormwater runoff from equipment and vehicle washing and any other activity shall be contained at the construction site.</i> • <i>Recycling/Disposal. Maintain a clean site. This includes proper recycling of construction related materials and equipment fluids.</i> • <i>Construction Waste Disposal. Clean up and dispose of small construction wastes (i.e., dry concrete) in accordance with applicable regulations and requirements.</i> 	
HWQ-2 Development facilitated by the proposed ordinance revisions would incrementally increase the amount of impermeable surfaces in the project area, and potential new development would also generate various urban pollutants such as oil, herbicides and pesticides, which could adversely affect surface water quality. With implementation of	HWQ-2 NPDES Review. Any development proposal located within, adjacent to or draining into a designated Environmentally Sensitive Area (ESA) and involving the creation of two thousand five hundred square feet or more (> 2,500 SF) of impervious surface shall require review and approval by the City's National Pollutant Discharge Elimination System (NPDES)	Less than significant with mitigation incorporated.



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Impact	Mitigation Measures	Significance After Mitigation
Mitigation Measure HWQ-2, impacts related to surface water quality would be Class II, <i>less than significant with mitigation incorporated.</i>	consultant for compliance with applicable NPDES requirements prior to any grading or building permit issuance. Construction must comply with any required NPDES General Construction Permit requirements.	
<p>HWQ-3 Potential buildout under the proposed ordinance revisions would incrementally increase the amount of on-site impermeable surface, which could have the potential to increase storm water flows and create localized flooding. However, with implementation of Mitigation Measures GEO-3 (a and b) and HWQ-3, buildout under the ordinance revisions would result in a flow rate generally similar to existing conditions. Therefore, impacts related to storm water runoff would be Class II, <i>less than significant with mitigation incorporated.</i></p>	<p>HWQ-3 Drainage Plan. Prior to issuance of any grading or building permit, a Licensed Civil Engineer shall prepare a detailed hydrology study and drainage plan subject to approval by the Director of Public Works. The study/plan shall be paid for by the project applicant and shall address impacts to the proposed building site, as well as upstream and downstream properties. The analysis will follow the methodology outlined in the Los Angeles County Hydrology and Sedimentation Manual (latest edition), the Los Angeles County Low Impact Development Manual, and Los Angeles County Stormwater Best Management Practices Design and Maintenance Manual for preparation of the design calculations. Improvements will be based upon the policies and codes of the City. The drainage plan shall address impacts to the immediate vicinity as well as downstream facilities including culverts, roads, open drainage courses, and Altamira Canyon, and shall demonstrate that:</p> <ul style="list-style-type: none"> • <i>Post-construction lot infiltration and runoff rates and volume shall be made equal to pre-construction conditions through use of appropriate low impact development principles such as, but not limited to, detaining peak flows and use of cisterns, holding tanks, detention basins, bio-retention areas, green roofs and permeable hardscape.</i> • <i>Illustrate that point (concentrated) flow on each of the properties is either normalized, attenuated adequately, or will reach an acceptable conveyance such as a storm drain, channel, roadway or natural drainage course. All runoff shall be directed to an acceptable conveyance (one that is adequate to convey any increase in runoff without causing additional impacts such as flooding and erosion) and shall not be allowed to drain to</i> 	Less than significant with mitigation incorporated.



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Impact	Mitigation Measures	Significance After Mitigation
	<p><i>localized sumps or catchment areas with no outlet.</i></p> <ul style="list-style-type: none"> <i>Avoid changes to the character of the runoff at property lines. Changes in character include obstructing or diverting existing runoff entering the site, changing the depth and frequency of flooding, concentration of flow outletting onto adjacent properties or streets, and increasing the frequency or duration of runoff outletting onto adjacent properties or streets</i> <i>Minimize "Dry Weather" infiltration that could add to the total infiltration from the project.</i> <p>Runoff shall be infiltrated on-lot where feasible. However, because the area is subject to geotechnical hazards, any use of techniques involving infiltration will need the approval of a geotechnical engineer. Infiltration may be allowed on a lot by lot basis or consistent with existing conditions if no hazard is determined to exist. If runoff cannot be infiltrated, a combination of detention and infiltration of the change in runoff volume will mitigate some of the impacts due to hydromodification.</p> <p>Measures GEO-3 (a and b) would require storm drainage systems be designed to avoid increases in infiltration of stormwater to the satisfaction of the Director of Public Works.</p>	
HWQ-4 Potential development under the proposed ordinance revisions would incrementally increase the amount of on-site impermeable surface in the project area, which could affect the location and amount of groundwater infiltration. However, with adherence to existing regulations related to drainage design and with implementation of Measures GEO-3(a and b) and HWQ-3, impacts related to groundwater recharge would be Class II, <i>less than significant with mitigation incorporated.</i>	Mitigation beyond measures GEO-3 (a and b) and HWQ-3 is not required. These mitigation measures require on-site infiltration and management of precipitation such that runoff rates do not increase above existing conditions following development of a lot.	Less than significant with mitigation incorporated.
HWQ-5 Adoption of the proposed ordinance revisions would allow for the construction of up to 31 single-	HWQ-5 Standards of Construction in a Flood Zone D Area. Prior to issuance of any grading permit or building permit,	Less than significant with mitigation incorporated.



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Impact	Mitigation Measures	Significance After Mitigation
<p>family homes in the project area. Several of the single-family homes could be constructed in an area in which there is a potential for flood hazards. However, with implementation of Mitigation Measure HWQ-5, flooding impacts would be Class II, <i>less than significant with mitigation incorporated.</i></p>	<p>the applicant for any construction project located in an area designated as Zone D by FEMA shall comply with the following, pursuant to Section 15.42.120 of the RPVMC. Plans shall be reviewed and approved accordingly by the City Building Official prior to issuance of any grading or building permit:</p> <ul style="list-style-type: none"> • <i>All new construction shall be designed to be adequately anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy</i> • <i>All new construction shall be constructed with materials and utility equipment resistant to flood damage</i> • <i>All new construction shall be constructed using methods and practices that minimize flood damage</i> • <i>All new construction shall be constructed with electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding</i> 	
NOISE		
<p>N-1 Temporary project construction would intermittently generate high noise levels in and adjacent to the project area. This would be a Class III, <i>less than significant</i>, impact, though mitigation has been added to ensure compliance with applicable requirements. .</p>	<p>No mitigation measures are required, but the following measures would ensure compliance with the RPVMC's allowed construction days and hours, as well as with Portuguese Bend Community Association (PBCA) Architectural Conditions of Approval related to construction noise.</p> <p>N-1(a) Construction Schedule. Permitted hours and days of construction activity are 7:00 AM to 6:00 PM, Monday through Friday and 9:00 AM to 5:00 PM Saturday, with no construction activity permitted on Sundays or on the legal holidays specified in Section 17.56.020 of the Rancho Palos Verdes Municipal Code without a special construction permit.</p> <p>N-1(b) PBCA Conditions of Approval. All project area construction contractors shall comply with the</p>	<p>Less than significant without mitigation.</p>



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Impact	Mitigation Measures	Significance After Mitigation
	<p>following standard Portuguese Bend Community Association conditions:</p> <ul style="list-style-type: none"> • <i>Large truck deliveries must enter and exit from the Peppertree Gate. Semi-trucks allowed for heavy equipment delivery only. All other deliveries limited to 3 axle or smaller trucks.</i> • <i>Concrete Deliveries: Only one truck on-site at a time. Second and third trucks can stay on Narcissa or Sweetbay. No more than three trucks in PBCA at a time. All trucks must enter and exit through the Peppertree Gate.</i> • <i>Noise from radios or other amplified sound devices shall not be audible beyond the property</i> 	
N-2 Construction facilitated by the proposed ordinance revisions could generate intermittent levels of groundborne vibration affecting residences and other buildings near the project area. However, these impacts are temporary in nature and would not exceed thresholds. Therefore, impacts would be Class III, <i>less than significant</i> .	None required.	Less than significant without mitigation.
N-3 Traffic generated by the potential development of up to 31 new residences in Zone 2 would incrementally increase noise levels on area roadways. However, the increase in noise would not exceed significance thresholds and would therefore be Class III, <i>less than significant</i> .	None required.	Less than significant without mitigation.
TRAFFIC AND CIRCULATION		
Impact T-1 The potential increase in vehicles traveling on the surrounding roadway network from buildout under the proposed ordinance revisions would result in significant impacts at four of the study area intersections under existing plus project conditions. In addition, the increase in vehicle trips under cumulative conditions would result in significant impacts at five of the study area intersections. Mitigation Measures T-1(a) through T-1(d) would reduce impacts to a less than significant level at four of the five intersections that would experience significant impacts. However,	<p>T-1(a) Seahill Drive-Tramonto Drive/Palos Verdes Drive South. The City shall provide a two-way left-turn lane on Palos Verdes Drive South within five years of adoption of the Moratorium Ordinance revisions to better facilitate the northbound left-turn movement (i.e., from Seahill Drive) onto westbound Palos Verdes Drive South. (Note that this improvement is listed in the City of Rancho Palos Verdes General Plan Update).</p> <p>T-1(b) Narcissa Drive/Palos Verdes Drive South. The City shall provide a two-way left-turn lane on Palos Verdes Drive South, east of Narcissa Drive,</p>	Significant and unavoidable for the Via Rivera/ Hawthorne Boulevard intersection because, although installation of a traffic signal could mitigate the impact at that location, such a signal is not considered feasible at this time.



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Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Significance After Mitigation
<p>because feasible mitigation is not available at the Via Rivera/Hawthorne Boulevard intersection, the impact at that location would be Class I, <i>significant and unavoidable</i>.</p>	<p>within five years of adoption of the Moratorium Ordinance revisions to better facilitate the southbound left-turn movement (i.e., exiting from Narcissa Drive) onto eastbound Palos Verdes Drive South. The existing westbound left-turn lane at Narcissa Drive (which serves one single family home) shall also be converted to a two-way left-turn lane in order to provide a refuge area for exiting Narcissa Drive motorists to turn into and wait prior to accelerating to merge with the eastbound Palos Verdes Drive South traffic flow.</p> <p>T-1(c) Forrestal Drive/Palos Verdes Drive South. The City shall provide a two-way left-turn lane on Palos Verdes Drive South within five years of adoption of the Moratorium Ordinance revisions to provide a deceleration and storage area for left-turn vehicles traveling in either direction. (Note that this improvement is listed in the City of Rancho Palos Verdes General Plan Update).</p> <p>T-1(d) Palos Verdes Drive East/Palos Verdes Drive South. The City shall provide a two-way left-turn lane on Palos Verdes Drive South within five years of adoption of the Moratorium Ordinance revisions to provide a deceleration and storage area for left-turn vehicles traveling in either direction. (Note that this improvement is listed in the City of Rancho Palos Verdes General Plan Update).</p> <p>Installation of a traffic signal at the Via Rivera/Hawthorne Boulevard intersection could reduce the impact at that location to a less than significant level, as indicated in the Traffic Impact Study in Appendix G. This potential improvement is listed in the City of Rancho Palos Verdes General Plan Update. However, further study would be required to determine when a signal would be needed, how it would be funded, and whether it may have secondary effects that make it undesirable. Consequently, requiring a signal at the Via Rivera/Hawthorne Boulevard intersection is not considered</p>	



Table ES-1
Summary of Significant Environmental Impacts,
Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Significance After Mitigation
	feasible at this time.	
T-2 The proposed project would increase traffic levels along roadways in the vicinity of the project area and result in a significant impact at one of two study roadway segments under cumulative conditions. Although Mitigation Measure T-2 would reduce impacts to a less than significant level, this measure may be infeasible. Therefore, the impact to this roadway segment would remain Class I, <i>significant and unavoidable</i> .	T-2 Palos Verdes Drive South east of Narcissa Drive. Palos Verdes Drive South shall be converted from a 2-lane divided arterial to a 4-lane divided arterial. (Note that this improvement is listed in the City of Rancho Palos Verdes General Plan Update).	Significant and unavoidable because removal of bike lanes that would be required for the mitigation measure may not be feasible.
T-3 Based on Los Angeles County CMP criteria, impacts to CMP identified freeway monitoring segments and arterial intersections as a result of buildout under the proposed project would be Class III, <i>less than significant</i> .	None required.	Less than significant without mitigation.
T-4 Access to the project area during construction activity and during the operational phase of the project would be provided via Palos Verdes Drive South. Although construction traffic would be temporary, it could potentially exceed City significance thresholds during peak construction periods. Mitigation would reduce, but not avoid this potential. Therefore, temporary construction impacts related to access and circulation would be Class I, significant and unavoidable.	<p>T-4(a) Maintain Access. Maintain existing access for land uses in proximity to the project area.</p> <p>T-4(b) Lane Closure Restrictions. Limit any potential lane closures to off-peak travel periods.</p> <p>T-4(c) Material Deliveries. Schedule receipt of construction materials during non-peak travel periods and coordinate deliveries to reduce the potential of trucks waiting to unload for extended periods of time.</p> <p>T-4(d) Parking Restrictions. Prohibit parking by construction workers on adjacent streets and direct construction workers to available parking as determined in conjunction with City staff.</p>	Significant and unavoidable.
T-5 Development facilitated by the proposed project would not conflict with adopted policies, plans, or programs supporting alternative transportation. Impacts relating to alternative transportation would be Class III, <i>less than significant</i> .	None required.	Less than significant without mitigation.
UTILITIES AND SERVICE SYSTEMS		
U-1 Wastewater conveyance and treatment systems are adequate to serve the potential for up to 42 new residences to be built in the project area. However, the 31 individual	U-1(a) Participation in Geotechnical Hazard Abatement. Future project area applicants shall participate in existing or future geological and geotechnical hazard abatement measures required	Less than significant with mitigation incorporated.



Table ES-1
Summary of Significant Environmental Impacts,
Mitigation Measures, and Residual Impacts

Impact	Mitigation Measures	Significance After Mitigation
new residences that could be constructed under the proposed ordinance revisions would require the extension of wastewater conveyance facilities. This impact would be Class II, <i>less than significant with mitigation incorporated.</i>	by the City, including but not limited to any easement required by the City to mitigate landslide conditions. Compliance with such measures shall be verified by the Director prior to the issuance of any grading or building permit. U-1(b) Review and, as Necessary, Upgrade of Project Area Sewer System. The City shall update the Abalone Cove Sewer Capacity Report biannually. If deficiencies in the project area sewer system are identified as part of the biannual update, such deficiencies shall be corrected to the satisfaction of the City prior to or in conjunction with any future project area development that would add to or be affected by such deficiencies.	
TRIBAL CULTURAL RESOURCES		
Impact TCR-1 Potential development that the proposed ordinance revisions could facilitate on the undeveloped lots, which could include up to 1,000 cubic yards of grading per lot, has the potential to disturb as-yet undetected areas of tribal cultural significance. This is a Class II, <i>less than significant with mitigation incorporated, impact.</i>	See Measure CR-1 in Section 4.4, <i>Cultural Resources.</i>	Less than significant.

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1.0 INTRODUCTION

This document is a recirculated Draft EIR that examines the environmental effects of the proposed Zone 2 Landslide Moratorium Ordinance revisions, which involve changes to Section 15.20.040 of the City of Rancho Palos Verdes Municipal Code that would establish an exception category to allow for the future residential development on 31 undeveloped lots located in Zone 2 of the existing Landslide Moratorium Area. Specifically, the existing individual lots that would gain development potential as a result of the proposed project are located in the Portuguese Bend community. The proposed ordinance revisions to the City's Municipal Code would be subject to applicable policies of the Rancho Palos Verdes General Plan, adopted in 2018.

This section discusses: (1) the environmental impact report (EIR) background; (2) the legal basis for preparing an EIR; (3) the scope and content of the EIR; (4) lead, responsible, and trustee agencies; and (5) the environmental review process required under the California Environmental Quality Act (CEQA). The proposed project is described in greater detail in Section 2.0, *DfcYWS YGJdhjcb*.

1.1 ENVIRONMENTAL IMPACT REPORT BACKGROUND

The Municipal Code revisions studied in this EIR are similar to those raised in the past are regulatory takings case regarding properties in Zone 2 of the area subject to the City's landslide ordinance. In July 2002, the plaintiffs in the case (John Monks et al.) filed an inverse condemnation action against the City of Rancho Palos Verdes, alleging that the City had exacted a regulatory taking under the California Constitution (Cal. Const., art. I, § 19) by enacting a resolution that precluded them from building homes on their vacant lots and requiring a costly geotechnical study of all of Zone 2. Following a series of legal rulings, the parties settled the plaintiffs' temporary takings claim and the City paid the plaintiffs \$4.25 million. The City also amended the Municipal Code to include the Exception "P" Category to allow the property owners involved in the Monks case to build on their properties, subject to conditions.

Following adoption of the Exception Category "P" for the Monks lots, the City initiated the CEQA review to consider expansion of the Exception Category "P" to allow development of other lots in Zone 2.

A Notice of Preparation (NOP) of an EIR was distributed for a 30-day agency- and public-review period, along with the draft Initial Study, on January 3, 2011. The Initial Study concluded that the proposed project required an EIR due to the possibility of significant and unavoidable impacts in several environmental issue areas. The City received 25 letters in response to the NOP. The Initial Study, NOP, and NOP comment letters are presented in Appendix A to this EIR. In addition, the City Council received 6 public comments at a scoping session regarding the NOP and Initial Study held on February 1, 2010. A summary of the environmental topics of concern discussed in the comment letters and at the 2011 public scoping session follows in Table 1-1.

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A Draft EIR was circulated for a 60-day public review period that began on September 21, 2012, and concluded on November 20, 2012. Following the public review period the City prepared a Final EIR (dated March 2014), including responses to comments received on the Draft EIR. The City Council held public hearings on the project and EIR in 2014, but the EIR was never certified and the exception to the category was never approved.

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In 2018, the City decided to reconsider amending the exception categories to allow the remaining 31 lots within Zone 2 to be developed with residences and to reinitiate the CEQA review. Thus, the City prepared and circulated another NOP in November 2018. The purpose of this NOP was to inform those interested that as the CEQA Lead Agency, the City of Rancho Palos Verdes is recirculating an updated Draft EIR for this project. This document is the update Draft EIR for the project. The updated and recirculated Draft EIR reflects current conditions and reestablishes the baseline for analysis as November 2018 when the new NOP was circulated. Baseline information used in this Draft EIR has been updated to reflect current conditions and the project's impacts are compared to the November 2018 baseline.

The NOP was circulated for a 30-day period, ending on December 12, 2018. The City received 24 letters in response to the 2018 NOP, pertaining generally to the same subjects presented above in Table 1-1. A copy of this NOP and NOP comment letters are also presented in Appendix A to this EIR, alongside the original NOP circulated in January 2011.

1.2 PURPOSE AND LEGAL AUTHORITY

The proposed project requires the discretionary approval of the City of Rancho Palos Verdes City Council. The project is also subject to the environmental review requirements of CEQA. In accordance with Section 15121 of the 79E 5 ; i |XY|bYg the purpose of this EIR is to serve as an informational document that:

""k]`]bzfa `di V]W[YbWXYWjcb|a U`YgUbXhYdi V]WYbYfU`ncZhYg[b|ZWbh
Ybj |fcha YbHU`YZZMg`cZUdfc`WM`|Xbh|Zndcg|VYk Ung`c`a |b|a |nYhYg[b|ZWbh
YZZMg`UbXXYgM|VYfYgcbUVYUhfUbj Yg`c`hYdfc`WM`

This EIR has been prepared as a Project EIR pursuant to Section 15161 of the 79E 5 ; i |XY|bYg`
A Project EIR is appropriate for this project, as the legislative planning decision will lead to future development. The Zone 2 proposed Landslide Moratorium Ordinance revisions are a legislative planning decision. As stated in the 79E 5 ; i |XY|bYg

H|g`hmlYcZ9=F`g`ci`XZ`Wg`df|a Uf|`nicb`hYWUb[Yg|b`hY`Ybj |fcha Ybhl`Uhk ci`X
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|bW`X|b|`d`Ubb|b|`Z`Wbgfi WjcbZUbXcdYUjcb`

This EIR is to serve as an informational document for the public and City of Rancho Palos Verdes decision-makers. The process will culminate with a City Council hearing to consider certification of a Final EIR and approval of the proposed Landslide Moratorium Ordinance Revision.

1.3 SCOPE AND CONTENT

This EIR addresses potential impacts of several issue areas identified by the Initial Study to be potentially significant. The following issues were found to include potentially significant impacts and are studied in the EIR:



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- Ā :|fYDfchWjcb`
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- Ā ;fYb\ci gY; Ug9a |gg|cbg`
- Ā <nXc`c[miUbXK UhfEiU]mi
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- Ā HfUbgdchUjcb#7|fWUjcb`
- Ā I h`|hYgUbXGYfj jWgGngYā g`

All other issues are addressed in the Initial Study in Appendix A. As indicated in the Initial Study, there is no evidence that significant impacts would occur in any issue areas not listed above.

In preparing the EIR, use was made of pertinent City policies and guidelines, certified EIRs and adopted CEQA documents, and background documents prepared by the City. A full reference list is contained in Section 7.0, *FYZfYbWgUbXFYkchDfYdUfYg*

The alternatives section of the EIR (Section 6.0) was prepared in accordance with Section 15126.6 of the 79E 5 ; i |XY|bYg`The alternatives discussion evaluates the CEQA-required “no project” alternative and alternative development scenarios for the site. It also identifies the environmentally superior alternative among the alternatives assessed.

The level of detail contained throughout this EIR is consistent with the requirements of CEQA and applicable court decisions. The 79E 5 ; i |XY|bYg`provide the standard of adequacy on which this document is based. The ; i |XY|bYg`state:

5b9=F`g`ci`XWYdfYdUfYXk|h`Ug`ZfWbYhXj`fYcZUbUng|g`h`dfcj|XYXWjcb|a`U`Yf`g`k|h`|bZfa`Ujcb`k`|WYbUfYgh`Yā`h`a`U`YUXWjcb`k`|W|bY`|`|YbhmU`YgUWā`bhi`cZYbj`|fcha`YbHU`Wbgēi`YbWg`5b`Yf`Ui`Ujcb`cZh`YbYbj`|fcha`YbHU`YZWg`cZh`Y`dfcdcgYXdfc`YWbYXbchYfY`U`g`h`Y`V`h`h`Yg`ZfWbWcZUb`9=F`|g`h`VfYf`|Yk`YX|b`|`|`h`cZk`|U|g`fYUgcbUfYmZUgVY`8`|gU`fYā`Ybhlā`cb|`Y`dYfYg`XcYg`bchia`U`YU`b`9=F`|bUXēi`UhZV`h`h`Y9=F`g`ci`Xg`a`a`Uf`nYh`Ya`U`b`c`|bYg`cZUgU`fYā`Ybhlā`cb|`h`Y`Y`dYfYg`H`YWā`fYg`U`Y`cc`YXbchZf`dYfZWjcbZVi`hZf`UXēi`UWā`Wā`d`Yh`bYg`UbXU`[ccXZU|h`YZfchUhZ`X`gWg`fY`fCYWjcb`%`%`%`L`

1.4 LEAD, RESPONSIBLE, AND TRUSTEE AGENCIES

The 79E 5 ; i |XY|bYg`define lead, responsible and trustee agencies. The City of Rancho Palos Verdes is the lead agency for the project because it holds principal responsibility for approving the project. Responsible and trustee agencies for the purposes of CEQA, and other entities in addition to the City of Rancho Palos Verdes (Lead Agency) that may use this EIR in their decision-making process or for informational purposes include, but may not be limited to, the following:

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- Ā 7ci`bhmZ@c`g5b|`YgDi`V|WK`cf`g`
- Ā 7ci`bhmZ@c`g5b|`YgDi`V|WK`cf`g`Ī`9bj`|fcha`YbHU`A`UbU`Yā`Yb`



- Ā 7ci blmĠUb|lHŋcb`8 |gf|WŋcZ@cŋ5b| Yŋŋ7ci blm'
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- Ā DUcŋJ YXŋŋ@|Mŋfm8 |gf|Wŋ'
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- Ā Gci h`7clŋh5|f`Ei U|lmA UbU Ya Ybh8 |gf|Wŋ'
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- Ā GHŋYcZ7U|Zfb|U8 ŋlUfa YbhicZHFUbgkcfHŋcb/'
- Ā GHŋYK UŋF`Yŋci fWŋŋ7cbffc`6clFX'
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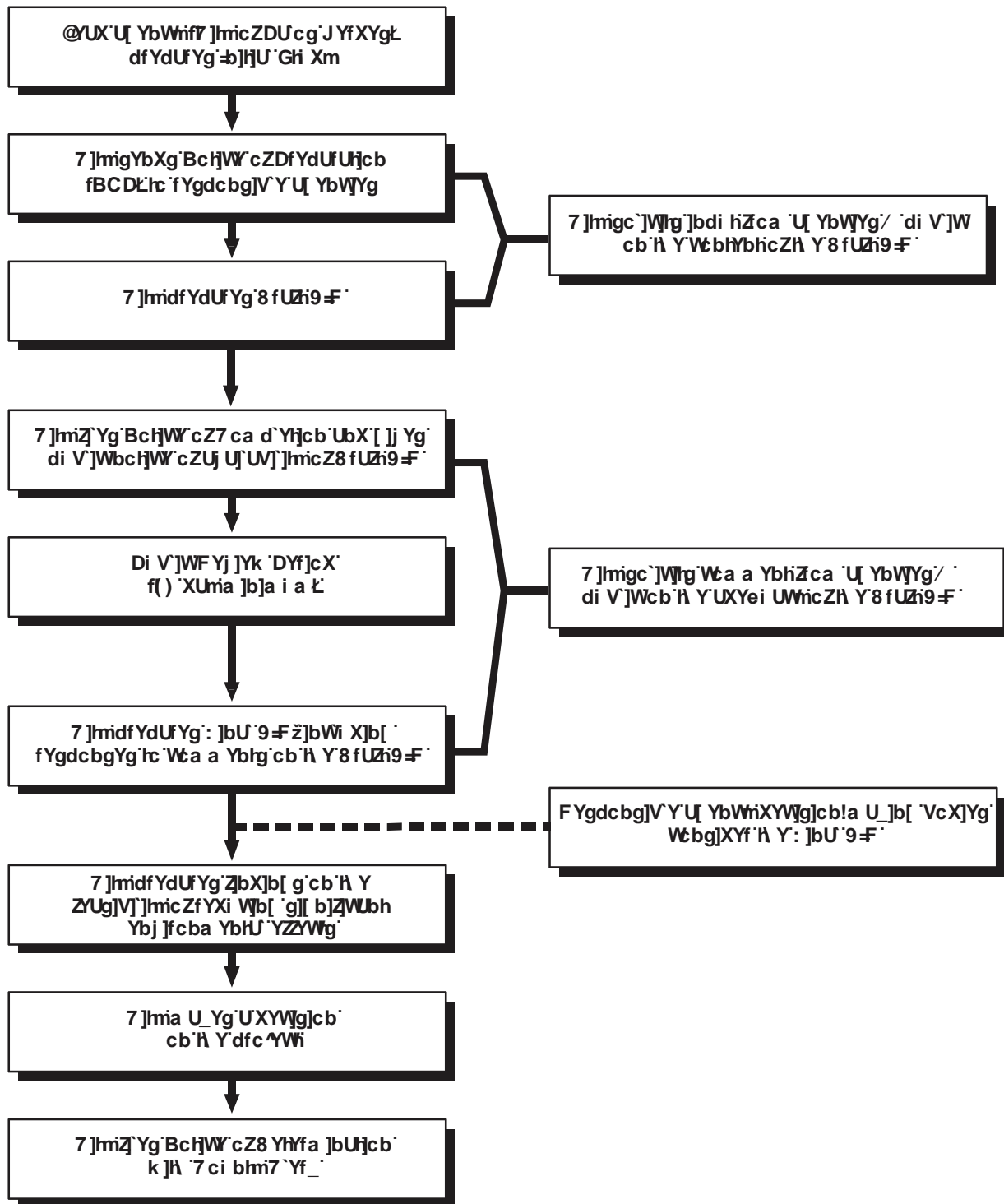
1.5 ENVIRONMENTAL REVIEW PROCESS

The major steps in the environmental review process, as required under CEQA, are outlined below and illustrated on Figure 1-1. The steps are presented in sequential order.

1. **Notice of Preparation (NOP).** After deciding that an EIR is required, the lead agency (City of Rancho Palos Verdes) must file an NOP soliciting input on the EIR scope to the State Clearinghouse (if the project is of statewide, regional or areawide significance pursuant to CEQA Guidelines Section 15206, which this project is not), other concerned agencies, and parties previously requesting notice in writing *fŋ79E 5 ; i |XY|bYg* Section 15082; Public Resources Code Section 21092.2). The NOP must be posted in the County Clerk's office for 30 days. The NOP may be accompanied by an Initial Study that identifies the issue areas for which the proposed project could create significant environmental impacts.
2. **Draft Environmental Impact Report (DEIR) Prepared.** The DEIR must contain: a) table of contents or index; b) summary; c) project description; d) environmental setting; e) discussion of significant impacts (direct, indirect, cumulative, growth-inducing and unavoidable impacts); f) a discussion of alternatives; g) mitigation measures; and h) discussion of irreversible changes.
3. **Notice of Completion.** The lead agency files a Notice of Completion with the State Clearinghouse when it completes a Draft EIR and prepares a Public Notice of Availability of a Draft EIR. The lead agency must place the Notice in the County Clerk's office for 30 days (Public Resources Code Section 21092) and send a copy of the Notice to anyone requesting it *fŋ79E 5 ; i |XY|bYg* Section 15087). Additionally, public notice of DEIR availability must be given through at least one of the following procedures: a) publication in a newspaper of general circulation; b) posting on and off the project area; and c) direct mailing to owners and occupants of contiguous properties. The lead agency must solicit input from other agencies and the public, and respond in writing to all comments received (Public Resources Code Sections 21104 and 21253). The minimum public review period for a DEIR is 30 days. When a Draft EIR is sent to the State Clearinghouse for review, the public review period

must be 45 days unless the Clearinghouse (Public Resources Code 21091) approves a shorter period.

4. **Final EIR.** A Final EIR must include: a) the Draft EIR; b) copies of comments received during public review; c) list of persons and entities commenting; and d) responses to comments.
5. **Certification of FEIR.** Prior to making a decision on a proposed project, the lead agency must certify that: a) the FEIR has been completed in compliance with CEQA and reflects the independent judgment of the City; b) the Final EIR was presented to the decision-making body of the lead agency; and c) the decision-making body reviewed and considered the information in the Final EIR prior to approving a project *f79E 5 ; i jXY/bYg*Section 15090).
6. **Lead Agency Project Decision.** The lead agency may: a) disapprove a project because of its significant environmental effects; b) require changes to a project to reduce or avoid significant environmental effects; or c) approve a project despite its significant environmental effects, if the proper findings and statement of overriding considerations are adopted *f79E 5 ; i jXY/bYg*Sections 15042 and 15043).
7. **Findings/Statement of Overriding Considerations.** For each significant impact of the project identified in the EIR, the lead agency must find, based on substantial evidence, that either: a) the project has been changed to avoid or substantially reduce the magnitude of the impact; b) changes to the project are within another agency's jurisdiction and such changes have or should be adopted; or c) specific economic, social, or other considerations make the mitigation measures or project alternatives infeasible *f79E 5 ; i jXY/bYg*Section 15091). If an agency approves a project with unavoidable significant environmental effects, it must prepare a written Statement of Overriding Considerations that sets forth the specific social, economic, or other reasons supporting the agency's decision.
8. **Mitigation Monitoring and Reporting Program.** When the lead agency makes findings on significant effects identified in the EIR, it must adopt a reporting or monitoring program for mitigation measures that were adopted or made conditions of project approval to mitigate significant effects.
9. **Notice of Determination.** The lead agency would file a Notice of Determination after deciding to approve a project for which an EIR is prepared (CEQA Guidelines Section 15094). A local agency must file the Notice with the County Clerk. The Notice must be posted for 30 days and sent to anyone previously requesting notice. Posting of the Notice starts a 30-day statute of limitations on CEQA legal challenges (Public Resources Code Section 21167[c]).



CEQA Environmental Review Process

Figure 1-1

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2.0 PROJECT DESCRIPTION

This section describes the project location, characteristics of the site and the proposed development, project objectives, and the approvals needed to implement the project.

2.1 PROJECT SPONSOR

City of Rancho Palos Verdes

Community Development Department

30940 Hawthorne Boulevard

Rancho Palos Verdes, CA 90275

Contact: Octavio Silva Senior Planner, (310) 544-5234 or by email at Octavios@rpvca.gov 5228

2.2 PROJECT LOCATION

The project involves an ordinance revision that would apply to the approximately 112-acre "Zone 2 Landslide Moratorium Ordinance" area, located north of the intersection of Palos Verdes Drive South and Narcissa Drive in the Portuguese Bend area of the Palos Verdes Peninsula, within the City of Rancho Palos Verdes, County of Los Angeles, California. This area, located in the hills above the south-central coastline of the City, is within the City's larger (approximately 1,200-acre) Landslide Moratorium Area (LMA). Zone 2 consists of 111 individual lots. Of these, 72 lots are developed with residences and accessory structures (including 8 Monks Plaintiffs' lots), 3 additional lots are currently in construction, the owner of 1 lot is currently pursuing building permit issuance, owners of 4 lots have obtained Landslide Moratorium Exception (LME) permits that have subsequently expired, and 31 are undeveloped lots with no entitlements. These latter 31 are the focus of this EIR. Figure 2-1 shows the regional vicinity of the project area within Los Angeles County. Figure 2-2 shows the site's location in the City of Rancho Palos Verdes and also identifies the 31 undeveloped lots in the Portuguese Bend community.

2.3 CURRENT LAND USE AND REGULATORY SETTING

2.3.1 Current Land Use

Of the 111 lots in the 112-acre project area (the Zone 2 area), most of the developed lots are improved with single-family residences, most dating from the 1950s, and related accessory structures and uses. The largest developed lot in Zone 2 is occupied by the Portuguese Bend Riding Club, a legal nonconforming commercial stable that was established prior to the City's incorporation in 1973. Private streets in Zone 2 are maintained by the Portuguese Bend Community Association. Most of the undeveloped lots contain non-native vegetation, and some have small, non-habitable structures (e.g., sheds, stables, fences, etc.) for equestrian or horticultural uses. The lots are generally between ¼-acre and one acre or more in size. Figures 2-3a through c show existing conditions in the project area.

This is a detailed topographic map of the Rolling Hills area in Los Angeles. The map features contour lines indicating elevation, with major peaks reaching over 1000 feet. A red outline highlights a specific area in the center, near Portuguese Bend and Abalone Cove. Key landmarks include the Rolling Hills Estates, Portuguese Bend Riding Club, and the Abalone Cove. The map also shows various roads, including the 101 Freeway and the 10 Freeway, and several smaller roads like the 101 Freeway and the 10 Freeway. The map is oriented with North at the top, and the coastline is visible at the bottom. The map is labeled with various geographical features, including the Rolling Hills, Portuguese Bend, and Abalone Cove. The map is also labeled with various landmarks, including the Rolling Hills Estates, Portuguese Bend Riding Club, and the Abalone Cove. The map is oriented with North at the top, and the coastline is visible at the bottom. The map is labeled with various geographical features, including the Rolling Hills, Portuguese Bend, and Abalone Cove. The map is also labeled with various landmarks, including the Rolling Hills Estates, Portuguese Bend Riding Club, and the Abalone Cove.

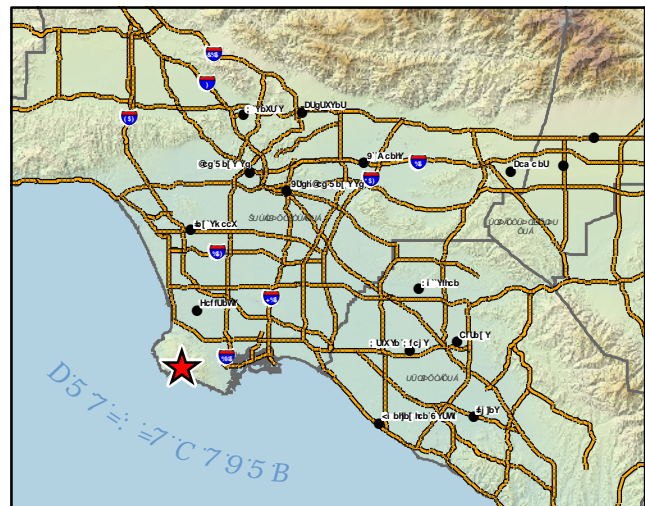
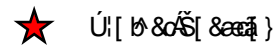


Figure 2-1



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Existing Conditions in the Project Area

Figure 2-3a



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Existing Conditions in the Project Area

Figure 2-3b





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Existing Conditions in the Project Area

Figure 2-3c



2.3.2 Surrounding Land Uses

The entire Landslide Moratorium area is divided into the eight zones listed below (as identified in the June 1, 1993 “[Dr. Perry] Ehlig memo”):

- Ā NcbY%! I bgj Vxj |XX`UbXi bUZZMMXVni`Uf[Y\|gcf|WUbXg|Xg`UbX`cWXXi d\|`cf`lc`h`Y k YhcZg Vxj |XXUFYg`fUci h)) S`UMYg`.
- Ā NcbY&! Gi Vxj |XX`UbXi bUZZMMXVni`Uf[Y\|gcf|WUbXg|Xg`fUci h%&UMYg`.
- Ā NcbY` ! I bgj Vxj |XX`UbXi bUZZMMXVni`Uf[Y\|gcf|WUbXg|Xg`UbX`cWXXgYk fXcZ Gk YHhFcdXfUci h%` UMYg`.
- Ā NcbY(! @UbXUZZMMXVni`h`Y? `cbX`Y7Ubncb` `UbXg|XYUbXUXUWh`UbX|bW`XX|b`h`Y ? `cbX`Y7Ubncb`; Y`c|JW`UHF5UHa Ybh8 |g|fUfUci h%\$\$UMYg`.
- Ā NcbY) ! @UbXUZZMMXVni`h`Y5UcbY7cj Y`UbXg|XYUbXUXUWh`UbXk`YfYa |bcf`a`cj Ya Ybh` \UgcWffYXX Ylc`cgczUmfU`g ddcfhfUci h` S`UMYg`.
- Ā NcbY* ! H`Yi d\|`zk Ygf`mUbXWbfU`dUfgcZh`YDcfh [i YgY6YbX`UbXg|Xzk`YfY a`cj Ya YbhWb`Yg`ddYXh`fci [\`a`|h| Ujcb`k`|h`ci hfYei |f|b| `g`cfY|bYdfchWjcb`fUci h`&\$` UMYg`.
- Ā NcbY+ ! H`YgYk fXcdUfhcZh`YDcfh [i YgY6YbX`UbXg|Xyk`YfYWb`f`cZa`cj Ya Ybh`fYei |fYg` g`cfY|bYdfchWjcb`fUci h+) UMYg`.
- Ā NcbY, ! @UbXUZZMMXVni`h`Y: `njb|`Hf|Ub|`Y`UbXg|XY|bW`X|b|`|a`a`YjUYmUXUWh`UbX`fUci h`& UMYg`.

The approximately 112-acre Zone 2 area is primarily surrounded by open space and semi-rural residential development. The Zone 2 area, as described in the June 1, 1993 “[Dr. Perry] Ehlig memo”, includes about 130 acres within existing Tract 14195 and Tract 14500 (except lots 1, 2, 3 and 4 which are in the Portuguese Bend landslide), and the subdivided land served by Vanderlip Drive. It is an area of subdued topography within the central part of the large ancient landslide. Slopes of 5:1 and less prevail over most of the central and downhill parts of Zone 2. Slopes generally range between 5:1 and 3:1 in the uphill part.

To the northeast of the project area are developed residential lots in the Portuguese Bend community, as well as City-owned open space in the Portuguese Bend Reserve of the Palos Verdes Nature Preserve, both of which are within Zone 1 of the Landslide Moratorium Area. To the northwest and west of the project area are developed residential lots in the Portuguese Bend community and vacant, residentially-zoned land (Upper and Lower Filiorum) located in Zone 1 of the Landslide Moratorium Area. To the south, southeast and east of the project area are developed and undeveloped residential lots in the Portuguese Bend community and located in Zone 5, Zone 6 (the active Portuguese Bend landslide area), and Zone 3 (located between Altamira Canyon and the westerly edge of the Portuguese Bend landslide area). Individual lots that would gain development potential as a result of the proposed project are located throughout Zone 2 and are therefore surrounded by the uses described above as well as other lots, both developed and undeveloped, in Zone 2.

2.3.3 Land Use Regulatory Overview

City of Rancho Palos Verdes General Plan. The proposed ordinance revisions would be subject to applicable policies of the Rancho Palos Verdes General Plan, which was adopted, as an updated document, in 2018. The project area has General Plan land use designations of Residential <= 1 Dwelling Unit per Acre and Residential 1 to 2 Dwelling Units per Acre. These designations are defined in the General Plan as follows:

1 Dwelling Unit per Acre. " @bXXg[bUHx]b h\lgXbglm]b h\Ycf[]bU'; YbYU D'Ub k Ug'cZ h k'cf]a UfmhāYg':]fgžUFYg[Xbh]ZX]b 7\Udhf' &ž7cbgYfj Ujcb UbXC dYb GdUW9`Ya Yblž Ug\Uj]b[\][\ g'cdYgk]X]Z\U]HJgžbUi fU j Y YLhcbžWbnabg'k]h]b h\Y[YbYU fYUgca Y UbVbh`UbXg]XZd'i g'ga Y]a a YXUymUXUWhfYUg]bW XXZf Wbh]bi]hāUFYXg[bUHxUi h\lgXbglm'iH\lgXbglmk ci `XhñXlc dfca chYXj Ycda YbhñUik ci `X\Uj Y`ck` Ybj]fcbā YbHU g'fYg'UbXVg'Xg[bYXi bXf`h Yi gYcZj Yf`UmWbfc` Xg'f]Mg'h Uih Y d'ng]W UbXg'WU]a dUg'W' XWYa]b]a]nX`A i WcZh Y`UbXcf[]bU`mXg[bUHxUih\lg Xbglm]b h\YgYbj]fcbā YbHU`mgYbglhj YUFYg\Ug'ck WYb fYXg[bUHxUg'c dYb GdUW DfYg'fj YZg'XgWggXUvj Y`9l Wdhjcbg]bW Xyh Yi bXj YcdXDC]bhJ]Yk UbXD'i a hfY dfcdYHjgk]h]b h\Y7]hñg @UbXg]XYA cfUcf]i a `5fYU`GWbXZUFYg]b cf bYUf h\Y7cUgU` GdYVZWD'Ub`8]gf]W h\Uik YfYbchmñWā a]hñXlc i fVub i gYUih Y]a YcZh Y7]hñg UXcdhcb` cZ]hgZfgh; YbYU D'Ub fk \]W]gZ fh Yf XgW]VX]b GYWjcb` " *žGdYVZWD'Ub`8]gf]Mg'k Ug Xg[bUHxUih\lgXbglm'iG]bW h\YUcdhcb` cZh YZfgh; YbYU D'Ubža cghcZh\lg`UbX`UgVYb` Wā a]hñXlc i fVub i gY]bW X]b[`h Y@ bUXDC]bhYUbXC WUbZcbh9ghñgbY[\ Vcf`ccXgUbX h\YHfi a dBUjcbU'; cZ7 i V`H`YfYWffYbhñf`Yā Ujcb`mUZk j UWhi`chgk]h]b h\Y7cUgU` GdYVZWD'Ub`8]gf]W h\UfYXg[bUHxZf Z hi fYXj Ycda YbhñUih\lgXbglm'za cghmk]h]b` h\YHfi a dBUjcbU'; cZ7 i Vdfc`Wf`

1 to 2 Dwelling Units per Acre. " @bXXg[bUHx]b h\lgXbglm]fUb[Y]b h\Ycf[]bU'; YbYU D'Ub`UX`ck UbXa cXfUHYdng]W UbXg'WU WbgfUjbgžg WUg'di V]Vj]Yk g'UbXj]gUgž k \]WUih\lgXbglm'W' XWYbfc`Xhñci [\ g' Vxj]gcb Xg[b`H\lgXbglm]g Wā dUjVY k]h h\YDyb]bg` UYbj]fcbā YbhUbXk]h UXUWhY]gh]b[`XbglhYg'UbXf`UfYgcbUY` hfUg]hcb Vfk Yb`ck Yf`UbX`[\ Yf`XbglhYg`H`YfYWffYbhñf`Yā Ujcb`mUGWWhf]b[`cZj UWhi`chg'c WYXj YcdXUih\lgXbglm'za cghmk]h]b h\Y7]hñg Yei Ygf]Ub bY[\ Vcf`ccXgUbXUcb[` DUcgJ YfXg8fj Y9UghUbXJ]U7Uā dYg]bU`

The General Plan includes a number of goals and policies that would be applicable to the project, including those related to community character, orderly development, resource management and public health and safety. Portions of Zone 2 are also within the General Plan's Resource Management – Landslide (both old and active) and Resource Management – Natural Vegetation designated areas. Among the policies explicitly applicable to these designations are the following:

- Ā F`Yei]fYUbnXj Ycda Ybhk]h]b h\YfYgci fWA UbU Yā Ybh8]gf]Mg'cZ\][\ g'cdYgffA `L UbXc`X`UbXg]XYUFUfFA`) Lhc`dYfZfa` Uih`YghcbZUbXdfYfUfU`mñk cZ]bXcdYbXbh Yb[]bYf]b[gh Xjg'WbWb]b[`h Y[YchWb]Wžg'gžUbXch Yf`gUW]mZMcfgf]bW X]b[` gY]ga]WbWgXfUjcbg`LZZW]b[`h Yg]hYc`ck]b[Yg]U]g`YX[Yc`c[]W]bXi gfmñgUbXfXg`
- Ā Dfc\]hUWj]hYghUhWUHY YWg] Yg]ždc`i Hbhñi bcZz]bWUgYWbnab`k U` Yfcg]cbžcf` dchñh]U Zf`UbXg]XYk]h]b F`Ygci fWA UbU Yā Ybh8]gf]Mg'Wbh]b]b[`ñXc`c[]VZMcfg`



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- Ā 5`ck`bcZ flhYf Xy Ycda Ybh|bj c j |b| Ūmñi a Ub`cWdUbWk |h|b h YUWj Y`UbXg|XY`
 ŪYUfFA `(E`
- Ā F Yei |fYXy Ycda Yb|gk |h|b F Yci fWA Ub| Ya Ybh8 |gf|Wg Wbh|b|b| B U i fU`
 J Y| YUjcb fFA` - Lhc fYj Y| YUjYk |h| Ūdfcdf|UjYbUj Yd`Ub|gk \ Yy Y`dcgg|VYk \ Yb`
 WUf|b|`cZj Y| YUjcb |gfYei |fYX`
- Ā Gh|b| YbhmfY| i` ŪY|ff| Ūjcbz bU i fU XfU|bU YzUbXch Y`k Ūhf|fYUjXWbg|XfUjcbg|b`
 bYk Xy Ycda Yb|gUbXy |g|b| i gYgUZYW|b| Y| |g|b|`cf`dch|U`g|XYfYg`

City of Rancho Palos Verdes Natural Communities Conservation Plan (NCCP) and Habitat Conservation Plan (HCP). In 2004, the Rancho Palos Verdes City Council conceptually approved a subarea plan under the NCCP encompassing the entire City, including areas adjacent to the project area. Ūpēg"4226."y j g'Ekw{ "j cu'dggp'y qtnkpi "y kj "Eckhqtplc" F gr ctvo gpv' qh'Hkuj "cpf "Y krf rkg."WUOHkuj "cpf "Y krf rkg"Ugtxleg."cpf "y j g'Rcmu'Xgtf gu'Rgplkwrc"Ncpf "Eqpugtxcpe{"vq'hkpcrk g'y j g'P EEROtP'O ctej "423: ."y j g'Ekw{ "eqo r rvgf "y j g'P EERIj EROThe 2018 NCCP document is currently being reviewed for permit approval by the Eckhqtplc" F gr ctvo gpv'qh'Hkuj "cpf "Y krf rkg"cpf "WUOHkuj "cpf "Y krf rkg"Ugtxleg0The purpose of this plan is to identify and provide for the area-wide protection of natural wildlife diversity, while allowing for compatible and appropriate development and growth (Rancho Palos Verdes, 2018). Moreover, Section 5.7 establishes development measures for projects adjacent to the NCCP Preserve (also known as the Palos Verdes Nature Preserve). Development on lots within Zone 2 that border the NCCP areas would be subject to these policies.

City of Rancho Palos Verdes Municipal Code. Underlying zoning designations in Zone 2 are Single Family Residential District, including both RS-1 (one-acre minimum lot size) and RS-2 (20,000 square-foot minimum lot size) zoned lots. Pursuant to the Rancho Palos Verdes Municipal Code (Chapter 17.02), "the purpose of the single-family residential district (RS) is to provide for individual homes on separate lots, each for the occupancy of one family, at various minimum lot sizes, to provide for a range of yard and lot sizes which are based on the general plan of the city, and to provide for other uses that are associated and compatible with residential uses..." Chapter 17.02 sets forth the specific allowed land uses and standards for development associated with those uses. Other selected applicable regulations of the Rancho Palos Verdes Municipal Code include:

- Ā I fVub`5ddYfUbWCj Yf`Uni7cb|fc`8 |gf|Wg|UbXfXg|fGYWjcb %`"(\$`\$* \$`cZh YfUbWc`
 DUcgJ YfXgA i b|WdU`7cXLE`
- Ā B U i fU`Cj Yf`Uni7cb|fc`8 |gf|Wg|UbXfXg|fGYWjcb %`"(\$`\$(\$`cZh YfUbWc`DUcgJ YfXg`
 A i b|WdU`7cXmZzf`hcgY`dg'hUhWcgg5`Hā |fU7UbñbzhYdf|a ŪmbU i fU XfU|bU Y`
 Wf fgYhfc i | \ NcbY&`
- Ā J |Yk`DfYm| Ūjcb ŪbXF Ygcf Ūjcb g|UbXfXg|fGYWjcb %`"\$&\$` \$(\$`cZh YfUbWc`DUcgJ YfXg`
 A i b|WdU`7cXLE`
- Ā B Y| \ Vcf`ccX7ca dUjV`|lmi`
- Ā ; fUj|b|`

As noted above, the project area is also within the 1,200-acre Landslide Moratorium Area (LMA), established in 1978 in response to potential unstable soil conditions and active landslide



movement (Chapter 15.20 of the Rancho Palos Verdes Municipal Code). In general, properties within the LMA that are currently developed with residential structures are permitted to make limited improvements if the City grants a Landslide Moratorium Exception (LME). New construction is not permitted on properties within the LMA that are not currently developed with residential structures unless a LME or a Moratorium Exclusion (ME) is granted, effectively removing the properties from the LMA, or a Landslide Moratorium Boundary Line adjustment is approved. As discussed below, the proposed project would amend this chapter of the Municipal Code.

2.4 PROJECT CHARACTERISTICS

2.4.1 Project Background

In 2002, a group of Portuguese Bend property owners filed a Landslide Moratorium Exception (LME) application to exclude their undeveloped lots within the area known as “Zone 2” from the LMA. Shortly after this application was deemed incomplete for processing, the applicants filed suit against the City. As part of the decision in the case (Monks v. City of Rancho Palos Verdes), the City was ordered to remove regulatory impediments in its Municipal Code that prevent the development of the 16 Monks plaintiffs’ lots. The City began this process with an Ordinance to allow the Monks plaintiffs to apply for LMEs for their lots. As of August 2019, eight Monks plaintiffs’ lots have been developed with residences and ancillary improvements with three additional lots currently in construction. In addition, the owner of one lot is currently pursuing building permit issuance while the remaining four lots have obtained LME permits that have subsequently expired. The City now desires to consider broader revisions to the Landslide Moratorium Ordinance that could also permit the owners of the other 31 undeveloped lots in Zone 2 to be developed with new residences. This would result in the possible future development of up to 31 new residences on existing legal lots in Zone 2 within the Portuguese Bend community.

2.4.2 Project Description

Landslide Moratorium Ordinance Revisions. Section 15.20.040 of the Rancho Palos Verdes Municipal Code establishes the process for requesting exceptions from the City’s landslide moratorium regulations. The current (amended in 2009) Municipal Code Section 15.20.040(P) includes the following category of exception to the moratorium on “the filing, processing, approval or issuance of building, grading or other permits” within the existing landslide moratorium area:

H Y a c f U c f j i a g`U` b c h W U d d j W W Y l c U b n i c Z h Y Z ` c k j b l . Ā`

Ā D` H Y W b g f i W c b ` c Z f Y g X b h U` V i] X j b l g` U W g c f n g f i W f Y g` U b X [f U X j b l` l c h U j b l`
Y g` h U b c b Y h c i g U b X W j W u f X g` c Z W a V j b Y X W h U b X Z` U b X j b W X j b l` b c` a c f Y
h U b Z Z m W j W u f X g` c Z j a d c f h X Z`` a U h f j U` c b h Y g l h Y b i b X j Y c d Y X` c g j b N c b Y
& c Z h Y l` @ U b X g j X Y A c f U c f j i a` 5 f Y Ū` U g` c i h j b Y X j b l` f Y b c b h Y` U b X g j X Y
a c f U c f j i a` a U d c b Z` Y j b h Y 8 j f Y W c f f g` c Z W e j X b h Z` X U g` V Y c b l j b l` l c h Y d U j b h Z g`
j b h Y W g Y l` A c b_g j` 7 j l m i c Z F U b W c D U c g J Y X g` 7 U` 5 d d` (h` &` ' ž, (` 7 U`
F d f f` X +) f 7 U` 5 d d` & 8 j g h z & \$ \$, Ĥ / d f c j j X X z h U h U` U b X g j X Y a c f U c f j i a`



Y Wdhjcb'dYfa Jh]gUddfj YXVnh Y8 JfYwfcZUbXdfcj JXXh Uih Ydfc^YwWā d']Yg'
k Jh ħ YWjYhfJYghZfh Jb'GYWjcb % "&\$" S'cZh]g'7\Udhf''G' Wdfc^YwWg'U''
ei U]ZnZf U'UbXg]XYa cfUcf]i a Y Wdhjcb'dYfa Jhcb'm]ZU' Udd]WYfYei JfYā YbHg'
cZh]g'7cXYfYgJhgZYXZUbXh YdUFW'Jggfj YXVnUgJb]HfmgYk Yf gngYā "Df]cf'hc'
h Y]gg UbWcZU'UbXg]XYa cfUcf]i a Y Wdhjcb'dYfa Jhzh YUdd]Wbhg'U'g Vā Jhlc'
h Y8 JfYwfc Ubm] Yc'c] JW'cf' YchWb]W'gh X]YgfYgcbUWnfYei JfYXVnh Y7]mhc'
Xā cbgJfUhf'c h YgJhgZUWjcb'cZh Y7]m] YchWb]W'gh UZh Uih YdfcdgYXdfc^Yw
k]''bchU [fJ UYh YI JgJb] gJh Ujcb''

The proposed landslide moratorium ordinance revisions would revise the language of this section to encompass all 31 undeveloped lots in Zone 2 of the LMA, rather than restricting it to only the A cb_gplaintiffs' lots. This would allow for the future submittal of LMEs for all of these undeveloped lots. It should be noted, however, that the granting of an LME does not constitute approval of a specific project, but simply grants the property owner the ability to submit the appropriate application(s) for consideration of a specific project.

Future Development Potential. The potential granting of up to 31 LME requests under the proposed ordinance revisions would permit individual property owners to then apply for individual entitlements to develop their lots. The undeveloped lots within Zone 2 are held in multiple private ownerships so the timing and scope of future development is not known. For the purposes of this EIR, it is assumed that development would occur over a period of at least 10 years from adoption of the ordinance revisions in a manner consistent with the private architectural standards adopted by the Portuguese Bend Community Association and the City's underlying RS-1 and RS-2 zoning regulations. Therefore, future Zone 2 development would be subject to the following limitations:

- Ā ' %cbYJgJcfnzfUbWJgmYfYgXbWgk Jh UHUYXcf XHUYXh fYfWf' [fUJ Ygzk Jh ā Jb]a i a ' Jj Jb] fYUcZ'ā S\$gei fYZYhUbXUb Uddfd Jā UYā U Jā i a Jj Jb] fYUcZ(ā S\$gei fYZYh cf'ā 1 'cZ] fogg'ch fYUēk \JWj Y'Jg'Ygg'
- Ā I d'hc %ā S\$WJWjWfXg'cZ] fUJb] fMhUbXZ' Wā VJbYX'df' d'zk Jh bc'ā cfYhUb) \$WJW nUfXg'cZ]a dcfhXZ' UbXi d'hc %ā S\$WJWjWfXg'cZ] dcfhdYf'ch'
- Ā A U Jā i a ā 1 fFG'&cf' (S fFG'&LbYh'chWj YfU Y'
- Ā A U Jā i a V J]Xj b] \Y] \hcZ% ZYhZf fYgXbWgUbX%&ZYhZf XHUYXUWggcfmgfJ W fYg' VgXcb h Y7]m]g J V J]Xj b] dUX \Y] \hfYei JfYā YbHg'
- Ā A Jb]a i a ZcbhgYMUWg'cZ&S ZYfza Jb]a i a fYf gYMUWg'cZ'ā ZYfza Jb]a i a gYfYh]gXY gYMUWg'cZ'ā ZYfzUbXā Jb]a i a Jbhf]cf gXY gYMUWg'cZ' ZYfzk Jh gYMUWg'Ucb] dfJ UY gYfYhf] J] Jg'cZk Ura Yg fYXZca ħ YUgYā Ybh'JbYfUā Yf ħUb ħ YdfcdYfm]JbYUbXē
- Ā B c g VJ JgJcb cZ] JgJb] d'gk Jh Jb NcbY&''

As noted above, the City chose to remove regulatory impediments in its Municipal Code that prevented the development of the 16 A cb_gplaintiffs' lots. This was accomplished by the 2009 addition to the moratorium exceptions, cited above. As of August 2019, eight Monks plaintiffs' lots have been developed with residences and ancillary improvements with three additional lots currently in construction. In addition, the owner of one lot is currently pursuing building permit issuance while the remaining four lots have obtained LME permits that have subsequently expired. This EIR considers the potential environmental impacts of development of all remaining 31 undeveloped and underdeveloped lots under the parameters listed above.



2.5 PROJECT OBJECTIVES

The objective of the proposed project is to amend the City's Landslide Moratorium Ordinance to allow for the future development of 31 undeveloped lots located in Zone 2 of the City's LMA.

2.6 REQUIRED APPROVALS

The City of Rancho Palos Verdes is the Lead Agency for the project and has discretionary authority over the proposed Project. The City Council has the authority to review and take final action on the revised ordinance. Approval would require that the City Council adopt the proposed Code revisions to the City's Landslide Moratorium Ordinance (Rancho Palos Verdes Municipal Code Chapter 15.20).



3.0 ENVIRONMENTAL SETTING

This section provides a general overview of the environmental setting for the project. More detailed descriptions of the environmental setting for each environmental issue area can be found in Section 4.0, *9bj Jfcbā YbHU' a dUM5 bUnŋlg*

3.1 REGIONAL SETTING

The project area is located in the City of Rancho Palos Verdes, which encompasses approximately 13.6 square miles. Rancho Palos Verdes is located in southwestern Los Angeles County, along the Palos Verdes Peninsula coastline. The project area is part of the Portuguese Bend Community Association (PBCA). Arterial roadways that provide vehicular access to various parts of Rancho Palos Verdes include Palos Verdes Drive (South, East and West), Hawthorne Boulevard, Crenshaw Boulevard, and Crest Road. Figure 2-1 in Section 2.0, *Dfc YW8 YWdhcb*, shows the project area in its regional context. The 2018 population of Rancho Palos Verdes was estimated at 42,723 persons. The City's housing stock as of January 1, 2018, consisted of an estimated 16,317 units (California Department of Finance, January 2018). The average household size in the City was about 2.7 persons per unit (California Department of Finance, January 2018).

The Mediterranean climate of the region and the coastal influence produce moderate temperatures year-round, with rainfall concentrated in the winter months. The sea breeze, which is the predominant wind, is a primary factor in creating this climate and typically flows from the west-southwest in a day-night cycle with speeds generally ranging from 5 to 15 miles per hour. The sea breeze maintains the cool temperatures and clean air circulation and generally prevents warmer inland temperatures and air pollution from permeating into the peninsula, except under certain seasonal conditions such as the offshore Santa Ana winds (City of Rancho Palos General Plan, 2018).

3.2 PROJECT AREA SETTING

The project area is located in the Portuguese Bend community in Ranchos Palos Verdes, on the sloping hillsides above the south-central coastline of the City. Of the approximately 111 lots in the 112-acre project area, the vast majority of the developed lots include single-family residences and related accessory structures and uses. The largest developed lot in Zone 2 is occupied by the Portuguese Bend Riding Club, a legal nonconforming commercial stable that was established prior to the City's incorporation in 1973. The majority of the undeveloped lots contain non-native vegetation, and some have small, non-habitable structures (e.g., sheds, stables, fences, etc.) for equestrian or horticultural uses. The lots are generally between ¼-acre and 1 acre or more in size. Topography is highly variable, ranging from relatively level areas to areas of moderate to steeper slopes. Altamira Canyon roughly bisects Zone 2 in a generally north to south direction.

The 112-acre Zone 2 area is primarily surrounded by open space and semi-rural residential development. To the northeast of the project area are developed residential lots in the Portuguese Bend community, as well as City-owned open space in the Portuguese Bend Reserve of the Palos Verdes Nature Preserve, both of which are in Zone 1 of the LMA. To the

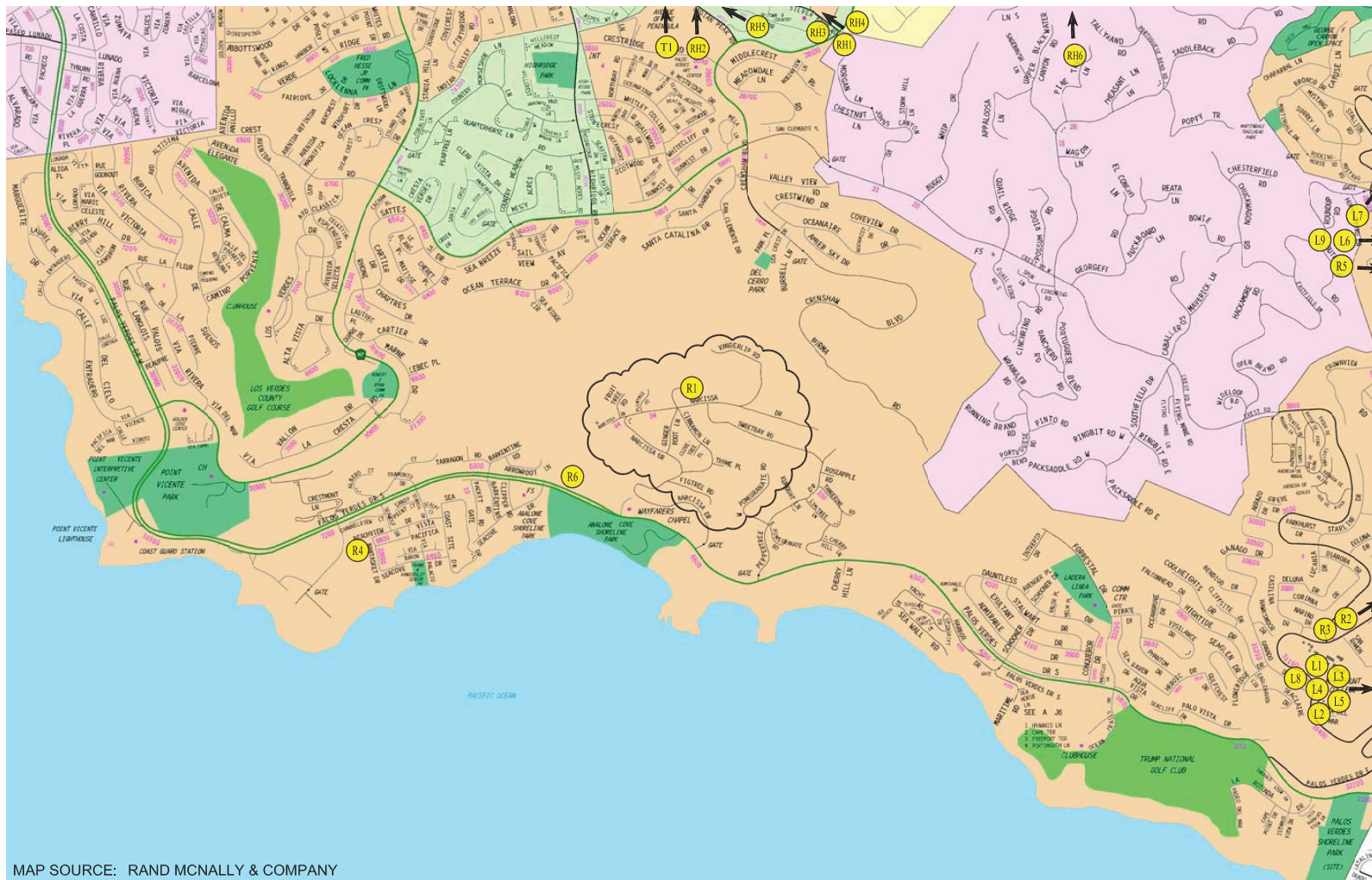
3.3 CUMULATIVE PROJECTS SETTING

Currently planned and pending projects in Rancho Palos Verdes and the surrounding areas are listed in Table 3-1. Locations of projects on the list that are in proximity to the project area are shown on Figure 3-1. These projects are considered in the cumulative analyses in Section 4.0,

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- PROJECT AREA
- CITY OF RANCHO PALOS VERDES RELATED PROJECT
- CITY OF ROLLING HILLS ESTATES RELATED PROJECT
- CITY OF LOS ANGELES RELATED PROJECT
- CITY OF TORRANCE RELATED PROJECT



Location of Related Projects

Figure 3-1

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4.0 ENVIRONMENTAL IMPACT ANALYSIS

This section discusses the possible environmental effects of the proposed project for the issue areas that were identified as having the potential to experience significant impacts. "Significant effect" is defined by Section 15382 of the *CHUY79E 5* ; i |XY|bYgas "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment, but may be considered in determining whether the physical change is significant."

The assessment of each issue area begins with a description of the current setting for the issue area being analyzed, followed by an analysis of the project's effect within that issue area. The first subsection of the impact analysis identifies the methodologies used and the "significance thresholds," which are those criteria adopted by the City, other agencies, universally recognized, or developed specifically for this analysis to determine whether potential effects are significant. The next subsection describes each impact of the proposed project, mitigation measures for significant impacts, and the level of significance after mitigation. Each effect under consideration for an issue area is separately listed in bold text, with the discussion of the effect and its significance following. Each bolded impact listing also contains a statement of the significance determination for the environmental impact as follows:

Class I, Significant and Unavoidable: '5b'ja dUWlUUhWbbchVfYX WXlc WYck hAY hYfYc`X`Y Y'[|j Yb fYUgcbUWmUj U'UYUbXZUgVYa |h| Ujcb`a YUg fYg"G WUb` ja dUWfYei |fYgUGHUa YbhcZCj Yf|X|b| '7cbg|XfUjcbg'lc W|gg YX|Zh Ydfc`Ym|g' Uddfj YXdM Y'ə \$` ' cZh YGHU79E 5 ; i |XY|bYg"

Class II, Less than Significant with Mitigation Incorporated: '5b'ja dUWlUUhWb` VYfYX WXlc WYck hYhYfYc`X`Y Y'[|j Yb fYUgcbUWmUj U'UYUbXZUgVYa |h| Ujcb` a YUg fYg"G WUb` ja dUWfYei |fYgZbX|b| g'lc VYa UXYi bXf Y'ə \$` %cZh YGHU79E 5 ; i |XY|bYg"

Class III, Less than Significant: '5b'ja dUWlUUhUa UnVYUx YfGZVi hXcYg'bchYl WXX hYhYfYc`X`Y YgUbXXcYg'bchfYei |fYa |h| Ujcb`a YUg fYg"< ck Y YfZa |h| Ujcb` a YUg fYg'hUWl XZ fh Yf` YgYb hYbYj |fcba YbHU YZWa UnVYg [| YhX|ZfYUx mi Uj U'UYUbXZUg mUWjY UY"

Class IV, No Impact or Beneficial: "5b' YZWlUUhk ci` XfYX WY |g|b|` Ybj |fcba YbHU dfcVYa gcf` \hUfXgcf bc WUb| Y|b Ybj |fcba YbHU WbX|hcbgk ci` X cWf"

In addition to the impacts listed above, significant positive impacts are also noted in the documentation. Following each environmental effect discussion is a listing of recommended mitigation measures (if required) and the residual effects or level of significance remaining after implementation of the measures. In cases where the mitigation measure for an impact could have a significant environmental impact in another issue area, this impact is discussed as a residual effect. The impact analysis concludes with a discussion of cumulative effects, which evaluates the impacts associated with the proposed project in conjunction with other future development in the area.

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4.1 AESTHETICS

This section evaluates impacts to aesthetic conditions on and around the project area. The impacts evaluated include view corridors, scenic resources, the aesthetic character of the site and surrounding area, and light and glare conditions.

4.1.1 Setting

a. Visual Character of the Project Area. The Zone 2 Landslide Moratorium Ordinance Revisions project area encompasses approximately 112 acres north of the intersection of Palos Verdes Drive South and Narcissa Drive within the Portuguese Bend community in the City of Rancho Palos Verdes. This area, located in the hills above the south-central coastline of the City, is within the City's larger (approximately 1,200-acre) Landslide Moratorium Area (LMA). Of the 111 lots within Zone 2, 69 are developed with residences and accessory structures, owners of 11 lots have obtained planning entitlements for development via Exception "P", and 31 are undeveloped parcels. Of the undeveloped Zone 2 lots, those in the southern and eastern portion of the project area are generally interspersed among the developed parcels, while those in the northern and western portion of the project area are generally in groups along Narcissa Drive, Plumtree Road and Cinnamon Lane, as shown in Figure 2-2, Site Area, in Section 2.0, *Project Description*.

Lots within the Portuguese Bend community are generally ¼-acre to one or more acres in size. Developed lots contain mainly one-story single-family homes constructed in the 1950s and 1960s, although several homes were renovated or constructed more recently under various existing exception categories in Section 15.20.040 of the Rancho Palos Verdes Municipal Code (RPVMC). Homes generally range from approximately 1,200 square feet to 3,500 square feet in size. Many lots also contain accessory structures, including equestrian facilities. Vacant lots in the project area are characterized by highly variable topography ranging from relatively flat to steeply sloping land, vegetated with scrub, grasses, and trees, most of which are pepper, eucalyptus, pine and other ornamental trees. Structural development on underdeveloped lots is mostly limited to small, non-habitable structures (e.g., sheds, stables, corrals) for equestrian or horticultural uses. The community is connected through several winding, two-lane private roads maintained by the Portuguese Bend Community Association (PBCA). The overall visual character and scenic quality of the project area are defined primarily by its varied topography, mature trees and vegetation, and small rock outcroppings. Figure 2-3 (a-c) in Section 2.0, *Project Description*, illustrates representative existing visual conditions on several developed and undeveloped lots in the project area.

b. Public and Private Views. Due to the varying topography, intervening vegetation and winding street layout, views of individual lots within the project area are limited from most perspectives. There are no state designated scenic roadways in the vicinity of the project area. Of the nearest public roadways, the City's 2018 General Plan designates Palos Verdes Drive South, East, and West, Western Avenue, Hawthorne Boulevard, Crest Road, Highridge Road, and Silverspur Road as vehicular view corridors. The project area is generally obscured from views from Palos Verdes Drive South, located one quarter-mile downslope from the southern project boundary, by sloping hills of vegetated open space and single family houses. Public views of portions of the project area are visible from Hawthorne Boulevard, Crest Road and Del

Cerro Park, located approximately one half-mile from the northern project boundary, and from trails located with the Palos Verdes Nature Preserve and the City's segment of the California Coastal Trail. Views of the project area from these locations consist primarily of existing single-family residences amid native and non-native vegetation. Figure 4.1-1 shows existing public views of the project area from these locations.

Lots in the project area are visible from a number of private properties in the community. These private views are primarily limited to properties adjacent to those that would be affected by the ordinance revisions due to the winding roads, varying topography and mature vegetation.

Views of portions of the project area are also visible from the private Portuguese Bend Residential Community Trail System, which includes collector and radial trails that connect to the larger Palos Verdes Trail Loop and Top-of-the-Hill Trail System. This extensive public trails system spans the Palos Verdes peninsula and is outlined in the City's 1993 Conceptual Trails Plan.

c. Light and Glare. Existing lighting in the project area is limited. Primary nighttime light sources include the headlights of cars traveling along the communities' private roads, residential outdoor lighting (e.g. porch lights, security lights, landscaping accent lights), and light emanating from the residence interiors within the project area. Some daytime glare is generated by light-colored building materials and windows of existing single-family residences and accessory structures, and by cars traveling or parked along private roads.

Land uses in the vicinity that would be most sensitive to night lighting are the residences located within the project area and residences, public roads and parks on the hillsides above the site to the north. Figure 2-2 in Section 2.0, *Project Description*, shows an aerial view of adjacent land uses.

d. Regulatory Setting. The City of Rancho Palos Verdes General Plan and Municipal Code include a number of goals, policies and regulations intended to protect and enhance the aesthetic resources and visual character of the City. Selected policies and regulations that are applicable to the project's potential visual and aesthetic impacts are discussed below.

General Plan. The Visual Resources Element of the Rancho Palos Verdes General Plan (2018) generally describes visual and aesthetic resources in the City and sets forth goals and policies to ensure the continued preservation, restoration, and enhancement of significant visual resources in the City (General Plan Page V-2). The Visual Resources map (General Plan Visual Resources Element Figure 1) identifies the project area as containing portions of "Natural Visual Resources" and "Urban Design Visual Resources." Natural Visual Resources are defined as "natural features that provide viewers with a feeling for the rural atmosphere in the City." Natural Visual Resources include rural areas, sea cliffs, major canyons, major ridges, and significant tree groupings. Urban Design Visual Resources refer to the style and character of structures, landscaping, and signage. Figure 3 of the Visual Resources Element, *Preservation and Enhancement*, shows portions of the project area coinciding with "Natural Areas to be Preserved." Vistas are indicated on the Visual Resources map toward the Pacific Ocean from areas north and upslope of the project area. These features from the Visual Resources map are shown on Figure 4.1-2.



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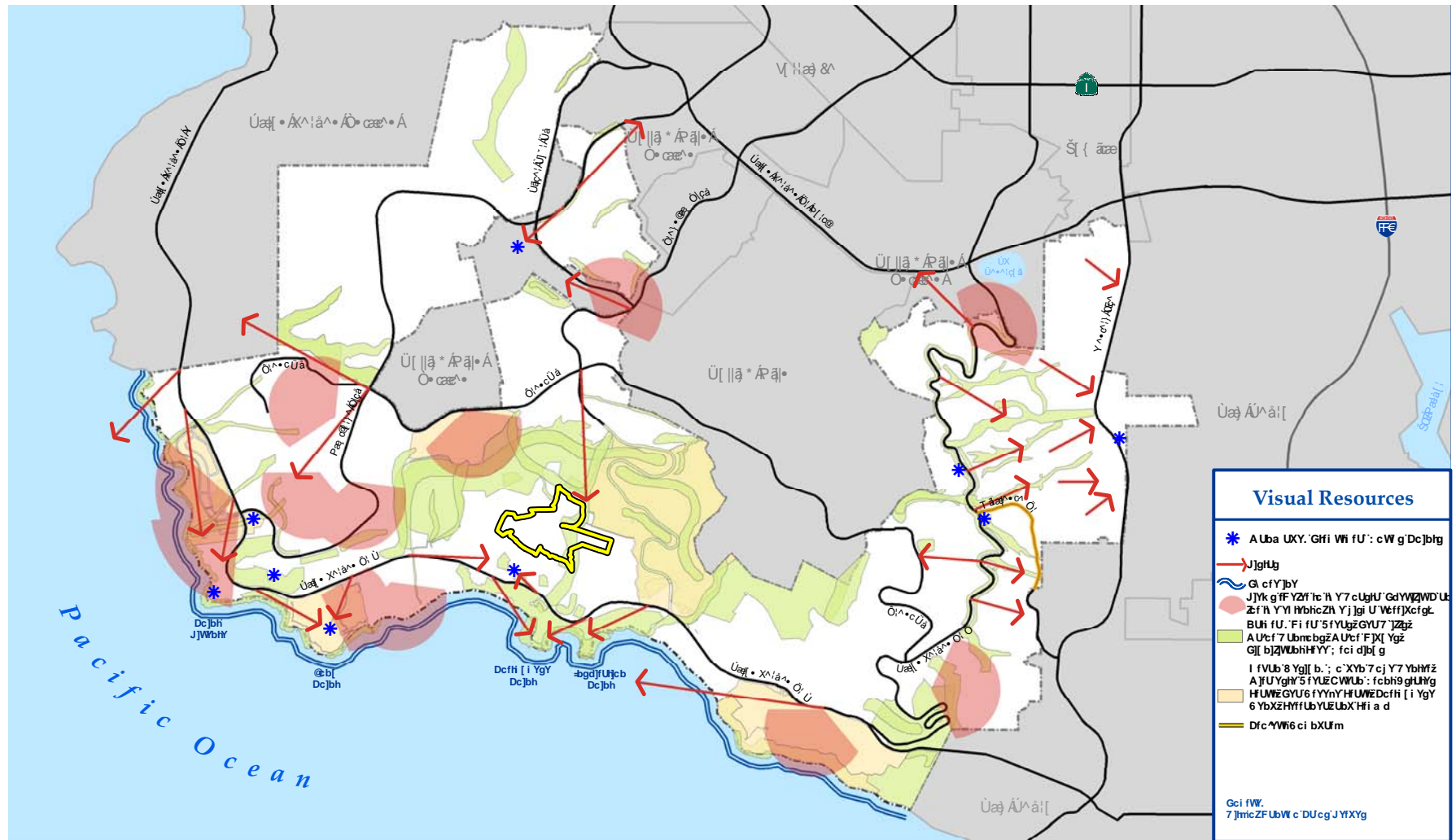
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Public Views of the Project Area

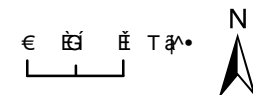
Figure 4.1-1



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Visual Resources

Figure 4.1-2

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The following selected policies related to aesthetics and visual resources may be considered applicable to the project area:

- Policy 2.** Enhance views and vistas where appropriate through various visual accents.*
- Policy 3.** Preserve and enhance existing positive visual elements and restore those that have been lost.*
- Policy 7.** For developments proposed within areas which impact the visual character of a corridor, require developers to incorporate treatments into their projects that enhance a corridor's imagery.*
- Policy 8.** Require developments within areas which will impact corridor-related views to mitigate their impact.*

Rancho Palos Verdes Municipal Code. The RPVMC, specifically Title 17 (Zoning Code), provides land development and regulatory standards.

Section 17.02.030 of the RPVMC provides the following general residential development standards in the project area as it relates to the allowed height, setback, and lot coverage, for development within the Single Family Residential (one and two acres zoning) Zoning Districts:

- A. **Building Height.** Maximum building height of 16 feet for residences and 12 feet for detached accessory structures for pad lots. Height Variation permits for structures exceeding 16 feet up to 26 feet may be granted for pad lots.*
- B. **Setbacks.** Minimum front setbacks of 20 feet, minimum rear setbacks of 15 feet, minimum street-side setbacks of 10 feet, and minimum interior side setbacks of 5 feet, with setbacks along private street rights-of-way measured from the easement line rather than the property line.*
- C. **Lot Coverage.** Maximum 25% (RS-1) or 40% (RS-2) net lot coverage.*

Section 17.56.030 of the RPVMC provides standards for outdoor lighting:

No outdoor lighting shall hereafter be installed or used in the single-family residential (RS) or multiple-family residential (RM) zones, except in accordance with the provisions of this section.

- A. No outdoor lighting shall be permitted where the light source is directed toward or results in direct illumination of a parcel of property or properties other than that upon which such light source is physically located. Individual, non-reflector, incandescent light bulbs, not exceeding 150 watts each, or an aggregate of 1,000 for each lot or parcel shall be permitted. On lots exceeding 15,000 square feet, an additional 100 watts in the aggregate shall be permitted for each 1,500 square feet of area or major fraction thereof, by which the lot or parcel exceeds 15,000 square feet; provided, that in no event shall the aggregate exceed 2,000 watts. Wattage for non-incandescent lighting shall be calculated using the multiplier values described in Section 17.56.040(A) of this chapter.*

- B. No outdoor lighting shall be permitted where the light source or fixture, if located on a building, above the line of the eaves, or if located on a standard or pole, [is] more than ten feet above grade.*
- C. Notwithstanding the requirements of this section, outdoor lighting may be installed and used in a manner not permitted by this section upon the issuance of a conditional use permit pursuant to Chapter 17.60 (Conditional Use Permits).*

Section 17.02.040 of the RPVMC includes the following requirements aimed at view preservation and restoration:

- 1. Preservation of Views Where Structures are Involved.*
 - a. Any person proposing to construct a structure above sixteen feet shall submit a height variation permit application to the city. A determination on the application shall be made by the director, who shall refer a height variation application directly to the planning commission for consideration under certain circumstances.*
 - b. The applicant shall take reasonable steps established by the city council to consult with owners of property located within five hundred feet of the applicant's property.*
 - c. The director shall, by written notice, notify property owners within a five-hundred-foot radius of the subject property and the affected homeowners' association, if any, of the application and inform them that any objections to the proposed construction must be submitted to the director within thirty calendar days of the date of the notice.*
 - d. The applicant shall construct on the site at the applicant's expense, as a visual aid, a temporary frame of the proposed structure.*
 - e. A height variation application to build a new structure or an addition to an existing structure, either of which exceeds sixteen feet in height up to the maximum height permitted in subsection (B)(1) of this section, may be granted with or without conditions if the following findings can be made:*
 - i. The applicant has complied with the early neighbor consultation process established by the city;*
 - ii. The proposed new structure that is above sixteen feet in height or addition to an existing structure that is above sixteen feet in height does not significantly impair a view from public property (parks, major thoroughfares, bike ways, walkways or equestrian trails) which has been identified in the city's general plan or coastal specific plan, as city-designated viewing areas;*
 - iii. The proposed new structure is not located on a ridge or a promontory;*
 - iv. The area of a proposed new structure that is above sixteen feet in height or addition to an existing structure that is above sixteen feet in height, as defined in subsection B of this section, when considered exclusive of existing foliage, does not significantly impair a view from the viewing area of another*



parcel. If the viewing area is located in a structure, the viewing area shall be located in a portion of a structure which was constructed without a height variation permit or variance, or which would not have required a height variation or variance when originally constructed had this section, as approved by the voters on November 7, 1989, been in effect at the time the structure was constructed, unless the viewing area located in the portion of the existing structure which required a height variation permit or variance constitutes the primary living area (living room, family room, dining room or kitchen) of the residence;

- v. If view impairment exists from the viewing area of another parcel but it is determined not to be significant, as described in subsection (C)(1)(e)(vi) of this section, the proposed new structure that is above sixteen feet in height or addition to an existing structure that is above sixteen feet in height is designed and situated in such a manner as to reasonably minimize the impairment of a view;*
- vi. There is no significant cumulative view impairment caused by granting the application. Cumulative view impairment shall be determined by: (a) considering the amount of view impairment that would be caused by the proposed new structure that is above sixteen feet in height or addition to a structure that is above sixteen feet in height; and (b) considering the amount of view impairment that would be caused by the construction on other parcels of similar new structures or additions that exceed sixteen feet in height;*
- vii. The proposed structure complies with all other code requirements;*
- viii. The proposed structure is compatible with the immediate neighborhood character;*
- ix. The proposed new structure that is above sixteen feet in height or addition to an existing structure that is above sixteen feet in height does not result in an unreasonable infringement of the privacy of the occupants of abutting residences.*

Section 17.54 of the RPVMC provides standards for undergrounding of utilities, screening of mechanical equipment, and trash receptacle enclosures. The purpose of the regulations are to ensure “that, in conjunction with new developments, all utility service lines are placed underground and that certain areas and types of equipment are screened from public view. The provisions of this chapter are deemed necessary for the protection of property values and the general welfare.”

Section 17.76.040 of the RPVMC includes the following criteria for grading permits:

- 1. A minor grading permit shall be used for those projects which meet all of the following criteria:*
 - a. An excavation, fill or combination thereof, in excess of twenty cubic yards, but less than fifty cubic yards, in any two-year period, on a slope of less than thirty-five percent, or*



- b. An excavation three feet or more, but less than five feet, below natural grade or a fill three feet or more, but less than five feet, above natural grade on a slope of less than thirty-five percent;*
- 2. A major grading permit shall be used for those projects which result in any of the following:*
 - a. An excavation, fill or combination thereof, in excess of fifty cubic yards in any two-year period,*
 - b. An excavation five feet or more below natural grade or a fill five feet or more above natural grade,*
 - c. Notwithstanding exemptions (C)(1) and (C)(2) of this section, any excavation or fill which encroaches on or alters a natural drainage channel or watercourse, and*
 - d. Unless otherwise exempted by subsection C of this section, an excavation or fill on an extreme slope (thirty-five percent or more);*
- 3. A remedial grading permit shall be used for excavations, fill or any redistribution of earth materials for the purpose of enhancing soil stability and reducing geotechnical hazards due to natural land movement or the presence of natural hazards.*

The following grading shall be exempt from the above:

- 1. An excavation, fill or combination thereof, less than twenty cubic yards in any two-year period;*
- 2. An excavation less than three feet below natural grade, or a fill less than three feet above natural grade;*
- 3. Grading pursuant to a permit for excavation in public streets;*
- 4. Grading in connection with a public improvement or other public works project for which inspection is provided by the city or another public agency, as approved by the city engineer;*
- 5. Grading in private easements by a public utility, cable franchisee or a mutual water company;*
- 6. An excavation or fill on private property made by an individual to repair or replace a sewer line, water line or other underground utility line;*
- 7. An excavation less than ten feet below existing grade for the foundation or footings of a structure or a swimming pool located on a slope less than thirty-five percent and not involving a caisson foundation. Caisson foundations or any excavation for a footing or foundation ten feet or more below existing grade shall require the approval of a minor grading permit. This exemption shall not affect the applicability of this section to, nor the requirement of a grading approval for, any fill made with the material from such excavation; and*
- 8. Tilling of the soil for agricultural and horticultural purposes; and discing the soil for fire hazard abatement purposes.*

The General Plan Safety Element and Municipal Code Section 8.08.010 also provide guidelines for fire protection and indicate that the City of Rancho Palos Verdes adheres to the standards set forth in the County of Los Angeles Fire Code and Uniform Building Codes. These codes outline construction and design provisions, as well as fuel modification plan requirements that could affect visual resources and would apply to any new development that could result from the proposed ordinance revisions.

Portuguese Bend Community Association Architectural Standards. The PBCA has adopted architectural standards that apply to project area development. Topics covered in the PBCA standards include:



- *Equestrian criteria – rules to follow for keeping horses*
- *Fencing – placement and types allowed*
- *Setbacks and layout plans*
- *Landscaping*
- *What a property owner must do if he/she wishes to make modifications to his/her property*

No property owner in Portuguese Bend may make visible modifications to his/her property without first seeking and obtaining approval of the Architecture Committee. This approval is separate from, and in addition to, approvals required by the City of Rancho Palos Verdes.

4.1.2 Impact Analysis

a. Methodology and Significance Thresholds. Different viewers react to views and aesthetic conditions differently. Consequently, the assessment of aesthetic impacts is inherently subjective in nature. This evaluation measures the existing visual resource against the proposed actions, analyzing the nature of the anticipated change.

An aesthetic impact is considered significant if the project would:

- *Have a substantial adverse effect on a scenic vista;*
- *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;*
- *Substantially degrade the existing visual character or quality of the site and its surroundings; or*
- *Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.*

Although this analysis considers potential impacts to both public and private views, changes to private views generally are not considered significant unless a substantial number of private views are affected. Private views are those that can be seen from vantage points located on private property and private roads. Public views are those that can be seen from vantage points that are publicly accessible, such as public streets, freeways, parks, trails, and vista points. These views are generally available to a greater number of persons than are private views.

b. Project Impacts and Mitigation Measures

Impact AES-1 **The project area is located in a scenic public viewshed of the Pacific Ocean and the Palos Verdes hillsides and coastline. Individual lots and some private roads in the project area also have views of the ocean, hillsides and open space. However, with compliance with applicable standards of the RPVMC, the potential development of up to 31 new single-family residences would not have a substantial adverse effect on a scenic vista. This impact would be Class II, less than significant with mitigation incorporated.**

The proposed Zone 2 Landslide Moratorium Ordinance revisions would apply to a project area located within the Portuguese Bend community, an area near the scenic Rancho Palos Verdes

coast. There are no public views from within the project area because the roads serving the area are private roads accessible only to residents and their guests through gated entries. Limited public views of the project area are available from public roads and parks to the north and from the public trails along the hillsides to the north and east of the site. Private views of and through the site are available from existing residences and roads within the community, as well as from individual residential properties to the north of the site on the hillsides overlooking the coast. Figures 2-2 and 2-3 in Section 2.0, *Project Description*, and Figure 4.1-1 above show existing conditions and views throughout the project area.

Public Views. As noted under *Setting*, the primary public viewpoints offering views of the project area are from Hawthorne Boulevard, Del Cerro Park, and the hillside trails to the north of the Portuguese Bend community in the Palos Verdes Nature Preserve. Representative views as seen from Hawthorne Boulevard and Del Cerro Park are shown on Figure 4.1-1. Driving east or west along Hawthorne Boulevard, all or part of the project area is often obscured by variable topography or vegetation; however, views of the Pacific Ocean and the Rancho Palos Verdes coastline are more fully visible over the site and vegetation. When the site is visible, it appears as individual structures interspersed with areas of open spaces of scattered vegetation, and the coastal bluffs and ocean beyond, as illustrated in Figure 2-2 in Section 2.0, *Project Description*, and Figure 4.1-1. Scenic features available from the north include the ocean, the sky, mature vegetation, and the hillsides sloping down towards the coastline. On clear days and depending on the view angle, the Malibu coastline to the northwest or Santa Catalina Island to the south may also be visible in the distance.

The potential development of 31 single-family residences with Zone 2 could slightly alter the foreground view of the project area from the public roads, parks and surrounding trails to the north. However, as indicated by observations from points along Hawthorne Boulevard north of the site, the project area is substantially lower in elevation than the hills to the north. Due to this varying topography and down sloping elevation, residential development that could result from the proposed ordinance revisions would not block any scenic views, including views of the ocean, coastline, islands, and hillsides currently available from these public viewpoints. This would be further ensured by residential zoning height limitations set forth in Section 17.02.030 and 17.02.040 of the RPVMC applying to any development that may be approved following the proposed ordinance revisions. The project area itself as seen from the public viewpoints listed above would change incrementally with the removal of vegetation and new construction on individual lots throughout Zone 2. However, the visual character would remain generally the same, as the existing land use pattern of medium to large-lot residential development, as well as the existing topography and overall vegetation pattern, would be maintained. Thus, view impacts from these vantage points would be less than significant.

Private Views. As noted above, the primary private viewpoints offering views through the project area are the residences and roads directly adjacent to the 31 individual undeveloped lots within the project area. These residences have varying degrees of views of and through the affected lots, depending on the specific topography of the properties and the height and density of vegetation on and adjacent to the lots.

Similar to the diversity of specific views from these homes, project implementation would affect existing private views in a range of ways and degrees. For several residences, portions of ocean

and hillside views could be partially obstructed by development on adjacent properties. However, it is unlikely that these private views would be fully obstructed by development resulting from the proposed ordinance revisions. Full or partial views of the hillsides, coastline, or ocean would remain for the majority of existing lots, so that a substantial adverse effect on a scenic vista would not occur.

There are two important considerations to factor into the determination of the level of impacts to private views from development resulting from the proposed ordinance revisions. First, each residence developed in the project area would be required to adhere to architectural standards developed by the Portuguese Bend Community Association and the lot coverage, and height and grading limits allowed for areas zoned RS-1 and RS-2 per Municipal Code Section 17.02.030 and 17.760.040. Additionally, the design and size of new development that could be facilitated by the proposed ordinance revisions would be required to maintain consistency with the existing neighborhood character pursuant to the Section 17.02.030 of the RPVMC (see Mitigation Measure AES-3 in Impact AES-3), which requires that new residences “shall be compatible with the character of the immediate neighborhood.” Based on standards contained in RPVMC Section 17.02.030, future Zone 2 development resulting from the proposed ordinance revisions is expected to consist of:

- *Single-story, ranch-style residences with attached or detached three-car garages, with minimum living area of 1,500 square feet and maximum living area of 4,000 square feet or 15% of gross lot area, whichever is less;*
- *Less than 1,000 cubic yards of grading (cut and fill combined) per lot, with no more than 50 cubic yards of imported fill and up to 1,000 cubic yards of export per lot;*
- *Maximum 25% (RS-1) or 40% (RS-2) net lot coverage;*
- *Maximum building height of 16 feet for residences and 12 feet for detached accessory structures;*
- *Minimum front setbacks of 20 feet, minimum rear setbacks of 15 feet, minimum street-side setbacks of 10 feet, and minimum interior side setbacks of five feet, with setbacks along private street rights-of-way measured from the easement line rather than the property line; and,*
- *No subdivision of existing lots within Zone 2.*

Second, in CEQA analysis, impacts to private views are not typically considered significant unless the number of properties significantly affected is relatively high. As noted by the California Court of Appeal in *Ocean View Homeowners Assn., Inc. v. Montecito Water District* (116 Cal. App. 4th 396), “[t]hat a project affects only a few private views may be a factor in determining whether the impact is significant.” Due to the varying topography, intervening vegetation, and existing single-family residences, private scenic views from within the project area are limited and visual changes will be isolated. Further, the 16-foot height limit is intended to be consistent with the height of existing structures within the surrounding area. Therefore, although the City acknowledges that some homeowners may experience adverse interference with a portion of their private views, the impact is not significant for purposes of the CEQA analysis.

Mitigation Measures. Measures AES-3(a) and AES-3(b) under Impact AES-3 would ensure compliance with applicable provisions of the Section 17.02.030 of the RPVMC and PBCA architectural standards. Additional mitigation is not required.

Significance After Mitigation. Impacts to scenic vistas would be less than significant without mitigation.

Impact AES-2 **Parcels in Zone 2 contain vegetation of varying types and densities, and the development of residences on up to 31 undeveloped and underdeveloped private lots within the project area would likely result in the removal of mature trees and vegetation. Because tree groupings in the project area have been identified as scenic resources in the General Plan, impacts would be Class II, less than significant with mitigation incorporated.**

The proposed Landslide Moratorium Ordinance revisions would apply to 31 of the 111 Zone 2 lots located in the Portuguese Bend community. As stated above, there are no public views from within the project area, nor are there existing views of the project area from a designated state scenic highway. Public viewsheds of the site are limited to public roads and parks to the north, and from the public trails along the hillsides to the north and east of the site. Private views of the site are available from existing residences and roads in the community, as well as from residential properties on the hillsides to the north of the site.

As illustrated in the aerial view provided as Figure 2-2 in Section 2.0 *Project Description*, individual lots in the 112-acre project area contain vegetation of varying types and densities. Both native and non-native trees and vegetation are present on the vast majority of the 69 developed parcels and the 11 lots that have obtained planning entitlements for development via Exception "P". Existing vegetation on the 31 undeveloped lots range from sparsely vegetated with non-native grasses to densely vegetated with mature tree stands.

As indicated in Section 4.3, *Cultural Resources*, there are no registered historic buildings identified within the project area. While there are small existing rock outcroppings on hillside slopes located throughout the area, the development sites contain no other scenic resources, such as prominent rock outcroppings, that could be substantially damaged with the development of 31 residences on undeveloped Zone 2 lots. Additionally, there are no designated or proposed state scenic highways in close proximity to the project area.

Development of up to 31 residences may necessitate the removal or alteration of existing mature trees and vegetation for the purposes of site grading, construction and fire protection through fuel modification. As noted under Setting, tree groupings in the project area are identified as scenic resources in the General Plan. Tree removal associated with potential development that could be facilitated by the proposed ordinance revisions within or adjacent to the identified tree groupings would be a potentially significant impact to scenic resources.

Mitigation Measures. The following measure would reduce impacts to scenic resources to a less than significant level.

AES-2 **Avoidance of Tree Removal.** As part of approvals for development on the individual subject lots, the City shall require that future development on the affected lots avoid removal of or substantial damage to existing trees to the extent feasible and provided that such

trees do not obstruct views in accordance with Section 17.02.040 of the RPVMC. Where tree removal or substantial damage cannot be feasibly avoided during development, tree replacement shall be required using a ratio, stock, species and monitoring requirements sufficient to ensure a minimum 1:1 replacement five or more years after removal. When selecting replacement tree species, consideration should be given to species that, as they grow to full stature, would be less likely to result in obstruction of views for adjacent properties.

Significance After Mitigation. Implementation of the above mitigation measure would reduce impacts to a less than significant level.

Impact AES-3 The potential development of additional residences in the Zone 2 project area would introduce new structures and new landscaping and hardscape on up to 31 open and mostly undeveloped sites throughout the Portuguese Bend community. This would incrementally increase the density of development throughout the 112-acre project area. Although the general land use pattern and scale and type of development would be maintained, impacts to the existing visual character and quality of the project area and its surroundings would be Class II, *less than significant with mitigation incorporated.*

The existing visual character of the 112-acre project area is defined by the existing single-family residences, vegetation and open spaces amidst highly variable topography. Lots in the Portuguese Bend community are generally ¼ acre to 1 or more acres in size. Developed lots contain mainly one-story single-family houses constructed in the 1950s and 1960s that range from approximately 1,200 square feet to 3,500 square feet. Undeveloped vacant lots in the project area are characterized by highly variable topography ranging from relatively flat to steeply sloping land, and are vegetated with scrub, grasses, and mature trees of varying densities. Due to its sloping vegetated hillsides, open spaces, bucolic feel and varied scales and styles of residential development, the visual character of the project area is of high quality. Existing conditions are shown in Figure 2-3 (a-c) in Section 2.0, *Project Description*, and Figure 4.1-1.

The proposed Landslide Moratorium Ordinance revisions would result in the alteration of the visual character of the individual undeveloped lots and the project area as a whole by permitting individual property owners to apply for individual entitlements to develop their lots. This would increase the density of development within the 112-acre project area by up to 31 additional single-family residences and associated accessory structures. New residences facilitated by the ordinance revisions would be located on up to 31 lots dispersed through the project area, with the greatest change to visual character affecting areas in the northern and western portion of the project where affected lots are more generally concentrated in groups. These groups are mostly located along the western extent of Narcissa Drive; the east side of Plumtree Road; and the northern extent of Cinnamon Lane, as shown on Figure 2-2 in Section 2.0, *Project Description*. In addition to the new structural development, the project would introduce formal landscaping, hardscaping, and fuel modification to parcels within the project

area, which are currently vegetated with grasses, trees and brush. This is a potentially significant impact.

Mitigation Measures. The following mitigation measures are designed to ensure that new residences would be visually consistent with the surrounding neighborhood by adhering to the residential building standards set forth by the PBCA and Municipal Code Section 17.02.030, in addition to the Code's requirement that new residences "shall be compatible with the character of the immediate neighborhood."

AES-3 Consistency with RPVMC Section 17.02.030. All new residences shall be consistent with the standards contained in Section 17.02.030 of the RPVMC or will be subject to the requirements of RPVMC Section 17.02.040. Prior to any grading or building permit issuance, all new residences shall be subject to neighborhood compatibility analysis under the provisions of Section 17.02.030.B (Neighborhood Compatibility) of the Rancho Palos Verdes Municipal Code to verify consistency.

Significance After Mitigation. Impacts to the existing visual character would be reduced to a less than significant level with incorporation of Mitigation Measure AES-2 as all single-family residences built would be expected to be consistent with existing neighborhood character. With adherence to Mitigation Measure AES-3, the development of 31 undeveloped lots with single-family residences would not significantly degrade the visual character of the 112-acre project area because although it would incrementally intensify development, the existing character of the neighborhood would be generally maintained. In general, the overall visual experience of the project area would not be substantially altered from its current semi-rural residential setting.

Impact AES-4 **The proposed ordinance revisions would result in new sources of light and glare within the project area due to introduction of up to 31 new residences and associated lighting. Some of the new light and glare would be visible from public and private viewpoints. This would be a Class II, less than significant impact with mitigation incorporated.**

Development resulting from the proposed ordinance revisions would introduce new sources of glare in the form of additional cars on neighborhood roads or light-colored building materials and hardscape. In general, although glare would incrementally increase, it would be similar to that already generated by existing residences and private roads, and due to the existing limited view corridors and varying topography, it would not be significant.

The proposed project would facilitate new lighting on up to 31 of the currently undeveloped and unlit lots within the project area. This lighting would be in the form of outdoor fixtures illuminating private driveways and yards, as well as lighting from within new buildings. The new lighting would be expected to be generally similar to lighting associated with existing residences adjacent to or in proximity to the affected lots, but would incrementally increase the lighting throughout much of Zone 2. This is a potentially significant impact.

Mitigation Measures. The following mitigation measure would ensure that new residences adhere to the municipal code requirements related to exterior illumination.

AES-4 Exterior Illumination. Exterior illumination for new residences shall be subject to the provisions of Section 17.56.030 (Outdoor Lighting for Residential Uses) of the RPVMC. Key standards that must be adhered to include the following:

- *No outdoor lighting shall be permitted where the light source is directed toward or results in direct illumination of a parcel of property or properties other than that upon which such light source is physically located. Individual, nonreflector, incandescent light bulbs, not exceeding 150 watts each, or an aggregate of 1,000 watts for each lot or parcel shall be permitted. On lots exceeding 15,000 square feet, an additional 100 watts in the aggregate shall be permitted for each 1,500 square feet of area or major fraction thereof, by which the lot or parcel exceeds 15,000; provided, that in no event shall the aggregate exceed 2,000 watts. As used herein, the term "watts" is irrespective of the voltage.*
- *No outdoor lighting shall be permitted where the light source or fixture, if located on a building, above the line of the eaves, or if located on a standard or pole, [is] more than 10' above grade.*

Significance After Mitigation. Adherence to the code requirements listed above in Mitigation Measure AES-4 would reduce the impacts of lighting from new residential development to less than significant levels.

c. Cumulative Impacts. In general, the proposed ordinance revisions combined with other pending projects in and around Rancho Palos Verdes could contribute toward creating a more built-out, developed community. However, no projects on the cumulative projects list (see Table 3-1 in Section 3.0, *Environmental Setting*) are near enough to the proposed project area to directly contribute to a cumulative visual impact in a common viewshed. The proposed ordinance revisions would not facilitate subdivision of existing lots, so the development pattern would maintain the existing RS-consistent lot density. While the addition of 31 new residences would contribute to the overall buildout of the Portuguese Bend community, the cumulative impacts to scenic views, resources and visual character are considered less than significant with the mitigation measures identified (mitigation measures AES-2 and AES-3). Cumulative impacts related to light and glare would also be less than significant with incorporation of Mitigation Measure AES-4, which would ensure that exterior illumination on new residences adheres to the existing municipal code requirements.

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4.2 AIR QUALITY

This section analyzes the proposed ordinance revisions' short-term (temporary) and long-term impacts to local and regional air quality. Greenhouse gas emissions are discussed in Section 4.6, ; fYb\ci gY; Ūg9a lggjcbg

4.2.1 Setting

a. Climate and Meteorology. The semi-permanent high pressure system west of the Pacific coast strongly influences California's weather. The Mediterranean climate of the region and the coastal influence produce moderate temperatures year round, with rainfall concentrated in the winter months. The sea breeze, which is the predominant wind, is a primary factor in creating this climate and typically flows from the west-southwest in a day-night cycle with speeds generally ranging from 5 to 15 miles per hour. The sea breeze maintains the cool temperatures and clean air circulation and generally prevents warmer inland temperatures and air pollution from permeating into the Peninsula, except under certain seasonal conditions such as the offshore Santa Ana winds (City of Rancho Palos General Plan 2018).

Two types of temperature inversions (warmer air on top of colder air) are created in the area: subsidence and radiational (surface). The subsidence inversion is a regional effect created by the Pacific high in which air is heated as it is compressed when it flows from the high pressure area to the low pressure areas inland. This type of inversion generally forms at about 1,000 to 2,000 feet and can occur throughout the year, but is most evident during the summer months. Surface inversions are formed by the more rapid cooling of air near the ground during the night, especially during winter. This type of inversion is typically lower and is generally accompanied by stable air. Both types of inversions limit the dispersal of air pollutants within the regional airshed, with the more stable the air (low wind speeds, uniform temperatures), the lower the amount of pollutant dispersion. The primary air pollutant of concern during the subsidence inversions is ozone, while the greatest pollutant problems during winter inversions are carbon monoxide and nitrogen oxides.

b. Air Pollution Regulation. Federal and State standards have been established for six criteria pollutants, including ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulates less than 10 and 2.5 microns in diameter (PM₁₀ and PM_{2.5}), and lead (Pb). California has also set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. Table 4.2-1 lists the current federal and State standards for criteria pollutants.

Rancho Palos Verdes is located within the South Coast Air Basin (Basin), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD is required to monitor air pollutant levels to ensure that air quality standards are met and, if they are not met, to develop strategies to meet the standards. Depending on whether the standards are met or exceeded, the local air basin is classified as being in "attainment" or "non-attainment." The Basin is designated a nonattainment area for the federal and State one-hour and eight-hour ozone standards, the State PM₁₀ standards, the federal 24-hour PM_{2.5} standard, and the federal and state annual PM_{2.5} standard. The Basin is in attainment of all other federal

and state standards. Characteristics of ozone, carbon monoxide, nitrogen dioxide, and suspended particulates are described below.

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Ozone. Ozone is produced by a photochemical reaction (triggered by sunlight) between nitrogen oxides (NO_x) and reactive organic gases (ROG). NO_x is formed during the combustion of fuels, while reactive organic gases are formed during combustion and evaporation of organic solvents. Because ozone requires sunlight to form, it mostly occurs in substantial concentrations between the months of April and October. Ozone is a pungent, colorless toxic gas with direct health effects on humans including respiratory and eye irritation and possible changes in lung functions. Groups most sensitive to ozone include children, the elderly, persons with respiratory disorders, and people who exercise strenuously outdoors.

Carbon Monoxide. CO is a local pollutant that is found in high concentrations only near a source of carbon monoxide. The major source of CO, a colorless, odorless, poisonous gas, is automobile traffic. Elevated concentrations, therefore, are usually only found near areas of high traffic volumes. CO's health effects are related to its affinity for hemoglobin in the blood. At high concentrations, CO reduces the amount of oxygen in the blood, causing heart difficulty in people with chronic diseases, reduced lung capacity and impaired mental abilities.

Nitrogen Dioxide. NO₂ is a by-product of fuel combustion, with the primary source being motor vehicles and industrial boilers and furnaces. The principal form of nitrogen oxide produced by combustion is nitric oxide (NO), but NO reacts rapidly to form NO₂ creating the mixture of NO and NO₂ commonly called NO_x. Nitrogen dioxide is an acute irritant. A relationship between NO₂ and chronic pulmonary fibrosis may exist, and an increase in bronchitis in young children at concentrations below 0.3 parts per million (ppm) may occur.

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NO₂ absorbs blue light and causes a reddish brown cast to the atmosphere and reduced visibility. It can also contribute to the formation of PM₁₀ and acid rain.

Suspended Particulates. Atmospheric particulate matter is comprised of finely divided solids and liquids such as dust, soot, aerosols, fumes, and mists. The particulates that are of particular concern are PM₁₀ (which measures no more than 10 microns in diameter) and PM_{2.5}, (a fine particulate measuring no more than 2.5 microns in diameter). The characteristics, sources, and potential health effects associated with the small particulates (those between 2.5 and 10 microns in diameter) and PM_{2.5} can be different. Major man-made sources of PM₁₀ are agricultural operations, industrial processes, combustion of fossil fuels, construction, demolition operations, and entrainment of road dust into the atmosphere. Natural sources include wind blown dust, wildfire smoke, and sea spray salt. The finer, PM_{2.5} particulates are generally associated with combustion processes as well as being formed in the atmosphere as a secondary pollutant through chemical reactions. PM_{2.5} is more likely to penetrate deeply into the lungs and poses a serious health threat to all groups, but particularly to the elderly, children, and those with respiratory problems. More than half of the small and fine particulate matter that is inhaled into the lungs remains there, which can cause permanent lung damage. These materials can damage health by interfering with the body's mechanisms for clearing the respiratory tract or by acting as carriers of an absorbed toxic substance.

c. Current Air Quality. The SCAQMD operates a network of air quality monitoring stations throughout the Basin. The purpose of the monitoring stations is to measure ambient concentrations of pollutants and determine whether ambient air quality meets the federal and California standards. The air quality monitoring station located nearest to the project area is the Long Beach Monitoring Station located at 2425 Webster Street, approximately 13 miles northeast of the project area. Ambient air quality obtained from this station characterizes the air quality representative of the ambient air quality in the project area.

Based on available information for the Long Beach Monitoring Station, Table 4.2-2 on the following page indicates the number of days that each of the standards has been exceeded in the last three years. As shown, the ozone concentration did not exceed the federal or state standards in 2015, 2016 and 2017. The NO₂ concentration exceeded the federal standard once in 2015, and did not exceed state standards in 2015, 2016 and 2017. In addition, the PM₁₀ concentration exceeded the state standard six days in 2015, and did not exceed federal standard in 2015, 2016 and 2017, while the PM_{2.5} concentration exceeded the federal standard three days in 2015 and four days in 2017. "

d. Air Quality Management. Under state law, the SCAQMD is required to prepare a plan for air quality improvement for pollutants for which the District is in non-compliance. The SCAQMD updates the plan every three years. Each iteration of the SCAQMD's Air Quality Management Plan (AQMP) is an update of the previous plan and has a 20-year horizon. The 2016 AQMP, adopted on March 3, 2017, incorporates new scientific data and notable regulatory actions that have occurred since adoption of the 2012 AQMP, including the approval of the new federal 8-hour ozone standard of 0.070 ppm that was finalized in 2015.

The 2016 AQMP addresses several federal and state planning requirements and incorporates new scientific information, primarily in the form of updated emissions inventories, ambient

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especially those with cardio-respiratory diseases. The majority of sensitive receptor locations are therefore residences, schools, and hospitals. Sensitive receptors in the project area are single family residences adjacent to those lots that would potentially be developed under the proposed project, and the Portuguese Bend Riding Club, a private recreational facility. Although the distances to neighboring residences vary from lot to lot, for the purposes of this EIR analysis, using a conservative estimate, it is assumed that sensitive receptors would be approximately 50 feet from the location of grading and construction activities at any of the project's 31 lots in Zone 2.

4.2.2 Impact Analysis

a. Methodology and Significance Thresholds. This air quality analysis conforms to the methodologies recommended in the SCAQMD's 79E 5 5]fEiU]lm< UbXkc_ (1993). The handbook includes thresholds for emissions associated with both construction and operation of proposed projects.

Project construction would generate diesel emissions and dust on a short-term basis. Construction equipment that would generate criteria air pollutants includes excavators, graders, cranes, dump trucks, and loaders. Some of this equipment would be used during grading activities, as well as during building construction. It is assumed that all construction equipment used would be diesel-powered. The project's construction and operational emissions were estimated using the California Emissions Estimator Model (CalEEMod), version 2016.3.2. CalEEMod uses project-specific information, including the project's land uses, square footages of proposed uses, and location, to estimate a project's construction and operational emissions from new development. Short-term construction emissions include emissions generated by construction equipment, such as backhoes and bulldozers operating on the project area, as well as emissions generated by off-site vehicle trips associated with construction, such as hauling trips and worker travel to and from the project area. Long-term operational emissions include mobile source emissions (i.e., vehicle emissions), energy emissions (primarily natural gas combustion), and area source emissions (emissions generated by landscape maintenance equipment, consumer products, and architectural coatings).

Temporary construction emissions estimates were modeled using CalEEMod based on development of 31 single-family residences. The model considers six construction phases: 1) demolition; 2) site preparation; 3) grading; 4) building construction; 5) paving; and 6) architectural coating. For the purposes of this analysis it was assumed that total grading would be approximately 31,000 cubic yards (approximately 1,000 cubic yards per lot) and the maximum amount of imported soil would be approximately 1,550 cubic yards (or 50 cubic yards per lot). CalEEMod default scheduling for construction phases were used and it was assumed that all 31 lots would be developed by the year 2022 (i.e., over a span of approximately four years beginning in 2019). This is a conservative scenario assumption, since individual lots would be developed independently and thus construction schedules would likely occur over a longer period. Construction equipment would include tractors, loaders, backhoes, dozers, and saws (See Appendix B for the construction equipment mixes).

Long-term operational emissions associated with on-site development were estimated using CalEEMod and the information provided in the Transportation Impact Study prepared by LLG

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Engineers in January 2019. Operational emissions would be comprised of mobile source emissions, energy emissions, and area source emissions. Mobile source emissions are generated by the increase in motor vehicle trips to and from the project area associated with residential development. Emissions attributed to energy use include electricity and natural gas consumption for space and water heating. Area source emissions are generated by landscape maintenance equipment, consumer products and architectural coating. To determine whether a regional air quality impact would occur, the increase in emissions would be compared with the SCAQMD's recommended regional thresholds for operational emissions.

Regional Thresholds. To determine whether a proposed project would have a significant impact to air quality, Appendix G of the 79E 5 ; i]XY]bYg questions whether a project would:

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As discussed in the Initial Study prepared for the proposed project in 2010 (see Appendix A), on-site development of single-family residences would not generate objectionable odors that would affect a substantial number of people. No industrial, agricultural or other uses typically associated with objectionable odors are proposed. Therefore, it is unlikely that the proposed project analyzed under this EIR would generate objectionable odors affecting a substantial number of people and the threshold related to objectionable odors is not further discussed.

The SCAQMD has developed specific numeric thresholds that apply to projects within the SCAB. The SCAQMD currently recommends that impacts associated with projects with construction-related mass daily emissions that exceed any of the following emissions thresholds should be considered significant:

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Table 4.2-3 on the following page lists the operational significance thresholds recommended by the SCAQMD. The SCAQMD also recommends that any operational emissions from individual projects that exceed these thresholds be considered cumulatively considerable. These thresholds apply to individual development projects only; they do not apply to the combined emissions generated by a set of cumulative development projects.

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Localized Significance Thresholds. In addition to the above thresholds, the SCAQMD has developed Localized Significance Thresholds (LSTs) in response to the Governing Board's Environmental Justice Enhancement Initiative (1-4), which was prepared to update the 79E 5' 5]f Ei U]m< UbXc. LSTs were devised in response to concern regarding exposure of individuals to criteria pollutants in local communities. LSTs represent the maximum emissions from a project that will not cause or contribute to an air quality exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest sensitive receptor, taking into consideration ambient concentrations in each source receptor area (SRA), project size, distance to the sensitive receptor, etc. However, LSTs only apply to emissions within a fixed stationary location, including idling emissions during both project construction and operation. LSTs have been developed for NO_x, CO, PM₁₀ and PM_{2.5}. LSTs are not applicable to mobile sources such as cars on a roadway (Final Localized Significance Threshold Methodology, SCAQMD, June 2003). As such, LSTs for operational emissions do not apply to on-site development as the majority of emissions would be generated by cars on the roadways.

LSTs have been developed for emissions within areas up to 5 acres in size, with air pollutant modeling recommended for activity within larger areas. The SCAQMD provides lookup tables for development sites that measure 1, 2, or 5 acres. The project area is located in Source Receptor Area 3 (SRA-3). For the purposes of this EIR, it is assumed that construction activity for multiple projects occurring simultaneously in Zone 2 would not disturb more than a combined 5-acre area at any one given time. According to the SCAQMD's publication :]bU'cW]nXG[| b]ZŪbhi f@GHLHfYg'cXg'A YhcX'c[mthe use of LSTs is voluntary, to be implemented at the discretion of local agencies. LSTs for construction are shown in Table 4.2-4.

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Regulatory Requirements. The project would comply with all applicable regulatory standards. In particular, the project would comply with 2016 CALGreen Code, in addition to SCAQMD Rules 403 and 1113, and all other applicable provisions of the SCAQMD. Rules 403 and 1113 were added as mitigation in CalEEMod, as discussed below. CALGreen standards include indoor water usage reduction, regulation of outdoor water usage, and construction waste reduction.

The grading phase involves the greatest amount of heavy equipment and the greatest generation of fugitive dust. For the purposes of construction emissions modeling, it was assumed that the project would comply with the SCAQMD Rule 403, which identifies measures to reduce fugitive dust and is required to be implemented at all construction sites located within the Basin. Therefore, the following conditions, which would be required to reduce fugitive dust in compliance with SCAQMD Rule 403, were included in CalEEMod for the site preparation and grading phases of construction.

1. **Minimization of Disturbance.** Construction contractors should minimize the area disturbed by clearing, grading, earth moving, or excavation operations to prevent excessive amounts of dust.
2. **Soil Treatment.** Construction contractors should treat all graded and excavated material, exposed soil areas, and active portions of the construction site, including unpaved on-site roadways to minimize fugitive dust. Treatment shall include, but not necessarily be limited to, periodic watering, application of environmentally safe soil stabilization materials, and/or roll compaction as appropriate. Watering shall be done as often as necessary, and at least twice daily, preferably in the late morning and after work is done for the day.
3. **Soil Stabilization.** Construction contractors should monitor all graded and/or excavated inactive areas of the construction site at least weekly for dust stabilization. Soil stabilization methods, such as water and roll compaction, and environmentally safe dust control materials, shall be applied to portions of the construction site that are inactive for over four days. If no further grading or excavation operations are planned for the area, the area shall be seeded and watered until landscape growth is evident, or periodically treated with environmentally safe dust suppressants, to prevent excessive fugitive dust.
4. **No Grading During High Winds.** Construction contractors should stop all clearing, grading, earth moving, and excavation operations during periods of high winds (20 miles per hour or greater, as measured continuously over a one-hour period).
5. **Street Sweeping.** Construction contractors should sweep all on-site driveways and adjacent streets and roads at least once per day, preferably at the end of the day, if visible soil material is carried over to adjacent streets and roads.

The architectural coating phase involves the greatest release of ROG. The emissions modeling for the proposed Project also includes the use of low-VOC paint (50 grams per liter (g/L) for non-flat coatings) as required by SCAQMD Rule 1113.

b. Project Impacts and Mitigation Measures.

Impact AQ-1 **On-site construction activity would generate temporary air pollutant emissions. However, emissions would not exceed SCAQMD regional or LST construction thresholds for ROG, NO_x, CO, PM₁₀ and PM_{2.5}. Therefore, construction-related air quality impacts would be Class III, less than significant**

Construction emissions are generally referred to as short-term (temporary) impacts of a project, but have the potential to represent a significant impact with respect to air quality. General site

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As shown in Table 4.2-5, emissions of ROG, NO_x, CO, PM₁₀ and PM_{2.5} would be below the SCAQMD construction thresholds. The LST thresholds only apply to those emissions generated by on-site construction activities, such as emissions from on-site grading, and do not apply to off-site mobile emissions. The LST thresholds for sensitive receptors 82 feet (25 meters) from the project area were used to illustrate the closest receptors, which are the existing single family residences neighboring the various lots in Zone 2. As indicated in Table 4.2-5, emissions

generated by temporary construction activities would be below LST thresholds for ROG, NO_x, CO, PM₁₀ and PM_{2.5} during all years of construction. Therefore, impacts related to construction emissions would be less than significant.

Mitigation Measures. Construction emissions would not exceed SCAQMD regional or LST thresholds; nevertheless, the following mitigation measures could be implemented to further reduce construction emissions. City code Section 17.56.020 requires that "All grading, landscaping and construction activities shall exercise effective dust control techniques, either through screening and/or watering. It is unlawful to cause or allow airborne dust or particles to leave a property and settle on, or otherwise impact in any way, surrounding properties." The following mitigation measures, which is consistent with RPVMC Section 17.56.020, is required to reduce particulate matter emissions associated with site preparation and grading activities. These measures are also consistent with SCAQMD Rule 403, which identifies measures to reduce fugitive dust.

AQ-1(a) Fugitive Dust Control Measures. The following shall be implemented during construction to minimize fugitive dust emissions:

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AQ-1(b) Construction Vehicles. Trucks and other construction vehicles shall not park, queue and/or idle at the construction sites or in the adjoining public or private rights-of-way before 7:00 AM Monday through Friday and before 9:00 AM on Saturday, in accordance with the permitted hours of construction stated in Section 17.56.020.B of the RPVMC.

Significance After Mitigation. Impacts would be less than significant without mitigation. The mitigation measures discussed above could be used to further reduce construction emissions.

Impact AQ-2 Operation of new residences that could be built as a result of the proposed ordinance revisions would generate air pollutant emissions. However, emissions would not exceed SCAQMD operational significance thresholds for ROG, NO_x, CO, PM₁₀ and PM_{2.5}. Therefore, operational air quality impacts would be Class III, less than significant.

Long-term emissions associated with residential development, as presented in Table 4.2-7, would include those emissions associated with vehicle trips (mobile emissions), natural gas and electricity use (energy use), and landscape maintenance equipment, consumer products and architectural coating (area emissions) associated with daily residential uses and operations.

CalEEMod was used to calculate emissions associated with potential development based on the land uses that would be allowed and the number of trips generated by the new development. Trip generation rates were taken from the EIR transportation study prepared by LLG (see Appendix G). As shown in Table 4.2-7, operational emissions would not exceed any SCAQMD threshold. Therefore, impacts would be less than significant.

Mitigation Measures. Operational emissions associated with each of the alternatives would not exceed SCAQMD thresholds. No mitigation measures are necessary.

Significance After Mitigation. Impacts would be less than significant without mitigation.

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Impact AQ-3 Traffic that could be generated by new residences constructed as a result of adoption of the proposed ordinance revisions, together with cumulative traffic growth in the area, would not create carbon monoxide concentrations exceeding state or federal standards. Localized air quality impacts would therefore be Class III, *less than significant*.

The SCAQMD defines typical sensitive receptors as residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. As stated above in Section 4.2.1, *GYHjb*, sensitive receptors in Zone 2 would include residents that live adjacent to the 31 undeveloped or underdeveloped lots in Zone 2. When evaluating potential air quality impacts to sensitive receptors, the SCAQMD is primarily concerned with high localized concentrations of CO. Motor vehicles, and traffic-congested roadways and intersections are the primary source of high localized CO concentrations. Localized areas where ambient concentrations exceed federal and/or State standards for CO are termed CO “hotspots.” CO emissions are a function of vehicle idling time, meteorological conditions, and traffic flow. Under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels (i.e., adversely affecting residents, school children, hospital patients, the elderly, etc.).

The Basin is in attainment of federal and state CO standards and has been for several years. Exhaust standards, cleaner burning fuels, and motor vehicle inspection and maintenance programs have all contributed to the reduced per-vehicle CO emissions. Based on available CO emissions data from the Long Beach monitoring station located at 2425 Webster Avenue, the maximum 8-hour CO level last recorded in 2012 was 2.57 parts per million (ppm), which was 71% lower than the 9 ppm state and federal 8-hour standard (California ARB 2017).

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Although CO is not expected to be a major air quality concern in Rancho Palos Verdes over the planning horizon, elevated CO levels can occur at or near intersections that experience severe traffic congestion. A project's localized air quality impact is considered significant if the additional CO emissions resulting from the project create a "hotspot" where the California 1-hour standards of 20.0 ppm or the 8-hour standard of 9 ppm is exceeded. This typically occurs at severely congested intersections. Screening for possible elevated CO levels should be conducted for severely congested intersections that experience levels of service (LOS) E or F with project traffic where a significant project traffic impact may occur. As shown in Table 4.10-3 in Section 4.10, all of the seven unsignalized intersections analyzed in the transportation study prepared by LLG Engineers (2019) currently operate at LOS D or worse during the AM, School PM, and PM peak hours. Because the project would result in significant traffic impacts at four intersections under existing plus project conditions and five intersections under Year 2030 conditions, increased CO concentrations at these intersections would be a potentially significant impact.

Mitigation Measures. As discussed under Impact T-1 in Section 4.10, Mitigation Measures T-1(a-e) would reduce congestion at affected intersections to less than significant levels. Therefore, with implementation of mitigation, CO hotspot impacts would be less than significant.

Significance after Mitigation. Impacts would be less than significant with proposed traffic mitigation.

Impact AQ-4 **Adoption of the proposed ordinance revision to allow 31 lots to be developed with single-family residences would have the potential to increase the City's population by approximately 84 persons. However, such growth would be a marginal increase above the City's existing population of 42,723 and population projections upon which the Air Quality Management Plan (AQMP) are based. Therefore, impacts associated with AQMP consistency for the project would be Class III, less than significant.**

A significant impact to air quality would occur if the proposed project would conflict with or obstruct implementation of the AQMP for the South Coast Air Basin. Although any development project would represent an incremental adverse impact on air quality in the basin, of primary concern is that project-related impacts have been properly anticipated in the regional air quality planning process and reduced whenever feasible.

According to the SCAQMD Handbook, the purpose of the consistency finding is to determine whether a project is inconsistent with the assumptions and objectives of the regional air quality plans, and thus whether it would interfere with the region's ability to comply with federal and state air quality standards. If a project is inconsistent, local governments need to consider project modifications or inclusion of mitigation to eliminate the inconsistency. Consistency with the AQMP implies that a project is consistent with the goals, objectives and assumptions in the respective plan to achieve the federal and state air quality standards.

Per the SCAQMD Handbook, there are two main indicators of a project's consistency with the AQMP:

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As indicated under Impact AQ-2, emissions associated with operation of up to 31 new residences would not exceed SCAQMD thresholds; therefore, the project satisfies the first criteria for consistency with the AQMP. In addition, implementation of the proposed project would not result in the formation of CO hotspots from the increase of LOS at study intersections (see Impact AQ-3).

A project may also be inconsistent with the AQMP if it would generate population, housing or employment growth exceeding the forecasts used in the development of the AQMP. The 2016 AQMP, the most recent AQMP adopted by the SCAQMD, incorporates in part local city general plans and the Southern California Association of Governments (SCAG) 2016 Regional Transportation Plan (RTP) socioeconomic forecast projections of regional population, housing and employment growth.

According to the SCAG growth forecasts, the City of Rancho Palos Verdes will have a population of 42,200 in (SCAG 2016). Development of 31 dwelling units on the development sites could cause a direct increase in the City's population. Using the State of California Department of Finance (DOF) average household size for Rancho Palos Verdes of 2.7 persons, the 31 dwelling units would generate an average resident population of approximately 84 persons (31 units x 2.7 persons/unit). The current City population is approximately 42,723, according to the most recent (January 1, 2018) California DOF estimate (California DOF 2018). Therefore, the proposed project would result in a total population of approximately 42,807 persons (42,723 + 84). Although this population would exceed the City's projected 2020 population of 42,200, the City is currently in exceedance of the forecast by 523 persons (42,723 - 42,200). The addition of approximately 84 persons would be a 0.2 percent increase above the City's existing population and is well within the population forecast for the South Coast Air Basin. Therefore, the incremental population growth associated with the project would not hinder attainment of air quality standards and impacts would be less than significant.

Mitigation Measures. No mitigation measures are required.

Significance after Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts. SCAQMD's approach to determining cumulative air quality impacts for criteria air pollutants is to first determine whether or not the proposed project would result in a significant project-level impact to regional air quality based on SCAQMD significance thresholds. If the project does not generate emissions exceeding SCAQMD thresholds, then the lead agency needs to consider the additive effects of related projects only if

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the proposed project is part of an ongoing regulatory program or is contemplated in a Program EIR, and the related projects are located within an approximately one mile radius of the proposed project area. If there are related projects within the vicinity (one-mile radius) of the proposed project area, that are part of an ongoing regulatory program or are contemplated in a Program EIR, then the additive effect of the related projects should be considered.

Because the proposed project is not part of an ongoing regulatory program, the SCAQMD recommends that project-specific air quality impacts be used to determine the potential cumulative impacts to regional air quality. As discussed under Impact AQ-2, the proposed project would result in an increase in daily operational emissions; however, emissions would not exceed the SCAQMD thresholds. As discussed under Impact AQ-3, project-generated traffic, together with other cumulative traffic in the area, would incrementally increase CO concentrations in the site vicinity. However, CO levels would not exceed federal or state standards.

Implementation of the proposed project would not result in an addition of criteria pollutants during operation of the project that would contribute to cumulative impacts in conjunction with related projects in the region. Because the proposed project would not generate emissions that exceed the SCAQMD's operational thresholds and the project is consistent with the AQMP, operation of the project would not make a cumulatively considerable contribution with regard to criteria pollutants. Therefore, the project's contribution to cumulative regional long term air quality impacts would not be cumulatively considerable.

As discussed under Impact AQ-1, construction-generated emissions would not exceed SCAQMD regional or LST thresholds for ROC, NO_x, CO, PM₁₀ and PM_{2.5}. Therefore, the project's contribution to cumulative regional air quality impacts would not be cumulatively considerable.

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4.3 BIOLOGICAL RESOURCES

This section analyzes the potential impacts to biological resources from the proposed Zone 2 Landslide Moratorium Ordinance revisions, which could facilitate the future development of up to 31 new single family residences on undeveloped lots within the Portuguese Bend community. Both direct impacts associated with site development and indirect impacts to off-site biological resources are addressed. The following analysis is based on a Habitat Assessment performed by Rincon Consultants in 2010 (January 2011; see attached Appendix C) and a biological resources reconnaissance survey conducted in 2018, which is described in this section and intended to update, as necessary, the prior 2010 assessment.

4.3.1 Setting

a. Site Setting. The project area is the 112-acre Zone 2 area located in the Portuguese Bend community within the City of Rancho Palos Verdes, County of Los Angeles, California. The project area is separated from residential areas of the City to the northeast and northwest by City-owned open space in the Palos Verdes Nature Preserve (PVNP, Preserve), which was formed under the California Natural Community Conservation Planning (NCCP) Act of 1991 and the federal Habitat Conservation Plan (HCP). The original updated NCCP/HCP was accepted by the City Council in August 2004, but was not finalized due to, among other things, contemplated changes to the configuration of the overall PVNP. Since 2004, the City in collaboration with the Wildlife Agencies (federal and state Fish and Wildlife Agencies) updated the City's NCCP/HCP for the City Council's consideration. The updated NCCP/HCP was accepted by City Council in March 2018 and on October 31, 2018, notice of receipt of the NCCP/HCP was given by the U.S. Fish & Wildlife Service and comments were requested. The PVNP is comprised of 12 subareas referred to as "reserves." The area to the northeast of the project area is the Portuguese Bend Reserve and to the northwest is the Filiorum Reserve (formerly known as the "Upper Filiorum"). To the south, southeast, and east of the project area are developed and undeveloped residential lots in the Portuguese Bend community, as well as the undevelopable "Neutral Lands" designated in the City's NCCP/HCP Subarea Plan. The project area consists of 111 lots, 80 of which are developed and 31 of which are undeveloped.

A biological resources survey of the project area was conducted on May 4, 2010, to characterize the existing habitat conditions within the project boundary plus an additional 100-foot wide area at the perimeter. The reconnaissance-level survey included a rapid assessment of all vegetative habitat types to define relatively large, ecologically cohesive regions. Since access to individual lots was not provided, specific lot-by-lot searches for special status plant and animal species were not conducted. The field reconnaissance was performed via binocular survey from the roadside of the individual lots. Open space areas and the outside perimeter of lots were walked where access was available. An additional survey was conducted on November 28, 2018 to assess any changes to project area conditions since the 2010 survey was conducted.

The 2010 and 2018 survey efforts were focused on those areas where undisturbed habitat types (i.e., coastal sage scrub and grassland) were thought to be present based on aerial photography. However, the survey efforts indicated that almost all of the study area had been highly disturbed by various activities. Therefore, the surveys concentrated on those areas containing irregular topography (i.e., slumps, swales, and outcrops), changes or transitions in vegetative



cover, and exposed rock outcrops because these represented the most suitable habitat for the target list of special-status species that were the focus of this investigation. General information gathered during the field reconnaissance included composition, habitat, site quality, dominant plant species, disturbance history, and anthropogenic impacts.

Assessment of the vegetative habitat types provides a method to define habitat quality and integrity for plant and animal distributions and the possible suitability for presence of special-status species. During the 2010 survey, an aerial photograph with APN property boundaries was used during the field surveys to assist in accurately mapping the extent of habitats encountered. The habitat map developed after the 2010 survey was used during the 2018 survey effort.

The habitats within the project boundary at the time of both surveys included undeveloped individual residential lots and contained a high level of disturbance, landscaping, and other human interaction. Aerial photography examined prior to the 2010 survey suggested the presence of coastal sage scrub-dominated plant communities along the perimeter of the project boundary. Furthermore, review of the maps prepared for the City's NCCP Subarea Plan (dated approximately 2004) indicated the presence of host plants for Palos Verdes Blue Butterfly and coastal sage scrub adjacent to the northwestern portion of the project area within the Filiorum Reserve, and coastal sage scrub along Altamira Canyon. However, during the 2010 survey it was found that the perimeter of almost all of the study area had been recently mowed or 'weed-wacked' to approximately 10 inches in height, presumably for fire clearance. Binocular survey of the habitats outside the 100-foot-wide buffer area observed patchy and highly disturbed coastal sage scrub habitat with limited distribution of California sage (*Artemisia californica*), California brittlebush (*Encelia californica*), blue elderberry (*Sambucus nigra* ssp. *canadensis*) and toyon (*Heteromeles arbutifolia*) surrounded by non-native annual herbs and grasses. The encelia-dominated coastal sage scrub mapped along Altamira Canyon at the northern project boundary was no longer intact, with the area grazed and mostly comprised of annual grassland with scattered native shrubs. Prior to the 2018 survey, current aerial maps, the 2010 General Habitat Map, and the 2018 NCCP/HCP were reviewed. During the 2018 survey, project area conditions were generally the same with additional residential developments added in areas that were identified as annual grassland or disturbed during the 2010 survey. A General Habitat Map is provided in Figure 4.3-1. This figure includes areas previously mapped as containing coastal sage scrub and remnant stands that may still be present, or could regrow in future years prior to development of individual lots. Appendix C contains the 2010 General Habitat Map.

b. Vegetation. Assessment of the existing habitats visible by the field reconnaissance is best described by the following two habitat types.

California annual grassland series/Ruderal/Disturbed Vegetation/Disturbed Areas. This habitat series includes a collection of species-specific stands strongly dominated by annual or short-lived plants composed of many non-native and native annual species. The series is found at elevations ranging from 0 – 3900 feet. Biotic factors (precipitation, temperature, canopy cover and topography) can vary the composition within a relatively small area (under 5 acres). While this is primarily defined as grassland, many annual herbaceous plants are commonly found within this habitat, with overall community height less than 3 feet. The comparable anthropogenic-ruderal community includes plants and plant communities that

thrive in disturbed areas commonly associated with waste areas, roadsides, agriculture, farming or similarly disturbed by human activity. Ruderal communities are dominated by non-native grasses or herbs originating from nearby cultivation, horticultural escapes or other outside sources (soil movement, animal disturbance).

The 2006 *Initial Management and Monitoring Report For The Rancho Palos Verdes Draft Natural Community Conservation Plan And Habitat Conservation Plan* (Dudek 2007) describes this habitat as either Disturbed Areas or Disturbed Vegetation, and refers to plant associations on lands where the vegetation has been significantly altered. The NCCP/HCP describes Disturbed Vegetation as habitats that occur on highly disturbed sites in urbanized areas (along roadsides, footpaths and previously graded areas) that support weedy broadleaf and grass species (RPV 2018). Disturbed Areas refers to areas where vegetation has been significantly altered by frequent disking or mowing specifically associated with fire protection and little to no vegetation cover remains. These habitats support typically non-native weedy broadleaf species, including Russian thistle (*Salsola tragus*), mustards (*Brassica* spp.), and annual non-native grasses.

The dominant species found within this habitat include tocalote (*Centaurea melitensis*), wild oats (*Avena fatua*), horehound (*Marrubium vulgare*), mustards (*Brassica nigra*, *Brassica campestris*, *Hirschfeldia incana*), fennel (*Foeniculum vulgare*) and bromes (*Bromus diandrus*, *B. hordeaceus*, *B. madritensis* ssp. *rubens*). Around the perimeter of the Portuguese Bend community, this habitat had been mowed in a 100-foot swath, presumably for prescribed fire clearance.

Exotic Woodland. This habitat includes non-native trees and shrubs along the Altamira Canyon drainage that bisects the Portuguese Bend community. Some of these introduced species are invasive and have dispersed into the adjacent grassland and native habitats. Within the survey area, this habitat abuts many of the developed properties and associated roadways. The dominant species found within this habitat include many non-native landscape trees, including multiple gum trees (*Eucalyptus* spp.), pepper trees (*Schinus molle*), acacia (*Acacia* spp.), myoporum (*Myoporum laetum*), pines (*Pinus* spp.) and olive trees (*Olea europaea*). Some small remnant stands of coastal sage scrub vegetation are present in this habitat type along Altamira Canyon.

c. Wildlife. The following species were observed at the time of the 2010 and 2018 surveys: coyote (*Canis latrans*), California ground squirrel (*Spermophilus beecheyi*), Audubon's cottontail (*Sylvilagus audubonii*), western fence lizard (*Sceloporus occidentalis*), American crow (*Corvus brachyrhynchos*), red-tailed hawk (*Buteo jamaicensis*), and mourning dove (*Zenaidura macroura*). In addition to domesticated species such as dogs, cats, and horses, an extensive population (approximately 80 individuals) of Indian peacocks (*Pavo cristatus*) were observed scattered around the Portuguese Bend community in both 2010 and 2018.

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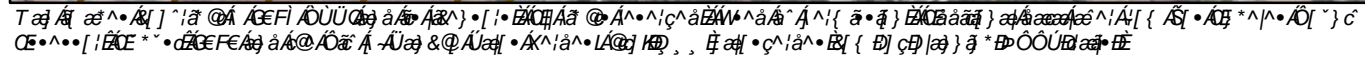


Figure 4.3-1

d. Wildlife Corridors. The project area is adjoined to the northeast and northwest by the Portuguese Bend and Filiorum Reserves of the PVNP, creating a contiguous section of regionally important habitat areas and natural vegetation. While these contiguous habitat areas are an important corridor for all wildlife, the Portuguese Bend Reserve and Filiorum Reserve also include designated California Gnatcatcher Critical Habitat. Altamira Canyon may also serve as a link for wildlife to pass through the study area; however, such movement is limited by existing residential land uses that are close to the drainage and the dominance of exotic woodlands within the drainage.

e. Special Status Species. A list of special-status species evaluated in this survey was developed based on a review of the California Natural Diversity Database (CNDDDB) RareFind5 (November 2018), species listed as part of the NCCP/HCP program, previous studies of the region, as well as Rincon staff knowledge of the area. Table 1 of the Habitat Assessment in Appendix C provides the California Native Plant Society (CNPS) Rare Plant Rank (RPR) Definitions and Table 2 provides the CNPS RPR Threat Code Extensions. The aforementioned databases were used to update the database search conducted in March 2010. The rankings and potential for occurrence of each species previously identified were revised as necessary. The CNDDDB Element Ranking system (Table 3 of the Habitat Assessment) provides a numeric global and state-ranking system for all special-status species tracked by the CNDDDB. The global rank (G-rank) is a reflection of the overall condition of an element (species or natural community) throughout its global range. The state rank (S-rank) is assigned much the same way as the global rank, except state ranks in California often also contain a threat designation attached to the S-rank.

Listed species are those that are formally listed as endangered or threatened by the federal government (e.g. U.S. Fish and Wildlife Service [USFWS]), pursuant to the Federal Endangered Species Act (FESA) or as endangered, threatened, or rare (for plants only) by the State of California (i.e. California Department of Fish and Wildlife [CDFW]), pursuant to the California Endangered Species Act (CESA) or the California Native Plant Protection Act. During the listing process for federal species, "critical habitat" may also be designated. Additional species are considered rare (but not formally listed) by various resource agencies, organizations with biological interests/expertise (e.g., Audubon Society, CNPS, The Wildlife Society), and the scientific community. As part of the City's NCCP/HCP process, several taxa are included as "covered species" and are considered locally rare.

Special Status Plants. Due to the highly disturbed and landscaped nature within the project boundary and the recently mowed condition of the 100-foot buffer area at the time of the May 2010 and November 2018 field reconnaissance surveys, none of the sixteen (16) special status plants are considered to be likely to be found within the survey area. Special status plants could potentially occur within the patchy coastal sage scrub outside the survey area but none were observed during the reconnaissance survey. Additionally, no rare plants were found near the vicinity of the Portuguese Bend community during previous botanical surveys conducted for the Draft NCCP/HCP (Dudek April 2007). No critical habitat for listed threatened or endangered plants occurs within the survey area (U.S. Fish and Wildlife Service (USFWS) Critical Habitat Portal. Table 4.3-1 lists the special status plant species and their regulatory status, habitat and ecological requirements.

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Special Status Wildlife. Due to the highly disturbed and landscaped nature of the project area and the recently mowed condition of the 100-foot buffer area, none of the sixteen (16) special status wildlife species are likely to be found survey area except on a rare, transient basis. Special status wildlife could potentially occur within the patchy coastal sage scrub outside the survey area, but no suitable habitat for these species, including larval and adult host plants, were observed within the study area boundaries. Table 4.3-2 provides the listed wildlife species and their regulatory status, habitat and ecological requirements.

7cUgU`7U]Zfb]U; bUWwWf" Coastal California gnatcatcher (CAGN) is listed as a federally threatened species (USFWS 1993) and a CDFW Species of Special Concern. Coastal California gnatcatcher is the northernmost of three subspecies currently recognized for the species. It is restricted to arid, lowland areas and has a range from southwestern California to northwestern Baja California. Within the U.S., the current range of the coastal California gnatcatcher is generally within San Diego, Orange, Los Angeles, eastern Ventura and western Riverside counties. It is a permanent resident of coastal sage scrub-dominated plant communities generally below 2,000 feet, and while strongly associated with coastal sage scrub, it will also use chaparral, grassland, and riparian plant communities where they occur adjacent to or intermixed with sage scrub. While it is found in coastal sage scrub, not all areas classified as coastal sage scrub are occupied. The breeding season of the CAGN extends from about February 15 through August 31, with the peak of nesting activity occurring from mid-March through mid-May. CAGN normally requires at least five to ten acres of coastal sage scrub for nesting and foraging, but CAGN have been observed breeding in small patches of suitable sage scrub surrounded by urban development, with the smallest being 0.5 acre. Despite the patchiness of CAGN distribution, the density of CAGN was highest in high-quality habitat and decreased as habitat quality decreased. Potential population size within the United States may range from 5,000 – 10,000 pairs.

The survey area contains no intact coastal sage scrub habitat, with only some scattered stands of this vegetation type apparently left along Altamira Canyon. Because coastal California gnatcatchers are present within the adjacent PVNP, with known presence in the Filiorum Reserve to the north of the study area (URS 2004, CDFW 2018 [Occurrence 30 from 2006]) and within the Portuguese Bend Reserve (Cooper 2018, CDFW 2018 [Occurrence 108 from 2006]), an occasional transient bird may be found in the study area on rare occasions, but no breeding or long term residency is likely or expected given the lack of suitable habitat. No protocol level studies are recommended for the study area as it does not contain the Primary Constituent Elements (PCEs) for the coastal California gnatcatcher, namely coastal sage scrub habitat or non-sage scrub habitat near to coastal sage scrub that could provide space for dispersal, foraging, and nesting.

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The existing NCCP/HCP discusses the Palos Verdes blue butterfly. Per Mattoni 1995, suitable habitat that includes the food plant *5gfU Ui ghf]WcdX g`cbWi g`and common deerweed *ŕēchi g`
gWdU]i g`is present within the NCCP/HCP areas to the north of the Portuguese Bend
community. URS (July 2004) reported historic sightings to the west of the study area (west of
Narcissa Drive) and to the northeast (northeast of Vanderlip Road), but not within the study
area. The NCCP/HCP areas may be receptor sites for additional captive raised butterflies.**

Within the survey area, suitable habitat for the Palos Verdes blue butterfly is generally lacking because of the long-term disturbance of the properties and management for fire prevention. None of the known host plants, either as vegetation, blooms or seed pods, were observed during the survey. Based on the above and the lack of known populations in this area over the last 30 years, areas within the project boundary and 100-foot-wide buffer are not expected to support the Palos Verdes blue butterfly.

*9`GY[i bX`6`i Y6i HmfZn`*The El Segundo blue butterfly is restricted to remnant coastal dune habitat in southern California. During monitoring conducted for the Draft NCCP/HCP (Dudek, 2007) it was documented along and at the base of the cliff bluffs approximately 1.8 miles west of the study area. Its host plant is *9f]c[cbi a `dUf]Z`li a` and the larvae feed only on this flower and its seeds; adults use this plant as a major nectar source. No 9f]c[cbi a`
dUf]Z`li a` were observed during the 2010 and 2018 habitat assessments, and past regular maintenance of the study makes it highly unlikely that this plant is present. No El Segundo blue butterflies would be expected in this area.*

*A cbUFWi HmfZn`*The monarch butterfly over-winters in southern California usually in tree groves or windbreaks near available water and nectar sources. The USFWS is currently conducting a Species Status Assessment of this species to determine if listing under FESA is warranted. This species commonly uses eucalyptus (*9i Wnalli* gsp.), cypress (*7i dfYgg* gsp.) and Monterey pine (*D]bi gfUŲU]* for roosting. While the Monarch butterfly is relatively abundant throughout the North American continent, along the west coast the availability of winter roost sites where the butterflies aggregate by the thousands of individuals is considered a potential concern. The monarch butterfly's preferred food source is milkweed (*5gWd]U*gsp.), although adults may also feed off nectar from coyote bush (*6UWUf]g'd`i `U]g` and mule fat (6UWUf]g`
gU]WZ`]U]. Monarch butterflies are commonly found in small numbers in landscaped gardens and would be expected to occur in the study area and throughout the City of Rancho Palos Verdes.*

Within the survey area suitable habitat for winter roost sites was present throughout, most centralized along the lower reach of Altamira Canyon within eucalyptus groves. Although roost sites were present, none of the preferred food source, milkweed, was observed during the survey. Further, neither the CNDDB nor the Xerces Society (2016) report any large winter aggregations in this area.

Î 7cUgUÎ `7UW gK fYb. Cactus wren is resident in arid and semiarid regions from southern California, southern Nevada, extreme southwestern Utah, central Arizona, central New Mexico, and central and southern Texas south to into Mexico and Baja California. The species is considered "common" over most of its range. Based on current taxonomic classifications of this species, the *7U]Zfb]U6]fXGdYNg`cZGdYU`7cbWfb* indicates that only the

San Diego cactus wren (7Uä dñcf\ñbWi g'Vi bbY|Wd|`i g'gUbX|Y Ybgg) is considered a CDFW species of special concern (see also GdW|U'5b|a Ugç CDFW November 2018). However, Cooper Ecological Monitoring, Inc. (2010) has stated that this taxonomic change is not accepted by all ornithologists and the geographic isolation of the local cactus wren qualifies it as a "sensitive species." No cactus wren territories were documented in the Portuguese Bend Reserve during the 2018 survey. However, three cactus wren territories were estimated to be within the Portuguese Bend Reserve during the 2012 surveys, the closest of which was located approximately 3,000 feet east of the project area. The project area lacks the cactus stands typically used by this species and its presence is not expected within the project area.

GUb 8|Y|c'8 YgfhK ccXU| This woodrat is a CDFW Species of Special Concern that occurs in scrub areas with moderate to dense canopies. San Diego desert woodrat is a small mammal whose range extends from San Luis Obispo County in the north to San Diego County in the south. Two species of woodrat, big-eared (dusky-footed) woodrat (B Yhra Ua U|ch|g) and San Diego desert woodrat (B Yhra U'Yd|XU|bhfä YXU) have ranges that overlap within the region. San Diego desert woodrat feeds on fruits, seeds and bark and is known to feed on cholla and buckwheat. Desert woodrats build elaborate dens with several chambers for nesting and food, as well as several entrances. Nests are usually made at the base of perennial vegetation with sticks, rocks, and other plant parts. They are often associated with large cactus patches, and within coastal sage scrub communities it is almost invariably associated with prickly pear cactus. It also is found in rocky outcroppings on hillsides in coastal scrub. Its nearest known location is within the coastal scrub community located approximately 0.5 miles to the south of the study area. Given the lack of prickly pear cactus and coastal sage scrub plants within the study area, and the proximity of residences that likely have cats which are efficient predators of this species, it is unlikely that this animal maintains a substantial population within the study area. If present within the study area, San Diego desert woodrat are most likely limited to the area along Altamira Canyon within the "Neutral Lands" category of the NCCP/HCP (see Figure 2).

f. Sensitive Communities and Critical Habitat. A search of the USFWS Critical Habitat Portal yielded one Critical Habitat designation in the project vicinity, that is for the California gnatcatcher (CAGN). The 2007 habitat mapping overlies a portion of the study area as illustrated in Figure 4.3-1, primarily in the northwest portion of the study area and the "Neutral Lands" in the southern portion. Critical habitat mapping is intended to contain those lands essential for the conservation of a species, but any such land within the mapped boundary must also contain the known physical or biological features (Primary Constituent Elements or PCEs) within the geographical area that are essential to the species conservation. For CAGN, the PCEs are 1) dynamic and successional sage scrub habitats and 2) non-sage scrub communities like chaparral, grassland, riparian areas, near to suitable sage scrub habitats. Within the project area and 100-foot-wide buffer area, neither coastal sage scrub habitat or key plant species associated with this habitat were found. Due to fire clearance requirements, it is expected that that 100-foot-wide buffer area will continue to be highly disturbed and high quality coastal sage scrub habitat preferred by the CAGN will not be allowed to establish. The maintained grasslands of portions of the project area are not considered to provide an important PCE under Item 2 above given the distance to quality coastal sage scrub habitat and the regular disturbance. It should also be noted that the designation of critical habitat does not place a regulatory burden on the private landowner; it only provides that federal agencies are to ensure that actions they fund, authorize, or carry out do not destroy or adversely modify critical habitat.

Special-Status Communities. In addition to sensitive plant species, Rincon's review of the CNDDDB (CDFW 2018) yielded one sensitive habitat within a five-mile radius of the project area; Southern Coastal Bluff Scrub. In 2010, absence of this habitat area was determined using the vegetation classification systems described by Sawyer et al.'s 5 'A Ubi U'cZ7U|Zfb|U J Y|YU|cb'(2009) and by the CDFW's DfY|a |bUfm8 YgM|dh|cbg'cZh YHmfYg|U B U| fU' 7ca a i b|H|Yg'cZ7U|Zfb|U(Holland, 1986) and surveying the project area for species associated with this sensitive habitat. In 2018, the project area was re-surveyed for species associated with this sensitive habitat.

Southern Coastal Bluff Scrub is a low, sometimes prostrate scrub and is widespread along the southern California coastline as a very narrow band, often not extending more than about 100 feet inland. Plants usually cling to nearly vertical rock faces just above the surf. Dominant plants associated with this habitat include California sagebrush (5 g|ã |g|UW|Zfb|W), California buckwheat (9f|c| cbi a Zg|W|U| a), coast cholla (7m|bXcdi bh|Udfc`|ZfU), and coast prickly pear (C di bh|U`|HcfU|g). Dominant associated plants, vertical rock faces, and proximity to the surf which define this community type are lacking within the project area and buffer area.

Palos Verdes Nature Preserve (PVNP). The Palos Verdes Peninsula Land Conservancy (PVPLC) serves as the City's management agency for the Palos Verdes Nature Preserve. The Preserve was formed under a NCCP Subarea Plan to "maximize benefits to wildlife and vegetation communities while accommodating appropriate economic development within the City of Rancho Palos Verdes and region pursuant to the requirements of the NCCP Act and Section 10(a) of the ESA" (URS July 2004). As a primary component of the NCCP, a Preserve design was proposed to conserve regionally important habitat areas and provide habitat linkages to benefit sensitive plants and wildlife. PVPLC manages the Preserve under an operating agreement with the City. The NCCP includes include a Habitat Conservation Plan (HCP) which "provides an opportunity for species protection and habitat conservation within the context of non-Federal development and land use activities" (RPV 2018).

The Portuguese Bend and Filiorum Reserves are located to the northeast and northwest of the Portuguese Bend community, respectively (see Figure 4.3-1). The Portuguese Bend Reserve does not directly adjoin the project area, but is on the other side of Narcissa Drive and Vanderlip Drive from the project area. The Filiorum Reserve adjoins three of the lots within the project area in the northern portion of the area along Altamira Canyon, but is otherwise separated from the project area by an open space lot on the northwest and roadway on the northeast. The following further discusses these nearby reserves.

Portuguese Bend Reserve. The Portuguese Bend Reserve is a 409.8-acre area that was acquired in 2005. It consists of rolling hills, steep canyons and rock outcrops, with significant habitat and spectacular views of the Pacific Ocean and Santa Catalina Island. Located below and to the east of Del Cerro Park, it includes the areas known as the lemonade-berry parcel, eagle's nest, the badlands, the active landslide and the dirt extension of Crenshaw Boulevard. This area has numerous important trails and geologic features such as Ailor cliff and the pillow lava outcrop. Multiple sightings of the CAGN were recorded during 2018 surveys (Cooper 2018).

Filiorum Reserve. The Filiorum Reserve is a 208-acre area that was added to the previous NCCP agreement on December 31, 2009, and renamed from "Upper Filiorum" to "Filiorum Reserve" on May 15, 2012. This parcel connects the Three Sisters and Portuguese Bend Reserves and is a mix of steep hills and bowl-like, flatter areas covered in grasses and coastal sage scrub. It is known to contain a population of CAGN and host plants for the Palos Verdes Blue Butterfly.

g. Regulatory Setting.

Rancho Palos Verdes General Plan. The goal of the City of Rancho Palos Verdes' 2018 General Plan Conservation and Open Space Element is to conserve, protect, and enhance its natural resources, beauty, and open space for the benefit and enjoyment of its residents and the residents of the entire region. All future development is to recognize the sensitivity of the natural environmental and be accomplished in such a manner as to maximize the protection of it.

Rancho Palos Verdes Municipal Code. The City's Municipal Code provides another layer of environmental protection to lands located within the city limits. Section 17.40.040 of the City's Municipal Code provides the regulations for the Natural Overlay Control District (OC-1), which includes those areas of the General Plan within Resource Management (RM)-5 (Old Landslide Area), RM-6 (Hydrologic Factors), RM-7 (Marine Resource), RM-8 (Wildlife Habitat), RM-9 (Wildlife Habitat), and RM-10 (Natural Vegetation). Similar designations within the Coastal Specific Plan are also within this overlay district. According to the City's General Plan Conservation and Open Space Element, Altamira Canyon is located within RM 6 – Hydrologic Factors, which is included within OC-1. Within this district it is the City's policy to maintain and enhance land and water areas necessary for the survival of valuable land and marine-based wildlife and vegetation; and enhance watershed management, control storm drainage and erosion, and control the water quality of both urban runoff and natural water bodies within the city.

Chapter 17.41 establishes policies, regulations, and standards that reduce adverse impacts on threatened or endangered species, which could be directly created or indirectly induced by the unregulated removal of coastal sage scrub habitat and other vegetation that is occupied by threatened or endangered species, regardless of whether such removal occurs in connection with proposed and existing developments. Coastal sage scrub habitat has been designated by the United States Fish and Wildlife Service as critical habitat essential for the continued survival of, among other species, the coastal California gnatcatcher. Specifically, Chapter 17.41 establishes a regulatory process for approval of weed abatement and other activities undertaken on properties that are greater than two acres in size and contain coastal sage scrub habitat to ensure that such activity does not jeopardize the continued viability of any endangered or threatened species due to the removal of, or impact to, occupied habitat.

Neutral Lands. This category was developed under the NCCP Subarea Plan (URS July 2004) to include those open space lands that would contribute to the Palos Verdes Nature Preserve function as they cannot be developed because of extreme slopes, open space hazard zoning, or designation as homeowner's association open space. In the 2018 update to the NCCP/HCP the Neutral Lands category remains identified as undevelopable; however,

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Alternative D for preserve design was selected and neutral land is not included in any of the preserves. In some instances, these lands are not prohibited from development, but it is recognized that development constraints already exist pursuant to the City's Municipal Code. Extreme slopes have a greater than 35% grade and occur in undeveloped canyons, such as Altamira Canyon. Open space hazard lands have unstable geologic conditions or other physical constraints requiring a detailed geotechnical investigation prior to removal from the open space hazard designation. Altamira Canyon in the southern portion of the study area is within the Neutral Lands category (see Figure 4.3-1) as it is within the RM-6 designation and controlled by the OC-1 regulations as discussed above.

Jurisdictional Drainages and Wetlands "Disturbed riparian habitat and drainage features located within the project boundary and 100-foot-wide buffer may contain waters and/or wetlands that are subject to the jurisdiction of the CDFW, the U.S. Army Corps of Engineers (USACE) and/or the Regional Water Quality Control Board (RWQCB). Altamira Canyon is an ephemeral drainage channel that originates at Crest Road and ends at the Pacific Ocean, trending northwest to southeast and bisecting the study area. The northern reach of the drainage within the study area bisects landscaped private property and non-native California annual grassland habitat within undeveloped/underdeveloped lots. The drainage crosses under Narcissa Drive via a storm drain and continues southeast through a steep-banked channel categorized as "Neutral Lands" within the NCCP/HCP. Vegetation along this lower drainage feature is dominated by exotic woodland habitat. The drainage channel has hydrological features such as an ordinary high water mark, and bed, bank, and channel characteristics, but lacks any native riparian habitat. The riparian habitat associated with the drainage throughout the project area is dominated by landscape shrubs and trees, primarily pepper trees, pines and eucalyptus, with an understory of non-native annuals and herbaceous perennials, exotic shrubs, and coastal sage scrub patches.

Based upon the 2010 and 2018 reconnaissance surveys, the drainage feature located within the project boundary may be subject to USACE, Los Angeles RWQCB and/or CDFW jurisdiction. The regulatory agencies make the final jurisdictional determination.

4.3.2 Impact Analysis

a. Methodology and Significance Thresholds. This impact analysis is based on the following: a review of previous biological studies available for the general area; a 2010 field survey of the general study area (which did not allow for detailed investigation of each lot); a 2018 reconnaissance survey to document changes in project area conditions; available literature regarding the existing biological resources within the project area; and, aerial photography.

CEQA, Chapter 1, Section 21001 (c) states that it is the policy of the State of California to "prevent the elimination of fish and wildlife species due to man's activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities." Environmental impacts relative to biological resources may be assessed using impact significance criteria encompassing CEQA guidelines and federal, state and local plans, regulations, and ordinances.

The State CEQA Guidelines Appendix G provides the following general statements to determine if significant impacts to biological resources could occur if a project action would:

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b. Project Impacts and Mitigation Measures.

Impact BIO-1 Potential development that would be facilitated by the proposed ordinance revisions would not significantly affect special status species due to the lack of suitable habitat, level and frequency of existing human disturbance in the project area, and existing regulations under the Natural Overlay Control District (OC-1) that would restrict construction to areas not likely occupied by the San Diego desert woodrat. While the increased human presence is considered adverse, it would not be substantially different or increased over existing conditions, and no significant effect is anticipated. Therefore, impacts to Special Status Species would be Class III, *less than significant*.

As discussed above, special status plant species are not expected to occur on a regular basis on the 31 lots or the adjacent maintained fuel management buffer because of past alteration of vegetation and the general lack of suitable habitat. In addition, the continued fuel management practices with or without the proposed project would virtually eliminate the ability of any sensitive plants to re-establish within these areas.

Most of the special status animals potentially in the area are not expected to be present on the potential development sites because of the lack of habitat. Mobile special status wildlife, such as coastal California gnatcatcher, could rarely occur within the landscaping shrubs present in the study area on a transitory basis during dispersal, but are not likely to be resident or present for long periods of time because of the lack of suitable foraging or nesting habitat. Given the level and frequency of human disturbance on-site and the lack of suitable coastal sage scrub habitat,

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future development of the individual lots is not expected to have a direct effect on coastal California gnatcatcher individuals. As noted in Table 4.3-2, no suitable habitat for listed butterflies is present within the study area.

San Diego desert woodrat is the only other special status animal anticipated to potentially occur within the site, possibly within the two lots in the south part of the study area along Altamira Canyon and within the RM-6 designated area. The drainage is steeply incised, with non-native ruderal areas located on the potentially developable upland areas. If developed, construction would not be expected to directly impact any woodrats that may be present as existing regulations under OC-1 would restrict construction to areas not likely occupied by woodrats.

Additional residences in the area would introduce a higher density of human disturbances, including light, noise, and domestic animals, into the vicinity of this special status species, as well as others. However, these elements are already present given the existing residential land uses within the study area and to the north and south. A potential problematic effect, the domestic cat, is already present. Available literature on the size of domestic cat home ranges and the extent to which they enter into adjacent natural areas varies considerably, with estimated home ranges in the 0.5 – 5-acre range and the ability to range 250 – 600 feet from their core residence. It should be noted that feral cats, as compared to domestic cats, can have core home range sizes that exceed 400 acres and have an average movement distance of 5 miles (Guttilla and Stapp, 2010). Any woodrats that may be present at the site are already subject to predation pressures from these human associated animals. However, while small mammals are the most likely prey of domestic cats ranging from residences, their impact on small mammal populations in adjacent reserves is minor. This is in substantial difference to the effect of feral and farm-based rural cats. Therefore, while the increased human presence is considered adverse, it is not substantially different than existing conditions, and no significant effect is anticipated. Impacts to special status species would be less than significant.

Mitigation Measures. None required.

Significance After Mitigation. Impacts to special status species would be less than significant without mitigation.

Impact BIO-2 Development of some of the undeveloped lots in Zone 2 has the potential to significantly impact existing or regrown Coastal Sage Scrub habitat, either through the direct removal of habitat during construction or as a result of Fire Department-mandated fuel modification on and/or off-site (i.e., in the Reserves) after construction of new residences. In that event, effects to this sensitive plant community would be Class II, *less than significant with mitigation incorporated.*

The project area does not contain any sensitive plant communities because previously mapped coastal sage scrub areas have been reduced to isolated stands. No riparian habitat is associated with the primary drainage, with much of the cover in this area comprised of non-native woodlands. The area adjacent to the Filiorum Reserve has already been cleared sufficiently to maintain adequate distance between the undeveloped lots and sensitive coastal sage scrub vegetation. Therefore, based on current conditions, the proposed project would not have a

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substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS. However, over time and depending on future fuel management activities, coastal sage scrub vegetation could become re-established in various areas within Zone 2 or in adjacent properties. As shown in Figure 4.3-1, some isolated patches of former coastal sage scrub (CSS) habitat may still be present within Altamira Canyon, which traverses several developed and undeveloped lots in Zone 2. In addition, several of the undeveloped lots in Zone 2 abut the City-owned Portuguese Bend Reserve, though fuel management of this Reserve already occurs and would continue under the NCCP/HCP. Nonetheless, it is possible that the development of some of the undeveloped lots in Zone 2 might have significant impacts upon existing or regrowth CSS habitat, either through the direct removal of habitat during construction or as a result of Fire Department-mandated fuel modification on- and/or off-site (i.e., in the Reserve) after construction of new residences is complete. Impacts to all habitats will be tracked as part of the City's overall habitat tracking efforts in compliance with Section 9.3.1 of the NCCP/HCP. In that event, effects to this sensitive plant community would be considered potentially significant.

Mitigation Measures. The following mitigation measure is recommended to reduce impacts to possible stands of CSS vegetation and to maintain consistency with the NCCP/HCP and local ordinances.

BIO-2 Habitat Mitigation. For lots identified as containing sensitive habitat on the City's most-recent vegetation maps and/or that abut any portion of the current or proposed future boundary of the Palos Verdes Nature Preserve, each applicant shall be required to prepare a biological survey as part of a complete application for the development of the lot. Said survey shall identify the presence or absence of sensitive plant and animal species identified in the City's adopted NCCP/HCP on the subject property, and shall quantify the direct and indirect impacts of construction of the residence upon such species, including off-site habitat impacts as a result of Fire Department-mandated fuel modification. The applicant and/or any successors in interest to the subject property shall be required to mitigate such habitat loss through the payment of a mitigation fee to the City's Habitat Restoration Fund in compliance with the NCCP/HCP Section 8.2.1.1 prior to issuance of any grading or building permit.

Significance After Mitigation. Implementation of the above mitigation measure would reduce impacts to a less than significant level through payment of mitigation fees to a fund that would preserve sensitive habitats within the PVNP.

Impact BIO-3 Construction activities within five lots adjacent to Altamira Canyon could potentially affect jurisdictional drainage areas. This impact would be Class II, less than *significant with mitigation incorporated*.

Altamira Canyon divides the study area into east and west portions. This drainage was surveyed during the 2010 and 2018 field reconnaissance surveys from available access points,

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and within those limited areas it did not contain any riparian or wetland habitat. Review of readily available aerial photographs does not indicate the presence of extensive riparian habitat or possible wetland areas. However, the drainage would be subject to the jurisdiction of the CDFW under Section 1600 et. seq. of the Fish and Game Code and possibly contains "waters of the US" subject to the jurisdictional control of the USACE. This drainage passes through or is adjacent to five lots within which construction activities could potentially affect jurisdictional areas. The extent to which jurisdictional areas may be altered is unknown as no specific building plans are under consideration. At the time individual lot construction is proposed, the potential for intrusion into jurisdictional areas will need to be assessed and the actual amount of possible fill or other disturbance within jurisdictional drainages determined. Regulatory policies by the jurisdictional agencies require mitigation for permanent loss of riparian habitat, wetlands, and waters of the US, and may also require mitigation for temporary losses. Impacts to all habitats will be tracked as part of the City's overall habitat tracking efforts in compliance with Section 9.3.1 of the NCCP/HCP.

An NOP response suggests that debris and silt from the project area are affecting intertidal species. As discussed in detail in Section 4.8, < nX`c`c[nUbXK Uhf Ei U]h new development projects on vacant lots abutting the Preserve approved by the City would include conditions, as appropriate, to reduce impacts related to surface runoff. As a co-permittee of the RWQCB National Pollution Discharge Elimination System (NPDES) Permit, the City is required to adopt a Standard Urban Stormwater Mitigation Plan (SUSMP). The majority of new development projects and significant redevelopment projects must meet SUSMP requirements to reduce pollution and runoff flows and the City's SUSMP includes a list of recommended source control and structural treatment Best Management Practices (BMPs). Nevertheless, because development of these lots may affect jurisdictional areas, this impact would be potentially significant.

Mitigation Measures. The following mitigation measures are recommended to provide for habitat restoration and ensure that regulatory permits have been appropriately obtained prior to work within jurisdictional areas.

BIO-3(a) Agency Coordination. The City shall review each application for construction and determine if proposed development is within the drainage channel in Altamira Canyon. If so, the applicant shall be required to obtain permits, agreements, and/or water quality certifications or correspondence indicating that none are necessary from applicable state and federal agencies regarding compliance with state and federal laws governing work within jurisdictional waters. Such agencies would include the California Department of Fish and Wildlife, the United States Army Corps of Engineers, and the Los Angeles Regional Water Quality Control Board. The applicant shall provide such permits and/or agreements to the City prior to issuance of any grading or building permit.

BIO-3(b) Habitat Restoration. In the event that an application for construction would result in the loss of riparian or wetland vegetation, the applicant shall restore such habitat at a minimum ratio of 2:1 for

temporary loss and 3:1 for permanent loss. Such restoration can occur either on-site or in disturbed areas of the Palos Verdes Nature Preserve as determined and approved by the City.

Significance After Mitigation. Implementation of the above mitigation measures would reduce impacts to a less than significant level.

Impact BIO-4 No significant impacts are anticipated with respect to night lighting and noise given the existing residential use of the area. Although the regionally important habitat area (RIHA) is protected by the policies of the Natural Overlay Control District (OC-1), tree removal associated with development facilitated by the proposed project could affect birds including the California gnatcatcher. Impacts to nesting birds as a result of tree removal would be Class II, *less than significant with mitigation incorporated.*

Future development of the lots that would be allowed under the proposed ordinance revisions is likely to include landscape and other improvements that may remove existing trees within the various lots. While these trees are mostly non-native pepper, eucalyptus, pine, acacia, and olive trees, they may nonetheless support birds that are protected by the Migratory Bird Treaty Act (MBTA) and the Fish and Game Code of California (3503, 3503.5, 3511, 3513 and 3800). These regulations protect almost all native nesting birds, not just special status birds. A significant impact could occur as a result of harm to the reproductive success of species protected by the MBTA and the Fish and Game Code of California if any bird species are nesting in the existing trees at the time of tree removal. The impact to nesting birds as a result of tree removal would be potentially significant unless mitigation is incorporated.

Exterior night lighting and the noise associated with residential uses could potentially disrupt normal behavior and breeding for some wildlife species. However, such noise and light effects already exist in the area, and the increased density of residences would not be expected to substantially decrease the populations of common wildlife in the area. The introduction of additional landscape vegetation to these sites would potentially increase the local population levels of urban tolerant wildlife, primarily bird species such as Anna's hummingbird (7UnallY UbbUžnorthern mockingbird (A ja i g'dc'nŋ' chng), and California towhee (A YancbYWjggU]g). No significant impact is anticipated with respect to night lighting and noise given the existing residential use of the area. Please see Impact BIO-6 for a discussion of consistency of construction noise and activity with respect to the Habitat Impact Avoidance and Minimization Measures for Covered Projects and Activities in Section 5.5 of the NCCP/HCP.

The southern portion of Altamira Canyon within the project boundary that is designated RM-6 was also identified by the NCCP/HCP (RPV 2018) as a regionally important habitat area (RIHA) as it was mapped as containing coastal sage scrub along its steep slopes. A review of readily available photographs indicates that the vegetation in this area has apparently changed with the intrusion of additional non-native trees and other elements, and the coastal scrub vegetation appears reduced. The steep canyon slope is not optimal for California gnatcatcher, which prefers slopes of less than 40%, and given the lack of suitable vegetation further north within the canyon, it is unlikely that it is used as a significant transit route that provides connectivity for the local California gnatcatcher population. That function is largely served by

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the adjacent preserve areas (for instance Filiorum and Portuguese Bend Reserves). As this area is protected by the policies of the Natural Overlay Control District (OC-1), the proposed project would not be expected to cause a significant effect on possible California gnatcatcher movement.

Mitigation Measures. The following measure shall be implemented to reduce impacts related to nesting birds to a less than significant level.

BIO-4 Nesting Bird Surveys and Avoidance. The City shall require that tree pruning and removal be conducted outside of the bird breeding season (generally February 1 through August 31). If vegetation clearing (including tree pruning and removal) or other project construction is to be initiated during the bird breeding season, pre-construction nesting bird surveys shall be conducted by a City-approved biologist. To avoid the destruction of active nests and to protect the reproductive success of birds protected by MBTA and the Fish and Game Code of California, the nesting bird surveys shall be performed twice per week during the three weeks prior to the scheduled felling of the trees on the site. If any active non-raptor bird nests are found, the tree(s) or vegetation shall not be cut down; a suitable buffer area (varying from 25-300 feet), depending on the particular species found, shall be established around the nest and avoided until the nest becomes inactive (vacated). If any active raptor bird nests are found, a suitable buffer area (typically 250-500 feet from the nest) depending upon the species, the proposed work activity, and existing disturbances associated with land uses outside of the site, shall be determined and demarcated by the biologist with bright orange construction fencing, flagging, construction lathe, or other means to mark the boundary. All construction personnel shall be notified as to the existence of the buffer zone and to avoid entering the buffer zone during the nesting season. No ground disturbing activities shall occur within this buffer until the City-approved biologist has confirmed that breeding/nesting is completed and the young have fledged the nest. Nesting birds surveys are not required for construction activities occurring from September 1 to January 31.

Significance After Mitigation. Implementation of the above mitigation measure would reduce impacts to nesting birds to a less than significant level by identifying and, as necessary, avoiding active bird nests.

Impact BIO-5 The proposed ordinance revisions would not conflict with local policies or ordinances protecting biological resources. Impacts would be Class III, less than significant.

The City of Rancho Palos Verdes does not have an adopted tree preservation ordinance. However, the City has established the Natural Overlay Control District (OC-1) to "Maintain and enhance land and water areas necessary for the survival of valuable land and marine-based wildlife and vegetation", and to "Enhance watershed management, control storm drainage and

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erosion, and control the water quality of both urban runoff and natural water bodies within the City" (Rancho Palos Verdes Municipal Code Section 17.40.040). As noted above, OC-1 has specific performance criteria and regulations that limit the potential for development within areas of important resources and any development. Any development that would result from the proposed project would need to conform to OC-1. While the project would provide for increased residential development within the Portuguese Bend community, the consistency of individual lot developments will need to be determined at such time that a lot is proposed for development. As such, the proposed project would conform to this local policy and indirect impacts would be less than significant.

The City has a Coastal Sage Scrub (CCS) Conservation and Management Ordinance, which is codified as Chapter 17.41 of the Rancho Palos Verdes Municipal Code. However, this ordinance only applies to parcels over two (2) acres in size that contain CSS habitat. All lots in Zone 2 over two acres in size have been developed. As such, any conflicts of the proposed project with local policies or ordinances protecting biological resources are expected to be less than significant.

Mitigation Measures. None required.

Significance After Mitigation. Impacts would be less than significant.

Impact BIO-6 Potential development under the proposed ordinance revisions would have the potential to conflict with guidelines of the NCCP/HCP. Therefore, impacts would be Class II, less than significant with mitigation incorporated.

As discussed above in the *FY|i`UrfnGYH|b|*, the Rancho Palos Verdes City Council conceptually approved the Citywide NCCP/HCP Subarea Plan in 2004 and again in 2018. The plan identifies Biological Resource Areas and establishes the Palos Verdes Nature Preserve primarily for habitat preservation purposes. The Rancho Palos Verdes NCCP/HCP provides for conservation and protection of the habitat of the Palos Verdes blue butterfly and other special-status species, while permitting impacts from development to potential habitat for the covered species, including coastal sage scrub habitat. The City is currently working with the Wildlife Agencies to update, finalize, and authorize the NCCP/HCP. Several issues of compatibility of the Zone 2 proposed development with the NCCP/HCP are addressed below.

Fuel Modification. As stated in the NCCP/HCP (RPV 2018), the existing distribution of native vegetation within the NCCP/HCP is highly fragmented and edge-affected by existing development. Fuel management activities outside of the Zone 2 property lines have already substantially altered the biological communities adjacent to the residential lots that could potentially be developed. The central and southeastern portions of the study area contain the majority of the undeveloped/ underdeveloped lots, and these lot boundaries are more than 200 feet from the boundary of the Filiorum Reserve. An exception is that one lot along Altamira Canyon adjoins the Filiorum Reserve property boundary along an approximate 450-foot linear boundary. The field reconnaissance indicated that this portion of the Reserve has already been subjected to fuel management activities that have reduced the habitat to a non-native grassland. Since no fuel management activities beyond that which have already occurred are expected for the individual lots, no additional impacts to the Reserve area are expected. It should be noted that the Portuguese Bend Reserve has been and will continue to be subjected to fuel

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management activities along the north edge of Narcissa Drive. The L.A. County Fire Department and L.A. County Department of Agricultural Commissioner have reviewed the existing private development that abuts the Preserve and have determined the amount of brush clearance needed within the Preserve to provide the code-required fuel modification zone for the protection of existing structures outside the Preserve. Development of residential structures in this eastern portion of the project area will not alter that existing practice.

Section 5.3.3 of the City-approved NCCP/HCP addresses Fuel Modification. In situations where fuel modification must occur in the Preserve, impacts are already addressed by the City dedicating 1,402.4 acres to the Preserve. For the Private Projects to be covered under the NCCP/HCP, vegetation needed to be cleared for fuel modification shall be offset by the project applicant paying a Mitigation Fee into the City's Habitat Restoration Fund using a 2:1 mitigation ratio for impacted CSS, a 0.5:1 mitigation ratio for impacted non-native grassland, and a 3:1 mitigation ratio for impacted native grassland (as described in Section 2.2.1 of the Plan) occurring in areas greater than 0.3 acre. Removal of cacti and other succulents within any required fuel clearing areas shall be avoided/minimized to preserve habitat for the coastal cactus wren and other Covered Species.

Development Adjacent Reserves. Site specific project design issues are discussed in Section 5.7 of the current NCCP/HCP. Issues associated with development relate to access and staging areas, fuel modification zones (discussed above), introduction of non-native species, night lighting, stormwater and urban runoff, increased noise levels, and access into Reserve lands. Each site to be developed in the proposed project (Zone 2) will need to be required to stay outside of the Reserve areas. Based on the location of the potentially developable lots and Reserve lands, no grading, access or staging areas are expected to affect Reserve lands. Nonetheless, construction activities on those lots that abut the Reserves could have an impact on wildlife and vegetation; therefore, the implementation of the Restrictions and Requirements in Section 5.7 are required to maintain consistency with the NCCP/HCP.

A Predator Control Plan (PCP) was developed as part of the &ŒŒ*`b|hU`A UbU`Yä YbhUbX`A cb|lcf|b|`F Ylcfh(Dudek, 2007) and updated in 2012. It noted that brown-headed cowbirds were observed in the Portuguese Bend Reserve area and another reserve further to the southeast. The PCP recommended that a cowbird trapping program be implemented within the Portuguese Bend Reserve during the second year of the plan to reduce the potential for cowbirds to parasitize nests of native birds. One trap would be sufficient to cover this area. The status of this cowbird trapping program is unknown.

Brown-headed cowbirds are typically associated with land uses that have abundant grass seed, such as equestrian facilities, barns with livestock, and golf courses. Many of the residential lots currently within the study area have horses and other livestock, and an equestrian facility is located in the west portion of the project area. The proposed project would not alter the ability of lot owners to house livestock on their lots, and would not change the extent to which such facilities could occur within the site under existing conditions. If the owners of the lots choose to have large animals, additional waste grain food sources for the brown-headed cowbird could develop, but the potential for cowbird to occur is already present. Per the Palos Verdes Peninsula Land Conservancy (see Comment Letter No. 7), recent surveys have not detected cowbirds. Nonetheless, cowbird management is likely to be an ongoing management issue for

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the Palos Verdes Nature Preserve because of existing land uses' ability to support cowbird populations. In the event that cowbirds appear in the area in the future, the single trap recommended in the 2007 PCP for the Reserve to control populations in the area of known coastal California gnatcatcher nesting is anticipated to be sufficient.

As previously stated, buildout of the residential lots could increase the number of domestic animals in the local area that could affect local wildlife. The PCP indicates that the extent of damage to NCCP/HCP focus species from feral animals is currently unknown, with additional data to be gathered to determine if a feral animal trapping program is necessary (Dudek 2007). Based on the study conducted by Kays and DeWan (2004), 80% of observed domestic cat hunts occurred in a garden/yard or within the first 33 feet of the adjacent forest preserve. Radio-tracked domestic cats rarely entered the forest preserve during their study, with scent station recordings indicating that the domestic cats rarely ventured more than 130 feet into the preserve. A caveat of this finding was that the preserve was sufficiently large to sustain predators known to kill cats (coyotes and fishers), and these were domestic cats. Feral cats are known to range more widely into natural habitats, especially in the absence of such predators. Both the Filiorum and Portuguese Bend Reserves adjoin residential land uses on their northern sides, and the project area already contains residences that support domestic cats. The possible increase in the number of residences as proposed by the project is not likely to cause a substantial increase in the number of domestic animal problems within these Reserves given the existing conditions. The NCCP/HCP Section 6.9.2.5 outlines appropriate measures taken from the 2012 PCP to comply with the Preserve Management requirement.

As discussed under Impact BIO-4 above, increased exterior night lighting and the noise associated with residential uses could potentially disrupt normal behavior and breeding for some wildlife species. However, such noise and light effects already exist in the area, and the increased density of residences would not be expected to substantially decrease the populations of common wildlife in the area. In addition, Section 17.56.030 of the City's Municipal Code specifically restricts exterior lighting in residential zones (such as the proposed project), generally that "no outdoor lighting shall be permitted where the light source is directed toward or results in direct illumination of a parcel of property or properties other than that upon which such light source is physically located." No substantial conflict with the Reserves related to noise and lighting effects are anticipated.

Conformance with stormwater and urban runoff with the Natural Overlay Control District (OC-1) is a standard requirement of the City's planning process and approvals on the individual lots at such time that they are proposed for development would maintain consistency with the NCCP/HCP. The majority of projects must meet Standard Urban Stormwater Mitigation Plan (SUSMP) requirements to reduce pollution and runoff flows. The City's SUSMP includes a list of recommended source control and structural treatment Best Management Practices (BMPs).

Section 9.2.4 of the City-adopted NCCP/HCP provides for locating any new fences within Reserves so as not to impede wildlife movement, and also recommends that signage be established for access control and education at the periphery of the Reserves. As noted above, the proposed Zone 2 development does not directly adjoin Reserve land, except for three lots along Altamira Canyon that adjoin the Filiorum Reserve property boundary along an approximate 450-foot linear boundary. As part of the review process for these lots at such time

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that they are proposed for development, they would be reviewed for compliance with access features and fencing, including controls on access into the Reserve lands. Therefore, the project is considered to conform to the NCCP/HCP requirements.

Habitat Protection. The Rancho Palos Verdes Coastal Sage Scrub Conservation Ordinance (Section 17.41 of the Municipal Code) was enacted to specifically preserve lands that contain coastal sage scrub habitat and to implement resource protection per Section 6.3.3 of the City –adopted NCCP/HCP (2018). Compliance with this ordinance would be required for the individual lots at such time that they are proposed for development. It is noted that very little vegetation within Zone 2 can be described as CSS given past and current fuel modification practices. Impacts to all habitats will be tracked as part of the City’s overall habitat tracking efforts in compliance with Section 9.3.1 of the NCCP/HCP. Therefore, the proposed project is considered to be in conformance with the habitat protection features of the NCCP/HCP.

Existing City ordinances, the standard City permit approval process, the 2018 NCCP/HCP, and future adoption of an Implementing Agreement for the NCCP/HCP would serve to minimize the potential for conflicts of future proposed development within the Zone 2 area from conflicting with the Draft NCCP/HCP. Therefore, this effect is considered to be less than significant under CEQA regulations.

Mitigation Measures. The following applicable measures are recommended to enhance the value of the adjacent Reserves, to limit private access into Reserve lands, and to maintain consistency with the requirement that no fuel management for new development be allowed within the Reserves.

BIO-6(a) Structure Location. To avoid the need for continued fuel management within the Filiorum Reserve, the City shall require that all structures for those lots abutting the Palos Verdes Nature Preserve property boundary are located at least 100 feet from that boundary.

BIO-6(b) Perimeter Fences. As part of approvals for development on the individual subject lots, the City shall require that lots adjoining the Palos Verdes Nature Preserve are fenced sufficiently to prevent the ready egress of domestic animals into the Preserve. In addition, no gates or other means of ingress into the Preserve shall be permitted.

BIO-6(c) Construction Best Management Practices. The following measures shall be required for those lots that abut the Palos Verdes Nature Preserve as part of construction monitoring for the site:

- Ā 7cbhfUWfgg\U`WYX W\XfY UfX]b[h YcZg]hYDfYgfj YUbXh YbYX hc_Yd_Yei]da YbhUbXdYfgbbY cb h YWbgfi Wcb g]hYdf]cf hc h Y]b]h]U]cb cZWbgfi Wcb"
- Ā HĀ dcfUfmWbgfi Wcb ZbWb[g\U`Yd UWUhh Yd UbbYX`ja]lgcZ X]gi fVbWUXUWbhlc h YDfYgfj Y"
- Ā 7cbgfi Wcb g\ci `XVYgWYX `YXhc Uj c]Xh YV]fXbYg]b[gUgcb fgy A]h[U]cb A YU fy6-C!(Ucj YL"

- Ä 7cbgfi Wcb[fUX|b[UXUWb|lc XFUbU Ygg\U` WgWXX` YXZf h YXmi
gUgcb k \YbY Y ZUgVY"

BIO-6(d) Construction Staging and Stockpiling Areas. Grading and building plans submitted for City review and approval for those lots abutting the Palos Verdes Nature Preserve shall identify areas for construction staging, fueling and stockpiling if needed. These areas shall be located as far as practical from the Palos Verdes Nature Preserve and not closer than 50 feet from the Preserve boundary.

Significance After Mitigation. Implementation of the above mitigation measures would reduce impacts to the Reserves to a less than significant level by limiting construction and operational impacts to Reserve lands contributing to the goals of the NCCP.

c. Cumulative Impacts. The following were considered in the assessment of cumulative impacts to biological resources:

- Ä H YWä i` U|j YWb|f]M hcb`cZch Yf Uddfcj YXUbXdfcdcgYXdfc`Wg|c ZU a Yb|U|cb`cZ
cdYb`gdUWY|b h Ydfc`Wmj]Wb|hm`
- Ä H Y`cgg`cZgYbglhj Y\U|HUG`UbXg|Wg`
- Ä 7cb|f]M hcb`cZh Ydfc`Wmlc`i fVUb Y dUbg|cb]b|c`bU| fU`fYUg`UbX`
- Ä =g`U|cb`cZcdYb`gdUWk]h|b h Yj]Wb|hmVnh YdfcdcgYXdfc`WU|bXZ h fYdfc`Wg`

Cumulative development in and around the City, as listed in Table 3-1 in Section 3.0, 9bj]fcbä Yb|U GYH|b|, would continue to disturb areas with the potential for sensitive biological resources. Each development proposal is reviewed by the City and undergoes environmental review when it is deemed appropriate. Significant impacts to biological resources are minimized through this development review process, which requires mitigation to reduce significant impacts to the greatest extent feasible and below significance thresholds in most cases. The biological impacts associated with the proposed project have been mitigated to a less than significant level. The impacts of the proposed project would be localized in nature and would not substantially contribute to any cumulative impacts to regional biological resources. It should also be noted that the NCCP/HCP is a comprehensive, long-term habitat conservation plan. The NCCP/HCP addresses the potential impacts of urban growth, natural habitat loss and species endangerment, and its implementation is designed to mitigate for the potential loss of sensitive species and their habitat due to the direct, indirect, and cumulative impacts of development of both private and public lands within the planning area.

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4.4 CULTURAL RESOURCES

This section analyzes potential impacts to archaeological, paleontological, and historical resources. The discussion is based on the findings of a Cultural Resources Records Search Summary performed by Historical, Environmental, Archaeological, Research Team (H.E.A.R.T.) (H.E.A.R.T., April 2010) and supplemented by a paleontological study conducted by Rincon Consultants (January 2011) as well as consultation with the Gabrieleno Band of Mission Indians - Kizh Nation. The records search was conducted at the South Central Coastal Information Center (SCCIC) at California State University Fullerton, and included a historical map database search with the Geography Department at California State University Northridge, and a consultation with the Native American Heritage Commission. The paleontological resources study consists of a records review of California Geological Survey maps. To ensure the protection of known cultural resources sites identified in the study, the cultural resources report is available for review by qualified personnel at the City's Community Development Department offices. There is no evidence to suggest the cultural or paleontological resource conditions have changed in the project area since the preparation of the 2010/2011 studies.

4.4.1 Setting

a. Archaeological Overview. The overall Los Angeles region has been occupied for over 20,000 years, based on investigations in the Ballona Creek area of the Los Angeles Basin, the La Brea Tar Pits, and Malaga Cove. Chronologies for southern California indicate a generalized hunting and gathering economy in existence at a very early time.

The Millingstone Period dates to over 6,000 years ago, and suggests a generalized plant collecting economy, supplemented by hunting and fishing. Regional interaction appears limited when compared with later periods. Around 3,500 years ago, there was an apparent economic shift to more reliance on hunting, as well as an increased exploitation of the acorn. This represents a subtle transition from the prior period where hard seed processing appeared to be more predominant. Sites attributed to this period appear to have been occupied by small groups.

The Intermediate Period dates from 1,000 B.C.-A.D. 1,000. Sites from this time indicate an increased reliance on coastal resources with continued reliance on hunting and collecting. In addition, the advent of the bow and arrow, the appearance of more bone tools, and increased reliance on the mortar and pestle are typical during this time.

The Late Period that begins around A.D. 750-1,000 is characterized by increasing economic and social complexity. Villages tended to be larger, with a more varied assemblage, and there appears to be an increase in smaller satellite sites, established to support the main village, and reflecting seasonal use of a particular area. There seems to be more intensive exploitation of localized resources, and social contacts and economic influences appear to be accelerated through trade and social interaction. There is an increase in the number of sites in the area, which some researchers believe is the result of a population increase. The Late Period is characterized as a time when there are more specialized sites in terms of their location and function, and an amplification of all aspects of the cultural system.



At the time of European contact, the project area was inhabited by the Shoshonean-speaking Gabrielino, as ascribed due to their association with Mission San Gabriel, which was founded in 1771. The Gabrielino are considered one of the most distinctive tribes in all of California, occupying a large area which was bordered on the west by Topanga and Malibu, the San Fernando Valley, the greater Los Angeles basin, the coastal strip down to Aliso Creek south of San Juan Capistrano, and the islands of Catalina, San Clemente, and San Nicolas. They are credited with an extensive and elaborate material culture, their expert craftsmanship in quarrying and manufacturing soapstone, and constructing the plank canoe. Information about the Gabrielino comes from a number of sources, including Kroeber (1925), Boscana (1933), Johnston (1962), Blackburn (1963), Reid (1968), Bean and Smith (1978) and Hill (1985).

Please see Section 4.12, *Tribal Cultural Resources*, for additional details regarding the tribal cultural resources in the project area.

b. Historic Overview. The following general information was summarized from Fink (1987). The project area was part of a major land grant received by a Spanish soldier named Juan Jose Dominguez who died in 1809. The 75,000 acre grant was entitled in 1784 and included the entire Rancho Palos Verdes Peninsula. For over 35 years the rancho land supported several thousand heads of cattle and a flourishing hacienda. In 1827, Don Dolores Sepulveda received the Rancho de los Palos Verdes land grant, translated from Spanish to mean range of green trees. From 1862 to 1882, stewardship of much of his land passed from the Sepulveda family through various mortgage holders to Jotham Bixby of Rancho Los Cerritos. At the close of the 19th Century, the Palos Verdes Peninsula was used by sheepherders. For the most part the mesas and terraces lacked trees, fences, roads and structures. During the early 1900s, the mesa was used for cattle ranching and farming. Japanese families farmed the southern slopes, cultivating beans, peas and tomatoes, while the northern slopes were planted in barley for hay and grain.

By 1913, a consortium of New York investors (Harry P. Davidson of J. P. Morgan and Company; Benjamin Strong, president of the Bankers' Trust Company of New York; and Frank Trumbull, chairman of the board of the Chesapeake and Ohio Railroad) owned most of the Bixby land. Initially, these investors intended to divide the land into large estates. The founding father of the Peninsula, Frank Vanderlip, was one of these investors. Over the next decade, interest in the Peninsula would wane until Vanderlip allied himself with real estate promoter E. G. Lewis. In 1922, a real estate developer named H.G. Lewis acquired the Palos Verdes Project, which would constitute the future City of Palos Verdes Estates and part of the Miraleste area located in the current City of Rancho Palos Verdes, through exercising an option to acquire the Property from Mr. Vanderlip. The community was called Palos Verdes Estates and had decreased in development area from the original 16,000 acres to 3,225 acres. Vanderlip held onto 13,000 acres in the southern portion of the peninsula for future development.

Vanderlip planned to develop the area above Point Vicente lighthouse as an Italian hillside village. Marble was imported from Italy for the first building in 1928, but the project was never completed. Vanderlip constructed his first residence on the Peninsula in 1916 in the Portuguese Bend area, the "Old Ranch Cottage," now known as the "Cottage." Other buildings were added in the 1920s including a small guest house and garage called "La Casetta" and a larger guesthouse in 1924, known as the "Villetta," now known as "Villa Narcissa." Behind the



Villetta, a stairway of 268 steps, lined by cypress trees, soared to a lookout point where a white marble temple was built. Several recreational facilities, however, were constructed early in the development of the Palos Verdes Project.

Six street entrances were planned for the Palos Verdes peninsula, three from the east and three from the north. The main broad street, Granvia La Costa (Palos Verdes Drive), considered a parkway with a landscaped center strip, was designed for the unrealized Pacific Electric Railway to run down its center. The Palos Verdes Golf Club was opened in 1924, and the Palos Verdes Swim Club was opened in 1930. Stables for horseback riding were also constructed in Palos Verdes Estates. The Swim Club was renamed the Roessler Pool, in honor of Fred Roessler, mayor of Palos Verdes Estates for 25 years and who was instrumental in the formation of the city of Palos Verdes Estates in 1939. The original Swim Club utilized recirculated ocean water. The Great Depression, which began in 1929, had an extremely debilitating effect on the Palos Verdes Project. Many lot owners defaulted on their property taxes, and the Palos Verdes Homeowners Association, which maintained the Project, was in deep financial straits. In 1932 the trustee turned over to the residents the responsibility of the Homes Association; only one third of the owners of building sites failed to pay their annual assessments.

With the death of Frank Vanderlip in 1937, control of the Palos Verdes Corporation, which owned the balance of the original Vanderlip property holdings other than what was incorporated in the Palos Verdes Project, was passed to Vanderlip's son. During December 1939, the voters decided to form a city of the sixth class to have taxing authority. Control of the Palos Verdes Corporation passed in 1943 to Harry Benedict, a friend and business associate of Frank Vanderlip. In 1945, Kevin Vanderlip took control of the Corporation. During World War II, Japanese farmers and their families who had lived on the Peninsula since 1910 were sent to internment camps. Defensive positions were established at the Haggarty Estate in Malaga Cove. Battery installations were installed at the current location of the Rancho Palos Verdes City Hall (also known as the Civic Center or Upper Point Vicente), as well as at Rocky Point in Lunada Bay in 1943 that included two 16-inch guns. Barracks and support buildings were also constructed in Lunada Bay. An underground observation point was also constructed at Punta Place overlooking Bluff Cove and the South Bay. Rancho Palos Verdes was incorporated on September 7, 1973.

The subject lots within the 112-acre project area were created in the 1940s. Dating from the 1950s, the majority of the lots in Zone 2 have been developed with residential, equestrian and horticultural use. The largest developed lot in Zone 2 is occupied by the Portuguese Bend Riding Club, a commercial stable that was established prior to the City's incorporation in 1973.

c. Records Search Results. A record search performed by archaeologist Wayne Bonner of the South Central Coastal Information Center on April 15, 2010 indicated that no previously recorded prehistoric or historic archaeological sites or historic properties are present in the project area. Table 4.5-1 and the bulleted list following the table describe previously recorded prehistoric archaeological resources in proximity to the project area.



**Table 4.4-1
Previously Recorded Prehistoric Archaeological Resources in
Proximity to the Project Area**

Reference	Description
Within a 1000 foot Radius of the Project Area	
CA-LAN-303/ CA-LAN-1019	Recorded by Jay Evans in 1969 and updated by William Hayden in 1995 to be the same site recorded by Martin D. Rosen in 1979. The site contained shellfish, groundstone, charm stone, grooved stones, pestles, flaked tools, chert scrapers, steatite beads, vessels, pendants and bifacial blades. Much of the site has been subject to unauthorized excavation by residents and high school students.
CA-LAN-821	Recorded by Susan Hector and Martin Dean Rosen in 1975 as a light shellfish scatter with no lithic material observed. The site was updated by Joe Simon in 1995 to include the remains of Monterey chert primary flakes.
Within a ½-Mile Radius of the Project Area	
CA-LAN-1735	Possible Quarry Site
CA-LAN-2061	Possible Quarry Site
CA-LAN-103	Small Cave with midden soil and artifacts (destroyed)
CA-LAN-2000	Shell scatter
19-10099	Two chert flakes
CA-LAN-140	Recorded in the early 1900s by N.C. Nelson as a shell refuse located in a partly plowed field near a high bluff. During construction for a parking lot, multiple burials and grave goods were unearthed.
CA-LAN-822	Recorded by S. Hector and M.D. Rosen in 1975 as a lithic and shellfish scatter situated on the bluff.
CA-LAN-884	Recorded by E. Gary Stickel in 1978 as containing shellfish, groundstone, and debitage
CA-LAN-1249	Recorded in 1985 by T.K. McAule as a shell midden eroding out of roadcut face.
CA-LAN-1250	Recorded in 1985 by T.K. McAuley as a shell and lithic scatter
CA-LAN-1251	Recorded by Rechtman and Hickey in 1987 as a dense shell midden with groundstone, chipped stone and tools
CA-LAN-2485	Recorded by David S. Whitley in 1997 as a lithic scatter with habitation debris
CA-LAN-2486	Recorded by David S. Whitley in 1997 as a lithic scatter with habitation debris

Source: H.E.A.R.T., 2010.



- *Within a half-mile radius, four historic cultural resources have been identified: **19-180589:** Long Point Defense Facility - Observation Post **19-180590:** Long Point Defense Facility - Battery 240; **19-180591:** Long Point Defense Facility - 1936 Monument; and, **19-180592:** Long Point Defense Facility - Nike Air Defense Site*
- *Ten prior cultural resource studies have been performed: Anon 1995, 1997; Chakurian 2003; Foster 1989; Hayden & Macko 1995a,b; Maki, 1995, 2001; McCauley 1985; McKenna 2001.*
- *Two of these investigations encompassed 100% of the project area (Anon 1995; Hayden & Macko 1995 a, b; Maki 2001.), with negative results.*
- *Two National Register of Historic Places have been identified (1979-2005 and supplements to date) within a half-mile radius: The Harry Benedict Estate located at One Peppertree Drive (NR#86002796), and; the **Wayfarers Chapel**, located at 5755 Palos Verdes Dr S, also known as "The Glass Church" was designed by Lloyd Wright (son of Frank Lloyd Wright) in the late 1940s and was built between 1949 and 1951. Additions were built in later years, including a tower and a visitor center (NR# 05000210).*
- *The California Historic Resources Inventory (HRI) lists one property within a half-mile radius: The Harry Benedict Estate located at One Peppertree Drive.*
- *No California Register of Historic Resources exists (1992, with supplemental information to date).*
- *No California Historical Landmarks are listed (1995, with supplemental information to date).*
- *No California Points of Historical Interest are noted (1992, with supplemental information to date).*
- *No State Historic Resources Commission issues are presented (1980-present. Minutes from quarterly meeting).*
- *The Native American Heritage Commission (NAHC) was contacted by letter on April 18, 2010 for any information regarding Native American concerns for the project area. No response was received to date.*

The following historic maps were consulted:

- *Township-Range Plat Survey of the United States Geological Service (1852-1890)*
- *Map of Private Grants and Public Lands Adjacent to Los Angeles and San Diego- Clinton Day (1869)*
- *Map of the County of Los Angeles, California - Stevenson/Rowan (1881-1888)*
- *Map of the Reservoir Lands in the County of Los Angeles - Seebold (1891)*
- *Santa Ana, California 15-minute USGS topographic map (surveyed in 1894) (1901)*
- *Rueger's Map of Greater Los Angeles (1902)*
- *Topographic Map of the Los Angeles Aqueduct and Adjacent Territory (1908)*
- *Map of Los Angeles County – Blunt (1911)*
- *Percival's Map of Los Angeles and Vicinity – Thompson (1924)*



- *Los Angeles and Vicinity Showing Old Adobes and Historic Sites – Giffen (1936)*
- *Palos Verdes, California 15-minute USGS topographic map (1944)*
- *Redondo Beach 7.5-minute USGS topographic map (1953)*

d. Paleontological Overview. The surface exposures in the project area are mapped as Quaternary Landslides (Saucedo, G. J, et al. 2003), and include the Ancient Portuguese Bend Landslide, the Active Portuguese Bend Landslide, the Abalone Cove Landslide, and the Klondike Landslide. These landslides are all considered to be large, destructive landslides classified as historically active with complex movement and depositional patterns. The overall average thickness of the combined landslides is approximately 130 feet thick and covering over 260 acres. These slides overlay the underlying tuffaceous lithofacies of the Altamira Shale (Haydon 2007) with a low potential of paleontological resources.

e. Regulatory Setting. The California Register was created by Assembly Bill 2881, which was established in 1992. The California Register is an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change (Public Resources Code, 5024.1(a)). The criteria for eligibility for the California Register are consistent with National Register criteria, but have been modified for state use in order to include a range of historical resources that better reflect the history of California (Public Resources Code, 5024.1(b)). Certain properties are determined by the statute to be automatically included in the California Register by operation of law, including California properties formally determined eligible for, or listed in, the National Register.

The California Register consists of properties that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- *California properties listed in the National Register and those formally Determined Eligible for the National Register;*
- *California Registered Historical Landmarks from No. 770 onward;*
- *Those Points of Historical Interest (PHI) that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the California Register. To be eligible for the California Register, a property generally must be at least fifty years of age and must possess significance at the local, state, or national level, under one or more of the following criteria:*
 1. *It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.*
 2. *It is associated with the lives of persons important in our past.*
 3. *It embodies the distinctive characteristics of a type, period, region, or method of construction or represents the work of an important creative individual, or possesses high artistic values.*
 4. *It has yielded or may be likely to yield information important in prehistory or history.*



Historical properties eligible for listing in the California Register may include buildings, sites, structures, objects, and historic districts. A property eligible for the California Register must also retain enough of its historic character or appearance to be recognizable as a historic property and to convey the reasons for its significance.

A resource that is less than 50 years old may be eligible for the California Register if it can be demonstrated that sufficient time has passed to understand its historical importance. Similar to the National Register Criterion Considerations, the California Register uses Special Considerations criteria to assess certain properties for historical significance. Special Considerations criteria include moved buildings, structures, or objects; properties achieving significance within the past 50 years; and reconstructed buildings. In order to understand the historic importance of a property less than fifty years old, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the property.

The California Register may also include properties identified during historical resource survey efforts. However, the survey must meet all of the following stipulations:

- 1. The survey has been or will be included in the State Historic Resources Inventory (HRI).*
- 2. The survey and the survey documentation were prepared in accordance with OHP procedures and requirements.*
- 3. The resource is evaluated and determined by the OHP to have a significance rating of Category 1 to 5 on a DPR Form 523.*
- 4. If the survey is five or more years old at the time of its nomination for inclusion in the California Register, the survey is updated to identify historical resources that have become eligible or ineligible due to changed circumstances or further documentation and those that have been demolished or altered in a manner that substantially diminishes the significance of the resource.*

4.4.2 Impact Analysis

a. Methodology and Significance Thresholds. This assessment is based on the information gathered and analyzed in the cultural resources study (H.E.A.R.T., 2010). The study consists of an archival records search. As described in the *Setting*, a records search was conducted at SCCIC located on the CSU Fullerton campus.

Cultural resource impacts are considered significant if the proposed project would:

- Cause a substantial adverse change in the significance of a historic or archaeological resources, as defined in Section 15064.5 of the CEQA Guidelines*
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature*
- Disturb any human remains, including those interred outside of formal cemeteries*

For purposes of this analysis, cultural (archaeological and paleontological) resources include the following:

- A resource listed, or determined to be eligible by the State Historical Resources Commission for listing, in the California Register of Historical Resources*



- *A resource included in a local register of historical resources or identified as significant in an historical resource survey*
- *Any object, building, structure, site, area, place, record, or manuscript determined to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural or tribal cultural annals of California*

A resource is considered archaeologically significant if it:

- *It contains information needed to answer important scientific research questions,*
- *Has a special and particular quality such as being the oldest or best available example of its type*
- *Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage*
- *Is associated with the lives of persons important in California's past*
- *Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values*
- *Has yielded, or may be likely to yield, information important in prehistory or history*

As discussed in the project Initial Study (Appendix A to this EIR), impacts related to historic resources would be less than significant. Therefore, the impact discussion below focuses on archaeological and paleontological resources, and disturbance of human remains.

b. Project Impacts and Mitigation Measures.

Impact CR-1 **Potential development that the proposed ordinance revisions could facilitate on the undeveloped lots, which could include up to 1,000 cubic yards of grading per lot, has the potential to disturb as-yet undetected areas of prehistoric archaeological significance. This is a Class II, less than significant with mitigation incorporated, impact.**

No previously recorded prehistoric, historic archaeological sites, tribal cultural, or historic properties were identified in the project area during the cultural resources records search performed for the project. However, as discussed in the *Setting*, several sites of archaeological significance have been identified within ½-mile of the project area and the area has been identified as being of tribal cultural sensitivity. The likelihood of finding intact significant cultural resources is low due to historic grading and development on many properties, as well as grading limitations put in place by the Portuguese Bend Community Association and the City's zoning regulations. Nevertheless, construction activity for the residential units that could be allowed under the proposed revisions to the Landslide Moratorium Ordinance would involve earthwork such as grading and trenching, which has the potential to unearth yet-to-be discovered archaeological resources. Therefore, although no significant archaeological resources are expressly known to occur in the project area, impacts to as-yet undetected archaeological resources would be potentially significant.



Mitigation Measures. The following measure would mitigate potentially significant impacts relating to the possible discovery of archaeological resources during construction activity, such as site grading and trenching.

CR-1 Cultural Resources Monitoring and Avoidance. Prior to the issuance of any grading permit, each applicant shall retain and pay for a City-approved qualified archaeologist to monitor all ground disturbance activities associated with the project including, but not limited to, grading, excavating, clearing, leveling and backfilling. The evaluation shall be conducted by an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for prehistoric archaeology (National Park Service 1983) and that is qualified to identify subsurface tribal cultural resources. The archaeologist shall observe all ground disturbing activities on construction sites at times that ground disturbance activities are taking place. If ground disturbance activities are simultaneously occurring at multiple locations in the project area, an archaeologist shall be required to monitor each location where the ground disturbance activities are occurring.

Prior to the commencement of any ground disturbance activities at a construction site, the applicant, or its successor, shall notify any California Native American tribes that have informed the City that they are traditionally and culturally affiliated with the geographic area of the proposed project that ground disturbance activities are about to commence and invite the tribes to observe the ground disturbance activities, if the tribes wish to monitor.

In the event that any subsurface objects or artifacts that may be tribal cultural resources are encountered during the course of the ground disturbance activities, all such activities shall temporarily cease in the area of discovery, the radius of which shall be determined by the qualified archaeologist, until the potential tribal cultural resources are properly assessed and addressed pursuant to the process set forth below:

1. *Upon a discovery of a potential tribal cultural resource, an applicant, or its successor, shall immediately stop all ground disturbance activities, and contact the following: (1) all California Native American Tribes that have informed the City that they are traditionally and culturally affiliated with the geographic area of the proposed project; (2) and the City's Community Development Department, Planning Division.*
2. *If the City determines, pursuant to Public Records Code Section 21704 (a)(2), that the object or artifact appears to be a tribal cultural resource in its discretion and supported by substantial evidence, the City shall provide any affected tribe a reasonable period of time, not less than 14 days, to conduct a site visit and make recommendations to the applicant, or its successor, and the City regarding the monitoring of future ground disturbance activities, as well as the treatment and disposition of any discovered tribal cultural resources.*



3. *The applicant, or its successor, shall implement the tribe's recommendations if a qualified archaeologist, retained by the City and paid for by the applicant, or its successor, reasonably concludes that the tribe's recommendations are reasonable and feasible.*
4. *In addition to any recommendations from the applicable tribe(s), the applicant's City-approved qualified archaeologist shall develop a list of actions that shall be taken to avoid or minimize impacts to the identified tribal cultural resources substantially consistent with best practices identified by the Native American Heritage Commission and in compliance with any applicable federal, state, or local law, rule or regulation.*
5. *If the applicant, or its successor, does not accept a particular recommendation determined to be reasonable and feasible by the qualified archaeologist, the applicant, or its successor, may request mediation by the City's mediator. The mediator must have the requisite professional qualifications and experience to mediate such a dispute. The City shall make the determination as to whether the mediator is at least minimally qualified to mediate the dispute. After making a reasonable effort to mediate this particular dispute, the City may: (1) require the recommendation be implemented as originally proposed by the archaeologist; (2) require the recommendation, as modified by the City, be implemented as it is at least as equally effective to mitigate a potentially significant impact; (3) require a substitute recommendation to be implemented that is at least as equally effective to mitigate a potentially significant impact to a tribal cultural resource; or (4) not require the recommendation be implemented because it is not necessary to mitigate any significant impacts to tribal cultural resources. The applicant, or its successor, shall pay all costs and fees associated with the mediation.*
6. *The applicant, or its successor, may recommence ground disturbance activities outside of a specified radius of the discovery site, so long as this radius has been reviewed by a qualified archaeologist and determined to be reasonable and appropriate.*
7. *The applicant, or its successor, may recommence ground disturbance activities inside of the specified radius of the discovery site only after it has complied with all the recommendations developed and approved pursuant to the process set forth in paragraphs 2 through 5 above.*
8. *Copies of any subsequent prehistoric archaeological study, tribal cultural resources study or report, detailing the nature of any significant tribal cultural resources, remedial actions taken, and disposition of any significant tribal cultural resources shall be submitted to the South Central Coastal Information Center (SCCIC) at California State University, Fullerton and to the Native American Heritage Commission for inclusion in its Sacred Lands File.*
9. *Notwithstanding paragraph 8 above, any information determined to be confidential in nature, by the City Attorney's Office, shall be excluded from submission to the SCCIC or the general public under the provisions of the California Public Records Act, California Public Resources Code.*



Significance After Mitigation. With implementation of the above measure, potential impacts relating to grading on individual lots of the project area to as-yet unknown archaeological resources would be reduced to a less than significant level through the identification and avoidance and/or cataloging of cultural resources as appropriate.

Impact CR-2 Grading for development that could be facilitated by the proposed ordinance revisions has low potential to disturb any paleontological resources. Impacts to paleontological resources would be Class III, *less than significant*.

As discussed in the *Setting*, the surface exposures in the project area are mapped as large, destructive landslides classified as historically active with complex movement and depositional patterns. The overall average thickness of the combined landslides is approximately 130 feet thick and covering over 260 acres. These slides overlay the underlying tuffaceous lithofacies of the Altamira Shale (Haydon 2007) with a low potential of paleontological resources. Due to the substantial depth from surface to the marine Altamira Shale, and the low potential for fossils at depth, no paleontological resources are expected to occur in the project area either at surface or at a depth commonly associated with construction activities. Therefore, project implementation would not affect any paleontological resources.

Mitigation Measures. None required.

Significance After Mitigation. Impacts to paleontological resources would be less than significant without mitigation.

Impact CR-3 Grading for development that could be facilitated by the proposed ordinance revisions has the potential to disturb human remains, including those interred outside of formal cemeteries. With adherence to existing regulations that address the discovery of human remains during grading and construction, impacts would be Class III, *less than significant*.

No previously recorded burial sites were identified in the project area during the cultural resources records search performed for the project. Although the likelihood of finding any human remains is low due to historic grading and development on many properties, construction activity for the residential units that could be allowed under the proposed revisions to the Landslide Moratorium Ordinance would involve earthwork such as grading and trenching, which has the potential to unearth yet-to-be discovered human remains. However, in accordance with California Health and Safety Code Section 7050.5, all construction or excavation must be stopped in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery until the County coroner or medical examiner can determine whether the remains are those of a Native American. Section 7052 of the Health and Safety Code states that disturbance of Native American cemeteries is a felony.

Mitigation Measures. None required.



Significance After Mitigation. With required adherence to existing regulations, potential impacts relating to grading within individual lots of the project area to as-yet unknown human remains would be less than significant.

c. Cumulative Impacts. Cumulative development in and around the City, as shown in Table 3-1 in Section 3.0, *Environmental Setting*, would have the potential to disturb areas with as-yet undiscovered cultural resources, including archaeological resources and paleontological resources. However, each development proposal is reviewed by the City and undergoes environmental review when it is determined that there would be the potential for significant impacts. In the event that significant resources are discovered, impacts to such resources would be mitigated on a case-by-case basis. Thus, cultural resource impacts associated with future cumulative development would be less than significant.



4.5 GEOLOGY

The following analysis is partially based on the literature review and geotechnical investigation of the project area conducted by LGCValley, Inc., dated March 29, 2011, the City of Rancho Palos Verdes General Plan Conservation and Open Space Element and Safety Element (2018), and additional data regarding landslide conditions compiled by the City of Rancho Palos Verdes Public Works Department from 2007 to 2017. The LGC Valley geotechnical review conducted by LGC Valley, Inc. is contained in its entirety in Appendix D.

4.5.1 Setting

a. **Regional Geology.** As described in the Rancho Palos Verdes General Plan Conservation and Open Space Element, the Palos Verdes Peninsula bedrock is composed of a metamorphic core blanketed by sequences of younger sedimentary rock. The structure is complicated by smaller-scale folding, and schist (rocks that split into layers) and sedimentary rocks have been intruded by irregular masses of basaltic volcanic rocks. This entire block has been uplifted by movement on two sub-parallel bounding faults: the Palos Verdes Fault on the northeast and the San Pedro Fault offshore on the southwest. The most widely exposed rocks and the most significant in terms of slope stability is the Miocene Monterey Formation. The Monterey Formation is more than 2,000 feet thick on the Palos Verdes Peninsula. It has been divided into three members on the basis of rock type: the Altamira Shale, the Valmonte Diatomite (fossilized remains of diatoms, a type of hard-shelled algae), and the Malaga Mudstone (from oldest to youngest). Altamira Shale consists largely of thin-bedded sedimentary rocks formed by the deposition of successive layers of clay, along with numerous layers of tuff (volcanic ash) that have been largely altered to weak clays. Thick layers of volcanic ash deposited millions of years ago were compressed over time into bentonite. In the presence of water, bentonite becomes very slippery and has been a major contributing factor for landslides in Rancho Palos Verdes (Rancho Palos Verdes General Plan 2018).

The faulting and seismicity of Southern California is dominated by the compressionary regime associated with the "Big Bend" of the San Andreas Fault Zone. The San Andreas Fault Zone separates two of the major tectonic plates that comprise the Earth's crust. The Pacific Plate lies west of the San Andreas Fault Zone. The North American Plate lies east of the San Andreas Fault Zone. The relative movement between the two plates is the driving force of fault ruptures in the region. The San Andreas Fault generally trends northwest-southeast. However, north of the Transverse Ranges Province, the fault trends in an east-west direction (the Big Bend), causing the fault's right-lateral strike-slip movement to produce north-south compression between the two plates. This compression has produced rapid uplift of many of the mountain ranges in Southern California. North-south compression in southern California has been estimated to be 5 to 20 millimeters per year (SCEC, 1995).

b. **Project Area Geology.** The proposed ordinance revisions would apply to the approximately 112-acre Zone 2 Landslide Moratorium Area, located north of the intersection of Palos Verdes Drive South and Narcissa Drive in the Portuguese Bend area of the Palos Verdes Peninsula. This area, located on the hills above the south-central coastline of the City, is within the City's larger (approximately 1,200-acre) Landslide Moratorium Area (LMA). Zone 2 is geologically interconnected to the rest of the LMA.

The project area is located on Middle Miocene to Early Pliocene Monterey formation, which constitutes the exposed bedrock over most of the Palos Verdes Peninsula. The Altamira Shale Member of the Monterey formation is the lowest of three distinct phases of the Monterey formation in the area and is the source of the Ancient Portuguese Bend Landslide (APBL), and all subsequent landslides within the APBL including the Recent Portuguese Bend Landslide (PBL) and the Abalone Cove Landslide (ACL). The Altamira Shale is further subdivided into three distinct lithofacies, or zones of distinct deposition and thus rock types. These are the Portuguese Tuff, the Cherty Lithofacies and the Phosphatic Lithofacies. Of these three, the Portuguese Tuff is the most prominent and encountered unit in the area, and is typically used as a reference point in discussing stratigraphy. Because of its thickness, estimated between 50 feet and 75 feet, and its composition (an altered ash tuff to bentonite clay), it is also commonly considered to have the greatest potential to affect the slope stability of the local area (LGC Valley, Inc, 2011).

Geologic Units. The main geologic units in Zone 2 and the connected surrounding area are the Monterey formation and ancient and recent landslide deposits. Surficial units of marine and non-marine terrace soils, along with alluvium, colluvium and fill mantle the thicker deposits of landslide and bedrock (LGC Valley, Inc. 2011). Each of these materials is discussed below.

Artificial Fill. Local areas of artificial fill are found throughout the Zone 2 area. Fill soil thickness is variable from a few inches to ten feet or more in response to the filling of low points, swales or grabens from ancient land flow events in order to create roads and/or pads. According to the March 2011 Geotechnical Study prepared by LGC Valley, Inc., it is possible that some of the minor cracking observed in roadways, trenches and in lots in the Zone 2 area are due to settlement of poorly compacted fill soils.

Colluvium. Colluvium is located at the ground surface in areas unaffected by grading activities and is the in-situ development of soil from the underlying materials. The colluvium or topsoil is composed of dark brown to black silty clay and clayey silt and is prone to shrinkage and cracking when drying. The colluvium is thicker in low areas such as swales and thinner on steep hillsides. The colluvium has an average thickness of approximately three feet for gently dipping surfaces in the project area (LGC Valley, Inc. 2011).

Alluvium. Alluvium is the down slope migration of particles by moving water that is typically confined within the elongated troughs of streams and canyons. Alluvium may be fine to coarse-grained and even consist of cobbles and boulders. Alluvium is generally confined to the active stream channels that cut across the southern flank of the peninsula and are interpreted at approximately ten feet or less in thickness in the adjacent Altamira and Portuguese Canyons. Thinner deposits are interpreted within the short streams that feed into these primary canyons.

Landslides. Landslides have occurred throughout the peninsula, but none are more prominent than those of the approximately 900-acre Ancient Portuguese Bend Landslide complex and surrounding areas. In general, these landslides are the result of inclined bedding to the south that becomes unsupported due to erosion from beach waves and intrusion from water runoff. As landslides move down-slope into the beach zone due to loss of support from

erosion, the material up-slope from these areas loses support and becomes susceptible to landsliding as well. Further instability comes from the now fractured nature of the landslide material, which allows more water to infiltrate into the landslide mass, adding weight, creating buoyancy and further decreasing clay strength, while erosion from beach processes at the toe restrict the landslide masses from natural buttressing. The overall effect is a series of landslides that "shingle" up slope nearly to the crest of the anticline that forms the backbone of the peninsula.

According to the LGC Valley, Inc. Geotechnical Study (2011), the initial landsliding that occupies the bulk of the area observed today occurred approximately 120,000 years ago with possibly initial movements as early as 500,000 years ago. Landslides in the South Shore occurred approximately 16,200 years ago, and historical landsliding of the Portuguese Bend Landslide (PBL) and Abalone Cove Landslide (ACL) indicate that mass movements still occur in the area today. Thus, it is reasonable to conclude that landsliding occurs nearly continuously, at least in geologic terms, throughout the APBL complex and that landsliding will continue into the future.

Overall, the various landslides are interpreted or known to be founded on the weak bentonite clay beds that comprise within the Altamira Shale (LGC Valley, Inc. 2011). All landslides appear to fail in a down slope direction toward the ocean. Because of numerous land movements, head scarps and grabens of varying length, height and arc occur throughout the APBL area. Over time, erosion wore down these initially sharp angled features into subdued hills and depressions. Coupled with the formation of terraces over time, the APBL has a gently rolling, hilly appearance except in the areas of recent landsliding.

The APBL moved as a translational-type landslide along a pre-existing weak layer(s) composed of bentonite clay that is inclined toward the ocean (LGC Valley, Inc. 2011). Some geologic reviewers interpret the data as indicating that the APBL initially moved as a single sheet, in part because of the lateral continuity of the entire landslide complex, and then broke into smaller landslides shortly thereafter. Others hypothesize that landsliding occurred in several relatively smaller stages that then migrated up-slope as a series of landslides as successive parcels of land became unsupported from the down-slope failures.

Recent historical movement and groundwater data such as that identified in the ACL and recent PBL, among others, generally supports this later interpretation as these slides occurred along seaward dipping strata, that appears to have begun within the beach zone with shallower groundwater levels up-slope. Reports that leach fields, seepage pits and cesspools were in common use for residences atop the APBL indicate primary sources for groundwater build-up, which would be a primary catalyst for movement (LGC Valley, Inc. 2011).

Though both of these slides generally moved "at once," surface monument data as well as historical data indicate that the first and greater movement occurred at the toe of the slide and then decreased up-slope such that the slides "shingle" up-slope with the toe area showing a greater "rubble" appearance than those areas higher up (LGC Valley, Inc. 2011). Thus, the material near the toe of the landslide has a distinctly different and chaotic structure with very low strength as compared to the landslide debris higher uphill, which is more intact and has a greater inherent strength.

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As indicated above, the movement of lower land masses subsequently decreases support of the land up-slope, creating distinct zones within each landslide that are progressively less broken-up, and therefore stronger up-slope. The larger uphill masses provide significant support to up-slope property because it remains fairly intact.

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Abalone Cove Landslide. The ACL is the re-activation of part of the APBL complex and abuts Zone 2 immediately to the south. Movement of the ACL initiated in 1974 and continued until 1985, encompassing a total of approximately 85 acres (LGC Valley, Inc. 2011).

Beginning in 1994, a series of survey monuments were installed across the ACL and Zone 2. The monuments were set up to be reviewed through Global Positioning Satellite networks (GPS) and recordings have been collected through 2006. The data from these monuments indicates that small amounts of movement have occurred up to the most recent known readings in 2006. Interpretations vary as to causation of the movement, ranging from slope creep, stress relaxation of the landslide from the primary movement that occurred between 1974 and 1985, continued creep movement along the basal rupture surface of the landslide, effects from high rainfall, damage or disturbance to monuments, to possible error in data points or some combination thereof (LGC Valley, Inc. 2011). "These systems are designed to look primarily for lateral movements, which are easier to detect than vertical movements and give a sense of the direction of movement. The vertical component in these systems is the hardest and least accurate to obtain. Further, due to the rise over run basic of slopes, lateral movement more clearly identifies movement (i.e., it is easier to determine relative disturbance if the lateral is, for example, several inches versus the vertical component, which may be tenths or hundredths of an inch). Thus, for landslides, lateral movement is more sensitive and more readily identifiable.

From 1994 to 2006, movement of the ACL indicated the magnitude of displacement at the toe of the ACL to be approximately 1.9 feet, the mid-portion 0.8 feet, and the head area approximately 0.6 feet (LGC Valley, Inc. 2011). This movement roughly correlates to a yearly slip of 1.9 inches, 0.8 inches and 0.6 inches, respectively, though the movement is not steady on a year-to-year basis. Instead, the data appears to indicate that movement occurs in pulses typically regulated by rainfall. This movement is not considered to be a hazard to life and limb as long as the abatement activities (groundwater dewatering and monitoring) within the ACL continue. Monuments within Zone 2 indicate average movement of approximately 0.3 inches per year or three inches every 10-year period. Additional data collected by the City of Rancho Palos Verdes Public Works Department from 2007 to 2017 shows relatively little movement in much of the project area over that time, but indicates more substantial movement (up to about 1.4 inches per year) along the eastern edge of Zone 2 where a few of the remaining vacant lots are located.

Because the ACL area contained numerous home sites and the boundaries were unclear at the time of initial and even continued landsliding, a Landslide Moratorium Ordinance was adopted in 1978. This ordinance was adopted because it was uncertain whether the slide could be controlled or prevented from spreading beyond the area characterized by visible surface cracks.

Shortly after the adoption of the Landslide Moratorium Ordinance, a geotechnical investigation of the ACL was sponsored by the City. The subsequent report by Robert Stone and Associates (1979) provided recommendations for removal of groundwater and noted the lack of youthful landslides uphill of the ACL, in Zone 2 of the area subject to the Landslide Moratorium

Ordinance. The report indicated that there were only two naturally occurring processes capable of destabilizing the slides uphill from the active ACL. One was loss of support on the downhill side as a result of movement of the ACL, and the other was a rise in the groundwater table. From these conclusions, the report recommended against further development in Zone 2 until slide movement was stopped within the ACL, the water table was lowered and surface drainage was improved.

Portuguese Bend Landslide. The 260-acre active Portuguese Bend Landslide (PBL) has been moving continuously since re-activation in 1956. Like the ACL, the PBL is a portion of the much larger APBL complex; however, its rate of movement is estimated at approximately three feet per year versus the 0.6 to 1.9 inch per year rate for the ACL (LGC Valley, Inc. 2011).

The landslide displaced Palos Verdes Drive South, eliminated the extension of Crenshaw Boulevard, damaged a pier just east of Inspiration Point, and affected approximately 160 homes, of which about 134 were destroyed. The remaining homeowners moved to nearby areas that were more stable or adapted to account for ground movements through methods such as continuous use of hydraulic jacks and timbers to keep their foundations relatively level.

Excavation shafts explored by geologists into the PBL located the basal rupture surface on a sheared bentonite clay bed located about 30 to 40 feet above the Portuguese Tuff. The western margin of the PBL moves over inactive landslide debris of the APBL while the eastern portion moves over in-place bedrock (LGC Valley, Inc. 2011).

Similar to the ACL, the PBL is composed of rubble within the toe areas and numerous large blocks up-slope that move at different rates. Like the ACL, the seaward portion of the slide mass moves at a faster rate than those parcels further away from the coast and all parcels accelerate after periods of high rainfall. The rate of movement of the landslide reached 1.5 inches per day after seasons of high rainfall. Only through continued redistribution of landslide mass in three distinct pulses between 1986 and 1995 did the movement decrease to 0.05 inches per day. However, lapses in maintenance, increased infiltration of water into the landslide, weight at the head of the slide due to other landslides and additional weight due to alluvial build-up led to additional failures (LGC Valley, Inc. 2011).

Over several decades, numerous attempts to stabilize the landslide have failed. These include the installation of 23 steel-reinforced concrete caissons; earth re-distribution across the landslide; the installation of dewatering wells, attempts to control beach erosion through the installation of gabions, drainage improvements, and the sealing of fissures.

Groundwater. The current source of groundwater is primarily rainfall. However, supplemental water may also be present due to infiltration from adjacent canyons and up-slope areas and water pipes broken due to landsliding.

Groundwater was concluded to be the most likely agent responsible for the slide movement of the 80-acre ACL (LGC Valley, Inc. 2011). The ACL landslide is the re-activation of part of the APBL complex and is relevant for the Zone 2 area because it abuts Zone 2 immediately to the south. Movement of the ACL initiated in 1974 and continued substantial movement until 1985, encompassing a total of approximately 85 acres.

A dewatering system was installed in the ACL and was effective in lowering the groundwater table and slowing the rate of land movement. Correlations between groundwater pumping and a decline in the rate of movement of the slide began immediately after the start of dewatering. Subsequent wells appear to have further reduced movement to negligible amounts.

Early in the development of the Portuguese Bend area, septic systems, leach lines and cesspools installed as part of residential development on the APBL contributed high volumes of water directly into the landslide and were likely catalysts for inception of movement.

In their report for the City of Rancho Palos Verdes, Robert Stone & Associates (RSA 1979) clearly described three ways in which groundwater negatively affects a landslide mass. First, the water increases the plasticity of clay gouge along the slide surface and allows it to deform more freely with less frictional resistance. Once saturation occurs along a slide surface, the further accumulation of water decreases stability through the action of water pressure. The buoyancy effect of water reduces the weight of solid material pushing down on the slide surface, thus reducing frictional resistance to sliding. At the same time, fluid pressure acting in the direction of slide movement provides an additional driving force similar to water behind a dam. For the ACL, RSA (1979) concluded that evaluation of the driving force produced by the groundwater head indicates it is the controlling factor causing the slide movement.

Currently, groundwater is interpreted as the controlling factor in initiating slide movement. It is also the only factor that can be reasonably manipulated to minimize slide movement for all areas within the APBL complex.

c. Seismic Hazards. The project area is located within the Peninsular Ranges Geomorphic Province, a seismically active area of Southern California. The Peninsular Ranges are characterized by northwest-trending blocks of mountain ridges and thick sequences of sediment-floored valleys cut longitudinally by young northwest trending fault zones and local low angle thrust faults. Numerous active faults occur within this region, and the nearby Palos Verdes, Newport-Inglewood and Santa Monica faults are the most significant faults from a seismic hazards perspective.

The project area is located outside an Alquist-Priolo Earthquake Fault Zone as defined by the Alquist-Priolo Special Studies Zone Act of 1972 (now the Alquist-Priolo Earthquake Fault Zoning Act), which regulates development near active faults (LGC Valley, Inc. 2011). Thus the potential for ground rupture to adversely affect the project area from an active fault is low.

However, the project area is expected to experience strong ground shaking from both near and distant earthquake sources. The type and magnitude of the seismic shaking hazard are dependent on the distance from the causative fault and the intensity and magnitude of the seismic event. Primary seismic hazards can be divided into two general categories: hazards due to ground rupture and hazards associated with ground shaking.

Potential for Ground Rupture. In general terms, an earthquake is caused when strain energy in rocks is suddenly released by movement along a plane of weakness. In some cases, fault movement propagates upward through the subsurface materials and causes displacement at the ground surface as a result of differential movement. Surface rupture usually occurs along

traces of known or potentially active faults, although many historic events have occurred on faults not previously known to be active.

The California Geologic Survey (CGS) establishes criteria for determining faults as active, potentially active or inactive. Active faults are those that show evidence of surface displacement within the last 11,000 years (Holocene age). Potentially active faults are those that demonstrate displacement within the past 1.6 million years (Quaternary age). Faults showing no evidence of displacement within the last 1.6 million years are considered inactive for most structures, except for critical or certain life safety structures. In 1972, the Alquist-Priolo Special Studies Zone Act (now known as the Alquist-Priolo Earthquake Fault Zoning Act, 1994) was passed into law, to prohibit the location of most structures for human occupancy across the traces of active faults and to thereby mitigate the hazard of fault rupture. The Alquist-Priolo Earthquake Fault Zoning Act requires the State Geologist to delineate Earthquake Fault Zones along known active faults in California, and provides policies for cities and counties to regulate developments within Earthquake Fault Zones.

Ground rupture caused by movement along a fault could result in catastrophic structural damage to buildings constructed along the fault trace. Consequently, the State of California via the Alquist-Priolo Special Studies Zone Act prohibited the construction of occupied "habitable" structures within the designated active fault zone. The term "structure for human occupancy" is defined as any structure used or intended for supporting or sheltering any use or occupancy, which is expected to have a human occupancy rate of more than 2,000 person-hours per year. Unless proven otherwise, an area within 50 feet of an active fault is presumed to be underlain by active branches of the fault. Local government agencies may identify additional faults, in addition to those faults identified by the State, for which minimum construction setback requirements must be maintained.

Several active and potentially active faults are located in the region. These include the Elysian Park fold and thrust belt, the Torrance-Wilmington fold and thrust belt, the Newport-Inglewood fault and the Santa Monica fault among others. The Palos Verdes Fault is located approximately four miles from the project area and is considered to have the most substantial effect on the site from a probabilistic design standpoint. In addition, other large faults in the Southern California area have the potential to affect the site. These include the San Andreas Fault, San Gabriel Fault and other undefined large blind thrust faults. However, based on the geotechnical report prepared by LGC Valley, Inc., no known active or potentially active faults underlie the project area. Therefore, the potential for surface ground rupture in the project area is low.

Potential for Ground Shaking. The energy released during an earthquake propagates from its rupture surface in the form of seismic waves. The resulting strong ground motion from the seismic wave propagation can cause significant damage to structures. At any location, the intensity of the ground motion is a function of the distance to the fault rupture, the local soil/bedrock conditions, and the earthquake magnitude. Intensity is usually greater in areas underlain by unconsolidated material than in areas underlain by more competent rock. Earthquakes are characterized by a moment magnitude, which is a quantitative measure of the strength of the earthquake based on strain energy released during the event. The magnitude is independent of the site, but is dependent on several factors, including the type of fault, rock-

type, and stored energy. Moderate to severe ground shaking would be experienced in the project area if a large magnitude earthquake occurs on one of the nearby faults.

Ground shaking is primarily a function of the distance between a site and the seismic source, the type of materials underlying the site and the motion of fault displacement. The 1994 Northridge earthquake showed how peculiarities in basin effects could play a substantial role in ground accelerations at particular areas. For instance, ground accelerations exceeding 1.0 g were recorded at areas far from the epicenter of the Northridge earthquake.

The number or frequency of large magnitude earthquakes that may occur during the life of the project cannot be predicted. However, it is probable the project area will experience at least one major earthquake during the next 50 years.

d. Secondary Seismic Hazards from Ground Shaking. Potential hazards resulting from the secondary effects of ground shaking include: liquefaction, lateral spreading, seismic settlement, and earthquake induced landslides. Secondary hazards are discussed below.

Liquefaction. Soil liquefaction results from the temporary buildup of excess pore pressures, which can result in a condition of near zero effective stress and temporary loss of strength. Several factors influence a soil's potential for liquefaction during an earthquake, including magnitude and proximity of the earthquake; duration of shaking; soil types; grain size distribution; clay fraction content; soil density; particle angularity; effective overburden; location of the groundwater table; cyclic loading; and soil stress history. Saturated, loose to medium dense, near surface cohesionless soils exhibit the highest liquefaction potential, while dry, dense, cohesionless soils and cohesive soils exhibit low to negligible liquefaction potential. With increasing overburden, density and increasing clay content, the likelihood of liquefaction decreases. Liquefaction often occurs in earthquake prone areas underlain by young alluvium where the groundwater table is higher than 50 feet below ground surface.

Based on a review of the Seismic Hazard Zone Maps (CGS, 1999a, 1999b) for the Redondo Beach and San Pedro Quadrangles, the project area is not located within a Seismic Hazards Zone for Liquefaction. Previous geotechnical studies indicate the project area is underlain by ancient landslide deposits consisting generally of the Altamira Shale with lesser deposits of various surficial soils. The shale is not considered susceptible to liquefaction; however, the thin surficial soils may be susceptible. Based on the general distribution and interpreted thicknesses of surficial soils in the subject area, liquefaction potential in the project area is anticipated to be very low to nil.

Lateral Spreading. Lateral spreading, closely related to liquefaction, occurs when level or nearly level soil masses slide laterally on a liquefied layer and gravitational and inertial forces cause the layer and the overlying non-liquefied material to move toward a free face. The magnitude of lateral spreading movement depends on the magnitude of the seismic event, distance between the site and the seismic event, thickness of the liquefied layer, ground slope, fines content, average particle size of the materials comprising the liquefied layer, and the standard penetration rates of the materials. Because the project area is hilly and the potential for liquefaction is very low to nil, the potential for lateral spreading on the project area is also considered very low to nil.

Seismic Settlement. Seismic settlement occurs when cohesionless materials (sands) densify as a result of ground shaking. Uniform settlement beneath a given structure would cause minimal damage; however, because of variations in distribution, density, and confining conditions of the soils, seismic settlement is generally non-uniform and can cause serious structural damage. Dry and partially saturated soils as well as saturated granular soils are subject to seismic settlement.

The project area is underlain by ancient landslide material composed of Altamira Shale and locally thin surficial deposits such as non-marine terrace soils and colluvium or alluvium. Based on a review of LME applications and soils reports for the first 16 undeveloped lots completed to date, the foundations for the undeveloped lots will be founded into newly placed fill over landslide soils or directly into the landslide material. Based on those studies, the underlying landslide material would not be prone to settlement. Due to the minimal thickness of proposed engineered fill beneath foundations, the potential for seismically-induced settlement is very low.

Ground Lurching. Lurching occurs when certain soils have been observed to move in a wave-like manner in response to intense seismic ground shaking, thereby forming ridges or cracks on the ground surface. Areas underlain by thick accumulations of slopewash (colluvium) and alluvium are more susceptible than bedrock to ground lurching. Under strong seismic ground motion, lurching can be expected within loose, cohesionless soils, or in clay-rich soils with high moisture content. Generally, only lightly loaded structures such as pavement, fences, pipelines, and walkways are damaged by ground lurching; more heavily loaded structures appear to resist such deformation. Because deposits of loose terrace sands and slopewash were not indicated in geotechnical reports for proposed residential locations, ground lurching is not expected to occur.

Earthquake Induced Landslides and Rock Topple. Landslides occur when slopes become unstable and masses of earth material move down slope. Landslides are generally rapid events, often triggered during periods of rainfall or by earthquakes. Mudslides and slumps are typically more shallow types of landslides that affect the upper soil horizons, and are not bedrock features. Mudslides and slumps commonly occur during or soon after periods of rainfall, and rock fall and rock avalanches are common during large earthquakes.

The size of a seismically-induced landslide can vary from minor rock falls to large hillside slumps and avalanches. The underlying geology including bedrock bedding planes, degree of water saturation of a material, steepness of a slope and general strength of the soil all contribute to the stability of a hillside. Basal erosion caused by water or human-induced modifications to the natural contour of a hill, including grading, have the potential to aid in destabilizing a hillside during an earthquake.

The stability of a soil is influenced by many factors, including grain size, moisture content, organic matter content, degree of slope, and soil type. Unstable soils can be subject to landslides, debris flows, and rock falls. All of these phenomena are manifestations of gravity driven flows of earth materials due to slope instability. Hillsides naturally have a tendency to fail. Unless engineered properly, development in hillside areas tends to increase the potential for slope failures. Slope modifications by grading, changes in infiltration of surface water, and

undercutting of slopes can create unstable hillsides, resulting in landslides or debris flows. Rock falls occur in virtually all types of rocks and especially on slopes steeper than 40 degrees where the rocks are weakly cemented, intensely fractured, or weathered. It should be noted that the addition of homes on the project area would not alter the potential for seismic slope failure. Rock fall landslides are commonly triggered by seismically-induced ground shaking. Rock topple involves the rotation of columns or blocks of rock about some fixed base, and rock topples can occur when these blocks of rock are subject to shaking during an earthquake. Generally, vertical or near vertical slopes are most subject to this process, however slopes with a gradient greater than 3:1 (horizontal to vertical) are more susceptible to rock topple than slopes of lower angles. A ground acceleration of at least 0.10 g in steep terrain is necessary to induce earthquake-related rock falls, although exceeding this value does not guarantee that rock falls will occur (Wilson and Keefer, 1985). Steep terrain does occur north and west of Zone 2 and, based on the local rock types, terrain, and ground accelerations indicated in the LGC Valley report (2011) which exceed those indicated by Wilson and Keefer (1985), these areas may be subject to rock topple and rock fall during a seismic event.

As defined by the California Geological Survey, the project area is located within a Seismic Hazard Zone for earthquake induced landslides. The project area is within the boundaries of the APBL, and the area is upslope of the well investigated, studied and mapped ACL and PBL landslides. Depending on the intensity of seismic shaking, seismically-induced landsliding could occur in the project area if ground shaking is very high. The probability of seismically-induced landslides is considered moderate (LGC Valley, Inc. 2011).

e. Geotechnical Hazards.

Expansive Soils. Expansive soils swell or heave with increases in moisture content and shrink with decreases in moisture content and clays are most susceptible to expansion. Foundations for structures constructed on expansive soils require special design considerations (CBC, 2008). Within the Zone 2 area, the upper area soils consist of fill, colluvium, and landslide material that contain expansive soils. Laboratory testing performed as a part of individual lot investigations indicated the expansion potential is medium to high (LGC Valley, Inc. 2011).

Hydroconsolidation. Hydroconsolidation occurs when soil layers collapse (settle) when water is added under loads. Natural deposits susceptible to hydroconsolidation are typically aeolian, alluvial, or colluvial materials, with high apparent strength when dry. The dry strength of the materials may be attributed to the clay and silt constituents in the soil and the presence of cementing agents (i.e., salts). Capillary tension may tend to act to bond soil grains. Once these soils are subjected to excessive moisture and foundation loads, the constituency, including soluble salts or bonding agents, is weakened or dissolved, capillary tensions are reduced and collapse occurs, resulting in settlement. The site is predominantly underlain by dense bedrock-derived landslide deposits, and surficial soils are relatively thin and anticipated to be removed prior to construction of single-family homes; therefore, the potential for hydroconsolidation is considered very low. "

Subsidence and Settlement. Subsidence is the sinking of the ground surface caused by the compression of soil layers. This may be caused by groundwater, oil or gas withdrawal, oxidation of organics, or the placement of additional fill over compressible layers.

Layers susceptible to compression settlement can be exacerbated by increased loading, such as from the construction of buildings or the placement of additional fill over compressible layers. Settlement can also result solely within improperly placed artificial fill and structures built on soils or bedrock materials with differential settlement rates. Settlement can be mitigated prior to development through the removal and recompaction of loose soils, and proper placement of engineered fill during site grading.

Slope Stability. Slope stability refers to the relative stability of a slope in terms of driving forces versus resisting forces. If the driving forces are greater than the resisting forces, the slope will move or fail in the down slope direction. If the resisting forces are greater than the driving forces, the slope will not move but remain in a state of stability. If the forces are equal, the slope is on the verge of failure.

The standard of practice in Southern California is to achieve a factor of safety in which the resisting forces are 1.5 times greater than the driving forces (factor of safety of 1.5). The purpose of achieving a factor of safety of 1.5 is to account for those portions of the data set that are inconsistent or poorly understood. In this way, a "safety factor" is applied to the slope being reviewed. Generally speaking, a factor of safety of 1.5 is the condition to achieve for development projects on slopes in the project area. However, based on past studies of the area, the site has a range of slope stability factors of safety due to the various methods of analysis performed by various reviewers. These are discussed further below.

Gross Slope Stability. The geotechnical report prepared by LGC Valley, Inc. included a review of geotechnical studies, investigations, and reviews of the APBL, PBL, and ACL by numerous geotechnical professionals who determined the factor of safety of the ancient and active landslides within the project area based on their data set and methods of analysis. Because of the abundance and diversity of data along with variable interpretation of the data, there are varying opinions regarding the overall stability within Zone 2. These opinions range from the area being at unity (i.e., factor of safety at or just below 1.0) (GeoKinetics 2007), a factor of safety that is probably greater than 1.0 and less than 1.5 (Cotton Shires 2001) to a factor of safety of greater than 1.5 (Leighton, 2001 and 2006).

The primary factors used in determining a factor of safety for a site are: the profile of the ground surface; the geologic structure of the underlying bedrock or soils; the groundwater table; and the strength of the soil column, plus the method of analysis. Secondary factors are also considered. For the project area, these include: previous earthwork and redistribution of land mass; erosion along the beach zone and a reduction in support to up-slope areas; and control of run-off and potential infiltration of water into the slide mass through ground fractures and other avenues.

Based on the review by LGC Valley, Inc., there appears to be general agreement among geologists and geotechnical engineers who have studied the topography of the area regarding groundwater levels used in the slope stability analyses, the strength of the various soil units, the general location of the various rupture surfaces and the overall structure of site bedrock at depth. There is also general consensus that erosion along the beach zone contributes to instability, that instability generally decreases away from the beach zone and that control of groundwater is fundamental for minimizing long term instability. Further, there is additional

agreement between the various reviewers that any future development that may occur in the geologic hazard area should be bound by a set of conditions that range from becoming a part of the community abatement district to the control of run-off from roofs.

Thus, based on LGC Valley's work, the item most in contention did not include the fundamental parameters into which a slope stability analysis is considered. Rather it was the method of analysis that created the greatest disparities between various geotechnical firms and reviewers. These methods are complex and premised in a deep understanding of soil behavior and the complex interactions that occur between rock, soil, water, discontinuities (known, and predicted) and gravity. Thus, there are various ways of interpreting and combining the geologic data, to obtain a range of conclusions regarding site stability, from site failure (factor of safety less than 1.0) to stable (factor of safety of 1.0 or greater). Based on their review and geotechnical expertise, LGC Valley, Inc. concluded that site slope stability is likely somewhere higher than 1.0, but less than 1.5. This conclusion is based on: (1) the fact that, with the exception of the eastern end of Zone 2, much of the Zone 2 area of review is not moving or not moving at a rate that would be considered due to deep-seated ancient landslide movement (creep, expansive soils and other factors may be at play); (2) soil strengths of the weakest layers, the configuration of the geology and the shape of the land; and (3) the fact that the area is atop the APBLC and thus has a history of movement, which suggests that it could move again. The location atop an already failed landslide suggests that the factor-of-safety is roughly 1.25, which is a common result after reviewing landslide movement after failure and is a typical starting point for beginning landslide relative slope stability analysis. It should be noted that this conclusion is predicated on a number of downhill factors that could result in movement in this area should they "fail" over time. However, the probability of failure is considered low since numerous measures are in place and proposed to help achieve a positive, non-failing result (the primary one being keeping groundwater levels low).

LGC Valley, Inc. also concludes that the development of the 31 undeveloped lots in Zone 2 would not have a negative effect on the overall stability of the ancient or active landslides or the remainder of Zone 2, provided that development on the lots is designed within the guidelines of the conditions of approval and in accordance with the city of Rancho Palos Verdes and the latest adopted building codes, and provided additional measures with respect to control of groundwater, reduction in infiltration of water and limiting of earth grading are taken into consideration during development.

Surficial Slope Stability. Surficial failures consist of a variety of failures ranging from shallow slumps to debris flows. Generally, debris flows are a mixture of water-saturated soil that moves down slope, while slumps do not mix much but move as a more intact piece of soil. Surficial landslide failures form when generally loose masses of poorly consolidated soil or weathered bedrock become saturated and then become unstable due to the increase in pore pressure along the soil/rock interface, the increase in weight to the soil from water and a decrease in the soil's strength, which reduces the soil's ability to resist the driving forces. Typically, these events occur during or shortly after periods of long duration and/or high intensity rainfall. Surficial slope stability may be a potential hazard to some of the proposed home sites in the project area due to the presence of small local slopes on individual lots that would need to be assessed and remediated on a case-by-case basis.

f. Regulatory Setting

Public Resources Code, Section 2621. The Alquist-Priolo Act of 1972 (now the Alquist-Priolo Earthquake Fault Zoning Act, Public Resources Code 2621, Division 2, Chapter 7.5) established criteria and policies to assist cities, counties, and State agencies in the exercise of their responsibility to prohibit the location of developments and structures for human occupancy across the trace of active faults, as defined by the State Mining and Geology Board. Under the Act, the State Geologist is required to delineate active faults ("special study zones") in California and the State Mining and Geology Board provides regulations to guide cities and counties in their implementation of the law. The Act also requires that, prior to approval of a project, a geologic study be conducted to define and delineate any hazards from surface rupture. Unless proven otherwise, the area within 50-feet of an active fault is presumed to be underlain by active branches of the fault. As discussed above, the project area is not located in an Alquist-Priolo Earthquake Fault Zone.

Other State Regulatory Requirements. State Government Code requires cities and counties to adopt and enforce the Uniform Building Code (UBC). The City has adopted the California Building Code (CBC), 2016 Edition (Part 2 of Title 24 of the California Code of Regulations), including Chapter 1 and Appendices F, and J, which incorporates and amends the International Building Code, 2015 Edition, published by the International Code Council, as the Building Code of the City of Rancho Palos Verdes. The project area would be subject to Public Resources Code Section 2699, which directs cities to take into account the information provided in available seismic hazard maps when it adopts or revises the safety element of any land-use planning or permitting ordinances. The Department of Conservation, Division of Mines and Geology, Special Publication a117Aa sets forth guidelines under the Geologic Hazards Mapping Act for evaluating and mitigating seismic hazards. Recommendations for mitigating landslide hazards are included in this publication and may be used in the project area, as necessary.

Rancho Palos Verdes General Plan. The City of Rancho Palos Verdes General Plan (2018) includes the following policies for public health/safety related to the natural environment:

- %Á DŸfa |hXŸ Ycda Ybhk |h|b |h YGŸU7 |Z9fcg|cb 5fYUfFA %Zcb`m|ZXá cbg|fUHXhfc| [\`
XYU|YX| Yc`c| |WbUng|gzhUh|h YXg| b UbXgYMUgUfYUXei UhYc|bg fYdi V|WgUZhmi
UbXhc'a U|b|U|b`d`ng|WzVc`c| |WbUxgWb|WYgci fWg"8i Yhc'h YgYbg|hj YbUi fYcZFA %Z
h|gUfYU|g|bW XXUgUb |bh| fU`dUhcZh Y7c|gU GdWZWD`Ub`"
&Á 5`ck`cb`m`ck`|bh|bg|hmiWj |hYgk |h|b F Ygci fWA UbU Ya Ybh8 |gf|WgczY| HYa YgcdYg`
fFA`&E`"
' Á FŸei |fYUbmXŸ Ycda Ybhk |h|b |h YFŸci fWA UbU Ya Ybh8 |gf|WgczY| |`g`cdYg`fFA`" L`
UbXXcfa Ubh`UbXg|XYUfYUfFA`) Lhc`dYfZfa` Uh`Yg|cbZUbXdfYZfUvmk cz|bXdybXbh
Yb| |bYf|b|`g| XŸgWbWb|b|`hY| YchWb|Wzgc| gUbXchYf`gU| |hmZMcf|fbW X|b|`
gYga |Wb|gXfU|cbgLUZM|b|`hYg|hYz`ck|b|`YgU|g`YX| Yc`c| |W| |bX| gfm|gUbXfXg`"
(Á FŸei |fYUa cfYXU|YXXZ|b|hcb`cZh Y`ja |lgUbXWá dcg|hcb`cZUmFŸci fW
A UbU Ya Ybh8 |gf|Wk` \b fŸ |Ÿk|b|`UmXŸ Ycda Ybhd fcdcgU`h UhWb|U|bgcbYcf`a cfY
FŸci fWA UbU Ya Ybh8 |gf|W`
) Á 8 Ÿ YcdUbXbZfWU| fU|b|`cfX|bUbWk |h`XYU|YXWb|fc`gUbXdfZfa UbWgUbXfXg|h`
|bg fYVch Yb| |bYf|b|`gUbXfXgUbXh YUdfcdf|UhYcd| fU| |WfYUa YbhicZg`cdNgUgX`
i dcb fYW|b|nXg|hYd`Ubb|b|`UbX`UbXgWfYUfW|hWfYgUbXfXg`"

*"Ä Dfc\jVhUWj jHvgUUhWUYY Wgij Yg' lëdc`i Hbhfí bcZz]bWUgYWbnab k U` Yfcgcbžcf`
dchbU Zf`UbXg'Xžk jh]b F Ygi fWA UbU Ya Ybh8 jgf]WgWbHj]b[`nXfc'c[jWUWfg`
fFA *L"

The Rancho Palos Verdes General Plan (2018) also includes the following policy for Flood Control/Storm Drain System:

(+ "Ä Yei jfyhUUhU` ZccXWbfc`#Ui fU k Uhf`gi fW]bHfZWgUbXgghä g'a j]b]a jnYfcgcb"

Landslide Moratorium Ordinance. The project area is within the 1,200-acre Landslide Moratorium Area (LMA), established in 1978 in response to potential unstable soil conditions and active landslide movement (Chapter 15.20 of the Rancho Palos Verdes Municipal Code). In general, properties within the LMA that are currently developed with residential structures are permitted to make limited improvements if the City grants a Landslide Moratorium Exception (LME). New construction (except for the 16 Monks lots) is not permitted on properties in the LMA that are not currently developed with residential structures. A Moratorium Exclusion (ME) may be requested, and if granted, effectively removing the properties from the LMA. As discussed in Section 2.0 Dfc`W8 YgWjdhcb, the proposed project would amend this chapter of the Municipal Code to allow the 31 undeveloped lots within Zone 2 to be developed by amending Exception Category "P".

Rancho Palos Verdes Municipal Code. The California Building Code (2016 Edition) was adopted by the City as the Building Code of the City of Rancho Palos Verdes (see Section 15.04.010 of the Municipal Code - Building Code adopted of the City's Municipal Code).

Section 15.20.050 of the RPVMC requires appropriate landslide abatement measures as conditions of a landslide moratorium exception permit within the landslide moratorium area. Conditions imposed by the City shall include, but not be limited to, the following:

- 5"Ä-ZchXUjU YXZVWbWgUfY]XbHjZXVnh YXfYWfc`cZdi VjWk cf_gžU`g WXYZVWbWg`
gU` VYWfYWXVnh YUdd]Wbh"
- 6"Ä-ZhYdfc`Wj]bj c`j YgUXj]hcbU`d`i a V]b[žl hi fYžcf`UXj]hcbg`cZ\Uj]HUYgdUWk \jW`
Y WXXk c`i bXfXgei fYZYžcf`W XWYi gXUgUbYk Wfcca žVhfcca ž`U bXnfcca`
cf`_jHwBžUbX]Zh Y`chcf`dUFW`jg`bchgfj YVniUgU]HfngYk Y`gghä žgdljVngghä g`
gU` VYfd`UWk jh` Udfcj YX`c`Xj]b[Hb_`gghä g`j]b k \jWlc`XjgdcYcZcb]g]h`k Ugh`
k Uhf`H YWUWmcZh YfYei jfyX`c`Xj]b[Hb_`gghä g`U` VYg VWWlc`h YfYj jk UbX`
Udfcj U`cZh YWnfg`V j`Xj]b[`cZVU": cf`h Ydi fdcgYcZh jg`g VgWjcbžh YUXj]hcb`cZU`
glb_`lc`Ub`Y jg]b[Vhfcca ž`_jHwBcf`U bXnfcca` gU` bchVWbghfi YXlc`VYUb`
UXj]hcbU`d`i a V]b[žl hi fY": cf`h cgydfc`Wgk \jW]bj c`j YUXj]hcbg`cZ`Yggh`Ub`lk c`
i bXfXgei fYZYh]b`lc`U`fYUUbXk \jW`fYbchlc`WYi gXUgUbYk Wfcca žVhfcca ž`
U bXnfcca` cf`_jHwBžh YUdd]WbhgU`g Vā jhZcf`fYWfXUjcb UWj YbUhg`YWjW`m`
U fYj]b[h`Uih YUXj]hcb`cZh Y\Uj]HUYgdUWk j`bchVYi gXZcf`hcgYdi fdcgY`Gi W`
Wj YbUhgU` VYg Vā jhXlc`h YXfYWfc`Zcf`fYWfXUjcb`df]cf`lc`h Y]gg`UbWcZUM j`Xj]b[`
dYfa jh": cf`d`gcf`dUWgk \jW`fYlc`WgYj YVniUgU]HfngYk Y`gghä `cb`cf`UWf`h Y`
YZWj YXUycZh YcfXj]bUbWwXj]b`h jg`gWjcb fli`m`ž&SSZUXj]hcbU`d`i a V]b[`
žl hi fYg`a UnYdYfa jhXUbXh YfYei jfYā YbhZcf`U`c`Xj]b[Hb_`a UnYk Uj Yždfcj jXX`
h`Uih Y`chcf`dUFW`jg`lc`VWbbWXXlc`h YgU]HfngYk Y`gghä "-ZUgU]HfngYk Y`



- Ā Fi dli fYcZU_bck b Yfhei U_YZU `h
- Ā Gyga JWFYUHX[fci bXZU]i fYē]bW X]b[``]ei YZUWjcb`
- Ā Gc]`g]bWdUVYcZUXēi UYmg ddcf]b[`hYi gYcZgXh]WUb_g`

Because impacts related to these issues were found to be less than significant in the Initial Study, further discussion of these issues in the EIR is not warranted. Therefore, this EIR analysis focuses on potential impacts related to:

- Ā Gfcb[`gyga JWfci bXg\U]b[`
- Ā @bXg`Xg`
- Ā Gc]`Ycglcb`cf`hY`cgg`cZhdgc]`
- Ā H Ydchbh]U`h`Y`cWdXcb U[Yc`c[JWb]hcf`gc]`hUh]gi bgUVYUgUfYg`hcZhYdfc`Wē UbXdcchbh]U`nrfYg`h]b`UhfU`gdfYU]b[žg VgXbVē`]ei YZUWjcbžcf`W`UdgY`
- Ā H Ydchbh]U`h`Y`cWdXcb Y dUbgj Ygc]`gZWU]b[g Vg]b]U`f]lg`g`c`]Zcf`dfcdYfmi`

The proposed project's impact is considered potentially significant if it would directly or indirectly cause potential substantial adverse effects involving strong seismic ground shaking, landslides, seismic-related ground failure, seismically-induced landslides, and soil hazards such as expansive soils, based on regional or site-specific conditions.

b. Project Impacts and Mitigation Measures.

Impact GEO-1 Seismically-induced ground shaking could result in the exposure of people and structures that could be introduced to the area as a result of the proposed ordinance revisions to adverse effects. However, mandatory compliance with applicable CBC requirements would reduce impacts to a Class III, *less than significant*, level.

Given the highly seismic character of the Southern California region and the project area's proximity to known active and potentially active faults, severe ground shaking is anticipated during the life of the new residences that could be built under the proposed ordinance revisions. As discussed in gYh]b[above, several active and potentially active faults are located in the region. These include the Elysian Park fold and thrust belt and the Torrance-Wilmington fold and thrust belt, the Newport-Inglewood fault and the Santa Monica fault, among others. The Palos Verdes Fault is located approximately four miles from the project area and is considered to have the most substantial effect on the site from a probabilistic design standpoint. No known active or potentially active faults underlie the project area. However, earthquakes along any of the faults in the region could potentially damage buildings and pose risks to human health and safety. Any new construction of habitable structures that could be facilitated by the proposed ordinance revisions would be required to comply with CBC standards. CBC standards require that structures are built to resist forces generated by ground shaking during an earthquake. With mandatory compliance with CBC standards, impacts from ground shaking would be less than significant.

Mitigation Measures. Impacts would be less than significant without mitigation.

Significance after Mitigation. Impacts would be less than significant.

Impact GEO-2 Construction on individual lots in Zone 2 facilitated by the proposed ordinance revisions could cause or accelerate erosion, such that slope failure could occur. Operation of the project, which would allow for 31 single-family homes to be developed in the project area, could potentially cause or accelerate downstream erosion. However, with implementation of Mitigation Measure HWQ-1 and Mitigation Measure HWQ-3 identified in Section 4.8, *Hydrology and Water Quality*, impacts would be Class II, less than significant with mitigation incorporated.

During construction of individual residences, topsoil would be exposed and potentially removed from individual properties. The exposure or removal of topsoil could cause accelerated erosion on the project area. Topsoil eroded from the project area would be retained in stormwater that drains into Altamira Canyon. This soil would become sediment and result in sedimentation downstream of the project area. Construction impacts would be potentially significant.

Over the longer term, changes to surface hydrology could potentially occur in portions of the project area, which may be caused by increased impervious surfaces on individual lots, modified runoff patterns, or inadequate drainage facilities. Adverse surface drainage could cause or accelerate erosion, which could undermine proposed structures and lead to surficial slope failures on either manufactured or natural slopes.

In addition, any increase in runoff from the subject lots could increase drainage into Altamira Canyon. Altamira Canyon, a natural drainage course that traverses the Zone 2 area, currently experiences erosion due to runoff from the existing areas that are tributary to the canyon. A number of factors currently contribute to erosion in Altamira Canyon, including the steep gradient of the canyon, storm and operational runoff from existing developments within the watershed, and the types of soil within the streambed.

Development of the 31 lots would result in an increase in impervious area, and consequently, an increase in runoff rates and volume. The increase in impervious area would result in a change in the water balance in the project area. While the total rainfall for any given storm will remain constant, the increase in runoff would result in a corresponding reduction in infiltration in the project area. As discussed in Section 4.8, the increase in peak runoff rates as a result of cumulative development of the 31 lots for the design storm events (10-, 25-, 50-year, and Capital Storm) ranges from 0.5% to 1% for the entire watershed and 2.9% to 4.5% for the project area (Zone 2) (see Table 4.8-1 and Table 4.8-2). Thus, based upon the total runoff quantities and the proposed project's relatively small contribution to the overall amount of runoff into Altamira Canyon that is a factor in the ongoing erosion, impacts due to the project would be less than significant with the mitigation identified below. These measures would minimize increases in the quantity, duration, and frequency of runoff through the use of detention facilities and the application of low impact development principles in the development of the lots, such as, but not limited to, detaining peak flows and use of cisterns, bio-retention areas, green roofs (which are roofs with vegetation and a growing medium, planted over a waterproofing membrane), and permeable hardscape. With release of runoff

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from the Zone 2 lots in a controlled manner, Altamira Canyon would experience little or no measurable incremental increase in erosion directly attributable to the 31 lots.

It should be noted that, because Altamira Canyon currently experiences erosion and will continue to experience erosion with or without adoption of the proposed ordinance revisions, the City has explored other measures to address the existing erosion as part of the Final Feasibility Study for the Portuguese Bend Landslide Complex (July 2018) prepared for the City by Daniel B. Stephens & Associates, Inc. As discussed in detail in Section 4.8, < nMfc`c[mUbX K Uhf Ei U]lmthat study addresses land movement and slope failure issues in the area and identifies a number of technologies as options for achieving storm water control and groundwater extraction to achieve manageable and sustainable land stability. The study was adopted by the City and the Public Works Department is in the process of implementing the study's recommendations.

The hydrologic analysis conducted as part of the Drainage Report (Appendix E) performed for the project was aimed at determining the overall hydrological impact of buildout in Zone 2. Each of the individual property owners would need to prepare a detailed hydrologic analysis to demonstrate compliance with the mitigation measures listed below. The mitigation measures address individual site development impacts due to flooding and erosion. Although some portion of the project area currently experience flooding and erosion issues during periods of heavy precipitation, future project area development is responsible for mitigating only its incremental increase in flooding and erosion, not for mitigating for existing conditions that are the result of past project area developments. While it may be desirable to resolve the site flooding and erosion in Altamira Canyon and other natural drainage courses, this existing condition affecting the larger area would need to be addressed separately from these proposed ordinance revisions.

Mitigation Measures. All project area development would be required to comply with the Chapter 18.50 of the RPVMC, which includes water-efficient landscape standards intended to promote water conservation. The standards would limit water runoff and infiltration by limiting irrigation requirements. In addition, Mitigation Measure HWQ-1 in Section 4.8, < nMfc`c[mUbXK Uhf Ei U]lmwould be required to reduce erosion during construction to a less than significant level. In addition, pursuant to Mitigation Measure HWQ-3 in Section 4.8, < nMfc`c[mUbXK Uhf Ei U]lm each individual developer would be required to comply with the following, pursuant to the review and approval by the City Building Official:

- Ā =i g fUYh UhdcbhZck`cb YUWcZh YdfcdYfhYg`lg`Yh Yf`bcfa U]nYXZUhbi UhxUXei UYnā cf`k`j` fYUW`Ub UWMdLVYWbj YntbWg WUgUgcfā XfUjbZWMbbYzcf`bUi fU`XfUjbU`Y Wf fgY`5`fi bcZg`U` VYXfYMXh`Ub UWMdLVYWbj YntbWUbXg`U` bchYU`ck YXh` XfUjb`h`cW]nYXg` a dgcf`Wwā YbhfYUg`k`Jh`bc`ci h`Yi`
- Ā A UjbUjb`Y`Jg`Jb` XfUjbU`YdUhfYbg`UbXci h`YhU`Jg`cf`JW`ci h`Yhdcb`lg`
- Ā A]b]a]nYWUb`Yg`h`h`YWFUMf`cZh`Yfi bcZZUhdcdYfm`]bYg`7`Ub`Yg`]b`WfUMf`]bW`XYWbWbhfU]cb`cZZck`ci h`Yh]b`]`cblc`UXUMbhdcdYfhYg`cf`]bWUg]b`]`h`YZYei YbWā cf`Xi fU]cb`cZfi bcZZci h`Yh]b`]`cblc`UXUMbhdcdYfhYg`
- Ā FYXi W]bWUg`g`]b`fi bcZZhri`h`]n]b` Uddcdcf`JUYUbxUdd`JWVY`ck`ja dUMXy`Ycda Ybhf`df]bWd`Yg`g`WUg`Vi h`bch`ja]hXhczXfU]b]b`]`dYU`Zck`g`UbXi`gYcZMg`Yfbg`V]c`fYh]cb` fYUg`]`fYyb`fccg`UbXcdYā YUVY`fXg`WY
- Ā Dfcj`JYcb`ghYXh]b]cb`ZUW]hYg`cf`Wbj YntbW`h`UWMdLVYcZZ`ch`Wbj YntbWXY`JWg`
- Ā A]b]a]nYI`8`fmK`Yh`Yf`fi bcZZk`JWwā`XUXXh`h`YhchU`]bZ`hfU]cb`Zca`h`Ydfc`Yw`

Significance After Mitigation. Impacts would be less than significant with implementation of measures HWQ-1 and HWQ-3 in Section 4.8, < nXc`c[mUbXK Uhf Ei U]hm These measures reduce the volume and velocity of runoff from the project area, which in turn reduces the potential for soils to erode and become retained in runoff.

Impact GEO-3 **The project area is located on a geologic unit that could be unstable or could potentially become unstable as a result of development facilitated by the proposed ordinance revisions. With implementation of mitigation measures GEO-3(a) and GEO-3(b), impacts would be Class II, less than significant with mitigation incorporated.**

The project area and surrounding areas are within the boundaries of the APBL and the area is upslope of the well investigated, studied and mapped Abalone Cove and Portuguese Bend landslides. In addition, as discussed in the GYHjb/, the project area is within an identified earthquake-induced landslide area. The underlying bedrock bedding planes, groundwater level, steepness of slope, and shear strengths of the soils all influence the stability of the hillsides in the project area. Lateral erosion caused by natural or human-induced modifications to the contour of a hill, which includes grading, have the potential to destabilize a hillside. As discussed in GYHjb/, the standard of practice in Southern California is to achieve a factor of safety in which the resisting forces are 1.5 times greater than the driving forces (factor of safety of 1.5). However, the slope stability in the project area is likely between 1.0 and 1.5. Therefore, the 1.5 factor of safety standard is not met. As a result, structures constructed on these slopes could potentially succumb to slope failure or structural damage. Impacts could extend to surrounding off-site structures depending on the size of the slope instability. Impacts would be potentially significant.

Grading for residences and accessory structures would be required to adhere to grading practices as outlined in the County of Los Angeles and City of Rancho Palos Verdes grading ordinances in order to address issues specific to each lot's surficial slope stability. Due to the unique circumstances in the project area, impacts related to large deep-seated landslides would be potentially significant and further mitigation in terms of ground water control is warranted.

As discussed in Section 4.8, < nXc`c[mUbXK Uhf Ei U]hmportions of the additional runoff that would be added to the existing drainage system for the project area would be directed to Altamira Canyon. Groundwater recharge is a landslide concern because an increase in infiltration could affect the stability of existing landslides in the project area and vicinity. Adding water to the landslide material adds weight, creates buoyancy, and further reduces clay strength on the existing slopes, which could lead to slope failure. However, the portions of Altamira Canyon that would receive drainage from the project area are generally steep, and as such do not contribute substantially to groundwater recharge as water moves quickly over the land surface, minimizing infiltration. Therefore, the incremental increase in surface water from the project area as a result of the development of an additional 31 lots would not substantially increase infiltration in Altamira Canyon or related effects on landslide potential (LGC Valley, Inc. 2011). Because adding impervious surfaces in the project area would reduce infiltration on the subject lots, that aspect of the potential new development would not contribute to groundwater-related landslide concerns.

Mitigation Measures. Mitigation measures GEO-3(a) and GEO-3(b) would be required to address impacts related to soil instability and landslides.

GEO-3(a) Geotechnical Recommendations. Prior to issuance of any grading permit or building permit, individual project applicants shall comply with all recommendations contained in the Geotechnical Study prepared by LGC Valley, Inc., dated March 29, 2011, including the following, "which shall be reflected in the geotechnical/soils reports for individual projects:

- Ā 7cbZfa 1c Udd]WVYfYei JfYā Yblg`cZh Y7]ImcZF UbWc DUcgJ YfXg`
@UbXg]XYA cfUrf]i a C fX]bUbWVf UbWc DUcgJ YfXg`A i b]VdU`
7cXY7\Udhf % "8S"\$) Stžga YcZk \JWUfYci h]bYXVYck "
- Ā @a]h[fUX]b[1c`Ygg`h Ub %SSS W]WUfXg`fMhUbXZ` Wā V]bYX
]bW X]b[Y dcfhUbX]a dcfHdY`chžk]h bc`a cfYhUb) \$W]WUfXg`
cZ]a dcfhXZ` dY`chUbX%SSS W]WUfXg`cZ] dcfh`
- Ā 5[fYfYc`dUf]WUfY]b hY5 UcbY7cj Y@UbXg]XY5 UHā Ybh8]gf]W
UbXtf`ch Yf fYW] b]nXcf Uddfj YX]gf]Vg`k \cgYdi fdcgY]g`h`
a U]bH]b hY`UbX]b U[Yc`c[]W`ngUVYWbX]hcb"B c`dfcdcgyX
V]X]b[UWj]hna UnW gY`YggYb]b[cZgUM]]hm]b h YncbY`
- Ā Gi Vā]hU[YchWb]W fYdcfhc`h Y7]Im]bX]W]b[k \Uz]Zubnž`ch
`cW`UbX]a a Y]UfYmUXUWb] Yc`c[]WUfXg`a i ghYUXXfYggX
UbXtf`WffYMXdf]cf hczcf X f]b[Wbgfi W]cb"GUXfYdcfhg`U`
g]W]nZi bX]hcb Xg] bgVgYXcb ZYXUbX`UcfUrfmgh X]g`UbX
a i ghYUddfj YXVmh Y7]Im]g[YchWb]W fY]]Yk Yfg`
- Ā @a]hdcg]Wbgfi W]cb`ch]bZ`fU]cb UbXfi bcZZfUhg`UbXj c`i a Ylc`
dfYWbgfi W]cb`Y Yghfci [\ i gYcZUddfcd]UfY`ck]a dUW
Xj Ycda Ybhd]bVd`Yg`g WUg`V h]bch]a]hXhczXf]b]b[dYU`
Zck gUbXi gYcZV]fYbg`c`X]b[hU`g`X]h]b]cb Vg]bg`Vc]fYmb]hcb`
UfYg`[fYb fccZg`UbXdYfā YUVY\UfXg`WfY`
- Ā 7cbbYMU``ci g`g`h Udi V]VgUb]hfm]k Yf`g`hā UbXa U]bH]bYX
Uih YdfcdYfmck bYf`g`Y dYbgY`5 bmbWggfYm]g`ā Yblg`U` VY
dfj]XX`
- Ā 7cffYMU``chXfU]bU YXZVWbWg`Zubnž]Xb]Z]YXVmh Y8]fWtf`cZ
Di V]VK cf_g`
- Ā 7c`YWfi bcZZfca U`Vi]X]b[gUbXdY YXUfYg`bch]bZ`fUfXcf`
fYU]bYX]U]bYXcb]ghYc`a UH`Y]gh]b[dfYWbgfi W]cb WbX]hcbg`
UbX]fYWfi bcZZf`h YgfYhcf`h Ub Uddfj YXfU]bU YWf fgyUg`
Uddfj YXVmh Y8]fWtf`cZDi V]VK cf_g`
- Ā 7ca d`mk]h U`ch Yf fYfY UbhVi]X]b[WXYfYei JfYā Yblg`

GEO-3(b) Covenant. Individual project applicants shall submit for recordation a covenant agreeing to construct the project strictly in accordance with the approved plans and agreeing to prohibit further development on the subject site without first filing an application with the Director pursuant to the terms of Chapter 15.20 of the RPVMC. Such covenant shall be submitted to the Director for recordation prior to the issuance of any grading or building permit.

Significance After Mitigation. Impacts would be reduced to below a level of significance under CEQA with implementation of mitigation measure GEO-3(a) and GEO-3(b) and compliance with applicable requirements of the most recent CBC. With these requirements, although the 1.5 factory of safety standard likely cannot be met in all cases, development of the 31 undeveloped lots in Zone 2 would not have a negative effect on the overall stability of the ancient or active landslides or the remainder of Zone 2. Thus, development of the 31 lots would not exacerbate the overall landslide hazard in the project area and the environmental impact under CEQA would be less than significant.

Impact GEO-4 **The project area is in a Seismic Hazard Zone for earthquake-induced landslides. Therefore, project area development would inherently be subject to risks associated with seismically-induced landslides. However, with implementation of mitigation measures GEO-3(a) and GEO-3(b) requiring design of potential new construction on each lot in compliance with site-specific geotechnical recommendations, impacts would be Class II, less than significant with mitigation incorporated.**

The project area is located in a Seismic Hazard Zone for earthquake-induced landslides. Seismic Hazard Zones are regulatory zones identified by the State of California that encompass areas prone to liquefaction and earthquake-induced landslides. In Seismic Hazard Zone areas, the state has determined that weak soil and/or rock may be present beneath the site. If present, these weak materials can fail during an earthquake and, unless proper precautions are taken during grading and construction, can cause damage to structures.

Landslides occur when slopes become unstable and masses of earth material move down slope. Landslides are generally rapid events, often triggered during periods of rainfall or by earthquakes. The size of a landslide can vary from minor slope scars to hundreds of acres of hillside land movement. The underlying bedrock bedding planes, groundwater level, steepness of a slope, and shear strengths of the soils all contribute to the stability of a hillside. The Palos Verdes Fault is located approximately four miles from the site and is considered to have the most substantial effect on the project area from a probabilistic design standpoint. Although development of the 31 residences that could occur as part of the proposed project would not eliminate existing landslide hazards in the area, the possible exposure of development to an existing hazard is not a significant environmental effect under CEQA. Moreover, potential for seismically-induced landsliding would not change substantially with the addition of the 31 residences that would be accommodated in the project area. The 31 subject lots are primarily in areas of gentle slopes, whereas the seismic hazard concern is for the more steeply inclined areas. Grading quantities would be limited by the proposed ordinance revisions and any loose soils that are replaced with compacted fill could actually improve conditions. Nonetheless, depending on the intensity of seismic shaking, seismically-induced landsliding could occur in the project area during a seismic event, which is a potentially significant impact.

Mitigation Measures. Mitigation measures GEO-3(a) and GEO-3(b) above would be required to reduce impacts to a less than significant level. In particular, Mitigation Measure GEO-3(a) would require each applicant to submit a geotechnical report for review and approval by the City's geotechnical reviewers indicating any geologic hazards that need to be addressed and/or corrected prior to construction. In addition, Mitigation Measure GEO-3(b) would require each individual project applicant to record a covenant agreeing to construct the project strictly in accordance with the approved plans. Because each individual single-family residential site would be required to prepare a geotechnical report and would be required to construct the project strictly according to approved plans, potential seismically-induced landsliding effects would be addressed on a site-specific basis.

Significance After Mitigation. Impacts would be reduced to below a level of significance under CEQA with incorporation of mitigation measures GEO-3(a) and GEO-3(b). However, as discussed in the geotechnical study (LGC Valley, Inc. 2011), the project area will continue to have the potential for instability due to the presence of the Abalone Cove and Portuguese Bend landslides. Therefore, as is the case in any landslide prone area, development within the project area is subject to inherent risks associated with seismically-induced landslides.

**Impact GEO-5 The project area is not susceptible to liquefaction, ground
lurching, lateral spreading or seismic settlement. Impacts
would be Class III, less than significant.**

As discussed in *GYHjbl*, the project area is underlain by ancient landslide material composed of Altamira Shale and locally thin surficial deposits such as non-marine terrace soils and colluvium or alluvium. The Seismic Hazard Zone maps for the Redondo Beach and San Pedro quadrangles show that the project area is not within a liquefaction zone. Liquefaction potential in the project area is very low (LGC Valley, Inc. 2011). Because the project area is not susceptible to liquefaction, the potential for lateral spreading is low.

Areas underlain by thick accumulations of slope wash and alluvium are more susceptible than bedrock to ground lurching. Under strong seismic ground motion, lurching can be expected within loose, cohesionless soils, or in clay-rich soils with high moisture content. Generally, only lightly loaded structures such as pavement, fences, pipelines, and walkways are damaged by ground lurching; more heavily loaded structures appear to resist such deformation. Because deposits of loose terrace sands and slope wash are not present in the project area, the potential for ground lurching is nil.

Based on a review of LME applications and soils reports for the first 16 undeveloped lots in the project area completed to date, the underlying landslide material in the project area would not be prone to settlement. Due to the minimal thickness of proposed engineered fill beneath foundations, the potential for settlement is low.

Design of the proposed structures in accordance with the provisions of the most recent CBC would minimize the potential effects of ground shaking. Therefore, adverse effects associated with liquefaction, ground lurching, lateral spreading and/or seismic settlement during a ground shaking event would not be expected. Impacts would be less than significant.

Mitigation Measures. Mitigation is not required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact GEO-6 Soils in the project area are moderately to highly expansive. With implementation of mitigation measures GEO-3(a) and GEO-3(b), impacts related to expansive soils would be Class II, less than significant with mitigation incorporated.

As discussed in GYHjbl, expansive soils swell or heave with increases in moisture content and shrink with decreases in moisture content. Clays are most susceptible to expansion. Foundations for structures constructed on expansive soils require special design considerations (CBC, 2016). Within the Zone 2 area, the upper site soils consist of fill, colluvium, and landslide material that contain expansive soils. Laboratory testing performed as part of individual lot investigations indicates that expansion potential is medium to high (LGC Valley, Inc. 2011). Expansive soils could result in distress in the form of cracking and/or differential uplift of concrete footings and floor slabs when soils become wet. This distress would be localized and limited to the structures constructed on the expansive soils. Structures in the project area would be required to comply with the most recent California Building Code, which would reduce the potential for expansive soil effects. Nonetheless, impacts related to expansive soils would be potentially significant.

Mitigation Measures. Implementation of mitigation measures GEO-3(a) and GEO-3(b) would be required to reduce impacts related to expansive soils. Mitigation Measure GEO-3(a), as described above, requires that the project conform to the City of Rancho Palos Verdes Landslide Moratorium Ordinance, grade up to 1,000 cubic yards per lot, participate in ACLAD and/or other recognized or approved districts whose purpose is to maintain the land in a geologically stable condition, and submit a geotechnical report to the City's geotechnical reviewers prior to construction. Further, Mitigation Measure GEO-3(b) would ensure that these geotechnical report recommendations are actually implemented into the project by requiring individual project applicants to record a covenant agreeing to construct the project strictly in accordance with the approved plans. With implementation of the recommendations contained in the geotechnical report as required by Mitigation Measure GEO-3(a) and by constructing the project strictly according to approved plans as required by Mitigation Measure GEO-3(b), impacts related to expansive soils would be reduced to a less than significant level.

Significance After Mitigation. Impacts would be less than significant with implementation of mitigation measures GEO-3(a) and GEO-3(b).

c. Cumulative Impacts. Cumulative development in and around the City would include approximately 2,232 residences and 219,646 square feet of non-residential development, as shown in Table 3-1 in Section 3.0, 9bj Jfcba YbHU'GYHjbl. Proposed development, in conjunction with other cumulative projects proposed in Rancho Palos Verdes and surrounding areas (including adjacent areas within the LMA), would expose people and property to seismically related hazards that are present throughout the region. Planned and pending projects would be subject to various geologic hazards that are site-specific in nature, but would not create additive effects that are cumulative in nature. Impacts related to slope stability, destabilization of hillsides due to excavation, landsliding, seismically induced ground shaking,

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liquefaction, soil settlement and expansive soils would be similar to what is described for the project and would be addressed on a project-by-project basis through compliance with existing building codes and any site-specific mitigation measures for individual projects. Compliance with applicable code requirements and the recommendations of site-specific geotechnical evaluations on a case-by-case basis would reduce cumulative impacts relating to geologic hazards to a less than significant level. Regarding erosion in Altamira Canyon, as discussed above, based upon the total runoff quantities and the proposed project's relatively small contribution to the drainage that is a factor in ongoing erosion, the project's contribution as mitigated would not be cumulatively considerable and project area development would not increase instability in adjacent areas.

4.6 GREENHOUSE GAS EMISSIONS

This section discusses global climate change, its causes and the contribution of human activities, as well as a summary of existing greenhouse gas emissions. The section describes the criteria for determining the significance of climate change impacts, and analyzes the proposed Amendments’ impacts related to global climate change and greenhouse gas emissions.

4.6.1 Setting

a. Climate Change and Greenhouse Gases. Global climate change is the observed increase in the average temperature of the Earth’s atmosphere and oceans along with other significant changes in climate (such as wind patterns, precipitation, and storms) over an extended period of time. The term “global climate change” is often used interchangeably with the term “global warming,” but “global climate change” is preferred to “global warming” because it helps convey that there are other changes in addition to rising temperatures. The baseline, against which these changes are measured, originates in historical records identifying temperature changes that have occurred in the past, such as during previous ice ages. The global climate is continuously changing, as evidenced by repeated episodes of substantial warming and cooling documented in the geologic record. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. However, scientists have observed acceleration in the rate of warming during the past 150 years. Per the United Nations Intergovernmental Panel on Climate Change (IPCC), the understanding of anthropogenic warming and cooling influences on climate has led to a high confidence (95 percent or greater chance) that the global average net effect of human activities has been the dominant cause of warming since the mid-20th century (IPCC 2014).

Gases that absorb and re-emit infrared radiation in the atmosphere are called greenhouse gases (GHGs). GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced global climate change carbon dioxide (CO₂), methane (CH₄), nitrous oxides (N₂O), fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

GHGs are emitted by both natural processes and human activities. Of these gases, CO₂ and CH₄ are emitted in the greatest quantities from human activities. Emissions of CO₂ are largely by-products of fossil fuel combustion, whereas CH₄ results from off-gassing associated with agricultural practices and landfills. Man-made GHGs, many of which have greater heat-absorption potential than CO₂, include fluorinated gases and sulfur hexafluoride (SF₆) (California Environmental Protection Agency [CalEPA], 2006). Different types of GHGs have varying global warming potential (GWP). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO₂) is used to relate the amount of heat absorbed to the amount of the gas emissions, referred to as “carbon dioxide equivalent” (CO₂e), and is the amount of a GHG emitted multiplied by its GWP. Carbon dioxide has a 100-year GWP of one. By contrast,

methane (CH₄) has a GWP of 25, meaning its global warming effect is 25 times greater than CO₂ on a molecule per molecule basis (IPCC 2007).

The accumulation of GHGs in the atmosphere regulates the earth's temperature. Without the natural heat trapping effect of GHGs, Earth's surface would be about 34° C cooler (CalEPA, 2006). However, it is believed that emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations. The following discusses the primary GHGs of concern.

Carbon Dioxide. The global carbon cycle is made up of large carbon flows and reservoirs. Billions of tons of carbon in the form of CO₂ are absorbed by oceans and living biomass (i.e., sinks) and are emitted to the atmosphere annually through natural processes (i.e., sources). When in equilibrium, carbon fluxes among these various reservoirs are roughly balanced (U.S. Environmental Protection Agency [USEPA] 2014). CO₂ was the first GHG demonstrated to be increasing in atmospheric concentration, with the first conclusive measurements being made in the last half of the 20th Century. The global atmospheric concentration of CO₂ has increased from a pre-industrial value of about 280 ppm to 391 ppm in 2011 (IPCC 2007; NOAA 2010). Currently, CO₂ represents an estimated 74 percent of total GHG emissions (IPCC 2007). The largest source of CO₂, and of overall GHG emissions, is fossil fuel combustion.

Methane. CH₄ is an effective absorber of radiation, though its atmospheric concentration is less than that of CO₂ and its lifetime in the atmosphere is limited to 10 to 12 years. It has a GWP approximately 25 times that of CO₂ (refer to ; fYyb\ci gY; Ūg=bj Ybhtfnbelow for a discussion of GWP). Over the last 250 years, the concentration of CH₄ in the atmosphere has increased by 148 percent (IPCC, 2007), although emissions have declined from 1990 levels. Anthropogenic sources of CH₄ include enteric fermentation associated with domestic livestock, landfills, natural gas and petroleum systems, agricultural activities, coal mining, wastewater treatment, stationary and mobile combustion, and certain industrial processes (USEPA 2014).

Nitrous Oxide. Concentrations of N₂O began to rise at the beginning of the industrial revolution. N₂O is produced by microbial processes in soil and water, including those reactions that occur in fertilizers that contain nitrogen, fossil fuel combustion, and other chemical processes. Use of these fertilizers has increased over the last century. Agricultural soil management and mobile source fossil fuel combustion are the major sources of N₂O emissions. N₂O's GWP is approximately 298 times that of CO₂ (IPCC 2007).

Fluorinated Gases (HFCS, PFCS and SF₆). Fluorinated gases, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfurhexafluoride (SF₆), are powerful GHGs that are emitted from a variety of industrial processes. Fluorinated gases are used as substitutes for ozone-depleting substances such as chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), and halons, which have been regulated since the mid-1980s because of their ozone-destroying potential and are phased out under the Montreal Protocol (1987) and Clean Air Act Amendments of 1990. Electrical transmission and distribution systems account for most SF₆ emissions, while PFC emissions result from semiconductor manufacturing and as a by-product of primary aluminum production. Fluorinated gases are typically emitted in smaller quantities than CO₂, CH₄, and N₂O, but these compounds have much higher GWPs. SF₆ is the most potent GHG that the IPCC has evaluated.

b. Greenhouse Gas Inventory. Worldwide anthropogenic emissions of GHG were approximately 40,000 million metric tons (MMT) CDE in 2004, including ongoing emissions from industrial and agricultural sources, but excluding emissions from land use changes (i.e., deforestation, biomass decay) (IPCC 2014). CO₂ emissions from fossil fuel combustion and industrial processes contributed about 65 percent of total emissions in 2010. Of anthropogenic GHGs, CO₂ was the most abundant accounting for 76 percent of total 2010 emissions. CH₄ emissions accounted for 16 percent of the 2010 total, while nitrous oxide and fluorinated gases account for six and two percent, respectively (IPCC 2014).

Total U.S. GHG emissions were 6,511.3 million metric tons (MMT or gigatonne) CO₂e in 2016 (U.S. EPA 2018). Total U.S. emissions have increased by 2.4 percent since 1990; emissions decreased by 1.9 percent from 2015 to 2016 (U.S. EPA 2018). The decrease from 2015 to 2016 was a result of multiple factors, including: (1) substitution from coal to natural gas consumption in the electric power sector and (2) warmer winter conditions in 2016 resulting in a decreased demand for heating fuel in the residential and commercial sectors (U.S. EPA 2018). Since 1990, U.S. emissions have increased at an average annual rate of 0.1 percent. In 2016, the industrial and transportation end-use sectors accounted for 22 percent and 28 percent of CO₂ emissions, respectively. Meanwhile, the residential and commercial, agriculture, and electricity end-use sectors accounted for 11 percent, 9 percent, and 28 percent of CO₂ emissions, respectively (U.S. EPA 2018). Based on the California Air Resource Board's (CARB) California Greenhouse Gas Inventory for 2000-2016, California produced 429.4 MMT of CO₂e in 2016 (CARB 2018a). The major source of GHGs in California is associated with transportation, contributing 41 percent of the state's total GHG emissions. The industrial sector is the second largest source, contributing 23 percent of the state's GHG emissions. Electric power accounted for approximately 16 percent of the total emissions (CARB 2018a). California emissions are due in part to its large size and large population compared to other states. However, a factor that reduces California's per capita fuel use and GHG emissions, as compared to other states, is its relatively mild climate. CARB has projected that statewide unregulated GHG emissions for the year 2020 will be 509 MMT of CO₂e (CARB 2018b). These projections represent the emissions that would be expected to occur in the absence of any GHG reduction actions.

c. Potential Effects of Climate Change. Globally, climate change has the potential to affect numerous environmental resources through potential impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. Long-term trends have found that each of the past three decades has been warmer than all the previous decades in the instrumental record, and the decade from 2000 through 2010 has been the warmest. The global combined land and ocean temperature data show an increase of about 0.89°C (0.69°C–1.08°C) over the period 1901–2012 and about 0.72°C (0.49°C–0.89°C) over the period 1951–2012 when described by a linear trend. Several independently analyzed data records of global and regional Land-Surface Air Temperature (LSAT) obtained from station observations are in agreement that LSAT, and surface temperatures, have increased. In addition to these findings, there are identifiable signs that global warming is currently taking place, including substantial ice loss in the Arctic over the past two decades (IPCC 2014).

According to the CalEPA's 2010 Climate Action Team Biennial Report, potential impacts of climate change in California may include decreased snow pack, sea level rise, an increase in extreme heat days per year, high ground-level O3 days, large forest fires, and drought (CalEPA 2010). Below is a summary of some of the potential impacts that could be experienced in California as a result of climate change.

Air Quality. Higher temperatures, which are conducive to air pollution formation, could worsen air quality in California. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would further worsen air quality. However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains would tend to temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thereby ameliorating the pollution associated with wildfires. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state (CEC 2009).

Water Supply. Analysis of paleoclimatic data (such as tree-ring reconstructions of stream flow and precipitation) indicates a history of naturally and widely varying hydrologic conditions in California and the west, including a pattern of recurring and extended droughts. However, the average early spring snowpack in the Sierra Nevada decreased by about 10 percent during the last century, a loss of 1.5 million acre-feet of snowpack storage. During the same period, sea level rose eight inches along California's coast. California's temperature has risen 1°F, mostly at night and during the winter, with higher elevations experiencing the highest increase. Many Southern California cities have experienced their lowest recorded annual precipitation twice within the past decade. In a span of only two years, Los Angeles experienced both its driest and wettest years on record (DWRCalifornia Department of Water Resources (DWR) 2008; California Climate Change Center (CCCC) 2009).

This uncertainty complicates the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood. The Sierra snowpack provides the majority of California's water supply by accumulating snow during the state's wet winters and releasing it slowly during the state's dry springs and summers. Based upon historical data and modeling DWR projects that the Sierra snowpack will experience a 25 to 40 percent reduction from its historic average by 2050. Climate change is also anticipated to bring warmer storms that result in less snowfall at lower elevations, reducing the total snowpack (DWR 2008).

Hydrology. As discussed above, climate changes could potentially affect: the amount of snowfall, rainfall, and snow pack; the intensity and frequency of storms; flood hydrographs (flash floods, rain or snow events, coincidental high tide and high runoff events); sea level rise and coastal flooding; coastal erosion; and the potential for salt water intrusion. Sea level rise may be a product of climate change through two main processes: expansion of sea water as the oceans warm and melting of ice over land. A rise in sea levels could result in coastal flooding and erosion and could jeopardize California's water supply. Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

Agriculture. California has a \$30 billion agricultural industry that produces half of the country's fruits and vegetables. Higher CO₂ levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, water demand could increase; crop-yield could be threatened by a less reliable water supply; and greater ozone pollution could render plants more susceptible to pest and disease outbreaks. In addition, temperature increases could change the time of year certain crops, such as wine grapes, bloom or ripen, and thereby affect their quality (CCCC 2006).

Ecosystems and Wildlife. Climate change and the potential resulting changes in weather patterns could have ecological effects on a global and local scale. Increasing concentrations of GHGs are likely to accelerate the rate of climate change. Scientists expect that the average global surface temperature could rise as discussed previously: 1.0-4.6°F (0.6-2.5°C) in the next 50 years, and 2.2-10°F (1.4-5.8°C) in the next century, with substantial regional variation. Soil moisture is likely to decline in many regions, and intense rainstorms are likely to become more frequent. Sea level could rise as much as two feet along most of the U.S. coast. Rising temperatures could have four major impacts on plants and animals: (1) timing of ecological events; (2) geographic range; (3) species' composition within communities; and (4) ecosystem processes, such as carbon cycling and storage (IPCC 2007; Parmesan 2004; Parmesan, C. and H. Galbraith 2004).

While the above-mentioned potential impacts identify the possible effects of climate change at a global and potentially statewide level, in general scientific modeling tools are currently unable to predict what impacts would occur locally.

d. Regulatory Setting. The following regulations address both climate change and GHG emissions.

Federal Regulations. The U.S. Supreme Court in *A UggWm gHhgYhU"*j "9bj Jfcbä YbHU' DfchWjcb 5/ YbWjYhU. (2007 549 U.S. 05-1120, held that the U.S. EPA has the authority to regulate motor-vehicle GHG emissions under the federal Clean Air Act. The U.S. EPA issued a Final Rule for mandatory reporting of GHG emissions in October 2009. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufacturers of heavy-duty and off-road vehicles and vehicle engines, and requires annual reporting of emissions. In 2012 the U.S. EPA issued a Final Rule that establishes the GHG permitting thresholds that determine when Clean Air Act permits under the New Source Review Prevention of Significant Deterioration (PSD) and Title V Operating Permit programs are required for new and existing industrial facilities.

In 2014, the U.S. Supreme Court in *I H]lm5JfFYi 'Uxfm; fci dj "9D5* (2014) 134 S. Ct. 2427, held that U.S. EPA may not treat GHGs as an air pollutant for purposes of determining whether a source is a major source required to obtain a PSD or Title V permit. The Court also held that PSD permits that are otherwise required (based on emissions of other pollutants) may continue to require limitations on GHG emissions based on the application of Best Available Control Technology (BACT).

California Regulations. California Air Resources Board (CARB) is responsible for the coordination and oversight of State and local air pollution control programs in California. California has numerous regulations aimed at reducing the state's GHG emissions. These

initiatives are summarized below. Assembly Bill (AB) 1493 (2002), California's Advanced Clean Cars program (referred to as "Pavley"), requires CARB to develop and adopt regulations to achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." On June 30, 2009, U.S. EPA granted the waiver of Clean Air Act preemption to California for its greenhouse gas emission standards for motor vehicles beginning with the 2009 model year. Pavley I regulates model years from 2009 to 2016 and Pavley II, which is now referred to as "LEV (Low Emission Vehicle) III GHG" regulates model years from 2017 to 2025. The Advanced Clean Cars program coordinates the goals of the Low Emissions Vehicles (LEV), Zero Emissions Vehicles (ZEV), and Clean Fuels Outlet programs, and would provide major reductions in GHG emissions. By 2025, when the rules will be fully implemented, new automobiles will emit 34 percent fewer GHGs and 75 percent fewer smog-forming emissions from their model year 2016 levels (CARB 2011).

California's major initiative for reducing GHG emissions is outlined in Assembly Bill 32 (AB 32), the "California Global Warming Solutions Act of 2006," signed into law in 2006. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020, and requires CARB to prepare a Scoping Plan that outlines the main State strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions. Based on this guidance, CARB approved a 1990 statewide GHG level and 2020 limit of 427 MMT CO₂e. The Scoping Plan was approved by CARB on December 11, 2008, and included measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted since approval of the Scoping Plan.

In May 2014, CARB approved the first update to the AB 32 Scoping Plan. The 2013 Scoping Plan update defines CARB's climate change priorities for the next five years and sets the groundwork to reach post-2020 statewide goals. The update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluates how to align the State's longer-term GHG reduction strategies with other State policy priorities, such as for water, waste, natural resources, clean energy and transportation, and land use (CARB 2014).

Senate Bill (SB) 97, signed in August 2007, acknowledges that climate change is an environmental issue that requires analysis in California Environmental Quality Act (CEQA) documents. In March 2010, the California Resources Agency (Resources Agency) adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted guidelines give lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHG and climate change impacts.

SB 375, signed in August 2008, enhances the state's ability to reach AB 32 goals by directing CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles by 2020 and 2035. In addition, SB 375 directs each of the state's 18 major Metropolitan Planning Organizations (MPOs) to prepare a "sustainable communities strategy" (SCS) that contains a growth strategy to meet these emission targets for inclusion in the Regional

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Transportation Plan (RTP). On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. The Southern California Association of Governments (SCAG) was assigned targets of an 8 percent reduction in GHGs from transportation sources by 2020 and a 19 percent reduction in GHG's from transportation sources by 2035. In the SCAG region, SB 375 also provides the option for the coordinated development of subregional plans by the subregional councils of governments and the county transportation commissions to meet SB 375 requirements.

On September 8, 2016, the governor signed Senate Bill 32 (SB 32) into law, extending AB 32 by requiring the State to further reduce GHGs to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, as well as implementation of recently adopted policies and policies, such as SB 350 and SB 1383 (see below). The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan Update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally-appropriate quantitative thresholds consistent with a statewide per capita goal of six metric tons (MT) CO₂e by 2030 and two MT CO₂e by 2050 (CARB 2017). As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level analyses (city, county, subregional, or regional level), but not for specific individual projects because they include all emissions sectors in the State (CARB 2017).

Adopted in September 2016, SB 1383 requires CARB to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants. The bill requires the strategy to achieve the following reduction targets by 2030:

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The bill also requires the California Department of Resources Recycling and Recovery (CalRecycle), in consultation with the CARB, to adopt regulations that achieve specified targets for reducing organic waste in landfills.

For more information on the Senate and Assembly Bills, Executive Orders, and reports discussed above, and to view reports and research referenced above, please refer to the following websites: www.climatechange.ca.gov and www.arb.ca.gov/cc/cc.htm. Adopted on September 10, 2018, SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the state's Renewables Portfolio Standard Program, which was last updated by SB X 1-2 in 2011. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

On September 10, 2018, the governor issued Executive Order B-55-18, which established a new statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing statewide GHG reduction targets established by SB 375, SB 32, SB 1383, and SB 100.

Pursuant to the requirements of SB 97, the Resources Agency has adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted CEQA Guidelines provide general regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts. To date, a variety of air districts have adopted quantitative significance thresholds for GHGs.

Local Regulations. The City of Rancho Palos Verdes adopted an Emissions Reduction Action Plan (ERAP) in December 2017. The ERAP was adopted prior to the adoption of SB 32, however, the ERAP establishes a goal for 2035 which aligns with the trajectory of EO S-3-05. Rancho Palos Verdes' ERAP includes emission reduction goals and measures that are primarily associated with increasing energy efficiency and decreasing energy demand.

4.6.2 Impact Analysis

a. Methodology and Significance Thresholds. Based on Appendix G of the State 79E 5 ; i j X Y j b Y g impacts related to GHG emissions from the proposed project would be significant if the project would:

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The vast majority of individual projects do not generate sufficient GHG emissions to directly influence climate change. However, physical changes caused by a project can contribute incrementally to cumulative effects that are significant, even if individual changes resulting from a project are limited. The issue of climate change typically involves an analysis of whether a project's contribution towards an impact would be cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15064[h][1]).

For future projects, the significance of GHG emissions may be evaluated based on locally adopted quantitative thresholds, or consistency with a regional GHG reduction plan (such as a Climate Action Plan).

The proposed Landslide Moratorium Ordinance revisions would not involve any specific development proposals or change any land use designations, it would indirectly result in the potential development of 31 new single-family residences. Nonetheless, in order to determine whether or not GHG emissions associated with buildout and operation of 31 single-family residences are "cumulatively considerable," this analysis determines the project's consistency with applicable greenhouse gas emissions reductions strategies. Although the City has an

adopted ERAP, the proposed project is also quantitatively evaluated for informational purposes based on the SCAQMD's recommended/preferred option threshold for all land use types including residential of 3,000 metric tons CO₂e per year (SCAQMD, "Proposed Tier 3 Quantitative Thresholds – Option 1", September 2010).

As discussed in Section 4.2, 5]fEi U]hñ emissions associated with the construction (short-term) and operation (long-term) of the project were quantitatively estimated using the [CalEEMod] version 2016.3.2 computer model, based on the projected maximum amount of equipment that would be used on-site at one time. Complete CalEEMod results and assumptions can be viewed in Appendix B. Construction emissions include emissions generated by construction equipment, such as backhoes and bulldozers operating on the project area, as well as emissions generated by off-site vehicle trips associated with construction, such as hauling trips and worker travel to and from the project area. Operational emissions include mobile source emissions (i.e., vehicle emissions), energy emissions (primarily natural gas combustion), and area source emissions (emissions generated by landscape maintenance equipment, consumer products, and architectural coatings). "

b. Project Impacts and Mitigation Measures.

Impact GHG-1 Development that could be facilitated by the proposed ordinance revisions would generate additional GHG emissions beyond existing conditions. However, GHG emissions generated by full development potential within Zone 2 would not exceed relevant significance thresholds. Further, the proposed project would be generally consistent with the City's ERAP, the SCAG Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), and the CARB 2017 Scoping Plan. Impacts would be Class III, *less than significant*.

As stated above, GHG emissions for potential buildout of the project area under the proposed ordinance revisions were quantitatively calculated using the SCAQMD's CalEEMod computer model based on the development potential that would be accommodated as a result of the proposed revisions to the Landslide Moratorium Ordinance. The following summarizes the project's overall GHG emissions (see Appendix B for full CalEEMod worksheets).

Construction Emissions "For the purpose of this analysis, construction activity is conservatively assumed to occur over a period of approximately four years (extending the assumed construction period over a longer period would result in lower overall emissions since emission rates for construction equipment will decline over time as lower emitting technologies are required). Based on the CalEEMod model results, construction activity for the project would generate an estimated 624 metric tons CO₂e (as shown in Table 4.6-1) during the first year of construction, which is the year with the highest amount of GHG emissions since this year includes site preparation and grading phases. Although construction emissions are temporary in nature, in order to account for their contribution over the lifetime of the project the SCAQMD recommends amortization of construction emissions over a 30-year period and then addition of the construction emissions to the operational emissions (SCAQMD, 2008). Following the

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The CalEEMod model was used to calculate direct sources of air emissions located in the project area. This includes hearths, consumer product use, and landscape maintenance equipment. Because the project would involve residential units which do not typically have large rates of emissions associated with consumer products, emissions from the proposed project associated with consumer products would be negligible (0 metric tons per year). As shown in Table 4.6-2, the area sources would generate approximately 10 metric tons CO₂e per year.

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HŸgkfhŸcb'9a]gg]cbg' Mobile source GHG emissions were estimated using the ITE rate for average daily trips single family residences consistent with the project's transportation study prepared by LLG Engineers (2019) and by the total vehicle miles traveled (VMT) estimated in CalEEMod. Based on the CalEEMod model estimate, potential development would generate approximately 1,000,752 annual VMT. Ā

Table 4.6-6 shows the estimated mobile emissions of GHGs for the project based on the estimated annual VMT. As noted above, the CalEEMod model does not calculate N₂O emissions related to mobile sources. As such, N₂O emissions were calculated based on the project's VMT using calculation methods provided by the California Climate Action Registry General Reporting Protocol (January 2009). As shown in Table 4.6-6 below, the project would result in approximately 432 metric tons CO₂eunits associated with mobile emissions.

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7ca VjbYX7cbgfi WcbZGHŸcbUfmĪbXA cV]Ygci fW9a]gg]cbg' Table 4.6-7 combines the construction, operational and mobile GHG emissions associated with on-site development for the proposed project. Construction emissions associated with construction activity (approximately 624 metric tons CO₂e) are amortized over 30 years (the anticipated life of the project). Therefore, construction of the proposed project would generate approximately 50 metric tons CO₂e per year. Operation emissions, including mobile emissions, would generate

approximately 599 metric tons CO_{2e} per year. Therefore, the combined annual emissions would total approximately 649 metric tons CO_{2e} per year. This total represents roughly 0.00015% of California's total emissions of 429.4 MMT of CO_{2e} in 2016. These emission projections also indicate that the majority of the project's GHG emissions are associated with vehicular travel (approximately 67 percent). However, mobile emissions are in part a redirection of existing travel to other locations, and so are already a part of the total California GHG emissions.

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Based on the development potential in Zone 2 that would result from revisions to the Landslide Moratorium Ordinance, total GHG emissions would be approximately 649 metric tons CO_{2e} per year. Although development facilitated by the proposed project would generate additional GHG emissions beyond existing conditions, the total amount of GHG emissions would be less than 3,000 metric tons per year.

Development allowed under the proposed project would also be generally consistent with applicable regulations or plans addressing greenhouse gas reductions. As indicated above, the City's ERAP was adopted prior to the adoption of SB 32; however, the ERAP establishes a goal for 2035 which aligns with the trajectory of EO S-3-05. Rancho Palos Verdes' ERAP includes emission reduction goals and measures that are primarily associated with increasing energy efficiency and decreasing energy demand. According to the SCAG RTP/SCS, goals include the focus of new growth around transit and to reflect the changing population and demands. Tables 4.6-8 and 4.6-9 illustrate that the proposed project would be consistent with the applicable GHG reduction strategies set forth by the City's ERAP and SCAG RTP/SCS.

Further, the project would be consistent with the 2017 Scoping Plan measures established to reduce GHG emissions. Specifically, the 2017 Scoping Plan intends to reduce total light-duty vehicle miles traveled (VMT) by 15 percent from expected levels in 2050. The 2017 Scoping Plan also encourages the use of streets for multiple modes of transportation. All residents would have access to the City's existing trails for alternative modes of transportation. In addition, public bus transit service is currently provided by the Los Angeles County Metropolitan Transportation Authority and the Palos Verdes Peninsula Transit Authority (see Table 4.10-4 in

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Mitigation Measures. As specified above, the proposed project would result in less than 3,000 metric tons CO₂e per year and would be consistent with the GHG reduction measures in the City's ERAP, the SCAG RTP/SCS, and the CARB 2017 Scoping Plan; therefore, no mitigation is necessary. Future project area development would, however, be subject to various ERAP policies and programs, including those related to increased energy efficiency, use of green building techniques, use of low irrigation landscaping, and encouraging tree planting.



c. Cumulative Impacts. Planned and pending development in and around the City is listed in Table 3-1 in Section 3.0, *9bj]fcbā YbH'GYH]b[*. As indicated above in Impact GHG-1, GHG emissions associated with the proposed project would be less than significant. Analyses of greenhouse gases are cumulative in nature as they affect the accumulation of greenhouse gases in the atmosphere. Since there would be no significant project impact and given the relatively small contribution to cumulative GHG emissions associated with the proposed project, the project would not make a substantial contribution to cumulative impacts related to climate change.

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4.7 FIRE PROTECTION

This section describes existing fire hazards near the project area and potential impacts associated with those fire hazards relative to existing and proposed structures. Potential impacts related to emergency access are discussed in Section 4.10, *HfUbgckfHjcb UbX7jfwUjcb*.

4.7.1 Setting

a. Project Area Setting. The Zone 2 Landslide Moratorium Ordinance Revisions project area is located on the hills above the south-central coastline of the City, is within the City's larger (approximately 1,200-acre) Landslide Moratorium Area (LMA). Of the 111 lots within Zone 2, 69 are developed with residences and accessory structures, 11 lots have obtained some form of planning entitlements for development via Exception "P," in Rancho Palos Verdes Municipal Code Section 15.20.040 and 31 lots are undeveloped. Lots in Zone 2 are generally ¼ acre to one or more acres in size. Developed lots contain mainly one-story single-family homes and many also contain accessory structures including equestrian facilities. Vacant lots within the project area are characterized by highly variable topography and are vegetated with scrub, grasses, mature trees and, in some cases, accessory structures and equestrian facilities. The project area is encompassed by vegetated open space to the north, east, and west which makes up the Portuguese Bend and Filiorum Reserves of the Palos Verdes Nature Preserve (a subarea of the City's Natural Communities Conservation Plan / Habitat Conservation Plan (NCCP/HCP), and has limited existing residential uses to the south.

b. Fire Hazards. The majority of the Zone 2 project area consists of developed and undeveloped parcels on variably sloping land vegetated with grasses and trees. The County of Los Angeles Fire Department has designated the site as a very high fire hazard area (Fire Hazard Severity Zone Map 2019). The County's fire hazard map was developed by the Forestry Division based on an evaluation of fuels, topography, dwelling density, weather, infrastructure, building materials, brush clearance, and fire history, and serves to determine increased insurance rates and building requirements. Weather is the single most important component affecting wildfire. In particular, specific weather events can occur that drastically alter the normally temperate Rancho Palos Verdes coastal plain climate to create catastrophic wildfire conditions. The winds that create extreme wildfire conditions in the Southern California region are known as the "Santa Ana" winds.

c. Fire Protection. The Los Angeles County Fire Department (LACFD) Battalion 14 provides fire prevention, fire suppression, and life safety services to the City of Rancho Palos Verdes. LACFD Battalion 14 has 7 fire stations throughout the area including 2 stations in the City of Rancho Palos Verdes, staffed 24 hours a day, 365 days a year. The nearest fire station (#53) is located at 6124 Palos Verdes Drive South, approximately one-half mile northwest of the Portuguese Bend community access point at Narcissa Drive. Station #53 is staffed by three firefighters per shift. Station #53 equipment includes one pumper fire truck (Engineer/Specialist Darin Linincer, April 2, 2019). Access to Portuguese Bend community is provided solely from Palos Verdes Drive South, which connects to the private gated community via Narcissa Drive and Peppertree Drive from the south. In case of an emergency, the fire station uses a remote control or key to open the locked gates at both private community entrances.



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d. Regulatory Setting. The City of Rancho Palos Verdes General Plan and Municipal Zoning Code include a number of goals, policies and regulations intended to maintain and augment fire protection within the City. Selected policies and regulations that are applicable to the project's potential fire hazard impacts are discussed below.

General Plan. The Safety Element of the City of Rancho Palos Verdes General Plan (2018) generally describes the wildfire hazard history, potential, risk factors, and emergency services in the City and sets forth policies and recommendations by which to increase safety and reduce hazards. The following selected policies related to safety and fire protection may be considered applicable to the project area.

Policy 2. " 5XcdhUbXYbZfWV |X|b| WXYgZcfX|bUbWgZUbXfY|i 'U|cbgi g|b| Wgi dfUMVWgk \jWVbHJb Xg| b UbXWbgi Wjcb gUbXfXgVgXi dcb' Uddfcd|UHy'Y Yg'cZf|g UbX\UfX"

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Policy 9. " 8 Y YcdUbX|a d'Ya Ybhgf|b| YbhglYXg| b UbXa UbhUbWV|hf|UZf' UfYgcz\| \ ZfY\UfXcdhbb|U |b WcfX|bUjcb k |h ZfYdfchWjcb U YbWg"

Policy 11. ' 7ccfX|bUHyk |h hY: |fY8 YdUfa Ybhlc dfcj |XYUXei UHYa Y| YbWUWg' lc U' g'fYgZ|bW X|b| hYbXdc|b|gczW'XygUgUbXUcb| h YgXgcz gfi WfYg"

Policy 13. "9bg fYhUhg|f| WgUfYdfcj |XXlc XU UXei UYmk |h \U|h UbX gb|j|Ujcb dfcVYa g"

Municipal Code. Rancho Palos Verdes Municipal Code Section 8.08.010 adopts by reference the Los Angeles County Fire Code, Title 32, as the Fire Code of the City of Rancho Palos Verdes. The County maintains fire safety requirements, development standards and regulations, and standard fees, for new development. Building standards for fire hazards, including roof coverings, construction materials, structural components, and clearing of brush and vegetative growth, are administered by the LACFD and the City's Building and Safety Division.

For areas located in the Very High Fire Hazard Severity Zone (VHFHSZ), County Fire Code Sections 325.2.1.2, 328.10, 1117.2.1 and 4908.1 require completion and approval of a land development plan and fuel modification plan. Appendices B and C of the Fire Code specify that for single-family dwellings located on a lot of one acre or more in a VHFHSZ, the fire-flow must be 1,000 gallons per minute for a duration of two hours and hydrants must be spaced not more than 600 feet apart. Additionally, the City's Building and Safety Division mandates wildfire protection building construction requirements intended to mitigate wildfire exposure in an urban interface area.



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The LACFD Fuel Modification Unit provides guidelines for the VHFHSZ in order to create a defensible space for effective fire protection in newly constructed and/or remodeled homes. Fuel modification zones in the project area are strategically placed strips of land where combustible native or ornamental vegetation has been modified or replaced with drought-tolerant, low-fuel-volume plants, creating a buffer to areas of natural vegetation surrounding the perimeter of a single-family dwelling. A fuel modification plan identifies specific zones within a property which are subject to fuel modification. Plans vary in complexity and fuel modification distances are estimated based on the fire history, the amount and type of vegetation, the arrangement of the fuels, topography, local weather patterns, and construction, design and placement of structures. The plan must also include an irrigation plan, a landscape plan, zone delineation for setbacks, irrigation, and thinning, and the identification of responsible parties for the plan's installation and maintenance.

Multijurisdictional Hazard Mitigation Plan. The 2014 City of Rancho Palos Verdes and City of Rolling Hills Estates Multi-jurisdictional Hazard Mitigation Plan seeks to promote sound public policy designed to protect citizens, critical facilities, infrastructure, private property, and the environment from natural hazards, such as wildfires. The mitigation plan provides a list of activities that may assist the City in reducing risk and preventing loss from future natural hazard events. City mitigation measures applicable to the project area include:

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a jh| Ujcb Ujg jhYgZUbXhc\Yd|i jXYa Yf| YbWjgYf jWgX fjb| fYgcbgY"
- WF-2. " -bWYgYWa a i b|WjcbZwcfX|bUjcb/ W\UcfUjcb Wk Yb k j'XUbX# fVb
|bhfZUWdfcdYfmc bYgZ'cW d'UbbYgUbXZfYdfY Yb|cb Wk g/ 'cZUWg|c
UXYgYf|g.gY|g|b| a jh| Ujcb'a Yg fYgZUbXZXYU UjgghUWdfc|fLa g"
- WF-3. 9bW fU Y|a d'Ya YbUjcb'cZk j'XZfYa jh| Ujcb Ujg jhYg|b Ua UbbYf Wbgghb
k jh h Y| cUg'cZdfca ch|b| g gUjbuVYYWc| jW'a UbU Ya Yb| W'a a i b|mi
ghU|jmi"

4.7.2 Impact Analysis

a. Methodology and Significance Thresholds. The County of Los Angeles does not include specific significance thresholds for impacts to fire hazards and fire protection services. Development within the project area must provide adequate emergency access, fire hydrants and fire flow in accordance with Los Angeles County Fire Code. In addition, a fuel modification plan providing adequate defensible space requires review and approval prior to issuance of a building permit. Significance criteria for this section have been taken from the Initial Study (Zone 2 Landslide Moratorium Ordinance Revisions, 2010) which is based on the GHY79E5 ; i jY|bYg" For the purpose of this analysis, a significant impact would occur if implementation of the proposed ordinance revisions would:

- Ā 9l dcydYcdYcf gfi W fYg|c Ug| b|ZUbhif|g 'cZ'cgZ|b'i fmc'XUh |bj c'j |b| k j'XUbX
ZfYgZ|bW X|b| k \YfYk j'XUbXg'fYUWbhic i fVb|nXUfYUg'cf k \YfYgXbWg'fY
|bhfa j| YXk jh k j'XUbXg'



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Potential impacts related to emergency access are discussed in Section 4.10, *HfUbgdcfhUjcb UbX 7/fWUjcb*.

b. Project Impacts and Mitigation Measures.

Impact FIRE-1 The project area is located in a Very High Fire Hazard Severity Zone and is adjacent to the Portuguese Bend and Filiorum Reserves subareas of the Palos Verdes Nature Preserve on the north, east and west. New residences constructed as a result of adoption of the proposed ordinance revisions could expose people or structures to risks associated with wildland fires. Impacts would be Class II, *less than significant with mitigation incorporated.*

The project area is located adjacent to the Portuguese Bend and Filiorum Reserves subareas of the Palos Verdes Nature Preserve, which are primarily vegetated with grasses, scrub, and mature trees. This vegetated open space abuts developed and undeveloped lots within Zone 2 to the north, east and west. As such, residences developed within the project area would be exposed to increased fire hazards risk. In addition, the introduction of additional structures and residences could increase the potential for fires due to human carelessness, appliance malfunctions, faulty wiring or cinders from fireplaces. Inadequate emergency access, fire hydrant spacing and fire flow rates could also pose significant fire hazard risks. However, the developer of each new residence must submit a land development plan and receive approval from the LACFD Land Development Unit prior to permit issuance, demonstrating compliance with the Los Angeles County Fire Code requirements on specified flow rates, fire hydrant spacing and emergency access within a Very High Fire Hazard Severity Zone.

Prior to any development in the Very High Fire Hazard Severity Zone, property owners would also be required to submit a fuel modification plan to the LACFD Forestry Division. This fuel modification plan must be reviewed and approved for defensible space, reasonable fire safety, and compliance with Sections 325.2.1, 325.2.2, 325.10, and 503.2.1 of the Los Angeles County Fire Code, the Fire Department's Fuel Modification Guidelines, and California Code of Regulations Title 14, Division 1.5, Chapter 7, subchapter 2. While the risk of wildfire hazard in the project area would remain, with the required development and implementation of proper fuel modification plans and required adherence to all Los Angeles County building codes concerning fire safety, impacts would be less than significant with mitigation.

Mitigation Measures. As noted above, the developer of each new residence in the project area must submit a land development plan and receive approval from the LACFD Land Development Unit prior to permit issuance, demonstrating compliance with the Los Angeles County Fire Code requirements on specified flow rates, fire hydrant spacing and emergency access. A fuel modification plan must also be submitted to the LACFD Forestry Division for review and approval. The following mitigation measures would ensure compliance with applicable requirements and would reduce impacts related to fire hazards to a less than significant level.



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FIRE-1(a) Fuel-Load Vegetation Management. Each applicant shall be required to prepare a fuel modification plan pursuant to the requirements of LACFD. The City will verify that the LACFD has reviewed and approved the plan prior issuance of any grading or building permit. The fuel modification plan shall at a minimum include the following:

- Ā J Y YLHcb WUfUWfYei jfYā Ybglfci bXU` bYk` gfi W fYgk jh U
a jbla i a %SSNM Zfzcf` fYUhfZUgXhMa jbYXVni@5 7: 8 /
- Ā 5`UbXgWjlb[d`Ub i gbl[d`UblgfYā a YbXXZf h YfUWc DUcg`
J YXgUfYUUbXgYWMXZca h YXgUfYUd`Ubh` jghZf gYMUZ
jffj UHŽcf h jbbjlb[rcbYUbx`
- Ā 5 fYi` U`ngWYX` YXVi g` WUfUWcZj Y YLHcb`cb UbXUWbhlc`
U`UddjWYUWgfcUgZdck Yf` jbgZUbXgfi W fYg`

FIRE-1(b) Fire Protection Requirements. Prior to any grading or building permit issuance, new single-family residences and related accessory structures shall be designed to incorporate all fire protection requirements of the City's most recently adopted Building Code, to the satisfaction of the Building Official.

Significance After Mitigation. Upon implementation of mitigation measures FIRE-1(a) and FIRE-1(b), impacts related to fire hazards would be less than significant.

c. Cumulative Impacts. Cumulative development in and around Rancho Palos Verdes, as listed in Table 3-1 in Section 3.0, 9bj jfcbā YbHU GYHjlb[, would incrementally increase the potential for exposure to fire hazards depending on the precise location of such development. The proposed development would incrementally contribute to this cumulative effect. However, all new development would be subject to existing regulations relative to fire hazards. Impacts associated with individual developments would be addressed on a case-by-case basis as needed, in part by the application of development standards or mitigation measures for development in high fire hazards to reduce such risks if determined necessary. With implementation of the project-specific mitigation measures listed above, the project's contribution to fire hazard impacts would not be cumulatively considerable. In addition, as discussed in Section 4.3, 6jc`c[jWfYgci fWg development of some of the undeveloped lots in Zone 2 could result in impacts to existing or regrowth coastal sage scrub (CSS) habitat as a result of Fire Department-mandated fuel modification on- and/or off-site (i.e., in the Reserve) after construction of new residences is complete. However, with the inclusion of the mitigation measures identified in Section 4.3, impacts would be less than significant. Mitigation Measure BIO-2 would be required to reduce impacts to possible stands of CSS vegetation to a less than significant level. As further discussed in Section 4.3, 6jc`c[jWfYgci fWg with implementation of mitigation measures (including Mitigation Measure BIO-2) the impacts of the proposed project would be localized in nature and would not substantially contribute to any cumulative impacts to regional biological resources.

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GŦŦcb(+":]fYDfchŦŦcb"

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H\|g'dU| Y|bhŦŦ|cbU`m`YŦVŦb_`



4.8 HYDROLOGY and WATER QUALITY

This section analyzes the proposed ordinance revisions' potential to adversely affect hydrology and water quality. This analysis is partially based on a Conceptual Drainage and SUSMP (Water Quality) Report prepared by Hunsaker and Associates, LA Inc., dated May 6, 2011. The report is included as Appendix E of this EIR. The City's Public Works Department also conducted analysis of hydrology and water quality issues since the preparation of the 2011 study that is incorporated into this section.

4.8.1 Setting

a. Hydrology and Storm Drain System. The project area is located on the Palos Verdes Peninsula. Since the Rancho Palos Verdes Peninsula is a single hill formation, a central ridge disperses drainage in a number of small watershed systems. However, no major watershed systems are completely confined within the boundaries of Rancho Palos Verdes. All surface waters originate from precipitation that falls on the peninsula. The drainage pattern flows in several directions as a result of the central ridge. The majority of runoff flows directly south into the Pacific Ocean. The remaining runoff flows east through San Pedro, north through Rolling Hills and Rolling Hills Estates, or west through Palos Verdes Estates. All runoff, however, eventually flows into the Pacific Ocean.

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The project area is part of an approximately 855-acre watershed that includes developed and undeveloped land. Off-site areas to the north of the project area include existing Tracts 27789, 31617 and 31714, as well as natural hillside and canyon open space areas. Altamira Canyon is the main natural drainage course that drains the project area and off-site tributary areas. Altamira Canyon has experienced and continues to experience erosion that is partially due to runoff from the existing development in and outside of the project area. Figure 4.8-1 shows the drainage pattern in the project area.

The existing drainage system was designed in 1940 for the entire Portuguese Bend Development, including the 31 undeveloped lots. Since that time, the City adopted the Landslide Moratorium and there has been development above Altamira Canyon that drains into the project area, all of which contributes to overall runoff in the project area. Observations from area residents suggest that the existing system is inadequate to convey runoff from the developed lots.

The City Public Works Department conducted field observations in Zone 2 to assess the adequacy of the Council-adopted mitigation measures currently being implemented as part of Monks Lots residential development associated with Exception "P" of the Landslide Moratorium Ordinance. More specifically, the observation assessed whether water runoff from recently developed Zone 2 properties exceeded pre-development water runoff conditions. The field observations were conducted during rain events on February 2, 2019 and February 9, 2019. Runoff was observed during these storm events from properties with and without water runoff detention devices (holding tanks). The observed runoff appeared to be less on the properties with holding tanks.

In the vicinity of the project area, runoff is conveyed within existing drainage courses, storm drains, and culverts that traverse the area. The project area is divided roughly by Cinnamon Lane into two major drainage areas. The area east of Cinnamon Lane drains a total of approximately 637 acres, of which approximately 82 acres are located in the Zone 2 area. Drainage in the easterly watershed is conveyed by Altamira Canyon southwesterly to Narcissa Drive. The area west of Cinnamon Lane drains a total of 115 acres, of which approximately 42 acres are located in the Zone 2 area. Drainage in the westerly watershed is conveyed by a combination of an existing subsurface storm drain system and surface flow in a southeasterly direction along Figtree Road to the cul-de-sac at the end of Figtree Road. The storm drain continues southeasterly through private lots to a junction with Altamira Canyon (the easterly watershed) approximately 400 feet north of Narcissa Drive. From the junction, the storm drain drains southwesterly across Narcissa Drive and Palos Verdes Drive South and outlets into the lower reaches of Altamira Canyon. Altamira Canyon drains directly into the Pacific Ocean from Palos Verdes Drive South.

b. Flood Hazard Zones. The Flood Insurance Rate Map (FIRM) issued by the Federal Emergency Management Agency (FEMA) for Zone 2 and the surrounding area (Map ID 06037C2026F) indicates that the project area and surroundings are contained within Zone X and Zone D. Zone X designates an area with a minimal risk of flooding (not within the 100-year flood zone) and Zone D designates an area with areas in which flood hazards are undetermined, but possible. The flood hazard zones are shown in Figure 4.8-1. As shown on Figure 4.8-1, nine of the 31 lots that could be developed as a result of the project are partially or completely located within the Zone D designation.

c. Water Quality (Federal, State, and local regulations). Direct discharges of pollutants into waters of the United States are not allowed, except in accordance with the National Pollutant Discharge Elimination System (NPDES) program established in Section 402 of the Clean Water Act (CWA). The major purpose of the NPDES program is to protect human health and the environment by protecting the quality of water. California's primary statute governing water quality and water pollution is the Porter-Cologne Water Quality Control Act of 1970 (Porter-Cologne Act). The Porter-Cologne Act grants the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Board (RWQCB) broad powers to protect water quality and is the primary vehicle for implementation of California's responsibility under the federal CWA. The Porter-Cologne Act grants the SWRCB and RWQCBs the authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites, and to require clean up of discharges of hazardous materials and other pollutants.

The protection of water quality in the watercourses in Rancho Palos Verdes is under the jurisdiction of the Los Angeles RWQCB (SWRCB District 4). The RWQCB establishes requirements prescribing discharge limits and establishes water quality objectives through the "Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges Within the County of Los Angeles, and the Incorporated Cities Therein, Except the City of Long Beach" for which the City of Rancho Palos Verdes is a co-permittee (Order No. 01-182), NPDES Permit No. CAS004001, dated December 13, 2001 and amended most recently in 2012 and 2015, issued by the California Regional Water Quality Control Board – Los Angeles Region, which also serves as a NPDES permit under the Federal Clean Water Act. As a co-permittee, the City is

required to implement procedures with respect to the entry of non-storm water discharges into the municipal storm water system. Chapter 13.10 of the Rancho Palos Verdes Municipal Code (RVPMC) addresses specific storm water pollution requirements for new developments in accordance with the NPDES Permit.

The NPDES permit specifies that all new development and redevelopment projects that fall under specific categories must implement Low Impact Development (LID) strategies. Single family homes equal to one acre or greater of disturbed area that add more than 10,000 square feet of impervious surface area are subject to the LID requirements. Unless exempted, the site for every new development project shall be designed to control pollutants, pollutant loads, and runoff volume to the maximum extent feasible by minimizing impervious surface area and controlling runoff from impervious surfaces through infiltration, evapotranspiration, bioretention and/or non-potable rainfall harvest and use in accordance with the requirements set forth in the MS4 permit. The project applicant shall prepare a storm water mitigation plan that implements LID standards and practices for stormwater pollution mitigation, provides documentation to demonstrate compliance with the MS4 permit on the plans and permit application submitted to the city, and complies with the following:

- Ā F YUjb'gcfak Uhf'fi bcZZcb!ghYZzf'ĥ YGcfak Uhf'Ei U]m8 Yg[b'J c'ia YfCK E8j E' XZbYXUg'h Yfi bcZZ'ca`
 - oĀ H Y,) ĥ dYVbh'Y&(!\ci f'fi bcZZ'f YbhUg'Xhfa]bYXZ'ca ĥ Y@c'g5b[Y'g'7ci bhm
,) ĥ dYVbh'YdfYh[]Hjcb]gc'nYU'a Uf/cf`
 - oĀ H Yj c'ia YcZfi bcZZdfcX' WXX'ca 'U\$+)]bWZ&(!\ci f'fUjb 'Y YbZk \]WY Y']g' [fYUhf`"
- Ā A]b]a]nY\ nXca cXZ'Wjcb]a dUg'hc bUi fU X'fUjU Yggh'a gUg'XZbYX']b ĥ YBD8 9G' dYfa]h`"

The construction of new single-family hillside homes that do not meet these criteria are exempt from the LID requirements, but shall include mitigation measures to conserve natural areas, protect slopes and channels, provide storm drain system stenciling and signage, divert roof runoff to vegetated areas before discharge unless the diversion would result in slope instability, and direct surface flow to vegetated areas before discharge, unless the diversion would result in slope instability.

Per Section 13.10.050 of the RPVMC, owners and occupants of property in the City must comply with the following requirement:

- 6"" I gYcZK Uhf""Fi bcZcZk Uhf'i gXZf']ff[]Ujcb'di fdcgYg'U` W'a]b]a]nYX'hc ĥ Y
a U]a i a 'Y ĥbhdfUW'WY'Fi bcZcZk Uhf'Zca ĥ YdYfa]hX'k Ug']b[X'ck b'cZdUj YX
fYUg'g'U` W'a]b]a]nYX'hc ĥ Y'a U]a i a 'Y ĥbhdfUW'WYU'X'Xj YhX'g'c ĥ U'Zck]g'
X'fWXX'hc`UbX'g'WYXUfYUg'Zf']bZ'fUjcb'k \ YfYdcg'jVY`"

Section 15.20.050 of the RPVMC requires appropriate landslide abatement measures as conditions of issuance of any landslide moratorium exception permit. Specific conditions imposed by the City are listed in Section 4.5, ; Yc'c[mōn pages 4.5-14 and 4.5-15.



Chapter 15.34 of the RPVMC, Water Conservation Landscaping, includes water efficient landscape standards intended to promote water conservation while allowing the maximum possible flexibility in designing healthy, attractive, and cost effective water efficient landscapes. This chapter is at least as effective in conserving water as the model ordinance drafted by the California Department of Water Resources pursuant to Assembly Bill 1881.

The Rancho Palos Verdes General Plan Conservation and Open Space Element (2018) includes the following policies related to drainage and water quality:

*"" Dfc\|V|hUWj |hYg'hUhWUYY Wg|j Yg|ēdc`i Hbhfi bcZZ|bWUgYWbncb!k U`Yfc|cbžcf`
dchbhU`Zf`UbXg|XZk |h|b FYgi fWA UbU Ya Ybh8 |gf|WgWbh|b|b| < nXfc'c[|W
: Uwf gffA *L"
.
%\$`Gf|b| YbhmfY| i UY|ff| U|cbžbUi fU XfU|bU YZUbXch Yf'k Uhf!fYUHXWbg|XfU|cbg|b`
bYk Xy Ycda YbhgUbXY |g|b| i gēgUZW|b| Y |g|b| cf`dchbhU`g|XYfYUg`"

The Safety Element of the Rancho Palos Verdes General Plan (2018) includes the following policies related to drainage and flooding that are applicable to the project or project area:

& "5j c|Xcf'a |b|a |nYhYf|g.g'cZZccX|b| 'lc'bYk Xy Ycda Ybh
.
& ("9j Ui UYk \YhYf'bYk Xy Ycda Ybhg'ci `XVY`cWYX|b ZccX`UhfXrcbYg'UbX|Xbh|Zni
Wbgfi W|cb'a YhcXg'cf`chYf'a YhcXg'lc'a |b|a |nYXlā U Y|ZbYk Xy Ycda Ybh|g`cWYX|b`
ZccX`UhfXrcbYg`"

d. Water Supply. The Rancho Dominguez District of the California Water Service Company (CWSC) is the local purveyor of domestic water. CWSC serves domestic customers in Rancho Palos Verdes, Palos Verdes Estates, Rolling Hills, Rolling Hills Estates, and a portion of Lomita. There is no local groundwater extraction for use by the CWSC on the Palos Verdes Peninsula. The Rancho Dominguez District's water supply for Palos Verdes is 100% reliant on imported water supply from the Metropolitan Water District (MWD) of Southern California, which is purchased through the West Basin Municipal Water District (WBMWD).

Based on the WBMWD's 2015 Urban Water Management Plan (UWMP), the WBMWD's 2020 water supply is 189,893 acre-feet per year (AFY) while 2020 demand is estimated at 167,999 AFY. By 2030, WBMWD supplies are forecast to increase to 201,529 AFY while demand is forecast to increase to 174,394 AFY (WBWD June 2016).

4.8.2 Impact Analysis

a. Methodology and Significance Thresholds. As discussed in the Initial Study prepared for the proposed project (Appendix A), the project area sits inland of steep coastal bluffs above the Pacific Ocean at an average elevation of approximately 350 feet above sea level. In addition, according to the Department of Conservation Tsunami Inundation Map for the Redondo Beach (South) Quadrangle, the project area is located outside a tsunami inundation area (DOC, March 2009). Therefore, as discussed in the Initial Study, impacts related to flooding as a result of the failure of a levee or dam and inundation by seiche, tsunami, or mudflow would be less than significant.

Impacts would be considered potentially significant if the proposed project would:

- Ā J |c`UHYUbmk Uhf'ei U]hm|bXfXgcf'k UghYXgWUf[YfYei |fYā Yblg`
- Ā Ġ Vg|b|U`mXdxY[fci bXk Uhf'g dd'Ygcf' |bhfZfYg Vg|b|U`mk |h` [fci bXk Uhf' fYUf[Yg W|hU|h YfYk ci` XWYUbYhXZVh|b |ēi |Zf'j c'i a Ycf U`ck Yf|b|` cf'hY`cW` [fci bXk Uhf' HUY`Y Y`
- Ā Ġ Vg|b|U`mUhf'hYI |g|b|` XfU|bU YdUhf'b'cZh YfYUg W|hUhg Vg|b|U`Yfclb'cf` g'h|cb'cWf'g`
- Ā Ġ Vg|b|U`mUhf'hYI |g|b|` XfU|bU YdUhf'b'cf'g Vg|b|U`m|bWUgYh YfUhf'Uā ci bli cZg fZUWfi bcZ|b Ua UbbY'k \JWfYg` |g|b ZccX|b|`
- Ā 7fYUhf' Wbhf|M hfYi bcZk Uhf'k \JWk ci` XY WYh YWUW|mcZY |g|b|` cf'dUbbYX g'cfa` k Uhf' XfU|bU Ygghā g'cf'dfcj |XYg Vg|b|U`UX|h|cbU`gi fWg'cZdc`i hXfi bcZ`
- Ā C hYf k |gYg Vg|b|U`mX| fUXYk Uhf'ei U]hm
- Ā D'UW'ci g|b|` k |h|b U`\$S'mUf ZccX`UhfXUfUgā UddXcb UZXXFU` :`ccX< UhfX 6ci bXfmcf` :`ccX=bg fUbWFUfYā Udf'ch Yf ZccX`UhfXXY|bU|cb'a Uf`
- Ā D'UWk |h|b U`\$S'mUf ZccX`UhfXUfUgfi Wf fYgk \JWk ci` X|a dYXcf'fYX|fWZccX` Zck'g`
- Ā 9l dcydYcdYcf'gfi Wf fYg'hc Ug|`b|ZVbhf|g` cZcg|b'f fñcf'XUh` |bj c'j |b|` ZccX|b|` ž |bW X|b|` ZccX|b|` UgfYg` 'hcZh YZ|`i fYcZU`Y Ycf Xā`
- Ā 9l dcydYcdYcf'gfi Wf fYg'hc Ug|`b|ZVbhf|g` cZcg|b'f fñcf'XUh` UgfYg` 'hcZ |bi bX|h|cb VngY|WZhg bLā |žcf'a i XZck`

The Initial Study determined that the proposed project could result in potentially significant impacts related to all of these impact categories except for the last two related to levee or dam failure or inundation by seiche, tsunami, or mudflow. These two topics are therefore not discussed further in this section.

Two hydrologic methods were used for the drainage analysis contained within the Hydrologic Study prepared by Hunsaker and Associates, 2011. The methods include the Rational Method and the Modified Rational Method, which are included in the 2006 Los Angeles County Hydrology Manual. A 24-hour storm analysis based upon the Los Angeles County Rational and Modified Rational Method of Hydrology was used for clear, burned, and burned and bulked conditions for the watershed. The amount of impervious surfaces in the project area was determined from the Land Use and Imperviousness Table provided in the Los Angeles County Hydrology Manual, 2006.

b. Project Impacts and Mitigation Measures.

Impact HWQ-1 During construction of the proposed project, the soil surface would be subject to erosion and the downstream watershed, including the Pacific Ocean, could be subject to temporary sedimentation and discharges of various pollutants. However, with implementation of Mitigation Measure HWQ-1, impacts relating to the potential for discharge of various pollutants, including sediment, would be Class II, *less than significant with mitigation incorporated.*

Adoption of the proposed ordinance revisions would result in the possible future development of up to 31 new residences on existing legal lots in Zone 2. Each of the 31 lots would be graded to accommodate single-family residential structures. As discussed in Section 2.0, *Dfc^WW 8 YgWdhjcb*, grading on each of the lots would be limited to less than 1,000 cubic yards (cut and fill combined including export), with no more than 50 cubic yards of imported fill per lot.

Excavation and grading could result in erosion of soils and sedimentation, which could cause temporary impacts to surface water quality and therefore violate water quality standards or contribute additional sources of polluted runoff. Project development would likely require temporary on-site storage of excavated soils (stockpiling). During grading and soil storage, soil migration off-site could occur via wind entrainment and/or water erosion. Eroded soils could lead to sedimentation of surface waters downstream of the project area, and could also discharge to the Pacific Ocean, potentially violating water quality standards. Therefore, impacts would be potentially significant.

Mitigation Measure. The following mitigation measure would be required to reduce impacts related to water quality during construction activities to a less than significant level.

HWQ-1 Construction pollution, sediment and erosion control. Prior to issuance of any Grading Permit or Building Permit, each applicant shall prepare a Low Impact Development (LID) plan for the review and approval of the Building Official. The applicant shall be responsible for continuous and effective implementation of the plan during construction of each residence. The LID plan shall include Best Management Practices that may include, but not be limited to, the following:

- Ā *9fcg|cb'7cb|fc'"9fcXXgX|a YblgZca 'fYUgX|gi fVXVniWbgfi W|cb' UbXZca 'g|cWd|'Yg'cZg'|'g'U' VyfYU|bYXcb|g|hY'c'a |b|a |nYgX|a Ybi hfUbgd|fhZca 'hYg|hY'c'g'fY|gZ'XfU|U| YZUW|hYg'cf'UXUWb|hd|cd|f|hYg' j |Ufi bcZZj Y|WYfUW|b| 'cf'k |bX'I H'|nYf'cg|cb Wb|fc' hWb|ei YgZ g W|Ug'g'|'g|UW'|nYf'gZ'Wj Y|b| 'g'|'Xi f|b| Wb|gfi W|cbz'k |bXV'cW|b| ' Xy |WgZ'W|gY| fU|b| 'Xi f|b| '\| '\k |bXgzi gY'cZg'|'V|bXf'gfk Uhf|b| ' [fUXXg'|'g'g'ci 'XWYU|c|XXZzZ'hU|cb Xy |WgZ'UbXg|UW'|n|b| ' |b| fYgZ'fYgZ'cd|b|g'FYXi WZ | |h|j YXi g|h'c'hYa U |a i a 'Y h|b|h| dfUW|WWY'...*
- Ā *6A Dg'"9fcg|cb Zca 'g'cdYgUbXWbbYg'g'U' VYWb|fc'XXVni*

- Ja d`Yā Ybh|b|` Ub`YZWj YWā V|bUjcb`cZ6A Dg`fLg`Uddfj YX|b`
FY|`cbU`6cUFXFYg`i`Hcb`B`c`"-`!S`Lz`g`WUg`h`Y`|a`|Hb|`cZ|`fU|b|`
gWXi`YXi`f|b|`h`Yk`Yhg`Ugcb`|bg`YWj|b|`|`fUXXUfYUg`Xi`f|b|`fU|b`
Y`Ybhg`d`Ub|b|`UbXa`U|bHbUbWcZj`Y`YUjcb`cb`g`cdYg`UbXWj`Yf|b|`
Yf`cg|cb`g`g`Wdh`VYg`cdYg`
- Ā Dc`i`Hb|b8`YU|ba`Yb|a`Yh`cXg`Dfch`Wk`Xck`bg`fYā`XU|bU`Yg`Zca`
Yg`Wj|b|`dc`i`Hb|g`Vh`Mdh`i`f|b|`a`Uhf`Ug`Wff`YX|b`fi`bcZZbX`
df`Y`Ybh|b|`HfUbgd`fhZca`h`Yg`hY`9l`Uā`d`Yg`cZXU|ba`Yb|a`Yh`cXg`
h`Uhf`YUfXa`cj`Yā`Yb|cZk`Uhf`UbXg`YdUf`Uhg`Wj`a`Yb|bX`ch`Yf`
Wb`Hā`|bUb|g`UfYg`h`Zb`Wg`h`Uhf`Yg`g`UbXWj`g`Vfā`g`g`h`UbXXWf`g`
Vg`|bg`
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Significance After Mitigation. Impacts related to the quality of runoff during construction, water quality standards, and degradation of water quality during construction would be less than significant with implementation of Mitigation Measure HWQ-1. This is because Mitigation Measure HWQ-1 would require BMPs to control erosions and sedimentation, reduce the transport of pollutants off-site, and achieve compliance with NPDES permit requirements.

Impact HWQ-2 Development facilitated by the proposed ordinance revisions would incrementally increase the amount of impermeable surfaces in the project area, and potential new development would also generate various urban pollutants such as oil, herbicides and pesticides, which could adversely affect surface water quality. With implementation of Mitigation Measure HWQ-2, impacts related to surface water quality would be Class II, less than significant with mitigation incorporated.

The proposed project would allow for development of up to 31 new single-family homes within Zone 2 of the Portuguese Bend area. This new development would increase the number of vehicles and the amount of pesticides used in the project area compared to existing conditions. Impermeable surfaces such as driveways would accumulate deposits of oil, grease, and other vehicle fluids and hydrocarbons. In addition, maintenance of new landscaping could introduce chemical inputs such as pesticides and herbicides. During storms, these deposits would be washed into and through the drainage systems and to the Pacific Ocean. The

addition of fertilizers, pesticides and other chemicals to new landscaping has the potential to include higher than natural concentrations of trace metals, biodegradable wastes (which affect dissolved oxygen levels), and excessive major nutrients such as nitrogen and phosphorus.

Urban runoff can have a variety of deleterious effects. Oil and grease contain a number of hydrocarbon compounds, some of which are toxic to aquatic organisms at low concentrations. Heavy metals such as lead, cadmium, and copper are the most common metals found in urban storm water runoff. These metals can be toxic to aquatic organisms, and have the potential to contaminate drinking water supplies. Nutrients from fertilizers, including nitrogen and phosphorous, can result in excessive or accelerated growth of vegetation or algae, resulting in oxygen depletion and additional impaired uses of water. Therefore, the increased impervious surface area, vehicular activity and use of pesticides for landscaping on-site, could increase the amount of pollutants in on-site runoff, which could adversely affect the water quality of receiving waters including the Pacific Ocean.

As discussed above, the project would involve revisions to a landslide moratorium ordinance, which would allow for potential development of 31 individual single-family residences in the project area. The 31 residences and associated hardscaping could potentially increase the impervious surface area on each of the individual lots by up to approximately 38%, based on the average amount of impervious surface area on existing developed lots in the watershed. The development that could potentially result from the project as well as the increase in impervious surfaces in the project area would incrementally increase the amount of pollutants that could be contained in runoff from the area. Therefore, impacts would be potentially significant.

Mitigation Measures. As discussed under *GYHjb/*, in accordance with Rancho Palos Verdes Municipal Code Chapter 13.10.050, owners and occupants of property within the city are required to minimize the runoff of water used for irrigation purposes to the maximum extent practicable. Runoff of water from washing down paved areas is required to be minimized to the maximum extent practicable. Sweeping and collection of debris is encouraged for trash disposal. In addition, with implementation of Mitigation Measure HWQ-2 listed below which would require adherence to the Municipal Code requirements related to the NPDES permit, runoff from the individual residences that could be developed as a result of the project would not have a substantial effect on water quality.

HWQ-2 NPDES Review. Any development proposal located within, adjacent to or draining into a designated Environmentally Sensitive Area (ESA) and involving the creation of two thousand five hundred square feet or more ($\geq 2,500$ SF) of impervious surface shall require review and approval by the City's NPDES consultant for compliance with applicable NPDES requirements prior to any building or grading permit issuance. Construction must comply with any required NPDES General Construction Permit requirements.

Significance After Mitigation. Impacts related to the quality of runoff, water quality standards, and degradation of water quality after construction would be less than significant with implementation of Mitigation Measure HWQ-2. Impacts would be less than significant with implementation of this mitigation because it requires measures to control runoff and sedimentation in accordance with NPDES permit requirements.

Impact HWQ-3 Potential buildout under the proposed ordinance revisions would incrementally increase the amount of on-site impermeable surface area, which could have the potential to increase storm water flows and create localized flooding. However, with implementation of Mitigation Measures GEO-3 (a and b) and HWQ-3, buildout under the ordinance revisions would result in a flow rate generally similar to existing conditions. Therefore, impacts related to storm water runoff would be Class II, *less than significant with mitigation incorporated.*

The proposed ordinance revisions would allow for the construction of single-family homes on 31 of the lots in the project area. The addition of single-family structures, hardscaping, and driveways/parking areas would incrementally increase the overall amount of impermeable surface area in the project area. An increase in impervious surfaces could increase the peak flow rate compared to existing conditions. This has the potential to create flooding and drainage problems, as the existing drainage system is inadequate to handle existing runoff rates.

The existing drainage system in the project area is a private system originally permitted by the County. Reference plans and design calculations were not available for confirmation of the capacity of the existing drains, but testimony and video provided by residents, as part of the NOP comment period, indicates that some culverts and roads do not adequately convey existing runoff. The increase in peak runoff rates as a result of buildout of the 31 lots for the design storm events (10, 25, 50-year, and Capital Storm) ranges from 0.5% to 1% for the entire watershed and 2.9% to 4.5% for the project area (Zone 2), which is represented as "Q (cfs)" in Table 4.8-1 and Table 4.8-2.

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Localized flood effects may occur on an individual lot basis (Hunsaker and Associates, LA Inc., 2011). The hydrologic analysis conducted by Hunsaker and Associates determined that increases in runoff from an individual lot would range from approximately 9.8% to 15.1%, as shown in Table 4.8-3.

The hydrologic analysis conducted as part of the Drainage Report (Appendix E) determined that the post-development runoff rates would result in an increase in runoff from the existing lots into the existing culverts, roads, and natural watercourses. The Capital storm is determined by applying burned and bulked factors in 50-year storm. Vacant lots in Zone 2 area are adjacent to existing developed lots; therefore, those vacant lots do not experience the full burn effect as natural area and no capital storm is determined. For the proposed project, the LID 0.75 inch 24-hour storm event criteria were used to determine whether runoff volume or flow should be treated (Hunsaker and Associates, 2011).

The Modified Rational Method was used to determine the peak flow rate and the peak volume for the project compared to existing conditions, utilizing the Los Angeles County Time of Concentration calculator (based upon the Rational Method). Water quality treatment flow rates and volumes were calculated with the Los Angeles County Time of Concentration calculator developed for the LID analysis (using a rainfall of 0.75 inches). It was assumed that the amount of impervious surfacing on the 31 lots that could potentially be developed would increase by 38% compared to existing conditions on the vacant lots (Hunsaker and Associates, 2011). The increase in peak flow rate and volume would potentially increase storm water flows and create flooding.

The analysis performed for the project involved review of available data and a visual inspection of roads and areas immediately adjacent to roads to determine the overall hydrological impact of the proposed project. Each of the individual property owners would need to prepare a detailed hydrologic analysis to demonstrate compliance with the mitigation measures listed below. The mitigation measures address individual site development impacts due to flooding and erosion. Although resolving existing conditions is not part of the mitigation required for the proposed project's impacts, the City is actively investigating methods for addressing earth movement, erosion, and flooding issues in the project area. The Final Feasibility Study for the Portuguese Bend Landslide Complex (July 2018) prepared for the City by Daniel B. Stephens & Associates, Inc. addresses land movement and slope failure issues in the area and identifies a number of technologies as options for the City to consider regarding storm water control and groundwater extraction to achieve manageable and sustainable land stability. The study and its recommendations were adopted by the City Council. The City's Public Works Department is working toward implementation of the recommendations. Specific recommendations include:

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- Ā DfZfa 'Ub Yb[]bYf]b['UbUng]g'cZh Yk Uhf g'Yē]bW X]b['h Ybcfh Yfb Wbnab 'fYUē' fi ddYf Dcfhi [i YēZ=g']Vē]žUbXDjbmfi g' '7Ubnabg'lc]Xbhžnk \Yē\ck 'UbXlc'k \U' Y hñbhghcfa k Uhf 'jbž'fUhg'blc' [fci bXk Uhf 'jb h YDcfhi [i YēY6YbX@UbXg'XY7ca d'Y' fd6@7E"Gi VēYei YbhñZēfHg'W' XWYa UXYZf Xg[b 'UbX]bgU'Ujcb'cZub' Ybj]fcbā YbHU'nē]YbXmZY]VY']bYf gng'hā 'jb h Yk Uhf g'YXWbnabg'k \YfYh Y g'rcfa k Uhf g[b]žWbhñ]bž'fUhg'lc' [fci bXk Uhf 'jb h YD6@7 'lc'a]b]a]nY]bž'fUjcb 'UbX U'ck g'rcfa k Uhf 'lc' YX]gWUf[YXlc'h YcWUb]b U'Wbffc'YXa UbbYf"
- Ā =XbhžnñY]g]b['g fZUWZUW'fYg'hfci [\ci hñ YD6@7 'fYUUbX]bgU' 'UbXg' fZUWZUW'fY gYU]b['k]h Ybj]fcbā YbHU'nē]YbXmñā Uhf]U'lc'a]b]a]nY]fYWñ b'Wbffc'YXg'rcfa k Uhf ']bž'fUjcb k \]W'WffYbhñdYfW'Uhg'blc' [fci bXk Uhf "'7\ YW'UbXa Ujbu]b h YēYgUYX g' fZUWZUW'fYg']b h YD6@7 'Ubbi U'ndf]cf'lc'h YfUjbnñg'Ugcb"
- Ā 7cbg]Xf'k cf_]b['k]h Fc']b[<]'g'lc' Wbgfi WU'WbhfU]nYXgUb]Hfñg'Yk Yf'gng'hā 'UbXU g'rcfa 'k Uhf XfUjbu] Ygng'hā Zf'h YfYg'Xbh]U'bY] [\Vcf\ccXUih Yhcd'cZh Yk Uhf g'YX Uēj Yh YDcfhi [i YēZ=g']Vē]žUbXDjbmfi g' '7Ubnab 'fYUēžUg'k Y' Uēk]h]b h Y7]hmē Dcfhi [i YēY6YbXbY] [\Vcf\ccX"

As discussed in the *GYHjcb*, Section 15.20.050 of the City of Rancho Palos Verdes Municipal Code establishes requirements for projects that are exceptions to the City's landslide moratorium regulations. The following requirements apply to the project area:

- Ā =ZchXfUjbu] YXZVWbWg'fY]XbhžYXVñh Y8]fYWf'cZDi V]Wk cf_gēU'g W XZVWbWg'g'U' VYWffYMXVñh YUdd]Wbh"
- Ā FccZfi bcZZca U' V]X]b[g'UbXgfi W'fYgcb h Yg]hYg'U' VYWbhu]bYXUbX]fYMX lc'h Yg'fYg'cf 'Ub Uddfj YXfUjbu] YW'f gē"
- Ā =Zfēi]fYXVñh YV]m[YchWb]W'gLUZh YUdd]Wbhg'U'g Vā]hUgc]g'fYdcfēžUbXēf U [YchWb]W'fYdcfēžZf'h Yfy]Yk 'UbXUddfj U'cZh YV]m[YchWb]W'gLUZ"
- Ā 5 "'UbXgW]b[]ff[]Ujcb gng'hā g'g'U' VYdfhcZUk Uhf'a UbU'Yā Ybhñg'hā Uddfj YX Vñh YX]fYWf'cZdi V]Wk cf_g'ff[]Ujcb Zf' 'UbXgW]b['g'U' VYdYfa]hñXcb m'Ug' bYWg'fñlc'a Ujbu]b h YñfXUbX[fXb"

As discussed in the *GYHjcb*, the City Public Works Department conducted field observations within Zone 2 to assess the adequacy of the Council-adopted mitigation measures currently being implemented as part of Monks Lots residential development associated with Exception "P" of the Landslide Moratorium Ordinance. As a result of the observations, it is City staff's opinion that holding tanks that have been installed on recently developed Zone 2 properties are operating to control runoff as designed and runoff is not exceeding per-predevelopment conditions. Furthermore, City staff is of the opinion that, provided that best engineering practices are employed and holding tanks are maintained and operational during storm events, the incorporation of similar mitigation measures would ensure that the future development of 31 lots would not cause any significant increase in runoff during rain events in the project area. Nonetheless, impacts would be potentially significant because individual developments could result in localized changes in surface hydrology.

Mitigation Measures. As discussed in Section 4.5, ; Yē'c[mMitigation Measure GEO-3 (a and b) would be required. Mitigation Measures GEO-3 (a and b) would require design of storm drainage improvements that address drainage deficiencies and avoid increases in infiltration of stormwater to the satisfaction of the Director of Public Works prior to issuance of any grading



or building permits on individual lots. In addition, Mitigation Measure HWQ-3 would be required to reduce impacts related to changes in surface hydrology to a less than significant level.

HWQ-3 Drainage Plan. Prior to issuance of any grading or building permit, a Licensed Civil Engineer shall prepare a detailed hydrology study and drainage plan subject to approval by the Director of Public Works. The study/plan shall be paid for by the project applicant and shall address impacts to the proposed building site, as well as upstream and downstream properties. The analysis will follow the methodology outlined in the Los Angeles County Hydrology and Sedimentation Manual (latest edition), the Los Angeles County Low Impact Development Manual, and Los Angeles County Stormwater Best Management Practices Design and Maintenance Manual for preparation of the design calculations. Improvements will be based upon the policies and codes of the City. The drainage plan shall address impacts to the immediate vicinity as well as downstream facilities including culverts, roads, open drainage courses, and Altamira Canyon, and shall demonstrate that:

- Ā DcgtWbgfi Wjcb`ch|bZ`hfUjcb UbXfi bcZZfUhgUbXj c`i a Yg\U`WY a UXYei U`rc`dfYWbgfi Wjcb WbX|hcbg`hfc| [\ i gYcZUdfcdf]UHY`ck`ja dUWXY Yoda Ybhd|bVd`Ygg WUgZVi hibch`ja |hXhczXfUj|b|`dYU`Zck gUbXi gYcZVg`hfbgZ`cX|b|`Hb_gZ`XfMbhcb Vg|bgZ`Vc! fYh|b|cb`fYUgZ[fYb`fccZ`UbXdYfa YUY`fXgWYZand`|bgU`Ujcb`UbXa UjbhbUbWcZ`cX|b|`Hb_g`
- Ā =`i gfUYh`Uhd|bhfmWbWbfUhxZck`cb YUW`cZh YdfcdYfhYg`lg`Yh Yf`bcfa U|nYgZUhb| UhxUXei UYnZcf`k`j`fYUWUb`UWdHUY`Wbj YnbWg WUgUg`rfa`XfUbzWubbYzfcUk`Urcf`bUf fU`XfUjU`Y`Wf fgY`5``fi bcZg`U`VYXfYMXh`Ub`UWdHUY`Wbj YnbW`*cbYh`U`lg`UXei UYh`Wbj YnbW`|bWUgY|b`fi bcZk`|h`ci hW`g|b|`UX|hcbU`ja dUWg`g`WUgZccX|b|`UbXYfcg|cbL`UbXg`U`bchVYU`ck YXh`XfUj`h`c`W|nYXg`a dgcf`W`W`a`YbhfYUg`k`|h`bc`ci hY`
- Ā 5j c|XWUb|`Yg`h`YWUfUWf`cZh Yfi bcZUhdcdYfhm`|bYg`7`Ub|`Yg|b`WUfUWf`|bW`XYcVgfi Wjcb|`cf`Xj Yfh|b|`Y`|g|b|`fi bcZYbhf`|b|`h`Y`ghZ`WUb|`|b|`h`YXdh`UbXZ`Yei YbWrcZZccX|b|`Z`WbWbfUjcb`cZZck`ci hYh|b|`cbl`c`UXWbhdcdYfhYg`cf`gfYhgz`UbX|bWUg|b|`h`Y`Z`Yei YbWrc`X`fUjcb`cZfi bcZci hYh|b|`cbl`c`UXWbhdcdYfhYg`cf`gfYhgz`
- Ā A`|b|a`|nY`8`fmK`Yh`Yf`|bZ`hfUjcb`h`UhW`X`UXXh`h`Yh`cU`|bZ`hfUjcb`Zca`h`Ydfc`W`
- Ā`bgU`UbXa`UjbHj|b`cX|b|`Hb_g`

Runoff shall be infiltrated on-lot where feasible. However, because the area is subject to geotechnical hazards, any use of techniques involving infiltration will need review by a geotechnical engineer under contract to the applicant and approval by the City Public

Works Department. Infiltration may be allowed on a lot by lot basis or consistent with existing conditions if no hazard is determined to exist. If runoff cannot be infiltrated, a combination of detention and infiltration of the change in runoff volume will mitigate some of the impacts due to hydromodification.

Significance After Mitigation. Mitigation Measure HWQ-3 requires post-construction and pre-construction runoff rates to be equalized so that there are no changes in the character of runoff at property lines. This would prevent substantial increases in the rate, volume, and duration of runoff leaving lots after they are developed, thereby reducing the potential for flooding or exceeding the capacity of storm water drainage systems. Impacts related to alteration of drainage patterns, the potential for the proposed project to result in flooding, and the capacity of storm water drainage systems would be less than significant with implementation of Mitigation Measure HWQ-3.

Impact HWQ-4 Potential development under the proposed ordinance revisions would incrementally increase the amount of impermeable surface in the project area, which could affect the location and amount of groundwater infiltration. However, with adherence to existing regulations related to drainage design and with implementation of mitigation measures GEO-3 (a and b) and HWQ-3, impacts related to groundwater recharge would be Class II, less than significant with mitigation incorporated.

The proposed project would allow for the construction of single-family homes on up to 31 of the 111 lots in the Zone 2 area. The remaining 80 lots are either developed primarily with single-family residences and associated accessory structures and landscaping or have obtained planning entitlements for development via Exception "P". The addition of new single-family residences, hardscaping and parking areas would incrementally increase the overall amount of impermeable surface area on individual lots. Impermeable surface area could increase by up to approximately 38% on individual lots as they are built out (based on the average amount of impervious surface area on existing developed lots in the watershed). The resulting increase in runoff from individual lots if drainage is not properly controlled could potentially range between 9.8% and 15.1% over existing conditions (Hunsaker and Associates 2011). However, as described below, any new development would maintain, and would not exacerbate, the existing runoff and infiltration conditions.

As discussed in Section 4.5 ; Ÿc[m infiltration is a concern in the project area because an increase in infiltration could affect the stability of existing landslides in the project area vicinity. Adding water to the landslide material adds weight, creates buoyancy, and further reduces clay strength on existing slopes, which could lead to slope failure. However, as discussed under Impact HWQ-4, runoff rates, runoff volumes, and infiltration would remain generally the same as under existing conditions with buildout of the 31 lots pursuant to the proposed ordinance revisions and adherence to Mitigation Measure HWQ-3 under Impact HWQ-3. This mitigation measure requires a drainage study prior to construction and limits the rate of runoff from a lot to the runoff rate from the lot that existed prior to development. Additionally, Mitigation

Measures GEO-3(a) and GEO-3(b), as discussed in Section 4.5, Geology, would limit the rate of runoff from the lots to pre-development runoff rates. With implementation of these measures, there would be no net increase in stormwater runoff rates.

Mitigation Measures. Impacts would be less than significant; therefore, mitigation beyond measures GEO-3 (a and b) and HWQ-3 is not required. These mitigation measures require on-site infiltration and management of precipitation such that runoff rates do not increase above existing conditions following development of a lot.

Significance After Mitigation. Impacts would be less than significant with implementation of Mitigation Measures GEO-3 (a and b) and HWQ-3. These mitigation measures require on-site infiltration and management of precipitation such that runoff rates do not increase above existing conditions following development of a lot.

Impact HWQ-5 Adoption of the proposed ordinance revisions would allow for the construction of up to 31 single-family homes in the project area. Several of the single-family homes could be constructed in an area in which there is a potential for flood hazards. However, with implementation of Mitigation Measure HWQ-5, flooding impacts would be Class II, *less than significant with mitigation incorporated.*

The FIRM issued by FEMA for Zone 2 and the surrounding area (Map ID 06037C2026F) indicates that the project area and surroundings are contained in Zone X and Zone D. Zone X designates an area with a minimal risk of flooding (not within the 100-year flood zone) and Zone D designates an area in which flood hazards are undetermined, but possible. 9 of the 31 lots that could be developed as a result of the project are partially or completely located within the Zone D designation, as shown in Figure 4.8-1. Therefore, flooding could occur, which could cause damage to structures and could be hazardous to humans during a storm event. Impacts would be potentially significant.

Mitigation Measures. Mitigation Measure HWQ-5 would be required to reduce impacts to a less than significant level.

HWQ-5 Standards of Construction in a Flood Zone D Area. Prior to issuance of any grading permit or building permit, the applicant for any construction project located in an area designated as Zone D by FEMA shall comply with the following, pursuant to Section 15.42.120 of the RPVMC. Plans shall be reviewed and approved accordingly by the City Building Official prior to issuance of any grading or building permit:

- Ä 5 ``bYk Wbgfi Wjcb'g`U` VYXg| bYXlc` VYUXei UYmUbWcfYXlc`dfY Ybhi ZchUjcbzW`UdgYcf`UhfU`a cj Yä YbhcZhYgfi WfYfYg` h|b| Zca`
`nXfcXnbLä JWBX`nXcgUjWcUg`jbW X|b|` h`YZZMg`cZM cnUbWñ
- Ä 5 ``bYk Wbgfi Wjcb'g`U` VYWbgfi WXXk Jh`a UhfUgUbXi h`JlmYei Jda Ybhi fYgUbhlc`ZccXXLä U`Y`
- Ä 5 ``bYk Wbgfi Wjcb'g`U` VYWbgfi WXi gbl`a YhcXgUbXdfUMWg`hUi a JbJa JnYZccXXLä U`Y`

- Ā 5 ``bYk Wbgfi Wjcb g\U` VYWbgfi WMXk]h` YWM]Wž\YUj b[žj YbH`Ujcbž
d`i a Vjb[UbXUf WbX]hcb]b[YeI Jda YbUbXch Yf gYf]WZUM]hYg`hUhUfY
Xg] bXUbXtf`cWMXg Ug`h`dfY Ybhk UHf Zca YbHf]b[cf UWWa i Uj b[`k
]h]b]h YWā dcb YbHg`X f]b[WbX]hcbg`cZZccX]b[`

Significance After Mitigation. Impacts would be less than significant with implementation of Mitigation Measure HWQ-5.

Impact HWQ-6 Development under the proposed ordinance revisions would incrementally increase water demand in the project area, but the increase in demand could be met with existing and forecast water supplies. This impact would be Class III, less than significant.

The 31 single family residences accommodated by the proposed ordinance revisions would generate demand for an estimated 3.29 million gallons (10.1 acre-feet) of water per year (see CalEEMod worksheets in Appendix B). As noted in the *GYHj b[*, the WBMWD's 2020 water supply is 189,893 acre-feet per year (AFY) while 2020 demand is estimated at 167,999 AFY. By 2030, WBMWD supplies are forecast to increase to 201,529 AFY while demand is forecast to increase to 174,394 AFY (WBWD June 2016). Thus, 10.1 AFY demand generated by the proposed project would be well within the WBMWD's current and projected available water supply (21,894 AFY in 2020 and 27,135 AFY in 2030) and the impact to water supply would be less than significant. Project area development would be subject to applicable state and local water conservation requirements.

Mitigation Measures. Mitigation beyond compliance with standard requirements is not needed.

c. Cumulative Impacts. Cumulative development in the City and surrounding areas would include approximately 2,232 residential dwelling units and 219,646 square feet of non-residential uses, as shown in Table 3-1 in Section 3.0, *9bj]fcbā YbHU GYHj b[*. Planned and pending development in the general vicinity could increase impermeable surface area, thereby potentially increasing peak flood flows and overall runoff volumes. However, with implementation of mitigation measures similar to those required for the proposed project, the post development peak discharges would not substantially increase peak flood flows or increase flooding. Consequently, the project would not contribute materially to any potential cumulative increases in peak runoff or associated flooding impacts.

With respect to surface water quality, construction activity associated with cumulative development would temporarily increase sedimentation due to grading and construction activities. In addition, new development would increase the generation of urban pollutants that may adversely affect water quality in the long term. However, all future development would be subject to implementation of appropriate Best Management Practices (BMPs) in accordance with City, State and Federal requirements. Furthermore, all qualifying projects are subject to the requirements of the NPDES Permit as required by Mitigation Measure HWQ-2, which is specifically designed to develop, achieve, and implement a timely, comprehensive, and cost-effective storm water pollution control program. Thus, implementation of applicable requirements on development in the area would reduce cumulative impacts to a less than

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significant level. As discussed above, with implementation of mitigation measures, the project's contribution to increased pollutant loads in area surface water would be reduced to a less than significant level and thus would not be cumulatively considerable.

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4.9 NOISE

This section evaluates the proposed project's potential impact to existing local noise conditions. Both temporary construction noise and long-term noise generated by operation of the proposed project are evaluated.

4.9.1 Setting

a. Overview of Sound Measurement. Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound power levels to be consistent with that of human hearing response, which is most sensitive to frequencies around 4,000 Hertz (about the highest note on a piano) and less sensitive to low frequencies (below 100 Hertz).

The sound pressure level is measured on a logarithmic scale with the 0 dB level based on the lowest detectable sound pressure level that people can perceive (an audible sound that is not zero sound pressure level). Based on the logarithmic scale, a doubling of sound energy is equivalent to an increase of 3 dB, and a sound that is 10 dB less than the ambient sound level has no effect on ambient noise. Because of the nature of the human ear, a sound must be about 10 dB greater than the reference sound to be judged as twice as loud. In general, a 3 dB change in community noise levels is noticeable, while 1-2 dB changes generally are not perceived. Quiet suburban areas typically have noise levels in the range of 40-50 dBA, while those along arterial streets are in the 50-60+ dBA range. Normal conversational levels are in the 60-65 dBA range, and ambient noise levels greater than 65 dBA can interrupt conversations.

Noise levels typically attenuate (or drop off) at a rate of 6 dB per doubling of distance from point sources such as industrial machinery. Noise from lightly traveled roads typically attenuates at a rate of about 4.5 dB per doubling of distance. Noise from heavily traveled roads typically attenuates at about 3 dB per doubling of distance.

In addition to the actual instantaneous measurement of sound levels, the duration of sound is important since sounds that occur over a long period of time are more likely to be an annoyance or cause direct physical damage or environmental stress. One of the most frequently used noise metrics that considers both duration and sound power level is the equivalent noise level (Leq). The Leq is defined as the single steady A-weighted level that is equivalent to the same amount of energy as that contained in the actual fluctuating levels over a period of time (essentially, the average noise level). Typically, Leq is summed over a one-hour period.

The time period in which noise occurs is also important since noise that occurs at night tends to be more disturbing than that which occurs during the daytime. Two commonly used noise metrics – the Day-Night average level (Ldn) and the Community Noise Equivalent Level (CNEL) – recognize this fact by weighting hourly Leqs over a 24-hour period. The Ldn is a 24-hour average noise level that adds 10 dB to actual nighttime (10:00 PM to 7:00 AM) noise levels to account for the greater sensitivity to noise during that time period. The CNEL is identical to the Ldn, except it also adds a 5 dB penalty for noise occurring during the evening (7:00 PM to 10:00 PM).



b. Sensitive Receptors. Noise sensitive receptors are land uses that are considered more sensitive to noise than others. Residences, hospitals, schools, guest lodging, and libraries are most sensitive to noise intrusion and therefore have more stringent noise exposure targets than manufacturing or industrial uses that are not subject to effects such as sleep disturbance. Sensitive receptors in the project area are single family residences adjacent to those lots that would potentially be developed under the proposed project. Although the distances to neighboring residences vary from lot to lot, for the purposes of this EIR analysis, it is assumed that sensitive receptors would be approximately 50 feet from any of the 31 undeveloped lots in Zone 2.

c. Fundamentals of Environmental Groundborne Vibration. Vibration is sound radiated through the ground. The rumbling sound caused by the vibration of room surfaces is called groundborne noise. The ground motion caused by vibration is measured as particle velocity in inches per second and, in the U.S., is referenced as vibration decibels (VdB).

The background vibration velocity level in residential and educational areas is usually around 50 VdB. The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people. Most perceptible indoor vibration is caused by sources within buildings, such as operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration from traffic is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings.

The general human response to different levels of groundborne vibration velocity levels is described in Table 4.9-1.

**Table 4.9-1
Human Response to Different Levels
of Groundborne Vibration**

Vibration Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception for many people.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.

Source: Federal Transit Administration (FTA) 2018.

d. Regulatory Setting. The City of Rancho Palos Verdes General Plan Noise Element (2018) identifies existing and potential future sources of noise in the community, and identifies strategies to limit the exposure of the community to excessive noise levels. The Noise Element also includes several policies on noise and acceptable noise levels. As included in the City’s General Plan Update Noise and Vibration Technical Report (2017), the maximum “normally acceptable” noise level for single family residential areas is 60 dBA CNEL (See Table 4.9-2). A “normally acceptable” noise level means that the specified land use would be compatible based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements. In addition, according to the Noise Element, exterior noise levels should be such that interior noise levels will not exceed 45 dBA CNEL, which is consistent with the State of California Interior Noise Standard.

**Table 4.9-2
Land Use Compatibility for Noise Environments**

Land Use Category	Community Noise Exposure Level			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential - Low Density, Single-Family, Duplex, Mobile Homes	50-60	55-70	70-75	75-85
Residential – Multiple Family	50-65	60-70	70-75	75-85
Transient Lodging – Motel, Hotels	50-65	60-70	70-80	80-85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50-70	60-70	70-80	80-85
Auditoriums, Concert Halls, Amphitheaters	NA	50-70	NA	65-85
Sports Arenas, Outdoor Spectator Sports	NA	50-75	NA	70-85
Playgrounds, Neighborhood Parks	50-70	NA	67.5-75	72.5-85
Golf Courses, Riding Stable, Water Recreation, Cemeteries	50-75	NA	70-80	80-85
Office Buildings, Business Commercial and Professional	50-70	67.5-77.5	75-85	NA
Industrial, Manufacturing, Utilities, Agriculture	50-75	70-80	75-85	NA

Source: State of California Governor’s Office of Planning and Research, General Plan Guidelines, 2003

Notes: NA - Not Applicable

Normally Acceptable – Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements

Conditionally Acceptable – New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

Normally Unacceptable – New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable – New construction or development should generally not be undertaken.

Although the City does not have a Noise Ordinance to implement the City’s noise policies, the City’s Municipal Code contains a number of provisions that regulate or limit noise production in the City. Table 4.9-3 identifies the section and noise topic included in the City’s Municipal



Code. In some cases, existing noise regulations have no numerical standards, but restrict unnecessary or excessive noise within the City limits.

**Table 4.9-3
City of Rancho Palos Verdes
Existing Noise Regulations**

Code Section	Topic
6.04.060	Prohibition on persistent animal noises that disturb the peace.
8.20.120	Noise Controls applicable to solid waste collection
9.24	Unruly Parties and Gatherings; recovery of law enforcement expenses
10.04.040	Limitation on Off-road vehicle operation that disturbs the peace
17.08.030 C.	Home occupation standards prohibiting activities injurious to neighboring properties for reasons of noise
17.12.030 F.	Limitation on commercial uses regarding deliveries, trash pick-up, parking lot trash sweepers, operation of machinery or mechanical equipment can exceed sixty-five (65) dBA, as measured from the closest property line shall only be allowed on commercial properties which abut a residential district, between the hours of seven a.m. and seven p.m., Monday through Sunday.
17.48.030 E.5.b.	65 dBA limitation on mechanical equipment at closest property line
17.56.020 B.	Restricts the hours of operation for construction equipment to between the hours 7 AM and 6 PM Monday through Friday and between the hours 9 AM to 5 PM on Saturday. No work is allowed to occur on Sunday or Federal holidays. A Special Construction Permit could be obtained to allow work on Federal holidays and Sundays during the permitted hours stated above.
17.60.050 A.6.e.	Conditional Use Permit Standards and conditions to protect against noise impacts
17.62.060 B.4.	Special Use Permit Standards and conditions to protect against noise impacts
17.76.040 G. 4	Grading Permits – conditions of approval to address noise impacts of grading activities

Source: Rancho Palos Verdes Municipal Code

e. Existing Noise Conditions and Sources. The most common sources of noise in the project vicinity are transportation-related, such as automobiles, trucks, and motorcycles. Motor vehicle noise is of concern because it is characterized by a high number of individual events, which often create a sustained noise level, and because of its proximity to areas sensitive to noise exposure. The primary source of roadway noise near the project area is traffic on roads on and around the project area, including Palos Verdes Drive South, which is located south of the project area. In light of this, weekday morning 10-minute noise measurements were taken using an ANSI Type II integrating sound level meter on November 28, 2018. Noise monitoring locations are shown in Figure 4.9-1 and results of the noise monitoring are shown in Table 4.9-4. Complete noise monitoring data can be found in Appendix F.

An aerial photograph of a coastal region, likely in Australia, showing a mix of developed and undeveloped land. A yellow grid is overlaid on a central portion of the map, bounded by a dashed orange line. Several points are marked with yellow starbursts and labeled with alphanumeric codes: 'BA' (top left), 'BA%' (top center), 'BA&' (center), and 'BA' (bottom left). Other labels include 'K1BUWggU8f', 'D1aHwV', '7jbbL5cb@', 'GkYhUmFX', 'HnaYD', 'FcgUddYFX', '77yglUk6jX', 'HubJYhbrFX', 'DYdaYhYy8f', '9DeaYrUbUyFX', 'DUcgJYfXYg8fG', 'GU7ciY8f', '7jadtFX', '6UtYhbrFX', 'DUMYhFX', 'HufUc6FX', '5fickfch@', and '77yglUk6jX'. The map shows a coastline with a beach and ocean in the bottom left, and various roads and land parcels throughout.

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Figure 4.9-1

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**Table 4.9-4
Existing Noise Monitoring Results**

Measurement Identification Number	Measurement Location	Primary Noise Source	Approximate Distance to Primary Noise Source	Leq (dBA)	Nearest Sensitive Receptor
1	Narcissa Drive west of Vanderlip Drive	Traffic on Narcissa Drive	15 feet from center line	54.0	Single-family residence
2	Cinnamon Lane between Narcissa Drive and Thyme Place	Traffic on Cinnamon Lane	15 feet from center line	48.0	Single-family residence
3	Narcissa Drive between Plumtree Road and Cinnamon Lane	Traffic on Narcissa Drive	15 feet from center line	47.9	Single-family residence
4	Palos Verdes Drive South between Peppertree Lane and Cherry Hill Lane (outside of project area)	Traffic on Palos Verdes Drive South	30 feet from center line	68.4	Single-family residence
5	Palos Verdes Drive South between Narcissa Drive and Barkentine Road (outside of project area)	Traffic on Palos Verdes Drive South	48 feet from center line	70.0	Single-family residence

Source: Field measurements using ANSI Type II Integrating sound level meter.
See Appendix F for noise monitoring data sheets

4.9.2 Impact Analysis

a. Methodology and Significance Thresholds. The following analysis of noise impacts considers the effects of both temporary construction-related activities and long-term operation of the project, including increased vehicle trips.

Construction Activities – Short Term. Temporary construction activity would expose adjacent noise-sensitive receptors to construction noise generated by the use of on-site construction equipment. Construction noise was estimated using the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM). The RCNM uses baseline noise levels, distances to receptors, shielding information, and construction equipment utilized to calculate the construction noise level from each piece of construction equipment and overall construction noise at each receptor. To calculate noise generated by each piece of equipment, the model uses equipment noise levels from a study done by the Environmental Protection Agency (EPA) and acoustical usage factors for equipment (i.e., the fraction of time each equipment is operating at full power) from the Empire State Electric Energy Research Corp. Guide (FHWA 2006). The modeled construction equipment for each construction phase was based on the CalEEMod Version 2016.3.2 equipment defaults for construction of the 31 residences. CalEEMod uses project characteristics, such as land use, building sizes, and lot acreage, to estimate a project's emissions and uses default equipment lists in its modeling based on empirical data. The RCNM results and equipment list from CalEEMod are included in Appendix F.



Although the City does not have established quantitative thresholds for construction noise, for this analysis a significant noise impact would occur if construction noise would exceed typical speech interference levels. Noise peaks generated by construction equipment could result in speech interference in nearby residences if the noise level in the interior of the building exceeds 50 dBA. A typical building can reduce noise levels by 20 dBA with windows closed. Assuming a 20 dBA reduction with windows closed, an exterior noise level of 70 dBA (Leq) at receptors would maintain an acceptable interior noise environment of 50 dBA. Additionally, construction generated by the project would also result in significant impacts if it occurred outside of the hours identified in the City's Municipal Code (17.56.020(B)), which are 7:00 AM to 6:00 PM, Monday through Friday, and 9:00 AM to 5:00 PM Saturday, unless a Special Construction Permit is obtained from the Community Development Director. No such activity is permitted on Sunday or on legal holidays.

Groundborne Noise and Vibration. The City of Rancho Palos Verdes does not have adopted specific thresholds for groundborne vibration impacts. Therefore, this analysis uses the Federal Railway Administration's vibration impact thresholds for sensitive buildings to determine whether groundborne vibration would be "excessive." A vibration velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people. Therefore, the Federal Railway Administration recommends an 80 VdB threshold at residences and buildings where people normally sleep (e.g., nearby residences) and 83 VdB at institutional buildings (e.g., Wayfarer's Chapel, which is the closest institutional building to the Zone 2 area). These thresholds apply to conditions where there are an infrequent number of events per day.¹

Off-Site Roadway Traffic - Long Term. Noise levels associated with existing and future traffic along area roadways would constitute the main operational noise source associated with the proposed project. Other operational noise associated with the project would be typical of residential neighborhoods, of which the project area is already a part, and would be governed by the existing regulations listed in section 4.7.1d of this EIR. To determine project impacts, roadway noise was modeled using the U.S. Department of Housing and Urban Development (HUD) Exchange Day/Night Noise Level (DNL) Calculator (HUD 2018). Noise modeling data sheets can be viewed in Appendix F. The model calculations are based on traffic data from the traffic study completed for the proposed project (see Appendix G). Cumulative traffic conditions consider pending development in the City as indicated in Section 3.0, *Environmental Setting*, Table 3-1.

The City does not have adopted thresholds for mobile noise sources. Therefore, this analysis uses thresholds contained in the Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual* (2018) as guidance to determine whether or not a change in traffic would result in a significant permanent increase in roadway noise. Table 4.9-5 shows the FTA criteria for identifying significant changes in noise, which apply to both the noise generated by the project alone and cumulative noise increases. Using the FTA criteria, the significance threshold is based on the existing ambient noise level. Roadways with lower ambient noise levels have a higher noise level increase threshold, while roadways with a higher

¹ "Infrequent events" is defined by the Federal Railroad Administration as being fewer than 70 vibration events per day.



ambient noise level have a lower noise level increase threshold. If sensitive receptors would be exposed to traffic noise increases exceeding the criteria below, impacts would be considered significant.

**Table 4.9-5
Significance of Changes in Operational
Roadway Noise Exposure**

Ldn or Leq in dBA	
Existing Noise Exposure	Significant Noise Exposure Increase
45-50	7
50-55	5
55-60	3
60-65	2
65-70	1
70-75	1
75+	0

Source: Federal Transit Administration (FTA), 2018.

b. Project Impacts and Mitigation Measures.

Impact N-1 Temporary project construction would intermittently generate high noise levels in and adjacent to the project area. This would be a Class III, *less than significant*, impact, though mitigation has been added to ensure compliance with applicable requirements.

Nearby noise-sensitive land uses in the vicinity of the project area include single-family residences located approximately 50 feet from any of the project's 31 lots in Zone 2. Noise impacts are a function of the type of activity being undertaken and the distance to the receptor location. As indicated in Section 2.0, *Project Description*, the proposed project would involve ordinance revisions that would allow for the potential construction of single family homes on 31 lots. Construction of individual residences would require grading and building phases that have the potential to affect nearby receptors.

Table 4.9-6 shows typical noise levels associated with activities during various phases of construction at a distance of 50 feet from the noise source based on types of equipment assumed by CalEEMod for construction of the 31 residences. As shown in Table 4.9-6, typical construction noise levels range from about 74 dBA to 89 dBA. The grading/excavation phase of project construction tends to be the shortest in duration and create some of the highest construction noise levels because of the operation of heavy equipment, although it should be noted that only a limited amount of equipment can operate near a given location at a particular time. Equipment typically used during this stage includes heavy-duty trucks, backhoes,

bulldozers, excavators, front-end loaders, and scrapers. Operating cycles for these types of construction equipment may involve one or two minutes of full-power operation followed by three to four minutes at lower power settings. Other primary sources of noise would be random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts). Construction of residences would typically be the longest phase of construction and involve smaller equipment due to the nature of the work; however, construction noise levels would also be among the highest during this phase. Work associated with building may include heavy trucks, air compressors, generators, and hand-held mechanical tools.

Construction noise generally attenuates by about 6 dB per doubling of distance. The receptors nearest to the project area would be adjacent single-family residences. Although the distances to neighboring residences vary from lot-to-lot, for the purposes of this EIR analysis, it is assumed that sensitive receptors would be located approximately 50 feet from any of the project's 31 lots in Zone 2. Therefore, the maximum noise level at the nearby residences during clearing and excavation activities would be approximately 89 dBA, as shown in Table 4.9-6. Such noise would be intermittently audible at nearby residences. However, it would be temporary in nature and compliance with Section 17.57.020 of the Rancho Palos Verdes Municipal Code would limit construction, grading, or landscaping activities, or the operation of heavy equipment, to occur only between the hours of 7:00 AM and 6:00 PM, Monday through Friday and between 9:00 AM and 5:00 PM Saturday, and would prohibit such activities any other time and on legal holidays and Sundays. This would restrict construction noise to daytime hours when ambient noise levels are higher and people are typically at work and/or not sleeping. Compliance with the City's Municipal Code would reduce construction noise impacts of the proposed project to a less than significant level.

**Table 4.9-6
Typical Noise Levels at Construction Sites**

Construction Phase	Type of Equipment	Average Noise Level at 50 Feet
Demolition	Excavators (3), Concrete Saw, Rubber Tired Dozers (2)	86 dBA
Site Preparation	Tractors/Loaders/Backhoes (4), Rubber Tired Dozers (3)	88 dBA
Grading	Excavators (2), Grader, Tractors/Loaders/Backhoes (2), Scrapers (2)	88 dBA
Building Construction	Crane, Forklifts (3), Generator Set, Tractors/Loaders/Backhoes (3), Welder	89 dBA
Paving	Pavers (2), Rollers (2), Paving Equipment (2)	87 dBA
Architectural Coating	Air Compressor	74 dBA

See Appendix F for RCNM results and CalEEMod equipment list.



Mitigation Measures. No mitigation measures are required, but the following measures would ensure compliance with the RPVMC's allowed construction days and hours as well as with Portuguese Bend Community Association (PBCA) Architectural Conditions of Approval related to construction noise.

- N-1(a) Construction Schedule.** Permitted hours and days of construction activity are 7:00 AM to 6:00 PM, Monday through Friday and 9:00 AM to 5:00 PM Saturday, with no construction activity permitted on Sundays or on the legal holidays specified in Section 17.56.020 of the Rancho Palos Verdes Municipal Code without a special construction permit.
- N-1(b) PBCA Conditions of Approval.** All project area construction contractors shall comply with the following standard Portuguese Bend Community Association conditions:
- *Large truck deliveries must enter and exit from the Peppertree Gate. Semi-trucks allowed for heavy equipment delivery only. All other deliveries limited to 3 axle or smaller trucks.*
 - *Concrete Deliveries: Only one truck on-site at a time. Second and third trucks can stay on Narcissa or Sweetbay. No more than three trucks in PBCA at a time. All trucks must enter and exit through the Peppertree Gate.*
 - *Noise from radios or other amplified sound devices shall not be audible beyond the property.*

Significance After Mitigation. Impacts would be less than significant without mitigation. Measures N-1(a) and (b) would ensure compliance with RPMC timing restrictions and applicable PBCA conditions.

- Impact N-2 Construction facilitated by the proposed ordinance revisions could generate intermittent levels of groundborne vibration affecting residences and other buildings near the project area. However, these impacts are temporary in nature and would not exceed thresholds. Therefore, impacts would be Class III, less than significant.**

Construction activities that would occur at any of the 3131 lots in Zone 2 that make up the project area have the potential to generate low levels of groundborne vibration. Table 4.9-7 identifies various vibration velocity levels for the types of construction equipment that would operate in the project area during construction activities.

Based on the information presented in Table 4.9-7, vibration levels could reach approximately 85 VdB at nearby existing residences which, for the purposes of this EIR, are assumed to be at least 50 feet away from the construction site. This would be more than the groundborne velocity threshold level of 80 vibration decibels (VdB) established by the Federal Railway Administration for noise-sensitive buildings and residences where people normally sleep, and the 83 VdB threshold for institutional uses such as Wayfarer's Chapel. However, construction activities and their associated vibration levels would be limited to daytime hours between 7:00

AM to 6:00 PM Monday through Friday and 9:00 AM to 5:00 PM Saturday in accordance with the City's Municipal Code Section 17.56.020 B. The proposed project is required to comply with these regulations. Therefore, construction activities would not occur during recognized sleep hours for residential uses. In addition, construction would not generate vibration levels of 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. As such, impacts to the residential uses near the project area would be less than significant.

Table 4.9-7
Vibration Source Levels for Construction Equipment

Equipment	Approximate VdB			
	25 Feet	50 Feet	75 Feet	100 Feet
Large Bulldozer	87	78	73	69
Loaded Trucks	86	77	71	68
Small Bulldozer	58	48	43	39

See Appendix C for vibration calculations.

Mitigation Measures. Impacts would be less than significant without mitigation.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact N-3 Traffic generated by the potential development of up to 31 new residences in Zone 2 would incrementally increase noise levels on area roadways. However, the increase in noise would not exceed significance thresholds and would therefore be Class III, less than significant.

Potential buildout under the proposed ordinance revisions would increase the number of vehicle trips to and from the site, which would incrementally increase traffic noise on area roadways and at neighboring uses. The street network in the project vicinity has many residential receptors. Because they represent the busiest traffic conditions, daily traffic volumes for roadway segments studied in the Transportation Impact Study (2019)(see Appendix G) prepared by LLG were used to model the change in noise levels resulting from increased traffic for both the existing and future conditions. Table 4.10-10 in Section 4.10, *Transportation and Traffic*, shows the daily traffic volumes for the studied roadway segments under existing and future conditions. Table 4.9-8 shows the associated increase in roadway generated noise at sensitive receptors along the studied roadways.

As indicated in Table 4.9-8, the highest noise level increase at studied roadway segments would be 0.6 dBA under Year 2030 traffic conditions, which is below the 1 dBA FTA increase threshold for roadways with existing noise levels between 70 dBA and 75 dBA (see Table 4.9-5). Therefore, impacts related to project-generated traffic noise would be less than significant in relation to the sensitive receptors that are the focus of this noise impact analysis.

**Table 4.9-8
Project Contribution to Roadway Noise Levels (in dBA, CNEL)**

Roadway Segment	Existing Traffic Noise	Year 2030 with Related Projects Traffic Noise	Year 2030 Traffic Noise Increase Compared to Existing Traffic	Year 2030 with Related Projects and Proposed Project Traffic Noise	Year 2030 Cumulative Increase Compared to Existing Traffic (Year 2030 Project Only Increase Compared to Year 2030 Traffic
Palos Verdes Drive South west of Narcissa Drive (4-Lane Divided Arterial)	70.8	71.4	+0.6	71.4	+0.6	<0.1
Palos Verdes Drive South east of Narcissa Drive (4-Lane Divided Arterial)	73.1	73.6	+0.5	73.6	+0.5	<0.1

Source: See Appendix F for the Department of Housing and Urban Development modeling data sheets

Mitigation Measures. Mitigation is not required since significant impacts have not been identified.

Significance After Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts. The proposed project and related projects in and around the City, as identified in Table 3-1 in Section 3.0, *Environmental Setting*, would generate temporary noise during construction. However, as discussed in Impact N-1, compliance with Section 17.56.020.B. of the Rancho Palos Verdes Municipal Code would require construction activities to adhere to regulations of the City of Rancho Palos Verdes governing allowed hours of construction and would therefore reduce construction impacts to a less than significant level. In addition, as discussed in Impact N-2, construction activities would not occur during recognized sleep hours for residential uses, vibration levels would not affect nearby residences during sensitive nighttime hours, and overall vibration impacts to the residential uses near the project area would be less than significant. No projects on the cumulative projects list (Table 3-1) are close enough to the project area to contribute to a cumulative construction noise or vibration impact. Moreover, because development of the project area would occur over time as individual lots develop, it is unlikely that construction of individual project area homes would coincide with construction of other currently planned and pending developments.

Traffic noise impacts associated with cumulative development in the area would incrementally increase noise levels along roadways and could potentially subject sensitive receptors to noise exceeding City standards. Cumulative development has the potential to increase roadway generated noise throughout the City. However, the analysis under Impact N-3 includes the future cumulative development scenario, which would not result in noise levels exceeding thresholds. Therefore, cumulative traffic-related noise impacts would not be significant.



Cumulative development would result in stationary (non-traffic) long-term operational noise increases in the project vicinity. However, based on the fact that land uses proposed under the project would be consistent with the single family residential character of their surroundings, and the fact that these uses are already regulated by the Rancho Palos Verdes Municipal Code, impacts from the proposed project's operational noise would be less than significant.

Additionally, based on the fact that noise dissipates as it travels away from its source, noise impacts from on-site activities and other stationary sources would be limited to the specific development site and vicinity. Thus, cumulative operational (non-traffic) noise impacts from related projects, in conjunction with project-specific noise impacts, would not have the potential to result in cumulatively considerable adverse effects.

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4.10 TRAFFIC AND CIRCULATION

The following analysis is based on the Transportation Impact Study for the Zone 2 Landslide Moratorium – Portuguese Bend Project, prepared by Linscott, Law and Greenspan, Engineers (LLG) and dated January 18, 2019. The full transportation study is included as Appendix G of this EIR.

4.10.1 Setting

a. Existing Street System. Access to the existing Portuguese Bend community of Rancho Palos Verdes is provided via Narcissa Drive and Peppertree Drive. All streets in the Portuguese Bend community are private and the community itself is gated. The gates restricting access to the community on Narcissa Drive and Peppertree Drive are set back approximately 190 and 90 feet from Palos Verdes Drive South, respectively. The following lane configurations are provided at the existing access locations for the community:

- *Narcissa Drive/Palos Verdes Drive South*
 - Eastbound Approach: One left-turn lane and one shared through/right-turn lane
 - Westbound Approach: One left-turn lane, one through lane and one right-turn lane
 - Southbound Approach: One shared left-turn/through lane and one right-turn lane
- *Peppertree Drive/Palos Verdes Drive South*
 - Eastbound Approach: One left-turn lane and one through lane
 - Westbound Approach: One through lane and one right-turn lane
 - Southbound Approach: One left-turn lane and one right-turn lane

The streets in the vicinity of the project area are divided into several functional classifications. Each type of street provides for a general level of traffic movement through the City. There are four categories in the roadway hierarchy, ranging from freeways with the highest capacity to two-lane undivided roadways with the lowest capacity. Freeways are limited-access and high-speed travel ways that carry regional through-traffic. Access is provided by interchanges with typical spacing of one mile or greater. Arterial roadways carry the majority of traffic entering and traveling through the City and are generally developed as commercial corridors. Arterials are generally designed with two to six travel lanes and their major intersections are signalized. This roadway type is divided into two categories: principal and minor arterials. Principal arterials are typically four-or-more lane roadways that serve both local and regional through-traffic. Minor arterials are typically two to four lane streets that service local and commute traffic. Collector roadways are intended to provide for the movement of traffic between arterials and neighborhoods. Collector roadways are typically designed with two through travel lanes that may accommodate on-street parking. Local roadways distribute traffic within a neighborhood, or similar adjacent neighborhoods, and are not intended for use as a through-street or a link between higher capacity facilities such as collector or arterial roadways. Local streets are fronted by residential uses and do not typically serve commercial uses.



The following roadways are located in the project vicinity and are described in detail in the Transportation Impact Study:

- *Palos Verdes Drive South (arterial)*
- *Barkentine Road (local street)*
- *Forrestal Drive (local street)*
- *Hawthorne Boulevard (arterial)*
- *Narcissa Drive (private roadway)*
- *Palos Verdes Drive East (arterial)*
- *Peppertree Drive (private roadway)*
- *Seahill Drive (local street)*
- *Tramonto Drive (local street)*
- *Via Rivera (local street)*

b. Existing Traffic Volumes and Level of Service. Consistent with City of Rancho Palos Verdes guidelines for traffic impact analyses, traffic conditions in the vicinity of the project area were analyzed using the delay-based Highway Capacity Manual (HCM) method for stop-controlled intersections to determine level of service (LOS). The HCM method measures average control delay (in seconds per vehicle) experienced at intersections. - Table 4.10-1 describes the six qualitative categories of LOS for stop-controlled intersections, along with the corresponding HCM control delay value range.

**Table 4.10-1
Level of Service Criteria for Unsignalized
Intersections (HCM Methodology)**

Level of Service (LOS)	Highway Capacity Manual Delay Value (sec/veh)	Level of Service Description
A	≤ 10.0	Little or no delay
B	> 10.0 and ≤ 15.0	Short traffic delays
C	> 15.0 and ≤ 25.0	Average traffic delays
D	> 25.0 and ≤ 35.0	Long traffic delays
E	> 35.0 and ≤ 50.0	Very long traffic delays
F	> 50.0	Severe congestion

A total of seven intersections were chosen for the project's traffic impact analysis. The analysis did not analyze the number of active construction sites in the project area because the project area is located in a gated community and survey personnel did not have access to the project area. All seven study intersections selected for analysis are controlled by stop signs with the stop signs facing the minor street approaches. The study analyzed the following seven intersections:

1. *Via Rivera/Hawthorne Boulevard*
2. *Seahill Drive-Tramando Drive/Palos Verdes Drive South*
3. *Barkentine Road/Palos Verdes Drive South*
4. *Narcissa Drive/Palos Verdes Drive South*
5. *Peppertree Drive/Palos Verdes Drive South*
6. *Forrestal Drive/Palos Verdes Drive South*
7. *Palos Verdes Drive East/Palos Verdes Drive South*



The intersection of Palos Verdes Drive West/Hawthorne Boulevard/Via Vicente was not selected for analysis because no operational deficiencies are known to exist and based on recent analyses the project would not contribute significantly to the critical movements at that intersection.

Weekday morning (AM) and afternoon (PM) traffic count data for four of the seven study intersections were obtained from the City of Rancho Palos Verdes General Plan Update Traffic Impact Analysis (2017). The available 2016 traffic count data from this report were adjusted by 0.6 percent (0.6%) per year to reflect existing conditions. For those locations where no data were available, new manual counts of vehicular turning movements were conducted in November 2018 during the weekday AM, School PM and commuter PM periods to determine the peak hour traffic volumes. The manual counts were conducted by traffic count subconsultants at the study intersections from 7:00 to 9:00 AM to determine the weekday AM peak commuter hour, 2:00 to 4:00 PM to determine the School PM peak hour, and from 4:00 to 6:00 PM to determine the weekday PM peak commuter hour. Traffic volumes at the seven study intersections show the weekday morning and afternoon peak periods typically associated with peak hours in the metropolitan area.

The existing weekday AM, School PM, and PM peak hour LOS at the seven study intersections are summarized in Table 4.10-2. The existing traffic volumes at the study intersections during the weekday AM, School PM, and PM peak hours are shown in Figures 4.10-1, 4.10-2, and 4.10-3, respectively.

**Table 4.10-2
Existing Intersection Levels of Service Summary**

Key Intersection	Time Period	Control Type	Delay (sec/veh)	LOS
1. Via Rivera/ Hawthorne Boulevard	AM School PM PM	Two-Way Stop	77.5 189.0 40.7	F F E
2. Seahill Drive-Tramonto Drive/ Palos Verdes Drive South	AM School PM PM	Two-Way Stop	32.6 58.9 31.1	D F D
3. Barkentine Road/ Palos Verdes Drive South	AM School PM PM	Two-Way Stop	23.3 31.4 26.5	C D D
4. Narcissa Drive/ Palos Verdes Drive South	AM School PM PM	Two-Way Stop	46.6 52.1 42.4	E F E
5. Peppertree Drive/ Palos Verdes Drive South	AM School PM PM	Two-Way Stop	30.3 31.9 24.5	D D C
6. Forrestal Drive/ Palos Verdes Drive South	AM School PM PM	Two-Way Stop	62.3 107.7 52.5	F F F
7. Palos Verdes Drive East/ Palos Verdes Drive South	AM School PM PM	Two-Way Stop	30.3 47.0 25.0	D E C

Source: Linscott, Law and Greenspan, 2019



As shown in Table 4.10-2, two of the seven study intersections are currently operating at acceptable LOS (i.e., LOS D or better) during the weekday AM, School PM, and PM peak hours.

In addition to studying intersections in the project vicinity, the Transportation Impact Study analyzed the roadway level of service for the following two street segments:

1. *Palos Verdes Drive South west of Narcissa Drive*
2. *Palos Verdes Drive South east of Narcissa Drive*

Automatic 24-hour machine traffic counts were obtained from the City of Rancho Palos Verdes General Plan Update Traffic Impact Analysis (2017). The 2016 traffic count data from this report were adjusted by 0.6 percent per year to reflect existing conditions.

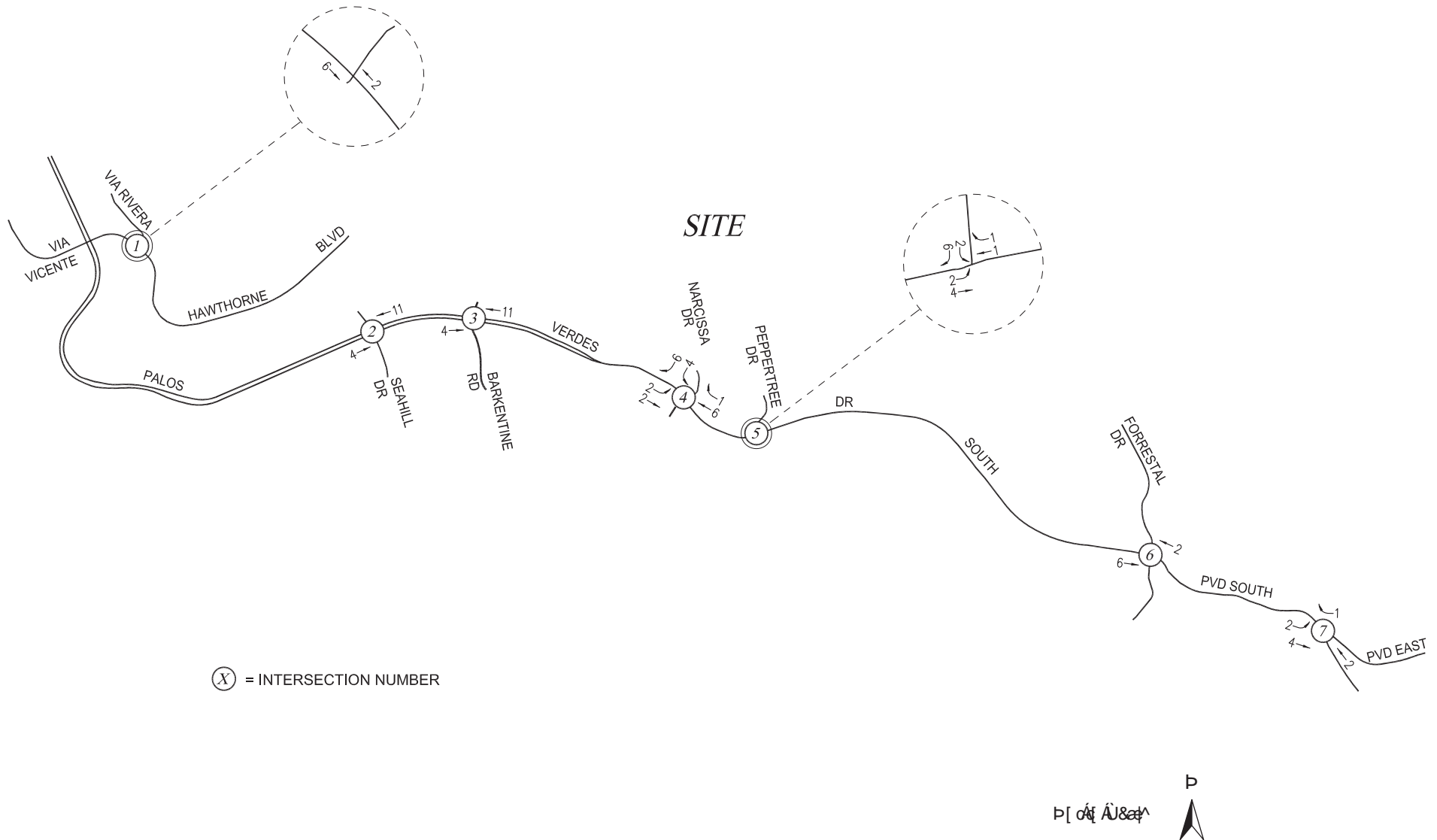
Consistent with the City's General Plan, the analysis of traffic operations on roadway segments was conducted by comparing the daily traffic volumes to the maximum roadway capacity of each facility type. The roadway daily capacities were developed consistent with the HCM, which provides a methodology for developing generalized daily service volumes. Table 4.10-4 shows the existing traffic conditions on the two analyzed street segments. As shown in Table 4.10-3, Palos Verdes Drive South currently operates at LOS A west of Narcissa Drive and at LOS D east of Narcissa Drive.

Table 4.10-3
Existing Roadway Segment Level of Service Summary

Roadway Segment	Total Capacity	Existing Traffic Conditions		
		Daily Volume	V/C	LOS
1. Palos Verdes Drive South west of Narcissa Drive (4-Lane Divided Arterial)	36,100	14,112	0.391	A
2. Palos Verdes Drive South east of Narcissa Drive (2-Lane Divided Arterial)	17,900	15,360	0.858	D

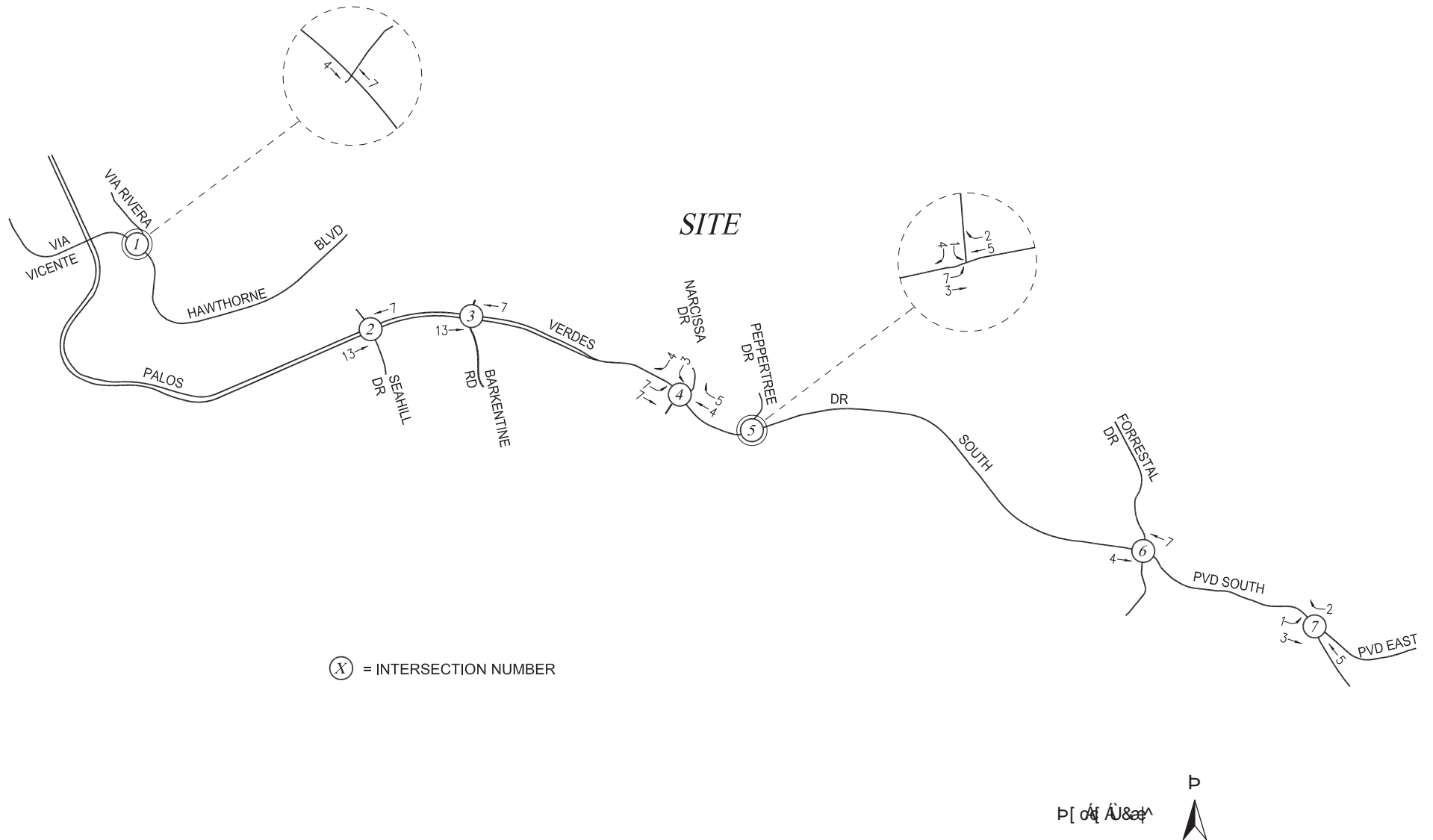
Source: Linscott, Law and Greenspan, 2019.





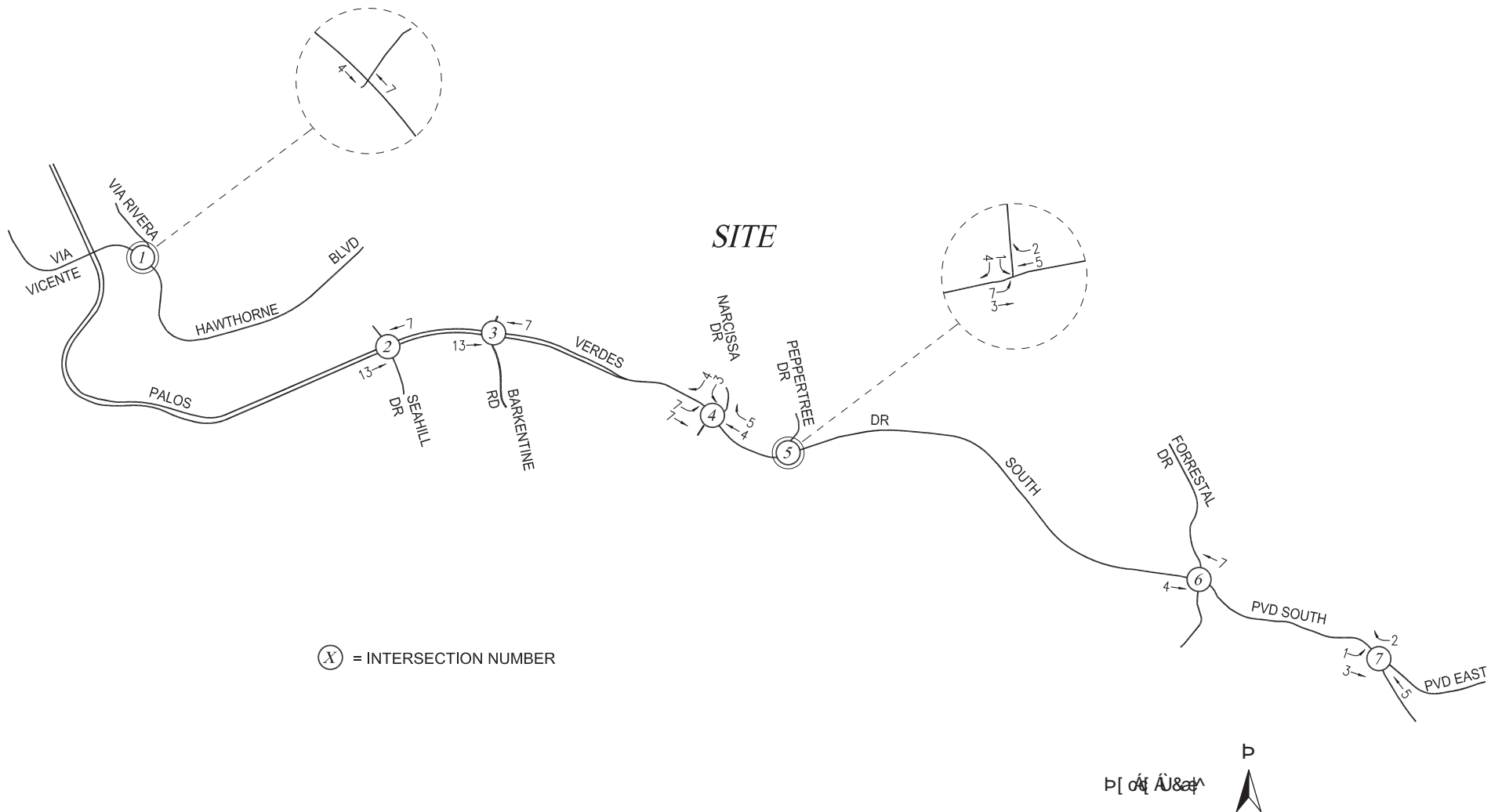
Project Traffic Volumes
Weekday AM Peak Hour

Figure 4.10-1



Project Traffic Volumes
Weekday School PM Peak Hour

Figure 4.10-2



Project Traffic Volumes
Weekday PM Peak Hour

Figure 4.10-3

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d. Existing Public Bus Transit Service. Public bus transit service within the Zone 2 project study area is currently provided by the Los Angeles County Metropolitan Transportation Authority (Metro) and the Palos Verdes Peninsula Transit Authority. (PVPTA). A summary of the existing transit service, including the transit route, destinations and peak hour headways is presented in Table 4.10-4.

**Table 4.10-4
Existing Transit Near the Project Area**

Route	Destinations	Roadways Near Project Area	No. of Buses During Peak Hour		
			Direction	AM	PM
Metro 344	Rancho Palos Verdes to Harbor Gateway (via Torrance)	Palos Verdes Drive West, Palos Verdes Drive South, Hawthorne Boulevard	NB SB	2 4	3 2
PVPTA 226	Palos Verdes Estates	Palos Verdes Drive West, Hawthorne Boulevard	NB SB	0 2	1 0
PVPTA Blue Line	Rancho Palos Estates to Rancho Palos Verdes (School Days)	Palos Verdes Drive West, Hawthorne Boulevard	Inbound Outbound	1 1	1 1
PVPTA Gold Line	Rancho Palos Verdes to Rolling Hills (School Days)	Tramonto Drive, Seahill Drive, Narcissa Drive, Pepper Tree Drive, Trump National Drive, Palos Verdes Drive South	Inbound Outbound	1 1	1 1
PVPTA Orange Line	Rancho Palos Estates to Rolling Hills via Rancho Palos Verdes (School Days)	Tramonto Drive, Seahill Drive, Narcissa Drive, Pepper Tree Drive, Trump National Drive, Palos Verdes Drive South	Inbound Outbound	0 1	1 0

Source: Linscott, Law and Greenspan, 2019.

e. Regulatory Setting

State Highway Analysis. The purpose of the Caltrans *Guide for the Preparation of Traffic Impact Studies* (State of California Department of Transportation, December 2002) is to provide a safe and efficient State transportation system, provide consistency and uniformity in the identification of traffic impacts generated by local land use proposals, and consistency and equity in the identification of measures to mitigate the traffic impacts generated by land use proposals. The Caltrans traffic studies guide identifies review of substantial individual projects, which might impact the CMP State Highway transportation system.

County of Los Angeles Congestion Management Program. The purpose of the Congestion Management Program (CMP) is to develop a coordinated approach to managing and decreasing traffic congestion by linking the various transportation, land use and air quality planning programs throughout the County. The program is consistent with the Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP) and SCAG's Regional Transportation Improvement Program. The CMP program requires review of substantial individual projects, which might on their own impact the CMP transportation system.



City of Rancho Palos Verdes General Plan. The General Plan Circulation Element (2018), provides a plan for the transportation system and infrastructure needed to serve proposed development in the City, as defined in the Land Use Element. The system ranges from sidewalks to roadways to trails, all providing for the safe, efficient, and sometimes recreational movement of people through the City. The Circulation Element presents a plan to ensure that utilities and transportation, including public transportation services, are constantly available to permit orderly growth and to promote the public health, safety, and welfare. The Circulation Element policies that are relevant to the proposed project include the following:

- *Design public access into residential areas to control non-local traffic.*
- *Require any new developments or redevelopment to provide streets wide enough to support the City's future traffic needs and to address potential impacts to nearby intersections resulting from such developments.*
- *Ensure that future residential developments provide direct access to roadways other than arterials.*
- *Require that all new developments, where appropriate, establish paths and trails.*
- *Require adequate off-street parking for all existing and future development.*

City of Rancho Palos Verdes Zoning Code. According to the RPV Zoning Map, the Portuguese Bend area is located within the Single Family Residential District, including both RS-1 (one-acre minimum lot size) and RS-2 (20,000 square-foot minimum lot size) zoned lots. The following general standards (Code Section 17.02.030, *Development Standards*) relevant to traffic and circulation apply to the Single Family Residential District:

E. Parking/Driveway Standards.

1. *A minimum of two enclosed parking spaces shall be provided and maintained in a garage, and a minimum of two unenclosed parking spaces shall be provided and maintained as a driveway, on the property of each single-family dwelling unit containing less than five thousand square feet of habitable space, as determined by the director.*
2. *A minimum of three enclosed parking spaces shall be provided and maintained in a garage, and a minimum of three unenclosed parking spaces shall be provided and maintained as a driveway, on the property of each single-family dwelling unit containing five thousand square feet or more of habitable space, as determined by the director.*
3. *A garage with a direct access driveway from the street of access shall not be located less than twenty feet from the front or street-side property line, whichever is the street of access.*
4. *In addition to the parking requirements for the primary single-family residence on a property, parking for city-approved second units shall be provided in accordance with Chapter 17.10 (Second Unit Development Standards).*
5. *An enclosed parking space shall have an unobstructed ground space of no less than nine feet in width by twenty feet in depth, with a minimum of seven feet of vertical clearance over the space. An unenclosed parking space shall have an unobstructed ground space of no less than nine feet in width by twenty feet in depth.*



6. *The following minimum driveway widths and turning radii shall be provided for all driveways leading from the street of access to a garage or other parking area on a residential parcel:*
 - a. *A driveway shall be a minimum width of ten feet; and*
 - b. *A paved twenty-five-foot turning radius shall be provided between the garage or other parking area and the street of access for driveways which have an average slope of ten percent or more, and which are fifty feet or more in length.*
7. *Driveways shall take into account the driveway standards required by the department of public works for driveway entrances located in the public right-of-way.*
8. *A driveway that is located adjacent to a side property line shall provide a minimum eighteen-inch-wide landscaped area between the side property line and the adjacent driveway, unless such buffer would reduce the minimum width of the driveway to less than ten feet, in which case the width of the landscape buffer may be narrowed or eliminated at the discretion of the director.*
9. *All driveways shall be built and maintained in accordance with the specifications of the Los Angeles County fire department. If there is any inconsistency between the standards imposed by this chapter and the standards imposed by the Los Angeles County fire department, the stricter shall apply.*
10. *Unless otherwise expressly permitted elsewhere in this title, enclosed tandem parking spaces may only be used for parking spaces in excess of the minimum requirements of subsections (1) and (2) of this section, provided that each space meets the minimum dimensions specified in subsection (5) of this section.*

4.10.2 Impact Analysis

a. Methodology and Significance Thresholds. The following traffic scenarios were analyzed in the traffic study:

1. **Existing Conditions** – *The analysis of existing AM, School PM, and PM weekday peak hour traffic conditions provides a basis for the assessment of future traffic conditions. The existing conditions analysis includes a description of key area streets and highways, traffic volumes, and current intersection and roadway operating conditions.*
2. **Existing with Project Conditions** – *This scenario identifies the incremental impacts of the proposed project on the existing AM, School PM, and PM weekday peak hour traffic conditions by adding the traffic expected to be generated by the project to the existing traffic forecasts.*
3. **Year 2030 Future Pre-project Conditions** – *This scenario projects the future traffic growth and intersection operating conditions that could be expected from regional growth and known related projects in the vicinity of the project area. These analyses provide the future baseline conditions against which project specific impacts are evaluated.*



4. ***Year 2030 Future with Project Conditions*** – This analysis identifies the incremental impacts of the proposed project on future traffic operating conditions by adding the traffic expected to be generated by the project conditions to the year 2030 pre-project traffic forecasts.

Traffic Forecasting Methodology. In order to estimate the traffic impact characteristics of the proposed project, a multi-step process was utilized. The first step is trip generation, which estimates the total arriving and departing traffic volumes on a peak hour and daily basis. The traffic generation potential is forecast by applying the appropriate vehicle trip generation equations or rates to the project development tabulation. The second step of the forecasting process is trip distribution, which identifies the origins and destinations of inbound and outbound project traffic volumes. These origins and destinations are typically based on demographics and existing/anticipated travel patterns in the study area. The third step is traffic assignment, which involves the allocation of project traffic to study area streets and intersections. Traffic assignment allocates specific volume forecasts to individual roadway links and intersection turning movements throughout the study area.

Project Trip Generation. Traffic generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Traffic volumes to be generated by the proposed project were forecast for the weekday AM and PM peak hours, and over a 24-hour period. The resource typically used by traffic engineers (including the City of Rancho Palos Verdes) to forecast trip generation for development projects is the Institute of Transportation Engineers' (ITE) Trip Generation manual. ITE Land Use Code 210 (Single-Family Detached Housing) trip generation average rates were used to forecast traffic volumes for the proposed project. As shown on Table 4.10-5, the proposed project is expected to generate 293 new daily trips, including approximately 23 vehicle trips (6 inbound trips and 17 outbound trips) during the weekday AM peak hour. During both the weekday school and PM peak hours, the proposed project is expected to generate 31 vehicle trips (20 inbound trips and 11 outbound trips).

**Table 4.10-5
Project Trip Generation Summary**

Land Use	Size	Net New Daily Trips	AM Peak Hour Trips			School PM Peak Hour Trips			PM Peak Hour Trips		
			IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL
Single Family Housing	31 units	293	6	17	23	20	11	31	20	11	31

Source: Linscott, Law and Greenspan, 2019.

ITE Land Use Code 210 (Single-Family Detached Housing) trip generation average rates.



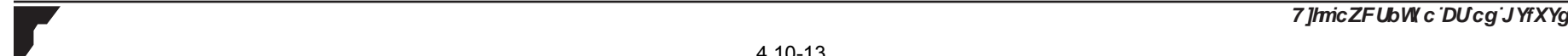
Project Traffic Distribution and Assignment. The directional traffic distribution pattern for the proposed project is presented in Figure 4.10-4. Project traffic volumes both entering and exiting the project area have been distributed and assigned to the adjacent street system based on the following considerations:

- *The project area's proximity to major traffic corridors (i.e., Palos Verdes Drive South),*
- *Expected localized traffic flow patterns based on adjacent roadway channelization and presence of traffic signals,*
- *Existing intersection traffic volumes,*
- *Ingress/egress availability at the project area, and*
- *Input from City staff*

The traffic volume assignments reflect the traffic distribution characteristics shown in Figure 4.10-4 and the project traffic generation forecasts presented in Table 4.10-5.

Highway Capacity Manual Method of Analysis (Unsignalized Intersections). The AM, School PM, and PM peak hour operating conditions for the seven key study intersections were evaluated using the HCM methodology for unsignalized intersections. The HCM method determines the average control delay experienced at unsignalized intersections. This methodology estimates the average control delay for each of the subject movements and determines the LOS for each constrained movement. Average control delay for any particular movement is a function of the capacity of the approach and the degree of saturation. The overall average control delay is measured in seconds per vehicle and includes delay due to deceleration to a stop at the back of the queue from free-flow speed, move-up time within the queue, stopped delay at the front of the queue, and delay due to acceleration back to free-flow speed. The six qualitative categories of Level of Service have been defined along with the corresponding HCM control delay value range, as shown in Table 4.10-1. The LOS of an unsignalized intersection ranges LOS A (free-flow conditions) to F (severely congested conditions), based on delay experienced per vehicle.

Traffic Impact Criteria for Intersections and Segments. The relative impact of the added project traffic volumes generated by the proposed project during the AM, School PM, and PM peak hours was evaluated based on analysis of future operating conditions at the seven study intersections, without, then with, the proposed project. The previously discussed capacity analysis procedures were utilized to investigate the future volume-to-capacity relationships and service level characteristics at each study intersection. The significance of potential project impacts at each key intersection was then evaluated using the City's traffic impact criteria. The City of Rancho Palos Verdes' target for peak hour intersection operation is LOS D or better.



The City of Rancho Palos Verdes has established the following thresholds of significance for unsignalized intersections:

- *A significant impact would occur at an unsignalized intersection when the addition of project-generated trips causes the peak hour level of service of the intersection to change from acceptable operation (LOS D or better) to deficient operation (LOS E or F); or*
- *A significant impact would occur at an unsignalized intersection if the peak hour level of service of the intersection is LOS E or F and the addition of project-generated trips changes the delay by 2.0 seconds or more.*

In addition to studying intersections in the project vicinity, the roadway LOS for two street segments was also analyzed: Palos Verdes Drive South west of Narcissa Drive and Palos Verdes Drive South east of Narcissa Drive. The analysis of traffic operations on roadway segments was conducted by comparing the daily traffic volumes to the maximum roadway capacity of each facility type. The roadway daily capacities were developed consistent with the HCM, which provides a methodology for developing generalized daily service volumes. As noted previously, the acceptable level of service for the City of Rancho Palos Verdes is LOS D.

Congestion Management Plan (CMP) Traffic Impact Criteria. The Congestion Management Program (CMP) is a state-mandated program that was enacted by the State Legislature with the passage of Proposition 111 in 1990. The program is intended to address the impact of local growth on the regional transportation system.

As required by the *2010 Congestion Management Program for Los Angeles County*, a Traffic Impact Assessment (TIA) has been prepared to determine the potential impacts on designated monitoring locations on the CMP highway system. The analysis has been prepared in accordance with procedures outlined in the *2010 Congestion Management Program for Los Angeles County*, County of Los Angeles Metropolitan Transportation Authority, October 2010.

Future Traffic Volume and Distribution. Horizon year (Year 2030), background traffic growth estimates have been calculated by using an ambient traffic growth factor. The ambient traffic growth factor is intended to include unknown related projects in the study area and account for typical growth in traffic volumes due to the development of projects outside the study area. The future growth in traffic volumes has been calculated at 0.6 percent (0.6%) per year. The ambient growth factor was based on review of the background traffic growth estimates for the Palos Verdes area published in the *2010 Congestion Management Program for Los Angeles County*, which indicate that existing traffic volumes would be expected to increase at an annual rate of approximately 0.51 percent (0.51% per year) between years 2010 and 2030. However, in order to provide a conservative analysis, the higher ambient growth factor of 0.60 percent (0.60% per year) contained in the *2004 Congestion Management Program for Los Angeles County* was utilized in this analysis. Application of the ambient traffic growth factor to existing traffic volumes results in a 6.0 percent (6.0%) increase in existing traffic volumes to horizon Year 2030.

In order to make a realistic estimate of future on-street conditions prior to adoption of and potential development under the proposed project, the status of other known development projects (related projects) in the area has been researched at the cities of Rancho Palos Verdes,



Rolling Hills Estates, Los Angeles, and Torrance. With this information, the potential impact of the proposed project can be evaluated within the context of the cumulative impact of all ongoing development. Based on current research, 22 related projects are located in the project area vicinity that have either been built, but are not yet fully occupied, or are being processed for approval (see Table 3-1 in Section 3.0, *Environmental Setting*). These 22 related projects have been included as part of the cumulative background setting in Year 2030.

Traffic volumes expected to be generated by the related projects were calculated using rates provided in the ITE Trip Generation manual. The resulting peak hour LOS at the seven study intersections for the Year 2030 horizon year are summarized in Table 4.10-6, which shows the summary of the projected Year 2030 future pre-project traffic conditions based on future intersection geometry, where applicable, existing traffic volumes with the addition of ambient growth, and related projects traffic volumes.

**Table 4.10-6
Year 2030 Future Pre-Project Conditions Summary**

#	Key Intersection	Time Period	Future Background Year 2030	
			Delay	LOS
1	Via Rivera/Hawthorne Boulevard	AM School PM PM	167.2 419.5 73.7	F F F
2	Seahill Drive-Tramonto Drive/ Palos Verdes Drive South	AM School PM PM	50.4 126.7 46.7	F F D
3	Barkentine Road/ Palos Verdes Drive South	AM School PM PM	28.1 43.5 35.4	D E E
4	Narcissa Drive/ Palos Verdes Drive South	AM School PM PM	64.4 78.7 61.6	F F F
5	Peppertree Drive/ Palos Verdes Drive South	AM School PM PM	37.6 42.2 30.7	E E D
6	Forrestal Drive/ Palos Verdes Drive South	AM School PM PM	106.3 227.3 95.1	F F F
7	Palos Verdes Drive East/ Palos Verdes Drive South	AM School PM PM	41.7 85.4 34.8	E F D

Source: *Linscott, Law and Greenspan, 2019.*



Based on the CEQA Guidelines (Appendix G), impacts related to traffic and circulation would be considered significant if the project would exceed the capacity of the existing circulation system, based on an applicable measure of effectiveness (as designated in a general plan policy, ordinance, etc.), taking into account all relevant components of the circulation system, including but not limited to:

- *Intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit*
- *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*
- *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*
- *Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)*
- *Result in inadequate emergency access*
- *Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)*

As discussed in the Initial Study (Appendix A), the project, by its nature as single family residences, would not result in a change in air traffic patterns by increasing traffic levels or a change in location that results in substantial safety risks. Therefore, as discussed in the Initial Study, no impact to air traffic patterns would occur. Therefore, the following discussion focuses on traffic on the street system, level of service standards established by the City and the county congestion management agency, hazards due to design features, emergency access, and alternative transportation.

b. Project Impacts and Mitigation Measures.

Impact T-1 **The potential increase in vehicles traveling on the surrounding roadway network from buildout under the proposed ordinance revisions would result in significant impacts at four of the study area intersections under existing plus project conditions. In addition, the increase in vehicle trips under cumulative conditions would result in significant impacts at five of the study area intersections. Mitigation Measures T-1(a) through T-1(d) would reduce impacts to a less than significant level at four of the five intersections that would experience significant impacts. However, because feasible mitigation is not available at the Via Rivera/Hawthorne Boulevard intersection, the impact at that location would be Class I, significant and unavoidable.**

Table 4.10-7 shows the change in delay from existing conditions (see Table 4.10-2) to the existing plus project scenario.



Under existing plus project conditions, the proposed project would result in significant impacts at the following four intersections:

- *Via Rivera/Hawthorne Boulevard*
- *Seahill Drive-Tramonto Drive/Palos Verdes Drive South*
- *Narcissa Drive/Palos Verdes Drive South*
- *Forrestal Drive/Palos Verdes Drive South*

Figures 4.10-5, 4.10-6, and 4.10-7 show traffic conditions under Year 2030 Future with Project conditions. Table 4.10-8 shows the change in delay from the Year 2030 Future Pre-project Conditions scenario (see Table 4.10-5) to the Year 2030 Future with Project scenario.

Under cumulative conditions in 2030, the proposed project would result in significant impacts at the following five intersections:

- *Via Rivera/Hawthorne Boulevard*
- *Seahill Drive-Tramonto Drive/Palos Verdes Drive South*
- *Narcissa Drive/Palos Verdes Drive South*
- *Forrestal Drive/Palos Verdes Drive South*
- *Palos Verdes Drive East/Palos Verdes Drive South*

Table 4.10-7
Existing Plus Project Intersection Impacts

#	Intersection	Time Period	Change in Delay	Significant Impact?
1	Via Rivera/ Hawthorne Boulevard	AM	2.0	YES
		School PM	6.9	YES
		PM	1.1	NO
2	Seahill Drive-Tramonto Drive/ Palos Verdes Drive South	AM	0.9	NO
		School PM	3.1	YES
		PM	1.2	NO
3	Barkentine Road/ Palos Verdes Drive South	AM	0.2	NO
		School PM	1.0	NO
		PM	0.7	NO
4	Narcissa Drive/ Palos Verdes Drive South	AM	3.1	YES
		School PM	5.4	YES
		PM	3.4	YES
5	Peppertree Drive/ Palos Verdes Drive South	AM	0.0	NO
		School PM	0.0	NO
		PM	0.0	NO
6	Forrestal Drive/ Palos Verdes Drive South	AM	2.2	YES
		School PM	6.3	YES
		PM	1.7	NO
7	Palos Verdes Drive East/ Palos Verdes Drive South	AM	0.4	NO
		School PM	0.5	NO
		PM	0.2	NO

Source: Linscott, Law and Greenspan, 2019.



**Table 4.10-8
Year 2030 Future with Project Intersection Impacts**

#	Key Intersection	Time Period	Change in Delay	Significant Impact?
1	Via Rivera/ Hawthorne Boulevard	AM School PM PM	5.2 7.8 2.2	YES YES YES
2	Seahill Drive-Tramonto Drive/ Palos Verdes Drive South	AM School PM PM	1.6 5.7 2.4	NO YES YES
3	Barkentine Road/ Palos Verdes Drive South	AM School PM PM	0.6 0.9 1.1	NO NO NO
4	Narcissa Drive/ Palos Verdes Drive South	AM School PM PM	5.2 11.8 5.8	YES YES YES
5	Peppertree Drive/ Palos Verdes Drive South	AM School PM PM	0.0 0.0 0.0	NO NO NO
6	Forrestal Drive/ Palos Verdes Drive South	AM School PM PM	0.1 9.1 5.3	NO YES YES
7	Palos Verdes Drive East / Palos Verdes Drive South	AM School PM PM	0.8 1.7 0.5	NO NO YES

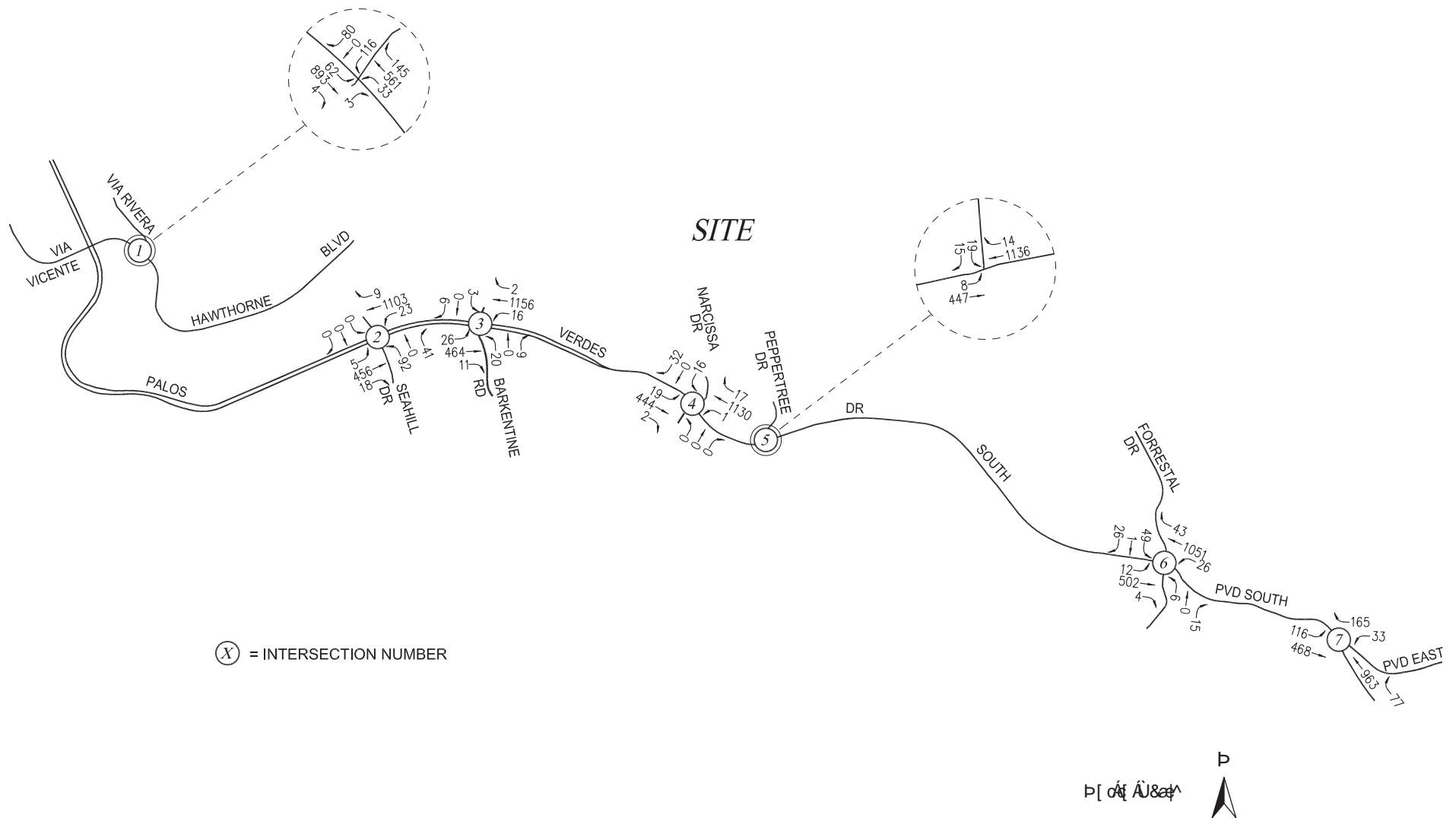
Source: Linscott, Law and Greenspan, 2019.

Because four intersections would exceed thresholds in the existing plus project scenario, and five intersections would exceed thresholds in the Year 2030 Future with Project scenario as identified in Tables 4.10-6 and 4.10-7, impacts would be potentially significant.

Mitigation Measures. As discussed above, the proposed project would result in potentially significant impacts. Mitigation measures T-1(a-d) were designed to reduce impacts at the intersections that would be adversely affected by traffic generated by the project, including Seahill Drive-Tramonto Drive/Palos Verdes Drive South, Narcissa Drive/Palos Verdes Drive South, Forrestal Drive/Palos Verdes Drive South, and Palos Verdes Drive East/Palos Verdes Drive South.

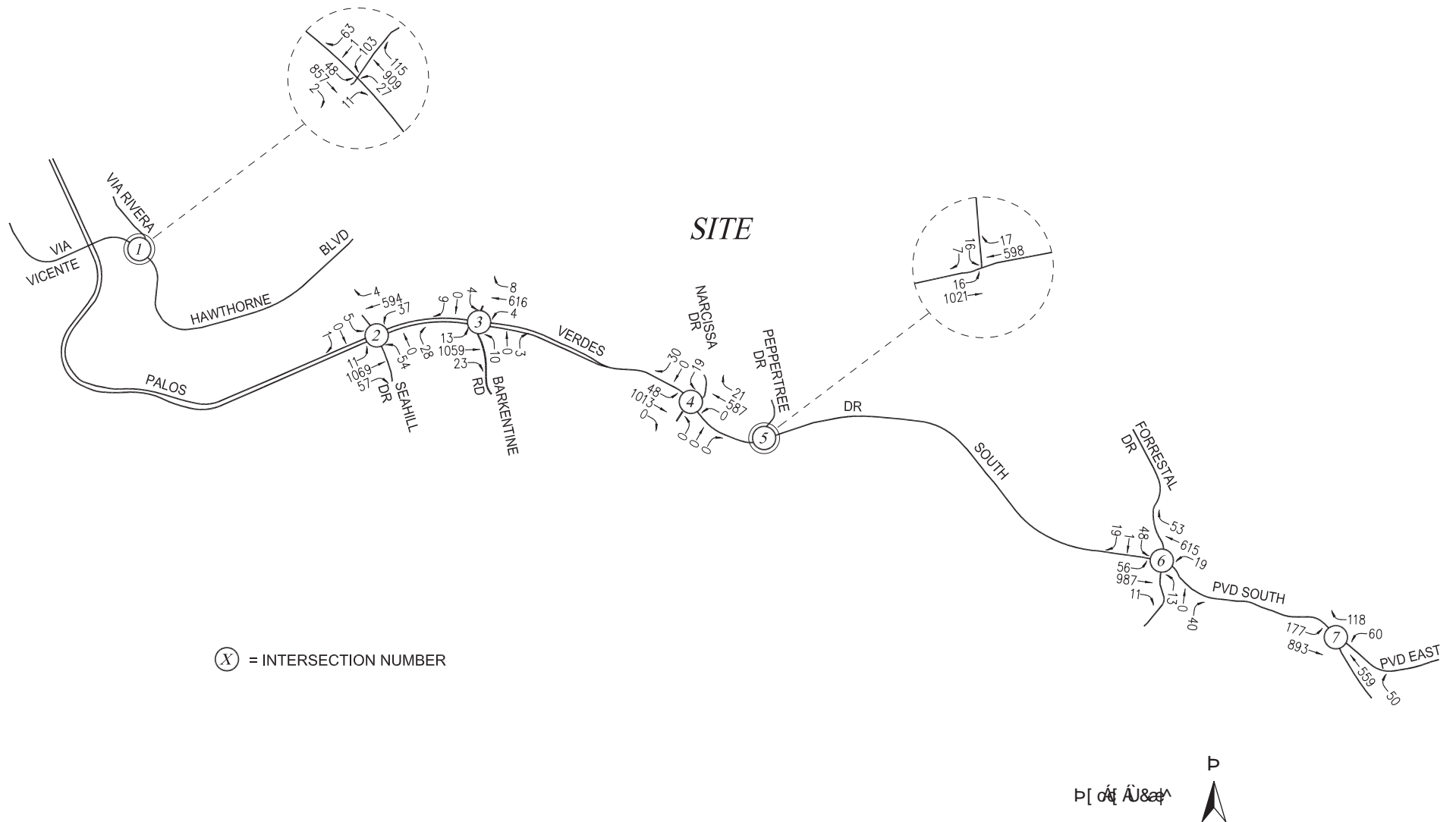
- T-1(a) Seahill Drive-Tramonto Drive/Palos Verdes Drive South.** The City shall provide a two-way left-turn lane on Palos Verdes Drive South within five years of adoption of the Moratorium Ordinance revisions to better facilitate the northbound left-turn movement (i.e., from Seahill Drive) onto westbound Palos Verdes Drive South. *(Note that this improvement is listed in the City of Rancho Palos Verdes General Plan Update).*





Year 2030 Future with Project Traffic Volumes
Weekday AM Peak Hour

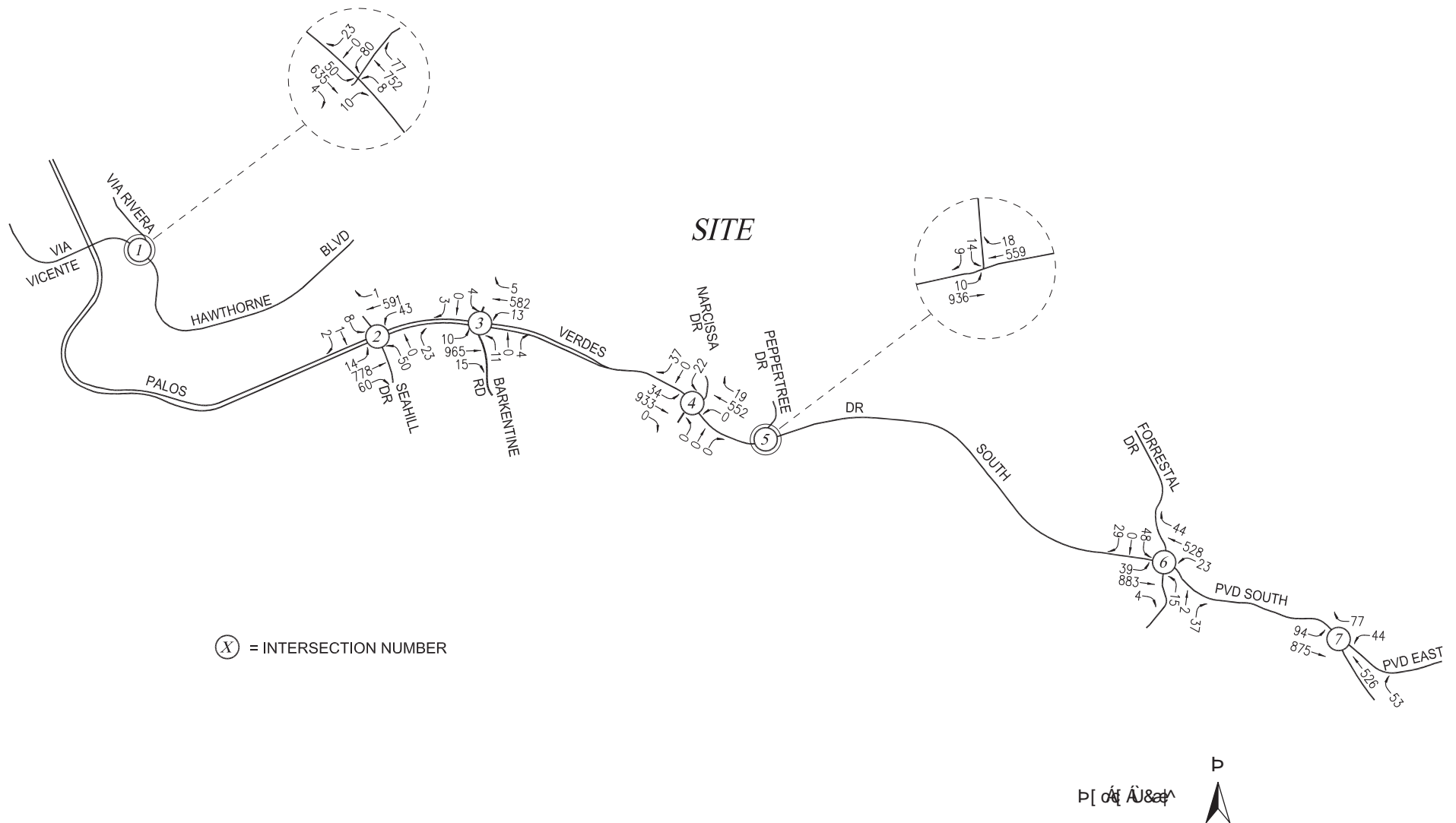
Figure 4.10-5



Year 2030 Future with Project Traffic Volumes
Weekday School PM Peak Hour

Figure 4.10-6

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Year 2030 Future with Project Traffic Volumes
Weekday PM Peak Hour

Figure 4.10-7

- T-1(b) Narcissa Drive/Palos Verdes Drive South.** The City shall provide a two-way left-turn lane on Palos Verdes Drive South, east of Narcissa Drive, within five years of adoption of the Moratorium Ordinance revisions to better facilitate the southbound left-turn movement (i.e., exiting from Narcissa Drive) onto eastbound Palos Verdes Drive South. The existing westbound left-turn lane at Narcissa Drive (which serves one single family home) shall also be converted to a two-way left-turn lane in order to provide a refuge area for exiting Narcissa Drive motorists to turn into and wait prior to accelerating to merge with the eastbound Palos Verdes Drive South traffic flow.
- T-1(c) Forrestal Drive/Palos Verdes Drive South.** The City shall provide a two-way left-turn lane on Palos Verdes Drive South within five years of adoption of the Moratorium Ordinance revisions to provide a deceleration and storage area for left-turn vehicles traveling in either direction. *(Note that this improvement is listed in the City of Rancho Palos Verdes General Plan Update).*
- T-1(d) Palos Verdes Drive East/Palos Verdes Drive South.** The City shall provide a two-way left-turn lane on Palos Verdes Drive South within five years of adoption of the Moratorium Ordinance revisions to provide a deceleration and storage area for left-turn vehicles traveling in either direction. *(Note that this improvement is listed in the City of Rancho Palos Verdes General Plan Update).*

Installation of a traffic signal at the Via Rivera/Hawthorne Boulevard intersection could reduce the impact at that location to a less than significant level, as indicated in the Traffic Impact Study in Appendix G. This potential improvement is listed in the City of Rancho Palos Verdes General Plan Update. However, further study would be required to determine when a signal would be needed, how it would be funded, and whether it may have secondary effects that make it undesirable. Consequently, requiring a signal at the Via Rivera/Hawthorne Boulevard intersection is not considered feasible at this time.

Significance After Mitigation. As shown in Tables 4.10-9 and 4.10-10, Mitigation Measure T-1(a-d) would reduce the potentially significant project-related impacts to four of the study intersections to a less than significant level. However, the impact at the Via Rivera/Hawthorne Boulevard intersection would remain significant and unavoidable. A Statement of Overriding Considerations would be needed for this impact if the City approves the project.

**Table 4.10-9
Existing Plus Project Intersection Impacts Plus Mitigated Intersections**

#	Intersection	Time Period	Change in Delay	Significant Impact?	Existing with Project Mitigation Change in Delay	Mitigated?
2	Seahill Drive-Tramonto Drive/ Palos Verdes Drive South	AM	0.9	NO	---	---
		School PM	3.1	YES	-32.1	YES
		PM	1.2	NO	---	---
3	Barkentine Road/ Palos Verdes Drive South	AM	0.2	NO	---	---
		School PM	1.0	NO	---	---
		PM	0.7	NO	---	---
4	Narcissa Drive/ Palos Verdes Drive South	AM	3.1	YES	-22.1	YES
		School PM	5.4	YES	-26.9	YES
		PM	3.4	YES	-19.8	YES
5	Peppertree Drive/ Palos Verdes Drive South	AM	0.0	NO	---	---
		School PM	0.0	NO	---	---
		PM	0.0	NO	---	---
6	Forrestal Drive/ Palos Verdes Drive South	AM	2.2	YES	-36.6	YES
		School PM	6.3	YES	-74.0	YES
		PM	1.7	NO	---	---
7	Palos Verdes Drive East/ Palos Verdes Drive South	AM	0.4	NO	---	---
		School PM	0.5	NO	---	---
		PM	0.2	NO	---	---

Source: Linscott, Law and Greenspan, 2019.



**Table 4.10-10
Year 2030 Future with Project Intersection Impacts Plus Mitigated Intersections**

#	Key Intersection	Time Period	Change in Delay	Significant Impact?	Future with Project Mitigation Change in Delay	Mitigated?
2	Seahill Drive-Tramonto Drive/ Palos Verdes Drive South	AM	1.6	NO	---	---
		School PM	5.7	YES	-90.7	YES
		PM	2.4	YES	-23.5	YES
3	Barkentine Road/ Palos Verdes Drive South	AM	0.6	NO	---	---
		School PM	0.9	NO	---	---
		PM	1.1	NO	---	---
4	Narcissa Drive/ Palos Verdes Drive South	AM	5.2	YES	-35.8	YES
		School PM	11.8	YES	-48.4	YES
		PM	5.8	YES	-34.9	YES
5	Peppertree Drive/ Palos Verdes Drive South	AM	0.0	NO	---	---
		School PM	0.0	NO	---	---
		PM	0.0	NO	---	---
6	Forrestal Drive/ Palos Verdes Drive South	AM	0.1	NO	---	---
		School PM	9.1	YES	-178.8	YES
		PM	5.3	YES	-65.3	YES
7	Palos Verdes Drive East / Palos Verdes Drive South	AM	0.8	NO	---	---
		School PM	1.7	NO	---	---
		PM	0.5	YES	-14.5	YES

Source: Linscott, Law and Greenspan, 2019.

Impact T-2 **The proposed project would increase traffic levels along roadways in the vicinity of the project area and result in a significant impact at one of two study roadway segments under cumulative conditions. Although Mitigation Measure T-2 would reduce impacts to a less than significant level, this measure may be infeasible. Therefore, the impact to this roadway segment would remain Class I, significant and unavoidable.**

The forecast traffic conditions at the analyzed street segments for existing, Year 2030 future pre-project (i.e., existing traffic volumes, ambient traffic growth and related projects traffic volumes) and Year 2030 future with project analysis scenarios are summarized in Table 4.10-11. As shown in Table 4.10-11, the Palos Verdes Drive South east of Narcissa Drive segment would not meet the City's minimum LOS D standard under the Year 2030 future pre-project and Year 2030 future with project conditions. The impact at this location would be potentially significant.

**Table 4.10-11
Roadway Segments Impacts**

#	Roadway Segment	Total Capacity	Existing Traffic Conditions			Year 2030 with Related Projects Traffic Conditions			Year 2030 with Related Projects and Proposed Project Traffic Conditions		
			Daily Volume	V/C	LOS	Daily Volume	V/C	LOS	Daily Volume	V/C	LOS
1	Palos Verdes Drive South west of Narcissa Drive (4-Lane Divided Arterial)	36,100	14,112	0.391	A	16,134	0.447	A	16,328	0.452	A
2	Palos Verdes Drive South east of Narcissa Drive (2-Lane Divided Arterial)	17,900	15,360	0.858	D	17,216	0.962	E	17,316	0.967	E

Source: Linscott, Law and Greenspan, 2019.

Mitigation Measure. Mitigation Measure T-2 is designed to reduce impacts to the segment of Palos Verdes Drive South east of Narcissa Drive.

T-2 Palos Verdes Drive South east of Narcissa Drive. Palos Verdes Drive South shall be converted from a 2-lane divided arterial to a 4-lane divided arterial. *(Note that this improvement is listed in the City of Rancho Palos Verdes General Plan Update).*

This measure would require elimination of the existing bicycle lanes along Palos Verdes Drive South, which may not be feasible.

Significance After Mitigation. Mitigation Measure T-2 would reduce the potentially significant impact to a less than significant level. However, as noted above, elimination of existing bicycle lanes may not be feasible. Assuming that elimination of bicycle lanes is not feasible, the impact at this intersection would remain significant and unavoidable. A Statement of Overriding Considerations would be needed for this impact if the City approves the project.



Impact T-3 Based on Los Angeles County CMP criteria, impacts to CMP identified freeway monitoring segments and arterial intersections as a result of buildout under the proposed project would be Class III, less than significant.

The CMP is a state-mandated program that was enacted by the State Legislature with the passage of Proposition 111 in 1990. The program is intended to address the impact of local growth on the regional transportation system.

Freeway monitoring locations. The CMP Traffic Impact Assessment (TIA) guidelines require that a traffic impact assessment must be prepared if the proposed project adds 150 or more trips (in either direction) during either the AM or PM weekday peak periods. The proposed project would not add 150 or more trips (in either direction) during either the AM or PM weekday peak hours to the CMP freeway monitoring location. Therefore, no further review of potential impacts to CMP freeway monitoring locations is required.

Intersection monitoring locations. The following CMP intersection monitoring locations have been identified in the project vicinity:

<u>CMP Station</u>	<u>Intersection</u>
Int. No. 58	Pacific Coast Highway at Western Avenue
Int. No. 84	Western Avenue at 9th Street
Int. No. 128	Western Avenue at Toscanini Drive
Int. No. 151	Pacific Coast Highway at Crenshaw Boulevard
Int. No. 152	Pacific Coast Highway at Hawthorne Boulevard
Int. No. 153	Pacific Coast Highway at Palos Verdes Boulevard

The CMP TIA guidelines require that intersection monitoring locations must be examined if the proposed project would add 50 or more trips during either the AM or PM weekday peak periods. The proposed project would not add 50 or more trips during the AM or PM peak hours at the CMP monitoring intersection. As such, no further review of potential impacts to intersection monitoring locations that are part of the CMP highway system is required.

Transit Service. As required by the 2010 Congestion Management Program for Los Angeles County, a review has been made of the CMP transit service. Existing transit service is provided in the vicinity of the proposed project. The project trip generation, as shown in Table 4-10-5-2, was adjusted by values set forth in the CMP (i.e., person trips equal 1.4 times vehicle trips, and transit trips equal 3.5 percent of the total person trips) to estimate transit trip generation. Pursuant to the CMP guidelines, the proposed project is forecast to generate demand for two (2) transit trips during the weekday AM peak hour, two (2) transit trips during the weekday PM peak hour, and 15 daily transit trips during the weekday. The calculations are as follows:

- *Weekday AM Peak Hour* = $23 \times 1.4 \times 0.035 = 2$ Transit Trips
- *Weekday PM Peak Hour* = $31 \times 1.4 \times 0.035 = 2$ Transit Trips
- *Weekday Daily Trips* = $293 \times 1.4 \times 0.035 = 15$ Transit Trips



Five bus transit lines and routes are provided adjacent to or in close proximity to the project area, with two of these transit lines and routes directly serving the Portuguese Bend community. A total of two different bus transit providers provide service within the study area. These five transit lines provide service for an average (i.e., an average of the directional number of buses during the peak hours) of approximately 13 buses during the AM peak hour and roughly 11 buses during the PM peak hour. Therefore, based on the above calculated peak hour transit trips, this would correspond to less than one transit rider per bus. Given the low number of generated transit trips per bus, impacts on existing or future transit services in the project area would not be significant.

Mitigation Measures. Mitigation is not required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact T-4 Access to the project area during construction activity and during the operational phase of the project would be provided via Palos Verdes Drive South. Although construction traffic would be temporary, it could potentially exceed City significance thresholds during peak construction periods. Mitigation would reduce, but not avoid this potential. Therefore, temporary construction impacts related to access and circulation would be Class I, *significant and unavoidable*.

Vehicular access to the project area during construction, during the operational phase of the project and during an emergency evacuation would be provided via the existing access gates at Narcissa Drive and Peppertree Drive. All streets in the Portuguese Bend community are private, and the community itself is gated. The gates restricting access to the community on Narcissa Drive and Peppertree Drive are set back approximately 190 and 90 feet from Palos Verdes Drive South, respectively. The lane configurations, as described above in the *Setting*, would remain the same as currently exists.

Construction Traffic. During peak building construction activities (using the highly conservative assumption that all 31 lots would be under construction concurrently), construction worker vehicles and trucks would generate up to approximately 468 passenger car equivalents (PCE) (220 daily worker trips and 248 daily PCE truck trips). The inbound and outbound construction worker trips are anticipated to occur primarily outside of the AM and PM commuter peak hours. Haul trucks and delivery trucks would access the project area via Palos Verdes Drive South. PBCA Architectural Standards ban construction traffic on Narcissa Drive; therefore, construction-related oversize vehicles would need to use Peppertree Drive. Based on these facts and again assuming that all 31 lots are under construction concurrently, a total of six material delivery trucks per hour are anticipated to be generated to/from the project area during peak construction activities. Given that the proposed project upon operation is expected to generate 23 and 31 vehicle trips during the weekday AM and PM peak hours, respectively, resulting in significant traffic impacts at five locations, it can be concluded based on a comparative review of trip generation that on a temporary basis construction activities would also result in significant impacts during this peak phase. Construction activities would

be temporary in nature and it is unlikely that construction of all 31 units would occur simultaneously. Nevertheless, construction-related impacts would be significant.

Some neighbors have expressed concern that construction vehicles may cause damage to project area roads and driveways. Substantial road damage from construction vehicles used for existing homes in the area has not been reported as a result of other construction in the vicinity and the number and size of vehicles associated with construction of the 31 individual homes that could be built as part of the proposed project would not be expected to involve larger or heavier equipment or vehicles than what has been used for past construction activity. Nevertheless, roadway damage remains a possibility. This is not a potential environmental effect under CEQA, but individual property owners developing properties would be responsible for repair of any damage to roadways caused by construction vehicles.

Emergency Access. A total of approximately 165 homes can be accommodated within the Portuguese Bend community, including 111 homes in the project area (i.e., which includes the 31 additional single family homes analyzed as part of the proposed project, the 11 entitled lots, as well as 69 developed lots within the project area) based on review of available aerial photography records/files. Field observations were conducted by LLG Engineers in order to verify existing signage, traffic control and pavement widths associated with the private roadways within the Portuguese Bend area (see Appendix G for the Transportation Impact Study). Narcissa Drive has a pavement width of roughly 23 feet north of the existing gate (north of Palos Verdes Drive South) and the pavement width generally varies between 22 feet and 24 feet in width along its length. Peppertree Drive has a pavement width of roughly 22 feet north of the existing gate (north of Palos Verdes Drive South) and the pavement width generally varies between 22 feet and 24 feet in width along its length. The roadways are of sufficient width to allow large vehicles (i.e., fire engine type trucks) to access the Portuguese Bend area.

Evacuation from a wildfire is the primary consideration for public safety during such an emergency. The law enforcement agencies' primary responsibility during a wildland fire is to assist in evacuation of an area. Residents are expected to follow the evacuation routes as communicated and directed by Los Angeles County fire personnel via local roads and onto either Narcissa Drive or Peppertree Drive to exit the area via Palos Verdes Drive South.

A study documenting the number of existing residential units and potential future residential units for the Portuguese Bend area that would utilize either Narcissa Drive or Peppertree Drive to evacuate has been prepared as part of the Transportation Impact Study (see Appendix G). Given an overall gateway distribution of 56 percent via Narcissa Drive and 44 percent via Peppertree Drive associated with the future potential homes (i.e., 18 via Narcissa Drive and 13 via Peppertree Drive), the total number of existing and future homes expected to evacuate via Narcissa Drive totals 86 homes (i.e., 68 existing and up to 18 future homes) and via Peppertree Drive totals 79 homes (i.e., 66 existing and up to 13 future homes). Based on this, during an emergency evacuation approximately 172 vehicles are forecast to exit via Narcissa Drive and 158 vehicles are forecast to exit via Peppertree Drive. The study estimates that the clearing time to evacuate the vehicles traveling south on Narcissa Drive would be approximately 1.1 minutes and the time to evacuate the vehicles traveling south on Peppertree Drive would be approximately 1.1 minutes. The study was based on two emergency access routes, with vehicles



in a street facing position with traffic control provided such that no stops are needed. The conditions of the study were assumed, as in the likelihood of an emergency evacuation, advance warning would be provided and voluntary evacuations will be requested by Fire Department personnel. As concluded in the Transportation Impact Study, a total evacuation time of 20 minutes is ideal, but in no case should be time exceed 30 minutes. Thus, the estimated clearing time is within an acceptable range for evacuation purposes.

The study also includes an evaluation of the number of access points (exit roads). For a total number of households of between 51 and 300 homes, the minimum number of exit roads is two and the maximum number of households per exit totals 150 homes. Since the Portuguese Bend community has been constructed with two exit roads and a total of 86 and 79 total households are forecast to exit the Narcissa Drive and Peppertree Drive gateways, respectively, the design of the roadway system with respect to number of exit roadways and number of households per exit is concluded to be adequate for emergency evacuation purposes. Thus, these access points are considered to be adequate for the proposed project. Impacts would not be significant.

Construction Traffic Implications During an Evacuation. Accounting for the addition of the construction worker and construction truck trip generation/vehicles (while subtracting the future resident vehicles from the evacuation analysis), the evacuation clearance times discussed above (1.1 minutes for both Narcissa Drive and Peppertree Drive) would increase to 1.4 minutes for Narcissa Drive and 1.3 minutes for Peppertree Drive, respectively. It should also be noted that the provisions for resident evacuation would also apply to construction-related vehicles and personnel. Therefore, it can be concluded that these clearance times would increase by approximately 0.3 minutes (18 seconds) and 0.2 minutes (12 seconds) for the Narcissa Drive and Peppertree Drive access points, respectively. Although clearance times would increase during construction by 18 seconds and 12 seconds, respectively, the times are still within an acceptable range for evacuation purposes. Impacts would not be significant.

Mitigation Measures. All construction contractors would need to gain City approval of haul routes and construction traffic is generally expected to avoid peak traffic hours. In addition, the following measures are proposed to further minimize impacts:

- T-4(a) Maintain Access.** Maintain existing access for land uses in proximity to the project area.
- T-4(b) Lane Closure Restrictions.** Limit any potential lane closures to off-peak travel periods.
- T-4(c) Material Deliveries.** Schedule receipt of construction materials during non-peak travel periods and coordinate deliveries to reduce the potential of trucks waiting to unload for extended periods of time.
- T-4(d) Parking Restrictions.** Prohibit parking by construction workers on adjacent streets and direct construction workers to available parking as determined in conjunction with City staff.



T-4 (e) Portuguese Bend Community Association (PBCA) Building Regulations and Architectural Standards. Construction activities shall adhere to the following PBCA regulations and standards:

1. *All construction vehicles must be parked on-site and may not be parked on the streets within PBCA. The entrance gate parking area may be used if requested in advance and vehicles will be required to display parking passes.*
2. *Contractor shall not track mud on to the streets from construction vehicles*
3. *Large truck deliveries must enter and exit from the Peppertree Gate. Semi-trucks allowed for heavy equipment delivery only. All other deliveries limited to 3 axle or smaller trucks.*
4. *Concrete Deliveries: Only one truck on-site at a time. Second and third trucks can stay on Narcissa or Sweetbay. No more than three trucks in PBCA at a time. All trucks must enter and exit through the Peppertree Gate.*

Significance After Mitigation. The above measures would limit temporary construction impacts to the degree feasible and, as noted above, construction on all 31 properties is unlikely to occur simultaneously. Nevertheless, because impacts could temporarily exceed City thresholds, construction impacts are conservatively determined to be significant and unavoidable. A Statement of Overriding Considerations would be needed for this impact if the City approves the project.

Impact T-5 Development facilitated by the proposed project would not conflict with adopted policies, plans, or programs supporting alternative transportation. Impacts relating to alternative transportation would be Class III, less than significant.

The proposed Landslide Moratorium Ordinance revisions would facilitate development of up to 31 new residences within the Zone 2 project area. As described in Impact T-3, five bus transit lines and routes are provided adjacent to or in close proximity to the project area, with two of these transit lines and routes directly serving the Portuguese Bend community. A total of two different bus transit providers provide service within the study area. These seven transit lines provide service for an average (i.e., an average of the directional number of buses during the peak hours) of approximately 13 buses during the AM peak hour and roughly 11 buses during the PM peak hour.

The Portuguese Bend community is a private/gated residential community. The proposed project would allow the owners of existing vacant or underutilized lots to build residential units. As such, no new development types or patterns within Portuguese Bend are proposed. Thus, the project would be consistent with the existing pattern of development and would not conflict with policies relating to alternative transportation modes. Impacts relating to alternative transportation would not be significant.

Mitigation Measures. Impacts would be less than significant; therefore, mitigation is not required.

Significance after Mitigation. Impacts would be less than significant without mitigation.



c. Cumulative Impacts. The analysis under Impact T-1 considers cumulative growth through the year 2030. As noted under that discussion, cumulative growth would result in cumulative impacts at five of the seven study intersections that are forecast to operate at adverse levels of service (LOS E or worse during either the AM, School PM, or PM peak hours under Year 2030 Future with Project conditions). Mitigation Measures T-1(a-d) would reduce impacts at four of the five significantly intersections to a less than significant level, but feasible mitigation is not available for the Via Rivera/Hawthorne Boulevard intersection. As discussed under Impact T-2, cumulative growth through the year 2030 would result in cumulative impacts at the Palos Verdes Drive South east of Narcissa Drive roadway segment. Although Mitigation Measure T-2 would reduce impacts at this segment to a less than significant level, implementation of this measure would be infeasible due to the associated removal of bicycle lanes along Palos Verdes Drive South. As such, cumulative impacts at this segment and the Via Rivera/Hawthorne Boulevard intersection are considered significant and cumulatively considerable. The City would need to adopt a Statement of Overriding Considerations for this impact if it approves the project.

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4.11 UTILITIES AND SERVICE SYSTEMS

This section analyzes the proposed project's potential impacts to the City's wastewater conveyance infrastructure system. Storm drain infrastructure issues are discussed in Section 4.6, < n X c ` c [n l b X K U h f E i U] h m

4.11.1 Setting

a. Project Area Setting. The City of Rancho Palos Verdes sanitary sewer services are provided by the County Sanitation Districts of Los Angeles County. Due to landslide hazards in the Portuguese Bend area of the Palos Verdes Peninsula, which were exacerbated by leachate that drains underground from residential septic systems, the Abalone Cove Landslide Abatement District was established in 1980, with the City's Redevelopment Agency responsible for, among other things, the funding and installation of a sanitary sewer system to serve this area. To help stabilize this landslide area the Abalone Cove Sewer System was installed in 2001 pursuant to applicable code regulations at the time. The Abalone Cove Sewer Conveyance System is the only system in the City that is owned, operated and maintained by the City, with the remainder of the City continuing to be served by the County Sanitation Districts of Los Angeles County (CSDLAC). The City collects fees from property owners through the Abalone Cove Sewer Fee for the operation, maintenance and improvements to the system. The owner of any new lots that connect to the existing system would be required to pay fees if not already doing so.

The Abalone Cove Sewer System consists of 44 grinder pumps, 130 manholes, one diversion structure, approximately 19,000 linear feet of gravity pipeline, 19,615 feet of low pressure pipeline, 2,505 linear feet of force main, and four lift stations. Wastewater from the Abalone Cove Sewer System is conveyed to a pump station, where it is connected to a trunk sewer network maintained by the CSDLAC. The flow would enter the Districts' Joint Outfall J Unit IG Trunk Sewer, located in Palos Verdes Drive South just west of Seacove Drive. This 21-inch diameter trunk sewer has a design capacity of 4.5 million gallons per day (mgd) and conveyed a peak flow of 2.5 mgd when last measured in 2010. Wastewater is conveyed via this trunk sewer network to the CSDLAC Joint Water Pollution Control Plant (JWPCP) located in the City of Carson. The JWPCP has a capacity of 400 million gallons per day and currently average daily flows are approximately 257 million gallons per day (JWPCP 2017 Annual Performance Data).

The City's Public Works Department reports two overflows in the system since its installation and the replacement of ten grinder pumps since July of 2017. The Public Works Department reports that the replacement of grinder pumps is a result of foreign objects making their way into the system and stopping the pumps. The Public Works Department reports that it is the City's work practice to remove and replace failed grinder pumps as soon as possible.

Currently 69 project area lots are developed with single family residences (115 system wide), owners of 11 lots in the project area have obtained planning entitlements for development via Exception "P", and 31 lots are undeveloped with no entitlements. Only 69 of the 111 lots in the project area are currently connected to the Abalone Cove sewer wastewater conveyance system. The remaining 31 undeveloped lots and 11 lots with planning entitlements are in the service



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area, but are not connected to the conveyance system. As shown below in Table 4.11-1, the 69 existing single family residences generate approximately 17,940 gallons of wastewater per day. The Abalone Cove Sewer System Management Plan (SSMP - John L. Hunter and Associates, Inc. 2015) indicates that the current rate structure in place in the Abalone Cove area is sufficient to fund the maintenance of the current system and that the existing grinder pumps and low pressure main connections are adequate for current flow scenarios. The Abalone Cove Sewer Capacity Report (City of Rancho Palos Verdes 2019 – see Appendix H) indicates that the capacities of all components of the Abalone Cove sewer system are adequate for projected flows in the area.

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Wastewater Regulatory Setting. The City's sewer system is subject to Section 201 of the Federal Clean Water Act (CWA). According to the CWA, the City must adopt a facilities plan in accordance with the United States Environmental Protection Agency (USEPA) Rules and Regulations, 40 CFR, Section 35.917. Section 201 specifies the following:

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The City commissioned the Abalone Cove Sewer System Management Plan (SSMP) in 2015 to comply with the Regional Water Quality Board requirements. The SSMP includes capacity analysis, maintenance schedules, and capital improvement plans.

7cbj YnubW The Los Angeles Regional Water Quality Control Board (LARWQCB) enforces Section 122.41(m) of part 40 of the Code of Federal Regulations (CFR), which prohibits the bypassing of water treatment facilities and sanitary sewer overflows.

In addition to the LARWQCB, the sewer conveyance system is subject to regulation by the South Coast Air Quality Management District, which responds to claims regarding odors.



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4.11.2 Impact Analysis

a. Methodology and Significance Thresholds. Based on Appendix G of the 79E 5 ; i jXYjbYg the proposed project could have a potentially significant impact to utilities and service systems if it were to:

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- Å FYēi jFYcf'fYg` h]b h YWbgfi Wjcb'cZbYk k Uhf'cf'k Ughk Uhf hfYUa YbhZUW]hYgcf` Y dUbgjcb'cZY jghb[ZUW]hYgzh YWbgfi Wjcb'cZk \jWwÅ XWj gYg[b]ZWbh Ybj jfcbā YbU YZMg`
- Å FYēi jFYcf'fYg` h]b h YWbgfi Wjcb'cZbYk ghfa k Uhf XfUjU YZUW]hYgcf` Y dUbgjcb'cZ Y jghb[ZUW]hYgzh YWbgfi Wjcb'cZk \jWwÅ XWj gYg[b]ZWbh Ybj jfcbā YbU YZMg`
- Å < U Yg ZWbhk Uhf'g dd jYgUj U UVYrc gYfj Yh Ydfc WwZca Y jghb[YbhYā YblgUbX fYgi fYgzc' fYbYk 'cf Y dUXXYbhYā YblgYXX`
- Å FYg` h]b UXhfa jUjcb Vnh Yk Ughk Uhf hfYUa Ybhd'cj jXf'k \jWgYfj Ygcf'a UhgYfj Y h Ydfc WwUj h UgbUXēi UYwUWmhc gYfj Yh Ydfc Wwgd'c WwXXā UbX]b UXj]cb` hc h Ydfc jXf'g Y jghb[Wā a jha Yblg`
- Å 6YgYfj YXmU UbX` k jh g ZWbhdfā jhXWUWmhc UWā a cUj h Ydfc Wwgd'c jX` k UghYgdcg UbYXg`
- Å 7ca d'nk jh ZXFUzg hZUbX` cW gh h gUbXfY i UjcbgfYUjX'g' jXk UghY`

As discussed in the Initial Study (Appendix A), the project would not result in significant impacts related to water supply, landfill capacity or solid waste regulations (the fourth, sixth and seventh bullets above). As noted above, impacts related to drainage facilities are discussed in Section 4.8, < nX'c' nUbXX Uhf Ei U]hm Therefore, the following discussion focuses on wastewater facilities and infrastructure.

The environmental impacts of the proposed project with respect to wastewater are determined based on the potential increase in wastewater generation from buildout under the proposed ordinance revisions and the capacity of existing and proposed wastewater treatment facility and infrastructure. The existing sewer capacity and wastewater generation is compared to the proposed project's potential wastewater generation, including improvements associated with the on-site development. Wastewater generation is estimated based on water demand rates from the City of Rancho Palos Verdes Annual Report – Abalone Cove Sewer Maintenance Fee – FY 2014-15.

b. Project Impacts and Mitigation Measures.

Impact U-1 Wastewater conveyance and treatment systems are adequate to serve the potential for up to 42 new residences to be built in the project area. However, the 31 individual new residences that could be constructed under the proposed ordinance revisions would require the extension of wastewater conveyance facilities. This impact would be Class II, *less than significant with mitigation incorporated.*



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As previously discussed, wastewater from the Abalone Cove Sewer System is conveyed via a trunk sewer network to the CSDLAC Joint Water Pollution Control Plant (JWPCP) located in the City of Carson. This wastewater treatment plant provides both primary and secondary treatment for approximately 3.5 million people throughout Los Angeles County. The JWPCP has a capacity of 400 million gallons per day and currently average daily flows are approximately 257 million gallons per day (JWPCP 2017 Plant Performance Data). Thus, the plant has a remaining daily capacity of approximately 143 million gallons per day. As shown below in Table 4.11-2, full buildout under the proposed ordinance revisions would generate approximately 8,060 gallons of wastewater per day. This increase would be well within the existing unused capacity of the JWPCP.

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In May 2006, the State Water Resources Control Board adopted Statewide General Waste Discharge Requirements (GWDR) for publicly owned sanitary sewer systems. The GWDR requires that agencies that own or operate a sanitary sewer system comprised of one mile or more to develop and implement a Sewer System Management Plan (SSMP) that documents a comprehensive program for sewer system operation, maintenance and repair. In compliance with this requirement, the City of Rancho Palos Verdes Public Works Department prepared the City of Rancho Palos Verdes SSMP, which was adopted in 2009. The City has an SSMP for the Abalone Cove sewer system, which is updated every five years and was updated in 2015 and amended in 2018."As noted in the Setting, hydraulic modeling conducted as part of the SSMP identified potential capacity-related deficiencies. However, the 2019 Abalone Cove Sewer Capacity Report indicates that the capacities of all components of the Abalone Cove sewer system are adequate for projected flows in the area. The design, approval and construction of individual connections to the sewer system would occur at such time as the 31 undeveloped lots are developed. As proposals for development of the 31 lots are submitted to the City for approval, each developer would be required to comply with the City requirements to provide adequate sewer connections for each new residence. Adherence to City requirements and mitigation measures U-1(a) and U-1(b) would reduce impacts related to wastewater conveyance to a less than significant level.

Mitigation Measures. The following measures would ensure that impacts related to the need for individual sewer connections would be less than significant.

- U-1(a) Participation in Geotechnical Hazard Abatement.** Future project area applicants shall participate in existing or future geological and geotechnical hazard abatement requirements of the City, including but not limited to any easement required by the City to mitigate landslide conditions and the items listed in Measures GEO-3(a) and GEO-3(b) in



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Section 4.5, ; Yc/mCompliance with such measures shall be verified by the Director of Community Development or his/her designee, prior to the issuance of any grading or building permit.

U-1(b) Review and, as Necessary, Upgrade of Project Area Sewer System. The City shall update the Abalone Cove Sewer Capacity Report biannually. If deficiencies in the project area sewer system are identified as part of the biannual update, such deficiencies shall be corrected to the satisfaction of the City prior to or in conjunction with any future project area development that would add to or be affected by such deficiencies.

Significance After Mitigation. Project area development impacts to the wastewater conveyance infrastructure would be less than significant with implementation of the above mitigation measures, which would ensure that necessary system improvements are implemented.

c. Cumulative Impacts. Cumulative projects in and around Rancho Palos Verdes, as listed in Table 3-1 in Section 3.0, 9bj Jfcbā YbU'GYHb[, would incrementally increase wastewater generation in the City of Rancho Palos Verdes, but the increase is not expected to exceed wastewater treatment capacity. The proposed development would incrementally contribute to the cumulative increase in wastewater generation, but as discussed under Impact U-1 would not adversely affect wastewater treatment capabilities. All new development would be subject to existing regulations relative to wastewater generation and impacts associated with individual developments would be addressed on a case-by-case basis as needed. With implementation of the project-specific mitigation measures listed above the project's contribution to wastewater impacts would not be cumulatively considerable.

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4.12 TRIBAL CULTURAL RESOURCES

This section analyzes potential impacts to tribal cultural resources. The discussion is based in part on the findings of a Cultural Resources Records Search Summary performed by Historical, Environmental, Archaeological, Research Team (H.E.A.R.T.) (H.E.A.R.T., April 2010) as well as consultation with the Gabrieleno Band of Mission Indians - Kizh Nation. The cultural resources report is available for review by qualified personnel at the City's Community Development Department offices. There is no evidence to suggest the cultural/tribal cultural resource conditions have changed in the project area since the preparation of the 2010/2011 studies.

4.12.1 Setting

a. Tribal Cultural Overview. An archaeological overview of the region is provided in Section 4.4, *Cultural Resources*. Below is a tribal cultural overview of the project area. The following information about the use of the project area by Gabrieleno was provided by the Gabrieleno Band of Mission Indians as part of the tribal consultation conducted for the project in February 2019.

Numerous Gabrieleno villages overlapped one another in the Palos Verdes Peninsula. All villages were spread out among the rolling hills of the Palos Verdes Peninsula and they utilized all the land within the peninsula for seasonal or permanent hamlets, seasonal or permanent trade depots, seasonal or permanent homesites, ceremonial and religious prayer sites, as well as burials and cremation sites of our ancestors. The Zone 2 boundaries are within the area for the village of Tovemungna and the surrounding overlapping villages.

A landscape feature in Zone 2 comprised of a plateau with adjacent canyons overlooking low ground and the ocean were heavily used for homesites, ceremony, and regular daily activities. These areas were gathering areas for human activity that occurred over thousands of years, not just a few hundred years of documented history. This unique land area was coveted for use in ceremonies and homesites; therefore, these locations have a higher probability to still contain tribal cultural artifacts.

South facing views from the project area show the ocean viewscape with Catalina and San Clemente in the distance. All islands were sacred with Catalina being a ceremonial and sacred island because it was one of the closest land masses that was inhabited that was also closest to the setting sun. Shaman on the mainland utilized these viewsapes to the islands because they were important symbols during ceremonies on the mainland.

All water sources in the project area were used by Gabrieleno for life sustenance. Along these watercourses and water bodies occurred seasonal or permanent hamlets, seasonal or permanent trade depots, ceremonial and religious prayer sites, and burials and cremation sites of our ancestors and they were also used as trade routes for visiting of family, going to ceremony, accessing recreation areas, and accessing foraging areas. Within and around these watercourses often still contain isolated burials and cremations from folks who died along these watercourses. These isolated burials are not associated with a village community burial site or ceremonial burial site, rather the location is simply where the person died and was buried



where they died. Therefore, isolated burials are more concentrated and likely to occur in proximity to water courses, especially the major water courses used as trade routes.

c. Records Search Results. As discussed in Section 4.4, *Cultural Resources*, a record search performed by archaeologist Wayne Bonner of the South Central Coastal Information Center on April 15, 2010 indicated that no previously recorded prehistoric or historic archaeological or tribal cultural sites are present in the project area. Table 4.5-1 in Section 4.4 and the bulleted list following the table describe previously recorded archaeological resources in proximity to the project area.

d. Regulatory Setting. As of July 1, 2015, California Assembly Bill 52 of 2014 (AB 52) was enacted and expands CEQA by defining a new resource category, “tribal cultural resources.” AB 52 establishes that “A project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment” (PRC Section 21084.2). It further states that the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3).

PRC Section 21074 (a)(1)(A) and (B) defines tribal cultural resources as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe” and is:

1. *Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or*
2. *A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying these criteria, the lead agency shall consider the significance of the resource to a California Native American tribe.*

AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified. Under AB 52, lead agencies are required to “begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project.” Native American tribes to be included in the process are those that have requested notice of projects proposed within the jurisdiction of the lead agency.

4.12.2 Impact Analysis

a. Methodology and Significance Thresholds. This assessment is based on information gathered and analyzed in the cultural resources study (H.E.A.R.T., 2010) as well as information provided by the Gabrielino Band of Mission Indians as part of the AB 52 consultation for the project. The cultural resources study consists of an archival records search. As described in the *Setting*, a records search was conducted at SCCIC located on the CSU Fullerton campus.

Tribal cultural resource impacts are considered significant if the proposed project would:

- *Cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 that is listed or eligible for listing in the California Register*



of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)

- *Cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 2024.1*

b. Project Impacts and Mitigation Measures.

Impact TCR-1 Potential development that the proposed ordinance revisions could facilitate on the undeveloped lots, which could include up to 1,000 cubic yards of grading per lot, has the potential to disturb as-yet undetected areas of tribal cultural significance. This is a Class II, *less than significant with mitigation incorporated, impact.*

No previously recorded tribal cultural resources were identified in the project area during the cultural resources records search performed for the project. However, as discussed in the *Setting*, several sites of archaeological significance have been identified within ½-mile of the project area and the area has been identified as being of tribal cultural sensitivity. Specifically, the project area is located in and around a sacred village, adjacent to sacred water courses/trade routes and is within a sacred landscape for ceremonies and homesites. The likelihood of finding intact significant tribal cultural resources is low due to historic grading and development on many properties, as well as grading limitations put in place by the Portuguese Bend Community Association and the City's zoning regulations. Nevertheless, construction activity for the residential units that could be allowed under the proposed revisions to the Landslide Moratorium Ordinance would involve earthwork such as grading and trenching, which has the potential to unearth yet-to-be discovered tribal cultural resources. Therefore, although no significant tribal cultural resources are expressly known to occur in the project area, impacts to as-yet undetected tribal cultural resources would be potentially significant.

Mitigation Measures. Measure CR-1 in Section 4.4, *Cultural Resources*, would eliminate impacts to as-yet unknown tribal cultural resources through monitoring of construction activity, consultation with Native American tribes, and avoidance and of any identified significant resources.

Significance After Mitigation. With implementation of Measure CR-1 in Section 4.4, potential impacts relating to grading on individual lots of the project area to as-yet unknown tribal cultural resources would be reduced to a less than significant level through the identification and avoidance and/or cataloging of tribal cultural resources.

c. Cumulative Impacts. Cumulative development in the City, as described in Section 3.0, *Environmental Setting*, would have the potential to disturb areas with as-yet unknown tribal cultural resources. However, each development proposal is reviewed by the City and undergoes environmental review when it is determined that there is the potential to encounter significant resources. In the event that significant resources are discovered, impacts to such resources would be mitigated on a case-by-case basis. Thus, cultural resource impacts associated with future cumulative development would be less than significant.



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5.0 OTHER CEQA-REQUIRED DISCUSSIONS

This section discusses other issues for which CEQA requires analysis in addition to the specific issue areas discussed in Section 4.0, *Environmental Impact Analysis*. These additional issues include: (1) the potential to induce growth; and (2) significant and irreversible impacts on the environment.

5.1 GROWTH INDUCING EFFECTS

5.1.1 Economic and Population Growth

The *CEQA Guidelines* require a discussion of a proposed project's potential to foster economic or population growth, including ways in which a project could remove an obstacle to growth. Growth does not necessarily create significant physical changes to the environment. However, depending upon the type, magnitude, and location of growth, it can result in significant adverse environmental effects. Growth-inducing potential are therefore considered significant if growth could result in significant physical effects in one or more environmental issue areas. The most commonly cited example of how an economic effect might create a physical change is where economic growth in one area could create blight conditions elsewhere by causing existing competitors to go out of business and the buildings to be left vacant for extended periods.

The proposed project involves revisions to the existing Landslide Moratorium Ordinance which would revise the language of this section of the Rancho Palos Verdes Municipal Code to encompass all 31 undeveloped lots in Zone 2, rather than restricting it to only the Monks plaintiffs' lots. This would allow for the future submittal of LMEs for all of these undeveloped lots. Although no specific development is proposed at this time, it is assumed that up to 31 lots in Zone 2 would be developed over a period of at least 10 years from adoption of the ordinance revisions in a manner consistent with the private architectural standards adopted by the Portuguese Bend Community Association and the City's underlying RS-1 and RS-2 zoning regulations.

Development that would be facilitated by the proposed ordinance revisions could include construction of up to 31 residential units and associated landscape, hardscape and accessory structures. This would generate temporary employment opportunities during construction, which would draw workers from the existing regional workforce. Since the project would involve residential development, operation of the project would not increase employment opportunities and therefore would not be growth-inducing with respect to jobs and the economy.

As discussed in Section 4.2, *Air Quality*, using the California State Department of Finance average household size for Rancho Palos Verdes of 2.7 persons, the 31 dwelling units would generate an average resident population of 84 persons (31 units x 2.7 persons/unit). The current City population is approximately 42,723, according to the most recent (January 1, 2018) California Department of Finance estimate. Therefore, the proposed project would result in a total population of 42,807 persons (42,723 + 84). This increase in population is within the City's SCAG projected population growth of 300 persons between 2012 and 2040. Since the project



would be consistent with the City's SCAG population growth forecasts, growth inducing impacts relating to population growth would be less than significant.

5.1.2 Removal of Obstacles to Growth

The project area is located in an urbanized area that is served by existing infrastructure. Improvements to water, sewer, and circulation systems and drainage connection infrastructure would be needed, but would be sized to specifically serve on-site development. This is primarily because the potential new residences would be built on existing parcels that were part of the original subdivision for the project area, which has the essential infrastructure in place to serve all of the existing lots. Extension of individual services to each potential new residence would therefore not encourage growth beyond that discussed in the EIR (31 new residences on existing lots). As described in Section 4.11, *Utilities and Service Systems*, the design, approval and construction of such wastewater conveyance facilities would be dependent upon the timing of development of the 31 undeveloped lots. As proposals for development of the 31 subject lots are submitted to the City of approval, each developer would be required to comply with the City requirements to provide adequate connections for the on-site development. Adherence to City requirements and mitigation measures U-1 through U-4 would ensure that impacts related to wastewater conveyance would not be significant. Because development would be limited to infrastructure within the 31 undeveloped lots in the project area, project implementation would not remove an obstacle to growth.

5.2 IRREVERSIBLE ENVIRONMENTAL EFFECTS

The *CEQA Guidelines* require that EIRs reveal the significant environmental changes that would occur with project development. CEQA also requires decisionmakers to balance the benefits of a project against its unavoidable environmental risks in determining whether to approve a project. This section addresses non-renewable resources, the commitment of future generations to the proposed uses, and irreversible impacts associated with the project.

The proposed ordinance revisions would result in a long-term commitment of the 31 subject lots to construction of houses and active residential uses. Construction of the new buildings would involve the use of building materials and energy, some of which are non-renewable resources. Consumption of these resources would occur with any development in the area and are not unique to the proposed project. All development would be required to comply with current California's Building Energy Efficiency Standards; thus, energy would not be used in a wasteful manner.

As discussed in Section 4.10, Traffic and Circulation, development accommodated under the proposed ordinance revisions would result in potentially significant impacts to the local circulation system, both in the short term during construction and in the long term. Although mitigation to reduce such impacts has been included in this EIR, feasible measures are not available to reduce all traffic impacts to a less than significant level. Thus, traffic-related impacts would be significant and unavoidable and the City would need to adopt a Statement of Overriding Considerations for these impacts if it approves the proposed ordinance revisions.

6.0 ALTERNATIVES

As required by Section 15126.6 of the *CEQA Guidelines*, this EIR examines alternatives to the on-site development analyzed in this document. Included in this analysis are two alternatives, including the CEQA-required “no project” alternative. This section also identifies alternatives that were considered, but rejected, as well as the Environmentally Superior Alternative.

The following alternatives are evaluated in this EIR:

- *Alternative 1: No Project*
- *Alternative 2: Reduced Building Area Alternative*

Table 6-1 provides a summary comparison of the development characteristics of the alternatives. A more detailed description of the alternatives is included in the impact analysis for each alternative.

Table 6-1
Comparison of Project Alternatives’ Buildout Characteristics

Characteristic	Proposed Project	Alternatives	
		No Project	Reduced Building Area Alternative
Number of Residences	31	0	31
Maximum Living Area Allowed per Lot	4,000 sf	Not applicable	2,500 sf
Maximum Grading Quantity Allowed per Lot	1,000 cubic yards	Not applicable	500 cubic yards
Total Daily Traffic Trips	297	0	297

sf = square feet

6.1 NO PROJECT ALTERNATIVE

6.1.1 Alternative Description

This alternative assumes that the Landslide Moratorium Ordinance revisions would not be adopted and that the 31 vacant parcels would not be developed, and they would remain in their current condition.

6.1.2 Impact Analysis

Aesthetics

This alternative would result in 31 fewer new residential units constructed in the Zone 2 area compared to the proposed project. As such, the No Project alternative would have no new impacts to scenic vistas, visual character, and light and glare. The potential aesthetic impacts of the proposed project would be avoided under this alternative. Because this alternative would have no impact to aesthetics, mitigation would not be required.

Air Quality

This alternative would result in no short-term construction emissions or long-term operational emissions because no new residences would be constructed. The construction and operational emissions of the proposed project would be avoided under this alternative, as would the potential impacts to air quality from these emissions. This alternative would have no impact on air quality. Because this alternative would have no impact to air quality, mitigation would not be required.

Biological Resources

The No Project alternative would involve no alteration of land and disturbance of vegetation because the Landslide Moratorium Ordinance revisions would not be adopted and no new residences would be constructed. Therefore, this alternative would not impact existing vegetation, wildlife habitat, wetlands, trees, or other sensitive biological resources. The No Project alternative would not conflict with adopted habitat-related plans. This alternative would avoid the potential biological impacts of the proposed project, and it would have no impacts. Mitigation would not be required for this alternative.

Cultural and Tribal Cultural Resources

This alternative would not result in grading, excavation, or other ground disturbance. The ground disturbance and resultant potential to impact cultural resources associated with development of the 31 residences under the proposed project would be avoided. The No Project Alternative would have no impact, which would be less than under the proposed project. Mitigation would not be required for this alternative.

Geology

This alternative assumes that the Landslide Moratorium Ordinance revisions would not be adopted and that the 31 vacant parcels would not be developed, and they would remain in their current condition. Because the lots would not be developed with residences, this alternative would not expose new structures or people to slope failure or seismically induced groundshaking.

Because this alternative would not involve construction activities or ground disturbance, the potential for accelerated erosion would be avoided. In addition, because development under this alternative would not occur, there would be no increase in the amount of impermeable surface in the project area. Therefore, adverse impacts from increased or accelerated surface drainage, such as downstream erosion or slope failures, would be avoided. This alternative

would have no impacts to geology and soils, and would avoid the potential impacts of the proposed project. Mitigation would not be required for the No Project alternative.

Greenhouse Gases

This alternative would result in no short-term construction or long-term operational GHG emissions because no new residences would be constructed. The construction and operational GHG emissions of the proposed project would be avoided under this alternative, as would the potential impacts to climate change from these emissions. This alternative would have no impact on climate change or GHG emissions. Because this alternative would have no impact to GHG or climate change, mitigation would not be required.

Fire Protection

This alternative assumes that the Landslide Moratorium Ordinance revisions would not be adopted and that the 31 vacant or underdeveloped parcels would remain in their current condition and would not be developed. Because the lots would not be developed with residences, this alternative would not expose new structures or people to risk of wildland fire. Compared to the proposed project, the No Project alternative would have reduced impacts. Because there would be no impact, mitigation would not be required for this alternative.

Hydrology, Water Quality and Water Availability

Because this alternative would not involve construction activities or ground disturbance, the potential for accelerated erosion and resultant sedimentation of surface waters would be avoided. In addition, because development under this alternative would not occur, there would be no increase in the amount of impermeable surface in the project area. Therefore, adverse impacts from increased or accelerated surface drainage, such as downstream erosion or slope failures, would be avoided. Additionally, because there would be no increase in impervious surface area, the potential for stormwater runoff and precipitation to infiltrate soils would not be reduced. This alternative would have no adverse impacts to hydrology and water quality and would avoid the potential impacts of the proposed project. Mitigation would not be required for the No Project alternative. On the other hand, existing drainage deficiencies in the area would not be addressed under this alternative.

Noise

Temporary noise and vibration impacts due to construction activities under the proposed project would be avoided under this alternative because there would be no new residences constructed. Because there would no new residences constructed, there would be no new on-site uses or increase of traffic of vehicle trips. Therefore, the long-term noise impacts associated with traffic under the proposed project would be avoided under this alternative. The No Project alternative would have no impacts related to noise. This alternative would not require mitigation.

Transportation and Circulation

This alternative assumes that the Landslide Moratorium Ordinance revisions would not be adopted and that the 31 vacant or underdeveloped parcels would remain in their current condition and would not be developed. Because the lots would not be developed with

residences, this alternative would not generate new vehicle trips or traffic delay. The No Project Alternative would have no impacts and would avoid the potentially significant impacts of the proposed project. Because this alternative would have no impacts on transportation and circulation, mitigation would not be required.

Utilities

This alternative assumes that the Landslide Moratorium Ordinance revisions would not be adopted and that the 31 vacant parcels would remain in their current condition and would not be developed. Because the lots would not be developed with residences, this alternative would not generate new demand for utilities or service systems, such as sewer and wastewater conveyance facilities. The No Project Alternative would have no impact and would avoid the potentially significant, but mitigable impacts of the proposed project. Because the No Project Alternative would have no impacts, mitigation would not be required.

6.2 REDUCED BUILDING AREA ALTERNATIVE

6.2.1 Alternative Description

Similar to the proposed project, this alternative assumes that the proposed ordinance revisions would potentially allow up to 31 LME requests, which would permit individual property owners to then apply for individual entitlements to develop their lots. However, under this alternative, the ordinance revisions would further restrict allowable development on each lot so that the overall building area would be reduced by approximately 38%. Development assumptions for this alternative would include the following:

- *Thirty-one single-story, ranch-style residences with attached or detached three-car garages, with minimum living area of 1,500 square feet and maximum living area of 2,500 square feet or 15% of gross lot area, whichever is less;*
- *Less than 500 cubic yards of grading (cut and fill combined) per lot, with no more than 50 cubic yards of imported fill and up to 1,000 cubic yards of export per lot;*
- *Maximum 25% (RS-1) or 40% (RS-2) net lot coverage;*
- *Maximum building height of 16 feet for residences and 12 feet for detached accessory structures;*
- *Minimum front setbacks of 20 feet, minimum rear setbacks of 15 feet, minimum street-side setbacks of 10 feet, and minimum interior side setbacks of 5 feet, with setbacks along private street rights-of-way measured from the easement line rather than the property line; and,*
- *No subdivision of existing lots within Zone 2.*

6.2.2 Impact Analysis

Aesthetics

Although this alternative would result in the same number of residential units as the proposed project (31 total), the maximum allowed building size for each lot (2,500 square feet) under this alternative would be reduced by approximately 38% compared to the proposed project (maximum of 4,000 square feet). As such, the Reduced Building Area Alternative would have



incrementally fewer impacts to scenic vistas, visual character, and light and glare than the proposed project. Nevertheless, like the proposed project, impacts related to visual character and light and glare would be reduced to a less than significant level with implementation of mitigation measures AES-3 and AES-4. In addition, although this alternative would have less overall building area, the development of 31 new residential units in the project area could involve the removal of mature trees and vegetation like the proposed project. Therefore, as with the proposed project, Mitigation Measure AES-2 would apply to this alternative in order to avoid removal of or substantial damage to existing trees and/or to replace trees that are removed. As with the proposed project, with this mitigation measure, impacts to scenic resources would be reduced to a less than significant level.

Air Quality

The duration of construction activities would be incrementally shorter under this alternative since the overall building area would be reduced by approximately 38% compared to the proposed project. In addition, the amount of grading would be reduced under this alternative since up to only 500 cubic yards of grading would be allowed compared to the proposed project which would allow up to 1,000 cubic yards of combined cut/fill per lot. However, because maximum daily construction emissions would be generally the same under this alternative, temporary air quality impacts during construction would be similar to those resulting from the proposed project. Thus, as with the proposed project, temporary construction impacts would be less than significant.

Although transportation emissions would be similar under this alternative to the proposed project since the overall number of new residences and vehicle trips would be the same, long-term air quality impacts would be incrementally lower since smaller building areas for each lot would generate fewer emissions associated with energy (electricity and natural gas). As with the proposed project, the emissions associated with vehicle trips and stationary emissions under this alternative would not exceed SCAQMD thresholds and long-term air quality impacts would be less than significant. Further, like the proposed project, this alternative would not create carbon monoxide concentrations that would exceed any state or federal standards with implementation of mitigation measures T-1(a-e) in Section 4.10, Traffic and Circulation. In addition, this alternative would not exceed any population projections upon which the Air Quality Management Plan (AQMP) are based. Thus, as with the proposed project, impacts from this alternative related to carbon monoxide and consistency with the AQMP would be less than significant.

Biological Resources

Although this alternative would result in the same number of residential units as the proposed project (31 total), the total building area of each lot (maximum of 2,500 square feet) under this alternative would be reduced by approximately 38% compared to the proposed project (maximum of 4,000 square feet). Thus, the area that would be disturbed on each lot as well as required fire clearance would be reduced, and the Reduced Building Area alternative would have incrementally fewer impacts to sensitive status species. In addition, like the proposed project, this alternative would not conflict with local policies related to protecting biological resources and would not conflict with any adopted habitat-related plans.

Although this alternative would have less overall building area, the development of up to 31 new residential units in the project area could have an impact on existing or regrown Coastal Sage Scrub habitat, similar to the proposed project. Therefore, as with the proposed project, Mitigation Measure BIO-2 would apply to this alternative in order to reduce impacts to possible stands of CSS vegetation and to maintain consistency with the NCCP Subarea Plan and local ordinances. In addition, because this alternative would involve development on lots near Altamira Canyon, like the proposed project, development of these lots may affect jurisdictional areas. Mitigation measures BIO-3(a-b) would be required to reduce impacts related to jurisdictional drainages near Altamira Canyon. Furthermore, although this alternative would likely result in removal of fewer trees than the proposed project since the overall building area would be reduced under this alternative, tree removal associated with construction activities under this alternative could affect nesting birds. As with the proposed project, with Mitigation Measure BIO-4, impacts to nesting birds would be reduced to a less than significant level.

Cultural and Tribal Cultural Resources

Although this alternative would result in less overall building area compared to the proposed project, activities associated with construction of this alternative could similarly expose previously unknown, buried archaeological resources. Mitigation Measure CR-1 would be required under this alternative and would reduce this alternative's impacts to archaeological resources to a less than significant level. This alternative would result in a reduction in the amount of grading in the project area since only 500 cubic yards of grading would be allowed under this alternative compared to the proposed project which would allow up to 1,000 cubic yards of combined cut/fill per lot. Thus, this alternative would have incrementally fewer impacts related to the potential to disturb paleontological resources and/or human remains. As with the proposed project, impacts would be less than significant.

Geology

Although the overall building area under this alternative would be reduced compared to the proposed project, the new structures and people in the project area under this alternative could be exposed to seismically induced groundshaking. Nevertheless, as with the proposed project, mandatory compliance with applicable CBC requirements would reduce impacts to a less than significant level.

Because this alternative would reduce the overall building area and incrementally reduce the overall amount of impermeable surface compared to the proposed project, the potential to cause or accelerate erosion, such that slope failure could occur or potentially cause or accelerate downstream erosion, would be incrementally reduced under this alternative. However, during construction of individual lots, topsoil would be exposed and potentially removed from individual properties which, like the proposed project, could cause accelerated erosion in the project area. In addition, because development under this alternative would increase the amount of impermeable surface in the project area compared to existing conditions, adverse surface drainage could cause or accelerate erosion, which could undermine proposed structures and lead to surficial slope failures on either manufactured or natural slopes. Therefore, like the proposed project, Mitigation Measure HWQ-1, as identified in Section 4.8, *Hydrology and Water Quality*, would be required to reduce erosion during construction to a less than significant level and Mitigation Measure HWQ-4 in Section 4.8, *Hydrology and Water Quality*, would be required to reduce impacts related to erosion during the operational phase of this alternative. As with the

proposed project, with implementation of these mitigation measures, impacts related to erosion during both the construction and operational phase of this alternative would be reduced to a less than significant level.

Although this alternative would result in less overall building area than the proposed project, like the proposed project, the project area is located on a geologic unit that could be unstable or could potentially become unstable as a result of development facilitated by this alternative. In addition, the project area is also located in an area subject to earthquake induced landslides and the potential for expansive soils. Therefore as with the proposed project, mitigation measure GEO-3(a) and GEO-3(b) would be required to reduce impacts related to soil instability, landslides and expansive soils to below a level of significance under CEQA.

As with the proposed project, because the project area is not susceptible to liquefaction, ground lurching, lateral spreading or seismic settlement, this alternative would also result in less than significant impacts related to these issues.

Greenhouse Gases

Since this alternative would result in approximately 38% less building area compared to the proposed project, greenhouse gas emissions associated with construction, energy, area sources, water use, and solid waste would be incrementally reduced in comparison. Transportation emissions would be the same as the proposed project since both would provide 31 single-family residences within the project area. Nevertheless, because the total building area would be reduced under this alternative, this alternative would have incrementally fewer greenhouse gas emissions. In addition, like the proposed project, this alternative would be consistent with the GHG reduction strategies set forth by the City's ERAP, the SCAG RTP/SCS. The proposed project would also be consistent with the CARB 2017 Scoping Plan. Therefore, as with the proposed project, impacts to greenhouse gas emissions under this alternative would be less than significant.

Fire Protection

Although the overall building area under this alternative would be reduced compared to the proposed project, the new structures under this alternative would be subject to the same potential fire hazards as the proposed project. As with the proposed project, the residential structures under this alternative would be located in a Very High Fire Hazard Severity Zone. Thus, as with the proposed project, new residences constructed as a result of adoption of this alternative could expose people or structures to risks associated with wildland fires. Therefore, this alternative, like the proposed project, would be required to implement mitigation measures FIRE-1(a) and FIRE-1(b) in order to reduce fire hazard impacts to a less than significant level.

Hydrology, Water Quality and Water Availability

Because this alternative would have less overall building area compared to the proposed project, this alternative would have incrementally fewer impacts related to water quality during construction activities compared to the proposed project. However, excavation and grading for each of the individual residential units developed under this alternative, like the proposed project, could result in erosion of soils and sedimentation, which may cause temporary impacts to surface water quality. Consequently, as with the proposed project, implementation of

Mitigation Measure HWQ-1, which would require each applicant to prepare a Construction Erosion Control and Water Quality Plan, would be required for this alternative in order to reduce impacts related to water quality during construction activities to a less than significant level.

For operational impacts, the building footprint under this alternative would be reduced by approximately 38% compared to the proposed project. On the other hand, the total amount of new landscaping under this alternative could be incrementally increased compared to the proposed project, thereby increasing the amount of pollutants such as pesticides and herbicides that could potentially affect surface water quality. As with the proposed project, impacts related to operational surface water quality would be significant but mitigable with implementation of Mitigation Measure HWQ-2. Impacts related to groundwater recharge would be less than significant, similar to those of the proposed project.

Although the amount of impermeable surface would be reduced under this alternative compared to the proposed project, like the proposed project, this alternative would develop on sites that are currently vacant; therefore, this alternative would increase the amount of impermeable surface in the project area which may increase storm water flows and create localized flooding. In addition, because several of the single-family homes under this alternative could be constructed in an area in which there is a potential for flood hazards to exist, flooding could occur, which could cause damage to structures and could be hazardous to humans during a storm event. Impacts related to localized flooding and to the potential for flood hazards, like the proposed project, would be potentially significant. Consequently, as with the proposed project, mitigation measures HWQ-3 and HWQ-5 would be required for this alternative to reduce impacts to a less than significant level.

Noise

Temporary noise and vibration impacts due to construction activities under this alternative would be generally similar to those resulting from the anticipated development as the construction equipment used on-site would be similar. As with the proposed project, compliance with the Rancho Palos Verdes Municipal Code's restrictions on the hours and days of construction, would reduce temporary vibration impacts and noise impacts related to construction to less than significant levels.

Long-term traffic-generated noise impacts under this alternative would be the same as the proposed project since this alternative would result in the same number of vehicle trips as the proposed project. As with anticipated on-site development, noise generated by traffic would be less than significant under this alternative.

Transportation and Circulation

This alternative would reduce the overall building area compared to the proposed project. However, like the proposed project, this alternative includes 31 residential units. Therefore, this alternative would result in the same number of vehicle trips in the AM and PM peak period as the proposed project. As such, this alternative would have the same impacts as the proposed project including significant impacts at the following intersections:

- *Hawthorne Boulevard/Via Rivera*
- *Seahill Drive-Tramonto Drive/Palos Verdes Drive South*
- *Narcissa Drive/Palos Verdes Drive South*
- *Forrestal Drive/Palos Verdes Drive South*
- *Palos Verdes Drive East/Palos Verdes Drive South*

Therefore, this alternative would be required to implement mitigation measures T-1(a-e) in order to reduce significant impacts. Implementation of these mitigation measures would reduce impacts to less than significant, similar to the proposed project.

Because overall vehicle trips would be the same under this alternative as under the proposed project, impacts related to roadway segments, CMP identified freeway monitoring segments and arterial intersections, emergency access, and public transportation policies would also be the same as the proposed project. Impacts related to CMP identified freeway monitoring segments and arterial intersections, emergency access, and public transportation policies would be less than significant. However, as with the proposed project, impacts related to the studied Palos Verdes Drive South east of Narcissa Drive segment would not meet the City's minimum LOS D standard under the Year 2030 future pre-project and Year 2030 future with project conditions. While Mitigation Measure T-2 would reduce the potentially significant impact to a less than significant level, this measure would require elimination of the existing bicycle lanes along Palos Verdes Drive South, which may not be feasible. Therefore, similar to the proposed project, the impact at this roadway segment would remain potentially significant and unavoidable. Because less construction and grading would be allowed under this alternative, construction traffic impacts would be reduced in comparison, particularly as the amount of soil that would be hauled out of the area could be reduced by up to nearly 50%, which would reduce construction-related traffic impacts when compared to the proposed project. Nevertheless, as with the proposed project, impacts related to construction traffic would be less than significant.

Utilities

The overall building area under this alternative would be reduced compared to the proposed project. However, because this alternative would involve development of the same number of residential units as the proposed project (31 units), the generation of wastewater would be similar to the proposed project. As discussed in Section 4.11, *Utilities and Service Systems*, currently wastewater conveyance facilities provide service to the 69 developed lots, but not to the 31 undeveloped lots or the 11 lots which have obtained permits for development. Without the extension of the Abalone Cover Sewer System conveyance infrastructure to the 31 undeveloped lots, this alternative, like the proposed project, would have a potentially significant impact. However, as with the proposed project, adherence to City requirements and mitigation measures U-1(a) through U-1(d) would reduce impacts related to wastewater conveyance under this alternative to a less than significant level.

6.3 ALTERNATIVES CONSIDERED, BUT REJECTED

As required by Section 15126.6 (c) of the *CEQA Guidelines*, this subsection identifies those alternatives that were considered but rejected by the lead agency because they either did not meet the objectives of the project, were considered infeasible, or could not avoid or substantially



lessen one or more of the significant effects. Six alternatives were considered that were rejected. Each is listed below along with a brief description and reason it was rejected.

- *Rejected Alternative 1: This alternative would include the merging of any sub-standard lots with adjacent, contiguous parcels owned by the same property owner. The new merged lots would be allowed one residential unit per lot and would therefore reduce the total number of new residences allowed by the project. This alternative was rejected because it would not avoid the significant cumulative impacts at the Seahill Drive-Tramonto Drive/Palos Verdes Drive South intersection and the Forrestal Drive/Palos Verdes Drive South intersection during the peak hour period based on preliminary analyses. In addition, this alternative would require the property owners to merge parcels, which could lead to litigation against the City.*
- *Rejected Alternative 2: This alternative would involve requiring property owners that propose development of individual lots to collectively fund service upgrades related to the drainage system. The purpose of this alternative would be to avoid the proposed project's less than significant impacts related to drainage to Altamira Canyon. This alternative was rejected because it would not avoid the significant cumulative impacts at the Seahill Drive-Tramonto Drive/Palos Verdes Drive South intersection and the Forrestal Drive/Palos Verdes Drive South intersection during the peak hour period based on preliminary analyses. Further, this alternative was determined to be infeasible since the collectively funded service upgrades may not allow the City to fully implement the upgrades absent other funding resources since only a portion of the overall funding would be collected from the project applicants.*
- *Rejected Alternative 3: Under this alternative, groups of contiguous lots would be merged and multi-family buildings or grouped single-family residences would be constructed instead of single family residences in a "cluster development" configuration to protect open space. This alternative would reduce aesthetic impacts, drainage and other impacts by concentrating development. However, this alternative was determined to be infeasible as it would require a zone change to allow for multi-family residences which is not consistent with the General Plan Land Use designations and would not necessarily avoid the traffic impacts at the three potentially significant intersections. Further, this alternative was considered infeasible since it would require the property owners to agree to merging parcels, thus reducing the economic value of their property, potentially leading to litigation against the City.*
- *Rejected Alternative 4: This alternative would require the City to meter the issuance of building permits (similar to a growth management ordinance) such that growth in the project area would occur over a longer period of time than the proposed project, which assumes that full development of all 31 lots would be developed over a maximum of approximately 10 years. This alternative was deemed infeasible as it could lead to litigation against the City, and may not avoid the project's significant traffic impacts.*
- *Rejected Alternative 5: This would include subdivision of the subject undeveloped or underdeveloped lots in the project area that are divisible to the minimum lot sizes allowed under their respective zoning designations. This alternative was included in the original Draft EIR, which considered 47 lots, 16 of which would have been divisible. However, of the 31 lots currently under consideration, only one is divisible. Thus, this alternative would only*

add one lot, which would not result in any meaningful change in environmental impacts. Moreover, subdivision of lots is a project unto itself that would require its own environmental review under CEQA if any landowners choose to pursue subdivision.

- *Rejected Alternative 6: This alternative assumes that the Landslide Moratorium Ordinance revisions would allow up to 3 new residential units in the project area. Development potential would not be increased on the other 28 vacant or underdeveloped parcels, and they would remain in their current condition. This alternative was also included in the original Draft EIR, but would have allowed 19 residential units (47 minus 28) rather than 3 (31 minus 28). Any selection of the 3 lots would be arbitrary. Moreover, prohibiting development of 28 of 31 lots would be contrary to the intent of the Landslide Moratorium Ordinance Revisions, which are specifically intended to allow legal development of existing lots.*

6.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Table 6-2 on the following page compares the impacts for each of the alternatives to the impacts of the anticipated on-site development.

The No Project Alternative would be the overall environmentally superior alternative as it would generally have superior impacts than the proposed project and would also avoid the significant and unavoidable impacts of the project. However, the No Project Alternative would not achieve the basic project objectives as stated in Section 2.0, *Project Description*.

The Reduced Building Area Alternative would also be environmentally superior to the proposed project. This alternative would have slightly less impact to aesthetics, air quality, biological resources, cultural resources, geology, greenhouse gases, fire protection, hydrology and water quality, noise, utilities, as shown in Table 6-2. Additionally, this alternative would have reduced traffic impacts compared to the proposed project. The Reduced Building Area Alternative would achieve the basic project objectives as stated in Section 2.0, *Project Description*, and is potentially feasible.

**Table 6-2
Impact Comparison of Alternatives**

Issue	Proposed Project	Alternatives	
		No Project	Reduced Building Area Alternative
Aesthetics	=	+	=/+
Air Quality	=	+	=/+
Biological Resources	=	+	=/+
Cultural Resources	=	+	=/+
Geology	=	+	=/+
Greenhouse Gases	=	+	=/+
Fire Protection	=	+	=
Hydrology and Water Quality	=	+	=/+
Noise	=	+	=
Traffic	=	+	=
Utilities	=	+	=

Bold type indicates a significant and unavoidable impact

+ Superior to the proposed project analyzed in the EIR (reduced level of impact)

- Inferior to the proposed project analyzed in the EIR (increased level of impact)

=/+ Slightly superior to the proposed project analyzed in the EIR in one or more aspects, but not significantly superior

=/- Slightly inferior to the proposed project analyzed in the EIR in one or more aspects, but not significantly inferior

= Similar level of impact to the proposed project analyzed in the EIR

7.0 REFERENCES AND REPORT PREPARERS

7.1 REFERENCES

Association of Environmental Professionals (AEP). Alternative Approaches to Analyzing Greenhouse Gas Emissions and Global Climate Change in CEQA Documents. June 29, 2007.

Brick, Timothy F. Chairman of MWD. Testimony to U.S. Senate Energy and Natural Resources Committee, Subcommittee on Water and Power, Re Impacts of Climate Change on Water Supply in the U.S., June 6, 2007.

California Air Pollution Control Officers Association (CAPCOA), January 2008. CEQA and Climate Change.

California Air Resources Board. 2007, 2008, 2009 Annual Air Quality Data Summaries available at <http://www.arb.ca.gov>

California Air Resources Board. Climate Change Emission Control Fact Sheet, 2007. http://www.arb.ca.gov/cc/factsheets/cc_newfs.pdf.

California Air Resources Board. 7U|Zfb|U; fYb\ci gY; Ug=bj YbhfmiZf`&\$\$\$!2008. <http://www.arb.ca.gov/cc/inventory/data/data.htm>.

California Air Resources Board. Current Air Quality Data, 2017. <https://www.arb.ca.gov/adam/topfour/topfour1.php>.

California Climate Action Registry General Reporting Protocol. Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1. January 2009.

California Climate Change Center. Climate Scenarios for California. 2006.

California Department of Conservation. Seismic Hazard Zones Map-Redondo Beach Quadrangle, 1999.

California Department of Conservation. Seismic Hazard Zones Map-San Pedro Quadrangle, 1999.

California Department of Conservation. Tsunami Inundation Area Map-Redondo Beach, March 2009.

California Department of Conservation. Tsunami Inundation Area Map-San Pedro Quadrangle, March 2009.

California Department of Finance. January 2018. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2018 with 2010 Census Benchmark. <http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/>

California Department of Fish and Wildlife. 2009. California Natural Diversity Database search of RareFind3. Updated March, 2010. The Resource Agency, State of California, Sacramento, California.

California Department of Fish and Game (CDFG). January 2011. Special Animals.

California Department of Fish and Game (CDFG). 2009. *GdWU'J UqWUf'D'Ublg'6fnad\nmhgUbX @jWbg@jg'i*

California Department of Fish and Wildlife (CDFW). 2018. CDFW California Natural Diversity Data Base (CNDDDB), Rarefind V. 5. Available at: <https://www.wildlife.ca.gov/Data/CNDDDB/Maps-and-Data>. Accessed November 2018.

California Department of Forestry,
http://www.fire.ca.gov/fire_prevention/fhsz_maps/FHSZ/los_angeles/rancho_palos_verdes.pdf, accessed online March 2019.

California Department of Transportation. ; i jXYZf'h YDfYdUfUjcb'cZHfUZZWa dUWCh XYg
December 2002.

California Department of Water Resources. Progress on Incorporating Climate Change into Management of California's Water Resources. July 2006

California Energy Commission, February 2006. Scenarios of Climate Change in California: An Overview. CEC-500-2005-186-SF

California Energy Commission. Inventory of California Greenhouse Gas Emissions and Sinks: 1990-2004. Staff Final Report. CEC-600-2006-013-SF. December 2006

California Energy Commission. Inventory Draft 2009 Biennial Report to the Governor and Legislature. Staff Draft Report. March 2009.

California Environmental Protection Agency, March 2006. Climate Action Team Report to Governor Schwarzenegger and the Legislature.
http://www.climatechange.ca.gov/climate_action_team/reports/2006-04-03_FINAL_CAT_REPORT_EXECSUMMARY.PDF California Manual on Uniform Traffic Control Devices (MUTCD), September 26, 2006.

California Native Plant Society. 2006. *-bj YblcfmcZFUFYUbX9bXlb[YfYXD'Ublg'cZ7U]ZfbjU* Sixth edition. Rare Plant Scientific Advisory Committee, David Tibor, Convening Editor, Sacramento, California. September. Changes to the Inventory as published on CNPS website
(http://www.cnps.org/programs/Rare_Plant/inventory/changes/changes_accepted.htm).

Cayan, D., A.L. Luers, M. Hanemann, G. Granco, and B. Croes. Scenarios of Climate Change in California: An Overview. California Climate Change Center, State of California. White Paper, CEC-500-2005-203-SF. March 2006

Cayan, D., E. Maurer, M. Dettinger, M. Tyree, K. Hayhoe, C. Bonfils, P. Duffy, and B. Santer. Climate Scenarios for California: Climate Action Team Reports to the Governor and Legislature. 2006.

Cooper Ecological Monitoring, Inc. August 2010. DcgHfYGi fj YnZf hY7U|Zfb|U; bUWwWf' UbXhY7UWf gK fYb UihYDcfli [i YgY6YbXFYgfj YZDUcgJ YXfYgDYb|bg Ufi |bUL" In: Palos Verdes Peninsula Land Conservancy, April 2012. 5bbi U FYdcfh>Ubi Ufm&S%48 WW &S%: cf hYFUbWc DUcgJ YXfYg8 fUZhB Ui fU' 7ca a i b|hYg'7cbgYfj Ujcb D'Ub UbX< UjHh 7cbgYfj Ujcb D'Ub"

Cooper Ecological Monitoring, Inc. 2018. Palos Verdes Nature Preserve Survey for the California Gnatcatcher and the Cactus Wren Palos Verdes Peninsula Land Conservancy. Los Angeles County. Final Report.

Daniel B. Stephens & Associates, Inc. Feasibility Study Update: Portugese Bend Landslide Complex, Rancho Palos Verdes, California. Prepared for the City of Rancho Palos Verdes, adopted by the City Council August 7, 2018.

Dibblee, Thomas W. Geologic Map of the Palos Verdes Peninsula and Vicinity, Redondo Beach, Torrance, and San Pedro Quadrangles, 1999. In association with the California Department of Conservation, Division of Mines and Geology and US Geological Survey.

Dudek. &S\$* ðb|hU'A UbU Ya Ybh5bXA cb|hcf|b| FYdcfh: cf H YFUbWc DUcgJ YXfYg8 fUZhB Ui fU' 7ca a i b|lm7cbgYfj Ujcb D'Ub 5bX< UjHh7cbgYfj Ujcb D'Ub. 2007.

Ehlig, Dr. Perry, Memorandum "Guidelines for Development in the Moratorium Area", June 1, 1993.

Energy Information Administration, Department of Energy. Official Energy Statistics from the U.S. Government. December 2008. <http://www.eia.doe.gov/iea/>.

Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) (community Panel Number 06037C2026F), September 26, 2008.

Federal Railroad Administration, 1998. < i a Ub FYdcfhYh'8 |ZYfYh@Y YgCZ: fci bXcfbY J |fUjcb""

Federal Highway Administration (FHWA). 7cbgfi Wcb B c|gY< UbXcc_. Updated May 2010

Guttilla, D.A. and P. Stapp. 2010. Effects of Sterilization on Movements of Feral Cats at a Wildland-urban Interface. J. of Mammalogy 91(2):482-489.

Harris Miller Miller & Hanson, Inc., HfUbg|hB c|gYUbXJ |fUjcb 5gYgYb April 1995 (Prepared for USDOT Federal Transit Administration.

Transportation Research Board, < // \k Ūh7ŪdUWmĀ Ūi Ū' &\$\$, 2000.

< // \k Ūh7ŪdUWmĀ Ūi Ū, Special Report 209, Transportation Research Board, Washington D.C., 1985.

Historical Environmental Archaeological Research Team (H.E.A.R.T.), Cultural Resources Records Search Summary, April 2010.

Holland, R.F. 1986. DfYJa JbUfm8 YgWjdhcbg'cZĤ YHffYgf]U B Ūi fU'7ca a i b|hYg'cZ7U]Zfb]U' California Department of Fish and Game, Nongame Heritage Program.

Holland, V.L. and Keil, D.J. 1995. 7U]Zfb]UJ Y YHjcb"Dubuque, Iowa: Kendall/Hunt Publishing Company.

Hunsaker and Associates, LA Inc. 7cbWdĤi Ū'8fUjU YUbXGĤ GA D'fK Ūm'E i Ū]mĤFYdcfhZf' Dcfh [i YgY6YbXNcbY&@UbXg]XYA cfUrf]i a 'CfX]bUbWfY Y]gcbg9=F" May 6, 2011.

Institute of Transportation Engineers Trip Generation manual, 8th Edition, 2008.

Intergovernmental Panel on Climate Change [IPCC], 2007: Summary for Policymakers. In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M.Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

John L. Hunter and Associates, prepared for City of Rancho Palos Verdes. April 2015. Abalone Cove Sewer System Management Plan. Availabe online at <https://www.rpvca.gov/DocumentCenter/View/7910/Ab-Cove-SSMP-2015-PDF>.

Kays, R.W. and A.A. DeWan. 2004. Ecological impact of inside/outside house cats around a suburban nature preserve. Animal Conservation (2004) 7, 1-11.

Kiparsky, Michael and Peter H. Gleick, 2003. Climate Change and California Water Resources: A Survey and Summary of the Literature. California Energy Commission Report 500-04-073.

LGC Valley, Inc. ; YchWb]W'GĤ XnZf'Ĥ YDfYdUfUjcb'cZUb'9bj Jfcbā YbHŪ' =a dŪmĤFYdcfhZf'Ĥ Y NcbY&@UbXg]XYA cfUrf]i a 'CfX]bUbWfY Y]gcb K JĤ]b'Ĥ Y7]mĤcZFUbWc DUcg'J YfXgž 7U]Zfb]U March 29, 2011.

Linscott, Law & Greenspan, Engineers, Traffic Impac Study - Zone 2 Landslide Moratorium - Portuguese Bend Project, April 12, 2011.

National Hazards Review, Di V]WCUZmjb'Ĥ YI fVub!K J'XUbX=bhfZUW'G'ci 'X: JfYDfcbY 7ca a i b|hYg' < Ū YUA Ū Ja i a 'CWdUbWZ August 2005

National Park Service. 1983. *5 f W c c [m i U b X < j g c f W d f Y g f j U j c b . G W W f m c Z h Y = b h f j c f i g G H b X f X g U b X ; i j X Y j b Y g* [as amended and annotated]. Retrieved on June 20, 2018, from https://www.nps.gov/history/local-law/arch_stnds_0.htm.

Los Angeles County Fire Department. *D Y f g c b U W a a i b j W j c b k j h 7 U d H j b 8 Y a Y n Y f*, April 26, 2011.

Los Angeles County Fire Department. Fire Hazard Severity Zone Map, 2007.

Los Angeles County Department of Public Works. *@ g 5 b [Y Y g 7 c i b h i H F U Z W a d U m 5 b U n g l g F Y d c f h ; i j X Y j b Y g* January 1, 1997.

Los Angeles County Sanitation Districts. Joint Water Pollution Control Plant. *& S % 5 b b i U D Y Z f a U b W 8 U U* Retrieved on June 11, 2019, from <https://www.lacsd.org/wastewater/wwfacilities/jwpcp/performance/default.asp>.

Palos Verdes Peninsula Land Conservancy, April 2012. *5 b b i U F Y d c f h > U b i U m i & S % 4 8 W & S % % : c f h Y F U b W c D U c g J Y X Y g 8 f U z i B U i f U 7 c a a i b j h Y g 7 c b g f j U j c b D U b U b X < U j h L h 7 c b g f j U j c b D U b*

Parmesan, C. 2004. Ecological and Evolutionary Responses to Recent Climate Change.

Parmesan C, Galbraith H. 2004. Observed Ecological Impacts of Climate Change in North America. Arlington, VA: Pew Cent. Glob. Clim. Change.

Rademacher, Ken. JWPCP Plant Manager, personal communication May 6, 2011.

Rancho Palos Verdes, City of. *5 b b i U F Y d c f h Z f 5 U c b Y 7 c j Y G k Y f A U j b h b U b W : Y i : M & S % ! %*

Rancho Palos Verdes, City of. Rancho Palos Verdes. December 1978. Coastal Specific Plan.

Rancho Palos Verdes, City of. August 2018. Draft Coastal Vision Plan. August 2008.

Rancho Palos, City of. September 2018. Rancho Palos Verdes General Plan. Adopted .

Ranchos Palos Verdes, City of. 2007. Marymount College Facilities Expansion Project, Draft EIR. Á

Rancho Palos Verdes, City of. Municipal Code. Available online at: <http://www.palosverdes.com/rpv/cityclerk/munidatabase/>.

Rancho Palos Verdes, City of. Natural Communities Conservation Planning (NCCP) Subarea Plan, Adopted by City Council 2004. Available online at: http://www.palosverdes.com/Rpv/planning/NCCP/rpv_subarea_plan_main.pdf.

Rancho Palo Verdes, City of. 2018. *F U b W c D U c J Y X Y g : j b U 8 f U z i B U i f U 7 c a a i b j m i 7 c b g f j U j c b D U b U b X < U j h L h 7 c b g f j U j c b D U b*. March 2018.

Rancho Palos Verdes, City of, Public Works Department. 2009. C/lmicZFUbWc DUcgJ YfXgGYk Yf`
GngHá 'A UghfD'Ub.

Rancho Palos Verdes, City of, and City of Rolling Hills Estates. August 2014. 7/lmicZFUbWc`
DUcgJ YfXgUbX7/lmicZFc`|b| < |`g9ghHgA i`h'i f|gXWcbU< UhFXA |h| UjcbD'Ub.

Rancho Palos Verdes, City of, Public Works Department. Portuguese Bend Landslide Annual
Survey Reports. Available online at [http://ca-ranchopalosverdes-
old.civicplus.com/719/Landslide-Management-Program](http://ca-ranchopalosverdes-old.civicplus.com/719/Landslide-Management-Program).

Rancho Palos Verdes, City of. June 2, 2014. Annual Report – Abalone Cove Sewer Maintenance
Fee – FY 2014-15. Available online at
[https://www.rpvca.gov/DocumentCenter/View/5494/Abalone-Cove-Sewer-System-
Engineering-Report---Fiscal-Year-2014-to-2015-PDF](https://www.rpvca.gov/DocumentCenter/View/5494/Abalone-Cove-Sewer-System-Engineering-Report---Fiscal-Year-2014-to-2015-PDF).

Rancho Palos Verdes, City of. 2019. Abalone Cove Sewer Capacity Report.

Rincon Consultants, Inc., Rancho Palos Verdes Portuguese Bend Habitat Assessment, January
2011.

Rincon Consultants, Inc., Paleontological Study, January 2011.

South Coast Air Quality Management District, March 2017. Final Air Quality Management
Plan.

South Coast Air Quality Management District, 1993. CEQA Air Quality Handbook. Figure 5-5
@UbXI gYg5ggVhXk |h C'Xcf'7ca d'Ublg`

South Coast Air Quality Management District, CEQA, Final Localized Significance Threshold
Methodology, SCAQMD, June 2003. Available online at:
http://www.aqmd.gov/CEQA/handbook/LST/Method_final.pdf.

South Coast Air Quality Management District. Greenhouse Gas CEQA Significance Threshold
Stakeholder Working Group Meeting #15: “Proposed Tier 3 Quantitative Thresholds –
Option 1”, September 2010.

South Coast Air Quality Management District (SCAQMD). “Interim CEQA GHG Significance
Threshold for Stationary Sources, Rules and Plans”. December 5, 2008.

Southern California Association of Governments. 2008 Regional Comprehensive Plan. October,
2008.

Southern California Association of Governments, April 2016. 2016 | 2040 Regional
Transportation Plan/Sustainable Communities Strategy.
[http://www.scag.ca.gov/Documents/2016_2040RTPSCS_FinalGrowthForecastbyJurisd
iction.pdf](http://www.scag.ca.gov/Documents/2016_2040RTPSCS_FinalGrowthForecastbyJurisdiction.pdf)

Southern California Earthquake Data Center (SCEC), March 2011. Available online at:
<http://www.scec.org/>.

Udall, Brad. "Recent Research on the Effects of Climate Change on the Colorado River," in Intermountain West Climate Summary (May 2007) [Appendix O, Exhibit 7] (citing N. Christensen and D.P. Lettenamair, "A Multimodel Ensemble Approach to Assessment of Climate Change Impacts on the Hydrology and Water Resources of the Colorado River Basin," Hydrology and Earth System Sciences Discussion 3:1-44 (2006).

United Nations Framework Convention on Climate Change, 2007. Updated April 2010.
http://unfccc.int/kyoto_protocol/status_of_ratification/items/2613.php.

U.S. Department of Energy, Energy Information Administration,. Official Energy Statistics from the U.S. Government. December 2008. <http://www.eia.doe.gov/iea/>.

U.S. Environmental Protection Agency (USEPA). Climate Change Technology Program (CCTP). December 2007. <http://www.epa.gov/climatechange/policy/cctp.html>.

U.S. Environmental Protection Agency (USEPA). &S\$I "G"; fYb\ci gY; Ug-bj YbhfmcFYdcfh` -bj YbhfmcZI "G"; fYb\ci gY; Ug9a jggcbgUbXGjb_g` %- \$!&S\$. April 15, 2010.

United States Fish and Wildlife Service. March 6, 2010. Palos Verdes Blue Butterflies Fly Once Again at Friendship Park. Fish and Wildlife Journal.

United States Fish and Wildlife Service, 2010. Critical Habitat Portal.
<https://ecos.fws.gov/ecp/report/table/critical-habitat.html>. Accessed April 2010.

URS, July 2004. Rancho Palos Verdes Natural Communities Conservation Planning Subarea Plan. Prepared for City of Rancho Palos Verdes.

West Basin Municipal Water District, June 2016. 2015 Urban Water Management Plan.
<http://www.westbasin.org/sites/default/files/documents/uwmp-2015.pdf>

[The] Xerces Society for Invertebrate Conservation. 2010. Western Monarch Thanksgiving Counts %- +!&S\$. <http://www.xerces.org/wp-content/uploads/2010/09/western-monarch-counts-1997-2009.pdf>

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